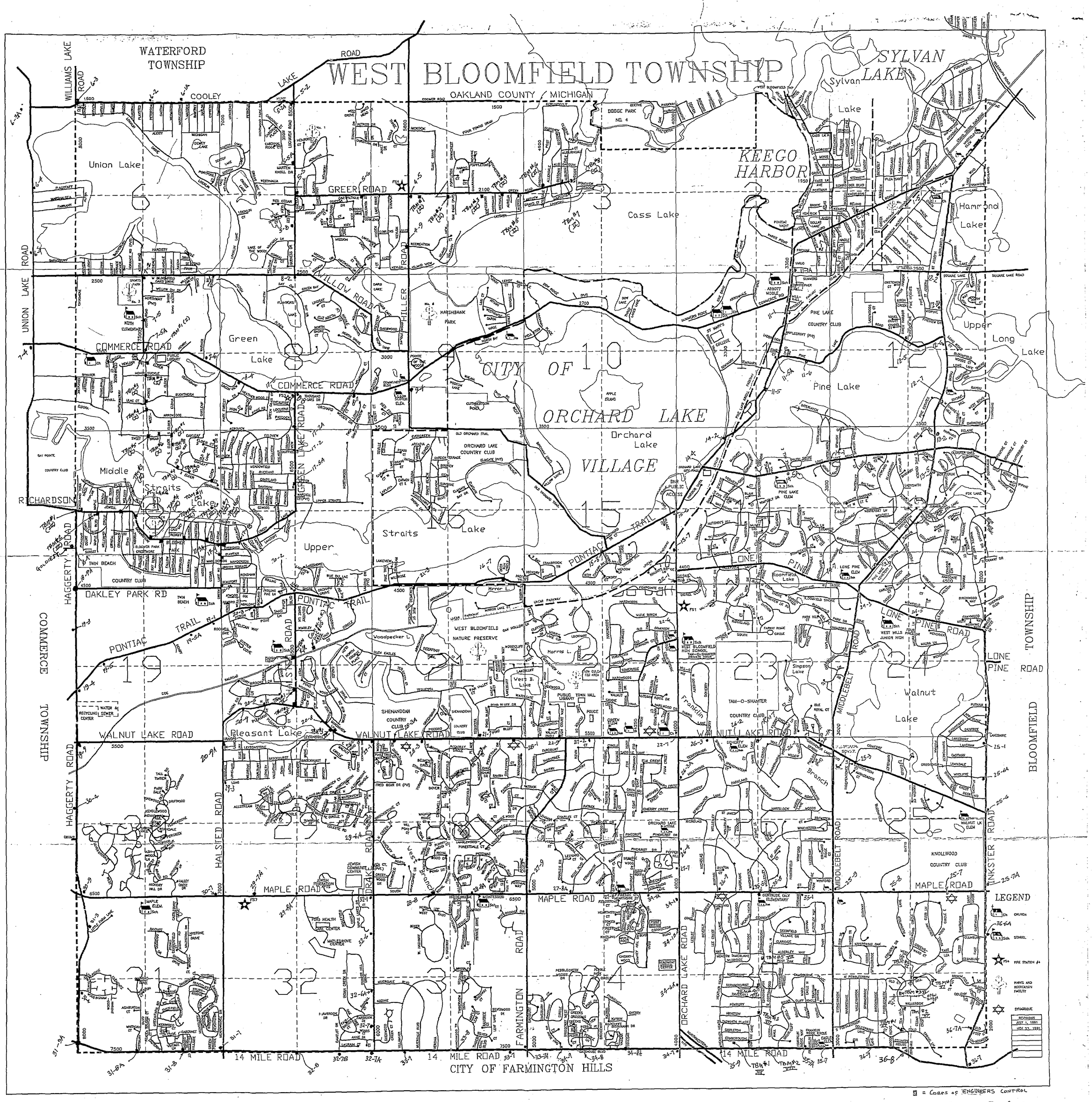
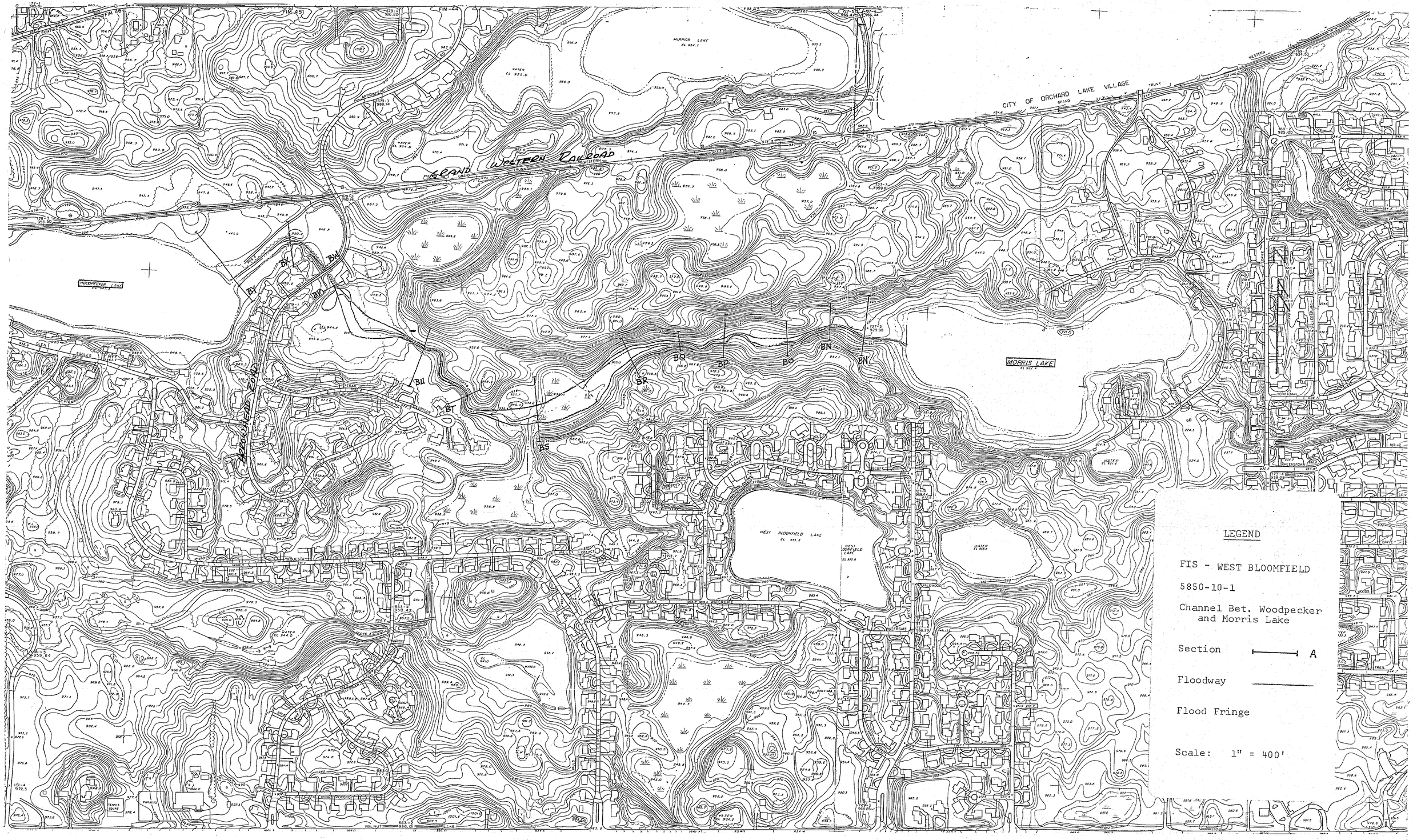

WEST BLOOMFIELD TOWNSHIP
WATERFORD TOWNSHIP
OAKLAND COUNTY / MICHIGAN
SYLVAN LAKE
Sylvan Lake
KEEGO HARBOR
Cass Lake
Union Lake
Hammond Lake
Upper Long Lake
Green Lake
Pine Lake
CITY OF ORCHARD LAKE VILLAGE
Orchard Lake
Middle Straits Lake
Upper Straits Lake
Walnut Lake
Pleasant Lake
Branch
WILLIAMS LAKE ROAD
COOLEY LAKE ROAD
GREER ROAD
WILLOW ROAD
HILLER ROAD
UNION LAKE ROAD
COMMERCE ROAD
GREEN LAKE ROAD
RICHARDSON
HAGGERTY ROAD
OAKLEY PARK RD
PONTIAC TRAIL
LONE PINE ROAD
MIDDLEBELT ROAD
WALNUT LAKE ROAD
HALSTED ROAD
DRAKE ROAD
MAPLE ROAD
FARMINGTON ROAD
ORCHARD LAKE ROAD
14 MILE ROAD
CITY OF FARMINGTON HILLS
COMMERCE TOWNSHIP
BLOOMFIELD TOWNSHIP
LEGEND
CHURCH
SCHOOL
FIRE STATION #4
PARKS AND RECREATION FACILITY
SYNAGOGUE
REVISIONS
JULY 1, 1991
NOV 27, 1991
= CORPS OF ENGINEERS CONTROL
= WEST BLOOMFIELD TWP CONTROL



LEGEND

FIS - WEST BLOOMFIELD

5850-10-1

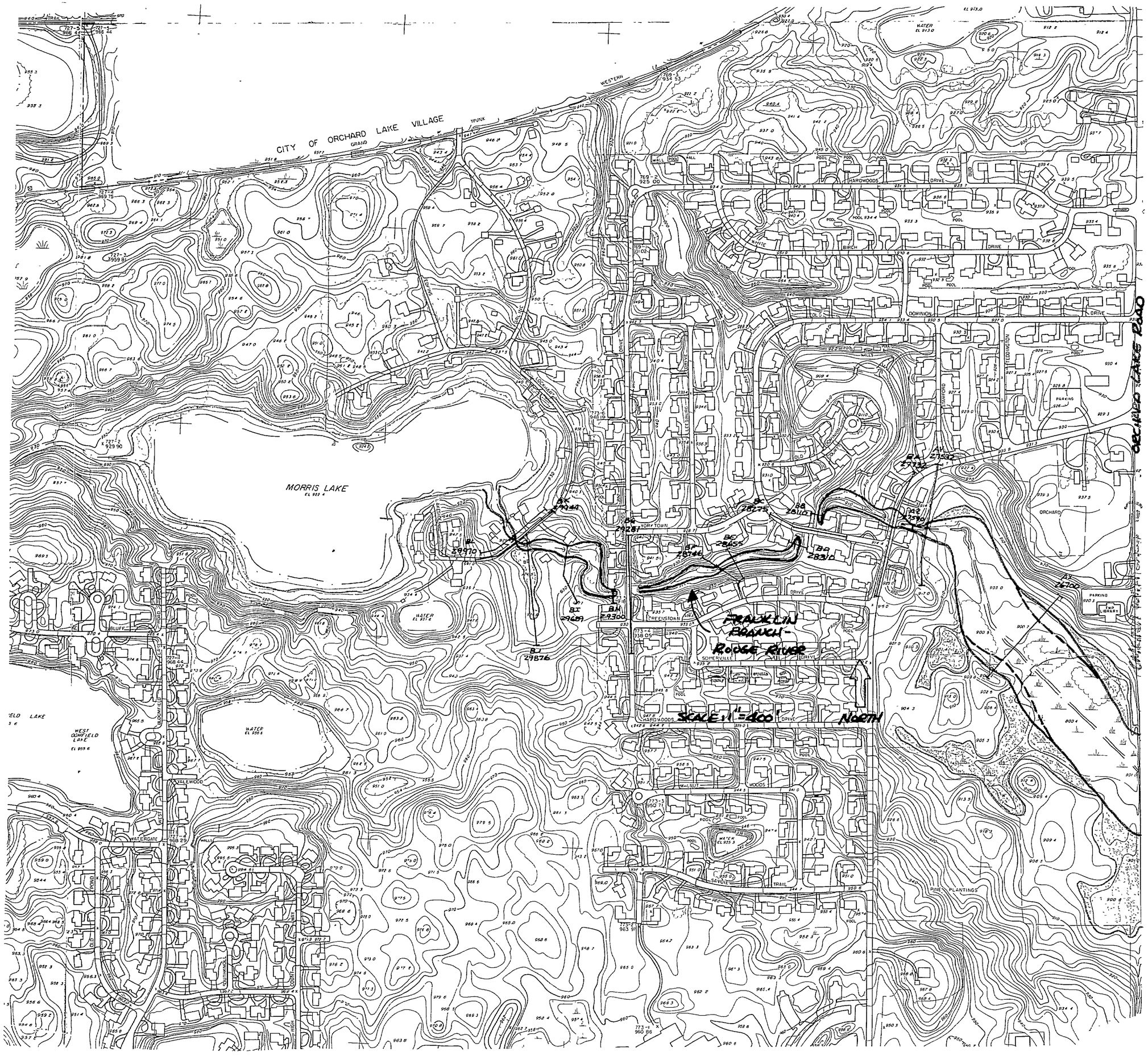
Channel Bet. Woodpecker and Morris Lake

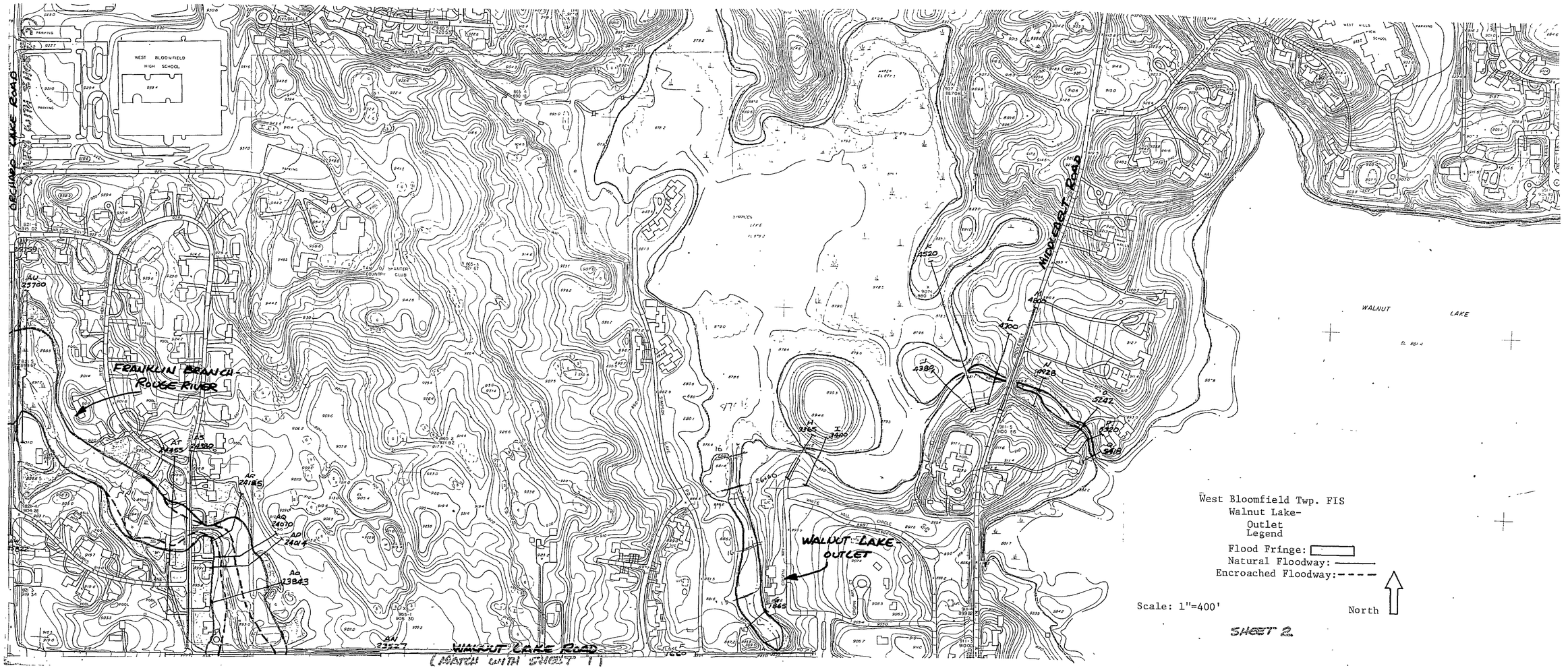
Section ——— A

Floodway ———

Flood Fringe

Scale: 1" = 400'


CITY OF ORCHARD LAKE VILLAGE
MORRIS LAKE
WEST COMFIELD LAKE
FRANKLIN BRANCH-ROUGE RIVER
SCALE: 1" = 400'
NORTH
ORCHARD LAKE ROAD
HARDWOODS DRIVE
WHITE BIRCH DRIVE
DOMINION DRIVE
YORKTOWN
CREENSTOWN
SOMERVILLE DRIVE
WALNUT WOODS
SAVOIE TRAIL
PINE PLANTINGS
WATERGATE
VALEWOOD
BLUFF
PARKING
ORCHARD
BK 29944
BG 29281
BL 29970
BI 29689
BJ 29876
BH 29300
BC 28275
BB 28110
BE 28655
BF 28746
BD 28310
AX 26700



WEST BLOOMFIELD HIGH SCHOOL
ORCHARD LAKE ROAD
FRANKLIN BRANCH-ROUGE RIVER
WALNUT LAKE-OUTLET
WALNUT LAKE ROAD
(MATCH WITH SHEET 1)
MIDDLEBELT ROAD
WALNUT LAKE
West Bloomfield Twp. FIS
Walnut Lake-
Outlet
Legend
Flood Fringe:
Natural Floodway:
Encroached Floodway:
Scale: 1"=400'
North
SHEET 2

REVISIONS												
MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS
PONTIAC, MICHIGAN

WEST BLOOMFIELD TOWNSHIP F.I.S.
OAKLAND COUNTY, MICHIGAN

CHANNEL BETWEEN MORRIS LAKE
AND WOODPECKER LAKE

JOB NO. 5850-10-1
SHEET NO.

VERT. 1" = 5'
HORIZ. 1" = 500'
SCALE:

DRAWN:
DESIGN:

TOPOGRAPHIC INFORMATION
DATE OBTAINED
DATE UPDATED

DRAWING ISSUE DATES

V.I.	DATE	BY

OWNER
UTILITIES
APPR. AGENCIES
BIDDERS

TEL:
ELEC:
GAS:
PIPE LINE

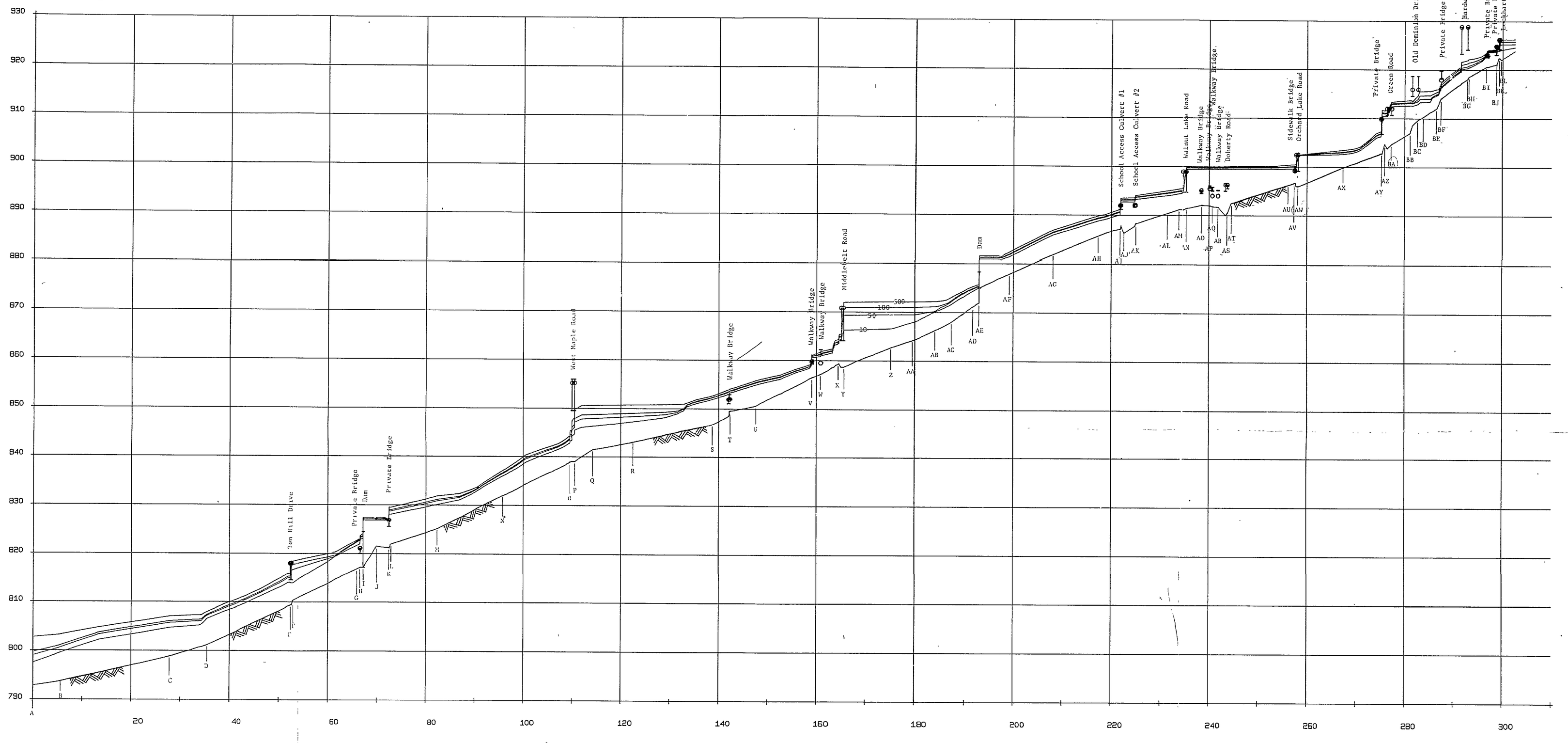
CHECKED
PM
QA
CONSTR

	DATE	BY

Job No.
Contr. No.
Cont. Trk No.
Type of Job No.
Sheet No. on Sheet No. of Sheets
As Built
Section
Civ. No. in County
Twp. No. in County
Village No. in County
County Code No.
State
Construction Contract
Job Code No.

| | | | | | | | | | | | |

WEST BLOOMFIELD TWP. FIS
FRANKLIN BRANCH
ROUGE RIVER
5850-10-1



Job No.	Contr. No.	Cont. Tab No.	Town of Job No.	Sheet No. / Sheet No. of Sheets	Art Built	Section	City No. in County	Twp. No. in County	Village No. in County	County No. in State	State	Classification Contract	Job Code No.
1 2 3 4	5 6 7 8	9 10 11 12	13 14 15	16 17 18 19 20 21 22	23 24 25	26 27 28	29 30 31	32 33 34	35 36 37	38 39 40	41 42	43 44	45 46 47 48	49 50 51 52	53 54 55 56 57 58 59 60

DRAWN:
DESIGN:
CHECKED:

FINAL
DATE COMPLETED
PRELIMINARY:

REVISIONS	MARK	BULLETIN	DATE	MARK	BULLETIN	DATE	MARK	BULLETIN	DATE

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS
PONTIAC, MICHIGAN

West Bloomfield Twp Fis

Franklin Branch-
Rouge River

SCALE: VERT. 1"=10'
HORIZ. 1"=1000'

JOB NO.

DATE ISSUED
Oct 1 '78

SHEET NO.

WALNUT LAKE ROAD

WALNUT LAKE OUTLET

WALNUT LAKE

FRANKLIN BRANCH-ROUGE RIVER

HIGGINS BRANCH

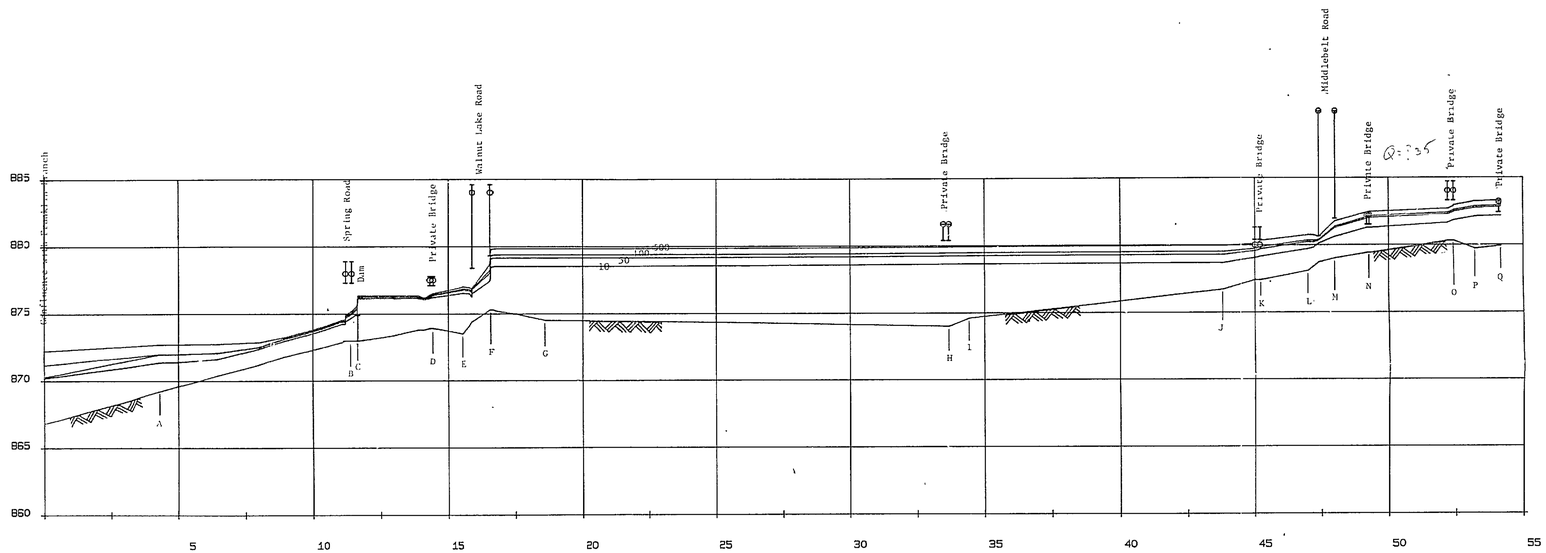
WEST MAPLE ROAD

West Bloomfield Twp. FIS
Franklin Branch
Rouge River
Legend
Flood Fringe:
Natural Floodway:
Encroached Floodway:
Scale: 1"=400'
North

CITY OF FARMINGTON HILLS

CITY OF FARMINGTON HILLS

WEST BLOOMFIELD TWP. FIS
WALNUT LAKE
OUTLET
5830-10-1



DRAWN:
DESIGN:
CHECKED:
FINAL:
DATE COMPLETED
PRELIMINARY:

SCALE. VERT. 1"=5'
HORIZ 1"=250'

REVISIONS	MARK	BULLETIN	DATE	MARK	BULLETIN	DATE	MARK	BULLETIN	DATE

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS
PONTIAC, MICHIGAN

West Bloomfield Twp. Fis

Walnut Lake - Outlet

JOB NO.
DATE ISSUED OCT 17 1978
SHEET NO.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WATERFORD TWP

3) WATERCOURSE: CLINTON RIVER

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

*PROF 1

CCHV= .300 CEHV= .500

*SECNO 67000.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
67000.00	8.45	950.85	.00	950.85	950.85	.00	.00	.00	950.40
365.	0.	365.	0.	4.	774.	0.	0.	0.	953.70
.00	.05	.47	.00	.050	.040	.050	.000	942.40	133.93
.000018	0.	0.	0.	0	0	0	.00	162.00	295.93

*SECNO 67950.000

3470 ENCROACHMENT STATIONS= 225.0 287.5 TYPE= 1 TARGET= 62.500

VALLEY SECTION 182 (CE) 5

67950.00	8.47	950.87	.00	.00	950.88	.01	.03	.00100000.00	
365.	0.	365.	0.	0.	437.	0.	13.	2. 100000.00	
.32	.00	.83	.00	.050	.040	.050	.040	942.40	225.00
.000048	870.	950.	1000.	0	0	0	.00	62.50	287.50

*SECNO 68000.000

3470 ENCROACHMENT STATIONS= 238.0 275.5 TYPE= 1 TARGET= 37.500

68000.00	6.15	950.85	.00	.00	950.91	.06	.01	.02100000.00	
365.	0.	365.	0.	0.	192.	0.	14.	2. 100000.00	
.32	.00	1.90	.00	.050	.040	.050	.040	944.70	238.00
.000393	50.	50.	50.	1	0	0	.00	37.50	275.50

*SECNO 68022.000

3470 ENCROACHMENT STATIONS= 243.0 269.5 TYPE= 1 TARGET= 26.500

68022.00	5.12	950.82	.00	.00	950.98	.16	.02	.05100000.00	
365.	0.	365.	0.	0.	114.	0.	14.	3. 100000.00	
.33	.00	3.20	.00	.050	.040	.050	.040	945.70	243.00
.001507	22.	22.	22.	2	0	0	.00	26.50	269.50

*SECNO 68023.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 954.90 MAX ELLC= 954.10

3470 ENCROACHMENT STATIONS= 243.0 445.0 TYPE= 1 TARGET= -243.000

BRIDGE SECTION 133 - INDIANVIEW DRIVE - D/S FACE (CF) 4

68023.00	5.13	950.83	.00	.00	950.98	.15	.00	.00	954.90
365.	0.	365.	0.	0.	118.	0.	14.	3.	955.10
.33	.00	3.10	.00	.030	024	.030	.040	945.70	243.00
.000639	1.	1.	1.	1	0	0	-5.80	26.50	269.50

*SECNO 68057.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 954.90 MAX ELLC= 954.10

3470 ENCROACHMENT STATIONS= 243.0 445.0 TYPE= 1 TARGET= -243.000

BRIDGE SECTION 183 - INDIANVIEW DRIVE - U/S FACE (CF) 4

68057.00	5.16	950.86	.00	.00	951.00	.15	.02	.00	954.90
365.	0.	365.	0.	0.	118.	0.	14.	3.	955.10
.33	.00	3.08	.00	.030	.024	.030	.039	945.70	243.00
.000628	34.	34.	34.	1	0	0	-5.97	26.50	269.50

*SECNO 68058.000

3470 ENCROACHMENT STATIONS= 243.0 271.5 TYPE= 1 TARGET= 28.500

68058.00	5.16	950.86	.00	.00	951.01	.14	.00	.00	100000.20
365.	0.	365.	0.	0.	121.	0.	14.	3.	100000.20
.33	.00	3.02	.00	.050	.040	.050	.039	945.70	243.00
.001328	1.	1.	1.	0	0	0	.00	28.50	271.50

*SECNO 68740.000

3470 ENCROACHMENT STATIONS= 202.0 490.0 TYPE= 1 TARGET= 288.000

VALLEY SECTION 184 (CG) 16

68740.00	5.99	951.09	.00	.00	951.09	.00	.05	.04	950.50
365.	0.	280.	85.	1.	563.	284.	21.	5.	948.90
.75	.06	.50	.30	.050	.040	.040	.039	945.10	238.33
.000021	770.	682.	700.	2	0	0	.00	240.96	479.30

*SECNO 69266.000

3470 ENCROACHMENT STATIONS= 515.0 540.0 TYPE= 1 TARGET= 25.000

69266.00	3.79	950.99	.00	.00	951.27	.27	.04	.14	100000.00
350.	0.	350.	0.	0.	83.	0.	27.	5.	100000.00
.78	.00	4.21	.00	.060	.040	.060	.040	947.20	515.00
.003309	560.	526.	480.	2	0	0	.00	25.00	540.00

*SECNO 69267.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 288.0 313.0 TYPE= 1 TARGET= 25.000

BRIDGE SECTION 185 - WALTON BLVD. - D/S FACE (CH) 3

69267.00	3.89	951.09	.00	.00	951.29	.20	.00	.02	955.60
350.	0.	350.	0.	0.	97.	0.	27.	6.	100000.00
.78	.00	3.60	.00	.030	.025	.030	.040	947.20	288.00
.000861	1.	1.	1.	2	0	0	.00	25.00	313.00

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.78	3.02	.00	25.00	.00	135.00	.00	947.20	947.20

*SECNO 69311.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= .000 EGLWC= 951.290 ELLC= 952.600 PCWSE= 951.088 ELTRD= 955.600

3370 NORMAL BRIDGE,NRD= 4 MIN ELTRD= 955.60 MAX ELLC= 952.60

3470 ENCROACHMENT STATIONS= 288.0 313.0 TYPE= 1 TARGET= 25.000

BRIDGE SECTION 185 - WALTON BLVD. - U/S FACE (CH) 3

69311.00	3.93	951.13	.00	.00	951.33	.20	.04	.00	955.60
350.	0.	350.	0.	0.	98.	0.	27.	6.	100000.00
.79	.00	3.56	.00	.030	.025	.030	.039	947.20	288.00
.000833	44.	44.	44.	2	0	0	.00	25.00	313.00

*SECNO 69312.000

3470 ENCROACHMENT STATIONS= 514.0 541.0 TYPE= 1 TARGET= 27.000

69312.00	3.92	951.12	.00	.00	951.35	.23	.00	.02	100000.00
350.	0.	350.	0.	0.	91.	0.	27.	6.	100000.00
.79	.00	3.83	.00	.060	.040	.060	.039	947.20	514.00
.002627	1.	1.	1.	1	0	0	.00	27.00	541.00

CCHV= .300 CEHV= .500

*SECNO 69336.000

3470 ENCROACHMENT STATIONS= 490.0 565.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION 185.5 (CI)

69336.00	6.09	951.39	.00	.00	951.42	.03	.01	.06	951.90
350.	0.	350.	0.	0.	247.	0.	27.	6.	100000.00
.79	.00	1.42	.00	.070	.040	.050	.039	945.30	492.81
.000271	25.	24.	25.	2	0	0	.00	68.79	561.59

*SECNO 69770.000

FORM 1411-1-GB

PRINTED IN U.S.A.

69770.00	11.04	951.44	.00	.00	951.44	.00	.02	.01	949.40
180.	0.	180.	0.	5.	474.	0.	31.	7.	951.30
1.11	.06	.38	.00	.060	.040	.060	.039	940.40	1.29
.000007	400.	434.	380.	2	0	0	.00	65.40	66.69

*SECNO 69906.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

D/S FACE (CK)

69906.00	10.43	951.43	.00	.00	951.45	.02	.00	.01	970.00
180.	0.	180.	0.	0.	156.	0.	32.	7.	970.00
1.14	.00	1.15	.00	.050	.015	.050	.038	941.00	300.00
.000019	140.	136.	140.	2	0	0	.00	15.00	315.00

*SECNO 69926.000

69926.00	5.20	951.40	.00	.00	951.49	.08	.00	.03	975.20
180.	0.	180.	0.	0.	78.	0.	32.	7.	975.20
1.15	.00	2.32	.00	.050	.015	.050	.038	946.20	300.00
.000123	20.	20.	20.	2	0	0	.00	15.00	315.00

*SECNO 69949.000

$301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

$685 20 TRIALS ATTEMPTED WSEL,CWSEL
$693 PROBABLE MINIMUM SPECIFIC ENERGY
$720 CRITICAL DEPTH ASSUMED

69949.00	1.48	953.68	953.68	.00	954.43	.75	.01	.33	970.00
180.	0.	180.	0.	0.	26.	0.	32.	7.	970.00
1.15	.00	6.93	.00	.050	.015	.050	.038	952.20	300.00
.003558	23.	23.	23.	20	14	0	.00	17.50	317.50

SPECIAL BRIDGE

$B	XK	RKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD

TORAX 1411 4-68
PRINTED IN U.S.A.

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     .00      1.50      3.64      .00      .01      .00      .01      .00    955.10    952.20

*SECNO 69950.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC     ELTRD
                                                                AREA
547537.54   957.33     .00      181.        0.        0.        0.       955.10    957.10


3470 ENCROACHMENT STATIONS=     300.0     317.5  TYPE=     1  TARGET=      17.500

          DAM SECTION 187 - OAKLAND LAKE - EAST DAM - U/S FACE  (CM)          1

 69950.00     3.90   959.00      .00      .00   959.11      .11     4.68      .00   960.70
     180.       0.     180.       0.       0.      68.       0.      32.       7. 100000.00
     1.15      .00     2.64      .00     .050     .015     .050     .038   955.10   300.00
  .000189       1.       1.       1.        2        0       17      .00    17.50   317.50

*SECNO -69336.000
START TRIB COMP
-69336.000 69336.000   951.388
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=     490.0     565.0  TYPE=     1  TARGET=      75.000

          VALLEY SECTION 185.5  (CI)

-69336.00     6.09   951.39      .00      .00   951.40      .01      .00      .00   951.90
     180.       0.     180.       0.       0.     247.       0.      32.       7. 100000.00
     1.16      .00      .73      .00     .050     .015     .050     .038   945.30   492.81
  .000010      25.      24.      25.        0        0        0      .00    68.78   561.59

CCHV=    .300 CEHV=    .500
*SECNO 580.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


          VALLEY SECTION 186 - WEST CHANNEL  (CJ)                              2

   580.00     3.39   951.39      .00      .00   951.43      .03      .02      .01   957.90
     170.       0.     170.       0.       0.     115.       0.      34.       8.   952.00
     1.27      .00     1.48      .00     .070     .040     .050     .038   948.00   413.77
  .000444     500.     580.     600.        0        0        0      .00    42.80   456.57
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*SECNO 699.000
3280 CROSS SECTION    699.00 EXTENDED      3.03 FEET

3470 ENCROACHMENT STATIONS=      420.0      438.0  TYPE=      1  TARGET=      18.000
   699.00      7.03    951.43       .00       .00    951.46       .03       .04       .00100000.00
     170.        0.      170.        0.        0.      126.        0.       35.        8. 100000.00
     1.29       .00      1.34       .00      .070      .040      .050      .038    944.40    420.00
  .000210      120.      119.      120.         1         0         0       .00     18.00    438.00

*SECNO 700.000

3470 ENCROACHMENT STATIONS=        2.5       20.3  TYPE=      1  TARGET=      17.800

          TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - SECTION 187 - D/S FACE     1

   700.00      7.03    951.43       .00       .00    951.47       .04       .00       .01100000.00
     170.        0.      170.        0.        0.      106.        0.       35.        8. 100000.00
     1.29       .00      1.60       .00      .050      .025      .050      .038    944.40      2.50
  .000136        1.        1.        1.         0         0         0       .00     17.80     20.30

SPECIAL BRIDGE

$B  XK        XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
      .00       2.34       3.02        .00      15.30        .00      83.92        .00     950.50     944.40

*SECNO 784.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=   951.578  EGLWC=   957.569  ELLC=   956.000  PCWSE=   951.429  ELTRD=   956.000

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         OLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD=  956.00 MAX ELLC=  956.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - U/S FACE  (CL)

   784.00      2.19    952.69    952.69       .00    953.41       .72       .04       .34    970.00
     170.        0.      170.        0.        0.       25.        0.       35.        8.    970.00
     1.29       .00      6.81       .00      .050      .025      .050      .038    950.50    649.00
  .010439       84.       84.       84.        20        19         0       .00     17.80    666.80
```

*SECNO 785.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*3685 20 TRIALS ATTEMPTED WSEL,CWSEL
*3693 PROBABLE MINIMUM SPECIFIC ENERGY
*3720 CRITICAL DEPTH ASSUMED

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - D/S FACE (CM) 1

785.00	2.45	952.95	952.95	.00	953.63	.68	.01	.01	970.00
170.	0.	170.	0.	0.	26.	0.	35.	8.	970.00
1.29	.00	6.61	.00	.050	.025	.050	.038	950.50	649.00
.009033	1.	1.	1.	20	8	0	.00	19.09	668.09

*SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.41	.00	.01	.00	.01	.00	950.50	950.50

*SECNO 786.000

*3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
732319.41	953.24	.00	172.	0.	0.	0.	950.50	957.20

*3470 ENCROACHMENT STATIONS= 649.0 668.3 TYPE= 1 TARGET= 19.300

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - U/S FACE (CM) 1

786.00	8.62	959.12	.00	.00	959.14	.02	5.51	.00	960.70
170.	0.	170.	0.	0.	143.	0.	35.	8.	100000.00
1.29	.00	1.19	.00	.050	.015	.050	.038	950.50	649.00
.000064	1.	1.	1.	2	0	17	.00	19.30	668.30

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************

T1      WATERFORD TWP. FIS - JOB NO. 5850-09
T2      LOON LAKE TO OAKLAND LAKE - INCLUDING ISLAND ANALYSIS - 50-YEAR FLOOD
T3      CLINTON RIVER - PROJECT MANAGER, M.S.CHENG

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

    -10.        3.        0.        0.   .000000       .00       .0        0.   951.890      .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     2.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

*PROF 2

CCHV=    .300 CEHV=    .500
*SECNO 67000.000
3280 CROSS SECTION  67000.00 EXTENDED       .09 FEET

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        WLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

 67000.00     9.49   951.89      .00   951.89   951.90      .01      .00      .00   950.40
     595.       5.     590.       0.      39.     926.       0.       0.       0.   953.70
      .00      .13      .64      .00     .050     .040     .050     .000   942.40   100.00
  .000026       0.       0.       0.        0        0        0      .00   197.41   297.41

*SECNO 67950.000

3470 ENCROACHMENT STATIONS=     225.0     287.5  TYPE=     1  TARGET=      62.500

          VALLEY SECTION 182 (CE)                                                5

 67950.00     9.52   951.92      .00      .00   951.94      .02      .04      .01100000.00
     595.       0.     595.       0.       0.     503.       0.      16.       3. 100000.00
      .22      .00     1.18      .00     .050     .040     .050     .040   942.40   225.00
  .000082     870.     950.    1000.        0        0        0      .00    62.50   287.50

*SECNO 68000.000

3470 ENCROACHMENT STATIONS=     238.0     275.5  TYPE=     1  TARGET=      37.500
 68000.00     7.19   951.89      .00      .00   951.99      .10      .01      .04100000.00
     595.       0.     595.       0.       0.     231.       0.      16.       3. 100000.00
      .23      .00     2.58      .00     .050     .040     .050     .040   944.70   238.00
  .000603      50.      50.      50.        2        0        0      .00    37.50   275.50
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*SECNO 68022.000

3470 ENCROACHMENT STATIONS=      243.0      269.5  TYPE=      1  TARGET=       26.500
 68022.00      6.13    951.83       .00       .00    952.10       .28       .02       .09100000.00
     595.        0.      595.        0.        0.      141.        0.       16.         3  100000.00
      .23       .00      4.23       .00      .050      .040      .050      .040    945.70    243.00
  .002141       22.       22.       22.         2         0         0       .00     26.50    269.50

*SECNO 68023.000
   SECNO     DEPTH     CUSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  954.90 MAX ELLC=  954.10

3470 ENCROACHMENT STATIONS=      243.0      445.0  TYPE=      1  TARGET=     -243.000

          BRIDGE SECTION 133 - INDIANVIEW DRIVE - D/S FACE (CF)                 4

 68023.00      6.12    951.82       .00       .00    952.11       .29       .00       .00    954.90
     595.        0.      595.        0.        0.      138.        0.       16.         3.    955.10
      .23       .00      4.30       .00      .030      .024      .030      .040    945.70    243.00
  .001154        1.        1.        1.         0         0         0    -11.73     26.50    269.50

*SECNO 68057.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  954.90 MAX ELLC=  954.10

3470 ENCROACHMENT STATIONS=      243.0      445.0  TYPE=      1  TARGET=     -243.000

          BRIDGE SECTION 183 - INDIANVIEW DRIVE - U/S FACE  (CF)                4

 68057.00      6.17    951.87       .00       .00    952.15       .28       .04       .00    954.90
     595.        0.      595.        0.        0.      139.        0.       17.         3.    955.10
      .23       .00      4.28       .00      .030      .024      .030      .039    945.70    243.00
  .001138       34.       34.       34.         1         0         0    -12.07     26.50    269.50

*SECNO 68058.000

3470 ENCROACHMENT STATIONS=      243.0      271.5  TYPE=      1  TARGET=       28.500
 68058.00      6.22    951.92       .00       .00    952.16       .24       .00       .01100000.20
     595.        0.      595.        0.        0.      151.        0.       17.         3. 100000.20
      .23       .00      3.93       .00      .050      .040      .050      .039    945.70    243.00
  .001802        1.        1.        1.         2         0         0       .00     28.50    271.50

*SECNO 68740.000

3470 ENCROACHMENT STATIONS=      202.0      490.0  TYPE=      1  TARGET=      288.000
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          VALLEY SECTION 184 (CG)                                                    16

 68740.00      7.18    952.28       .00       .00    952.29       .00       .05       .07    950.50
     595.        2.      415.      178.       17.      695.      438.       27.        5.    948.90
      .59       .13       .60       .41      .050      .040      .040      .039    945.10    221.56
  .000023      770.      682.      700.         2         0         0       .00    268.44    490.00

*SECNO 69266.000

3470 ENCROACHMENT STATIONS=      515.0      540.0  TYPE=      1  TARGET=      25.000
 69266.00      4.92    952.12       .00       .00    952.53       .41       .04       .20100000.00
     570.        0.      570.        0.        0.      112.        0.       34.        7. 100000.00
      .61       .00      5.11       .00      .060      .040      .060      .040    947.20    515.00
  .003644      560.      526.      480.         2         0         0       .00     25.00    540.00

*SECNO 69267.000
   SECNO     DEPTH     CWSEL     CRIUS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      288.0      313.0  TYPE=      1  TARGET=      25.000

          BRIDGE SECTION 185 - WALTON BLVD. - D/S FACE  (CH)                         3

 69267.00      5.04    952.24       .00       .00    952.56       .32       .00       .03    955.60
     570.        0.      570.        0.        0.      126.        0.       34.        7. 100000.00
      .61       .00      4.53       .00      .030      .025      .030      .040    947.20    288.00
  .001055        1.        1.        1.         2         0         0       .00     25.00    313.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      1.78      3.02       .00     25.00       .00    135.00       .00    947.20    947.20

*SECNO 69311.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=      .000  EGLWC=   952.555  ELLC=   952.600  PCWSE=   952.237  ELTRD=   955.600

3370 NORMAL BRIDGE,NRD=  4 MIN ELTRD=  955.60 MAX ELLC=  952.60

3470 ENCROACHMENT STATIONS=      288.0      313.0  TYPE=      1  TARGET=      25.000

          BRIDGE SECTION 185 - WALTON BLVD. - U/S FACE  (CH)                         3

 69311.00      5.09    952.29       .00       .00    952.60       .31       .05       .00    955.60
     570.        0.      570.        0.        0.      127.        0.       34.        7. 100000.00
      .62       .00      4.48       .00      .030      .025      .030      .039    947.20    288.00
  .001022       44.       44.       44.         2         0         0       .00     25.00    313.00
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*SECNO 69312.000

3470 ENCROACHMENT STATIONS= 514.0 541.0 TYPE= 1 TARGET= 27.000

69312.00	5.08	952.23	.00	.00	952.62	.34	.00	.01100000.00	
570.	0.	570.	0.	0.	123.	0.	34.	7.	100000.00
.62	.00	4.65	.00	.060	.040	.060	.039	947.20	514.00
.002859	1.	1.	1.	1	0	0	.00	27.00	541.00

CCHV= .300 CEHV= .500

*SECNO 69336.000

3470 ENCROACHMENT STATIONS= 490.0 565.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION 185.5 (CI)

69336.00	7.38	952.68	.00	.00	952.72	.04	.02	.09	951.90
570.	0.	570.	0.	1.	341.	0.	35.	7.	100000.00
.62	.20	1.67	.00	.070	.040	.050	.039	945.30	490.00
.000274	25.	24.	25.	2	0	0	.00	75.00	565.00

*SECNO 69770.000

3280 CROSS SECTION 69770.00 EXTENDED .75 FEET

VALLEY SECTION 186 - EAST CHANNEL (CJ) 2

69770.00	12.35	952.75	.00	.00	952.75	.00	.02	.01	949.40
290.	1.	288.	0.	12.	553.	5.	39.	8.	951.30
.85	.12	.52	.07	.060	.040	.060	.039	940.40	.00
.000011	400.	434.	380.	2	0	0	.00	73.10	73.10

*SECNO 69906.000

SECNO	DEPTH	QWSEL	QRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CHANNEL OUTLET APRON FOR EAST DAM OAKLAND LAKE - SECTION 187 - 1

D/S FACE (CK)

69906.00	11.73	952.73	.00	.00	952.77	.04	.00	.02	970.00
290.	0.	290.	0.	0.	176.	0.	40.	8.	970.00
.88	.00	1.65	.00	.050	.015	.050	.038	941.00	300.00
.000037	140.	136.	140.	2	0	0	.00	15.00	315.00

*SECNO 69926.000

69926.00	6.49	952.69	.00	.00	952.82	.14	.00	.05	975.20
290.	0.	290.	0.	0.	97.	0.	40.	8.	975.20
.88	.00	2.99	.00	.050	.015	.050	.038	946.20	300.00
.000173	20.	20.	20.	2	0	0	.00	15.00	315.00

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*SECNO 69949.000

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

          DAM SECTION 187 - OAKLAND LAKE - EAST DAM - D/S FACE  (CM)          1

 69949.00      2.04    954.24    954.24       .00    955.26      1.03       .01       .45    970.00
     290.        0.      290.        0.        0.       36.        0.       40.        8.    970.00
      .88       .00      8.14       .00      .050      .015      .050      .038    952.20    300.00
  .003460       23.       23.       23.        20        17         0       .00     17.50    317.50

SPECIAL BRIDGE

SB  XK        XKOR      COFO      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      1.50      3.64       .00       .01       .00       .01       .00    955.10    952.20

*SECNO 69950.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

 EGPRS       EGLWC       H3        QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                  AREA
 ########    958.16       .00       290.        0.        0.        0.      955.10    957.10

3470 ENCROACHMENT STATIONS=     300.0     317.5  TYPE=     1  TARGET=      17.500

          DAM SECTION 197 - OAKLAND LAKE - EAST DAM - U/S FACE  (CM)          1

 69950.00      4.54    959.64       .00       .00    959.85       .21      4.58       .00    960.70
     290.        0.      290.        0.        0.       79.        0.       40.        8. 100000.00
      .88       .00      3.65       .00      .050      .015      .050      .038    955.10    300.00
  .000315        1.        1.        1.         2         0        17       .00     17.50    317.50

*SECNO -69336.000
START TRIB COMP
 -69336.000 69336.000   952.676
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST
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*ENR

3470 ENCROACHMENT STATIONS= 490.0 565.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION 185.5 (CI)

69336.00	7.38	952.68	.00	.00	952.69	.01	.00	.00	951.90	
290.	0.	290.	0.	1.	341.	0.	40.	8.	100000.00	
.89	.05	.85	.00	.050	.015	.050	.038	945.30	490.00	
.000010	25.	24.	25.	0	0	0	.00	75.00	565.00	

*CCHV= .300 CEHV= .500

*SECNO 580.000

3280 CROSS SECTION 580.00 EXTENDED .68 FEET

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION 186 - WEST CHANNEL (CJ) 2

580.00	4.68	952.68	.00	.00	952.72	.04	.02	.01	957.90
280.	0.	280.	0.	0.	174.	0.	44.	9.	952.00
.99	.00	1.61	.00	.070	.040	.050	.038	948.00	412.04
.000356	500.	580.	600.	0	0	0	.00	46.96	459.00

*SECNO 699.000

3280 CROSS SECTION 699.00 EXTENDED 4.31 FEET

3470 ENCROACHMENT STATIONS= 420.0 438.0 TYPE= 1 TARGET= 18.000

699.00	8.31	952.71	.00	.00	952.77	.05	.04	.01	100000.00
280.	0.	280.	0.	0.	150.	0.	44.	9.	100000.00
1.00	.00	1.87	.00	.070	.040	.050	.038	944.40	420.00
.000361	120.	119.	120.	1	0	0	.00	18.00	438.00

*SECNO 700.000

3470 ENCROACHMENT STATIONS= 2.5 20.3 TYPE= 1 TARGET= 17.800

TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - SECTION 187 - D/S FACE 1

700.00	8.30	952.70	.00	.00	952.78	.07	.00	.01	100000.00
280.	0.	280.	0.	0.	129.	0.	44.	9.	100000.00
1.00	.00	2.17	.00	.050	.025	.050	.038	944.40	2.50
.000214	1.	1.	1.	0	0	0	.00	17.80	20.30

*SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD

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.00	2.34	3.02	.00	15.30	.00	83.92	.00	950.50	944.40

*SECNO 784.000
PRESS FLOW BECAUSE EGLWC OF 958.88 EXCEEDS 1.5 DEPTH

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
953.11	958.88	.00	0.	280.	84.	84.	956.00	956.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3720 CRITICAL DEPTH ASSUMED

TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - U/S FACE (CL)

784.00	2.75	953.25	953.25	.00	954.25	.99	.05	-.05	970.00
280.	0.	280.	0.	0.	35.	0.	44.	9.	970.00
1.01	.00	8.00	.00	.050	.025	.050	.038	950.50	649.00
.008983	84.	84.	84.	20	17	0	.00	17.80	666.80

*SECNO 785.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - D/S FACE (CM) 1

785.00	2.97	953.47	953.47	.00	954.42	.95	.01	.01	970.00
280.	0.	280.	0.	0.	36.	0.	44.	9.	970.00
1.01	.00	7.82	.00	.050	.025	.050	.038	950.50	649.00
.008782	1.	1.	1.	20	8	0	.00	19.30	668.30

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.41	.00	.01	.00	.01	.00	950.50	950.50

*SECNO 786.000

3301 HV CHANGED MORE THAN HVINS

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SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
0000000000	954.01	.00	280.	0.	0.	0.	950.50	957.20

3470 ENCROACHMENT STATIONS= 649.0 668.3 TYPE= 1 TARGET= 19.300

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - U/S FACE (CM) 1

786.00	9.33	959.83	.00	.00	959.88	.05	5.46	.00	960.70
280.	0.	280.	0.	0.	157.	0.	44.	9.	100000.00
1.01	.00	1.78	.00	.050	.015	.050	.038	950.50	649.00
.000132	1.	1.	1.	2	0	17	.00	19.30	668.30

FORM 1411 5 GB

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************

T1      WATERFORD TWP. FIS - JOB NO. 5850-09
T2      LOON LAKE TO OAKLAND LAKE - INCLUDING ISLAND ANALYSIS - 500-YEAR FLOOD
T3      CLINTON RIVER - PROJECT MANAGER, M.S.CHENG

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

      -10.        5.         0.         0.    .000000        .00         .0         0.    953.820       .000

J2   NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

     15.000       .000    -1.000       .000       .000       .000       .000       .000       .000       .000

*PROF 4

CCHV=     .300 CEHV=     .500
*SECNO 67000.000
3280 CROSS SECTION  67000.00 EXTENDED       2.02 FEET


   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

67000.00     11.42    953.82       .00    953.82    953.83       .01       .00       .00    950.40
     945.       39.      906.        0.      136.      1214.       0.        0.        0.    953.70
     .00       .28       .75       .00      .050      .040      .050      .000    942.40    100.00
 .000026        0.        0.        0.         0         0         0       .00    200.00    300.00

*SECNO 67950.000
3280 CROSS SECTION  67950.00 EXTENDED        .14 FEET


3470 ENCROACHMENT STATIONS=      225.0      287.5  TYPE=      1  TARGET=       62.500

          VALLEY SECTION 182 (CE)                                                  5

67950.00     11.45    953.85       .00       .00    953.89       .04       .04       .01100000.00
     945.        0.      945.        0.        0.      623.       0.        21.       3. 100000.00
     .17       .00      1.52       .00      .050      .040      .050      .040    942.40    225.00
 .000108       870.      950.      1000.         0         0         0       .00     62.50    287.50

*SECNO 68000.000

3470 ENCROACHMENT STATIONS=      238.0      275.5  TYPE=      1  TARGET=       37.500
68000.00      9.10    953.80       .00       .00    953.95       .15       .01       .06100000.00
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     945.       0.     945.       0.       0.     303.       0.      22.       3. 100000.00
      .18      .00     3.12      .00     .050     .040     .050     .040   944.70   238.00
  .000683      50.      50.      50.        2        0        0      .00    37.50   275.50

*SECNO 68022.000

3470 ENCROACHMENT STATIONS=     243.0     269.5  TYPE=       1  TARGET=      26.500
 68022.00     8.01   953.71      .00      .00   954.09      .38      .02      .12100000.00
     945.       0.     945.       0.       0.     191.       0.      22.       3. 100000.00
      .18      .00     4.96      .00     .050     .040     .050     .040   945.70   243.00
  .002234      22.      22.      22.        2        0        0      .00    26.50   269.50

*SECNO 68023.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  954.90 MAX ELLC=  954.10


3470 ENCROACHMENT STATIONS=     243.0     445.0  TYPE=       1  TARGET=    -243.000

          BRIDGE SECTION 183 - INDIANVIEW DRIVE - D/S FACE (CF)                  4

 68023.00     7.95   953.65      .00      .00   954.16      .50      .00      .06   954.90
     945.       0.     945.       0.       0.     166.       0.      22.       3.    955.10
      .18      .00     5.69      .00     .030     .024     .030     .040   945.70   243.00
  .002183       1.       1.       1.        2        0        0   -32.39    26.50   269.50

*SECNO 68057.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  954.90 MAX ELLC=  954.10


3470 ENCROACHMENT STATIONS=     243.0     445.0  TYPE=       1  TARGET=    -243.000

          BRIDGE SECTION 183 - INDIANVIEW DRIVE - U/S FACE (CF)                  4

 68057.00     8.03   953.73      .00      .00   954.23      .50      .07      .00   954.90
     945.       0.     945.       0.       0.     167.       0.      22.       3.    955.10
      .18      .00     5.67      .00     .030     .024     .030     .039   945.70   243.00
  .002191      34.      34.      34.        0        0        0   -33.74    26.50   269.50

*SECNO 68058.000

3470 ENCROACHMENT STATIONS=     243.0     271.5  TYPE=       1  TARGET=      28.500
 68058.00     8.28   953.98      .00      .00   954.29      .32      .00      .06100000.20
     945.       0.     945.       0.       0.     210.       0.      22.       3. 100000.20
      .18      .00     4.51      .00     .050     .040     .050     .039   945.70   243.00
  .001751       1.       1.       1.        2        0        0      .00    28.50   271.50

*SECNO 68740.000
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3470 ENCROACHMENT STATIONS= 202.0 490.0 TYPE= 1 TARGET= 288.000

VALLEY SECTION 184 (CG) 16

68740.00	9.32	954.42	.00	.00	954.42	.00	.04	.09	950.50	
945.	19.	580.	346.	91.	932.	728.	38.	5.	948.90	
.52	.21	.62	.47	.050	.040	.040	.039	945.10	202.00	
.000017	770.	682.	700.	2	0	0	.00	288.00	490.00	

*SECNO 69266.000

3470 ENCROACHMENT STATIONS= 515.0 540.0 TYPE= 1 TARGET= 25.000

69266.00	7.01	954.21	.00	.00	954.69	.48	.03	.24	100000.00	
910.	0.	910.	0.	0.	164.	0.	49.	7.	100000.00	
.55	.00	5.56	.00	.060	.040	.060	.040	947.20	515.00	
.003038	560.	526.	480.	2	0	0	.00	25.00	540.00	

*SECNO 69267.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 288.0 313.0 TYPE= 1 TARGET= 25.000

BRIDGE SECTION 185 - WALTON BLVD. - D/S FACE (CH) 3

69267.00	7.11	954.31	.00	.00	954.71	.41	.00	.02	955.60	
910.	0.	910.	0.	0.	178.	0.	49.	7.	100000.00	
.55	.00	5.12	.00	.030	.025	.030	.040	947.20	288.00	
.000991	1.	1.	1.	2	0	0	.00	25.00	313.00	

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.78	3.02	.00	25.00	.00	135.00	.00	947.20	947.20

*SECNO 69311.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
955.56	954.71	.00	0.	910.	135.	135.	952.60	955.60

3470 ENCROACHMENT STATIONS= 288.0 313.0 TYPE= 1 TARGET= 25.000

BRIDGE SECTION 185 - WALTON BLVD. - U/S FACE (CH) 3

69311.00	8.04	955.24	.00	.00	955.56	.32	.85	.00	955.60	
910.	0.	910.	0.	0.	201.	0.	49.	7.	100000.00	

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	.55	.00	4.53	.00	.030	.025	.030	.039	947.20	288.00
	.000697	44.	44.	44.	2	0	0	.00	25.00	313.00

*SECNO 69312.000

3470 ENCROACHMENT STATIONS= 514.0 541.0 TYPE= 1 TARGET= 27.000

69312.00	8.05	955.25	.00	.00	955.56	.31	.00	.00100000.00	
910.	0.	910.	0.	0.	203.	0.	49.	7.	100000.00
.55	.00	4.49	.00	.060	.040	.060	.039	947.20	514.00
.001695	1.	1.	1.	0	0	0	.00	27.00	541.00

CCHV= .300 CEHV= .500

*SECNO 69336.000

3470 ENCROACHMENT STATIONS= 490.0 565.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION 185.5 (CI)

69336.00	10.31	955.61	.00	.00	955.65	.04	.01	.08	951.90
910.	1.	909.	0.	4.	558.	0.	49.	7.	100000.00
.55	.22	1.63	.00	.070	.040	.050	.039	945.30	490.00
.000142	25.	24.	25.	2	0	0	.00	75.00	565.00

*SECNO 69770.000

3280 CROSS SECTION 69770.00 EXTENDED 3.68 FEET

VALLEY SECTION 186 - EAST CHANNEL (CJ) 2

69770.00	15.28	955.68	.00	.00	955.68	.01	.02	.01	949.40
460.	5.	449.	6.	30.	728.	47.	56.	8.	951.30
.75	.17	.62	.14	.060	.040	.060	.039	940.40	.00
.000011	400.	434.	380.	2	0	0	.00	87.45	87.45

*SECNO 69906.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CHANNEL OUTLET APRON FOR EAST DAM OAKLAND LAKE - SECTION 187 - 1

D/S FACE (CK)

69906.00	14.65	955.65	.00	.00	955.72	.07	.00	.03	970.00
460.	0.	460.	0.	0.	219.	0.	58.	8.	970.00
.77	.00	2.10	.00	.050	.015	.050	.038	941.00	300.00
.000053	140.	136.	140.	2	0	0	.00	15.00	315.00

*SECNO 69926.000

69926.00	9.40	955.60	.00	.00	955.77	.17	.00	.05	975.20

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460.	0.	460.	0.	0.	141.	0.	58.	8.	975.20
.77	.00	3.27	.00	.050	.015	.050	.038	946.20	300.00
.000162	20.	20.	20.	2	0	0	.00	15.00	315.00

*SECNO 69949.000

3301 HV CHANGED MORE THAN HVINS

DAM SECTION 187 - OAKLAND LAKE - EAST DAM - D/S FACE (CM) 1

69949.00	2.82	955.02	954.98	.00	956.37	1.34	.01	.59	970.00
460.	0.	460.	0.	0.	49.	0.	58.	8.	970.00
.77	.00	9.31	.00	.050	.015	.050	.038	952.20	300.00
.003208	23.	23.	23.	6	14	0	.00	17.50	317.50

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.64	.00	.01	.00	.01	.00	955.10	952.20

*SECNO 69950.000

3280 CROSS SECTION 69950.00 EXTENDED .07 FEET

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
#########	959.27	.00	460.	0.	0.	0.	955.10	957.10

3470 ENCROACHMENT STATIONS= 300.0 317.5 TYPE= 1 TARGET= 17.500

DAM SECTION 187 - OAKLAND LAKE - EAST DAM - U/S FACE (CM) 1

69950.00	5.36	960.46	.00	.00	960.84	.37	4.47	.00	960.70
460.	0.	460.	0.	0.	94.	0.	58.	8.	100000.00
.77	.00	4.90	.00	.050	.015	.050	.038	955.10	300.00
.000493	1.	1.	1.	2	0	17	.00	17.50	317.50

*SECNO -69336.000
START TRIB COMP

-69336.000 69336.000 955.612

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

FORM 1411 5-68
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3470 ENCROACHMENT STATIONS= 490.0 565.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION 185.5 (CI)

+69336.00	10.31	955.61	.00	.00	955.62	.01	.00	.00	951.90	
460.	0.	460.	0.	4.	558.	0.	58.	8.	100000.00	
.78	.06	.82	.00	.050	.015	.050	.038	945.30	490.00	
.000005	25.	24.	25.	0	0	0	.00	75.00	565.00	

CCHV= .300 CEHV= .500

*SECNO 580.000

3280 CROSS SECTION 580.00 EXTENDED 3.62 FEET

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION 186 - WEST CHANNEL (CJ) 2

580.00	7.61	955.61	.00	.00	955.64	.03	.01	.01	957.90	
450.	0.	450.	0.	0.	317.	0.	64.	9.	952.00	
.90	.00	1.42	.00	.070	.040	.050	.038	948.00	408.08	
.000150	500.	580.	600.	0	0	0	.00	50.92	459.00	

*SECNO 699.000

3280 CROSS SECTION 699.00 EXTENDED 7.22 FEET

3470 ENCROACHMENT STATIONS= 420.0 438.0 TYPE= 1 TARGET= 18.000

699.00	11.22	955.62	.00	.00	955.69	.08	.03	.02	100000.00
450.	0.	450.	0.	0.	202.	0.	65.	9.	100000.00
.91	.00	2.23	.00	.070	.040	.050	.038	944.40	420.00
.000421	120.	119.	120.	0	0	0	.00	18.00	438.00

*SECNO 700.000

3280 CROSS SECTION 700.00 EXTENDED .82 FEET

3470 ENCROACHMENT STATIONS= 2.5 20.3 TYPE= 1 TARGET= 17.800

TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - SECTION 187 - D/S FACE 1

700.00	11.21	955.61	.00	.00	955.70	.10	.00	.01	100000.00
450.	0.	450.	0.	0.	180.	0.	65.	9.	100000.00
.91	.00	2.49	.00	.050	.025	.050	.038	944.40	2.50
.000224	1.	1.	1.	0	0	0	.00	17.80	20.30

*SPECIAL BRIDGE

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SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	2.34	3.02	.00	15.30	.00	83.92	.00	950.50	944.40

*SECNO 784.000

PRESS FLOW BECAUSE EGLWC OF 961.80 EXCEEDS 1.5 DEPTH
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
956.65	961.80	.00	0.	448.	84.	84.	956.00	956.00

TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - U/S FACE (CL)

784.00	5.74	956.24	.00	.00	956.64	.40	.94	.00	970.00
450.	0.	450.	0.	0.	88.	0.	65.	9.	970.00
.92	.00	5.10	.00	.050	.025	.050	.038	950.50	649.00
.001490	84.	84.	84.	2	0	3	.00	17.80	666.80

*SECNO 785.000

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - D/S FACE (CM) 1

785.00	5.75	956.25	.00	.00	956.65	.39	.00	.00	970.00
450.	0.	450.	0.	0.	89.	0.	65.	9.	970.00
.92	.00	5.04	.00	.050	.025	.050	.038	950.50	649.00
.001461	1.	1.	1.	1	0	0	.00	19.30	668.30

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.41	.00	.01	.00	.01	.00	950.50	950.50

*SECNO 786.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
0#########	956.63	.00	450.	0.	0.	0.	950.50	957.20

3470 ENCROACHMENT STATIONS= 649.0 668.3 TYPE= 1 TARGET= 19.300

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - U/S FACE (CM) 1

786.00	10.25	960.75	.00	.00	960.85	.10	4.21	.00	960.70
450.	0.	450.	0.	0.	175.	0.	65.	9.	100000.00

.92	.00	2.58	.00	.050	.015	.050	.038	950.50	649.00
.000246	1.	1.	1.	2	0	17	.00	19.30	668.30

FORM 1411 ½ GB

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HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR - 01,02,03
MODIFICATION - 50,51,52,53

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CLINTON RIVER - PROJECT

SUMMARY PRINTOUT

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	K*CHSL	TOPWID	AREA
67000.000	.00	.00	942.40	365.00	950.85	8.45	.00	.00	950.85	.00	162.00	777.42
67000.000	.00	.00	942.40	595.00	951.89	9.49	.01	.00	951.90	.00	197.41	965.84
67000.000	.00	.00	942.40	675.00	952.46	10.06	.01	.00	952.47	.00	198.23	1078.60
67000.000	.00	.00	942.40	945.00	953.82	11.42	.01	.00	953.83	.00	200.00	1349.50
67950.000	.00	.00	942.40	365.00	950.87	8.47	.01	.00	950.88	.00	62.50	437.32
67950.000	.00	.00	942.40	595.00	951.92	9.52	.02	.01	951.94	.00	62.50	502.80
67950.000	.00	.00	942.40	675.00	952.49	10.09	.02	.01	952.52	.00	62.50	538.35
67950.000	.00	.00	942.40	945.00	953.85	11.45	.04	.01	953.89	.00	62.50	623.40
68000.000	.00	.00	944.70	365.00	950.85	6.15	.06	.02	950.91	46.00	37.50	192.47
68000.000	.00	.00	944.70	595.00	951.89	7.19	.10	.04	951.99	46.00	37.50	230.95
68000.000	.00	.00	944.70	675.00	952.46	7.76	.11	.04	952.57	46.00	37.50	252.16
68000.000	.00	.00	944.70	945.00	953.80	9.10	.15	.06	953.95	46.00	37.50	302.68
68022.000	.00	.00	945.70	365.00	950.82	5.12	.16	.05	950.98	45.45	26.50	113.92
68022.000	.00	.00	945.70	595.00	951.83	6.13	.28	.09	952.10	45.45	26.50	140.62
68022.000	.00	.00	945.70	675.00	952.39	6.69	.29	.09	952.68	45.45	26.50	155.51
68022.000	.00	.00	945.70	945.00	953.71	8.01	.38	.12	954.09	45.45	26.50	190.63
68023.000	954.90	954.10	945.70	365.00	950.83	5.13	.15	.00	950.98	-.00	26.50	117.62
68023.000	954.90	954.10	945.70	595.00	951.82	6.12	.29	.00	952.11	-.00	26.50	138.24
68023.000	954.90	954.10	945.70	675.00	952.37	6.67	.32	.01	952.70	-.00	26.50	148.30
68023.000	954.90	954.10	945.70	945.00	953.65	7.95	.50	.06	954.16	-.00	26.50	166.01
68057.000	954.90	954.10	945.70	365.00	950.86	5.16	.15	.00	951.00	.00	26.50	118.45
68057.000	954.90	954.10	945.70	595.00	951.87	6.17	.28	.00	952.15	.00	26.50	139.10
68057.000	954.90	954.10	945.70	675.00	952.42	6.72	.32	.00	952.74	.00	26.50	149.14
68057.000	954.90	954.10	945.70	945.00	953.73	8.03	.50	.00	954.23	.00	26.50	166.65
68058.000	.00	.00	945.70	365.00	950.86	5.16	.14	.00	951.01	.00	28.50	120.85
68058.000	.00	.00	945.70	595.00	951.92	6.22	.24	.01	952.16	.00	28.50	151.28
68058.000	.00	.00	945.70	675.00	952.51	6.81	.25	.02	952.76	.00	28.50	168.01
68058.000	.00	.00	945.70	945.00	953.98	8.28	.32	.06	954.29	.00	28.50	209.74
68740.000	.00	.00	945.10	365.00	951.09	5.99	.00	.04	951.09	-.88	240.96	848.22
68740.000	.00	.00	945.10	595.00	952.28	7.18	.00	.07	952.29	-.88	268.44	1149.51
68740.000	.00	.00	945.10	675.00	952.88	7.78	.00	.07	952.88	-.88	276.82	1311.79
68740.000	.00	.00	945.10	945.00	954.42	9.32	.00	.09	954.42	-.88	288.00	1751.00

FORM 1411 ½ GB
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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	K*CHSL	TOPWID	AREA
69266.000	.00	.00	947.20	350.00	950.99	3.79	.27	.14	951.27	3.99	25.00	83.22
69266.000	.00	.00	947.20	570.00	952.12	4.92	.41	.20	952.53	3.99	25.00	111.51
69266.000	.00	.00	947.20	650.00	952.71	5.51	.41	.20	953.12	3.99	25.00	126.15
69266.000	.00	.00	947.20	910.00	954.21	7.01	.48	.24	954.69	3.99	25.00	163.67
69267.000	.00	.00	947.20	350.00	951.09	3.89	.20	.02	951.29	.00	25.00	97.21
69267.000	.00	.00	947.20	570.00	952.24	5.04	.32	.03	952.56	.00	25.00	125.93
69267.000	.00	.00	947.20	650.00	952.81	5.61	.33	.02	953.15	.00	25.00	140.31
69267.000	.00	.00	947.20	910.00	954.31	7.11	.41	.02	954.71	.00	25.00	177.63
69311.000	955.60	952.60	947.20	350.00	951.13	3.93	.20	.00	951.33	.00	25.00	98.28
69311.000	955.60	952.60	947.20	570.00	952.29	5.09	.31	.00	952.60	.00	25.00	127.28
69311.000	955.60	952.60	947.20	650.00	953.16	5.96	.30	.00	953.45	.00	25.00	148.96
69311.000	955.60	952.60	947.20	910.00	955.24	8.04	.32	.00	955.56	.00	25.00	201.09
69312.000	.00	.00	947.20	350.00	951.12	3.92	.23	.02	951.35	.00	27.00	91.33
69312.000	.00	.00	947.20	570.00	952.28	5.08	.34	.01	952.62	.00	27.00	122.71
69312.000	.00	.00	947.20	650.00	953.15	5.95	.31	.01	953.46	.00	27.00	146.24
69312.000	.00	.00	947.20	910.00	955.25	8.05	.31	.00	955.56	.00	27.00	202.54
69336.000	.00	.00	945.30	350.00	951.39	6.09	.03	.06	951.42	-79.17	68.79	247.19
69336.000	.00	.00	945.30	570.00	952.68	7.38	.04	.09	952.72	-79.17	75.00	341.68
69336.000	.00	.00	945.30	650.00	953.51	8.21	.04	.08	953.55	-79.17	75.00	404.33
69336.000	.00	.00	945.30	910.00	955.61	10.31	.04	.08	955.65	-79.17	75.00	561.90
69770.000	.00	.00	940.40	180.00	951.44	11.04	.00	.01	951.44	-11.29	65.40	479.24
69770.000	.00	.00	940.40	290.00	952.75	12.35	.00	.01	952.75	-11.29	73.10	570.25
69770.000	.00	.00	940.40	330.00	953.58	13.18	.00	.01	953.58	-11.29	77.16	632.54
69770.000	.00	.00	940.40	460.00	955.68	15.28	.01	.01	955.68	-11.29	87.45	805.24
69906.000	.00	.00	941.00	180.00	951.43	10.43	.02	.01	951.45	4.41	15.00	156.13
69906.000	.00	.00	941.00	290.00	952.73	11.73	.04	.02	952.77	4.41	15.00	175.61
69906.000	.00	.00	941.00	330.00	953.56	12.56	.05	.02	953.61	4.41	15.00	188.00
69906.000	.00	.00	941.00	460.00	955.65	14.65	.07	.03	955.72	4.41	15.00	219.34
69926.000	.00	.00	946.20	180.00	951.40	5.20	.08	.03	951.49	260.00	15.00	77.67
69926.000	.00	.00	946.20	290.00	952.69	6.49	.14	.05	952.82	260.00	15.00	96.90
69926.000	.00	.00	946.20	330.00	953.51	7.31	.14	.05	953.65	260.00	15.00	109.32
69926.000	.00	.00	946.20	460.00	955.60	9.40	.17	.05	955.77	260.00	15.00	140.63
69949.000	.00	.00	952.20	180.00	953.68	1.48	.75	.33	954.43	260.87	17.50	25.98
69949.000	.00	.00	952.20	290.00	954.24	2.04	1.03	.45	955.26	260.87	17.50	35.62
69949.000	.00	.00	952.20	330.00	954.42	2.22	1.12	.49	955.54	260.87	17.50	38.83
69949.000	.00	.00	952.20	460.00	955.02	2.82	1.34	.59	956.37	260.87	17.50	49.43
69950.000	957.10	955.10	955.10	180.00	959.00	3.90	.11	.00	959.11	2900.00	17.50	68.24
69950.000	957.10	955.10	955.10	290.00	959.64	4.54	.21	.00	959.85	2900.00	17.50	79.50
69950.000	957.10	955.10	955.10	330.00	959.85	4.75	.24	.00	960.10	2900.00	17.50	83.15
69950.000	957.10	955.10	955.10	460.00	960.46	5.36	.37	.00	960.84	2900.00	17.50	93.90
-69336.000	.00	.00	945.30	180.00	951.39	6.09	.01	.00	951.40	.00	68.78	247.18
-69336.000	.00	.00	945.30	290.00	952.68	7.38	.01	.00	952.69	.00	75.00	341.65
-69336.000	.00	.00	945.30	330.00	953.51	8.21	.01	.00	953.52	.00	75.00	404.32
-69336.000	.00	.00	945.30	460.00	955.61	10.31	.01	.00	955.62	.00	75.00	561.89

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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	QLOSS	EG	K*CHSL	TOPWID	AREA
580.000	.00	.00	948.00	170.00	951.39	3.39	.03	.01	951.43	4.66	42.80	115.13
580.000	.00	.00	948.00	280.00	952.68	4.68	.04	.01	952.72	4.66	46.96	173.75
580.000	.00	.00	948.00	320.00	953.51	5.51	.03	.01	953.55	4.66	48.09	213.40
580.000	.00	.00	948.00	450.00	955.61	7.61	.03	.01	955.64	4.66	50.92	317.34
699.000	.00	.00	944.40	170.00	951.43	7.03	.03	.00	951.46	-30.25	18.00	126.48
699.000	.00	.00	944.40	280.00	952.71	8.31	.05	.01	952.77	-30.25	18.00	149.51
699.000	.00	.00	944.40	320.00	953.53	9.13	.06	.01	953.59	-30.25	18.00	164.27
699.000	.00	.00	944.40	450.00	955.62	11.22	.08	.02	955.69	-30.25	18.00	201.94
700.000	.00	.00	944.40	170.00	951.43	7.03	.04	.01	951.47	.00	17.80	106.02
700.000	.00	.00	944.40	280.00	952.70	8.30	.07	.01	952.78	.00	17.80	128.77
700.000	.00	.00	944.40	320.00	953.53	9.13	.08	.01	953.60	.00	17.80	143.40
700.000	.00	.00	944.40	450.00	955.61	11.21	.10	.01	955.70	.00	17.80	180.43
784.000	956.00	956.00	950.50	170.00	952.69	2.19	.72	.34	953.41	72.62	17.80	24.95
784.000	956.00	956.00	950.50	280.00	953.25	2.75	.99	-.05	954.25	72.62	17.80	34.98
784.000	956.00	956.00	950.50	320.00	953.43	2.93	1.09	-.05	954.52	72.62	17.80	38.17
784.000	956.00	956.00	950.50	450.00	956.24	5.74	.40	.00	956.64	72.62	17.80	88.26
785.000	.00	.00	950.50	170.00	952.95	2.45	.68	.01	953.63	.00	19.09	25.71
785.000	.00	.00	950.50	280.00	953.47	2.97	.95	.01	954.42	.00	19.30	35.80
785.000	.00	.00	950.50	320.00	953.65	3.15	1.04	.02	954.68	.00	19.30	39.13
785.000	.00	.00	950.50	450.00	956.25	5.75	.39	.00	956.65	.00	19.30	89.34
786.000	957.20	950.50	950.50	170.00	959.12	8.62	.02	.00	959.14	.00	19.30	143.29
786.000	957.20	950.50	950.50	280.00	959.83	9.33	.05	.00	959.88	.00	19.30	156.94
786.000	957.20	950.50	950.50	320.00	960.06	9.56	.06	.00	960.12	.00	19.30	161.42
786.000	957.20	950.50	950.50	450.00	960.75	10.25	.10	.00	960.85	.00	19.30	174.72

SUMMARY OF ERRORS

CAUTION SECNO=69949.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=69949.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=69949.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=69949.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO=69949.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=69949.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=69949.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO=69949.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=69949.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 784.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 784.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 784.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 784.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 784.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 784.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 784.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 785.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 785.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 785.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 785.000 PROFILE= 2 CRITICAL DEPTH ASSUMED

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CAUTION SECNO= 785.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 785.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 785.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 785.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 785.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL

FORM 1411 1, G8
PRINTED IN U.S.A.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WATERFORD TWP

3) WATERCOURSE: CLINTON RIVER

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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**********
 HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
 ERROR CORR -  01,02,03
 MODIFICATION -  50,51,52,53
**********
C
T1      WATERFORD TWP. FIS - JOB NO. 5850-09 (2 PIPES AT INDIANVIEW DR.)
T2      LOON LAKE TO OAKLAND LAKE - INCLUDING ISLAND ANALYSIS - 10-YEAR FLOOD
T3      CLINTON RIVER - PROJECT MANAGER, M.S.CHENG
J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       2.        0.        0.   .000000       .00        .0        0.   950.850      .000
J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     1.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000
J3  VARIABLE CODES FOR SUMMARY PRINTOUT
     38.000    40.000    41.000    42.000    43.000    1.000     8.000    10.000    12.000    3.000

     33.000     4.000    25.000      .000      .000      .000      .000      .000      .000      .000
NC      .050      .050      .040      .300      .500      .000      .000      .000      .000      .000
NT     4.000   365.000   595.000   675.000   945.000      .000      .000      .000      .000      .000

X1 67000.000     7.000   150.000   300.000      .000      .000      .000      .000      .000      .000
GR   951.800   100.000   950.400   150.000   949.000   165.000   945.000   200.000   942.400   250.000
GR   946.700   290.000   953.700   300.000      .000      .000      .000      .000      .000      .000
NC      .050      .050      .040      .000      .000      .000      .000      .000      .000      .000

          VALLEY SECTION 182 (CE)                                          5

X1 67950.000     7.000   150.000   300.000   870.000  1000.000   950.000      .000      .000      .000
X3      .000      .000      .000   225.000      .000   287.500      .000      .000      .000      .000
GR   951.800   100.000   950.400   150.000   949.000   165.000   945.000   200.000   942.400   250.000
GR   946.700   290.000   953.700   300.000      .000      .000      .000      .000      .000      .000

X1 68000.000      .000      .000      .000    50.000    50.000    50.000      .000     2.300      .000
X3      .000      .000      .000   238.000      .000   275.500      .000      .000      .000      .000

X1 68022.000      .000      .000      .000    22.000    22.000    22.000      .000     1.000      .000
X3      .000      .000      .000   243.000      .000   269.500      .000      .000      .000      .000
NC      .030      .030      .024      .000      .000      .000      .000      .000      .000      .000

          BRIDGE SECTION 183 - INDIANVIEW DRIVE - D/S FACE (CF)            4

X1 68023.000    24.000   243.000   269.500     1.000     1.000     1.000      .000      .000      .000
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FIS - Waterford Township

Loon Lake to Oakland Lake

4 flows

Revised on Feb. 27, 1982

FORM 1411 % GA

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K3	.000	.000	.000	243.000	.000	.000	.000	.000	.000	.000
BT	17.000	243.000	954.900	948.100	243.700	954.900	950.500	245.600	954.900	952.900
BT	248.300	955.000	954.100	250.700	955.000	954.100	253.400	955.100	952.900	255.300
BT	955.100	950.500	256.000	955.100	948.100	256.500	955.100	948.100	257.200	955.100
BT	950.500	259.100	955.100	952.900	261.800	955.100	954.100	264.200	955.100	954.100
BT	266.900	955.100	952.900	268.800	955.100	950.500	269.500	955.100	948.100	269.500
BT	955.100	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	954.200	.000	953.300	100.000	954.200	200.000	954.900	243.000	948.100	243.000
GR	946.500	243.700	946.100	245.600	945.700	248.300	945.700	250.700	946.100	253.400
GR	946.500	255.300	948.100	256.000	948.100	256.500	946.500	257.200	946.100	259.100
GR	945.700	261.800	945.700	264.200	946.100	266.900	946.500	268.800	948.100	269.500
GR	955.100	269.500	955.800	300.000	958.300	400.000	960.200	445.000	.000	.000

BRIDGE SECTION 183 - INDIANVIEW DRIVE - U/S FACE (CF) 4

X1	68057.000	24.000	243.000	269.500	34.000	34.000	34.000	.000	.000	.000
K3	.000	.000	.000	243.000	.000	.000	.000	.000	.000	.000
BT	17.000	243.000	954.900	948.100	243.700	954.900	950.500	245.600	954.900	952.900
BT	248.300	955.000	954.100	250.700	955.000	954.100	253.400	955.100	952.900	255.300
BT	955.100	950.500	256.000	955.100	948.100	256.500	955.100	948.100	257.200	955.100
BT	950.500	259.100	955.100	952.900	261.800	955.100	954.100	264.200	955.100	954.100
BT	266.900	955.100	952.900	268.800	955.100	950.500	269.500	955.100	948.100	269.500
BT	955.100	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	954.200	.000	953.300	100.000	954.200	200.000	954.900	243.000	948.100	243.000
GR	946.500	243.700	946.100	245.600	945.700	248.300	945.700	250.700	946.100	253.400
GR	946.500	255.300	948.100	256.000	948.100	256.500	946.500	257.200	946.100	259.100
GR	945.700	261.800	945.700	264.200	946.100	266.900	946.500	268.800	948.100	269.500
GR	955.100	269.500	955.800	300.000	958.300	400.000	960.200	445.000	.000	.000
NC	.050	.050	.040	.000	.000	.000	.000	.000	.000	.000

X1	68058.000	7.000	150.000	300.000	1.000	1.000	1.000	.000	.200	.000
K3	.000	.000	.000	243.000	.000	271.500	.000	.000	.000	.000
GR	954.900	100.000	953.500	150.000	952.100	165.000	948.100	200.000	945.500	250.000
GR	949.800	290.000	956.800	300.000	.000	.000	.000	.000	.000	.000
NC	.050	.040	.040	.000	.000	.000	.000	.000	.000	.000

VALLEY SECTION 184 (CG) 16

X1	68740.000	22.000	243.000	354.000	770.000	700.000	682.000	.000	.000	.000
K3	.000	.000	.000	202.000	.000	490.000	.000	.000	.000	.000
GR	959.700	.000	958.700	41.000	958.000	141.000	950.900	241.000	950.500	243.000
GR	947.100	244.000	945.100	261.000	945.300	286.000	945.200	293.000	945.800	306.000
GR	945.600	317.000	947.000	334.000	947.000	341.000	947.400	349.000	948.900	354.000
GR	948.600	441.000	948.700	465.000	949.500	474.000	951.900	482.000	953.400	541.000
GR	953.700	641.000	955.500	741.000	.000	.000	.000	.000	.000	.000
NC	.060	.060	.040	.000	.000	.000	.000	.000	.000	.000
OT	4.000	350.000	570.000	650.000	910.000	.000	.000	.000	.000	.000

X1	69266.000	21.000	491.000	571.000	560.000	480.000	526.000	.000	.000	.000
K3	.000	.000	.000	515.000	.000	540.000	.000	.000	.000	.000
GR	956.200	.000	957.100	100.000	958.000	200.000	956.500	300.000	954.900	400.000
GR	953.800	491.000	950.400	503.000	949.300	510.000	947.800	518.000	947.600	525.000
GR	947.300	530.000	947.200	535.000	948.800	540.000	949.900	544.000	955.100	571.000
GR	955.900	600.000	955.200	700.000	955.700	800.000	955.800	900.000	956.100	1000.000
GR	958.900	1100.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.030	.030	.025	.000	.000	.000	.000	.000	.000	.000

FORM 1411 13 GB
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BRIDGE SECTION 185 - WALTON BLVD. - D/S FACE (CH) 3

X1	69267.000	14.000	288.000	313.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	288.000	.000	313.000	.000	.000	.000	.000
GR	955.500	.000	955.400	100.000	954.800	200.000	955.600	288.000	947.200	288.000
GR	947.200	300.000	947.200	313.000	955.600	313.000	954.900	400.000	955.100	500.000
GR	955.000	600.000	954.600	700.000	955.000	800.000	957.200	900.000	.000	.000
SB	.000	1.780	3.020	.000	25.000	.000	135.000	.000	947.200	947.200

BRIDGE SECTION 185 - WALTON BLVD. - U/S FACE (CH) 3

X1	69311.000	14.000	288.000	313.000	44.000	44.000	44.000	.000	.000	.000
X2	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000
X3	.000	.000	.000	288.000	.000	313.000	.000	.000	.000	.000
BT	4.000	288.000	955.600	952.600	300.000	955.700	952.600	313.000	955.600	952.600
BT	313.000	955.600	952.600	.000	.000	.000	.000	.000	.000	.000
GR	955.500	.000	955.400	100.000	954.800	200.000	955.600	288.000	947.200	288.000
GR	947.200	300.000	947.200	313.000	955.600	313.000	954.900	400.000	955.100	500.000
GR	955.000	600.000	954.600	700.000	955.000	800.000	957.200	900.000	.000	.000
NC	.060	.060	.040	.000	.000	.000	.000	.000	.000	.000

X1	69312.000	21.000	491.000	571.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	514.000	.000	541.000	.000	.000	.000	.000
GR	956.200	.000	957.100	100.000	958.000	200.000	956.500	300.000	954.900	400.000
GR	953.800	491.000	950.400	503.000	949.300	510.000	947.800	518.000	947.600	525.000
GR	947.300	530.000	947.200	535.000	948.800	540.000	949.900	544.000	955.100	571.000
GR	955.900	600.000	955.200	700.000	955.700	800.000	955.800	900.000	956.100	1000.000
GR	958.900	1100.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.070	.050	.040	.300	.500	.000	.000	.000	.000	.000

VALLEY SECTION 185.5 (CI)

X1	69336.000	21.000	491.000	571.000	25.000	25.000	24.000	.000	.000	.000
X3	.000	.000	.000	490.000	.000	565.000	.000	.000	.000	.000
GR	954.300	.000	955.200	100.000	956.100	200.000	954.600	300.000	953.000	400.000
GR	951.900	491.000	948.500	503.000	947.400	510.000	945.900	518.000	945.700	525.000
GR	945.400	530.000	945.300	535.000	946.900	540.000	948.000	544.000	953.200	571.000
GR	954.000	600.000	953.300	700.000	953.800	800.000	953.900	900.000	954.200	1000.000
GR	957.000	1100.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.060	.060	.040	.000	.000	.000	.000	.000	.000	.000
BT	4.000	180.000	290.000	330.000	460.000	.000	.000	.000	.000	.000

VALLEY SECTION 186 - EAST CHANNEL (CJ) 2

X1	69770.000	7.000	6.000	66.000	400.000	380.000	434.000	.000	.000	.000
GR	952.000	.000	949.400	6.000	940.400	26.000	940.400	48.000	951.300	66.000
GR	956.400	91.000	956.900	155.000	.000	.000	.000	.000	.000	.000
NC	.050	.050	.015	.000	.000	.000	.000	.000	.000	.000

CHANNEL OUTLET APRON FOR EAST DAM OAKLAND LAKE - SECTION 187 - 1

D/S FACE (CK)

FORM 1411-1, GB
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X1	69906.000	5.000	300.000	315.000	140.000	140.000	136.000	.000	.000	.000
GR	970.000	300.000	941.000	300.000	941.000	307.500	941.100	315.000	970.000	315.000
X1	69926.000	.000	.000	.000	20.000	20.000	20.000	.000	5.200	.000

DAM SECTION 187 - OAKLAND LAKE - EAST DAM - D/S FACE (CM) 1

X1	69949.000	4.000	300.000	317.500	23.000	23.000	23.000	.000	.000	.000
GR	970.000	300.000	952.200	300.000	952.200	317.500	970.000	317.500	.000	.000
SB	.000	1.500	3.640	.000	.010	.000	.010	.000	955.100	952.200

DAM SECTION 187 - OAKLAND LAKE - EAST DAM - U/S FACE (CM) 1

X1	69950.000	13.000	300.000	317.500	1.000	1.000	1.000	.000	.000	.000
X2	.000	.000	1.000	955.100	957.100	.000	.000	.000	.000	.000
X3	.000	.000	.000	300.000	.000	317.500	.000	.000	.000	.000
BT	4.000	300.000	960.700	.000	300.000	957.100	.000	317.500	957.100	.000
BT	317.500	960.600	.000	.000	.000	.000	.000	.000	.000	.000
GR	974.300	.000	974.000	100.000	965.200	200.000	959.400	260.000	959.300	296.500
GR	960.400	297.000	960.700	300.000	955.100	300.000	955.100	317.500	960.600	317.500
GR	960.500	350.000	960.300	400.000	960.400	500.000	.000	.000	.000	.000

VALLEY SECTION 185.5 (CI)

X1	-69336.000	21.000	491.000	571.000	25.000	25.000	24.000	.000	.000	.000
X3	.000	.000	.000	490.000	.000	565.000	.000	.000	.000	.000
GR	954.300	.000	955.200	100.000	956.100	200.000	954.600	300.000	953.000	400.000
GR	951.900	491.000	948.500	503.000	947.400	510.000	945.900	518.000	945.700	525.000
GR	945.400	530.000	945.300	535.000	946.900	540.000	948.000	544.000	953.200	571.000
GR	954.000	600.000	953.300	700.000	953.800	800.000	953.900	900.000	954.200	1000.000
GR	957.000	1100.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.070	.050	.040	.300	.500	.000	.000	.000	.000	.000
QT	4.000	170.000	280.000	320.000	450.000	.000	.000	.000	.000	.000

VALLEY SECTION 186 - WEST CHANNEL (CJ) 2

X1	580.000	10.000	405.000	459.000	500.000	600.000	580.000	.000	.000	.000
GR	957.600	205.000	956.800	255.000	957.900	305.000	958.000	355.000	957.900	405.000
GR	949.000	417.000	948.000	420.000	948.000	446.000	949.000	447.000	952.000	459.000

X1	699.000	.000	.000	.000	120.000	120.000	119.000	.000	-3.600	.000
X3	.000	.000	.000	420.000	.000	438.000	.000	.000	.000	.000
NC	.050	.050	.025	.000	.000	.000	.000	.000	.000	.000

TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - SECTION 187 - D/S FACE 1

X1	700.000	11.000	2.400	20.400	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	2.500	.000	20.300	.000	.000	.000	.000
GR	957.600	.000	950.400	.100	950.400	2.400	949.300	2.500	946.700	2.500
GR	946.600	7.500	944.500	12.500	944.900	17.500	944.400	20.300	949.300	20.300
GR	954.800	20.400	.000	.000	.000	.000	.000	.000	.000	.000
SB	.000	2.340	3.020	.000	15.300	.000	83.920	.000	950.500	944.400

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TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - U/S FACE (CL)

X1	784.000	6.000	649.000	666.800	84.000	84.000	84.000	.000	.000	.000
X2	.000	.000	1.000	.000	.000	.000	.000	.000	.000	.000
BT	4.000	649.000	956.000	.000	649.000	970.000	956.000	666.800	970.000	956.000
BT	666.800	956.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	970.000	649.000	952.200	649.000	951.300	655.000	950.500	658.000	951.700	666.800
GR	970.000	666.800	.000	.000	.000	.000	.000	.000	.000	.000

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - D/S FACE (CM) 1

X1	785.000	6.000	649.000	668.300	1.000	1.000	1.000	.000	.000	.000
GR	970.000	649.000	952.200	649.000	951.300	655.000	950.500	658.000	953.000	668.300
GR	970.000	668.300	.000	.000	.000	.000	.000	.000	.000	.000
SB	.000	1.500	3.410	.000	.010	.000	.010	.000	950.500	950.500
NC	.050	.050	.015	.000	.000	.000	.000	.000	.000	.000

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - U/S FACE (CM) 1

X1	786.000	20.000	649.000	668.300	1.000	1.000	1.000	.000	.000	.000
X2	.000	.000	1.000	950.500	957.200	.000	.000	.000	.000	.000
X3	.000	.000	.000	649.000	.000	668.300	.000	.000	.000	.000
BT	16.000	649.000	960.700	.000	649.000	957.200	.000	653.000	957.200	.000
BT	653.000	957.500	.000	654.100	957.500	.000	654.100	957.200	.000	658.100
BT	957.200	.000	658.100	957.500	.000	659.200	957.500	.000	659.200	957.200
BT	.000	663.200	957.200	.000	663.200	957.500	.000	664.300	957.500	.000
BT	664.300	957.200	.000	668.300	957.200	.000	668.300	960.400	.000	.000
GR	960.400	500.000	960.200	600.000	960.700	649.000	950.500	649.000	950.500	653.000
GR	957.500	653.000	957.500	654.100	950.500	654.100	950.500	658.100	957.500	658.100
GR	957.500	659.200	950.500	659.200	950.500	663.200	957.500	663.200	957.500	664.300
GR	950.500	664.300	950.500	668.300	960.400	668.300	963.100	700.000	968.400	766.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

FORM 1411 K GB
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**************************************************


T1      WATERFORD TWP. FIS - JOB NO. 5850-09
T2      LOON LAKE TO OAKLAND LAKE - INCLUDING ISLAND ANALYSIS - 100-YEAR FLOOD
T3      CLINTON RIVER - PROJECT MANAGER, M.S.CHENG

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

      -10.        4.         0.         0.    .000000        .00         .0         0.    952.460       .000

J2   NPROF      IPLOT      PRFVS      XSECV      XSECH      FN        ALLDC      IBW       CHNIM      ITRACE

     3.000       .000    -1.000       .000       .000       .000       .000       .000       .000       .000

PROF 3

CCHV=     .300 CEHV=     .500
SECNO 67000.000
3280 CROSS SECTION  67000.00 EXTENDED        .66 FEET


   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

 67000.00     10.06     952.46       .00     952.46     952.47       .01        .00        .00     950.40
    675.        12.       663.        0.        68.       1011.        0.         0.         0.      953.70
     .00        .18        .66        .00       .050       .040       .050       .000     942.40     100.00
 .000025         0.         0.         0.          0          0          0        .00     198.23     298.23

SECNO 67950.000

3470 ENCROACHMENT STATIONS=      225.0      287.5  TYPE=      1  TARGET=       62.500

          VALLEY SECTION 182 (CE)                                                  5

 67950.00     10.09     952.49       .00        .00     952.52       .02        .04       .01100000.00
    675.        0.        675.        0.         0.        538.        0.        18.        3. 100000.00
     .21        .00       1.25        .00       .050       .040       .050       .040     942.40     225.00
 .000086       870.       950.       1000.         0          0          0        .00      62.50     287.50

SECNO 68000.000

3470 ENCROACHMENT STATIONS=      238.0      275.5  TYPE=      1  TARGET=       37.500
 68000.00      7.76     952.46       .00        .00     952.57       .11        .01       .04100000.00
    675.        0.        675.        0.         0.        252.        0.        18.        3. 100000.00
     .22        .00       2.68        .00       .050       .040       .050       .040     944.70     238.00
 .000597        50.        50.        50.          2          0          0        .00      37.50     275.50
```

FORM 1411 ½ GB
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*SECNO 68022.000

```
3470 ENCROACHMENT STATIONS=     243.0     269.5  TYPE=     1  TARGET=     26.500
68022.00      6.69   952.39      .00       .00   952.68      .29       .02       .09100000.00
     675.        0.     675.       0.        0.     156.       0.       18.        3. 100000.00
      .22       .00    4.34      .00      .050     .040     .050     .040    945.70    243.00
 .002051       22.     22.       22.         2        0        0      .00     26.50    269.50
```

*SECNO 68023.000

```
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
```

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3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  954.90 MAX ELLC=  954.10
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```
3470 ENCROACHMENT STATIONS=     243.0     445.0  TYPE=     1  TARGET=    -243.000
```

BRIDGE SECTION 183 - INDIANVIEW DRIVE - D/S FACE (CF) 4

```
68023.00      6.67   952.37      .00       .00   952.70      .32       .00       .01    954.90
     675.        0.     675.       0.        0.     148.       0.       18.        3.    955.10
      .22       .00    4.55      .00      .030     .024     .030     .040    945.70    243.00
 .001271         1.      1.        1.         1        0        0   -16.38     26.50    269.50
```

*SECNO 68057.000

```
3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  954.90 MAX ELLC=  954.10
```

```
3470 ENCROACHMENT STATIONS=     243.0     445.0  TYPE=     1  TARGET=    -243.000
```

BRIDGE SECTION 183 - INDIANVIEW DRIVE - U/S FACE (CF) 4

```
68057.00      6.72   952.42      .00       .00   952.74      .32       .04       .00    954.90
     675.        0.     675.       0.        0.     149.       0.       18.        3.    955.10
      .22       .00    4.53      .00      .030     .024     .030     .039    945.70    243.00
 .001255        34.     34.       34.         0        0        0   -16.84     26.50    269.50
```

*SECNO 68058.000

```
3470 ENCROACHMENT STATIONS=     243.0     271.5  TYPE=     1  TARGET=     28.500
68058.00      6.81   952.51      .00       .00   952.76      .25       .00       .02100000.20
     675.        0.     675.       0.        0.     168.       0.       18.        3. 100000.20
      .22       .00    4.02      .00      .050     .040     .050     .039    945.70    243.00
 .001701         1.      1.        1.         2        0        0      .00     28.50    271.50
```

*SECNO 68740.000

```
3470 ENCROACHMENT STATIONS=     202.0     490.0  TYPE=     1  TARGET=     288.000
```

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 68740.00      7.78    952.88      .00      .00    952.88      .00      .05      .07   950.50
      675.        5.       452.      218.      32.      761.      519.      30.       5.   948.90
      .58       .14       .59       .42     .050     .040     .040     .039   945.10   213.18
 .000020       770.      682.      700.        2        0        0      .00   276.82   490.00

*SECNO 69266.000

3470 ENCROACHMENT STATIONS=      515.0      540.0  TYPE=      1  TARGET=      25.000
 69266.00      5.51    952.71      .00      .00    953.12      .41      .04      .20100000.00
      650.        0.       650.       0.       0.      126.       0.      38.       7. 100000.00
      .60       .00      5.15      .00     .060     .040     .060     .040   947.20   515.00
 .003293       560.      526.      480.        2        0        0      .00    25.00   540.00

*SECNO 69267.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      288.0      313.0  TYPE=      1  TARGET=      25.000

          BRIDGE SECTION 185 - WALTON BLVD. - D/S FACE (CH)                    3

 69267.00      5.61    952.81      .00      .00    953.15      .33      .00      .02   955.60
      650.        0.       650.       0.       0.      140.       0.      38.       7. 100000.00
      .60       .00      4.63      .00     .030     .025     .030     .040   947.20   288.00
 .000998         1.        1.        1.        2        0        0      .00    25.00   313.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      1.78      3.02        .00     25.00       .00    135.00       .00   947.20    947.20

*SECNO 69311.000
PRESSURE FLOW

EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID AREA     ELLC      ELTRD
 953.45    953.15       .00         0.       650.       135.       135.      952.60    955.60


3470 ENCROACHMENT STATIONS=      288.0      313.0  TYPE=      1  TARGET=      25.000

          BRIDGE SECTION 185 - WALTON BLVD. - U/S FACE (CH)                    3

 69311.00      5.96    953.16      .00      .00    953.45      .30      .31      .00   955.60
      650.        0.       650.       0.       0.      149.       0.      39.       7. 100000.00
      .61       .00      4.36      .00     .030     .025     .030     .039   947.20   288.00
 .000839        44.       44.       44.        2        0        0      .00    25.00   313.00
```

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*SECNO 69312.000

3470 ENCROACHMENT STATIONS= 514.0 541.0 TYPE= 1 TARGET= 27.000

69312.00	5.95	953.15	.00	.00	953.46	.31	.00	.01	100000.00	
650.	0.	650.	0.	0.	146.	0.	39.	7.	100000.00	
.61	.00	4.44	.00	.060	.040	.060	.039	947.20	514.00	
.002213	1.	1.	1.	0	0	0	.00	27.00	541.00	

CCHV= .300 CEHV= .500

*SECNO 69336.000

3470 ENCROACHMENT STATIONS= 490.0 565.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION 185.5 (CI)

69336.00	8.21	953.51	.00	.00	953.55	.04	.01	.08	951.90	
650.	0.	650.	0.	2.	403.	0.	39.	7.	100000.00	
.61	.22	1.61	.00	.070	.040	.050	.039	945.30	490.00	
.000208	25.	24.	25.	2	0	0	.00	75.00	565.00	

*SECNO 69770.000

3280 CROSS SECTION 69770.00 EXTENDED 1.58 FEET

VALLEY SECTION 186 - EAST CHANNEL (CJ) 2

69770.00	13.18	953.58	.00	.00	953.58	.00	.02	.01	949.40	
330.	2.	327.	1.	17.	603.	13.	44.	8.	951.30	
.83	.14	.54	.09	.060	.040	.060	.039	940.40	.00	
.000011	400.	434.	390.	2	0	0	.00	77.16	77.16	

*SECNO 69906.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

CHANNEL OUTLET APRON FOR EAST DAM OAKLAND LAKE - SECTION 187 - 1

D/S FACE (CK)

69906.00	12.56	953.56	.00	.00	953.61	.05	.00	.02	970.00	
330.	0.	330.	0.	0.	188.	0.	45.	8.	970.00	
.86	.00	1.76	.00	.050	.015	.050	.038	941.00	300.00	
.000040	140.	136.	140.	2	0	0	.00	15.00	315.00	

*SECNO 69926.000

69926.00	7.31	953.51	.00	.00	953.65	.14	.00	.05	975.20	
330.	0.	330.	0.	0.	109.	0.	45.	8.	975.20	
.86	.00	3.02	.00	.050	.015	.050	.038	946.20	300.00	
.000162	20.	20.	20.	2	0	0	.00	15.00	315.00	

FORM 1411 3-69-5
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*SECNO 69949.000

3301 HV CHANGED MORE THAN HVINS

	SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
	Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
	TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
	SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

DAM SECTION 187 - OAKLAND LAKE - EAST DAM - D/S FACE (CM) 1

69949.00	2.22	954.42	954.42	.00	955.54	1.12	.01	.49	970.00
330.	0.	330.	0.	0.	39.	0.	45.	8.	970.00
.86	.00	8.50	.00	.050	.015	.050	.038	952.20	300.00
.003437	23.	23.	23.	20	17	0	.00	17.50	317.50

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.64	.00	.01	.00	.01	.00	955.10	952.20

*SECNO 69950.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
##########	958.44	.00	330.	0.	0.	0.	955.10	957.10

3470 ENCROACHMENT STATIONS= 300.0 317.5 TYPE= 1 TARGET= 17.500

DAM SECTION 187 - OAKLAND LAKE - EAST DAM - U/S FACE (CM) 1

69950.00	4.75	959.85	.00	.00	960.10	.24	4.55	.00	960.70
330.	0.	330.	0.	0.	83.	0.	45.	8.	100000.00
.86	.00	3.97	.00	.050	.015	.050	.038	955.10	300.00
.000358	1.	1.	1.	2	0	17	.00	17.50	317.50

*SECNO -69336.000
START TRIB COMP
-69336.000 69336.000 953.511

	SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
	Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
	TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
	SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

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```
3470 ENCROACHMENT STATIONS=     490.0     565.0  TYPE=     1  TARGET=     75.000

          VALLEY SECTION 185.5  (CI)

+69336.00      8.21    953.51      .00      .00    953.52      .01      .00      .00    951.90
    330.         0.      330.       0.       2.      403.       0.      45.       8.  100000.00
     .87       .06       .82      .00     .050      .015     .050     .038   945.30    490.00
 .000008       25.       24.       25.       0         0        0      .00    75.00    565.00


CCHV=     .300 CEHV=     .500
*SECNO 580.000
3280 CROSS SECTION    580.00 EXTENDED       1.52 FEET


  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


          VALLEY SECTION 186 - WEST CHANNEL  (CJ)                              2

  580.00      5.51    953.51      .00      .00    953.55      .03      .01      .01    957.90
    320.         0.      320.       0.       0.      213.       0.      49.       9.    952.00
     .97       .00      1.50      .00     .070      .040     .050     .038   948.00    410.91
 .000248       500.      580.      600.       0         0        0      .00    48.09    459.00


*SECNO 699.000
3280 CROSS SECTION    699.00 EXTENDED       5.13 FEET


3470 ENCROACHMENT STATIONS=     420.0     438.0  TYPE=     1  TARGET=     18.000
  699.00      9.13    953.53      .00      .00    953.59      .06      .04      .01100000.00
    320.         0.      320.       0.       0.      164.       0.      50.       9.  100000.00
     .99       .00      1.95      .00     .070      .040     .050     .038   944.40    420.00
 .000367       120.      119.      120.       0         0        0      .00    18.00    438.00


*SECNO 700.000

3470 ENCROACHMENT STATIONS=       2.5      20.3  TYPE=     1  TARGET=     17.800

          TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - SECTION 187 - D/S FACE     1

  700.00      9.13    953.53      .00      .00    953.60      .08      .00      .01100000.00
    320.         0.      320.       0.       0.      143.       0.      50.       9.  100000.00
     .99       .00      2.23      .00     .050      .025     .050     .038   944.40      2.50
 .000209         1.        1.        1.       0         0        0      .00    17.80     20.30


*SPECIAL BRIDGE
```

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SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	2.34	3.02	.00	15.30	.00	83.92	.00	950.50	944.40

*SECNO 784.000

PRESS FLOW BECAUSE EGLWC OF 959.70 EXCEEDS 1.5 DEPTH

3301 HV CHANGED MORE THAN H'INS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

*PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
954.05	959.70	.00	0.	320.	84.	84.	956.00	956.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3720 CRITICAL DEPTH ASSUMED

TUNNEL OUTLET - WEST DAM - OAKLAND LAKE - U/S FACE (CL)

784.00	2.93	953.43	953.43	.00	954.52	1.09	.05	-.05	970.00
320.	0.	320.	0.	0.	38.	0.	50.	9.	970.00
.99	.00	8.38	.00	.050	.025	.050	.038	950.50	649.00
.008976	84.	84.	84.	20	17	0	.00	17.80	666.80

*SECNO 785.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUN SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - D/S FACE (CM) 1

785.00	3.15	953.65	953.65	.00	954.68	1.04	.01	.02	970.00
320.	0.	320.	0.	0.	39.	0.	50.	9.	970.00
.99	.00	8.18	.00	.050	.025	.050	.038	950.50	649.00
.008711	1.	1.	1.	20	8	0	.00	19.30	668.30

*SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.41	.00	.01	.00	.01	.00	950.50	950.50

*SECNO 786.000

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3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
##########0####	954.27	.00	320.	0.	0.	0.	950.50	957.20

3470 ENCROACHMENT STATIONS= 649.0 668.3 TYPE= 1 TARGET= 19.300

DAM SECTION 187 - OAKLAND LAKE - WEST DAM - U/S FACE (CM) 1

786.00	9.56	960.06	.00	.00	960.12	.06	5.44	.00	960.70
320.	0.	320.	0.	0.	161.	0.	50.	9.	100000.00
.99	.00	1.98	.00	.050	.015	.050	.038	950.50	649.00
.000158	1.	1.	1.	2	0	17	.00	19.30	668.30

FORM 1411 1/2 GB

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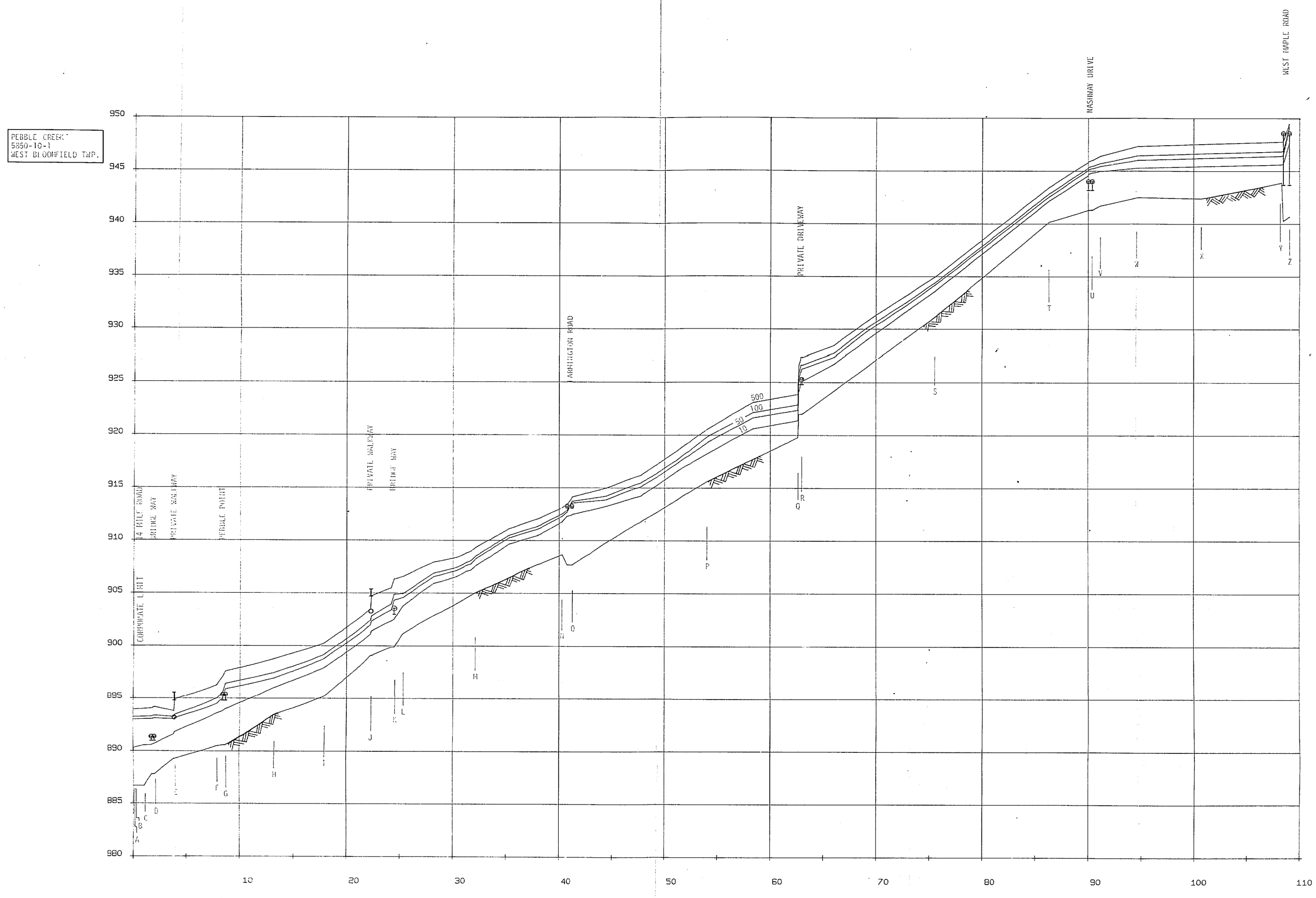


TOPOGRAPHIC INFORMATION
DATE OBTAINED
DATE UPDATED
OWNER
UTILITIES
APPR AGENCIES
BIDDERS
DRAWING ISSUE DATES
DATE BY
V.I.
ELEC
GAS
PIPE LINE
CHECKED
P.M.
O.A.
CONSTR
DATE BY

DRAWN:
DESIGN:

SCALE: VERT. 1" = 5'
HORIZ. 1" = 50'

REVISIONS	MARK	ADDENDUM CHANGE ORDER	DATE	MARK	ADDENDUM CHANGE ORDER	DATE	MARK	ADDENDUM CHANGE ORDER	DATE

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS
PONTIAC, MICHIGAN

PEBBLE CREEK

TOWNSHIP OF WEST BLOOMFIELD FIS

JOB NO. 5850-10

SHEET NO.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD

3) WATERCOURSE: PEBBLE CREEK

4) DOCUMENT TYPE: REPORT

00BREAK00

QB OF PCS, 10/12/78

HYDRAULIC ANALYSIS

Introduction

The stream being studied is Pebble Creek in the Township of West Bloomfield, Oakland County, Michigan. The study starts from 14 Mile Road, the southern corporate boundary of the Township, to West Maple Road. It covers a distance of approximately 2.06 river miles. The drainage areas at the upstream and downstream ends of the study are 0.65 square miles and 1.54 square miles, respectively. The 10-, 50-, 100-, and 500-year flood frequency flows were calculated by Brater's unit hydrograph-infiltration capacity method. These flows have been approved by the Michigan Department of Natural Resources (MDNR), Water Management Division. The project manager is Richard Zanotti.

Method of Analysis

The flood profiles were calculated by the HEC-2 computer program developed by the U.S. Corps of Engineers (Reference 1). All bridges have been modeled by the requirements of the HEC-2 normal bridge routine and special bridge routine.

Variables and Coefficients

The roughness factors (Manning's "n") were determined by comparing the descriptions in Ven Te Chow's Open-Channel Hydraulics (Reference 2) with photographs and field descriptions taken in West Bloomfield by survey crews in March, 1978. To reflect the generally gradual changes in cross-section geometry, the contraction and expansion coefficients used in this study were .3 and .5, respectively; "n" values were indicative of summer conditions.

The inlet loss coefficients and outlet loss coefficients used in this study were taken from Hydraulic Charts for the Selection of Highway Culverts (Reference 3). The weir discharge coefficients were taken from charts of the U.S. Geological Survey (Reference 4) and Bureau of Public Roads (Reference 5) supplied by the MDNR.

Starting Calculations

The starting water-surface elevations for this study were obtained from the City of Farmington Hills Flood Insurance Study done by Johnson & Anderson, Inc., in 1977.

Discussion

1. For the section manufactured from 2-foot contour map, the channel geometry (bank to bank) is the average of the field survey sections upstream and downstream of this section.

2. The BT and GR stations for Nashway Drive Culvert (Sec. U) have been skewed by 0.90, except those stations for the culvert itself. Those stations remain unskewed.

REFERENCES

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Users Manual, Oct. 1973.

2. Chow, Ven Te, Open-Channel Hydraulics, McGraw-Hill, 1959, pp. 101-123.

3. Herr, Lester A., Hydraulic Charts for the Selection of Highway Culverts, Hydraulic Engineering Circular No. 5, Bureau of Public Roads, U.S. Department of Commerce, Dec. 1965.

4. U.S. Geological Survey, Measurements of Peak Discharge at Dams by Indirect Methods, Book 3, Chapter A5, 1976.

5. Bureau of Public Roads, Hydraulics of Bridge Waterways, 1970.

Original Cross-Section Location

Cross Section	J&A Section No.	SECNO	Location
A		0	u/s face of 14 Mile Road Culvert
B	94	10	10' u/s from u/s face of 14 Mile Road Culvert
C	95	95	95' u/s from u/s face of 14 Mile Road Culvert
D	96	191	u/s face of Bridge Way Culvert
E	97	391	u/s face of Private Walkway Bridge
F	98	785	60' d/s from d/s face of Pebble Point Culvert
G	99	871	u/s face of Pebble Point Culvert
H	100	1325	454' u/s from u/s face of Pebble Point Culvert
I	101	1795	924' u/s from u/s face of Pebble Point Culvert
J	102	2242	u/s face of Private Walkway Bridge
K	103	2450	u/s face of Bridge Way Culvert
L	104	2530	80' u/s from u/s face of Bridge Way Culvert
M	105	3230	850' d/s from d/s face of Farmington Road Culvert
N	106	4030	50' d/s from d/s face of Farmington Road Culvert
O	107	4131	u/s face of Farmington Road Culvert
P	108	5412	1280' u/s from u/s face of Farmington Road Culvert
Q	109	6262	25' d/s from d/s face of Private Driveway Bridge
R	110	6300	u/s face of Private Driveway Bridge
S	111	7561	1260' u/s from u/s face of Private Driveway Bridge
T	112	8636	365' d/s from d/s face of Nashway Drive Culvert
U	113	9038	u/s face of Nashway Drive Culvert
V	114	9116	77' u/s from u/s face of Nashway Drive Culvert
W	115	9466	427' u/s from u/s face of Nashway Drive Culvert

Cross Section	J&A Section No.	SECNO	Location
X	116	10071	1032' u/s from u/s face of Nashway Drive Culvert
Y	117	10831	15' d/s from d/s face of West Maple Road Culvert
Z	118	10888	u/s face of West Maple Road Culvert

Johnson & Anderson, Inc.
Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

HYDRAULIC STRUCTURAL DATA

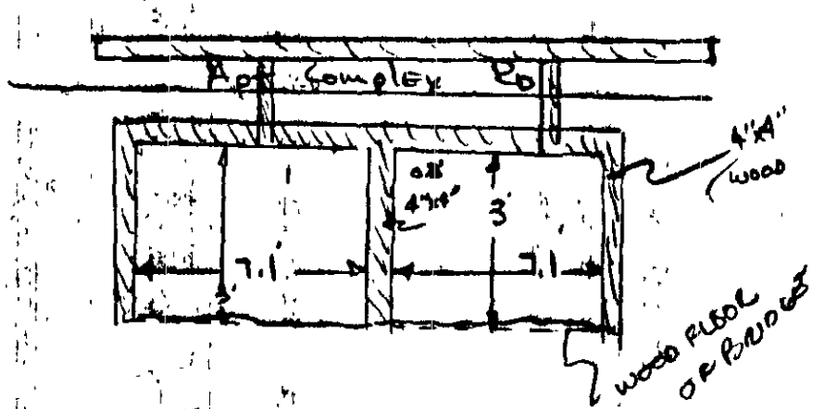
B.S. #96

Code No. 5850-10

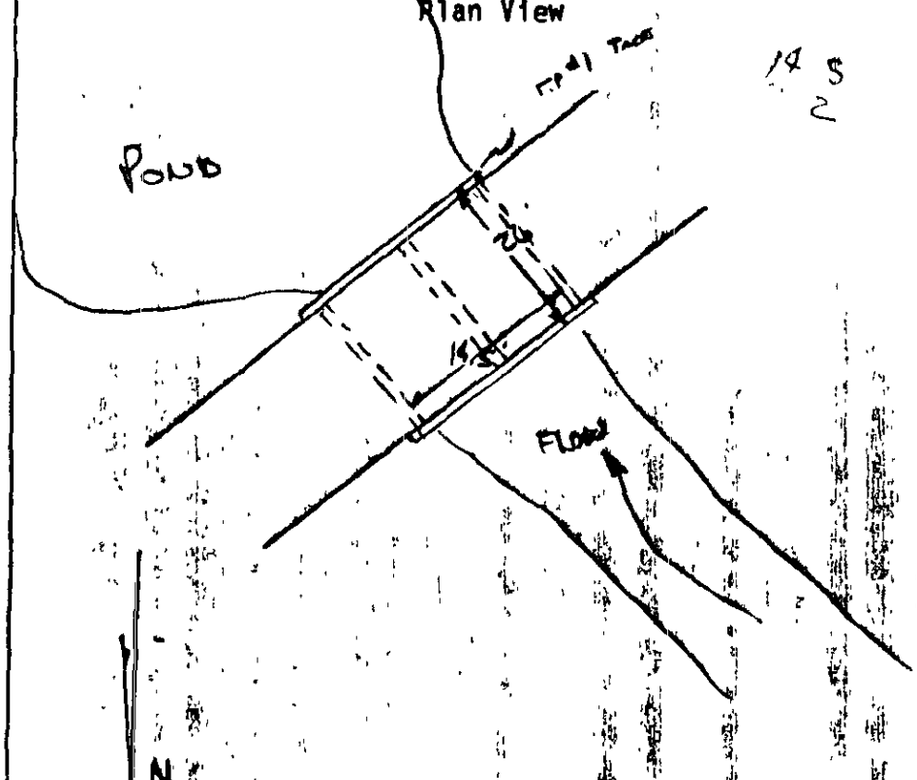
Job Name: W. Bloomfield Twp.		By: R. Moses	
Date: 3-24-78	Feature: 2- Wood Box Culverts	Water Course: Pebble Creek	
Remarks: Box Culverts walls & pier is made of 4"x4" wood boards. Deck is wood, wing walls are wood. Bridge Way		TP #1 894.58 of Sec 94-95&97 Tack in top of sleeve rail	
Width of Piers: 0.3'	Pier Shape:	No. of Piers: 1	Area: —
Water Elevation: 888.2	Length: 14.5	Width of Deck: 26'	Skew: —

FIELD SKETCH

Profile View



Plan View



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CONSULTING ENGINEERS

BY MSC DATE 9/1/18 JOB DESCRIPTION FIS - West Bloomfield TWP SHEET 1 OF 1
SUBJECT Pebble Creek at Bridge Way ; BS # 96 JOB NO. 8350-10-1

Culvert Feature : Twin - 3' x 7.1' Wood Box Culvert

Area : $A = 42.6\ ft^2$

Wetted Perimeter : $P = 40.4\ ft$

Hydraulic Radius : $R = A/P = 1.05\ ft.$

Length : $L = 26\ ft.$

Manning Coefficient : $n = 0.02$ (Woods)

$$BWC = \frac{A}{D} = 42.6/3 = 14.2'$$

Entrance Loss : $K_e = 0.5$ (No wingwalls)

$$K_f = \frac{29.1\ n^2 L}{(1.05)^{4/3}} = 0.28$$

$$\Sigma K \Phi R = 1 + K_e + K_f = 1.79$$

Weir Coefficient : $C = 3.04$ ($H \approx 2.0$ ft. for 100-year flood)

Johnson & Anderson, Inc.
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P.O Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

HYDRAULIC STRUCTURAL DATA

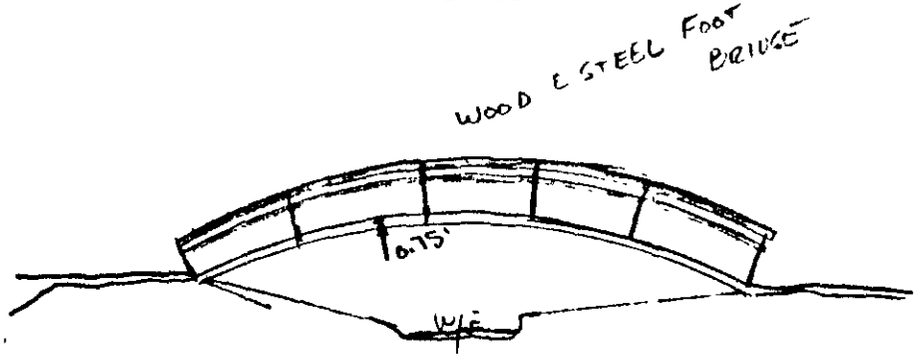
BS #97

Code No. 5850 · 10

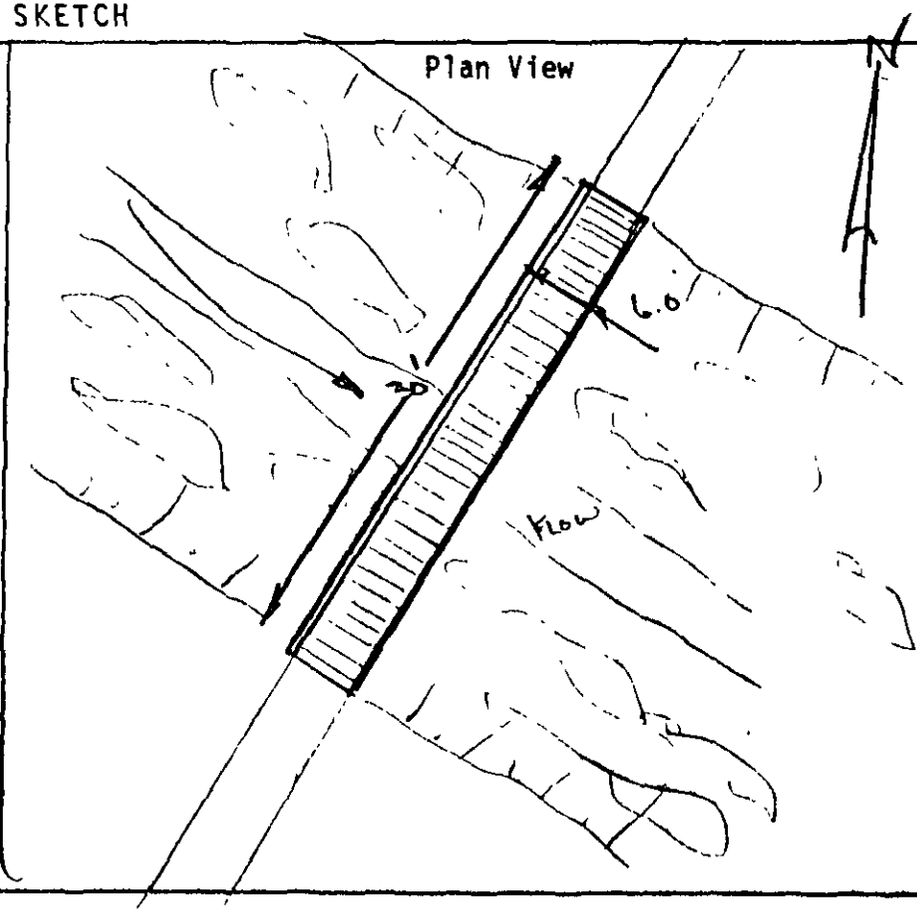
Job Name: W. Bloomfield Twp.			By: R. Moses
Date: 2-21-78	Feature: Wood & Steel Foot Bridge		Water Course: Pebble Creek
Remarks: It look as if bankstare of broken bit. pieces & mortor			
Private Walkway Bridge			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 889.5	Length: 30'	Width of Deck: 6.0	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

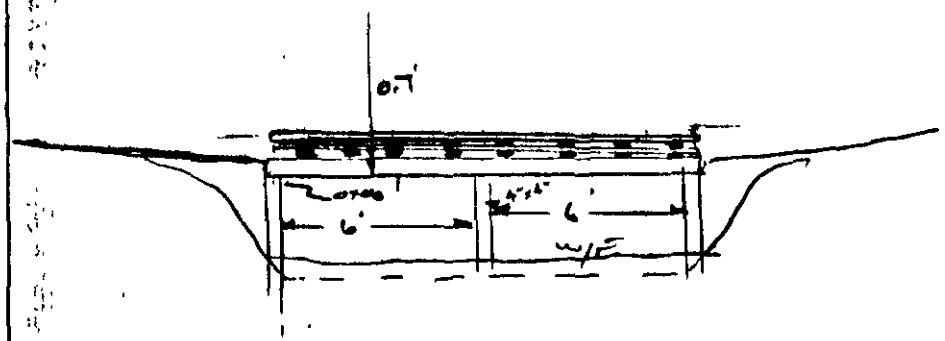
B.S. #99

Code No. 5850 - 10

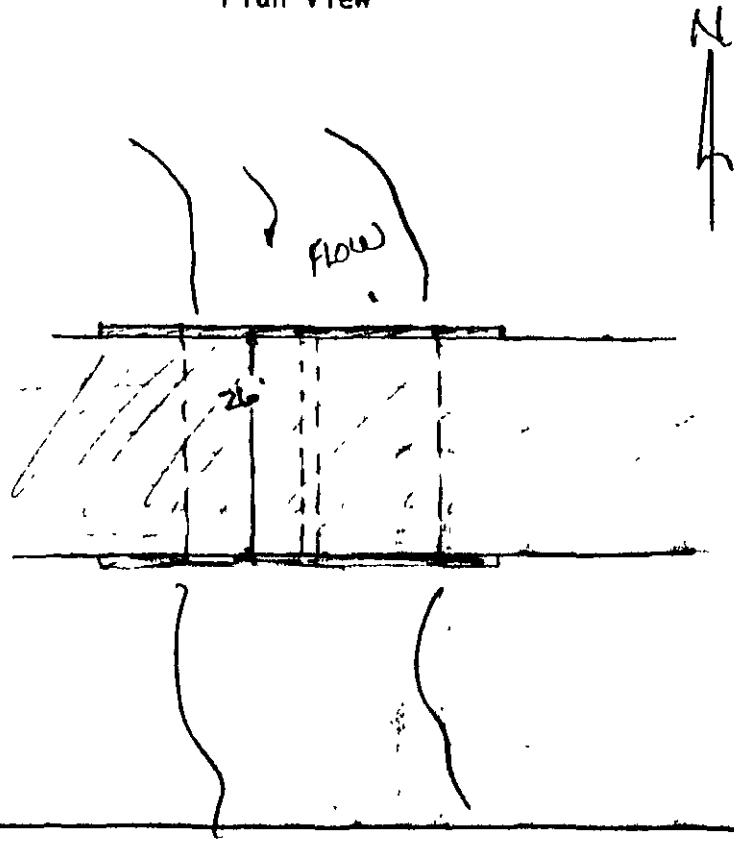
Job Name: West Bloomfield F.I.S.			By: R. Morris
Date: 4-6-78	Feature: 2 - Wood Box Culvert		Water Course: Pebble Creek
Remarks: Bridge is constructed of all wood. Bridge has wood floor! No pictures taken see B.S.#'s 96 & 103 Pebble Point			
Width of Piers: 4"	Pier Shape:	No. of Piers: 1	Area: —
Water Elevation: 891.9	Length: 26'	Width of Deck: 12'4"	Skew: —

FIELD SKETCH

Profile View



Plan View



JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 9/1/78 JOB DESCRIPTION EIS - West Bloomfield TWP SHEET 1 OF 1
SUBJECT Pebble Creek at Pebble Point Culvert ; BS # 99 JOB NO. 5850-10-1

Culvert Feature : Twin - 6'x4' Wood Box Culvert

Area : $A = 48\ ft^2$

Wetted Perimeter : $P = 40\ ft.$

Hydraulic Radius : $R = A/P = 1.2\ ft.$

Length : $L = 26\ ft.$

Manning Coefficient : $n = 0.02$ (woods)

$B_{WC} = \frac{A}{D} = 48/4 = 12.0\ ft.$

Entrance Losses : $K_e = 0.5$ (No wingwalls)

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 0.24$$

$$\Sigma K_{PR} = 1 + K_e + K_f = 1.74$$

Weir Coefficient : $C = 3.02$ ($H \approx 1.0\ ft.$ for 100-year flood)

Johnson & Anderson, Inc.
Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

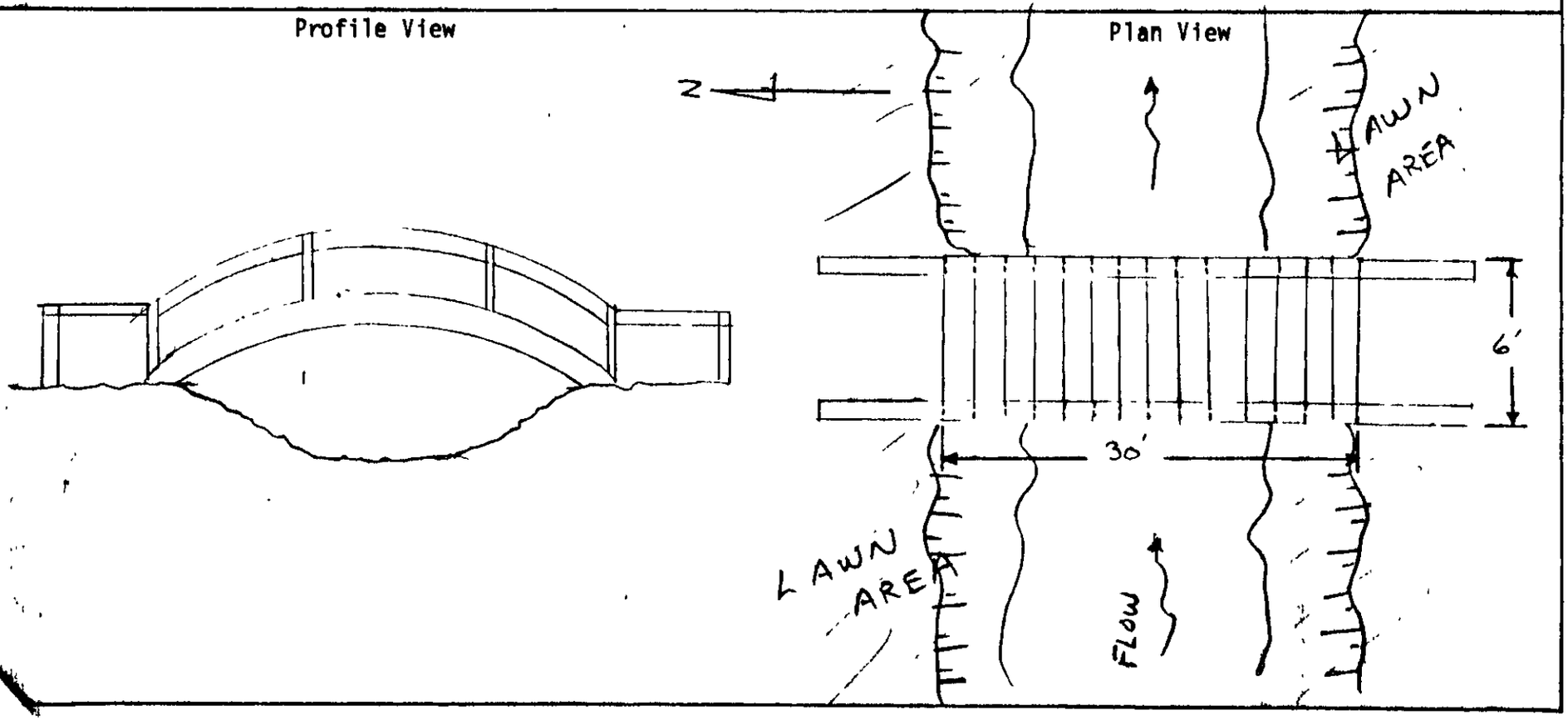
HYDRAULIC STRUCTURAL DATA

B.S.# 102

Code No. 5850-10

Job Name: WEST BLOOMFIELD F.I.S.			By: DAVE N.
Date:	Feature: WOOD ARCH FOOTBRIDGE		Water Course: PEBBLE CREEK
Remarks: Private Walkway Bridge			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 900.1	Length: 30'	Width of Deck: 6'	Skew: —

FIELD SKETCH



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Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

HYDRAULIC STRUCTURAL DATA

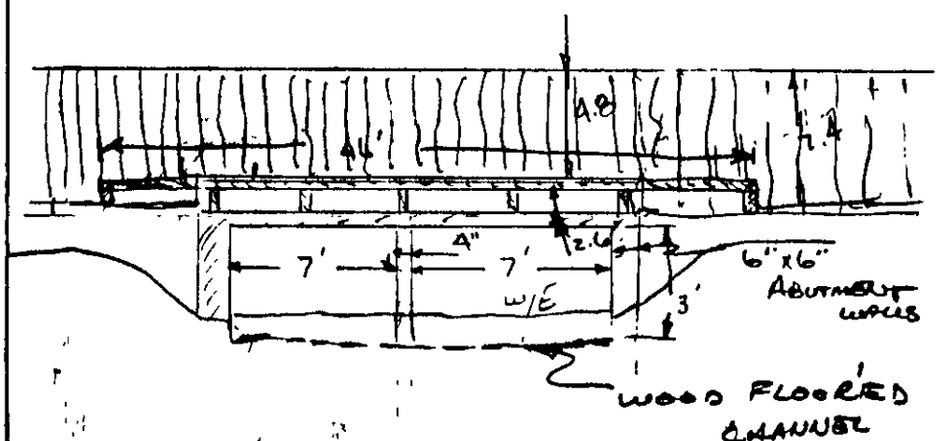
B.S. #103

Code No. 5850-W

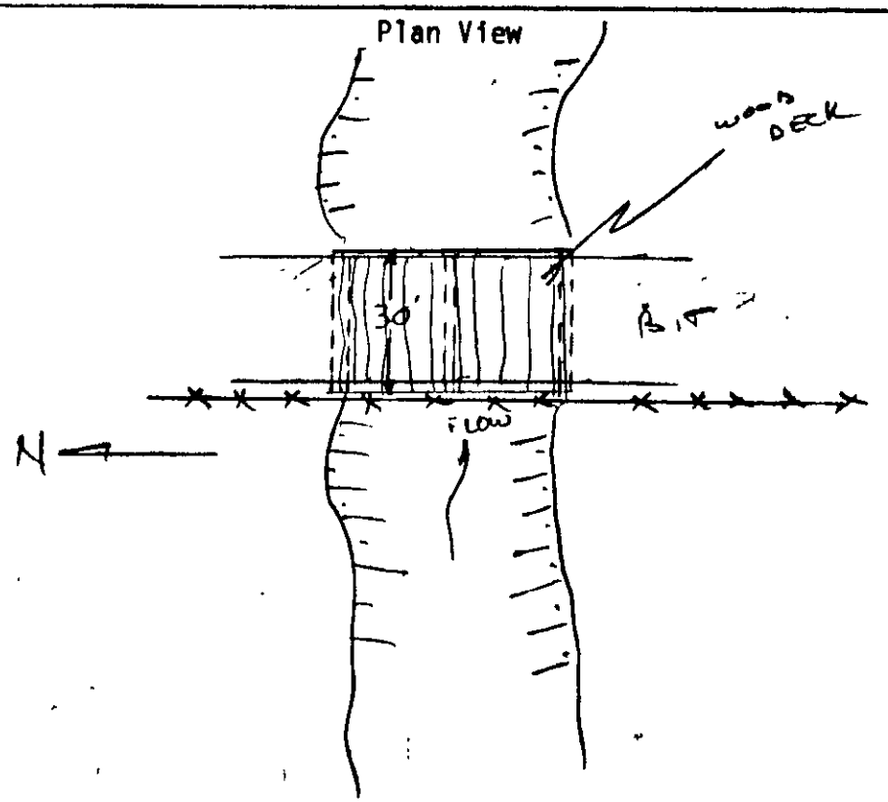
Job Name: WEST BLOOMFIELD F.I.S.			By: R. MOSES
Date: 3-24-78	Feature: WOOD BRIDGE		Water Course: PEBBLE CREEK
Remarks: BRIDGE IS ON BRIDGE WAY DR.			
Width of Piers: 4"	Pier Shape: "	No. of Piers: 1	Area: —
Water Elevation: 900 4	Length: 14'	Width of Deck: 30'	Skew: —

FIELD SKETCH

Profile View



Plan View



JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 7/6/78 JOB DESCRIPTION FIS - West Bloomfield TWP SHEET 1 OF 1
SUBJECT Bridge Way Drive over Pebble Creek ; BS # 103 JOB NO. 5850-10-1

Culvert Feature : Twin - 7' x 3' Wood Box Culvert

Area : $A = 7 \times 3 \times 2 = 42$ ft²

Hydraulic Radius : $R = 7 \times 3 / (7+3) \times 2 = 1.05$ ft.

Manning Coefficient : $n = 0.016$ (wood)

Length : $L = 30$ ft.

Entrance Loss : $K_e = 0.5$ (with Headwall)

Max. Depth : $D = 3$ ft.

$$BWC = \frac{A}{D} = 14 \text{ ft}$$

$$K_f = \frac{29.1 n^2 L}{R^{4/3}} = 0.21$$

$$XK\phi R = 1 + K_e + K_f = 1.71$$

Weir Coefficient : $C = 2.85$ (Gravel)

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HYDRAULIC STRUCTURAL DATA

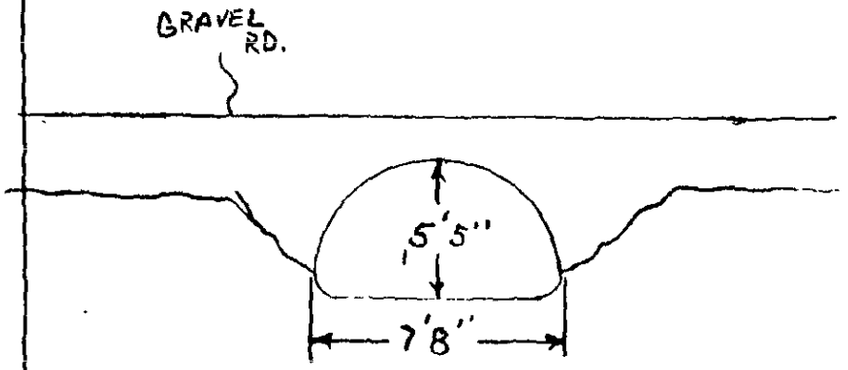
B.S. # 107

Code No. 5850-10

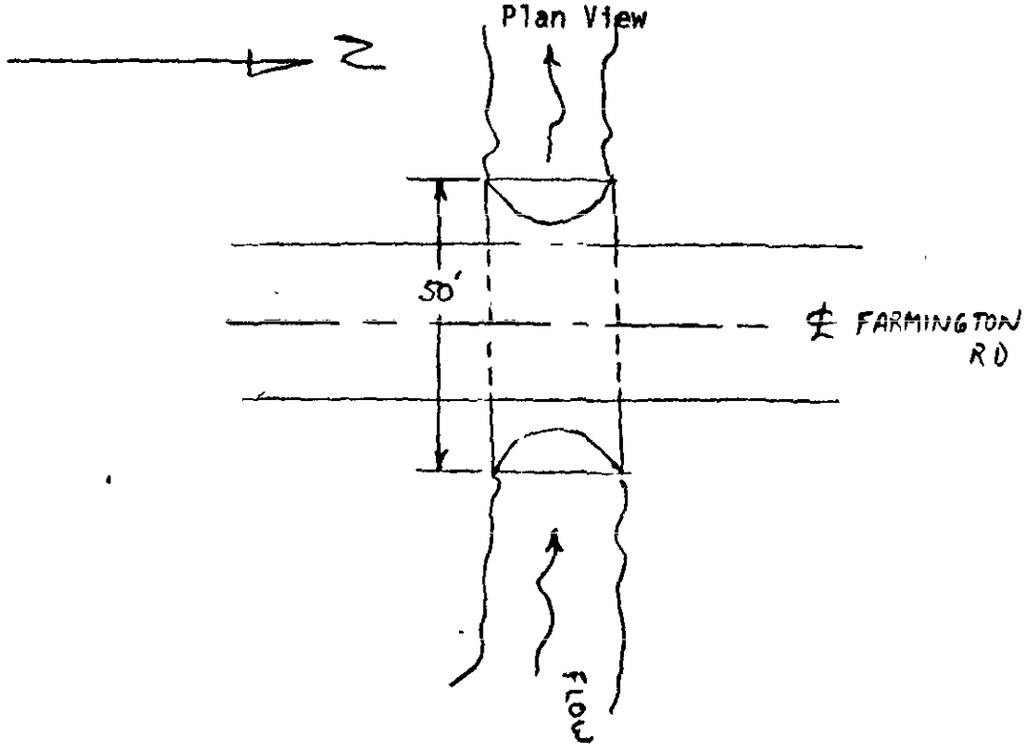
Job Name: WEST BLOOMFIELD F.I.S.			By: D. NETT
Date: 3-27-78	Feature: MULTI-PLATE ARCH PIPE		Water Course: PEBBLE CREEK
Remarks: Farmington Road Bridge			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 910.5	Length: 50'	Width of Deck: 7'8"	Skew: —

FIELD SKETCH

Profile View



Plan View



$n = 0.032$
$A = 33\ ft^2$
$R = 1.55\ ft$
$R_c = 0.27$
$Ke = 0.9$

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MEC DATE 9/1/78 JOB DESCRIPTION FIS - West Bloomfield TWP SHEET 1 OF 1
SUBJECT Pebble Creek at Farmington Road ; BS # 107 JOB NO. 5850-08

Culvert Feature - 7'8" x 5'5" Multi-plate Arch Pipe

Area - $A = 33$ ft.^{2}

Hydraulic Radius - $R = 1.55$ ft.

Length - $L = 50$ ft.

Manning Coefficient - $n = 0.032$

Entrance Loss - $K_e = 0.9$

Max. Depth - $D = 5.4$ ft.

$$BWC = \frac{A}{D} = 6.11 \text{ ft.}$$

$$K_f = \frac{29.1 n^2 L}{R^{4/3}} = 0.83$$

$$\Sigma KQL = 1 + K_e + K_f = 2.73$$

Weir Coefficient - $C = 3.02$ (H x 1.0 ft for 100-year flood)

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HYDRAULIC STRUCTURAL DATA

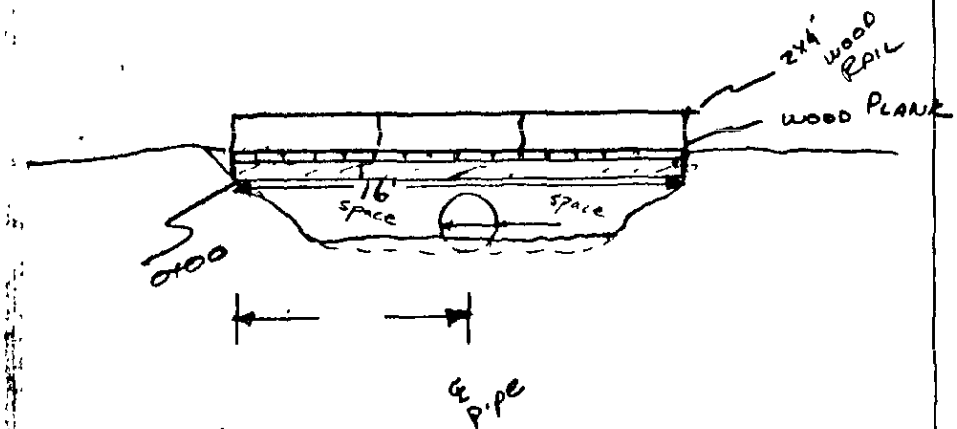
B. 110

Code No. 5850-10

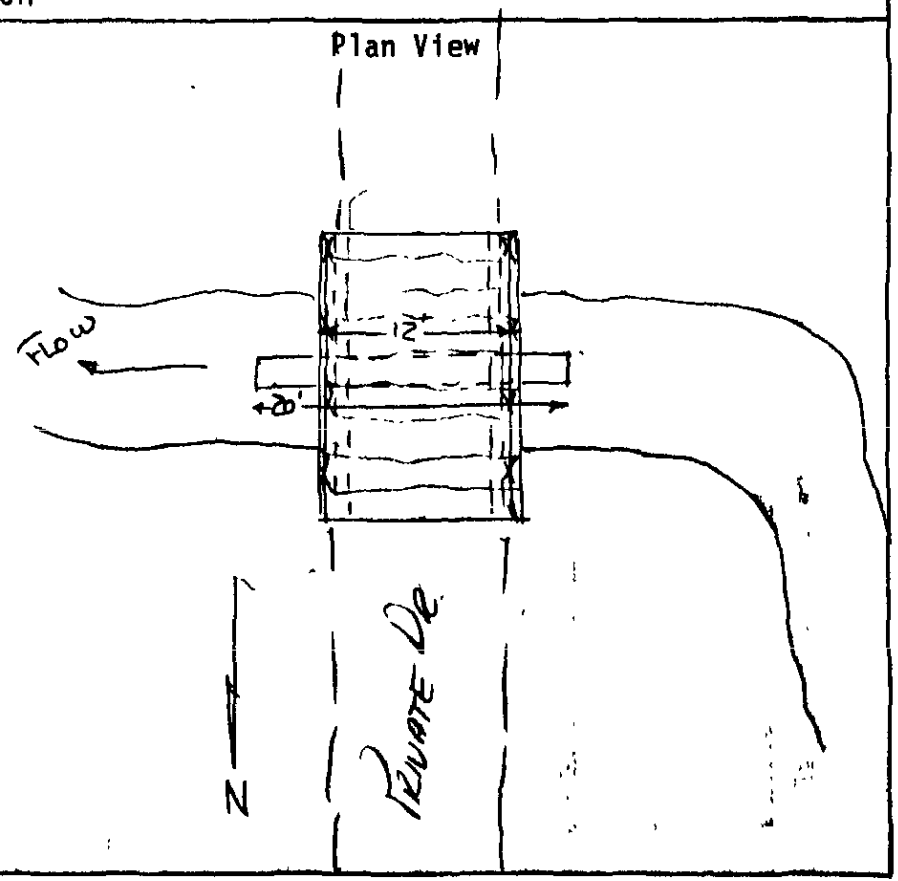
Job Name: West Bloomfield F.I.S.			By: R. Moses
Date: 3-27-78	Feature: Wood Bridge w/ 4" CMP. culvert		Water Course: Pebble Creek
Remarks: On Private Dr.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 922.7	Length:	Width of Deck:	Skew: —

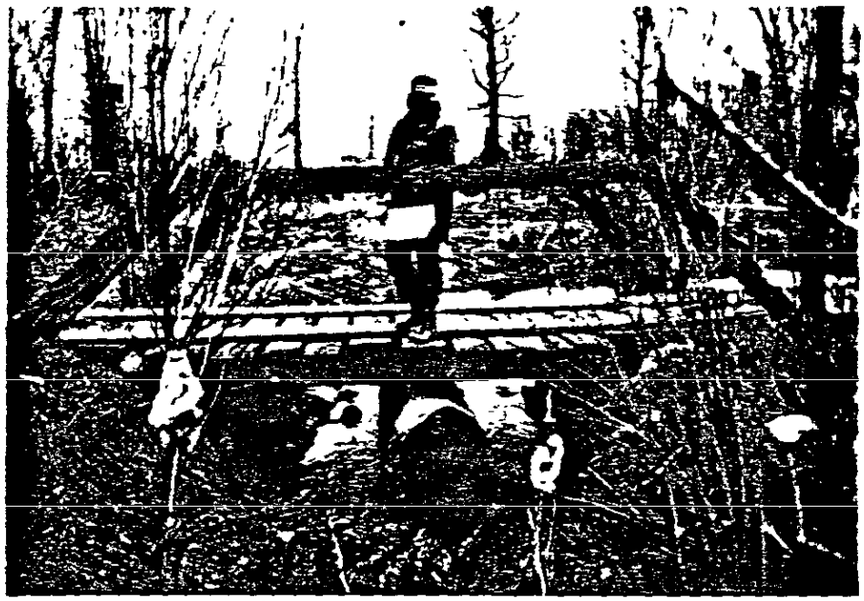
FIELD SKETCH

Profile View



Plan View





JOB NAME: West Bloomfield Township | JOB NO. 5850 | 10 | 1 | 13

WATERCOURSE: Pebble Creek | CULVERT LOCATION: Private Driveway

CULVERT DESCRIPTION: Ignore circular pipe ; but increase Manning "n" for channel. | BY MSC | DATE 9/1/78

n= 0.034 Q_{10}= 120 cfs TW_{10}= 924.75 (2.75)

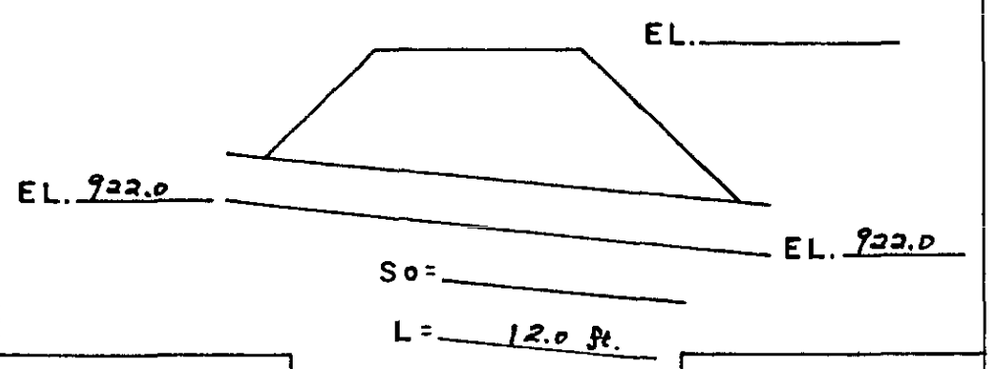
A= 28.0 ft² Q_{50}= _____ TW_{50}= _____

R= 0.84 ft. Q_{100}= _____ TW_{100}= _____

Ke= 0.70 Q_{500}= _____ TW_{500}= _____

D= 2.8 ft

LSo= _____



Sta. 6300 | Sta 6288

HEADWATER ANALYSIS

Q	INLET CONT.		OUTLET CONT. HW = H + ho − LSo					HEC-2		FINAL HW	FINAL HW ELEV. (ENERGY)	Δ H HEC-2
	$\frac{HW}{D}$	HW	H	dc	$\frac{dc+D}{2}$	ho	HW	$D+(1+Ke)\frac{V^2}{2g}$	HW			
120	–	–	0.62	–	–	2.75	3.37	–	–	3.37	925.37	use 925.12 as CWSEL

CALCULATIONS AND COMMENTS

$XKQR = 1 + Ke + K_f = 2.21$; $K_f = \frac{29.1\,n^2 L}{R^{4/3}} = 0.51$;

$H = XKQR\frac{V^2}{2g}$

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HYDRAULIC STRUCTURAL DATA

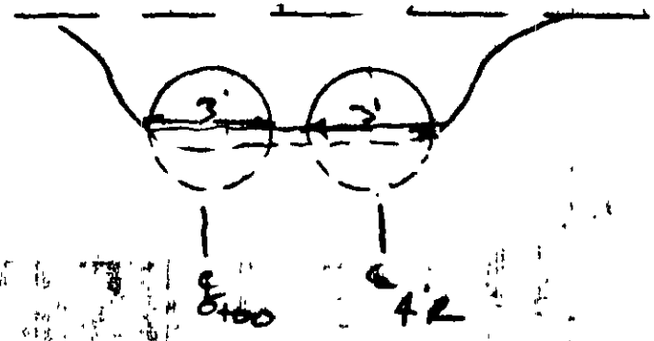
B.S. 113

Code No. 58530-10

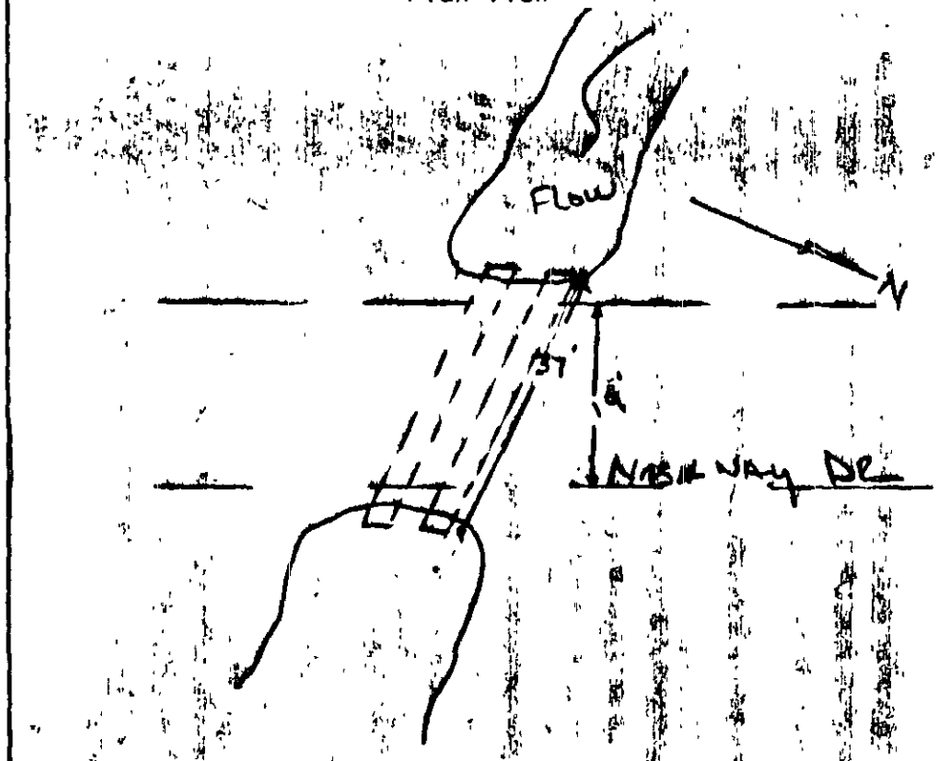
Job Name: West Bloomfield F.I.S.			By: R. Moses
Date: 3-27-78	Feature: 2-36" Conc Culverts		Water Course: Pebble Creek
Remarks: Conc. Culverts are under Nashway Dr.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 942.6	Length:	Width of Deck: 55'	Skew: 0.90

FIELD SKETCH

Profile View
Upstream Face



Plan View



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HYDRAULIC STRUCTURAL DATA

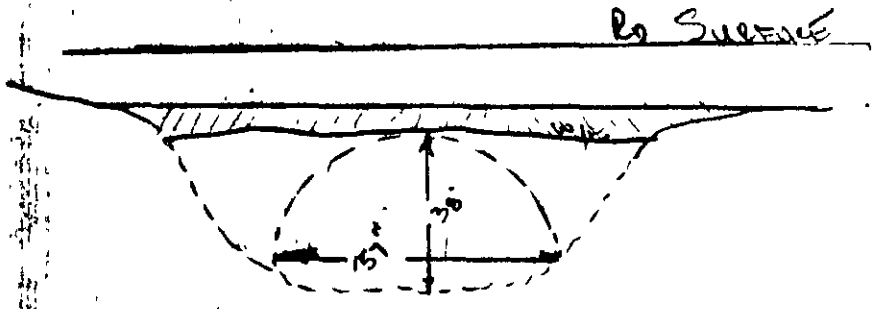
B.S. 118

Code No. 5850-10

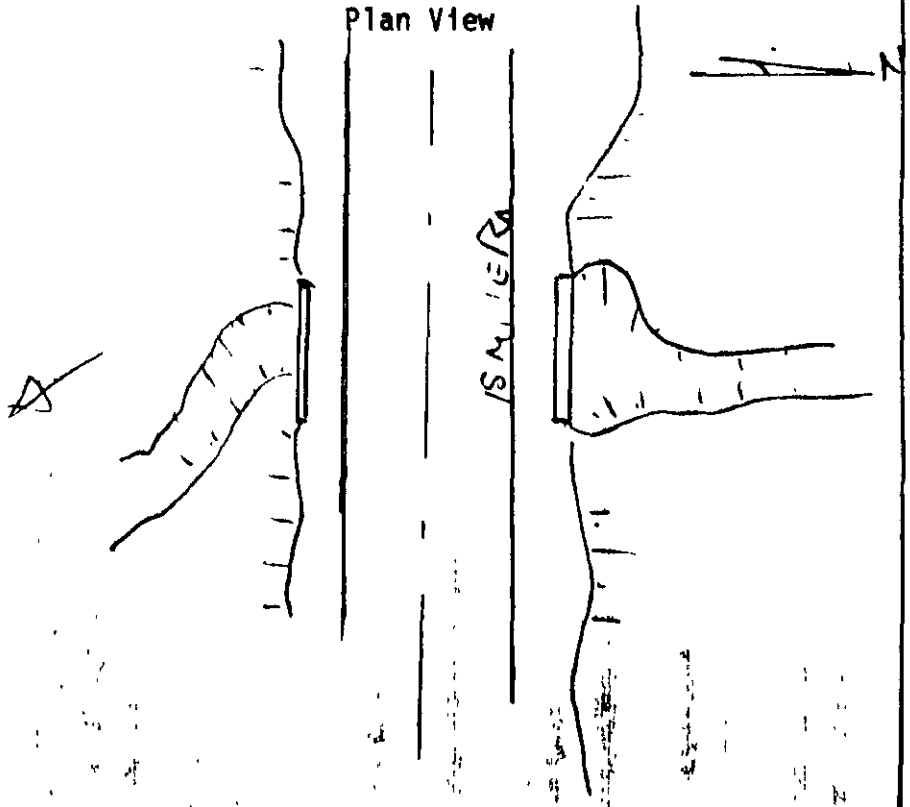
Job Name: West Bloomfield F.I.S.			By: R. Moses
Date: 3-28-78	Feature: 57" x 38" Arch Pipe		Water Course: Pebble Creek
Remarks: Pipe is in very bad cond. Swamp & mud heavy brush D/S & upstream of 15 Mile Rd Culvert West Maple Road			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 945.3	Length: 42'	Width of Deck: 57"	Skew: —

FIELD SKETCH

Profile View



Plan View



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CONSULTING ENGINEERS

BY MSC DATE 9/1/78 JOB DESCRIPTION FIS - West Bloomfield TWP SHEET 1 OF 1
SUBJECT Pebble Creek at West Maple Road (BS # 118) JOB NO. 5850-10-1

Culvert Feature - 57" x 38" CMP Arch Pipe

(Use 58" x 36")

Area - $A = 11.4$ ft²

Hydraulic Radius - $R = 0.91$ ft

Length - $L = 42$ ft.

Manning Coefficient - $n = 0.024$

Entrance Loss - $K_e = 0.5$ (with Headwalls)

Max. Depth - $D = 3.0$ ft.

$BWC = \frac{A}{D} = 3.8$ ft.

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 0.80$$

$$\Sigma K \Phi R = 1 + K_e + K_f = 2.30$$

Weir Coefficient - $C = 3.02$ (H x 1.0 ft.)

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST~~ER~~ BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW PLEASANT AND CARUS LAKES

4) DOCUMENT TYPE: 100 YR ENCROACHED

00BREAK00

```
**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
 ERROR CORR -  01,02
 MODIFICATION -  50,51,52,53
**************************************************

C
T1      5850-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP, PM = DICK ZANOTTI
T2      10-YEAR FLOOD          ENCROACHED RUN
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
      -1.        2.         0.         0.    .000700       0.00       0.0        0.     920.500     0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE
     1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
    38.000     39.000     40.000     41.000     42.000     43.000      1.000     10.000     11.000     12.000

    25.000      8.000      4.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

NC      .090       .090       .040       .300       .500      0.000      0.000      0.000      0.000      0.000
QT     4.000    175.000    250.000    265.000    320.000      0.000      0.000      0.000      0.000      0.000
NH     6.000       .095     54.000       .075     88.000       .045     95.000       .095    295.000       .085
NH   460.000       .075    580.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5          SEC. A

X1   5749.000     18.000     54.000     98.000      0.000      0.000      0.000      0.000      0.000      0.000
X3      0.000      0.000      0.000      0.000      0.000    200.000      0.000      0.000      0.000      0.000
GR    932.600      0.000    920.000     39.000    919.200     54.000    918.000     57.000    918.000     62.000
GR    919.200     82.000    918.100     88.000    918.000     92.000    918.000     95.000    919.100     98.000
GR    919.300    100.000    920.800    137.000    929.000    200.000    921.700    295.000    920.500    300.000
GR    919.800    400.000    920.500    460.000    925.800    580.000      0.000      0.000      0.000      0.000
NH      3.000       .095    744.000       .050    755.000       .095   1400.000      0.000      0.000      0.000

          250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9            SEC. B

X1   6349.000     25.000    700.000    835.000    600.000    600.000    600.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
GR    931.900      0.000    935.600     78.000    935.100    100.000    934.000    200.000    932.400    300.000
GR    933.900    400.000    933.300    500.000    930.200    600.000    924.600    632.000    923.000    700.000
GR    921.700    744.000    921.200    748.000    922.300    755.000    922.200    800.000    921.200    805.000
GR    921.300    815.000    921.200    825.000    921.600    835.000    922.900    900.000    925.000    987.000
GR    927.700   1010.000    926.200   1100.000    925.400   1200.000    929.100   1270.000    934.700   1400.000
NH      3.000       .095    744.000       .045    755.000       .095   1400.000      0.000      0.000      0.000

X1   6599.000      0.000      0.000      0.000    250.000    250.000    250.000      0.000       .200      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          D/S FACE OF WELCH ROAD CULVERT, BS#10                        SEC. C

X1   6600.000      0.000      0.000       .000     1.000      1.000      1.000      0.000      0.000      0.000
```

X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.200	.200	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	3.320	3.020	0.000	3.930	0.000	11.780	0.000	921.400	921.400

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

X1	6659.000	30.000	897.500	902.500	59.000	59.000	59.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	924.400	928.100	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	928.100	928.100	0.000
BT	28.000	0.000	933.500	0.000	100.000	932.800	0.000	200.000	932.400	0.000
BT	300.000	932.000	0.000	400.000	931.400	0.000	500.000	930.800	0.000	600.000
BT	930.300	0.000	700.000	929.800	0.000	800.000	929.100	0.000	897.500	928.500
BT	0.000	897.500	928.500	922.300	897.500	928.500	923.400	898.400	928.500	924.200
BT	900.000	928.500	924.400	901.600	928.500	924.200	902.500	928.500	923.400	902.500
BT	928.500	922.300	902.500	928.500	0.000	1000.000	928.100	0.000	1100.000	928.400
BT	0.000	1200.000	929.400	0.000	1300.000	930.600	0.000	1400.000	932.400	0.000
BT	1500.000	933.900	0.000	1600.000	935.300	0.000	1700.000	936.900	0.000	1800.000
BT	938.500	0.000	1900.000	940.200	0.000	0.000	0.000	0.000	0.000	0.000
GR	933.500	0.000	932.800	100.000	932.400	200.000	932.000	300.000	931.400	400.000
GR	930.800	500.000	930.300	600.000	929.800	700.000	929.100	800.000	924.000	879.000
GR	923.100	892.000	923.000	896.000	922.300	897.500	921.600	898.400	921.400	900.000
GR	921.600	901.600	922.300	902.500	923.300	904.000	924.100	920.000	924.600	934.000
GR	928.100	1000.000	928.400	1100.000	929.400	1200.000	930.600	1300.000	932.400	1400.000
GR	933.900	1500.000	935.300	1600.000	936.900	1700.000	938.500	1800.000	940.200	1900.000
NC	.095	.095	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6665.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
NC	.097	.097	.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

X1	8230.000	28.000	1234.000	1250.000	1500.000	1520.000	1565.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	929.400	0.000	927.100	50.000	927.200	100.000	927.900	150.000	929.800	200.000
GR	931.200	300.000	933.200	400.000	935.200	500.000	934.200	600.000	932.100	700.000
GR	931.700	800.000	931.200	900.000	931.500	1000.000	928.700	1100.000	928.000	1200.000
GR	928.900	1234.000	927.600	1238.000	927.500	1242.000	927.900	1245.000	929.100	1250.000
GR	928.100	1350.000	930.400	1450.000	932.800	1550.000	936.500	1650.000	934.800	1750.000
GR	934.200	1850.000	934.300	1950.000	938.400	2050.000	0.000	0.000	0.000	0.000
NC	.098	.098	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	90.000	140.000	150.000	190.000	0.000	0.000	0.000	0.000	0.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

X1	9730.000	19.000	591.000	600.000	1500.000	1500.000	1500.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	990.000	0.000	0.000	0.000	0.000
GR	940.800	0.000	935.400	100.000	936.800	200.000	941.300	315.000	939.300	400.000
GR	934.400	500.000	931.300	591.000	930.600	593.000	930.300	595.000	930.300	598.000
GR	931.100	600.000	930.600	700.000	930.100	800.000	929.800	900.000	930.600	1000.000
GR	930.900	1100.000	933.000	1170.000	941.400	1277.000	943.300	1400.000	0.000	0.000
NC	.110	.110	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

X1	10730.000	32.000	1291.000	1300.000	1000.000	1000.000	1000.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	900.000	0.000	1700.000	0.000	0.000	0.000	0.000
GR	938.300	0.000	938.600	100.000	932.700	123.000	930.200	200.000	930.500	300.000
GR	930.300	400.000	930.300	500.000	929.900	600.000	929.900	700.000	929.800	800.000
GR	929.600	900.000	930.000	1000.000	930.000	1100.000	931.100	1200.000	931.000	1291.000
GR	930.200	1294.000	930.000	1296.000	930.300	1298.000	931.000	1300.000	930.000	1400.000
GR	930.[illegible]	1[illegible]39.000	93[illegible].000	1500.000	93[illegible].300	1568.000	936.700	160[illegible].000	937.3[illegible]	170[illegible].0[illegible]

GR	931.000	1800.000	930.000	1900.000	931.300	1950.000	934.300	2000.000	937.300	2034.000
GR	941.000	2100.000	941.800	2150.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.098	.099	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000

420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14 SEC. G

X1	12250.000	21.000	381.000	400.000	1520.000	1520.000	1520.000	0.000	0.000	0.000
GR	941.400	0.000	941.300	12.000	940.000	100.000	940.000	113.000	937.300	141.000
GR	935.100	180.000	933.500	200.000	931.600	300.000	931.100	381.000	930.200	385.000
GR	930.100	391.000	929.900	395.000	931.200	400.000	931.800	500.000	933.700	553.000
GR	932.400	600.000	933.300	650.000	935.500	700.000	939.600	777.000	939.100	800.000
GR	938.600	900.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.110	.110	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	12355.000	90.000	484.500	501.000	105.000	105.000	105.000	0.000	0.000	0.000
GR	942.800	0.000	942.500	16.700	942.300	33.400	942.100	50.100	941.900	66.800
GR	941.700	83.500	941.600	100.200	941.400	116.900	941.300	133.600	940.900	150.300
GR	939.900	167.000	939.000	183.700	938.400	200.400	937.900	217.100	937.200	233.800
GR	936.400	250.600	936.000	267.300	935.800	284.000	935.600	300.700	935.400	317.400
GR	935.200	334.100	934.800	350.800	934.300	367.500	933.800	384.200	933.400	400.900
GR	933.200	417.600	932.900	434.300	932.600	451.000	932.400	467.700	931.800	484.500
GR	931.600	485.000	931.500	485.500	931.400	486.100	931.300	486.600	931.200	487.200
GR	931.100	487.700	931.000	488.300	931.000	488.800	931.000	489.400	931.000	489.900
GR	931.000	490.500	931.000	491.000	930.900	491.600	930.900	492.100	930.900	492.700
GR	930.900	493.200	930.900	493.800	930.900	494.300	930.800	494.900	930.800	495.400
GR	930.800	496.000	930.800	496.500	930.900	497.100	931.000	497.600	931.200	498.200
GR	931.300	498.700	931.400	499.300	931.500	499.800	931.700	500.400	931.800	501.000
GR	931.900	519.700	932.000	538.400	932.100	557.100	932.100	575.800	932.200	594.500
GR	932.300	613.200	932.900	632.000	933.500	650.700	934.100	669.400	934.000	688.100
GR	933.700	706.800	933.400	725.500	933.700	744.300	934.000	763.000	934.300	781.700
GR	935.000	800.400	935.600	819.100	936.200	837.800	936.900	856.600	937.600	875.300
GR	938.400	894.000	939.100	912.700	939.500	931.400	939.300	950.100	939.300	968.900
GR	939.300	987.600	939.300	1006.300	939.300	1025.000	939.300	1043.700	939.300	1062.500
QT	4.000	18.000	30.000	32.000	41.000	0.000	0.000	0.000	0.000	0.000

X1	12460.000	90.000	588.000	602.000	105.000	105.000	105.000	0.000	0.000	0.000
GR	944.200	0.000	943.700	20.200	943.500	40.500	943.300	60.800	943.200	81.100
GR	943.000	101.300	942.900	121.600	942.700	141.900	942.600	162.200	942.300	182.400
GR	941.600	202.700	941.000	223.000	940.600	243.300	940.100	263.500	939.700	283.800
GR	939.100	304.100	938.800	324.400	938.700	344.600	938.500	364.900	938.300	385.200
GR	938.100	405.500	937.500	425.700	936.800	446.000	936.000	466.300	935.400	486.600
GR	935.000	506.800	934.500	527.100	934.000	547.400	933.600	567.700	932.500	588.000
GR	932.400	588.400	932.300	588.900	932.200	589.300	932.100	589.800	932.000	590.300
GR	932.000	590.700	931.900	591.200	931.900	591.700	931.900	592.100	931.900	592.600
GR	931.800	593.100	931.800	593.500	931.800	594.000	931.800	594.500	931.800	594.900
GR	931.800	595.400	931.700	595.900	931.700	596.300	931.700	596.800	931.700	597.300
GR	931.700	597.700	931.700	598.200	931.800	598.700	931.900	599.100	932.000	599.600
GR	932.100	600.100	932.200	600.500	932.300	601.000	932.400	601.500	932.500	602.000
GR	932.500	622.700	932.600	643.500	932.700	664.200	932.700	685.000	932.800	705.800
GR	932.900	726.500	933.500	747.300	934.000	768.100	934.600	788.800	934.700	809.600
GR	934.600	830.400	934.500	851.100	934.800	871.900	935.100	892.700	935.400	913.400
GR	935.900	934.200	936.400	955.000	936.900	975.700	937.500	996.500	938.100	1017.300
GR	938.600	1038.000	939.200	1058.800	939.600	1079.600	939.500	1100.300	939.600	1121.100
GR	939.700	1141.900	939.800	1162.600	939.900	1183.400	940.000	1204.200	940.100	1225.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP

X1	12565.000	90.000	691.500	703.000	105.000	105.000	105.000	0.000	0.000	0.000
GR	945.600	0.000	945.000	23.800	944.700	47.600	944.600	71.500	944.400	95.300
GR	944.300	119.200	944.200	143.000	944.000	166.900	943.900	190.700	943.700	214.600
GR	943.300	238.400	943.000	262.200	942.700	286.100	942.400	309.900	942.100	333.800
GR	941.800	357.600	941.600	381.500	941.500	405.300	941.300	429.200	941.200	453.000

GR	941.000	476.800	940.300	500.700	939.300	524.500	938.200	548.400	937.400	572.200
GR	936.800	596.100	936.100	619.900	935.500	643.800	934.800	667.600	933.100	691.500
GR	933.100	691.800	933.000	692.200	933.000	692.600	932.900	693.000	932.900	693.400
GR	932.800	693.700	932.800	694.100	932.800	694.500	932.800	694.900	932.700	695.300
GR	932.700	695.700	932.700	696.000	932.700	696.400	932.700	696.800	932.600	697.200
GR	932.600	697.600	932.600	698.000	932.600	698.300	932.600	698.700	932.600	699.100
GR	932.600	699.500	932.600	699.900	932.700	700.300	932.800	700.600	932.800	701.000
GR	932.900	701.400	932.900	701.800	933.000	702.200	933.000	702.600	933.100	703.000
GR	933.200	725.800	933.200	748.600	933.300	771.400	933.300	794.200	933.400	817.000
GR	933.500	839.800	934.000	862.700	934.600	885.500	935.100	908.300	935.400	931.100
GR	935.500	953.900	935.600	976.700	935.900	999.600	936.200	1022.400	936.500	1045.200
GR	936.900	1068.000	937.300	1090.800	937.700	1113.600	938.100	1136.500	938.500	1159.300
GR	938.900	1182.100	939.300	1204.900	939.600	1227.700	939.700	1250.500	939.900	1273.400
GR	940.100	1296.200	940.300	1319.000	940.500	1341.800	940.700	1364.600	940.900	1387.500
X1	12670.000	15.000	795.000	804.000	105.000	105.000	105.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	931.000	0.000	0.000	0.000	0.000
GR	947.000	0.000	946.000	40.000	944.000	555.000	942.000	600.000	940.000	640.000
GR	936.000	770.000	934.000	780.000	933.900	795.000	933.500	800.000	933.800	804.000
GR	936.000	950.000	936.000	1040.000	938.000	1210.000	940.000	1400.000	941.700	1550.000
NC	.100	.100	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

X1	12671.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	931.000	0.000	0.000	0.000	0.000
SB	0.000	5.910	3.030	0.000	1.640	0.000	1.970	0.000	933.500	933.500

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

X1	12716.000	26.000	799.000	801.000	45.000	45.000	45.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	934.800	935.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	935.500	935.500	0.000
BT	24.000	0.000	949.100	0.000	100.000	947.900	0.000	200.000	945.600	0.000
BT	225.000	946.100	0.000	300.000	945.400	0.000	400.000	945.000	0.000	500.000
BT	945.000	0.000	600.000	941.900	0.000	700.000	938.700	0.000	799.000	936.200
BT	0.000	799.000	936.200	933.500	799.000	936.200	934.400	800.000	936.200	934.800
BT	801.000	936.200	934.400	801.000	936.200	933.500	801.000	936.200	0.000	900.000
BT	935.500	0.000	1000.000	936.800	0.000	1100.000	938.000	0.000	1200.000	939.300
BT	0.000	1300.000	940.700	0.000	1400.000	941.500	0.000	1500.000	942.200	0.000
BT	1600.000	942.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	949.100	0.000	947.900	100.000	945.600	200.000	946.100	225.000	945.400	300.000
GR	945.000	400.000	945.000	500.000	941.900	600.000	938.700	700.000	936.700	750.000
GR	935.100	792.000	933.900	795.000	933.500	799.000	933.500	800.000	933.500	801.000
GR	933.800	804.000	934.600	806.000	934.600	850.000	935.500	900.000	936.800	1000.000
GR	938.000	1100.000	939.300	1200.000	940.700	1300.000	941.500	1400.000	942.200	1500.000
GR	942.500	1600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.098	.098	.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	12720.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	935.500	935.500	0.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

X1	12912.000	20.000	358.000	377.000	175.000	175.000	192.000	0.000	0.000	0.000
GR	945.000	0.000	943.400	77.000	942.900	177.000	942.300	271.000	935.000	295.000
GR	935.000	358.000	934.300	360.000	934.200	364.000	934.100	370.000	934.300	374.000
GR	935.000	377.000	935.300	401.000	942.600	505.000	941.900	577.000	940.300	677.000
GR	940.100	777.000	943.100	877.000	943.600	977.000	943.900	1077.000	943.100	1177.000
NC	.095	.090	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13017.000	90.000	405.000	423.500	75.000	125.000	105.000	0.000	0.000	0.000
GR	945.000	0.000	944.800	13.900	944.500	27.900	944.300	41.800	944.100	55.800
GR	944.000	69.800	943.800	83.700	943.800	97.700	943.900	111.700	943.900	125.600
GR	943.800	139.600	943.800	153.600	943.800	167.500	943.800	181.500	943.700	195.500
GR	943.700	209.400	943.600	223.400	943.500	237.400	943.500	251.300	943.400	265.300
GR	943.300	279.300	943.200	293.200	943.000	307.200	940.200	321.200	937.600	335.100
GR	937.300	349.100	936.500	363.100	936.000	377.000	935.800	391.000	935.600	405.000
GR	935.400	405.600	935.200	406.200	935.000	406.800	934.900	407.400	934.900	408.000
GR	934.800	408.600	934.800	409.300	934.700	409.900	934.700	410.500	934.700	411.100
GR	934.700	411.700	934.700	412.300	934.700	413.000	934.700	413.600	934.700	414.200
GR	934.600	414.800	934.600	415.400	934.600	416.000	934.600	416.700	934.600	417.300
GR	934.700	417.900	934.700	418.500	934.700	419.100	934.700	419.700	934.800	420.400
GR	934.900	421.000	935.000	421.600	935.100	422.200	935.200	422.800	935.400	423.500
GR	935.700	445.000	937.200	466.500	938.600	488.000	940.000	509.600	941.100	531.100
GR	940.900	552.600	940.800	574.200	940.700	595.700	940.500	617.200	940.400	638.800
GR	940.200	660.300	940.200	681.800	940.400	703.400	940.500	724.900	940.600	746.400
GR	941.400	768.000	942.100	789.500	942.900	811.000	943.500	832.600	943.800	854.100
GR	944.000	875.600	944.300	897.200	944.600	918.700	944.800	940.200	945.000	961.800
GR	945.200	983.300	945.300	1004.800	945.300	1026.400	945.300	1047.900	945.300	1069.500

X1	13122.000	90.000	452.000	470.000	75.000	125.000	105.000	0.000	0.000	0.000
GR	945.100	0.000	944.900	15.500	944.600	31.100	944.400	46.700	944.300	62.300
GR	944.300	77.900	944.300	93.500	944.400	109.100	944.500	124.600	944.500	140.200
GR	944.500	155.800	944.600	171.400	944.600	187.000	944.600	202.600	944.600	218.200
GR	944.500	233.700	944.500	249.300	944.400	264.900	944.300	280.500	944.300	296.100
GR	944.200	311.700	944.100	327.300	943.900	342.800	942.000	358.400	940.300	374.000
GR	939.600	389.600	938.100	405.200	937.100	420.800	936.700	436.400	936.300	452.000
GR	936.100	452.600	935.900	453.200	935.700	453.700	935.600	454.300	935.600	454.900
GR	935.500	455.500	935.400	456.100	935.300	456.700	935.300	457.300	935.200	457.900
GR	935.200	458.500	935.200	459.100	935.200	459.700	935.200	460.300	935.200	460.900
GR	935.200	461.500	935.200	462.100	935.200	462.700	935.200	463.300	935.200	463.900
GR	935.200	464.500	935.200	465.100	935.300	465.700	935.300	466.300	935.300	466.900
GR	935.400	467.500	935.500	468.100	935.600	468.700	935.700	469.300	935.800	470.000
GR	936.000	486.400	937.000	502.700	938.000	519.100	939.000	535.500	939.700	551.900
GR	939.600	568.300	939.600	584.700	939.800	601.100	939.900	617.500	940.000	633.900
GR	940.000	650.300	940.300	666.700	940.600	683.100	940.900	699.500	941.100	715.900
GR	941.900	732.300	942.600	748.700	943.300	765.100	944.000	781.500	944.300	797.900
GR	944.700	814.300	945.100	830.700	945.500	847.100	945.900	863.500	946.300	879.900
GR	946.600	896.300	946.900	912.700	947.100	929.100	947.300	945.500	947.600	962.000

X1	13227.000	90.000	499.000	516.500	75.000	125.000	105.000	0.000	0.000	0.000
GR	945.200	0.000	944.900	17.200	944.700	34.400	944.400	51.600	944.400	68.800
GR	944.600	86.000	944.700	103.200	944.900	120.400	945.100	137.600	945.200	154.800
GR	945.300	172.000	945.300	189.200	945.400	206.400	945.400	223.600	945.500	240.800
GR	945.400	258.100	945.400	275.300	945.300	292.500	945.200	309.700	945.200	326.900
GR	945.100	344.100	945.000	361.300	944.900	378.500	943.900	395.700	942.900	412.900
GR	942.000	430.100	939.700	447.300	938.200	464.500	937.600	481.700	937.000	499.000
GR	936.800	499.500	936.600	500.100	936.500	500.700	936.400	501.300	936.200	501.900
GR	936.100	502.400	936.000	503.000	935.900	503.600	935.800	504.200	935.800	504.800
GR	935.800	505.400	935.800	505.900	935.800	506.500	935.800	507.100	935.800	507.700
GR	935.800	508.300	935.800	508.900	935.800	509.400	935.800	510.000	935.800	510.600
GR	935.800	511.200	935.800	511.800	935.800	512.400	935.800	512.900	935.800	513.500
GR	935.900	514.100	936.000	514.700	936.000	515.300	936.100	515.900	936.200	516.500
GR	936.300	527.700	936.900	539.000	937.400	550.200	937.900	561.500	938.300	572.800
GR	938.300	584.000	938.400	595.300	938.800	606.600	939.200	617.800	939.500	629.100
GR	939.900	640.400	940.300	651.600	940.800	662.900	941.200	674.200	941.700	685.400
GR	942.400	696.700	943.000	708.000	943.700	719.200	944.400	730.500	944.900	741.800
GR	945.400	753.000	946.000	764.300	946.500	775.600	947.000	786.800	947.500	798.100
GR	948.000	809.400	948.500	820.600	948.900	831.900	949.400	843.200	949.800	854.500

615' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#17 SEC. J

X1	13332.000	15.000	546.000	563.000	75.000	125.000	105.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	540.000	0.000	570.000	0.000	0.000	0.000	0.000
GR	945.300	0.000	944.500	63.000	945.900	163.000	946.400	263.000	946.100	363.000
GR	945.600	463.000	939.700	500.000	937.700	546.000	936.400	551.000	936.400	555.000
GR	936.400	560.000	936.600	563.000	937.100	604.000	943.100	663.000	952.100	747.000
NC	.080	.080	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13374.000	0.000	0.000	0.000	42.000	42.000	42.000	0.000	-.170	0.000
X3	0.000	0.000	0.000	552.000	0.000	560.000	0.000	0.000	0.000	0.000

X1	13382.000	21.000	798.000	802.000	8.000	8.000	8.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.000	945.000	0.000
GR	946.100	0.000	945.400	100.000	946.000	200.000	946.300	300.000	946.700	400.000
GR	946.800	500.000	947.200	600.000	942.400	700.000	938.700	795.000	937.100	797.000
GR	937.500	798.000	936.400	799.000	936.200	800.000	936.400	801.000	937.500	802.000
GR	937.100	804.000	938.100	807.000	945.100	900.000	951.100	1000.000	952.100	1100.000
GR	953.100	1200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.070	.070	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

X1	13383.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.000	945.000	0.000
BT	21.000	0.000	946.100	0.000	100.000	945.400	0.000	200.000	946.000	0.000
BT	300.000	946.300	0.000	400.000	946.700	0.000	500.000	946.800	0.000	600.000
BT	947.200	0.000	700.000	948.300	0.000	798.000	949.200	0.000	798.000	949.200
BT	937.500	798.000	949.200	938.900	799.000	949.200	940.000	800.000	949.200	940.200
BT	801.000	949.200	940.000	802.000	949.200	938.900	802.000	949.200	937.500	802.000
BT	949.200	0.000	900.000	950.300	0.000	1000.000	951.100	0.000	1100.000	952.100
BT	0.000	1200.000	953.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

X1	13473.000	0.000	0.000	0.000	90.000	90.000	90.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.400	949.200	0.000
NC	.090	.095	.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13474.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.200	949.200	0.000
NC	.100	.100	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	150.000	225.000	240.000	285.000	0.000	0.000	0.000	0.000	0.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

X1	14034.000	20.000	882.000	900.000	700.000	420.000	560.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	670.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	954.300	0.000	947.800	84.000	946.600	162.000	937.300	300.000	936.800	400.000
GR	936.800	500.000	936.800	600.000	936.800	700.000	937.100	800.000	936.700	882.000
GR	936.100	885.000	936.000	892.000	936.300	897.000	936.700	900.000	937.200	973.000
GR	939.600	985.000	939.900	1000.000	947.900	1061.000	949.000	1100.000	951.700	1200.000
NH	4.000	.100	260.000	.090	500.000	.065	567.000	.095	636.000	0.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

X1	14674.000	12.000	100.000	636.000	630.000	640.000	640.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	950.900	0.000	946.000	100.000	942.800	115.000	939.900	200.000	937.600	260.000
GR	937.300	215.000	936.900	300.000	936.900	400.000	936.700	500.000	937.300	567.000

GR	937.700	582.000	946.700	636.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.090	.100	.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	1.600	1.700	1.800	1.900	0.000	0.000	0.000	0.000	0.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

X1	15359.000	19.000	174.000	189.000	600.000	750.000	685.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	165.000	0.000	240.000	0.000	0.000	0.000	0.000
GR	952.100	0.000	951.200	50.000	945.100	100.000	938.800	174.000	938.000	180.000
GR	937.800	183.000	937.800	185.000	938.600	189.000	939.500	200.000	939.800	250.000
GR	938.400	286.000	937.800	288.000	937.700	294.000	937.600	299.000	938.800	300.000
GR	947.800	400.000	942.600	460.000	946.200	500.000	951.200	550.000	0.000	0.000
NC	.100	.100	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

35' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24 SEC. O

X1	15469.000	19.000	0.000	373.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	190.000	0.000	210.000	0.000	0.000	0.000	0.000
GR	953.600	0.000	940.700	100.000	938.800	129.000	937.700	150.000	937.400	200.000
GR	937.400	215.000	937.900	260.000	939.000	275.000	939.900	300.000	949.800	373.000
GR	943.000	432.000	947.500	500.000	952.600	600.000	954.800	642.000	939.900	700.000
GR	937.700	760.000	937.300	800.000	937.300	900.000	940.200	1000.000	0.000	0.000

X1	15506.000	23.000	398.800	401.300	35.000	35.000	35.000	0.000	.900	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	944.300	944.300	0.000
GR	948.400	0.000	948.000	100.000	946.400	200.000	946.600	300.000	938.900	385.000
GR	938.900	397.000	937.800	398.800	937.800	399.200	937.800	400.000	937.800	400.900
GR	937.900	401.300	938.900	403.000	940.700	408.000	946.700	500.000	946.800	600.000
GR	946.600	700.000	946.300	800.000	945.500	900.000	945.300	1000.000	945.700	1100.000
GR	946.400	1200.000	946.800	1300.000	947.400	1400.000	0.000	0.000	0.000	0.000
NC	.050	.050	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

X1	15505.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	944.300	944.300	0.000
SB	0.000	7.990	2.820	0.000	.880	0.000	.440	0.000	937.800	938.700

U/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

X1	15537.000	0.000	0.000	0.000	32.000	32.000	32.000	0.000	-.900	0.000
X2	0.000	0.000	1.000	938.100	945.300	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.300	945.300	0.000
BT	21.000	0.000	948.400	0.000	100.000	948.000	0.000	200.000	946.400	0.000
BT	300.000	946.600	0.000	398.800	945.500	0.000	398.800	945.500	937.800	399.200
BT	945.500	938.100	400.000	945.500	938.300	400.900	945.500	938.100	401.300	945.500
BT	937.900	401.300	945.500	0.000	500.000	946.700	0.000	600.000	946.800	0.000
BT	700.000	946.600	0.000	800.000	946.300	0.000	900.000	945.500	0.000	1000.000
BT	945.300	0.000	1100.000	945.700	0.000	1200.000	946.400	0.000	1300.000	946.800
BT	0.000	1400.000	947.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.100	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	15538.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.300	945.300	0.000
NH	5.000	.080	155.000	.100	525.000	.060	650.000	.100	800.000	.095
NH	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	110.000	165.000	180.000	215.000	0.000	0.000	0.000	0.000	0.000

900' U/S FROM U/S F'CE OF GRAND TRUNK 'ESTER', VS' 26 SEC. n

X1	16438.000	15.000	155.000	800.000	800.000	1000.000	900.000	.800	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	700.000	0.000	0.000	0.000	0.000
GR	959.500	0.000	943.800	100.000	941.300	110.000	939.600	155.000	939.100	200.000
GR	937.900	320.000	937.300	415.000	935.600	525.000	935.800	650.000	935.700	750.000
GR	939.700	780.000	942.900	800.000	949.500	895.000	945.500	935.000	953.400	1000.000
QT	4.000	50.000	80.000	90.000	100.000	0.000	0.000	0.000	0.000	0.000
NH	4.000	.090	141.000	.095	200.000	.066	300.000	.095	658.000	0.000

1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27 SEC. R

X1	17468.000	11.000	200.000	566.000	1250.000	800.000	1030.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	195.000	0.000	400.000	0.000	0.000	0.000	0.000
GR	959.900	0.000	943.800	100.000	941.100	141.000	940.300	195.000	940.700	200.000
GR	939.800	300.000	939.700	400.000	939.800	500.000	939.600	566.000	946.700	600.000
GR	959.900	658.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.095	.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	17583.000	90.000	263.200	445.700	125.000	110.000	115.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	255.000	0.000	450.000	0.000	0.000	0.000	0.000
GR	960.500	0.000	960.100	1.000	959.800	2.100	959.400	3.200	959.000	4.200
GR	958.600	5.300	958.300	6.400	957.900	7.400	957.500	8.500	957.100	9.600
GR	956.700	10.600	956.400	11.700	956.100	12.800	956.100	13.800	956.100	14.900
GR	956.100	16.000	956.100	17.100	956.100	18.100	956.000	19.200	956.000	20.300
GR	956.000	21.300	956.000	22.400	956.000	23.500	956.000	24.500	956.000	25.600
GR	956.000	26.700	956.000	27.700	956.000	28.800	956.000	29.900	956.000	31.000
GR	953.300	47.500	950.600	64.100	947.900	80.700	945.200	97.300	943.200	113.900
GR	942.000	130.500	941.400	147.100	941.100	163.700	941.100	180.300	941.100	196.900
GR	940.900	213.500	940.800	230.000	940.700	246.600	940.500	263.200	940.500	279.800
GR	940.500	296.400	940.500	313.000	940.500	329.600	940.500	346.200	940.500	362.800
GR	940.500	379.400	940.600	396.000	940.600	412.600	940.600	429.100	940.500	445.700
GR	941.200	462.300	944.700	478.900	948.300	495.500	952.100	512.100	955.900	528.700
GR	956.000	529.400	956.200	530.100	956.400	530.800	956.500	531.500	956.700	532.200
GR	956.900	532.900	957.100	533.500	957.200	534.200	957.400	534.900	957.600	535.600
GR	957.800	536.300	957.900	537.000	958.000	537.700	958.000	538.400	958.000	539.100
GR	958.000	539.800	958.100	540.500	958.100	541.200	958.100	541.800	958.200	542.500
GR	958.200	543.200	958.200	543.900	958.300	544.600	958.300	545.300	958.300	546.000
GR	958.400	546.700	958.400	547.400	958.400	548.100	958.400	548.800	958.500	549.500

X1	17640.000	0.000	0.000	0.000	65.000	55.000	57.000	0.000	.400	0.000
X3	0.000	0.000	0.000	270.000	0.000	435.000	0.000	0.000	0.000	0.000

X1	17698.000	90.000	185.700	343.200	65.000	55.000	58.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	195.000	0.000	330.000	0.000	0.000	0.000	0.000
GR	961.200	0.000	960.400	2.100	959.700	4.200	958.900	6.400	958.200	8.500
GR	957.400	10.600	956.700	12.800	955.900	14.900	955.100	17.100	954.400	19.200
GR	953.600	21.300	952.900	23.500	952.300	25.600	952.300	27.700	952.300	29.900
GR	952.300	32.000	952.300	34.200	952.300	36.300	952.200	38.400	952.200	40.600
GR	952.200	42.700	952.200	44.800	952.200	47.000	952.200	49.100	952.100	51.300
GR	952.100	53.400	952.100	55.500	952.100	57.700	952.100	59.800	952.000	62.000
GR	950.200	73.200	948.300	84.500	946.500	95.700	944.600	107.000	943.200	118.200
GR	942.400	129.500	941.900	140.700	941.700	151.900	941.700	163.200	941.700	174.400
GR	941.600	185.700	941.500	196.900	941.400	208.200	941.300	219.400	941.300	230.700
GR	941.300	241.900	941.300	253.200	941.300	264.400	941.300	275.700	941.300	286.900
GR	941.300	298.200	941.400	309.400	941.400	320.700	941.500	331.900	941.500	343.200
GR	942.000	354.400	944.300	365.700	946.800	376.900	949.400	388.200	952.000	399.500
GR	952.200	400.800	952.500	402.200	952.900	403.600	953.200	405.000	953.600	406.400
GR	953.900	407.800	954.300	409.100	954.600	410.500	955.000	411.900	955.300	413.300
GR	955.700	414.700	956.000	416.100	956.100	417.400	956.100	418.800	956.200	420.200
GR	956.200	421.600	956.300	423.000	956.400	424.400	956.400	425.700	956.500	427.100
GR	956.600	428.500	956.600	429.900	956.700	431.300	956.700	432.700	956.800	434.000
GR	956.900	435.[illegible]0	956.900	[illegible]36.80[illegible]	957.00[illegible]	[illegible]3[illegible].20[illegible]	957.00[illegible]	[illegible]39.60[illegible]	957.10[illegible]	[illegible]41.0[illegible]

X1	17755.000	0.000	0.000	0.000	65.000	55.000	57.000	0.000	.400	0.000
X3	0.000	0.000	0.000	210.000	0.000	315.000	0.000	0.000	0.000	0.000
X1	17813.000	90.000	157.900	228.800	65.000	55.000	58.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	155.000	0.000	232.000	0.000	0.000	0.000	0.000
GR	961.900	0.000	960.700	3.200	959.600	6.400	958.500	9.600	957.300	12.800
GR	956.200	16.000	955.100	19.200	953.900	22.400	952.800	25.600	951.700	28.800
GR	950.500	32.000	949.400	35.200	948.600	38.400	948.600	41.600	948.500	44.800
GR	948.500	48.100	948.500	51.300	948.500	54.500	948.400	57.700	948.400	60.900
GR	948.400	64.100	948.400	67.300	948.300	70.500	948.300	73.700	948.300	76.900
GR	948.300	80.100	948.200	83.300	948.200	86.500	948.200	89.700	948.100	93.000
GR	947.100	98.900	946.100	104.800	945.100	110.700	944.100	116.600	943.300	122.500
GR	942.800	128.400	942.400	134.300	942.300	140.200	942.300	146.100	942.300	152.000
GR	942.300	157.900	942.200	163.800	942.200	169.800	942.100	175.700	942.100	181.600
GR	942.100	187.500	942.100	193.400	942.100	199.300	942.100	205.200	942.100	211.100
GR	942.100	217.000	942.200	222.900	942.300	228.800	942.400	234.700	942.400	240.700
GR	942.800	246.600	944.000	252.500	945.300	258.400	946.700	264.300	948.000	270.200
GR	948.300	272.300	948.900	274.400	949.400	276.400	949.900	278.500	950.400	280.600
GR	951.000	282.700	951.500	284.700	952.000	286.800	952.500	288.900	953.100	291.000
GR	953.600	293.000	954.100	295.100	954.200	297.200	954.300	299.200	954.400	301.300
GR	954.400	303.400	954.500	305.500	954.600	307.500	954.700	309.600	954.800	311.700
GR	954.900	313.800	955.000	315.800	955.100	317.900	955.200	320.000	955.300	322.100
GR	955.400	324.100	955.500	326.200	955.500	328.300	955.600	330.400	955.700	332.500
X1	17870.000	0.000	0.000	0.000	65.000	55.000	57.000	0.000	.400	0.000
X3	0.000	0.000	0.000	170.000	0.000	218.000	0.000	0.000	0.000	0.000
NH	4.000	.100	50.000	.085	124.000	.055	141.000	.090	224.000	0.000

740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28 SEC. S

X1	17928.000	11.000	124.000	141.000	65.000	55.000	58.000	0.000	0.000	0.000
GR	962.600	0.000	944.900	50.000	944.300	124.000	943.000	128.000	943.000	132.000
GR	943.000	136.000	943.400	138.000	944.100	141.000	944.600	144.000	952.200	174.000
GR	954.400	224.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.090	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29 SEC. T

X1	18328.000	9.000	75.000	88.000	350.000	430.000	400.000	0.000	0.000	0.000
GR	965.300	0.000	946.300	75.000	944.700	77.000	944.400	80.000	944.000	82.000
GR	944.900	84.000	946.700	88.000	949.400	147.000	959.900	180.000	0.000	0.000
NC	.085	.085	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	4.000	7.000	8.000	10.000	0.000	0.000	0.000	0.000	0.000

30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30 SEC. U

X1	18638.000	12.000	115.000	137.000	410.000	210.000	310.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	117.000	0.000	135.000	0.000	0.000	0.000	0.000
GR	962.300	0.000	958.400	25.000	955.000	50.000	949.300	75.000	947.700	115.000
GR	945.300	122.000	945.600	127.000	945.300	131.000	949.300	137.000	951.900	155.000
GR	959.900	187.000	963.400	207.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.080	.080	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	18668.000	12.000	97.000	104.000	30.000	30.000	30.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.200	948.200	0.000
GR	961.400	0.000	954.400	35.000	950.400	55.000	948.500	90.000	945.800	97.000
GR	945.900	98.000	945.800	100.000	946.500	102.000	946.700	104.000	949.200	106.000
GR	956.00	200.000	961.500	250.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	.050	.050	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

X1	18669.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.200	948.200	0.000
SB	0.000	1.780	3.020	0.000	1.960	0.000	4.910	0.000	945.200	945.800

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

X1	18678.000	15.000	98.800	101.200	9.000	9.000	9.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	947.200	950.200	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.400	950.400	0.000
BT	14.000	0.000	961.400	0.000	35.000	954.400	0.000	55.000	950.400	0.000
BT	98.800	950.600	0.000	98.800	950.600	946.000	98.800	950.600	946.900	99.200
BT	950.600	947.500	100.000	950.600	947.700	100.800	950.600	947.500	101.200	950.600
BT	946.900	101.200	950.600	946.000	101.200	950.600	0.000	200.000	956.400	0.000
BT	250.000	961.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	961.400	0.000	954.400	35.000	950.400	55.000	948.500	85.000	945.400	97.000
GR	946.000	98.800	945.400	99.200	945.200	100.000	945.400	100.800	946.000	101.200
GR	945.400	103.000	947.900	105.000	950.900	120.000	956.400	200.000	961.500	250.000
NC	.080	.085	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	18679.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.400	950.400	0.000
NC	.090	.095	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

X1	18989.000	15.000	142.000	160.000	310.000	310.000	310.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.000	950.000	0.000
GR	967.200	0.000	955.500	27.000	951.700	60.000	950.400	90.000	946.700	114.000
GR	946.500	142.000	945.400	146.000	945.100	151.000	945.400	157.000	946.500	160.000
GR	946.700	260.000	949.100	302.000	953.300	360.000	955.000	382.000	966.200	451.000
NC	.085	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	19019.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	-.500	0.000
X3	0.000	0.000	0.000	149.800	0.000	152.200	0.000	0.000	0.000	0.000
NC	.060	.060	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

X1	19020.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	149.800	0.000	152.200	0.000	0.000	0.000	0.000
SB	0.000	3.610	2.850	0.000	2.100	0.000	4.410	0.000	944.600	944.600

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

X1	19059.000	31.000	798.800	801.200	39.000	39.000	39.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	946.700	948.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	600.000	0.000	900.000	0.000	948.400	948.400	0.000
BT	13.000	600.000	955.500	0.000	700.000	950.700	0.000	750.000	948.900	0.000
BT	798.800	948.800	0.000	798.800	948.800	945.000	798.800	948.800	945.900	799.200
BT	948.800	946.500	800.000	948.800	946.700	800.800	948.800	946.500	801.200	948.800
BT	945.900	801.200	948.800	945.000	801.200	948.800	0.000	900.000	948.500	0.000
GR	956.800	0.000	957.200	100.000	954.200	200.000	949.200	300.000	948.400	355.000
GR	955.000	500.000	957.600	555.000	949.000	700.000	948.100	750.000	947.000	790.000
GR	944.800	793.000	944.800	798.000	945.000	798.800	944.600	799.000	944.600	799.200
GR	9[illegible].600	800.000	94[illegible].600	[illegible]0.000	9[illegible].600	[illegible]01.000	9[illegible].000	801.[illegible]00	9[illegible].400	80[illegible].000

GR	94[illegible].500	827.000	946.800	830.000	94[illegible].500	881.000	[illegible]48.500	900.000	94[illegible].400	1000.000
GR	949.800	1100.000	950.200	1200.000	950.300	1300.000	950.400	1400.000	951.400	1500.000
GR	950.800	1600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.080	.080	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19060.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.400	948.400	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**************************************************

T1      5850-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP, PM = DICK ZANOTTI
T2      100-YEAR FLOOD
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       4.        0.        0.    .000700      0.00      0.0       0.    922.500     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 3

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 200.0 TYPE= 1 TARGET= 199.999

825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5 SEC. A

5749.00	3.88	921.88	0.00	922.50	921.90	.02	0.00	0.00	919.20
265.	27.	191.	47.	40.	151.	77.	0.	0.	919.10
0.00	.67	1.27	.61	.095	.060	.095	0.000	918.00	33.19
.000701	0.	0.	0.	0	0	5	0.00	112.09	145.28

1490 NH CARD USED
*SECNO 6349.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 923.00 ELREA= 921.60

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9 SEC. B

6349.00	1.72	922.92	0.00	0.00	922.96	.04	1.05	.01	923.00
265.	0.	213.	52.	0.	124.	43.	3.	2.	921.60
.10	0.00	1.73	1.19	.095	.089	.095	.040	921.20	702.85
.009975	600.	600.	600.	3	0	0	0.00	197.80	900.65

1490 NH CARD USED
*SECNO 6599.000

6599.00	2.36	923.76	0.00	0.00	923.77	.01	.80	.01	923.20
265.	2.	198.	65.	7.	210.	94.	4.	3.	921.80
.18	.26	.94	.69	.095	.086	.095	.040	921.40	676.38
.001556	250.	250.	250.	3	0	0	0.00	250.80	927.17

*SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6600.00	2.36	923.76	0.00	0.00	923.77	.01	.00	.00	923.20
265.	2.	198.	65.	7.	211.	94.	4.	3.	921.80
.18	.26	.94	.69	.095	.086	.095	.040	921.40	676.15
.001537	1.	1.	1.	0	0	0	0.00	251.25	927.39

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.32	3.02	0.00	3.93	0.00	11.78	0.00	921.40	921.40

*SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
949.85	933.69	0.00	152.	115.	12.	12.	924.40	928.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.16	928.56	0.00	0.00	928.66	.11	4.90	0.00	922.30
265.	62.	129.	73.	257.	34.	323.	5.	4.	922.30
.19	.24	3.76	.23	.200	.020	.200	.039	921.40	808.41
.000221	59.	59.	59.	2	0	10	0.00	307.31	1115.72

*SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	928.70	.01	.00	.03	922.30
265.	101.	43.	121.	269.	35.	352.	5.	4.	922.30
.19	.38	1.22	.34	.095	.045	.095	.039	921.40	806.34
.000116	6.	6.	6.	2	0	0	0.00	322.72	1129.07

*SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.26	.04	.55	.02	928.90
265.	131.	52. ch	81. R	119.	19.	90.	20.	15.	929.10
.50	1.11 L	2.79	.90	.097	.048	.097	.045	927.50	1081.24
.006750	1500.	1565.	1520.	3	0	0	0.00	317.69	1398.93

*SECNO 9730.000

3470 ENCROACHMENT STATIONS= .0 990.0 TYPE= 1 TARGET= 989.999

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.66	931.46	0.00	0.00	931.46	.00	2.19	.01	931.30
150.	0.	4.	146.	0.	8.	435.	32.	27.	931.10
1.73	.05	.48	.34	.098	.055	.098	.049	929.80	586.66
.000385	1500.	1500.	1500.	5	0	0	0.00	403.34	990.00

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 900.0 1700.0 TYPE= 1 TARGET= 800.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.08	931.68	0.00	0.00	931.68	.00	.22	.00	931.00
150.	111.	4.	35.	527.	12.	190.	45.	38.	931.00
3.06	.21	.34	.19	.110	.060	.110	.051	929.60	900.00
.000143	1000.	1000.	1000.	4	0	0	0.00	560.71	1460.71

*SECNO 12250.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XLOB	XNCH	XROB	T	ELMIN	SST

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
			420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14			SEC. G			
12250.00	2.31	932.21	0.00	0.00	932.23	.03	.54	.01	931.10
150.	45.	68.	38.	79.	36.	73.	61.	52.	931.20
3.43	.57	1.90	.52	.098	.052	.099	.051	929.90	268.12
.001945	1520.	1520.	1520.	2	0	0	0.00	243.20	511.32
*SECNO 12355.000									
12355.00	1.78	932.58	0.00	0.00	932.69	.11	.42	.04	931.80
150.	8.	84.	58.	9.	24.	59.	62.	53.	931.80
3.44	.82	3.48	.98	.110	.060	.110	.052	930.80	452.92
.012163	105.	105.	105.	3	0	0	0.00	168.96	621.88
*SECNO 12460.000									
12460.00	1.54	933.24	0.00	0.00	933.24	.00	.52	.03	932.50
32.	1.	13.	18.	5.	18.	73.	62.	53.	932.50
3.51	.18	.75	.24	.110	.060	.110	.052	931.70	574.40
.000672	105.	105.	105.	1	0	0	0.00	163.77	738.18
*SECNO 12565.000									
			MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP						
12565.00	.81	933.41	0.00	0.00	933.48	.07	.20	.03	933.10
32.	0.	19.	12.	1.	7.	19.	62.	54.	933.10
3.52	.58	2.66	.66	.110	.060	.110	.052	932.60	687.07
.021675	105.	105.	105.	2	0	0	0.00	133.30	820.37
*SECNO 12670.000									
3470 ENCROACHMENT STATIONS=		.0	931.0	TYPE=	1	TARGET=	930.999		
12670.00	.79	934.29	0.00	0.00	934.29	.01	.80	.02	933.90
32.	2.	6.	24.	5.	6.	52.	62.	54.	933.80
3.57	.40	1.11	.46	.110	.060	.110	.052	933.50	778.53
.003827	105.	105.	105.	5	0	0	0.00	152.47	931.00
*SECNO 12671.000									
SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=		.0	931.0	TYPE=	1	TARGET=	930.999		
			D/S FACE OF HAGGERTY ROAD CULVERT, BS#15			SEC. H			
12671.00	.77	934.27	0.00	0.00	934.31	.04	.00	.02	933.90
32.	2.	13.	18.	5.	5.	49.	62.	54.	933.80
3.57	.31	2.39	.36	.100	.020	.100	.052	933.50	778.63
.002068	1.	1.	1.	2	0	0	0.00	152.37	931.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	5.91	3.03	0.00	1.64	0.00	1.97	0.00	933.50	933.50

*SECNO 12716.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
958.49	940.91	0.00	24.	8.	2.	2.	934.80	935.50

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12716.00	2.39	935.89	0.00	0.00	935.90	.01	1.59	0.00	933.50
32.	4.	7.	21.	21.	5.	116.	62.	54.	933.50
3.60	.19	1.49	.18	.100	.020	.100	.052	933.50	770.95
.000125	45.	45.	45.	0	0	12	0.00	159.98	930.93

*SECNO 12720.000

12720.00	2.40	935.90	0.00	0.00	935.90	.00	.00	.00	933.50
32.	5.	3.	24.	21.	5.	116.	62.	54.	933.50
3.60	.22	.59	.21	.098	.058	.098	.052	933.50	771.04
.000167	4.	4.	4.	0	0	0	0.00	159.60	930.64

*SECNO 12912.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

12912.00	1.84	935.94	0.00	0.00	935.94	.00	.03	.00	935.00
32.	13.	16.	4.	60.	31.	22.	63.	55.	935.00
3.74	.21	.51	.18	.098	.058	.098	.052	934.10	291.94
.000212	175.	192.	175.	0	0	0	0.00	118.03	409.98

*SECNO 13017.000

13017.00	1.37	935.97	0.00	0.00	936.00	.02	.05	.01	935.60
32.	1.	27.	4.	5.	21.	9.	63.	55.	935.40
3.77	.24	1.30	.38	.095	.052	.090	.052	934.60	379.44
.001777	75.	105.	125.	1	0	0	0.00	69.36	448.80

*SECNO 13122.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
13122.00	1.06	936.26	0.00	0.00	936.31	.05	.30	.01	936.30
32.	0.	28.	4.	0.	15.	6.	63.	55.	935.80
3.79	0.00	1.83	.57	.095	.052	.090	.052	935.20	452.11
.005083	75.	105.	125.	2	0	0	0.00	38.55	490.67

*SECNO 13227.000

13227.00	1.01	936.81	0.00	0.00	936.85	.04	.54	.00	937.00
32.	0.	26.	6.	0.	15.	9.	63.	55.	936.20
3.80	0.00	1.78	.70	.095	.052	.090	.052	935.80	499.46
.004892	75.	105.	125.	2	0	0	0.00	37.92	537.38

*SECNO 13332.00

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3470 ENCROACHMENT STATIONS=      540.0      570.0  TYPE=      1  TARGET=       30.000

          615' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#17          SEC. J

 13332.00      .99   937.39     0.00     0.00   937.44      .05      .59      .01   937.70
      32.       0.      27.       5.       0.      13.       5.      63.      55.    936.60
     3.82     0.00     1.99      .99     .095     .052     .090     .052   936.40   547.19
  .006042      75.     105.     125.        1        0        0     0.00    22.81   570.00


*SECNO 13374.000

3470 ENCROACHMENT STATIONS=      552.0      560.0  TYPE=      1  TARGET=        8.000
 13374.00     1.40   937.63     0.00     0.00   937.76      .13      .28      .04100000.00
      32.       0.      32.       0.       0.      11.       0.      63.      55. 100000.00
     3.83     0.00     2.87     0.00     .080     .045     .080     .052   936.23   552.00
  .007211      42.      42.      42.        1        0        0     0.00     8.00   560.00


*SECNO 13382.000

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       945.00 ELREA=       945.00

 13382.00     1.67   937.87   937.87     0.00   938.51      .64      .11      .25   937.50
      32.       0.      32.       0.       0.       5.       0.      63.      55.    937.50
     3.83     0.00     6.41     0.00     .080     .045     .080     .052   936.20   798.00
  .040810       8.       8.       8.       20       11        0     0.00     4.00   802.00


*SECNO 13383.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD=  945.40 MAX ELLC=  940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       945.00 ELREA=       945.00

          D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18                   SEC. K

 13383.00     2.01   938.21     0.00     0.00   938.61      .39      .02      .07   937.50
      32.       0.      32.       0.       0.       6.       0.      63.      55.    937.50
     3.83     0.00     5.04     0.00     .070     .040     .070     .052   936.20   798.00
  .015540       1.       1.       1.        5        0        0    -1.11     4.00   802.00


*SECNO 13473.000
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3370 NORMAL BRIDGE,NRD= 21 MIN ELT.D= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.40 ELREA= 949.20

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13473.00	3.03	939.23	0.00	0.00	939.38	.15	.70	.07	937.50
32.	0.	32.	0.	0.	10.	0.	63.	55.	937.50
3.83	0.00	3.12	0.00	.070	.040	.070	.052	936.20	798.00
.004668	90.	90.	90.	5	0	0	-2.63	4.00	802.00

*SECNO 13474.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.20 ELREA= 949.20

13474.00	3.04	939.24	0.00	0.00	939.39	.15	.00	.00	937.50
32.	0.	32.	0.	0.	10.	0.	63.	55.	937.50
3.83	0.00	3.06	0.00	.090	.048	.095	.052	936.20	798.00
.005213	1.	1.	1.	0	0	0	0.00	4.00	802.00

*SECNO 14034.000

3470 ENCROACHMENT STATIONS= 670.0 1200.0 TYPE= 1 TARGET= -670.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

14034.00	3.50	939.50	0.00	0.00	939.50	.00	.07	.04	936.70
240.	149.	38.	53.	549.	59.	199.	69.	58.	936.70
4.33	.27	.64	.26	.100	.050	.100	.051	936.00	670.00
.000096	700.	560.	420.	3	0	0	0.00	314.50	984.50

1490 NH CARD USED
*SECNO 14674.000

3470 ENCROACHMENT STATIONS= 320.0 636.0 TYPE= 1 TARGET= -320.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

14674.00	2.96	939.56	0.00	0.00	939.56	.00	.06	.00100000.00	
240.	0.	240.	0.	0.	685.	0.	80.	62.	100000.00
4.84	0.00	.35	0.00	.100	.075	.100	.051	936.60	320.00
.000105	630.	640.	640.	3	0	0	0.00	261.14	581.14

*SECNO 15359.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 165.0 240.0 TYPE= 1 TARGET= 75.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

15359.00	1.83	939.63	0.00	0.00	939.63	.00	.07	.00	938.80
2.	0.	2.	0.	4.	22.	8.	86.	64.	938.60
7.85	.02	.07	.02	.090	.065	.100	.052	937.80	165.00
.000006	600.	685.	750.	0	0	0	0.00	56.84	221.84

*SECNO 15469.000

3470 ENCROACHMENT STATIONS= 190.0 210.0 TYPE= 1 TARGET= 20.000

351' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24 SEC. O

15469.00	2.23	939.63	0.00	0.00	939.63	.00	.00	.00	100000.00	
2.	0.	2.	0.	0.	44.	0.	86.	64.	100000.00	
8.61	0.00	.04	0.00	.100	.060	.100	.052	937.40	190.00	
.000001	110.	110.	110.	0	0	0	0.00	20.00	210.00	

*SECNO 15504.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

15504.00	.93	939.63	0.00	0.00	939.64	.01	.00	.00	938.70
2.	0.	2.	0.	0.	2.	0.	86.	64.	938.80
8.62	0.00	.78	0.00	.100	.060	.100	.052	938.70	398.80
.01470	35.	35.	35.	0	0	0	0.00	2.50	401.30

*SECNO 15505.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

D/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15505.00	.93	939.63	0.00	0.00	939.64	.01	.00	.00	938.70
2.	0.	2.	0.	0.	2.	0.	86.	64.	938.80
8.62	0.00	.78	0.00	.050	.020	.050	.052	938.70	398.80
.000165	1.	1.	1.	0	0	0	0.00	2.50	401.30

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	7.99	2.82	0.00	.98	0.00	.44	0.00	937.80	938.70

*SECNO 15537.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
941.71	938.74	0.00	0.	2.	0.	0.	938.10	945.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.30 ELREA= 945.30

U/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15537.00	3.91	941.71	0.00	0.00	941.71	.00	2.07	0.00	937.80
2.	0.	2.	0.	0.	10.	0.	86.	64.	937.90
8.67	0.00	.18	0.00	.050	.020	.050	.052	937.80	398.80
.000003	32.	32.	32.	0	0	0	0.00	2.50	401.30

*SECNO 15538.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TOA	LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.30 ELREA= 945.30

15538.00	3.91	941.71	0.00	0.00	941.71	.00	.00	.00	937.80
2.	0.	2.	0.	0.	10.	0.	86.	64.	937.90
8.67	0.00	.18	0.00	.100	.050	.100	.052	937.80	398.80
.000020	1.	1.	1.	0	0	0	0.00	2.50	401.30

1490 NH CARD USED
*SECNO 16438.000

3470 ENCROACHMENT STATIONS= 320.0 560.0 TYPE= 1 TARGET= 300.000

900' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#26 SEC. Q

16438.00	6.11	941.71	0.00	0.00	941.71	.00	.01	.00100000.00	
180.	0.	180.	0.	0.	1355.	0.	100.	67.	100000.00
10.55	0.00	.13	0.00	.100	.060	.100	.052	935.60	320.00
.000007	800.	900.	1000.	0	0	0	0.00	240.00	560.00

1490 NH CARD USED
*SECNO 17468.000

3470 ENCROACHMENT STATIONS= 195.0 400.0 TYPE= 1 TARGET= 205.000

1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27 SEC. R

17468.00	2.02	941.72	0.00	0.00	941.73	.00	.01	.00	940.70
90.	1.	89.	0.	6.	345.	0.	120.	72.	100000.00
11.67	.15	.26	0.00	.095	.095	.100	.052	939.70	195.00
.000096	1250.	1030.	800.	0	0	0	0.00	205.00	400.00

*SECNO 17583.000

3470 ENCROACHMENT STATIONS= 255.0 450.0 TYPE= 1 TARGET= 195.000

17583.00	1.24	941.74	0.00	0.00	941.74	.00	.02	.00	940.50
90.	2.	87.	1.	10.	220.	5.	121.	73.	940.50
11.75	.23	.39	.23	.100	.065	.095	.052	940.50	255.00
.000233	125.	115.	110.	0	0	0	0.00	195.00	450.00

*SECNO 17640.000

3470 ENCROACHMENT STATIONS= 270.0 435.0 TYPE= 1 TARGET= 165.000

17640.00	.86	941.76	0.00	0.00	941.77	.01	.02	.00100000.00	
90.	0.	90.	0.	0.	137.	0.	121.	73.	100000.00
11.77	0.00	.66	0.00	.100	.065	.095	.052	940.90	270.00
.001082	65.	57.	55.	1	0	0	0.00	165.00	435.00

*SECNO 17698.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 195.0 330.0 TYPE= 1 TARGET= 135.000

17698.00	.58	941.88	0.00	0.00	941.91	.02	.13	.01100000.00	
90.	0.	90.	0.	0.	73.	0.	121.	73. 100000.00	
11.78	0.00	1.23	0.00	.100	.065	.095	.052	941.30	195.00
.006689	65.	58.	55.	2	0	0	0.00	135.00	330.00

*SECNO 17755.000

3470 ENCROACHMENT STATIONS= 210.0 315.0 TYPE= 1 TARGET= 105.000

17755.00	.60	942.30	0.00	0.00	942.33	.03	.42	.00100000.00	
90.	0.	90.	0.	0.	62.	0.	121.	73. 100000.00	
11.80	0.00	1.45	0.00	.100	.065	.095	.052	941.70	210.00
.008284	65.	57.	55.	2	0	0	0.00	105.00	315.00

*SECNO 17813.000

3470 ENCROACHMENT STATIONS= 155.0 232.0 TYPE= 1 TARGET= 77.000

17813.00	.73	942.83	0.00	0.00	942.87	.05	.53	.01	942.30
90.	1.	87.	1.	2.	49.	2.	121.	73.	942.30
11.80	.88	1.80	.91	.100	.065	.095	.052	942.10	155.00
.010238	65.	58.	55.	2	0	0	0.00	77.00	232.00

*SECNO 17870.000

3470 ENCROACHMENT STATIONS= 170.0 218.0 TYPE= 1 TARGET= 48.000

17870.00	.90	943.40	0.00	0.00	943.47	.07	.58	.01100000.00	
90.	0.	90.	0.	0.	43.	0.	121.	74. 100000.00	
11.81	0.00	2.10	0.00	.100	.065	.095	.052	942.50	170.00
.010233	65.	57.	55.	1	0	0	0.00	48.00	218.00

1490 NH CARD USED
*SECNO 17928.000

740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28 SEC. S

17928.00	1.28	944.28	944.27	0.00	944.74	.47	1.08	.20	944.30
90.	0.	90.	0.	0.	16.	0.	121.	74.	944.10
11.82	0.00	5.47	.03	.085	.055	.090	.052	943.00	124.07
.043723	65.	58.	55.	4	11	0	0.00	17.98	142.06

*SECNO 18328.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29 SEC. T

18328.00	3.38	947.38	0.00	0.00	947.50	.12	2.65	.10	946.30
90.	1.	87.	2.	2.	31.	5.	122.	74.	946.70
11.86	.54	2.80	.41	.090	.045	.090	.052	944.00	70.70
.002551	350.	400.	430.	6	0	0	0.00	32.35	103.05

*SECNO 18638.000

3470 ENCROACHMENT STATIONS= 117.0 135.0 TYPE= 1 TARGET= 18.000

30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30 SEC. U

1.638.00	2.47	947.77	0.00	0.00	947.78	.00	.24	.03100000.00	
8.	0.	8.	0.	0.	34.	0.	122.	74.	100000.00
12.22	0.00	.24	0.00	.085	.042	.085	.052	945.30	117.00
.000022	410.	310.	210.	4	0	0	0.00	17.71	134.71

*SECNO 18668.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

18668.00	1.97	947.77	0.00	0.00	947.78	.01	.00	.00	945.80
8.	0.	8.	0.	0.	11.	0.	122.	74.	946.70
12.23	0.00	.70	0.00	.080	.040	.080	.052	945.80	97.00
.000235	30.	30.	30.	2	0	0	0.00	7.00	104.00

*SECNO 18669.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18669.00	1.97	947.77	0.00	0.00	947.78	.01	.00	.00	945.80
8.	0.	8.	0.	0.	11.	0.	122.	74.	946.70
12.23	0.00	.70	0.00	.050	.024	.050	.052	945.80	97.00
.000084	1.	1.	1.	0	0	0	0.00	7.00	104.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.78	3.02	0.00	1.96	0.00	4.91	0.00	945.20	945.80

*SECNO 18678.000

PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
947.85	947.23	0.00	0.	8.	5.	4.	947.20	950.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18678.00	2.62	947.82	0.00	0.00	947.85	.03	.07	0.00	946.00
8.	0.	8.	0.	0.	6.	0.	122.	74.	946.00
12.23	0.00	1.40	0.00	.050	.024	.050	.052	945.20	98.80
.000406	9.	9.	9.	2	0	0	0.00	2.40	101.20

*SECNO 18679.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

18679.00	2.62	947.82	0.00	0.00	947.85	.03	.00	.00	946.00	
8.	0.	8.	0.	0.	6.	0.	122.	74.	946.00	
12.23	0.00	1.40	0.00	.080	.042	.085	.052	945.20	98.80	
.001244	1.	1.	1.	0	0	0	0.00	2.40	101.20	

*SECNO 18989.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 950.00 ELREA= 950.00

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

18989.00	2.77	947.87	0.00	0.00	947.87	.00	.01	.01	946.50
8.	0.	8.	0.	0.	42.	0.	122.	74.	946.50
12.69	0.00	.19	0.00	.090	.047	.095	.052	945.10	142.00
.000012	310.	310.	310.	2	0	0	0.00	18.00	160.00

*SECNO 19019.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

19019.00	3.26	947.86	0.00	0.00	947.88	.02	.00	.01100000.00	
8.	0.	8.	0.	0.	8.	0.	122.	74. 100000.00	
12.69	0.00	1.03	0.00	.085	.045	.090	.052	944.60	149.80
.001159	30.	30.	30.	2	0	0	0.00	2.40	152.20

*SECNO 19020.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19020.00	3.26	947.86	0.00	0.00	947.88	.02	.00	.00100000.00	
8.	0.	8.	0.	0.	8.	0.	122.	74. 100000.00	
12.69	0.00	1.03	0.00	.060	.045	.060	.052	944.60	149.80
.001158	1.	1.	1.	0	0	0	0.00	2.40	152.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.61	2.85	0.00	2.10	0.00	4.41	0.00	944.60	944.60

*SECNO 19059.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRO
948.05	947.88	0.00	0.	8.	4.	4.	946.70	948.40

3470 ENCROACHMENT STATIONS= 600.0 900.0 TYPE= 1 TARGET= 300.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.40 ELREA= - 948.40

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19059.00	3.43	948.03	0.00	0.00	948.05	.01	.17	0.00	945.00
8.	0.	8.	0.	0.	8.	0.	122.	74.	945.00
12.71	0.00	.9[illegible]	0.00	.060	.0 5	.[illegible]60	.052	9[illegible].6	79[illegible]

.000568	3.	39.	39.	1	0	0	0.00	2.40	01.20

*SECNO 19060.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.40 ELREA= 948.40

19060.00	3.43	948.03	0.00	0.00	948.05	.01	.00	.00	945.00
8.	0.	8.	0.	0.	8.	0.	122.	74.	945.00
12.71	0.00	.98	0.00	.080	.047	.080	.052	944.60	798.80
.000622	1.	1.	1.	0	0	0	0.00	2.40	801.20

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW. PLEASANT & CARUS LAKES

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
 ERROR CORR -  01,02
 MODIFICATION -  50,51,52,53
**************************************************

C
T1      5850-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP
T2      100-YEAR FLOOD        NATURAL RUN
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      D          WSEL       FQ
       -1.        4.         0.         0.   .000700       0.00       0.0        0.    922.500      0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE
     -1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
     38.000     39.000     40.000     41.000     42.000     43.000      1.000     10.000     11.000     12.000

     25.000      8.000      4.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

NC       .090       .090       .040       .300       .500      0.000      0.000      0.000      0.000      0.000
QT      4.000    175.000    250.000    265.000    320.000      0.000      0.000      0.000      0.000      0.000
NH      6.000       .095     54.000       .075     88.000       .045     95.000       .095    295.000       .085
NH    460.000       .075    580.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5          SEC. A

X1   5749.000     18.000     54.000     98.000      0.000      0.000      0.000      0.000      0.000      0.000
X3      0.000      0.000      0.000      0.000      0.000    200.000      0.000      0.000      0.000      0.000
GR    932.600      0.000    920.000     39.000    919.200     54.000    918.000     57.000    918.000     62.000
GR    919.200     82.000    918.100     88.000    918.000     92.000    918.000     95.000    919.100     98.000
GR    919.300    100.000    920.800    137.000    929.000    200.000    921.700    295.000    920.500    300.000
GR    919.800    400.000    920.500    460.000    925.800    580.000      0.000      0.000      0.000      0.000
NH      3.000       .095    744.000       .050    755.000       .095   1400.000      0.000      0.000      0.000

          250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9            SEC. B

X1   6349.000     25.000    700.000    835.000    600.000    600.000    600.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
GR    931.900      0.000    935.600     78.000    935.100    100.000    934.000    200.000    932.400    300.000
GR    933.900    400.000    933.300    500.000    930.200    600.000    924.600    632.000    923.000    700.000
GR    921.700    744.000    921.200    748.000    922.300    755.000    922.200    800.000    921.200    805.000
GR    921.300    815.000    921.200    825.000    921.600    835.000    922.900    900.000    925.000    987.000
GR    927.700   1010.000    926.200   1100.000    925.400   1200.000    929.100   1270.000    934.700   1400.000
NH      3.000       .095    744.000       .045    755.000       .095   1400.000      0.000      0.000      0.000

X1   6599.000      0.000      0.000      0.000    250.000    250.000    250.000      0.000       .200      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          D/S FACE OF WELCH ROAD CULVERT, BS#10                        SEC. C
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X1	660 .00	0.000	0. 00	0.000	1.00	1. 00	1. 0	0 000	.00	.
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.200	.200	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	3.320	3.020	0.000	3.930	0.000	11.780	0.000	921.400	921.400

U/S FACE OF WELCH ROAD CULVERT, BS#10 — SEC. C

X1	6659.000	30.000	897.500	902.500	59.000	59.000	59.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	924.400	928.100	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	928.100	928.100	0.000
BT	28.000	0.000	933.500	0.000	100.000	932.800	0.000	200.000	932.400	0.000
BT	300.000	932.000	0.000	400.000	931.400	0.000	500.000	930.800	0.000	600.000
BT	930.300	0.000	700.000	929.800	0.000	800.000	929.100	0.000	897.500	928.500
BT	0.000	897.500	928.500	922.300	897.500	928.500	923.400	898.400	928.500	924.200
BT	900.000	928.500	924.400	901.600	928.500	924.200	902.500	928.500	923.400	902.500
BT	928.500	922.300	902.500	928.500	0.000	1000.000	928.100	0.000	1100.000	928.400
BT	0.000	1200.000	929.400	0.000	1300.000	930.600	0.000	1400.000	932.400	0.000
BT	1500.000	933.900	0.000	1600.000	935.300	0.000	1700.000	936.900	0.000	1800.000
BT	938.500	0.000	1900.000	940.200	0.000	0.000	0.000	0.000	0.000	0.000
GR	933.500	0.000	932.800	100.000	932.400	200.000	932.000	300.000	931.400	400.000
GR	930.800	500.000	930.300	600.000	929.800	700.000	929.100	800.000	924.000	879.000
GR	923.100	892.000	923.000	896.000	922.300	897.500	921.600	898.400	921.400	900.000
GR	921.600	901.600	922.300	902.500	923.300	904.000	924.100	920.000	924.600	934.000
GR	928.100	1000.000	928.400	1100.000	929.400	1200.000	930.600	1300.000	932.400	1400.000
GR	933.900	1500.000	935.300	1600.000	936.900	1700.000	938.500	1800.000	940.200	1900.000
NC	.095	.095	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6665.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
NC	.097	.097	.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 — SEC. D

X1	8230.000	28.000	1234.000	1250.000	1500.000	1520.000	1565.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	929.400	0.000	927.100	50.000	927.200	100.000	927.900	150.000	929.800	200.000
GR	931.200	300.000	933.200	400.000	935.200	500.000	934.200	600.000	932.100	700.000
GR	931.700	800.000	931.200	900.000	931.500	1000.000	928.700	1100.000	928.000	1200.000
GR	928.900	1234.000	927.600	1238.000	927.500	1242.000	927.900	1245.000	929.100	1250.000
GR	928.100	1350.000	930.400	1450.000	932.800	1550.000	936.500	1650.000	934.800	1750.000
GR	934.200	1850.000	934.300	1950.000	938.400	2050.000	0.000	0.000	0.000	0.000
NC	.098	.098	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	90.000	140.000	150.000	190.000	0.000	0.000	0.000	0.000	0.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 — SEC. E

X1	9730.000	19.000	591.000	600.000	1500.000	1500.000	1500.000	0.000	0.000	0.000
GR	940.800	0.000	935.400	100.000	936.800	200.000	941.300	315.000	939.300	400.000
GR	934.400	500.000	931.300	591.000	930.600	593.000	930.300	595.000	930.300	598.000
GR	931.100	600.000	930.600	700.000	930.100	800.000	929.800	900.000	930.600	1000.000
GR	930.900	1100.000	933.000	1170.000	941.400	1277.000	943.300	1400.000	0.000	0.000
NC	.110	.110	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 — SEC. F

X1	10730.000	32.000	1291.000	1300.000	1000.000	1000.000	1000.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	870.000	0.000	1700.000	0.000	0.000	0.000	0.000
GR	938.300	0.000	938.600	100.000	932.700	123.000	930.200	200.000	930.500	300.000
GR	930.300	400.000	930.300	500.000	929.900	600.000	929.900	700.000	929.800	800.000
GR	929.600	900.000	930.000	1000.000	930.000	1100.000	931.100	1200.000	931.000	1291.000
GR	930.200	1294.000	930.000	1296.000	930.300	1298.000	931.000	1300.000	930.000	1400.000
GR	930.400	1439.000	934.000	1500.000	938.300	1568.000	936.700	1600.000	937.300	1700.000

GR	951.5 0	1800.000	950.900	1900.000	951.300	1950.000	95..300	2000.000	95?.300	205.000
GR	941.000	2100.000	941.800	2150.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.098	.099	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000

420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14 SEC. 6

X1	12250.000	21.000	381.000	400.000	1520.000	1520.000	1520.000	0.000	0.000	0.000
GR	941.400	0.000	941.300	12.000	940.000	100.000	940.000	113.000	937.300	141.000
GR	935.100	180.000	933.500	200.000	931.600	300.000	931.100	381.000	930.200	385.000
GR	930.100	391.000	929.900	395.000	931.200	400.000	931.800	500.000	933.700	553.000
GR	932.400	600.000	933.300	650.000	935.500	700.000	939.600	777.000	939.100	800.000
GR	938.600	900.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.110	.110	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	12355.000	90.000	484.500	501.000	105.000	105.000	105.000	0.000	0.000	0.000
GR	942.800	0.000	942.500	16.700	942.300	33.400	942.100	50.100	941.900	66.800
GR	941.700	83.500	941.600	100.200	941.400	116.900	941.300	133.600	940.900	150.300
GR	939.900	167.000	939.000	183.700	938.400	200.400	937.900	217.100	937.200	233.800
GR	936.400	250.600	936.000	267.300	935.800	284.000	935.600	300.700	935.400	317.400
GR	935.200	334.100	934.800	350.800	934.300	367.500	933.800	384.200	933.400	400.900
GR	933.200	417.600	932.900	434.300	932.600	451.000	932.400	467.700	931.800	484.500
GR	931.600	485.000	931.500	485.500	931.400	486.100	931.300	486.600	931.200	487.200
GR	931.100	487.700	931.000	488.300	931.000	488.800	931.000	489.400	931.000	489.900
GR	931.000	490.500	931.000	491.000	930.900	491.600	930.900	492.100	930.900	492.700
GR	930.900	493.200	930.900	493.800	930.900	494.300	930.800	494.900	930.800	495.400
GR	930.800	496.000	930.800	496.500	930.900	497.100	931.000	497.600	931.200	498.200
GR	931.300	498.700	931.400	499.300	931.500	499.800	931.700	500.400	931.800	501.000
GR	931.900	519.700	932.000	538.400	932.100	557.100	932.100	575.800	932.200	594.500
GR	932.300	613.200	932.900	632.000	933.500	650.700	934.100	669.400	934.000	688.100
GR	933.700	706.800	933.400	725.500	933.700	744.300	934.000	763.000	934.300	781.700
GR	935.000	800.400	935.600	819.100	936.200	837.800	936.900	856.600	937.600	875.300
GR	938.400	894.000	939.100	912.700	939.500	931.400	939.300	950.100	939.300	968.900
GR	939.300	987.600	939.300	1006.300	939.300	1025.000	939.300	1043.700	939.300	1062.500
QT	4.000	18.000	30.000	32.000	41.000	0.000	0.000	0.000	0.000	0.000

X1	12460.000	90.000	588.000	602.000	105.000	105.000	105.000	0.000	0.000	0.000
GR	944.200	0.000	943.700	20.200	943.500	40.500	943.300	60.800	943.200	81.100
GR	943.000	101.300	942.900	121.600	942.700	141.900	942.600	162.200	942.300	182.400
GR	941.600	202.700	941.000	223.000	940.600	243.300	940.100	263.500	939.700	283.800
GR	939.100	304.100	938.800	324.400	938.700	344.600	938.500	364.900	938.300	385.200
GR	938.100	405.500	937.500	425.700	936.800	446.000	936.000	466.300	935.400	486.600
GR	935.000	506.800	934.500	527.100	934.000	547.400	933.600	567.700	932.500	588.000
GR	932.400	588.400	932.300	588.900	932.200	589.300	932.100	589.800	932.000	590.300
GR	932.000	590.700	931.900	591.200	931.900	591.700	931.900	592.100	931.900	592.600
GR	931.800	593.100	931.800	593.500	931.800	594.000	931.800	594.500	931.800	594.900
GR	931.800	595.400	931.700	595.900	931.700	596.300	931.700	596.800	931.700	597.300
GR	931.700	597.700	931.700	598.200	931.800	598.700	931.900	599.100	932.000	599.600
GR	932.100	600.100	932.200	600.500	932.300	601.000	932.400	601.500	932.500	602.000
GR	932.500	622.700	932.600	643.500	932.700	664.200	932.700	685.000	932.800	705.800
GR	932.900	726.500	933.500	747.300	934.000	768.100	934.600	788.800	934.700	809.600
GR	934.600	830.400	934.500	851.100	934.800	871.900	935.100	892.700	935.400	913.400
GR	935.900	934.200	936.400	955.000	936.900	975.700	937.500	996.500	938.100	1017.300
GR	938.600	1038.000	939.200	1058.800	939.600	1079.600	939.500	1100.300	939.600	1121.100
GR	939.700	1141.900	939.800	1162.600	939.900	1183.400	940.000	1204.200	940.100	1225.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP

X1	12565.000	90.000	691.500	703.000	105.000	105.000	105.000	0.000	0.000	0.000
GR	945.600	0.000	945.000	23.800	944.700	47.600	944.600	71.500	944.400	95.300
GR	944.300	119.200	944.200	143.000	944.000	166.900	943.900	190.700	943.700	214.600
GR	943.300	238.400	943.000	262.200	942.700	286.100	942.400	309.900	942.100	333.800
GR	941.800	357.600	941.600	381.500	941.500	405.300	941.300	429.200	941.200	453.000

GR	936.800	596.100	936.100	619.900	935.500	643.800	934.800	667.600	933.100	691.500
GR	933.100	691.800	933.000	692.200	933.000	692.600	932.900	693.000	932.900	693.400
GR	932.800	693.700	932.800	694.100	932.800	694.500	932.800	694.900	932.700	695.300
GR	932.700	695.700	932.700	696.000	932.700	696.400	932.700	696.800	932.600	697.200
GR	932.600	697.600	932.600	698.000	932.600	698.300	932.600	698.700	932.600	699.100
GR	932.600	699.500	932.600	699.900	932.700	700.300	932.800	700.600	932.800	701.000
GR	932.900	701.400	932.900	701.800	933.000	702.200	933.000	702.600	933.100	703.000
GR	933.200	725.800	933.200	748.600	933.300	771.400	933.300	794.200	933.400	817.000
GR	933.500	839.800	934.000	862.700	934.600	885.500	935.100	908.300	935.400	931.100
GR	935.500	953.900	935.600	976.700	935.900	999.600	936.200	1022.400	936.500	1045.200
GR	936.900	1068.000	937.300	1090.800	937.700	1113.600	938.100	1136.500	938.500	1159.300
GR	938.900	1182.100	939.300	1204.900	939.600	1227.700	939.700	1250.500	939.900	1273.400
GR	940.100	1296.200	940.300	1319.000	940.500	1341.800	940.700	1364.600	940.900	1387.500
X1	12670.000	15.000	795.000	804.000	105.000	105.000	105.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	931.000	0.000	0.000	0.000	0.000
GR	947.000	0.000	946.000	40.000	944.000	555.000	942.000	600.000	940.000	640.000
GR	936.000	770.000	934.000	780.000	933.900	795.000	933.500	800.000	933.800	804.000
GR	934.000	950.000	936.000	1040.000	938.000	1210.000	940.000	1400.000	941.700	1550.000
NC	.100	.100	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

X1	12671.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	931.000	0.000	0.000	0.000	0.000
SB	0.000	5.910	3.030	0.000	1.640	0.000	1.970	0.000	933.500	933.500

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

X1	12716.000	26.000	799.000	801.000	45.000	45.000	45.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	934.800	935.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	935.500	935.500	0.000
BT	24.000	0.000	949.100	0.000	100.000	947.900	0.000	200.000	945.600	0.000
BT	225.000	946.100	0.000	300.000	945.400	0.000	400.000	945.000	0.000	500.000
BT	945.000	0.000	600.000	941.900	0.000	700.000	938.700	0.000	799.000	936.200
BT	0.000	799.000	936.200	933.500	799.000	936.200	934.400	800.000	936.200	934.800
BT	801.000	936.200	934.400	801.000	936.200	933.500	801.000	936.200	0.000	900.000
BT	935.500	0.000	1000.000	936.800	0.000	1100.000	938.000	0.000	1200.000	939.300
BT	0.000	1300.000	940.700	0.000	1400.000	941.500	0.000	1500.000	942.200	0.000
BT	1600.000	942.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	949.100	0.000	947.900	100.000	945.600	200.000	946.100	225.000	945.400	300.000
GR	945.000	400.000	945.000	500.000	941.900	600.000	938.700	700.000	936.700	750.000
GR	935.100	792.000	933.900	795.000	933.500	799.000	933.500	800.000	933.500	801.000
GR	933.800	804.000	934.600	806.000	934.600	850.000	935.500	900.000	936.800	1000.000
GR	938.000	1100.000	939.300	1200.000	940.700	1300.000	941.500	1400.000	942.200	1500.000
GR	942.500	1600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.098	.098	.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	12720.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	935.500	935.500	0.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

X1	12912.000	20.000	358.000	377.000	175.000	175.000	192.000	0.000	0.000	0.000
GR	945.000	0.000	943.400	77.000	942.900	177.000	942.300	271.000	935.000	295.000
GR	935.000	358.000	934.300	360.000	934.200	364.000	934.100	370.000	934.300	374.000
GR	935.000	377.000	935.300	401.000	942.600	505.000	941.900	577.000	940.300	677.000
GR	940.100	777.000	943.100	877.000	943.600	977.000	943.900	1077.000	943.100	1177.000
NC	.095	.090	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13017.000	90.000	405.000	423.500	75.000	125.000	105.000	0.000	0.000	0.000
GR	945.000	0.000	944.800	13.900	944.500	27.900	944.300	41.800	944.100	55.800
GR	944.000	69.800	943.800	83.700	943.800	97.700	943.900	111.700	943.900	125.600
GR	943.800	139.600	943.800	153.600	943.800	167.500	943.800	181.500	943.700	195.500
GR	943.700	209.400	943.600	223.400	943.500	237.400	943.500	251.300	943.400	265.300
GR	943.300	279.300	943.200	293.200	943.000	307.200	940.200	321.200	937.600	335.100
GR	937.300	349.100	936.500	363.100	936.000	377.000	935.800	391.000	935.600	405.000
GR	935.400	405.600	935.200	406.200	935.000	406.800	934.900	407.400	934.900	408.000
GR	934.800	408.600	934.800	409.300	934.700	409.900	934.700	410.500	934.700	411.100
GR	934.700	411.700	934.700	412.300	934.700	413.000	934.700	413.600	934.700	414.200
GR	934.600	414.800	934.600	415.400	934.600	416.000	934.600	416.700	934.600	417.300
GR	934.700	417.900	934.700	418.500	934.700	419.100	934.700	419.700	934.800	420.400
GR	934.900	421.000	935.000	421.600	935.100	422.200	935.200	422.800	935.400	423.500
GR	935.700	445.000	937.200	466.500	938.600	488.000	940.000	509.600	941.100	531.100
GR	940.900	552.600	940.800	574.200	940.700	595.700	940.500	617.200	940.400	638.800
GR	940.200	660.300	940.200	681.800	940.400	703.400	940.500	724.900	940.600	746.400
GR	941.400	768.000	942.100	789.500	942.900	811.000	943.500	832.600	943.800	854.100
GR	944.000	875.600	944.300	897.200	944.600	918.700	944.800	940.200	945.000	961.800
GR	945.200	983.300	945.300	1004.800	945.300	1026.400	945.300	1047.900	945.300	1069.500

X1	13122.000	90.000	452.000	470.000	75.000	125.000	105.000	0.000	0.000	0.000
GR	945.100	0.000	944.900	15.500	944.600	31.100	944.400	46.700	944.300	62.300
GR	944.300	77.900	944.300	93.500	944.400	109.100	944.500	124.600	944.500	140.200
GR	944.500	155.800	944.600	171.400	944.600	187.000	944.600	202.600	944.600	218.200
GR	944.500	233.700	944.500	249.300	944.400	264.900	944.300	280.500	944.300	296.100
GR	944.200	311.700	944.100	327.300	943.900	342.800	942.000	358.400	940.300	374.000
GR	939.600	389.600	938.100	405.200	937.100	420.800	936.700	436.400	936.300	452.000
GR	936.100	452.600	935.900	453.200	935.700	453.700	935.600	454.300	935.600	454.900
GR	935.500	455.500	935.400	456.100	935.300	456.700	935.300	457.300	935.200	457.900
GR	935.200	458.500	935.200	459.100	935.200	459.700	935.200	460.300	935.200	460.900
GR	935.200	461.500	935.200	462.100	935.200	462.700	935.200	463.300	935.200	463.900
GR	935.200	464.500	935.200	465.100	935.300	465.700	935.300	466.300	935.300	466.900
GR	935.400	467.500	935.500	468.100	935.600	468.700	935.700	469.300	935.800	470.000
GR	936.000	486.400	937.000	502.700	938.000	519.100	939.000	535.500	939.700	551.900
GR	939.600	568.300	939.600	584.700	939.800	601.100	939.900	617.500	940.000	633.900
GR	940.000	650.300	940.300	666.700	940.600	683.100	940.900	699.500	941.100	715.900
GR	941.900	732.300	942.600	748.700	943.300	765.100	944.000	781.500	944.300	797.900
GR	944.700	814.300	945.100	830.700	945.500	847.100	945.900	863.500	946.300	879.900
GR	946.600	896.300	946.900	912.700	947.100	929.100	947.300	945.500	947.600	962.000

X1	13227.000	90.000	499.000	516.500	75.000	125.000	105.000	0.000	0.000	0.000
GR	945.200	0.000	944.900	17.200	944.700	34.400	944.400	51.600	944.400	68.800
GR	944.600	86.000	944.700	103.200	944.900	120.400	945.100	137.600	945.200	154.800
GR	945.300	172.000	945.300	189.200	945.400	206.400	945.400	223.600	945.500	240.800
GR	945.400	258.100	945.400	275.300	945.300	292.500	945.200	309.700	945.200	326.900
GR	945.100	344.100	945.000	361.300	944.900	378.500	943.900	395.700	942.900	412.900
GR	942.000	430.100	939.700	447.300	938.200	464.500	937.600	481.700	937.000	499.000
GR	936.800	499.500	936.600	500.100	936.500	500.700	936.400	501.300	936.200	501.900
GR	936.100	502.400	936.000	503.000	935.900	503.600	935.800	504.200	935.800	504.800
GR	935.800	505.400	935.800	505.900	935.800	506.500	935.800	507.100	935.800	507.700
GR	935.800	508.300	935.800	508.900	935.800	509.400	935.800	510.000	935.800	510.600
GR	935.800	511.200	935.800	511.800	935.800	512.400	935.800	512.900	935.800	513.500
GR	935.900	514.100	936.000	514.700	936.000	515.300	936.100	515.900	936.200	516.500
GR	936.300	527.700	936.900	539.000	937.400	550.200	937.900	561.500	938.300	572.800
GR	938.300	584.000	938.400	595.300	938.800	606.600	939.200	617.800	939.500	629.100
GR	939.900	640.400	940.300	651.600	940.800	662.900	941.200	674.200	941.700	685.400
GR	942.400	696.700	943.000	708.000	943.700	719.200	944.400	730.500	944.900	741.800
GR	945.400	753.000	946.000	764.300	946.500	775.600	947.000	786.800	947.500	798.100
GR	948.000	809.400	948.500	820.600	948.900	831.900	949.400	843.200	949.800	854.500

615' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#17 SEC. J

X1	13382.000	15.000	5.000 0	385.0 0	75.00	125. 00	105. 00	0.000	. 0	0. 0
X3	0.000	0.000	0.000	540.000	0.000	570.000	0.000	0.000	0.000	0.000
GR	945.300	0.000	944.500	63.000	945.900	163.000	946.400	263.000	946.100	363.000
GR	945.600	463.000	939.700	500.000	937.700	546.000	936.400	551.000	936.400	555.000
GR	936.400	560.000	936.600	563.000	937.100	604.000	943.100	663.000	952.100	747.000
NC	.080	.080	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13374.000	0.000	0.000	0.000	42.000	42.000	42.000	0.000	-.170	0.000
X3	0.000	0.000	0.000	552.000	0.000	560.000	0.000	0.000	0.000	0.000

X1	13382.000	21.000	798.000	802.000	8.000	8.000	8.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.000	945.000	0.000
GR	946.100	0.000	945.400	100.000	946.000	200.000	946.300	300.000	946.700	400.000
GR	946.800	500.000	947.200	600.000	942.400	700.000	938.700	795.000	937.100	797.000
GR	937.500	798.000	936.400	799.000	936.200	800.000	936.400	801.000	937.500	802.000
GR	937.100	804.000	938.100	807.000	945.100	900.000	951.100	1000.000	952.100	1100.000
GR	953.100	1200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.070	.070	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

X1	13383.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.000	945.000	0.000
BT	21.000	0.000	946.100	0.000	100.000	945.400	0.000	200.000	946.000	0.000
BT	300.000	946.300	0.000	400.000	946.700	0.000	500.000	946.800	0.000	600.000
BT	947.200	0.000	700.000	948.300	0.000	798.000	949.200	0.000	798.000	949.200
BT	937.500	798.000	949.200	938.900	799.000	949.200	940.000	800.000	949.200	940.200
BT	801.000	949.200	940.000	802.000	949.200	938.900	802.000	949.200	937.500	802.000
BT	949.200	0.000	900.000	950.300	0.000	1000.000	951.100	0.000	1100.000	952.100
BT	0.000	1200.000	953.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

X1	13473.000	0.000	0.000	0.000	90.000	90.000	90.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.400	949.200	0.000
NC	.090	.095	.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13474.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.200	949.200	0.000
NC	.100	.100	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	150.000	225.000	240.000	285.000	0.000	0.000	0.000	0.000	0.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

X1	14034.000	20.000	882.000	900.000	700.000	420.000	560.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	450.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	954.300	0.000	947.800	84.000	946.600	162.000	937.300	300.000	936.800	400.000
GR	936.800	500.000	936.800	600.000	936.800	700.000	937.100	800.000	936.700	882.000
GR	936.100	885.000	936.000	892.000	936.300	897.000	936.700	900.000	937.200	973.000
GR	939.600	985.000	939.900	1000.000	947.900	1061.000	949.000	1100.000	951.700	1200.000
NH	4.000	.100	260.000	.090	500.000	.065	567.000	.095	636.000	0.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

X1	14674.000	12.000	100.000	636.000	630.000	640.000	640.000	0.000	0.000	0.000
GR	950.900	0.000	946.000	100.000	942.800	115.000	939.900	200.000	937.600	260.000
GR	937.300	265.000	936.900	300.000	936.900	400.000	936.600	500.000	937.300	567.000
GR	939.700	582.000	946.700	636.000	0.000	0.000	0.000	0.000	0.000	0.000

C	.000	.700	.065	.000	0.000	0.00	0.00	0.000	0.00	.0
QT	4.000	1.600	1.700	1.800	1.900	0.000	0.000	0.000	0.000	0.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

X1	15359.000	19.000	174.000	189.000	600.000	750.000	685.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	165.000	0.000	240.000	0.000	0.000	0.000	0.000
GR	952.100	0.000	951.200	50.000	945.100	100.000	938.800	174.000	938.000	180.000
GR	937.800	183.000	937.800	185.000	938.600	189.000	939.500	200.000	939.800	250.000
GR	938.400	286.000	937.800	288.000	937.700	294.000	937.600	299.000	938.800	300.000
GR	947.800	400.000	942.600	460.000	946.200	500.000	951.200	550.000	0.000	0.000
NC	.100	.100	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

35' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24 SEC. O

X1	15469.000	19.000	0.000	373.000	110.000	110.000	110.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	190.000	0.000	210.000	0.000	0.000	0.000	0.000
GR	953.600	0.000	940.700	100.000	938.800	129.000	937.700	150.000	937.400	200.000
GR	937.400	215.000	937.900	260.000	939.000	275.000	939.900	300.000	949.800	373.000
GR	943.000	432.000	947.500	500.000	952.600	600.000	954.800	642.000	939.900	700.000
GR	937.700	760.000	937.300	800.000	937.300	900.000	940.200	1000.000	0.000	0.000

X1	15504.000	23.000	398.800	401.300	35.000	35.000	35.000	0.000	.900	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	944.300	944.300	0.000
GR	948.400	0.000	948.000	100.000	946.400	200.000	946.600	300.000	938.900	385.000
GR	938.900	397.000	937.800	398.800	937.800	399.200	937.800	400.000	937.800	400.900
GR	937.900	401.300	938.900	403.000	940.700	408.000	946.700	500.000	946.800	600.000
GR	946.600	700.000	946.300	800.000	945.500	900.000	945.300	1000.000	945.700	1100.000
GR	946.400	1200.000	946.800	1300.000	947.400	1400.000	0.000	0.000	0.000	0.000
NC	.050	.050	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

X1	15505.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	944.300	944.300	0.000
SB	0.000	7.990	2.820	0.000	.880	0.000	.440	0.000	937.800	938.700

U/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

X1	15537.000	0.000	0.000	0.000	32.000	32.000	32.000	0.000	-.900	0.000
X2	0.000	0.000	1.000	938.100	945.300	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.300	945.300	0.000
BT	21.000	0.000	948.400	0.000	100.000	948.000	0.000	200.000	946.400	0.000
BT	300.000	946.600	0.000	398.800	945.500	0.000	398.800	945.500	937.800	399.200
BT	945.500	938.100	400.000	945.500	938.300	400.900	945.500	938.100	401.300	945.500
BT	937.900	401.300	945.500	0.000	500.000	946.700	0.000	600.000	946.800	0.000
BT	700.000	946.600	0.000	800.000	946.300	0.000	900.000	945.500	0.000	1000.000
BT	945.300	0.000	1100.000	945.700	0.000	1200.000	946.400	0.000	1300.000	946.800
BT	0.000	1400.000	947.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.100	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	15538.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	945.300	945.300	0.000
NH	5.000	.080	155.000	.100	525.000	.060	650.000	.100	800.000	.095
NH	1000.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	110.000	165.000	180.000	215.000	0.000	0.000	0.000	0.000	0.000

900' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#26 SEC. Q

X1	16.35.000	13.000	133.000	800.00	800.000	1000.0	90 .000	.80 0	.00	.0
X3	0.000	0.000	0.000	0.000	0.000	740.000	0.000	0.000	0.000	0.000
GR	959.500	0.000	943.800	100.000	941.300	110.000	939.600	155.000	939.100	200.000
GR	937.900	320.000	937.300	415.000	935.600	525.000	935.800	650.000	935.700	750.000
GR	939.700	780.000	942.900	800.000	949.500	895.000	945.500	935.000	953.400	1000.000
QT	4.000	50.000	80.000	90.000	100.000	0.000	0.000	0.000	0.000	0.000
NH	4.000	.090	141.000	.095	200.000	.066	300.000	.095	658.000	0.000

1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27 SEC. R

X1	17468.000	11.000	200.000	566.000	1250.000	800.000	1030.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	195.000	0.000	450.000	0.000	0.000	0.000	0.000
GR	959.900	0.000	943.800	100.000	941.100	141.000	940.300	195.000	940.700	200.000
GR	939.800	300.000	939.700	400.000	939.800	500.000	939.600	566.000	946.700	600.000
GR	959.900	658.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.095	.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	17583.000	90.000	263.200	445.700	125.000	110.000	115.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	255.000	0.000	450.000	0.000	0.000	0.000	0.000
GR	960.500	0.000	960.100	1.000	959.800	2.100	959.400	3.200	959.000	4.200
GR	958.600	5.300	958.300	6.400	957.900	7.400	957.500	8.500	957.100	9.600
GR	956.700	10.600	956.400	11.700	956.100	12.800	956.100	13.800	956.100	14.900
GR	956.100	16.000	956.100	17.100	956.100	18.100	956.000	19.200	956.000	20.300
GR	956.000	21.300	956.000	22.400	956.000	23.500	956.000	24.500	956.000	25.600
GR	956.000	26.700	956.000	27.700	956.000	28.800	956.000	29.900	956.000	31.000
GR	953.300	47.500	950.600	64.100	947.900	80.700	945.200	97.300	943.200	113.900
GR	942.000	130.500	941.400	147.100	941.100	163.700	941.100	180.300	941.100	196.900
GR	940.900	213.500	940.800	230.000	940.700	246.600	940.500	263.200	940.500	279.800
GR	940.500	296.400	940.500	313.000	940.500	329.600	940.500	346.200	940.500	362.800
GR	940.500	379.400	940.600	396.000	940.600	412.600	940.600	429.100	940.500	445.700
GR	941.200	462.300	944.700	478.900	948.300	495.500	952.100	512.100	955.900	528.700
GR	956.000	529.400	956.200	530.100	956.400	530.800	956.500	531.500	956.700	532.200
GR	956.900	532.900	957.100	533.500	957.200	534.200	957.400	534.900	957.600	535.600
GR	957.800	536.300	957.900	537.000	958.000	537.700	958.000	538.400	958.000	539.100
GR	958.000	539.800	958.100	540.500	958.100	541.200	958.100	541.800	958.200	542.500
GR	958.200	543.200	958.200	543.900	958.300	544.600	958.300	545.300	958.300	546.000
GR	958.400	546.700	958.400	547.400	958.400	548.100	958.400	548.800	958.500	549.500

X1	17640.000	0.000	0.000	0.000	65.000	55.000	57.000	0.000	.400	0.000
X3	0.000	0.000	0.000	270.000	0.000	435.000	0.000	0.000	0.000	0.000

X1	17698.000	90.000	185.700	343.200	65.000	55.000	58.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	195.000	0.000	330.000	0.000	0.000	0.000	0.000
GR	961.200	0.000	960.400	2.100	959.700	4.200	958.900	6.400	958.200	8.500
GR	957.400	10.600	956.700	12.800	955.900	14.900	955.100	17.100	954.400	19.200
GR	953.600	21.300	952.900	23.500	952.300	25.600	952.300	27.700	952.300	29.900
GR	952.300	32.000	952.300	34.200	952.300	36.300	952.200	38.400	952.200	40.600
GR	952.200	42.700	952.200	44.800	952.200	47.000	952.200	49.100	952.100	51.300
GR	952.100	53.400	952.100	55.500	952.100	57.700	952.100	59.800	952.000	62.000
GR	950.200	73.200	948.300	84.500	946.500	95.700	944.600	107.000	943.200	118.200
GR	942.400	129.500	941.900	140.700	941.700	151.900	941.700	163.200	941.700	174.400
GR	941.600	185.700	941.500	196.900	941.400	208.200	941.300	219.400	941.300	230.700
GR	941.300	241.900	941.300	253.200	941.300	264.400	941.300	275.700	941.300	286.900
GR	941.300	298.200	941.400	309.400	941.400	320.700	941.500	331.900	941.500	343.200
GR	942.000	354.400	944.300	365.700	946.800	376.900	949.400	388.200	952.000	399.500
GR	952.200	400.800	952.500	402.200	952.900	403.600	953.200	405.000	953.600	406.400
GR	953.900	407.800	954.300	409.100	954.600	410.500	955.000	411.900	955.300	413.300
GR	955.700	414.700	956.000	416.100	956.100	417.400	956.100	418.800	956.200	420.200
GR	956.200	421.600	956.300	423.000	956.400	424.400	956.400	425.700	956.500	427.100
GR	956.600	428.500	956.600	429.900	956.700	431.300	956.700	432.700	956.800	434.000
GR	956.900	435.400	956.900	436.800	957.000	438.200	957.000	439.600	957.100	441.000

X1	17755.000	0.000	0.000	0.000	65.000	55.000	57.000	0.000	.400	0.000
X3	0.000	0.000	0.000	210.000	0.000	315.000	0.000	0.000	0.000	0.000
X1	17813.000	90.000	157.900	228.800	65.000	55.000	58.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	155.000	0.000	232.000	0.000	0.000	0.000	0.000
GR	961.900	0.000	960.700	3.200	959.600	6.400	958.500	9.600	957.300	12.800
GR	956.200	16.000	955.100	19.200	953.900	22.400	952.800	25.600	951.700	28.800
GR	950.500	32.000	949.400	35.200	948.600	38.400	948.600	41.600	948.500	44.800
GR	948.500	48.100	948.500	51.300	948.500	54.500	948.400	57.700	948.400	60.900
GR	948.400	64.100	948.400	67.300	948.300	70.500	948.300	73.700	948.300	76.900
GR	948.300	80.100	948.200	83.300	948.200	86.500	948.200	89.700	948.100	93.000
GR	947.100	98.900	946.100	104.800	945.100	110.700	944.100	116.600	943.300	122.500
GR	942.800	128.400	942.400	134.300	942.300	140.200	942.300	146.100	942.300	152.000
GR	942.300	157.900	942.200	163.800	942.200	169.800	942.100	175.700	942.100	181.600
GR	942.100	187.500	942.100	193.400	942.100	199.300	942.100	205.200	942.100	211.100
GR	942.100	217.000	942.200	222.900	942.300	228.800	942.400	234.700	942.400	240.700
GR	942.800	246.600	944.000	252.500	945.300	258.400	946.700	264.300	948.000	270.200
GR	948.300	272.300	948.900	274.400	949.400	276.400	949.900	278.500	950.400	280.600
GR	951.000	282.700	951.500	284.700	952.000	286.800	952.500	288.900	953.100	291.000
GR	953.600	293.000	954.100	295.100	954.200	297.200	954.300	299.200	954.400	301.300
GR	954.400	303.400	954.500	305.500	954.600	307.500	954.700	309.600	954.800	311.700
GR	954.900	313.800	955.000	315.800	955.100	317.900	955.200	320.000	955.300	322.100
GR	955.400	324.100	955.500	326.200	955.500	328.300	955.600	330.400	955.700	332.500
X1	17870.000	0.000	0.000	0.000	65.000	55.000	57.000	0.000	.400	0.000
X3	0.000	0.000	0.000	170.000	0.000	218.000	0.000	0.000	0.000	0.000
NH	4.000	.100	50.000	.085	124.000	.055	141.000	.090	224.000	0.000

740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28 SEC. S

X1	17928.000	11.000	124.000	141.000	65.000	55.000	58.000	0.000	0.000	0.000
GR	962.600	0.000	944.900	50.000	944.300	124.000	943.000	128.000	943.000	132.000
GR	943.000	136.000	943.400	138.000	944.100	141.000	944.600	144.000	952.200	174.000
GR	954.400	224.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.090	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29 SEC. T

X1	18328.000	9.000	75.000	88.000	350.000	430.000	400.000	0.000	0.000	0.000
GR	965.300	0.000	946.300	75.000	944.700	77.000	944.400	80.000	944.000	82.000
GR	944.900	84.000	946.700	88.000	949.400	147.000	959.900	180.000	0.000	0.000
NC	.085	.085	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	4.000	7.000	8.000	10.000	0.000	0.000	0.000	0.000	0.000

30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30 SEC. U

X1	18638.000	12.000	115.000	137.000	410.000	210.000	310.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	117.000	0.000	135.000	0.000	0.000	0.000	0.000
GR	962.300	0.000	958.400	25.000	955.000	50.000	949.300	75.000	947.700	115.000
GR	945.300	122.000	945.600	127.000	945.300	131.000	949.300	137.000	951.900	155.000
GR	959.900	187.000	963.400	207.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.080	.080	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	18668.000	12.000	97.000	104.000	30.000	30.000	30.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.200	948.200	0.000
GR	961.400	0.000	954.400	35.000	950.400	55.000	948.500	90.000	945.800	97.000
GR	945.900	98.000	945.800	100.000	946.500	102.000	946.700	104.000	949.200	106.000
GR	956.400	200.000	961.500	250.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.050	.050	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

X1	18669.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.200	948.200	0.000
SB	0.000	1.780	3.020	0.000	1.960	0.000	4.910	0.000	945.200	945.800

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

X1	18678.000	15.000	98.800	101.200	9.000	9.000	9.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	947.200	950.200	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.400	950.400	0.000
BT	14.000	0.000	961.400	0.000	35.000	954.400	0.000	55.000	950.400	0.000
BT	98.800	950.600	0.000	98.800	950.600	946.000	98.800	950.600	946.900	99.200
BT	950.600	947.500	100.000	950.600	947.700	100.800	950.600	947.500	101.200	950.600
BT	946.900	101.200	950.600	946.000	101.200	950.600	0.000	200.000	956.400	0.000
BT	250.000	961.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	961.400	0.000	954.400	35.000	950.400	55.000	948.500	85.000	945.400	97.000
GR	946.000	98.800	945.400	99.200	945.200	100.000	945.400	100.800	946.000	101.200
GR	945.400	103.000	947.900	105.000	950.900	120.000	956.400	200.000	961.500	250.000
NC	.080	.085	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	18679.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.400	950.400	0.000
NC	.090	.095	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

X1	18989.000	15.000	142.000	160.000	310.000	310.000	310.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.000	950.000	0.000
GR	967.200	0.000	955.500	27.000	951.700	60.000	950.400	90.000	946.700	114.000
GR	946.500	142.000	945.400	146.000	945.100	151.000	945.400	157.000	946.500	160.000
GR	946.700	260.000	949.100	302.000	953.300	360.000	955.000	382.000	966.200	451.000
NC	.085	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	19019.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	-.500	0.000
X3	0.000	0.000	0.000	149.800	0.000	152.200	0.000	0.000	0.000	0.000
NC	.060	.060	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

X1	19020.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	149.800	0.000	152.200	0.000	0.000	0.000	0.000
SB	0.000	3.610	2.850	0.000	2.100	0.000	4.410	0.000	944.600	944.600

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

X1	19059.000	31.000	798.800	801.200	39.000	39.000	39.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	946.700	948.400	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	600.000	0.000	900.000	0.000	948.400	948.400	0.000
BT	13.000	600.000	955.500	0.000	700.000	950.700	0.000	750.000	948.900	0.000
BT	798.800	948.800	0.000	798.800	948.800	945.000	798.800	948.800	945.900	799.200
BT	948.800	946.500	800.000	948.800	946.700	800.800	948.800	946.500	801.200	948.800
BT	945.900	801.200	948.800	945.000	801.200	948.800	0.000	900.000	948.500	0.000
GR	956.800	0.000	957.200	100.000	954.200	200.000	949.200	300.000	948.400	355.000
GR	955.000	500.000	957.600	555.000	949.000	700.000	948.100	750.000	947.000	790.000
GR	944.800	793.000	944.800	798.000	945.000	798.800	944.600	799.000	944.600	799.200
GR	944.600	800.000	944.600	800.800	944.600	801.000	945.000	801.200	944.600	802.000
GR	945.500	827.000	946.800	830.000	948.500	881.000	948.500	900.000	949.400	1000.000

GR	[illegible]	1100.000	950.200	1200.000	950.300	1500.000	950.000	1100.000	951.[illegible]	1[illegible].000
GR	950.800	1600.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.080	.080	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19060.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.400	948.400	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*PROF 1

CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 5749.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=         .0      200.0  TYPE=      1  TARGET=      199.999

          825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5          SEC. A

  5749.00      3.88    921.88      0.00    922.50    921.90      .02      0.00      0.00    919.20
     265.       27.       191.       47.       40.       151.       77.        0.        0.    919.10
     0.00       .67      1.27       .61      .095      .060      .095     0.000    918.00     33.19
  .000701        0.        0.        0.         0         0         5      0.00    112.09    145.28

1490 NH CARD USED
*SECNO 6349.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       923.00 ELREA=       921.60

          250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9           SEC. B

  6349.00      1.72    922.92      0.00      0.00    922.96      .04      1.05      .01    923.00
     265.        0.       213.       52.        0.       124.       43.        3.        2.    921.60
      .10       0.00      1.73      1.19      .095      .089      .095      .040    921.20    702.85
  .009975       600.      600.      600.         3         0         0      0.00    197.80    900.65

1490 NH CARD USED
*SECNO 6599.000
  6599.00      2.36    923.76      0.00      0.00    923.77      .01       .80      .01    923.20
     265.        2.       198.       65.        7.       210.       94.        4.        3.    921.80
      .18       .26       .94       .69      .095      .086      .095      .040    921.40    676.38
  .001556       250.      250.      250.         3         0         0      0.00    250.80    927.17

*SECNO 6600.000

          D/S FACE OF WELCH ROAD CULVERT, BS#10                          SEC. C

  6600.00      2.36    923.76      0.00      0.00    923.77      .01       .00       .00    923.20
     265.        2.       198.       65.        7.       211.       94.        4.        3.    921.80
      .18       .26       .94       .69      .095      .086      .095      .040    921.40    676.15
  .001537         1.        1.        1.         0         0         0      0.00    251.25    927.39

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
       0.00      3.32      3.02      0.00      3.93      0.00     11.78      0.00    921.40    921.40

*SECNO 6659.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
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SLOPE XLOBL XLCH XLOBR ITRIAL IDC ICONT CORAR TOPWID ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
949.85	933.69	0.00	152.	115.	12.	12.	924.40	928.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.16	928.56	0.00	0.00	928.66	.11	4.90	0.00	922.30
265.	62.	129.	73.	257.	34.	323.	5.	4.	922.30
.19	.24	3.76	.23	.200	.020	.200	.039	921.40	808.41
.000221	59.	59.	59.	2	0	10	0.00	307.31	1115.72

*SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	928.70	.01	.00	.03	922.30
265.	101.	43.	121.	269.	35.	352.	5.	4.	922.30
.19	.38	1.22	.34	.095	.045	.095	.039	921.40	806.34
.000116	6.	6.	6.	2	0	0	0.00	322.72	1129.07

*SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.26	.04	.55	.02	928.90
265.	131.	52.	81.	119.	19.	90.	20.	15.	929.10
.50	1.11	2.79	.90	.097	.048	.097	.045	927.50	1081.24
.006750	1500.	1565.	1520.	3	0	0	0.00	317.69	1398.93

*SECNO 9730.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.58	931.38	0.00	0.00	931.38	.00	2.11	.01	931.30
150.	0.	3.	147.	0.	7.	487.	33.	30.	931.10
1.87	.04	.44	.30	.098	.055	.098	.049	929.80	588.48
.000366	1500.	1500.	1500.	6	0	0	0.00	527.72	1116.20

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 870.0 1700.0 TYPE= 1 TARGET= 830.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.00	931.60	0.00	0.00	931.60	.00	.22	.00	931.00
150.	115.	4.	31.	554.	11.	177.	47.	42.	931.00
3.23	.21	.33	.18	.110	.060	.110	.051	929.60	870.00
.000142	1000.	1000.	1000.	4	0	0	0.00	589.34	1459.34

*SECNO 12250.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14 ,SEC. G

12250.00	2.24	932.14	0.00	0.00	932.17	.03	.56	.02	931.10
150.	43.	71.	36.	72.	34.	66.	63.	57.	931.20
3.56	.60	2.07	.54	.098	.052	.099	.051	929.90	271.49
.002411	1520.	1520.	1520.	2	0	0	0.00	238.05	509.53

*SECNO 12355.000

12355.00	1.78	932.58	0.00	0.00	932.69	.11	.48	.04	931.80
150.	8.	84.	59.	9.	24.	60.	63.	57.	931.80
3.57	.82	3.46	.98	.110	.060	.110	.052	930.80	452.60
.011969	105.	105.	105.	3	0	0	0.00	169.41	622.00

*SECNO 12460.000

12460.00	1.53	933.23	0.00	0.00	933.24	.00	.51	.03	932.50
32.	1.	13.	18.	5.	18.	73.	64.	58.	932.50
3.64	.18	.75	.24	.110	.060	.110	.052	931.70	574.39
.000670	105.	105.	105.	1	0	0	0.00	163.80	738.19

*SECNO 12565.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP

12565.00	.81	933.41	0.00	0.00	933.47	.07	.20	.03	933.10
32.	0.	19.	12.	1.	7.	19.	64.	58.	933.10
3.65	.58	2.67	.66	.110	.060	.110	.052	932.60	687.10
.022046	105.	105.	105.	2	0	0	0.00	132.90	820.00

*SECNO 12670.000

3470 ENCROACHMENT STATIONS= .0 931.0 TYPE= 1 TARGET= 930.999

12670.00	.79	934.29	0.00	0.00	934.29	.01	.80	.02	933.90
32.	2.	6.	24.	5.	6.	52.	64.	58.	933.80
3.70	.40	1.11	.46	.110	.060	.110	.052	933.50	778.53
.003807	105.	105.	105.	5	0	0	0.00	152.47	931.00

*SECNO 12671.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 931.0 TYPE= 1 TARGET= 930.999

D/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12671.00	.77	934.27	0.00	0.00	934.31	.04	.00	.02	933.90
32.	2.	13.	18.	5.	5.	49.	64.	58.	933.80
3.70	.31	2.39	.36	.100	.020	.100	.052	933.50	778.63
.002080	1.	1.	1.	2	0	0	0.00	152.36	931.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD

0.00 5.91 5.03 0.00 1.54 0.00 1.91 0.00 935.50 935.50

*SECNO 12716.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
958.49	940.92	0.00	24.	8.	2.	2.	934.80	935.50

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12716.00	2.39	935.89	0.00	0.00	935.90	.01	1.59	0.00	933.50
32.	4.	7.	21.	21.	5.	116.	64.	59.	933.50
3.73	.19	1.49	.18	.100	.020	.100	.052	933.50	770.95
.000125	45.	45.	45.	0	0	12	0.00	159.98	930.93

*SECNO 12720.000

12720.00	2.40	935.90	0.00	0.00	935.90	.00	.00	.00	933.50
32.	5.	3.	24.	21.	5.	116.	64.	59.	933.50
3.73	.22	.59	.21	.098	.058	.098	.052	933.50	771.04
.000167	4.	4.	4.	0	0	0	0.00	159.60	930.64

*SECNO 12912.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

12912.00	1.84	935.94	0.00	0.00	935.94	.00	.03	.00	935.00
32.	13.	16.	4.	60.	31.	22.	64.	59.	935.00
3.87	.21	.51	.18	.098	.058	.098	.052	934.10	291.94
.000212	175.	192.	175.	0	0	0	0.00	118.03	409.98

*SECNO 13017.000

13017.00	1.37	935.97	0.00	0.00	936.00	.02	.05	.01	935.60
32.	1.	27.	4.	5.	21.	9.	65.	59.	935.40
3.90	.24	1.30	.38	.095	.052	.090	.052	934.60	379.44
.001777	75.	105.	125.	1	0	0	0.00	69.36	448.80

*SECNO 13122.000

SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
13122.00	1.06	936.26	0.00	0.00	936.31	.05	.30	.01	936.30
32.	0.	28.	4.	0.	15.	6.	65.	59.	935.80
3.92	0.00	1.83	.57	.095	.052	.090	.052	935.20	452.11
.005083	75.	105.	125.	2	0	0	0.00	38.55	490.67

*SECNO 13227.000

13227.00	1.01	936.81	0.00	0.00	936.85	.04	.54	.00	937.00
32.	0.	26.	6.	0.	15.	9.	65.	60.	936.20
3.94	0.00	1.78	.70	.095	.052	.090	.052	935.80	499.46
.004892	75.	105.	125.	2	0	0	0.00	37.92	537.38

*SECNO 13332.000

3470 ENCROACHMENT STATIONS= 570.0 570. TYPE= 1 TARGET= 30.0 0

615' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, XS#17 SEC. J

13332.00	.99	937.39	0.00	0.00	937.44	.05	.59	.01	937.70	
32.	0.	27.	5.	0.	13.	5.	65.	60.	936.60	
3.95	0.00	1.99	.99	.095	.052	.090	.052	936.40	547.19	
.006042	75.	105.	125.	1	0	0	0.00	22.81	570.00	

*SECNO 13374.000

3470 ENCROACHMENT STATIONS= 552.0 560.0 TYPE= 1 TARGET= 8.000

13374.00	1.40	937.63	0.00	0.00	937.76	.13	.28	.04100000.00		
32.	0.	32.	0.	0.	11.	0.	65.	60. 100000.00		
3.96	0.00	2.87	0.00	.080	.045	.080	.052	936.25	552.00	
.007211	42.	42.	42.	1	0	0	0.00	8.00	560.00	

*SECNO 13382.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV	
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

13382.00	1.67	937.87	937.87	0.00	938.51	.64	.11	.25	937.50	
32.	0.	32.	0.	0.	5.	0.	65.	60.	937.50	
3.96	0.00	6.41	0.00	.080	.045	.080	.052	936.20	798.00	
.040810	8.	8.	8.	20	11	0	0.00	4.00	802.00	

*SECNO 13383.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV	
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST	

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13383.00	2.01	938.21	0.00	0.00	938.61	.39	.02	.07	937.50	
32.	0.	32.	0.	0.	6.	0.	65.	60.	937.50	
3.96	0.00	5.04	0.00	.070	.040	.070	.052	936.20	798.00	
.015540	1.	1.	1.	5	0	0	-1.11	4.00	802.00	

*SECNO 13473.000

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.40 ELREA= 949.20

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13473.00	3.03	939.23	0.00	0.00	939.38	.15	.70	.07	937.50
32.	0.	32.	0.	0.	10.	0.	65.	60.	937.50
3.96	0.00	3.12	0.00	.070	.040	.070	.052	936.20	798.00
.004668	90.	90.	90.	5	0	0	-2.63	4.00	802.00

*SECNO 13474.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.20 ELREA= 949.20

13474.00	3.04	939.24	0.00	0.00	939.39	.15	.00	.00	937.50
32.	0.	32.	0.	0.	10.	0.	65.	60.	937.50
3.96	0.00	3.06	0.00	.090	.048	.095	.052	936.20	798.00
.005213	1.	1.	1.	0	0	0	0.00	4.00	802.00

*SECNO 14034.000

3470 ENCROACHMENT STATIONS= 450.0 1200.0 TYPE= 1 TARGET= -450.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

14034.00	3.46	939.46	0.00	0.00	939.46	.00	.03	.04	936.70
240.	187.	22.	31.	1125.	58.	196.	75.	64.	936.70
4.87	.17	.38	.16	.100	.050	.100	.051	936.00	450.00
.000035	700.	560.	420.	3	0	0	0.00	534.29	984.29

1490 NH CARD USED

*SECNO 14674.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

14674.00	2.89	939.49	0.00	0.00	939.49	.00	.03	.00	946.00
240.	0.	240.	0.	0.	857.	0.	92.	70.	946.70
5.50	0.00	.28	0.00	.100	.073	.100	.051	936.60	210.83
.000076	630.	640.	640.	2	0	0	0.00	369.83	580.66

*SECNO 15359.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 165.0 240.0 TYPE= 1 TARGET= 75.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

15359.00	1.74	939.54	0.00	0.00	939.54	.00	.05	.00	938.80
2.	0.	2.	0.	3.	21.	5.	99.	74.	938.60
8.17	.02	.08	.02	.090	.065	.100	.052	937.80	165.37
.000008	600.	685.	750.	1	0	0	0.00	40.35	205.73

*SECNO 15469.000

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3 F E CROACHME T ST TIONS=      190.0      210.0  TYPE=      1  TARGET=      20.0

          35' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24              SEC. O

  15469.00      2.14    939.54      0.00      0.00    939.54       .00       .00       .00100000.00
       2.        0.        2.        0.        0.       43.        0.       99.       74. 100000.00
      8.90      0.00       .04      0.00      .100      .060      .100      .052    937.40    190.00
   .000001      110.      110.      110.         0         0         0      0.00     20.00    210.00

*SECNO 15504.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       944.30 ELREA=       944.30

  15504.00       .84    939.54      0.00      0.00    939.55       .01       .00       .01    938.70
       2.        0.        2.        0.        0.        2.        0.       99.       74.    938.80
      8.91      0.00       .86      0.00      .100      .060      .100      .052    938.70    398.80
   .002011       35.       35.       35.         0         0         0      0.00      2.50    401.30

*SECNO 15505.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       944.30 ELREA=       944.30

          D/S FACE OF GRAND TRUNK WESTERN, BS#25                           SEC. P

  15505.00       .84    939.54      0.00      0.00    939.55       .01       .00       .00    938.70
       2.        0.        2.        0.        0.        2.        0.       99.       74.    938.80
      8.91      0.00       .87      0.00      .050      .020      .050      .052    938.70    398.80
   .000227        1.        1.        1.         0         0         0      0.00      2.50    401.30

SPECIAL BRIDGE

SB  XK        XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
     0.00      7.99       2.82       0.00       .88       0.00       .44        0.00       937.80     938.70

*SECNO 15537.000
PRESSURE FLOW

 EGPRS       EGLWC       H3        QWEIR       QPR        BAREA    TRAPEZOID       ELLC       ELTRD
                                                                      AREA
   941.61     938.65      0.00        0.         2.         0.         0.        938.10     945.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=       945.30 ELREA=       945.30

          U/S FACE OF GRAND TRUNK WESTERN, BS#25                           SEC. P

  15537.00      3.81    941.61      0.00      0.00    941.61       .00      2.05      0.00    937.80
       2.        0.        2.        0.        0.       10.        0.       99.       74.    937.90
      8.95      0.00       .19      0.00      .050      .020      .050      .052    937.80    398.80
   .000003       32.       32.       32.         0         0         0      0.00      2.50    401.30

*SECNO 15538.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST
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Will culvert even function? (d/s has only .2ft of culvert not silted, u/s .5ft is not silted)

Assuming no plugging, loss appears reasonable.

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 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      945.30 ELREA=      945.30

  15538.00      3.81   941.61      0.00      0.00   941.61       .00       .00       .00   937.80
         2.         0.        2.        0.        0.       10.        0.       99.       74.    937.90
      8.96      0.00       .19      0.00       .100      .050      .100      .052   937.80   398.80
   .000022         1.        1.        1.         0         0         0      0.00     2.50   401.30

 1490 NH CARD USED
 *SECNO 16438.000

 3470 ENCROACHMENT STATIONS=          .0      592.0  TYPE=      1  TARGET=      739.999

            900' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#26          SEC. Q

  16438.00      6.02   941.62      0.00      0.00   941.62       .00       .00       .00   939.60
       180.         2.      178.        0.       42.      2158.        0.      121.       79. 100000.00
     11.99       .04       .08      0.00       .080      .060      .100      .052   935.60    86.96
   .000003       800.      900.     1000.         0         0         0      0.00   505.04   592.00

 1490 NH CARD USED
 *SECNO 17468.000

 3470 ENCROACHMENT STATIONS=       195.0      450.0  TYPE=      1  TARGET=      255.000

            1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27          SEC. R

  17468.00      1.92   941.62      0.00      0.00   941.62       .00       .01       .00   940.70
         90.         1.       89.        0.        6.      421.        0.      153.       88. 100000.00
     13.35       .12       .21      0.00       .095      .095      .100      .052   939.70   195.00
   .000072      1250.     1030.      800.         0         0         0      0.00   255.00   450.00

 *SECNO 17583.000

 3470 ENCROACHMENT STATIONS=       255.0      450.0  TYPE=      1  TARGET=      195.000
  17583.00      1.14   941.64      0.00      0.00   941.64       .00       .02       .00   940.50
         90.         2.       87.        1.        9.      201.        4.      153.       88.    940.50
     13.42       .26       .43      .25       .100      .065      .095      .052   940.50   255.00
   .000315       125.      115.      110.         0         0         0      0.00   195.00   450.00

 *SECNO 17640.000

 3470 ENCROACHMENT STATIONS=       270.0      435.0  TYPE=      1  TARGET=      165.000
  17640.00       .77   941.67      0.00      0.00   941.68       .01       .03       .00100000.00
         90.         0.       90.        0.        0.      122.        0.      154.       89. 100000.00
     13.44      0.00       .74      0.00       .100      .065      .095      .052   940.90   270.00
   .001577        65.       57.       55.         2         0         0      0.00   165.00   435.00

 *SECNO 17698.000
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 3470 ENCROACHMENT STATIONS=       195.0      330.0  TYPE=      1  TARGET=      135.000
  17698.00       .54   941.84      0.00      0.00   941.87       .03       .18       .01100000.00
         90.         0.       90.        0.        0.       67.        0.      154.       89. 100000.00
     13.46      0.00      1.34      0.00       .100      .065      .095      .052   941.30   195.00
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.008840	65.	58.	55.	2	0	0	0.00	155.00	55 .0

*SECNO 17755.000

3470 ENCROACHMENT STATIONS= 210.0 315.0 TYPE= 1 TARGET= 105.000

17755.00	.61	942.31	0.00	0.00	942.35	.03	.48	.00100000.00	
90.	0.	90.	0.	0.	63.	0.	154.	89.	100000.00
13.47	0.00	1.43	0.00	.100	.065	.095	.052	941.70	210.00
.007926	65.	57.	55.	3	0	0	0.00	105.00	315.00

*SECNO 17813.000

3470 ENCROACHMENT STATIONS= 155.0 232.0 TYPE= 1 TARGET= 77.000

17813.00	.72	942.82	0.00	0.00	942.87	.05	.52	.01	942.30
90.	1.	87.	1.	2.	49.	2.	154.	89.	942.30
13.48	.88	1.80	.91	.100	.065	.095	.052	942.10	155.00
.010209	65.	58.	55.	1	0	0	0.00	77.00	232.00

*SECNO 17870.000

3470 ENCROACHMENT STATIONS= 170.0 218.0 TYPE= 1 TARGET= 48.000

17870.00	.90	943.40	0.00	0.00	943.47	.07	.58	.01100000.00	
90.	0.	90.	0.	0.	43.	0.	154.	89.	100000.00
13.48	0.00	2.10	0.00	.100	.065	.095	.052	942.50	170.00
.010245	65.	57.	55.	1	0	0	0.00	48.00	218.00

1490 NH CARD USED
*SECNO 17928.000

740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28 SEC. S

17928.00	1.28	944.28	944.27	0.00	944.74	.47	1.08	.20	944.30
90.	0.	90.	0.	0.	16.	0.	154.	89.	944.10
13.49	0.00	5.47	.03	.085	.055	.090	.052	943.00	124.07
.043727	65.	58.	55.	4	11	0	0.00	17.98	142.06

*SECNO 18328.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	OCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29 SEC. T

18328.00	3.38	947.38	0.00	0.00	947.50	.12	2.65	.10	946.30
90.	1.	87.	2.	2.	31.	5.	154.	90.	946.70
13.53	.54	2.80	.41	.090	.045	.090	.052	944.00	70.70
.002551	350.	400.	430.	6	0	0	0.00	32.35	103.05

*SECNO 18638.000

3470 ENCROACHMENT STATIONS= 117.0 135.0 TYPE= 1 TARGET= 18.000

30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30 SEC. U

18638.00	2.47	947.77	0.00	0.00	947.78	.00	.24	.03100000.00	
8.	0.	8.	0.	0.	34.	0.	155.	90.	100000.00
13.89	0.00	.24	0.00	.085	.042	.085	.052	945.30	117.00

.000022	410.	310.	210.	.	0	0	.00	12.71	15.71

*SECNO 18668.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

18668.00	1.97	947.77	0.00	0.00	947.78	.01	.00	.00	945.80
8.	0.	8.	0.	0.	11.	0.	155.	90.	946.70
13.90	0.00	.70	0.00	.080	.040	.080	.052	945.80	97.00
.000235	30.	30.	30.	2	0	0	0.00	7.00	104.00

*SECNO 18669.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18669.00	1.97	947.77	0.00	0.00	947.78	.01	.00	.00	945.80
8.	0.	8.	0.	0.	11.	0.	155.	90.	946.70
13.90	0.00	.70	0.00	.050	.024	.050	.052	945.80	97.00
.000084	1.	1.	1.	0	0	0	0.00	7.00	104.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.78	3.02	0.00	1.96	0.00	4.91	0.00	945.20	945.80

*SECNO 18678.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
947.85	947.23	0.00	0.	8.	5.	4.	947.20	950.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18678.00	2.62	947.82	0.00	0.00	947.85	.03	.07	0.00	946.00
8.	0.	8.	0.	0.	6.	0.	155.	90.	946.00
13.90	0.00	1.40	0.00	.050	.024	.050	.052	945.20	98.80
.000406	9.	9.	9.	2	0	0	0.00	2.40	101.20

*SECNO 18679.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

18679.00	2.62	947.82	0.00	0.00	947.85	.03	.00	.00	946.00
8.	0.	8.	0.	0.	6.	0.	155.	90.	946.00
13.90	0.00	1.40	0.00	.080	.042	.085	.052	945.20	98.80

.000121	1.	1.	1.	0	0	0.00	2..0	101.2	

*SECNO 18989.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 950.00 ELREA= 950.00

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

18989.00	2.77	947.87	0.00	0.00	947.87	.00	.01	.01	946.50
8.	0.	8.	0.	0.	42.	0.	155.	90.	946.50
14.36	0.00	.19	0.00	.090	.047	.095	.052	945.10	142.00
.000012	310.	310.	310.	2	0	0	0.00	18.00	160.00

*SECNO 19019.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

19019.00	3.26	947.86	0.00	0.00	947.88	.02	.00	.01	100000.00
8.	0.	8.	0.	0.	8.	0.	155.	90.	100000.00
14.37	0.00	1.03	0.00	.085	.045	.090	.052	944.60	149.80
.001159	30.	30.	30.	2	0	0	0.00	2.40	152.20

*SECNO 19020.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19020.00	3.26	947.86	0.00	0.00	947.88	.02	.00	.00	100000.00
8.	0.	8.	0.	0.	8.	0.	155.	90.	100000.00
14.37	0.00	1.03	0.00	.060	.045	.060	.052	944.60	149.80
.001158	1.	1.	1.	0	0	0	0.00	2.40	152.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.61	2.85	0.00	2.10	0.00	4.41	0.00	944.60	944.60

*SECNO 19059.000
PRESSURE FLOW

30" CMP

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
948.05	947.88	0.00	0.	8.	4.	4.	946.70	948.40

3470 ENCROACHMENT STATIONS= 600.0 900.0 TYPE= 1 TARGET= 300.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.40 ELREA= 948.40

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19059.00	3.43	948.03	0.00	0.00	948.05	.01	.17	0.00	945.00
8.	0.	8.	0.	0.	8.	0.	155.	90.	945.00
14.38	0.00	.98	0.00	.060	.045	.060	.052	944.60	798.80
.000568	39.	39.	39.	1	0	0	0.00	2.40	801.20

*SEC 0 1906.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=					948.40 ELREA=		948.40		
19060.00	3.43	948.03	0.00	0.00	948.05	.01	.00	.00	945.00
8.	0.	8.	0.	0.	8.	0.	155.	90.	945.00
14.38	0.00	.98	0.00	.080	.047	.080	.052	944.60	798.80
.000622	1.	1.	1.	0	0	0	0.00	2.40	801.20

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  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CHANNEL D/S OF PLEASANT

SUMMARY PRINTOUT

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
5749.000	0.00	0.00	0.00	918.00	265.00	921.88	.02	0.00	0.00	268.15	3.88	112.09
6349.000	600.00	0.00	0.00	921.20	265.00	922.92	.04	1.05	.01	166.83	1.72	197.80
6599.000	250.00	0.00	0.00	921.40	265.00	923.76	.01	.80	.01	310.20	2.36	250.80
6600.000	1.00	0.00	0.00	921.40	265.00	923.76	.01	.00	.00	311.55	2.36	251.25
6659.000	59.00	928.10	924.40	921.40	265.00	928.56	.11	4.90	0.00	614.20	7.16	307.31
6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	656.23	7.29	322.72
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	227.70	1.73	317.69
9730.000	1500.00	0.00	0.00	929.80	150.00	931.38	.00	2.11	.01	494.39	1.58	527.72
10730.000	1000.00	0.00	0.00	929.60	150.00	931.60	.00	.22	.00	742.15	2.00	589.34
12250.000	1520.00	0.00	0.00	929.90	150.00	932.14	.03	.56	.02	172.10	2.24	238.05
12355.000	105.00	0.00	0.00	930.80	150.00	932.58	.11	.48	.04	93.47	1.78	169.41
12460.000	105.00	0.00	0.00	931.70	32.00	933.23	.00	.51	.03	95.91	1.53	163.80
12565.000	105.00	0.00	0.00	932.60	32.00	933.41	.07	.20	.03	26.52	.81	132.90
12670.000	105.00	0.00	0.00	933.50	32.00	934.29	.01	.80	.02	62.73	.79	152.47
12671.000	1.00	0.00	0.00	933.50	32.00	934.27	.04	.00	.02	59.43	.77	152.36
12716.000	45.00	935.50	934.80	933.50	32.00	935.89	.01	1.59	0.00	142.54	2.39	159.98
12720.000	4.00	0.00	0.00	933.50	32.00	935.90	.00	.00	.00	141.94	2.40	159.60
12912.000	192.00	0.00	0.00	934.10	32.00	935.94	.00	.03	.00	112.29	1.84	118.03
13017.000	105.00	0.00	0.00	934.60	32.00	935.97	.02	.05	.01	35.09	1.37	69.36
13122.000	105.00	0.00	0.00	935.20	32.00	936.26	.05	.30	.01	21.92	1.06	38.55

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
	13227.000	105.00	0.00	0.00	935.80	32.00	936.81	.04	.54	.00	23.32	1.01	37.92
	13332.000	105.00	0.00	0.00	936.40	32.00	937.39	.05	.59	.01	18.73	.99	22.81
	13374.000	42.00	0.00	0.00	936.23	32.00	937.63	.13	.28	.04	11.16	1.40	8.00
*	13382.000	8.00	0.00	0.00	936.20	32.00	937.87	.64	.11	.25	4.99	1.67	4.00
	13383.000	1.00	945.40	940.20	936.20	32.00	938.21	.39	.02	.07	6.35	2.01	4.00
	13473.000	90.00	945.40	940.20	936.20	32.00	939.23	.15	.70	.07	10.26	3.03	4.00
	13474.000	1.00	0.00	0.00	936.20	32.00	939.24	.15	.00	.00	10.46	3.04	4.00
	14034.000	560.00	0.00	0.00	936.00	240.00	939.46	.00	.03	.04	1379.43	3.46	534.29
	14674.000	640.00	0.00	0.00	936.60	240.00	939.49	.00	.03	.00	856.72	2.89	369.83
	15359.000	685.00	0.00	0.00	937.80	1.80	939.54	.00	.05	.00	29.11	1.74	40.35
	15469.000	110.00	0.00	0.00	937.40	1.80	939.54	.00	.00	.00	42.62	2.14	20.00
	15504.000	35.00	0.00	0.00	938.70	1.80	939.54	.01	.00	.01	2.09	.84	2.50
	15505.000	1.00	0.00	0.00	938.70	1.80	939.54	.01	.00	.00	2.07	.84	2.50
	15537.000	32.00	945.30	938.10	937.80	1.80	941.61	.00	2.06	0.00	9.51	3.81	2.50
	15538.000	1.00	0.00	0.00	937.80	1.80	941.61	.00	.00	.00	9.51	3.81	2.50
	16438.000	900.00	0.00	0.00	935.60	180.00	941.62	.00	.00	.00	2200.25	6.02	505.04
	17468.000	1030.00	0.00	0.00	939.70	90.00	941.62	.00	.01	.00	426.57	1.92	255.00
	17583.000	115.00	0.00	0.00	940.50	90.00	941.64	.00	.02	.00	213.80	1.14	195.00
	17640.000	57.00	0.00	0.00	940.90	90.00	941.67	.01	.03	.00	121.97	.77	165.00
	17698.000	58.00	0.00	0.00	941.30	90.00	941.84	.03	.18	.01	67.01	.54	135.00
	17755.000	57.00	0.00	0.00	941.70	90.00	942.31	.03	.48	.00	62.74	.61	105.00
	17813.000	58.00	0.00	0.00	942.10	90.00	942.82	.05	.52	.01	51.71	.72	77.00
	17870.000	57.00	0.00	0.00	942.50	90.00	943.40	.07	.58	.01	42.90	.90	48.00
	17928.000	58.00	0.00	0.00	943.00	90.00	944.28	.47	1.08	.20	16.54	1.28	17.98
	18328.000	400.00	0.00	0.00	944.00	90.00	947.38	.12	2.65	.10	38.43	3.38	32.35
	18638.000	310.00	0.00	0.00	945.30	8.00	947.77	.00	.24	.03	33.62	2.47	17.71
	18668.000	30.00	0.00	0.00	945.80	8.00	947.77	.01	.00	.00	11.36	1.97	7.00
	18669.000	1.00	0.00	0.00	945.80	8.00	947.77	.01	.00	.00	11.36	1.97	7.00
	18678.000	9.00	950.20	947.20	945.20	8.00	947.82	.03	.07	0.00	5.72	2.62	2.40

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
18679.000	1.00	0.00	0.00	945.20	8.00	947.82	.03	.00	.00	5.72	2.62	2.40
18989.000	310.00	0.00	0.00	945.10	8.00	947.87	.00	.01	.01	42.22	2.77	18.00
19019.000	30.00	0.00	0.00	944.60	8.00	947.86	.02	.00	.01	7.74	3.26	2.40
19020.000	1.00	0.00	0.00	944.60	8.00	947.86	.02	.00	.00	7.75	3.26	2.40
19059.000	39.00	948.40	946.70	944.60	8.00	948.03	.01	.17	0.00	8.18	3.43	2.40
19060.000	1.00	0.00	0.00	944.60	8.00	948.03	.01	.00	.00	8.16	3.43	2.40

SUMMARY OF ERRORS

CAUTION SECNO=13382.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=13382.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=13382.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW. PLEASANT AND CARVS LAKES

4) DOCUMENT TYPE: SUMMARY ENCROACHED

00BREAK00

*PROF 1

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
5749.00	3.24	921.24	0.00	920.50	921.26	.02	0.00	0.00	919.20
175.	15.	137.	23.	27.	123.	49.	0.	0.	919.10
0.00	.55	1.11	.48	.095	.061	.095	0.000	918.00	35.15
.000699	0.	0.	0.	0	0	5	0.00	105.26	140.41

3470 ENCROACHMENT STATIONS= .0 200.0 TYPE= 1 TARGET= 199.999

825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5 SEC. A

1490 NH CARD USED
*SECNO 6349.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 923.00 ELREA= 921.60

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9 SEC. B

6349.00	1.27	922.47	922.19	0.00	922.54	.07	1.25	.02	923.00
175.	0.	146.	29.	0.	68.	19.	2.	2.	921.60
.08	0.00	2.15	1.51	.095	.091	.095	.040	921.20	717.91
.028184	600.	600.	600.	8	17	0	0.00	160.64	878.54

1490 NH CARD USED
*SECNO 6599.000

6599.00	2.07	923.47	0.00	0.00	923.48	.01	.92	.02	923.20
175.	0.	135.	40.	2.	171.	69.	3.	3.	921.80
.18	.15	.79	.57	.095	.087	.095	.040	921.40	688.45
.001379	250.	250.	250.	6	0	0	0.00	226.94	915.40

*SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6600.00	2.07	923.47	0.00	0.00	923.48	.01	.00	.00	923.20
175.	0.	135.	40.	2.	172.	70.	3.	3.	921.80
.18	.15	.78	.57	.095	.087	.095	.040	921.40	688.17
.001354	1.	1.	1.	1	0	0	0.00	227.51	915.68

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.32	3.02	0.00	3.93	0.00	11.78	0.00	921.40	921.40

*SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
934.85	929.28	0.00	59.	116.	12.	12.	924.40	928.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.04	928.44	0.00	0.00	928.49	.05	5.01	0.00	922.30
175.	41.	87.	47.	246.	34.	298.	3.	3.	922.30
.19	.17	2.57	.16	.200	.020	.200	.039	921.40	810.30
.000106	59.	59.	59.	2	0	9	0.00	293.21	1103.51

*SECNO 6665.000

6665.00	7.10	928.50	0.00	0.00	928.50	.00	.00	.01	922.30
175.	67.	30.	78.	252.	34.	311.	4.	3.	922.30
.19	.27	.87	.25	.095	.045	.095	.039	921.40	809.32
.000061	6.	6.	6.	2	0	0	0.00	300.54	1109.85

*SECNO 8230.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.28	928.78	928.76	0.00	928.90	.12	.34	.06	928.90
175.	79.	54.	42.	55.	12.	33.	16.	13.	929.10
.37	1.45	4.54	1.26	.097	.048	.097	.045	927.50	1097.12
.028278	1500.	1565.	1520.	11	20	0	0.00	244.31	1379.59

*SECNO 9730.000

3470 ENCROACHMENT STATIONS= .0 990.0 TYPE= 1 TARGET= 989.999

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.45	931.25	0.00	0.00	931.25	.00	2.32	.04	931.30
90.	0.	2.	88.	0.	6.	360.	24.	24.	931.10
2.07	0.00	.33	.24	.098	.055	.098	.049	929.80	591.13
.000249	1500.	1500.	1500.	9	0	0	0.00	398.87	990.00

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 900.0 1700.0 TYPE= 1 TARGET= 800.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	1.81	931.41	0.00	0.00	931.41	.00	.15	.00	931.00
90.	68.	2.	20.	422.	9.	147.	35.	35.	931.00
3.83	.16	.25	.14	.110	.060	.110	.051	929.60	900.00
.000104	1000.	1000.	1000.	5	0	0	0.00	556.17	1456.17

*SEC 0 12250 .000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14 SEC. 6

12250.00	1.93	931.83	0.00	0.00	931.87	.04	.44	.02	931.10
90.	20.	57.	13.	41.	29.	34.	46.	48.	931.20
4.13	.49	1.98	.39	.098	.052	.099	.051	929.90	287.48
.002835	1520.	1520.	1520.	2	0	0	0.00	213.58	501.06

*SECNO 12355.000

12355.00	1.55	932.35	0.00	0.00	932.46	.11	.55	.04	931.80
90.	3.	64.	23.	4.	20.	32.	47.	49.	931.80
4.14	.64	3.18	.74	.110	.060	.110	.051	930.80	469.40
.012857	105.	105.	105.	3	0	0	0.00	145.04	614.43

*SECNO 12460.000

12460.00	1.32	933.02	0.00	0.00	933.03	.00	.53	.03	932.50
18.	0.	10.	8.	3.	15.	45.	47.	49.	932.50
4.21	.14	.64	.18	.110	.060	.110	.052	931.70	578.28
.000619	105.	105.	105.	2	0	0	0.00	152.63	730.90

*SECNO 12565.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP

12565.00	.67	933.27	933.27	0.00	933.37	.10	.20	.05	933.10
18.	0.	15.	3.	0.	6.	5.	47.	49.	933.10
4.22	.47	2.72	.50	.110	.060	.110	.052	932.60	689.05
.031965	105.	105.	105.	20	8	0	0.00	76.50	765.55

*SECNO 12670.000

3470 ENCROACHMENT STATIONS= .0 931.0 TYPE= 1 TARGET= 930.999

12670.00	.69	934.19	0.00	0.00	934.19	.00	.79	.03	933.90
18.	1.	4.	13.	4.	5.	38.	47.	50.	933.80
4.29	.29	.90	.34	.110	.060	.110	.052	933.50	779.09
.003294	105.	105.	105.	6	0	0	0.00	151.91	931.00

*SECNO 12671.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 931.0 TYPE= 1 TARGET= 930.999

D/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12671.00	.68	934.18	0.00	0.00	934.20	.02	.00	.01	933.90	
18.	1.	8.	9.	4.	5.	38.	47.	50.	933.80	
4.29	.21	1.76	.25	.100	.020	.100	.052	933.50	779.08	
.001396	1.	1.	1.	2	0	0	0.00	151.91	931.00	

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	5.91	3.03	0.00	1.64	0.00	1.97	0.00	933.50	933.50

*SECNO 12716.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
941.84	936.88	0.00	10.	8.	2.	2.	934.80	935.50

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12716.00	2.28	935.78	0.00	0.00	935.78	.00	1.58	0.00	933.50	
18.	2.	4.	11.	18.	5.	101.	47.	50.	933.50	
4.32	.13	.95	.11	.100	.020	.100	.052	933.50	774.10	
.000055	45.	45.	45.	0	0	10	0.00	147.57	921.67	

*SECNO 12720.000

12720.00	2.28	935.78	0.00	0.00	935.78	.00	.00	.00	933.50	
18.	3.	2.	14.	18.	5.	101.	47.	50.	933.50	
4.33	.15	.38	.13	.098	.058	.098	.052	933.50	774.12	
.000075	4.	4.	4.	0	0	0	0.00	147.50	921.62	

*SECNO 12912.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

12912.00	1.70	935.80	0.00	0.00	935.80	.00	.02	.00	935.00
18.	7.	9.	2.	51.	28.	17.	47.	50.	935.00
4.54	.13	.34	.11	.098	.058	.098	.052	934.10	292.39
.000103	175.	192.	175.	0	0	0	0.00	115.65	408.04

*SECNO 13017.000

13017.00	1.22	935.82	0.00	0.00	935.83	.01	.02	.01	935.60
18.	0.	17.	1.	1.	18.	6.	48.	51.	935.40
4.58	.12	.92	.22	.095	.052	.090	.052	934.60	390.52
.001083	75.	105.	125.	0	0	0	0.00	56.02	446.53

*SECNO 13122.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
13122.00	.82	936.02	0.00	0.00	936.06	.04	.22	.01	936.30
18.	0.	17.	1.	0.	11.	2.	18.	51.	935.90

4.60	0.00	1.55	.29	.095	.052	.090	.052	935.20	452.83
.005239	75.	105.	125.	2	0	0	0.00	33.93	486.76

*SECNO 13227.000

13227.00	.77	936.57	0.00	0.00	936.60	.03	.55	.00	937.00
18.	0.	16.	2.	0.	10.	4.	48.	51.	936.20
4.62	0.00	1.50	.51	.095	.052	.090	.052	935.80	500.26
.005011	75.	105.	125.	3	0	0	0.00	32.58	532.84

*SECNO 13332.000

3470 ENCROACHMENT STATIONS= 540.0 570.0 TYPE= 1 TARGET= 30.000

615' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#17 SEC. J

13332.00	.74	937.14	0.00	0.00	937.18	.04	.57	.00	937.70
18.	0.	15.	3.	0.	10.	3.	48.	51.	936.60
4.64	0.00	1.60	.74	.095	.052	.090	.052	936.40	548.15
.005584	75.	105.	125.	2	0	0	0.00	21.85	570.00

*SECNO 13374.000

3470 ENCROACHMENT STATIONS= 552.0 560.0 TYPE= 1 TARGET= 8.000

13374.00	1.11	937.34	0.00	0.00	937.40	.06	.21	.01100000.00	
18.	0.	18.	0.	0.	9.	0.	48.	51.	100000.00
4.64	0.00	2.03	0.00	.080	.045	.080	.052	936.23	552.00
.004572	42.	42.	42.	2	0	0	0.00	8.00	560.00

*SECNO 13382.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

13382.00	1.28	937.48	937.48	0.00	937.91	.43	.08	.18	937.50
18.	0.	18.	0.	0.	3.	0.	48.	51.	937.50
4.64	0.00	5.27	0.00	.080	.045	.080	.052	936.20	798.02
.041865	8.	8.	8.	20	8	0	0.00	3.96	802.00

*SECNO 13383.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.00 ELREA= 945.00

D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13383.00	1.53	937.73	937.47	0.00	937.99	.25	.02	.05	937.50
18.	0.	18.	0.	0.	4.	0.	48.	51.	937.50
4.64	0.00	4.04	0.00	.070	.040	.070	.052	936.20	798.00
.014568	1.	1.	1.	21	23	0	-.64	4.00	802.00

*SECNO 13473.000

3370 NORMAL BRIDGE, NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.40 ELREA= 949.20

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13473.00	2.27	938.47	0.00	0.00	938.56	.09	.53	.05	937.50
18.	0.	18.	0.	0.	7.	0.	48.	51.	937.50
4.65	0.00	2.44	0.00	.070	.040	.070	.052	936.20	798.00
.003140	90.	90.	90.	4	0	0	-1.37	4.00	802.00

*SECNO 13474.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.20 ELREA= 949.20

13474.00	2.27	938.47	0.00	0.00	938.57	.09	.00	.00	937.50
18.	0.	18.	0.	0.	7.	0.	48.	51.	937.50
4.65	0.00	2.43	0.00	.090	.048	.095	.052	936.20	798.00
.004467	1.	1.	1.	0	0	0	0.00	4.00	802.00

*SECNO 14034.000

3470 ENCROACHMENT STATIONS= 670.0 1200.0 TYPE= 1 TARGET= -670.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

14034.00	2.68	938.68	0.00	0.00	938.68	.00	.09	.03	936.70
150.	92.	27.	31.	376.	45.	132.	52.	53.	936.70
5.19	.24	.61	.24	.100	.050	.100	.051	936.00	670.00
.000126	700.	560.	420.	3	0	0	0.00	310.43	980.43

1490 NH CARD USED
*SECNO 14674.000

3470 ENCROACHMENT STATIONS= 320.0 636.0 TYPE= 1 TARGET= -320.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

14674.00	2.16	938.76	0.00	0.00	938.76	.00	.08	.00100000.00	
150.	0.	150.	0.	0.	479.	0.	59.	57.	100000.00
5.75	0.00	.31	0.00	.100	.074	.100	.051	936.60	320.00
.000131	630.	640.	640.	3	0	0	0.00	256.14	576.14

*SECNO 15359.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XLOB	XNCH	XNROB	ITN	ELMIN	SSTA

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 165.0 240.0 TYPE= 1 TARGET= 75.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

15359.00	1.05	938.85	0.00	0.00	938.85	.00	.09	.00	938.80
2.	0.	2.	0.	0.	10.	0.	63.	59.	938.60
6.99	.00	.15	.03	.090	.065	.100	.052	937.80	173.41
.000077	600.	685.	750.	0	0	0	0.00	18.65	192.06

*SECNO 15469.000

3470 ENCROACHMENT STATIONS= 190.0 210.0 TYPE= 1 TARGET= 20.000

35' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24 SEC. O

15469.00	1.46	938.86	0.00	0.00	938.86	.00	.00	.00	100000.00
2.	0.	2.	0.	0.	29.	0.	63.	59.	100000.00
7.54	0.00	.06	0.00	.100	.060	.100	.052	937.40	190.00
.000004	110.	110.	110.	0	0	0	0.00	20.00	210.00

*SECNO 15504.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

15504.00	.24	938.94	938.94	0.00	939.06	.12	.00	.06	938.70
2.	0.	2.	0.	0.	1.	0.	63.	59.	938.80
7.54	0.00	2.76	0.00	.100	.060	.100	.052	938.70	398.80
.090601	35.	35.	35.	20	20	0	0.00	2.50	401.30

*SECNO 15505.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

D/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15505.00	.29	938.99	0.00	0.00	939.07	.08	0.00	.01	938.70
2.	0.	2.	0.	0.	1.	0.	63.	59.	938.80
7.55	0.00	2.23	0.00	.050	.020	.050	.052	938.70	398.80
.005010	1.	1.	1.	2	0	0	0.00	2.50	401.30

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	7.99	2.82	0.00	.88	0.00	.44	0.00	937.80	938.70

*SECNO 15537.000
PRESSURE FLO

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
940.63	938.17	0.00	0.	2.	0.	0.	938.10	945.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.30 ELREA= 945.30

U/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15537.00	2.83	940.63	0.00	0.00	940.63	.00	1.56	0.00	937.80
2.	0.	2.	0.	0.	7.	0.	63.	59.	937.90
7.59	0.00	.23	0.00	.050	.020	.050	.052	937.80	398.80
.000006	32.	32.	32.	0	0	0	0.00	2.50	401.30

*SECNO 15538.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.30 ELREA= 945.30

15538.00	2.83	940.63	0.00	0.00	940.63	.00	.00	.00	937.80
2.	0.	2.	0.	0.	7.	0.	63.	59.	937.90
7.59	0.00	.23	0.00	.100	.050	.100	.052	937.80	398.80
.000036	1.	1.	1.	0	0	0	0.00	2.50	401.30

1490 NH CARD USED
*SECNO 16438.000

3470 ENCROACHMENT STATIONS= 320.0 560.0 TYPE= 1 TARGET= 300.000

900' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#26 SEC. Q

16438.00	5.04	940.64	0.00	0.00	940.64	.00	.00	.00100000.00	
110.	0.	110.	0.	0.	1098.	0.	75.	62.	100000.00
10.08	0.00	.10	0.00	.100	.060	.100	.052	935.60	320.00
.000005	800.	900.	1000.	1	0	0	0.00	240.00	560.00

1490 NH CARD USED
*SECNO 17468.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 195.0 400.0 TYPE= 1 TARGET= 205.000

1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27 SEC. R

17468.00	.95	940.65	0.00	0.00	940.65	.00	.01	.00	940.70
50.	0.	50.	0.	1.	131.	0.	89.	67.	100000.00
10.83	.13	.38	0.00	.095	.095	.100	.052	939.70	195.00
.000745	1250.	1030.	800.	1	0	0	0.00	199.22	400.00

*SECNO 17583.000

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3470 ENCROACHMENT STATIONS=      255.0      450.0  TYPE=      1  TARGET=      195.000
 17583.00       .34    940.84      0.00      0.00    940.85       .01       .19       .00    940.50
      50.        1.       48.        1.        2.       57.        1.       89.       68.    940.50
    10.87       .52       .85       .49      .100      .065      .095      .052    940.50    255.00
  .006631      125.      115.      110.         2         0         0      0.00    195.00    450.00

*SECNO 17640.000

3470 ENCROACHMENT STATIONS=      270.0      435.0  TYPE=      1  TARGET=      165.000
 17640.00       .35    941.25      0.00      0.00    941.26       .01       .41       .00100000.00
      50.        0.       50.        0.        0.       53.        0.       89.       68. 100000.00
    10.89      0.00       .95      0.00      .100      .065      .095      .052    940.90    270.00
  .007963       65.       57.       55.         4         0         0      0.00    165.00    435.00

*SECNO 17698.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=      195.0      330.0  TYPE=      1  TARGET=      135.000
 17698.00       .40    941.70      0.00      0.00    941.72       .02       .46       .00100000.00
      50.        0.       50.        0.        0.       49.        0.       90.       68. 100000.00
    10.91      0.00      1.02      0.00      .100      .065      .095      .052    941.30    195.00
  .007765       65.       58.       55.         2         0         0      0.00    135.00    330.00

*SECNO 17755.000

3470 ENCROACHMENT STATIONS=      210.0      315.0  TYPE=      1  TARGET=      105.000
 17755.00       .44    942.14      0.00      0.00    942.16       .02       .44       .00100000.00
      50.        0.       50.        0.        0.       45.        0.       90.       68. 100000.00
    10.92      0.00      1.12      0.00      .100      .065      .095      .052    941.70    210.00
  .007589       65.       57.       55.         2         0         0      0.00    105.00    315.00

*SECNO 17813.000

3470 ENCROACHMENT STATIONS=      155.0      232.0  TYPE=      1  TARGET=       77.000
 17813.00       .53    942.63      0.00      0.00    942.66       .03       .50       .01    942.30
      50.        1.       49.        1.        1.       35.        1.       90.       68.    942.30
    10.93       .65      1.40       .66      .100      .065      .095      .052    942.10    155.00
  .009751       65.       58.       55.         2         0         0      0.00     77.00    232.00

*SECNO 17870.000

3470 ENCROACHMENT STATIONS=      170.0      218.0  TYPE=      1  TARGET=       48.000
 17870.00       .65    943.15      0.00      0.00    943.19       .04       .53       .00100000.00
      50.        0.       50.        0.        0.       31.        0.       90.       68. 100000.00
    10.94      0.00      1.59      0.00      .100      .065      .095      .052    942.50    170.00
  .008813       65.       57.       55.         1         0         0      0.00     48.00    218.00

1490 NH CARD USED
*SECNO 17928.000

          740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28     SEC. S

 17928.00       .97    943.97      0.00      0.00    944.27       .30       .94       .13    944.30
      50.        0.       50.        0.        0.       11.        0.       90.       68.    944.10
    10.9[illegible]      0.[illegible]      [illegible].37      0.0[illegible]      .1[illegible]0      .055      .09[illegible]      .05[illegible]     9[illegible]3.0[illegible]     12[illegible].01
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.03 721	65.	58.	55.	3	0	0	0.00	15.43	140.45

*SECNO 18328.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29 SEC. T

18328.00	2.74	946.74	0.00	0.00	946.82	.08	2.49	.07	946.30
50.	0.	50.	0.	0.	23.	0.	90.	69.	946.70
11.00	.29	2.21	.01	.090	.045	.090	.052	944.00	73.24
.002417	350.	400.	430.	6	0	0	0.00	15.79	89.03

*SECNO 18638.000

3470 ENCROACHMENT STATIONS= 117.0 135.0 TYPE= 1 TARGET= 18.000

30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30 SEC. U

18638.00	1.79	947.09	0.00	0.00	947.09	.00	.25	.02100000.00	
4.	0.	4.	0.	0.	22.	0.	90.	69.	100000.00
11.47	0.00	.18	0.00	.085	.042	.085	.052	945.30	117.00
.000020	410.	310.	210.	4	0	0	0.00	16.69	133.69

*SECNO 18668.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.20 ELREA= 948.20

18668.00	1.29	947.09	0.00	0.00	947.09	.01	.00	.00	945.80
4.	0.	4.	0.	0.	7.	0.	90.	69.	946.70
11.48	0.00	.61	0.00	.080	.040	.080	.052	945.80	97.00
.000331	30.	30.	30.	2	0	0	0.00	7.00	104.00

*SECNO 18669.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.20 ELREA= 948.20

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18669.00	1.29	947.09	0.00	0.00	947.09	.01	.00	.00	945.80
4.	0.	4.	0.	0.	7.	0.	90.	69.	946.70
11.48	0.00	.61	0.00	.050	.024	.050	.052	945.80	97.00
.000119	1.	1.	1.	0	0	0	0.00	7.00	104.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.78	3.02	0.00	1.96	0.00	4.91	0.00	945.20	945.80

*SECNO 18678.000

6070, LOW FLOW BY NORMAL BRIDGE

EGPRS= 0.000 EGLWC= 946.527 ELLC= 947.200 PCWSE= 947.089 ELTRD= 950.200

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 950.20 MAX ELLC= 947.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18678.00	1.89	947.09	0.00	0.00	947.10	.02	.00	.01	946.00
4.	0.	4.	0.	0.	4.	0.	90.	69.	946.00
11.48	0.00	1.02	0.00	.050	.024	.050	.052	945.20	98.80
.00323	9.	9.	9.	2	0	0	-1.73	2.40	101.20

*SECNO 18679.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

18679.00	1.89	947.09	0.00	0.00	947.10	.02	.00	.00	946.00
4.	0.	4.	0.	0.	4.	0.	90.	69.	946.00
11.48	0.00	1.01	0.00	.080	.042	.085	.052	945.20	98.80
.000851	1.	1.	1.	0	0	0	0.00	2.40	101.20

*SECNO 18989.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.00 ELREA= 950.00

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

18989.00	2.02	947.12	0.00	0.00	947.12	.00	.01	.00	946.50
4.	0.	4.	0.	0.	29.	0.	90.	69.	946.50
12.10	0.00	.14	0.00	.090	.047	.095	.052	945.10	142.00
.000011	310.	310.	310.	2	0	0	0.00	18.00	160.00

*SECNO 19019.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

19019.00	2.51	947.11	0.00	0.00	947.12	.01	.00	.00100000.00	
4.	0.	4.	0.	0.	6.	0.	90.	69.	100000.00
12.11	0.00	.67	0.00	.085	.045	.090	.052	944.60	149.80
.000539	30.	30.	30.	1	0	0	0.00	2.40	152.20

*SECNO 19020.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19020.00	2.52	947.12	0.00	0.00	947.12	.01	.00	.00100000.00	
4.	0.	4.	0.	0.	6.	0.	90.	69.	100000.00
12.12	0.00	.67	0.00	.060	.045	.060	.052	944.60	149.80
.000543	1.	1.	1.	0	0	0	0.00	2.40	152.20

SPECI'L BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.61	2.85	0.00	2.10	0.00	4.41	0.00	944.60	944.60

*SECNO 19059.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
947.16	947.12	0.00	0.	4.	4.	4.	946.70	948.40

3470 ENCROACHMENT STATIONS= 600.0 900.0 TYPE= 1 TARGET= 300.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.40 ELREA= 948.40

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19059.00	2.55	947.15	0.00	0.00	947.16	.01	.04	0.00	945.00	
4.	0.	4.	0.	0.	6.	0.	90.	69.	945.00	
12.13	0.00	.66	0.00	.060	.045	.060	.052	944.60	798.80	
.000309	39.	39.	39.	0	0	0	0.00	2.40	801.20	

*SECNO 19060.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.40 ELREA= 948.40

19060.00	2.55	947.15	0.00	0.00	947.16	.01	.00	.00	945.00
4.	0.	4.	0.	0.	6.	0.	90.	69.	945.00
12.13	0.00	.66	0.00	.030	.047	.080	.052	944.60	798.80
.000340	1.	1.	1.	0	0	0	0.00	2.40	801.20

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**************************************************

T1      5850-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP, PM = DICK ZANOTTI
T2      50-YEAR FLOOD
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       3.        0.        0.   .000700      0.00      0.0       0.   922.000     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 2

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 200.0 TYPE= 1 TARGET= 199.999

825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5 SEC. A

5749.00	3.78	921.78	0.00	922.00	921.80	.02	0.00	0.00	919.20
250.	25.	182.	43.	38.	147.	73.	0.	0.	919.10
0.00	.65	1.24	.59	.095	.060	.095	0.000	918.00	33.49
.000700	0.	0.	0.	0	0	5	0.00	111.05	144.53

1490 NH CARD USED
*SECNO 6349.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 923.00 ELREA= 921.60

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9 SEC. B

6349.00	1.65	922.85	0.00	0.00	922.89	.04	1.08	.01	923.00
250.	0.	203.	47.	0.	114.	39.	3.	2.	921.60
.10	0.00	1.78	1.22	.095	.089	.095	.040	921.20	705.33
.011478	600.	600.	600.	3	0	0	0.00	191.79	897.13

1490 NH CARD USED
*SECNO 6599.000

6599.00	2.31	923.71	0.00	0.00	923.72	.01	.82	.01	923.20
250.	1.	188.	61.	6.	204.	90.	4.	3.	921.80
.18	.25	.92	.68	.095	.086	.095	.040	921.40	678.17
.001527	250.	250.	250.	3	0	0	0.00	247.24	925.42

*SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6600.00	2.31	923.71	0.00	0.00	923.72	.01	.00	.00	923.20
250.	1.	188.	61.	6.	205.	90.	4.	3.	921.80
.18	.25	.92	.67	.095	.086	.095	.040	921.40	677.99
.001512	1.	1.	1.	0	0	0	0.00	247.62	925.60

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.32	3.02	0.00	3.93	0.00	11.78	0.00	921.40	921.40

*SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
946.93	932.94	0.00	136.	115.	12.	12.	924.40	928.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.14	928.54	0.00	0.00	928.64	.10	4.91	0.00	922.30
250.	59.	122.	69.	255.	34.	320.	5.	4.	922.30
.19	.23	3.56	.22	.200	.020	.200	.039	921.40	808.65
.000199	59.	59.	59.	2	0	10	0.00	305.51	1114.16

*SECNO 6665.000

6665.00	7.26	928.66	0.00	0.00	928.67	.00	.00	.03	922.30
250.	95.	41.	114.	266.	35.	346.	5.	4.	922.30
.19	.36	1.17	.33	.095	.045	.095	.039	921.40	806.79
.000106	6.	6.	6.	2	0	0	0.00	319.38	1126.17

*SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.66	929.16	0.00	0.00	929.20	.04	.52	.02	928.90
250.	124.	52.	74.	109.	18.	81.	20.	15.	929.10
.49	1.14	2.91	.92	.097	.048	.097	.045	927.50	1083.52
.007912	1500.	1565.	1520.	3	0	0	0.00	312.62	1396.14

*SECNO 9730.000

3470 ENCROACHMENT STATIONS= .0 990.0 TYPE= 1 TARGET= 989.999

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.62	931.42	0.00	0.00	931.42	.00	2.21	.01	931.30
140.	0.	3.	137.	0.	8.	425.	31.	27.	931.10
1.77	.04	.45	.32	.098	.055	.098	.049	929.80	587.46
.000362	1500.	1500.	1500.	7	0	0	0.00	402.54	990.00

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 900.0 1700.0 TYPE= 1 TARGET= 800.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.03	931.63	0.00	0.00	931.63	.00	.21	.00	931.00
140.	104.	4.	33.	509.	11.	182.	44.	38.	931.00
3.15	.20	.33	.18	.110	.060	.110	.051	929.60	900.00
.000140	1000.	1000.	1000.	4	0	0	0.00	559.92	1459.92

*SECNO 12250.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	TN	ELMIN	SSTA

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
			420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14				SEC. G		
12250.00	2.25	932.15	0.00	0.00	932.18	.03	.53	.01	931.10
140.	41.	66.	34.	73.	35.	67.	59.	52.	931.20
3.51	.56	1.90	.50	.098	.052	.099	.051	929.90	270.87
.002018	1520.	1520.	1520.	2	0	0	0.00	238.99	509.86
*SECNO 12355.000									
12355.00	1.74	932.54	0.00	0.00	932.66	.11	.43	.04	931.80
140.	7.	81.	52.	8.	23.	55.	59.	53.	931.80
3.52	.81	3.47	.95	.110	.060	.110	.052	930.80	456.28
.012550	105.	105.	105.	3	0	0	0.00	164.33	620.62
*SECNO 12460.000									
12460.00	1.51	933.21	0.00	0.00	933.21	.00	.53	.03	932.50
30.	1.	13.	16.	5.	17.	69.	60.	53.	932.50
3.59	.18	.74	.24	.110	.060	.110	.052	931.70	574.96
.000677	105.	105.	105.	1	0	0	0.00	162.18	737.14
*SECNO 12565.000									
			MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP						
12565.00	.78	933.38	0.00	0.00	933.46	.08	.21	.04	933.10
30.	0.	19.	11.	1.	7.	16.	60.	53.	933.10
3.60	.58	2.74	.65	.110	.060	.110	.052	932.60	687.40
.024247	105.	105.	105.	2	0	0	0.00	127.73	815.13
*SECNO 12670.000									
3470 ENCROACHMENT STATIONS=		.0	931.0	TYPE=	1	TARGET=	930.999		
12670.00	.78	934.28	0.00	0.00	934.29	.01	.81	.02	933.90
30.	2.	6.	22.	5.	5.	50.	60.	54.	933.80
3.65	.39	1.08	.44	.110	.060	.110	.052	933.50	778.59
.003711	105.	105.	105.	6	0	0	0.00	152.41	931.00
*SECNO 12671.000									
SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB *	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=		.0	931.0	TYPE=	1	TARGET=	930.999		
			D/S FACE OF HAGGERTY ROAD CULVERT, BS#15				SEC. H		
12671.00	.77	934.27	0.00	0.00	934.30	.03	.00	.01	933.90
30.	1.	12.	16.	5.	5.	49.	60.	54.	933.80
3.65	.30	2.27	.34	.100	.020	.100	.052	933.50	778.65
.001880	1.	1.	1.	2	0	0	0.00	152.35	931.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	5.91	3.03	0.00	1.64	0.00	1.97	0.00	933.50	933.50

*SECNO 12716.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
955.55	940.17	0.00	22.	8.	2.	2.	934.80	935.50

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12716.00	2.38	935.88	0.00	0.00	935.89	.01	1.58	0.00	933.50
30.	4.	7.	19.	21.	5.	114.	60.	54.	933.50
3.68	.18	1.42	.17	.100	.020	.100	.052	933.50	771.33
.000114	45.	45.	45.	0	0	12	0.00	158.47	929.80

*SECNO 12720.000

12720.00	2.39	935.89	0.00	0.00	935.89	.00	.00	.00	933.50
30.	4.	3.	23.	21.	5.	114.	60.	54.	933.50
3.68	.21	.57	.20	.098	.058	.098	.052	933.50	771.42
.000153	4.	4.	4.	0	0	0	0.00	158.11	929.53

*SECNO 12912.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

12912.00	1.82	935.92	0.00	0.00	935.92	.00	.03	.00	935.00
30.	12.	15.	4.	59.	30.	21.	60.	54.	935.00
3.83	.20	.49	.17	.098	.058	.098	.052	934.10	292.00
.000196	175.	192.	175.	0	0	0	0.00	117.73	409.73

*SECNO 13017.000

13017.00	1.35	935.95	0.00	0.00	935.98	.02	.04	.01	935.60
30.	1.	26.	3.	4.	21.	9.	61.	55.	935.40
3.86	.23	1.25	.36	.095	.052	.090	.052	934.60	380.81
.001688	75.	105.	125.	1	0	0	0.00	67.71	448.52

*SECNO 13122.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
13122.00	1.03	936.23	0.00	0.00	936.28	.05	.29	.01	936.30
30.	0.	27.	3.	0.	15.	6.	61.	55.	935.80
3.88	0.00	1.80	.54	.095	.052	.090	.052	935.20	452.20
.005089	75.	105.	125.	2	0	0	0.00	37.98	490.18

*SECNO 13227.000

13227.00	.98	936.78	0.00	0.00	936.82	.04	.54	.00	937.00
30.	0.	24.	6.	0.	14.	8.	61.	55.	936.20
3.89	0.00	1.74	.67	.095	.052	.090	.052	935.80	499.54
.004854	75.	105.	125.	2	0	0	0.00	37.29	536.84

*SECNO 13330.000

3470 ENCROACHMENT STATIONS= 540.0 570.0 TYPE= 1 TARGET= 30.000

615' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#17 SEC. J

13332.00	.95	937.35	0.00	0.00	937.41	.05	.58	.01	937.70
30.	0.	25.	5.	0.	13.	5.	61.	55.	936.60
3.91	0.00	1.94	.96	.095	.052	.090	.052	936.40	547.31
.006015	75.	105.	125.	1	0	0	0.00	22.68	570.00

*SECNO 13374.000

3470 ENCROACHMENT STATIONS= 552.0 560.0 TYPE= 1 TARGET= 8.000

13374.00	1.36	937.59	0.00	0.00	937.71	.12	.27	.03	100000.00	
30.	0.	30.	0.	0.	11.	0.	61.	55.	100000.00	
3.92	0.00	2.77	0.00	.080	.045	.080	.052	936.23	552.00	
.006959	42.	42.	42.	0	0	0	0.00	8.00	560.00	

*SECNO 13382.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

13382.00	1.62	937.82	937.82	0.00	938.43	.61	.11	.25	937.50
30.	0.	30.	0.	0.	5.	0.	61.	55.	937.50
3.92	0.00	6.27	0.00	.080	.045	.080	.052	936.20	798.00
.040966	8.	8.	8.	20	11	0	0.00	4.00	802.00

*SECNO 13383.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13383.00	1.94	938.14	0.00	0.00	938.52	.38	.02	.07	937.50
30.	0.	30.	0.	0.	6.	0.	61.	55.	937.50
3.92	0.00	4.95	0.00	.070	.040	.070	.052	936.20	798.00
.015714	1.	1.	1.	3	0	0	-1.04	4.00	802.00

*SECNO 13473.000

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.40 ELREA= 949.20

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13473.00	2.94	939.14	0.00	0.00	939.28	.14	.69	.07	937.50
30.	0.	30.	0.	0.	10.	0.	61.	55.	937.50
3.92	0.00	3.02	0.00	.070	.040	.070	.052	936.20	798.00
.004484	90.	90.	90.	5	0	0	-2.40	4.00	802.00

*SECNO 13474.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.20 ELREA= 949.20

13474.00	2.95	939.15	0.00	0.00	939.29	.14	.00	.00	937.50
30.	0.	30.	0.	0.	10.	0.	61.	55.	937.50
3.92	0.00	2.97	0.00	.090	.048	.095	.052	936.20	798.00
.005060	1.	1.	1.	0	0	0	0.00	4.00	802.00

*SECNO 14034.000

3470 ENCROACHMENT STATIONS= 670.0 1200.0 TYPE= 1 TARGET= -670.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

14034.00	3.40	939.40	0.00	0.00	939.40	.00	.07	.04	936.70
225.	140.	36.	49.	528.	57.	191.	66.	57.	936.70
4.43	.27	.63	.26	.100	.050	.100	.051	936.00	670.00
.000096	700.	560.	420.	3	0	0	0.00	313.99	983.99

1490 NH CARD USED
*SECNO 14674.000

3470 ENCROACHMENT STATIONS= 320.0 636.0 TYPE= 1 TARGET= -320.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

14674.00	2.86	939.46	0.00	0.00	939.46	.00	.06	.00100000.00	
225.	0.	225.	0.	0.	659.	0.	77.	61.	100000.00
4.95	0.00	.34	0.00	.100	.075	.100	.051	936.60	320.00
.000105	630.	640.	640.	3	0	0	0.00	260.50	580.50

*SECNO 15359.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 165.0 240.0 TYPE= 1 TARGET= 75.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

15359.00	1.73	939.53	0.00	0.00	939.53	.00	.07	.00	938.80
2.	0.	2.	0.	3.	20.	5.	82.	64.	938.60
7.76	.02	.07	.02	.090	.065	.100	.052	937.80	165.44
.000007	600.	685.	750.	0	0	0	0.00	39.31	204.75

*SECNO 15469.000

3470 ENCROACHMENT STATIONS= 190.0 210.0 TYPE= 1 TARGET= 20.000

35' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24 SEC. O

15469.00	2.13	939.53	0.00	0.00	939.53	.00	.00	.00100000.00	
2.	0.	2.	0.	0.	42.	0.	82.	64.	100000.00
8.52	0.00	.04	0.00	.100	.060	.100	.052	937.40	190.00
.000001	110.	110.	110.	0	0	0	0.00	20.00	210.00

*SECNO 15504.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

15504.00	.83	939.53	0.00	0.00	939.54	.01	.00	.01	938.70
2.	0.	2.	0.	0.	2.	0.	82.	64.	938.80
8.53	0.00	.82	0.00	.100	.060	.100	.052	938.70	398.80
.001861	35.	35.	35.	0	0	0	0.00	2.50	401.30

*SECNO 15505.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

D/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15505.00	.83	939.53	0.00	0.00	939.54	.01	.00	.00	938.70
2.	0.	2.	0.	0.	2.	0.	82.	64.	938.80
8.53	0.00	.83	0.00	.050	.020	.050	.052	938.70	398.80
.000210	1.	1.	1.	0	0	0	0.00	2.50	401.30

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	7.99	2.82	0.00	.88	0.00	.44	0.00	937.80	938.70

*SECNO 15537.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
941.38	938.64	0.00	0.	2.	0.	0.	938.10	945.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.30 ELREA= 945.30

U/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15537.00	3.58	941.38	0.00	0.00	941.38	.00	1.84	0.00	937.80
2.	0.	2.	0.	0.	9.	0.	82.	64.	937.90
8.58	0.00	.19	0.00	.050	.020	.050	.052	937.80	398.80
.000004	32.	32.	32.	0	0	0	0.00	2.50	401.30

*SECNO 15538.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.30 ELREA= 945.30

15538.00	3.58	941.38	0.00	0.00	941.38	.00	.00	.00	937.80
2.	0.	2.	0.	0.	9.	0.	82.	64.	937.90
8.58	0.00	.19	0.00	.100	.050	.100	.052	937.80	398.80
.000023	1.	1.	1.	0	0	0	0.00	2.50	401.30

1490 NH CARD USED
*SECNO 16438.000

3470 ENCROACHMENT STATIONS= 320.0 560.0 TYPE= 1 TARGET= 300.000

900' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#26 SEC. 0

16438.00	5.79	941.39	0.00	0.00	941.39	.00	.01	.00100000.00	
165.	0.	165.	0.	0.	1277.	0.	96.	66.	100000.00
10.52	0.00	.13	0.00	.100	.060	.100	.052	935.60	320.00
.000007	800.	900.	1000.	0	0	0	0.00	240.00	560.00

1490 NH CARD USED
*SECNO 17468.000

3470 ENCROACHMENT STATIONS= 195.0 400.0 TYPE= 1 TARGET= 205.000

1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27 SEC. R

17468.00	1.70	941.40	0.00	0.00	941.40	.00	.01	.00	940.70
80.	1.	79.	0.	5.	280.	0.	114.	72.	100000.00
11.53	.16	.28	0.00	.095	.095	.100	.052	939.70	195.00
.000153	1250.	1030.	800.	0	0	0	0.00	205.00	400.00

*SECNO 17583.000

3470 ENCROACHMENT STATIONS= 255.0 450.0 TYPE= 1 TARGET= 195.000

17583.00	.93	941.43	0.00	0.00	941.43	.00	.03	.00	940.50
80.	2.	77.	1.	7.	162.	4.	115.	72.	940.50
11.60	.28	.47	.28	.100	.065	.095	.052	940.50	255.00
.000503	125.	115.	110.	1	0	0	0.00	195.00	450.00

*SECNO 17640.000

3470 ENCROACHMENT STATIONS= 270.0 435.0 TYPE= 1 TARGET= 165.000

17640.00	.58	941.48	0.00	0.00	941.49	.01	.06	.00100000.00	
80.	0.	80.	0.	0.	91.	0.	115.	72.	100000.00
11.62	0.00	.88	0.00	.100	.065	.095	.052	940.90	270.00
.003270	65.	57.	55.	2	0	0	0.00	165.00	435.00

*SECNO 17698.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 195.0 330.0 TYPE= 1 TARGET= 135.000

17698.00	.49	941.79	0.00	0.00	941.81	.03	.31	.01100000.00	
80.	0.	80.	0.	0.	59.	0.	115.	73.	100000.00
11.63	0.00	1.35	0.00	.100	.065	.095	.052	941.30	195.00

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 .010406      65.      58.      5.       2        0        0      0.00    13.00    330.00

*SECNO 17755.000

3470 ENCROACHMENT STATIONS=      210.0      315.0  TYPE=      1  TARGET=      105.000
 17755.00      .58   942.28     0.00     0.00   942.31      .03      .50      .00100000.00
     80.        0.      80.       0.       0.      60.       0.     115.      73. 100000.00
   11.64      0.00     1.34     0.00     .100     .065     .095     .052   941.70   210.00
 .007384      65.      57.      55.        3        0        0      0.00   105.00   315.00

*SECNO 17813.000

3470 ENCROACHMENT STATIONS=      155.0      232.0  TYPE=      1  TARGET=      77.000
 17813.00      .68   942.78     0.00     0.00   942.83      .05      .51      .01   942.30
     80.        1.      78.       1.       1.      45.       1.     115.      73.    942.30
   11.65      .84     1.72      .86     .100     .065     .095     .052   942.10   155.00
 .010428      65.      58.      55.        1        0        0      0.00    77.00   232.00

*SECNO 17870.000

3470 ENCROACHMENT STATIONS=      170.0      218.0  TYPE=      1  TARGET=      48.000
 17870.00      .85   943.35     0.00     0.00   943.41      .06      .57      .01100000.00
     80.        0.      80.       0.       0.      41.       0.     115.      73. 100000.00
   11.66      0.00     1.97     0.00     .100     .065     .095     .052   942.50   170.00
 .009703      65.      57.      55.        1        0        0      0.00    48.00   218.00

1490 NH CARD USED
*SECNO 17928.000

          740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28     SEC. S

 17928.00     1.21   944.21   944.18     0.00   944.64      .43     1.05      .19   944.30
     80.        0.      80.       0.       0.      15.       0.     115.      73.    944.10
   11.66      0.00     5.28      .03     .100     .055     .090     .052   943.00   124.31
 .044491      65.      58.      55.        4       11        0      0.00    17.29   141.60

*SECNO 18328.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         OLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

          340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29     SEC. T

 18328.00     3.25   947.25     0.00     0.00   947.36      .11     2.62      .10   946.30
     80.        1.      78.       1.       2.      29.       3.     115.      73.    946.70
   11.70      .49     2.67      .35     .090     .045     .090     .052   944.00    71.23
 .002510     350.     400.     430.        6        0        0      0.00    28.88   100.11

*SECNO 18638.000

3470 ENCROACHMENT STATIONS=      117.0      135.0  TYPE=      1  TARGET=      18.000

          30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30      SEC. U

 18638.00     2.33   947.63     0.00     0.00   947.63      .00      .24      .03100000.00
      7.        0.       7.       0.       0.      31.       0.     116.      73. 100000.00
   12.09      .00      .23     0. 0     .085     .  2     .0^5     . 52   9 5.30   117. 0
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.000021	410.	310.	210.	4	0	0	0.00	17.50	134.50

*SECNO 18668.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

18668.00	1.83	947.63	0.00	0.00	947.64	.01	.00	.00	945.80
7.	0.	7.	0.	0.	10.	0.	116.	73.	946.70
12.10	0.00	.68	0.00	.080	.040	.080	.052	945.80	97.00
.000240	30.	30.	30.	2	0	0	0.00	7.00	104.00

*SECNO 18669.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18669.00	1.83	947.63	0.00	0.00	947.64	.01	.00	.00	945.80
7.	0.	7.	0.	0.	10.	0.	116.	73.	946.70
12.10	0.00	.68	0.00	.050	.024	.050	.052	945.80	97.00
.000086	1.	1.	1.	0	0	0	0.00	7.00	104.00

SPECIAL BRIDGE

SB_XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	1.78	3.02	0.00	1.96	0.00	4.91	0.00	945.20	945.80

*SECNO 18678.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= 0.000 EGLWC= 947.081 ELLC= 947.200 PCWSE= 947.629 ELTRD= 950.200

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 950.20 MAX ELLC= 947.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18678.00	2.42	947.62	0.00	0.00	947.65	.03	.00	.01	946.00
7.	0.	7.	0.	0.	5.	0.	116.	73.	946.00
12.10	0.00	1.41	0.00	.050	.024	.050	.052	945.20	98.80
.000703	9.	9.	9.	2	0	0	-2.94	2.40	101.20

*SECNO 18679.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

18679.00	2.42	947.62	0.00	0.00	947.65	.03	.00	.00	946.00
7.	0.	7.	0.	0.	5.	0.	116.	73.	946.00
12.10	0.00	1.33	0.00	.080	.042	.085	.052	945.20	98.80
.001202	1.	1.	1.	0	0	0	0.00	2.40	101.20

*SECNO 18989.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.00 ELREA= 950.00

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

18989.00	2.57	947.67	0.00	0.00	947.67	.00	.01	.01	946.50	
7.	0.	7.	0.	0.	39.	0.	116.	73.	946.50	
12.58	0.00	.18	0.00	.090	.047	.095	.052	945.10	142.00	
.000013	310.	310.	310.	2	0	0	0.00	18.00	160.00	

*SECNO 19019.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

19019.00	3.07	947.67	0.00	0.00	947.68	.01	.00	.01100000.00	
7.	0.	7.	0.	0.	7.	0.	116.	73. 100000.00	
12.59	0.00	.96	0.00	.085	.045	.090	.052	944.60	149.80
.001028	30.	30.	30.	2	0	0	0.00	2.40	152.20

*SECNO 19020.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19020.00	3.07	947.67	0.00	0.00	947.68	.01	.00	.00100000.00	
7.	0.	7.	0.	0.	7.	0.	116.	73. 100000.00	
12.59	0.00	.96	0.00	.060	.045	.060	.052	944.60	149.80
.001028	1.	1.	1.	0	0	0	0.00	2.40	152.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.61	2.85	0.00	2.10	0.00	4.41	0.00	944.60	944.60

*SECNO 19059.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
947.81	947.68	0.00	0.	7.	4.	4.	946.70	948.40

3470 ENCROACHMENT STATIONS= 600.0 900.0 TYPE= 1 TARGET= 300.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.40 ELREA= 948.40

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19059.00	3.20	947.80	0.00	0.00	947.81	.01	.13	0.00	945.00
7.	0.	7.	0.	0.	8.	0.	116.	73.	945.00
12.60	0.00	.92	0.00	.060	.045	.060	.052	944.60	798.80
.000523	39.	39.	39.	1	0	0	0.00	2.40	801.20

*SECNO 19 60.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.40 ELREA= 948.40

19060.00	3.20	947.80	0.00	0.00	947.81	.01	.00	.00	945.00
7.	0.	7.	0.	0.	8.	0.	116.	73.	945.00
12.60	0.00	.92	0.00	.080	.047	.080	.052	944.60	798.80
.000574	1.	1.	1.	0	0	0	0.00	2.40	801.20

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**************************************************
 HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
 ERROR CORR -  01,02
 MODIFICATION -  50,51,52,53
**************************************************

T1      5850-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP, PM = DICK ZANOTTI
T2      500-YEAR FLOOD
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       5.        0.        0.    .000700     0.00      0.0       0.    923.000     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 4

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=		.0	200.0	TYPE=	1	TARGET=	199.999		
825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5						SEC. A			
5749.00	4.21	922.21	0.00	923.00	922.24	.02	0.00	0.00	919.20
320.	34.	223.	63.	47.	166.	94.	0.	0.	919.10
0.00	.73	1.34	.67	.095	.060	.095	0.000	918.00	32.14
.000700	0.	0.	0.	0	0	5	0.00	115.73	147.87

1490 NH CARD USED
*SECNO 6349.000

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9						SEC. B			
6349.00	1.96	923.16	0.00	0.00	923.19	.03	.95	.01	923.00
320.	0.	249.	71.	1.	157.	61.	4.	2.	921.60
.11	.24	1.58	1.16	.095	.088	.095	.040	921.20	692.91
.006432	600.	600.	600.	2	0	0	0.00	218.15	911.06

1490 NH CARD USED
*SECNO 6599.000

6599.00	2.51	923.91	0.00	0.00	923.92	.01	.72	.01	923.20
320.	3.	235.	81.	11.	230.	108.	5.	4.	921.80
.19	.32	1.02	.75	.095	.085	.095	.040	921.40	670.00
.001631	250.	250.	250.	2	0	0	0.00	263.39	933.39

*SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BS#10						SEC. C			
6600.00	2.51	923.91	0.00	0.00	923.92	.01	.00	.00	923.20
320.	3.	235.	81.	11.	231.	109.	5.	4.	921.80
.19	.32	1.02	.75	.095	.085	.095	.040	921.40	669.79
.001614	1.	1.	1.	0	0	0	0.00	263.80	933.59

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.32	3.02	0.00	3.93	0.00	11.78	0.00	921.40	921.40

*SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
961.95	936.51	0.00	206.	114.	12.	12.	924.40	928.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.19	928.59	0.00	0.00	928.74	.15	4.82	0.00	922.30
320.	75.	156.	89.	260.	35.	330.	6.	4.	922.30
.19	.29	4.49	.27	.200	.020	.200	.039	921.40	807.87
.000314	59.	59.	59.	2	0	11	0.00	311.33	1119.20

*SECNO 6665.000

6665.00	7.38	928.78	0.00	0.00	928.79	.01	.00	.04	922.30
320.	121.	51.	148.	277.	36.	373.	6.	4.	922.30
.20	.44	1.43	.40	.095	.045	.095	.039	921.40	804.93
.000155	6.	6.	6.	2	0	0	0.00	333.26	1138.19

*SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.94	929.44	0.00	0.00	929.47	.03	.67	.01	928.90
320.	157.	56.	107.	153.	22.	123.	23.	16.	929.10
.54	1.03	2.52	.87	.097	.048	.097	.045	927.50	1073.48
.004396	1500.	1565.	1520.	2	0	0	0.00	334.89	1408.37

*SECNO 9730.000

3470 ENCROACHMENT STATIONS= .0 990.0 TYPE= 1 TARGET= 989.999

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.76	931.56	0.00	0.00	931.56	.00	2.08	.01	931.30
190.	0.	5.	185.	1.	9.	477.	37.	28.	931.10
1.60	.08	.56	.39	.098	.055	.098	.049	929.80	583.49
.000460	1500.	1500.	1500.	5	0	0	0.00	406.51	990.00

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 900.0 1700.0 TYPE= 1 TARGET= 800.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.22	931.82	0.00	0.00	931.82	.00	.26	.00	931.00
190.	140.	5.	45.	581.	13.	212.	51.	40.	931.00
2.77	.24	.40	.21	.110	.060	.110	.051	929.60	900.00
.000168	1000.	1000.	1000.	4	0	0	0.00	563.05	1463.05

*SECNO 12250.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSIA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

420' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#14 SEC. G

12250.00	2.50	932.40	0.00	0.00	932.43	.03	.59	.01	931.10
190.	61.	75.	54.	102.	39.	95.	70.	54.	931.20
3.15	.60	1.91	.57	.098	.052	.099	.051	929.90	257.90
.001726	1520.	1520.	1520.	2	0	0	0.00	258.83	516.73

*SECNO 12355.000

12355.00	1.93	932.73	0.00	0.00	932.83	.10	.37	.04	931.80
190.	13.	93.	84.	15.	27.	78.	70.	54.	931.80
3.16	.87	3.49	1.07	.110	.060	.110	.052	930.80	443.74
.010707	105.	105.	105.	3	0	0	0.00	182.94	626.68

*SECNO 12460.000

12460.00	1.64	933.34	0.00	0.00	933.35	.00	.49	.03	932.50
41.	1.	16.	24.	7.	19.	88.	70.	55.	932.50
3.22	.20	.80	.27	.110	.060	.110	.052	931.70	572.36
.000689	105.	105.	105.	1	0	0	0.00	169.65	742.01

*SECNO 12565.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUT MAP

12565.00	.92	933.52	0.00	0.00	933.56	.04	.19	.02	933.10
41.	1.	20.	21.	1.	8.	32.	71.	55.	933.10
3.24	.55	2.33	.66	.110	.060	.110	.052	932.60	685.67
.013661	105.	105.	105.	2	0	0	0.00	154.82	840.48

*SECNO 12670.000

3470 ENCROACHMENT STATIONS= .0 931.0 TYPE= 1 TARGET= 930.999

12670.00	.84	934.34	0.00	0.00	934.34	.01	.77	.01	933.90
41.	3.	8.	31.	6.	6.	57.	71.	56.	933.80
3.29	.48	1.27	.54	.110	.060	.110	.052	933.50	778.32
.004606	105.	105.	105.	4	0	0	0.00	152.68	931.00

*SECNO 12671.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 931.0 TYPE= 1 TARGET= 930.999

D/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12671.00	.82	934.32	0.00	0.00	934.37	.05	.00	.02	933.90
41.	2.	16.	23.	6.	6.	55.	71.	56.	933.80
3.29	.37	2.73	.42	.100	.020	.100	.052	933.50	778.40
.002443	1.	1.	1.	2	0	0	0.00	152.60	931.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	5.91	3.03	0.00	1.64	0.00	1.97	0.00	933.50	933.50

*SECNO 12716.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
974.07	944.02	0.00	33.	8.	2.	2.	934.80	935.50

U/S FACE OF HAGGERTY ROAD CULVERT, BS#15 SEC. H

12716.00	2.44	935.94	0.00	0.00	935.96	.01	1.59	0.00	933.50
41.	5.	9.	27.	23.	5.	123.	71.	56.	933.50
3.31	.23	1.82	.22	.100	.020	.100	.052	933.50	769.68
.000181	45.	45.	45.	1	0	13	0.00	164.94	934.63

*SECNO 12720.000

12720.00	2.46	935.96	0.00	0.00	935.96	.00	.00	.00	933.50
41.	6.	4.	31.	23.	5.	123.	71.	56.	933.50
3.31	.27	.72	.26	.098	.058	.098	.052	933.50	769.70
.000238	4.	4.	4.	0	0	0	0.00	164.87	934.57

*SECNO 12912.000

195' U/S FROM U/S FACE OF HAGGERTY ROAD CULVERT, VS#16 SEC. I

12912.00	1.90	936.00	0.00	0.00	936.01	.00	.05	.00	935.00
41.	16.	20.	5.	64.	32.	24.	71.	56.	935.00
3.43	.25	.61	.22	.098	.058	.098	.052	934.10	291.73
.000288	175.	192.	175.	0	0	0	0.00	119.19	410.92

*SECNO 13017.000

13017.00	1.45	936.05	0.00	0.00	936.08	.03	.06	.01	935.60
41.	2.	33.	5.	7.	23.	12.	72.	57.	935.40
3.45	.31	1.48	.46	.095	.052	.090	.052	934.60	375.51
.002073	75.	105.	125.	2	0	0	0.00	74.55	450.07

*SECNO 13122.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	IWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
13122.00	1.17	936.37	0.00	0.00	936.43	.05	.33	.01	936.30
41.	0.	35.	6.	0.	17.	9.	72.	57.	935.80
3.47	.13	2.00	.68	.095	.052	.090	.052	935.20	449.10
.005181	75.	105.	125.	2	0	0	0.00	43.40	492.50

*SECNO 13227.000

13227.00	1.13	936.93	0.00	0.00	936.98	.05	.55	.00	937.00
41.	0.	32.	9.	0.	17.	11.	72.	57.	936.20
3.49	0.00	1.93	.79	.095	.052	.090	.052	935.80	499.17
.004927	75.	105.	125.	2	0	0	0.00	40.58	539.75

*SECNO 13332.000

3470 ENCROACHMENT STATIONS= 540.0 570.0 TYPE= 1 TARGET= 30.000

615' U/S FRO U/S FACE OF HAGGERTY ROAD CULVERT, BS #17 SEC. J

13332.00	1.13	937.53	0.00	0.00	937.59	.07	.61	.01	937.70
41.	0.	34.	7.	0.	16.	6.	72.	57.	936.60
3.50	0.00	2.19	1.12	.095	.052	.090	.052	936.40	546.69
.006349	75.	105.	125.	1	0	0	0.00	23.31	570.00

*SECNO 13374.000

3470 ENCROACHMENT STATIONS= 552.0 560.0 TYPE= 1 TARGET= 8.000

13374.00	1.56	937.79	0.00	0.00	937.96	.17	.31	.05	100000.00
41.	0.	41.	0.	0.	12.	0.	72.	57.	100000.00
3.51	0.00	3.31	0.00	.080	.045	.080	.052	936.23	552.00
.008709	42.	42.	42.	1	0	0	0.00	8.00	560.00

*SECNO 13382.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

13382.00	1.90	938.10	938.10	0.00	938.85	.75	.13	.29	937.50
41.	0.	41.	0.	0.	6.	0.	72.	57.	937.50
3.51	0.00	6.95	0.00	.080	.045	.080	.052	936.20	798.00
.040416	8.	8.	8.	20	11	0	0.00	4.00	802.00

*SECNO 13383.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.00 ELREA= 945.00

D/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS #18 SEC. K

13383.00	2.28	938.48	0.00	0.00	938.96	.48	.02	.08	937.50
41.	0.	41.	0.	0.	7.	0.	72.	57.	937.50
3.51	0.00	5.56	0.00	.070	.040	.070	.052	936.20	798.00
.016325	1.	1.	1.	5	0	0	-1.37	4.00	802.00

*SECNO 13473.000

3370 NORMAL BRIDGE,NRD= 21 MIN ELTRD= 945.40 MAX ELLC= 940.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.40 ELREA= 949.20

U/S FACE OF PONTIAC TRAIL ROAD CULVERT, BS#18 SEC. K

13473.00	3.43	939.63	0.00	0.00	939.82	.19	.78	.09	937.50
41.	0.	41.	0.	0.	12.	0.	72.	57.	937.50
3.51	0.00	3.52	0.00	.070	.040	.070	.052	936.20	798.00
.005351	90.	90.	90.	4	0	0	-3.62	4.00	802.00

*SECNO 13474.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 945.20 ELREA= 949.20

13474.00	3.45	939.65	0.00	0.00	939.83	.18	.01	.00	937.50
41.	0.	41.	0.	0.	12.	0.	72.	57.	937.50
3.51	0.00	3.39	0.00	.090	.048	.095	.052	936.20	798.00
.005720	1.	1.	1.	1	0	0	0.00	4.00	802.00

*SECNO 14034.000

3470 ENCROACHMENT STATIONS= 670.0 1200.0 TYPE= 1 TARGET= -670.000

560' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#19 SEC. L

14034.00	3.94	939.94	0.00	0.00	939.94	.00	.06	.05	936.70
285.	178.	43.	64.	643.	67.	240.	79.	59.	936.70
4.01	.28	.64	.27	.100	.050	.100	.051	936.00	670.00
.000081	700.	560.	420.	3	0	0	0.00	330.32	1000.32

1490 NH CARD USED

*SECNO 14674.000

3470 ENCROACHMENT STATIONS= 320.0 636.0 TYPE= 1 TARGET= -320.000

1200' U/S FROM U/S FACE OF PONTIAC TRAIL ROAD, VS#20 SEC. M

14674.00	3.40	940.00	0.00	0.00	940.00	.00	.05	.00100000.00	
285.	0.	285.	0.	0.	797.	0.	91.	64.	100000.00
4.50	0.00	.36	0.00	.100	.075	.100	.051	936.60	320.00
.000088	630.	640.	640.	2	0	0	0.00	264.22	584.22

*SECNO 15359.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 165.0 240.0 TYPE= 1 TARGET= 75.000

145' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#21 SEC. N

15359.00	2.25	940.05	0.00	0.00	940.05	.00	.06	.00	938.80
2.	0.	1.	0.	8.	28.	28.	98.	66.	938.60
9.59	.02	.05	.01	.090	.065	.100	.052	937.80	165.00
.000002	600.	685.	750.	0	0	0	0.00	75.00	240.00

*SECNO 15469.000

3470 ENCROACHMENT STATIONS= 190.0 210.0 TYPE= 1 TARGET= 20.000

35' D/S FROM D/S FACE OF GRAND TRUNK WESTERN, VS#24 SEC. O

15469.00	2.65	940.05	0.00	0.00	940.05	.00	.00	.00	100000.00	
2.	0.	2.	0.	0.	53.	0.	98.	67.	100000.00	
10.44	0.00	.04	0.00	.100	.060	.100	.052	937.40	190.00	
.000001	110.	110.	110.	0	0	0	0.00	20.00	210.00	

*SECNO 15504.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

15504.00	1.35	940.05	0.00	0.00	940.06	.00	.00	.00	938.70
2.	0.	2.	0.	0.	3.	0.	98.	67.	938.80
10.46	0.00	.56	0.00	.100	.060	.100	.052	938.70	398.80
.000552	35.	35.	35.	0	0	0	0.00	2.50	401.30

*SECNO 15505.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 944.30 ELREA= 944.30

D/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15505.00	1.35	940.05	0.00	0.00	940.06	.00	.00	.00	938.70
2.	0.	2.	0.	0.	3.	0.	98.	67.	938.80
10.46	0.00	.57	0.00	.050	.020	.050	.052	938.70	398.80
.000062	1.	1.	1.	0	0	0	0.00	2.50	401.30

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	7.99	2.82	0.00	.88	0.00	.44	0.00	937.80	938.70

*SECNO 15537.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
942.37	939.16	0.00	0.	2.	0.	0.	938.10	945.30

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.30 ELREA= 945.30

U/S FACE OF GRAND TRUNK WESTERN, BS#25 SEC. P

15537.00	4.57	942.37	0.00	0.00	942.37	.00	2.31	0.00	937.80
2.	0.	2.	0.	0.	11.	0.	98.	67.	937.90
10.51	0.00	.17	0.00	.050	.020	.050	.052	937.80	398.80
.000002	32.	32.	32.	0	0	0	0.00	2.50	401.30

*SECNO 15538.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 945.30 ELREA= 945.30

15538.00	4.57	942.37	0.00	0.00	942.37	.00	.00	.00	937.80
2.	0.	2.	0.	0.	11.	0.	98.	67.	937.90
10.51	0.00	.17	0.00	.100	.050	.100	.052	937.80	398.80
.000015	1.	1.	1.	0	0	0	0.00	2.50	401.30

1490 NH CARD USED
*SECNO 16438.000

3470 ENCROACHMENT STATIONS= 320.0 560.0 TYPE= 1 TARGET= 300.000

900' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#26 SEC. Q

16438.00	6.77	942.37	0.00	0.00	942.37	.00	.01	.00100000.00	
215.	0.	215.	0.	0.	1513.	0.	114.	69.	100000.00
12.27	0.00	.14	0.00	.100	.060	.100	.052	935.60	320.00
.000007	800.	900.	1000.	0	0	0	0.00	240.00	560.00

1490 NH CARD USED
*SECNO 17468.000

3470 ENCROACHMENT STATIONS= 195.0 400.0 TYPE= 1 TARGET= 205.000

1930' U/S FROM U/S FACE OF GRAND TRUNK WESTERN, VS#27 SEC. R

17468.00	2.68	942.38	0.00	0.00	942.38	.00	.01	.00	940.70
100.	1.	99.	0.	9.	477.	0.	138.	74.	100000.00
13.66	.12	.21	0.00	.095	.095	.100	.052	939.70	195.00
.000040	1250.	1030.	800.	0	0	0	0.00	205.00	400.00

*SECNO 17583.000

3470 ENCROACHMENT STATIONS= 255.0 450.0 TYPE= 1 TARGET= 195.000

17583.00	1.89	942.39	0.00	0.00	942.39	.00	.01	.00	940.50
100.	2.	96.	1.	15.	339.	8.	139.	75.	940.50
13.77	.16	.28	.15	.100	.065	.095	.052	940.50	255.00
.000068	125.	115.	110.	0	0	0	0.00	195.00	450.00

*SECNO 17640.000

3470 ENCROACHMENT STATIONS= 270.0 435.0 TYPE= 1 TARGET= 165.000

17640.00	1.49	942.39	0.00	0.00	942.40	.00	.01	.00100000.00	
100.	0.	100.	0.	0.	241.	0.	139.	75.	100000.00
13.81	0.00	.41	0.00	.100	.065	.095	.052	940.90	270.00
.000203	65.	57.	55.	0	0	0	0.00	165.00	435.00

*SECNO 17698.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 195.0 330.0 TYPE= 1 TARGET= 135.000

17698.00	1.11	942.41	0.00	0.00	942.42	.01	.02	.00100000.00	
100.	0.	100.	0.	0.	144.	0.	140.	75.	100000.00
13.13	0.00	.70	0.00	.100	.065	.095	.052	941.30	195.00

.000868	65.	58.	5..	1	0	0	0.00	135.00	330.00

*SECNO 17755.000

3470 ENCROACHMENT STATIONS= 210.0 315.0 TYPE= 1 TARGET= 105.000

17755.00	.80	942.50	0.00	0.00	942.52	.02	.09	.01100000.00	
100.	0.	100.	0.	0.	82.	0.	140.	75.	100000.00
13.85	0.00	1.22	0.00	.100	.065	.095	.052	941.70	210.00
.004014	65.	57.	55.	2	0	0	0.00	105.00	315.00

*SECNO 17813.000

3470 ENCROACHMENT STATIONS= 155.0 232.0 TYPE= 1 TARGET= 77.000

17813.00	.75	942.85	0.00	0.00	942.90	.06	.37	.02	942.30
100.	2.	97.	2.	2.	50.	2.	140.	76.	942.30
13.86	.95	1.94	.98	.100	.065	.095	.052	942.10	155.00
.011518	65.	58.	55.	2	0	0	0.00	77.00	232.00

*SECNO 17870.000

3470 ENCROACHMENT STATIONS= 170.0 218.0 TYPE= 1 TARGET= 48.000

17870.00	.96	943.46	0.00	0.00	943.53	.07	.62	.01100000.00	
100.	0.	100.	0.	0.	46.	0.	140.	76.	100000.00
13.86	0.00	2.18	0.00	.100	.065	.095	.052	942.50	170.00
.010222	65.	57.	55.	2	0	0	0.00	48.00	218.00

1490 NH CARD USED

*SECNO 17928.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

740' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#28 SEC. S

17928.00	1.35	944.35	944.35	0.00	944.84	.49	1.06	.21	944.30
100.	0.	100.	0.	0.	18.	0.	140.	76.	944.10
13.87	.32	5.62	.84	.085	.055	.090	.052	943.00	117.40
.041834	65.	58.	55.	3	11	0	0.00	25.13	142.52

*SECNO 18328.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

340' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#29 SEC. T

18328.00	3.51	947.51	0.00	0.00	947.63	.13	2.68	.11	946.30
100.	2.	95.	3.	3.	32.	7.	140.	76.	946.70
13.91	.59	2.93	.46	.090	.045	.090	.052	944.00	70.24
.002620	350.	400.	430.	7	0	0	0.00	35.36	105.60

*SECNO 1863[illegible].00

3470 ENCROACHMENT STATIONS= 117.0 135.0 TYPE= 1 TARGET= 18.000

30' D/S FROM D/S FACE OF DRIVEWAY BRIDGE SECTION V, VS#30 SEC. U

18638.00	2.62	947.92	0.00	0.00	947.92	.00	.25	.04	100000.00	
10.	0.	10.	0.	0.	36.	0.	140.	76.	100000.00	
14.22	0.00	.28	0.00	.085	.042	.085	.052	945.30	117.00	
.000027	410.	310.	210.	4	0	0	0.00	17.93	134.93	

*SECNO 18668.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

18668.00	2.12	947.92	0.00	0.00	947.93	.01	.00	.00	945.80
10.	0.	10.	0.	0.	12.	0.	140.	76.	946.70
14.23	0.00	.81	0.00	.080	.040	.080	.052	945.80	97.00
.000281	30.	30.	30.	2	0	0	0.00	7.00	104.00

*SECNO 18669.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.20 ELREA= 948.20

D/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18669.00	2.12	947.92	0.00	0.00	947.93	.01	.00	.00	945.80
10.	0.	10.	0.	0.	12.	0.	140.	76.	946.70
14.23	0.00	.81	0.00	.050	.024	.050	.052	945.80	97.00
.000101	1.	1.	1.	0	0	0	0.00	7.00	104.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.78	3.02	0.00	1.96	0.00	4.91	0.00	945.20	945.80

*SECNO 18678.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
948.03	947.39	0.00	0.	10.	5.	4.	947.20	950.20

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

U/S FACE OF DRIVEWAY BRIDGE, BS#31 SEC. V

18678.00	2.79	947.99	0.00	0.00	948.03	.04	.10	0.00	946.00
10.	0.	10.	0.	0.	6.	0.	140.	76.	946.00
14.23	0.00	1.63	0.00	.050	.024	.050	.052	945.20	98.80
.000525	9.	9.	9.	2	0	0	0.00	2.40	101.20

*SECNO 18679.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	COPAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.40 ELREA= 950.40

18679.00	2.79	947.99	0.00	0.00	948.03	.04	.00	.00	946.00
10.	0.	10.	0.	0.	6.	0.	140.	76.	946.00
14.23	0.00	1.63	0.00	.080	.042	.085	.052	945.20	98.80
.001606	1.	1.	1.	0	0	0	0.00	2.40	101.20

*SECNO 18989.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.00 ELREA= 950.00

30' D/S FROM D/S FACE OF HALSTEAD ROAD CULVERT, VS#32 SEC. W

18989.00	2.96	948.06	0.00	0.00	948.06	.00	.02	.01	946.50
10.	0.	10.	0.	0.	46.	0.	141.	76.	946.50
14.62	0.00	.22	0.00	.090	.047	.095	.052	945.10	142.00
.000015	310.	310.	310.	2	0	0	0.00	18.00	160.00

*SECNO 19019.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

19019.00	3.45	948.05	0.00	0.00	948.07	.02	.00	.01100000.00	
10.	0.	10.	0.	0.	8.	0.	141.	76.	100000.00
14.63	0.00	1.22	0.00	.085	.045	.090	.052	944.60	149.80
.001583	30.	30.	30.	2	0	0	0.00	2.40	152.20

*SECNO 19020.000

3470 ENCROACHMENT STATIONS= 149.8 152.2 TYPE= 1 TARGET= 2.400

D/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19020.00	3.45	948.05	0.00	0.00	948.08	.02	.00	.00100000.00	
10.	0.	10.	0.	0.	8.	0.	141.	76.	100000.00
14.63	0.00	1.22	0.00	.060	.045	.060	.052	944.60	149.80
.001582	1.	1.	1.	0	0	0	0.00	2.40	152.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.61	2.85	0.00	2.10	0.00	4.41	0.00	944.60	944.60

*SECNO 19059.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
948.34	948.08	0.00	0.	10.	4.	4.	946.70	948.40

3470 ENCROACHMENT STATIONS= 600.0 900.0 TYPE= 1 TARGET= 300.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 948.40 ELREA= 948.40

U/S FACE OF HALSTEAD ROAD CULVERT, BS#33 SEC. X

19059.00	3.72	948.32	0.00	0.00	948.34	.02	.27	0.00	945.00
10.	0.	10.	0.	0.	9.	0.	141.	76.	945.00
14.64	0.00	1.13	0.00	.060	.045	.060	.052	944.60	798.80
.000719	39.	39.	39.	1	0	0	0.00	2.40	801.20

*SECNO 19060.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WIN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.40 ELREA= 948.40

19060.00	3.72	948.32	0.00	0.00	948.34	.02	.00	.00	945.00
10.	0.	10.	0.	0.	9.	0.	141.	76.	945.00
14.64	0.00	1.13	0.00	.080	.047	.080	.052	944.60	798.80
.000789	1.	1.	1.	0	0	0	0.00	2.40	801.20

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  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR' -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CHANNEL D/S OF PLEASANT

SUMMARY PRINTOUT

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA"	DEPTH	TOPWID
5749.000	0.00	0.00	0.00	918.00	175.00	921.24	.02	0.00	0.00	199.26	3.24	105.26
5749.000	0.00	0.00	0.00	918.00	250.00	921.78	.02	0.00	0.00	257.31	3.78	111.05
5749.000	0.00	0.00	0.00	918.00	265.00	921.88	.02	0.00	0.00	268.15	3.88	112.09
5749.000	0.00	0.00	0.00	918.00	320.00	922.21	.02	0.00	0.00	306.54	4.21	115.73
6349.000	600.00	0.00	0.00	921.20	175.00	922.47	.07	1.25	.02	87.07	1.27	160.64
6349.000	600.00	0.00	0.00	921.20	250.00	922.85	.04	1.08	.01	152.55	1.65	191.79
6349.000	600.00	0.00	0.00	921.20	265.00	922.92	.04	1.05	.01	166.83	1.72	197.80
6349.000	600.00	0.00	0.00	921.20	320.00	923.16	.03	.95	.01	219.00	1.96	218.15
6599.000	250.00	0.00	0.00	921.40	175.00	923.47	.01	.92	.02	242.31	2.07	226.94
6599.000	250.00	0.00	0.00	921.40	250.00	923.71	.01	.82	.01	299.66	2.31	247.24
6599.000	250.00	0.00	0.00	921.40	265.00	923.76	.01	.80	.01	310.20	2.36	250.80
6599.000	250.00	0.00	0.00	921.40	320.00	923.91	.01	.72	.01	348.78	2.51	263.39
6600.000	1.00	0.00	0.00	921.40	175.00	923.47	.01	.00	.00	243.84	2.07	227.51
6600.000	1.00	0.00	0.00	921.40	250.00	923.71	.01	.00	.00	300.76	2.31	247.62
6600.000	1.00	0.00	0.00	921.40	265.00	923.76	.01	.00	.00	311.55	2.36	251.25
6600.000	1.00	0.00	0.00	921.40	320.00	923.91	.01	.00	.00	350.07	2.51	263.80
6659.000	59.00	928.10	924.40	921.40	175.00	928.44	.05	5.01	0.00	577.52	7.04	293.21
6659.000	59.00	928.10	924.40	921.40	250.00	928.54	.10	4.91	0.00	609.41	7.14	305.51
6659.000	59.00	928.10	924.40	921.40	265.00	928.56	.11	4.90	0.00	614.20	7.16	307.31
6659.000	59.00	928.10	924.40	921.40	320.00	928.59	.15	4.82	0.00	624.94	7.19	311.33
6665.000	6.00	0.00	0.00	921.40	175.00	928.50	.00	.00	.01	596.37	7.10	300.54
6665.000	6.00	0.00	0.00	921.40	250.00	928.66	.00	.00	.03	646.93	7.26	319.38
6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	656.23	7.29	322.72
6665.000	6.00	0.00	0.00	921.40	320.00	928.78	.01	.00	.04	686.16	7.38	333.26
8230.000	1565.00	0.00	0.00	927.50	175.00	928.78	.12	.34	.06	99.83	1.28	244.31
8230.000	1565.00	0.00	0.00	927.50	250.00	929.16	.04	.52	.02	207.52	1.66	312.62
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	227.70	1.73	317.69
8230.000	1565.00	0.00	0.00	927.50	320.00	929.44	.03	.67	.01	298.58	1.94	334.89
9730.000	1500.00	0.00	0.00	929.80	90.00	931.25	.00	2.32	.04	366.55	1.45	398.87
9730.000	1500.00	0.00	0.00	929.80	140.00	931.42	.00	2.21	.01	432.57	1.62	402.54
9730.000	1500.00	0.00	0.00	929.80	150.00	931.46	.00	2.19	.01	443.46	1.66	403.34
9730.000	1500.00	0.00	0.00	929.80	190.00	931.56	.00	2.08	.01	487.27	1.76	406.51

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
	10730.000	1000.00	0.00	0.00	929.60	90.00	931.41	.00	.15	.00	578.39	1.81	556.17
	10730.000	1000.00	0.00	0.00	929.60	140.00	931.63	.00	.21	.00	702.12	2.03	559.92
	10730.000	1000.00	0.00	0.00	929.60	150.00	931.68	.00	.22	.00	728.21	2.08	560.71
	10730.000	1000.00	0.00	0.00	929.60	190.00	931.82	.00	.26	.00	805.60	2.22	563.05
	12250.000	1520.00	0.00	0.00	929.90	90.00	931.83	.04	.44	.02	103.48	1.93	213.58
	12250.000	1520.00	0.00	0.00	929.90	140.00	932.15	.03	.53	.01	174.89	2.25	238.99
	12250.000	1520.00	0.00	0.00	929.90	150.00	932.21	.03	.54	.01	187.51	2.31	243.20
	12250.000	1520.00	0.00	0.00	929.90	190.00	932.40	.03	.59	.01	236.22	2.50	258.83
	12355.000	105.00	0.00	0.00	930.80	90.00	932.35	.11	.55	.04	55.81	1.55	145.04
	12355.000	105.00	0.00	0.00	930.80	140.00	932.54	.11	.43	.04	86.10	1.74	164.33
	12355.000	105.00	0.00	0.00	930.80	150.00	932.58	.11	.42	.04	92.81	1.78	168.96
	12355.000	105.00	0.00	0.00	930.80	190.00	932.73	.10	.37	.04	119.83	1.93	182.94
	12460.000	105.00	0.00	0.00	931.70	18.00	933.02	.00	.53	.03	62.64	1.32	152.63
	12460.000	105.00	0.00	0.00	931.70	30.00	933.21	.00	.53	.03	90.95	1.51	162.18
	12460.000	105.00	0.00	0.00	931.70	32.00	933.24	.00	.52	.03	95.83	1.54	163.77
	12460.000	105.00	0.00	0.00	931.70	41.00	933.34	.00	.49	.03	114.29	1.64	169.65
*	12565.000	105.00	0.00	0.00	932.60	18.00	933.27	.10	.20	.05	10.99	.67	76.50
	12565.000	105.00	0.00	0.00	932.60	30.00	933.38	.08	.21	.04	23.74	.78	127.73
	12565.000	105.00	0.00	0.00	932.60	32.00	933.41	.07	.20	.03	26.74	.81	133.30
	12565.000	105.00	0.00	0.00	932.60	41.00	933.52	.04	.19	.02	41.28	.92	154.82
	12670.000	105.00	0.00	0.00	933.50	18.00	934.19	.00	.79	.03	45.64	.69	151.91
	12670.000	105.00	0.00	0.00	933.50	30.00	934.28	.01	.81	.02	60.72	.78	152.41
	12670.000	105.00	0.00	0.00	933.50	32.00	934.29	.01	.80	.02	62.62	.79	152.47
	12670.000	105.00	0.00	0.00	933.50	41.00	934.34	.01	.77	.01	69.01	.84	152.68
	12671.000	1.00	0.00	0.00	933.50	18.00	934.18	.02	.00	.01	45.75	.68	151.91
	12671.000	1.00	0.00	0.00	933.50	30.00	934.27	.03	.00	.01	58.86	.77	152.35
	12671.000	1.00	0.00	0.00	933.50	32.00	934.27	.04	.00	.02	59.55	.77	152.37
	12671.000	1.00	0.00	0.00	933.50	41.00	934.32	.05	.00	.02	66.58	.82	152.60
	12716.000	45.00	935.50	934.80	933.50	18.00	935.78	.00	1.58	0.00	124.04	2.28	147.57
	12716.000	45.00	935.50	934.80	933.50	30.00	935.88	.01	1.58	0.00	140.20	2.38	158.47
	12716.000	45.00	935.50	934.80	933.50	32.00	935.89	.01	1.59	0.00	142.54	2.39	159.98
	12716.000	45.00	935.50	934.80	933.50	41.00	935.94	.01	1.59	0.00	150.34	2.44	164.94
	12720.000	4.00	0.00	0.00	933.50	18.00	935.78	.00	.00	.00	123.94	2.28	147.50
	12720.000	4.00	0.00	0.00	933.50	30.00	935.89	.00	.00	.00	139.65	2.39	158.11
	12720.000	4.00	0.00	0.00	933.50	32.00	935.90	.00	.00	.00	141.94	2.40	159.60
	12720.000	4.00	0.00	0.00	933.50	41.00	935.96	.00	.00	.00	150.22	2.46	164.87
	12912.000	192.00	0.00	0.00	934.10	18.00	935.80	.00	.02	.00	96.41	1.70	115.65
	12912.000	192.00	0.00	0.00	934.10	30.00	935.92	.00	.03	.00	110.27	1.82	117.73
	12912.000	192.00	0.00	0.00	934.10	32.00	935.94	.00	.03	.00	112.29	1.84	118.03
	12912.000	192.00	0.00	0.00	934.10	41.00	936.00	.00	.05	.00	120.12	1.90	119.19
	13017.000	105.00	0.00	0.00	934.60	18.00	935.82	.01	.02	.01	25.18	1.22	56.02
	13017.000	105.00	0.00	0.00	934.60	30.00	935.95	.02	.04	.01	33.75	1.35	67.71
	13017.000	105.00	0.00	0.00	934.60	32.00	935.97	.02	.05	.01	35.09	1.37	69.36
	13017.000	105.00	0.00	0.00	934.60	41.00	936.05	.03	.06	.01	41.49	1.45	74.55

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
	13122.000	105.00	0.00	0.00	935.20	18.00	936.02	.04	.22	.01	13.24	.82	33.93
	13122.000	105.00	0.00	0.00	935.20	30.00	936.23	.05	.29	.01	20.79	1.03	37.98
	13122.000	105.00	0.00	0.00	935.20	32.00	936.26	.05	.30	.01	21.92	1.06	38.55
	13122.000	105.00	0.00	0.00	935.20	41.00	936.37	.05	.33	.01	26.48	1.17	43.40
	13227.000	105.00	0.00	0.00	935.80	18.00	936.57	.03	.55	.00	14.81	.77	32.58
	13227.000	105.00	0.00	0.00	935.80	30.00	936.78	.04	.54	.00	22.24	.98	37.29
	13227.000	105.00	0.00	0.00	935.80	32.00	936.81	.04	.54	.00	23.32	1.01	37.92
	13227.000	105.00	0.00	0.00	935.80	41.00	936.93	.05	.55	.00	28.00	1.13	40.58
	13332.000	105.00	0.00	0.00	936.40	18.00	937.14	.04	.57	.00	13.15	.74	21.85
	13332.000	105.00	0.00	0.00	936.40	30.00	937.35	.05	.58	.01	17.97	.95	22.68
	13332.000	105.00	0.00	0.00	936.40	32.00	937.39	.05	.59	.01	18.73	.99	22.81
	13332.000	105.00	0.00	0.00	936.40	41.00	937.53	.07	.61	.01	21.70	1.13	23.31
	13374.000	42.00	0.00	0.00	936.23	18.00	937.34	.06	.21	.01	8.86	1.11	8.00
	13374.000	42.00	0.00	0.00	936.23	30.00	937.59	.12	.27	.03	10.82	1.36	8.00
	13374.000	42.00	0.00	0.00	936.23	32.00	937.63	.13	.28	.04	11.16	1.40	8.00
	13374.000	42.00	0.00	0.00	936.23	41.00	937.79	.17	.31	.05	12.37	1.56	8.00
*	13382.000	8.00	0.00	0.00	936.20	18.00	937.48	.43	.08	.18	3.41	1.28	3.96
*	13382.000	8.00	0.00	0.00	936.20	30.00	937.82	.61	.11	.25	4.78	1.62	4.00
*	13382.000	8.00	0.00	0.00	936.20	32.00	937.87	.64	.11	.25	4.99	1.67	4.00
*	13382.000	8.00	0.00	0.00	936.20	41.00	938.10	.75	.13	.29	5.89	1.90	4.00
*	13383.000	1.00	945.40	940.20	936.20	18.00	937.73	.25	.02	.05	4.45	1.53	4.00
	13383.000	1.00	945.40	940.20	936.20	30.00	938.14	.38	.02	.07	6.06	1.94	4.00
	13383.000	1.00	945.40	940.20	936.20	32.00	938.21	.39	.02	.07	6.35	2.01	4.00
	13383.000	1.00	945.40	940.20	936.20	41.00	938.48	.48	.02	.08	7.38	2.28	4.00
	13473.000	90.00	945.40	940.20	936.20	18.00	938.47	.09	.53	.05	7.38	2.27	4.00
	13473.000	90.00	945.40	940.20	936.20	30.00	939.14	.14	.69	.07	9.94	2.94	4.00
	13473.000	90.00	945.40	940.20	936.20	32.00	939.23	.15	.70	.07	10.26	3.03	4.00
	13473.000	90.00	945.40	940.20	936.20	41.00	939.63	.19	.78	.09	11.65	3.43	4.00
	13474.000	1.00	0.00	0.00	936.20	18.00	938.47	.09	.00	.00	7.41	2.27	4.00
	13474.000	1.00	0.00	0.00	936.20	30.00	939.15	.14	.00	.00	10.10	2.95	4.00
	13474.000	1.00	0.00	0.00	936.20	32.00	939.24	.15	.00	.00	10.46	3.04	4.00
	13474.000	1.00	0.00	0.00	936.20	41.00	939.65	.18	.01	.00	12.08	3.45	4.00
	14034.000	560.00	0.00	0.00	936.00	150.00	938.68	.00	.09	.03	553.20	2.68	310.43
	14034.000	560.00	0.00	0.00	936.00	225.00	939.40	.00	.07	.04	775.87	3.40	313.99
	14034.000	560.00	0.00	0.00	936.00	240.00	939.50	.00	.07	.04	808.09	3.50	314.50
	14034.000	560.00	0.00	0.00	936.00	285.00	939.94	.00	.06	.05	950.04	3.94	330.32
	14674.000	640.00	0.00	0.00	936.60	150.00	938.76	.00	.08	.00	478.51	2.16	256.14
	14674.000	640.00	0.00	0.00	936.60	225.00	939.46	.00	.06	.00	658.70	2.86	260.50
	14674.000	640.00	0.00	0.00	936.60	240.00	939.56	.00	.06	.00	685.45	2.96	261.14
	14674.000	640.00	0.00	0.00	936.60	285.00	940.00	.00	.05	.00	796.98	3.40	264.22
	15359.000	685.00	0.00	0.00	937.80	1.60	938.85	.00	.09	.00	10.65	1.05	18.65
	15359.000	685.00	0.00	0.00	937.80	1.70	939.53	.00	.07	.00	28.88	1.73	39.31
	15359.000	685.00	0.00	0.00	937.80	1.80	939.63	.00	.07	.00	33.82	1.83	56.84
	15359.000	685.00	0.00	0.00	937.80	1.90	940.05	.00	.06	.00	64.44	2.25	75.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
	15469.000	110.00	0.00	0.00	937.40	1.60	938.86	.00	.00	.00	29.00	1.46	20.00
	15469.000	110.00	0.00	0.00	937.40	1.70	939.53	.00	.00	.00	42.45	2.13	20.00
	15469.000	110.00	0.00	0.00	937.40	1.80	939.63	.00	.00	.00	44.50	2.23	20.00
	15469.000	110.00	0.00	0.00	937.40	1.90	940.05	.00	.00	.00	52.88	2.65	20.00
*	15504.000	35.00	0.00	0.00	938.70	1.60	938.94	.12	.00	.06	.58	.24	2.50
	15504.000	35.00	0.00	0.00	938.70	1.70	939.53	.01	.00	.01	2.06	.83	2.50
	15504.000	35.00	0.00	0.00	938.70	1.80	939.63	.01	.00	.00	2.32	.93	2.50
	15504.000	35.00	0.00	0.00	938.70	1.90	940.05	.00	.00	.00	3.37	1.35	2.50
	15505.000	1.00	0.00	0.00	938.70	1.60	938.99	.08	0.00	.01	.72	.29	2.50
	15505.000	1.00	0.00	0.00	938.70	1.70	939.53	.01	.00	.00	2.05	.83	2.50
	15505.000	1.00	0.00	0.00	938.70	1.80	939.63	.01	.00	.00	2.31	.93	2.50
	15505.000	1.00	0.00	0.00	938.70	1.90	940.05	.00	.00	.00	3.36	1.35	2.50
	15537.000	32.00	945.30	938.10	937.80	1.60	940.63	.00	1.56	0.00	7.06	2.83	2.50
	15537.000	32.00	945.30	938.10	937.80	1.70	941.38	.00	1.84	0.00	8.93	3.58	2.50
	15537.000	32.00	945.30	938.10	937.80	1.80	941.71	.00	2.07	0.00	9.75	3.91	2.50
	15537.000	32.00	945.30	938.10	937.80	1.90	942.37	.00	2.31	0.00	11.39	4.57	2.50
	15538.000	1.00	0.00	0.00	937.80	1.60	940.63	.00	.00	.00	7.07	2.83	2.50
	15538.000	1.00	0.00	0.00	937.80	1.70	941.38	.00	.00	.00	8.93	3.58	2.50
	15538.000	1.00	0.00	0.00	937.80	1.80	941.71	.00	.00	.00	9.74	3.91	2.50
	15538.000	1.00	0.00	0.00	937.80	1.90	942.37	.00	.00	.00	11.39	4.57	2.50
	16438.000	900.00	0.00	0.00	935.60	110.00	940.64	.00	.00	.00	1097.99	5.04	240.00
	16438.000	900.00	0.00	0.00	935.60	165.00	941.39	.00	.01	.00	1276.95	5.79	240.00
	16438.000	900.00	0.00	0.00	935.60	180.00	941.71	.00	.01	.00	1355.19	6.11	240.00
	16438.000	900.00	0.00	0.00	935.60	215.00	942.37	.00	.01	.00	1512.79	6.77	240.00
	17468.000	1030.00	0.00	0.00	939.70	50.00	940.65	.00	.01	.00	131.55	.95	199.22
	17468.000	1030.00	0.00	0.00	939.70	80.00	941.40	.00	.01	.00	284.61	1.70	205.00
	17468.000	1030.00	0.00	0.00	939.70	90.00	941.72	.00	.01	.00	351.39	2.02	205.00
	17468.000	1030.00	0.00	0.00	939.70	100.00	942.38	.00	.01	.00	485.97	2.68	205.00
	17583.000	115.00	0.00	0.00	940.50	50.00	940.84	.01	.19	.00	60.01	.34	195.00
	17583.000	115.00	0.00	0.00	940.50	80.00	941.43	.00	.03	.00	172.99	.93	195.00
	17583.000	115.00	0.00	0.00	940.50	90.00	941.74	.00	.02	.00	234.12	1.24	195.00
	17583.000	115.00	0.00	0.00	940.50	100.00	942.39	.00	.01	.00	361.70	1.89	195.00
	17640.000	57.00	0.00	0.00	940.90	50.00	941.25	.01	.41	.00	52.63	.35	165.00
	17640.000	57.00	0.00	0.00	940.90	80.00	941.48	.01	.06	.00	91.24	.58	165.00
	17640.000	57.00	0.00	0.00	940.90	90.00	941.76	.01	.02	.00	136.64	.86	165.00
	17640.000	57.00	0.00	0.00	940.90	100.00	942.39	.00	.01	.00	241.31	1.49	165.00
	17698.000	58.00	0.00	0.00	941.30	50.00	941.70	.02	.46	.00	48.93	.40	135.00
	17698.000	58.00	0.00	0.00	941.30	80.00	941.79	.03	.31	.01	59.30	.49	135.00
	17698.000	58.00	0.00	0.00	941.30	90.00	941.88	.02	.13	.01	72.88	.58	135.00
	17698.000	58.00	0.00	0.00	941.30	100.00	942.41	.01	.02	.00	143.70	1.11	135.00
	17755.000	57.00	0.00	0.00	941.70	50.00	942.14	.02	.44	.00	44.62	.44	105.00
	17755.000	57.00	0.00	0.00	941.70	80.00	942.28	.03	.50	.00	59.70	.58	105.00
	17755.000	57.00	0.00	0.00	941.70	90.00	942.30	.03	.42	.00	61.91	.60	105.00
	17755.000	57.00	0.00	0.00	941.70	100.00	942.50	.02	.09	.01	82.09	.80	105.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
	17813.000	58.00	0.00	0.00	942.10	50.00	942.63	.03	.50	.01	36.67	.53	77.00
	17813.000	58.00	0.00	0.00	942.10	80.00	942.78	.05	.51	.01	47.83	.68	77.00
	17813.000	58.00	0.00	0.00	942.10	90.00	942.83	.05	.53	.01	51.66	.73	77.00
	17813.000	58.00	0.00	0.00	942.10	100.00	942.85	.06	.37	.02	53.14	.75	77.00
	17870.000	57.00	0.00	0.00	942.50	50.00	943.15	.04	.53	.00	31.42	.65	48.00
	17870.000	57.00	0.00	0.00	942.50	80.00	943.35	.06	.57	.01	40.60	.85	48.00
	17870.000	57.00	0.00	0.00	942.50	90.00	943.40	.07	.58	.01	42.91	.90	48.00
	17870.000	57.00	0.00	0.00	942.50	100.00	943.46	.07	.62	.01	45.77	.96	48.00
	17928.000	58.00	0.00	0.00	943.00	50.00	943.97	.30	.94	.13	11.45	.97	15.43
	17928.000	58.00	0.00	0.00	943.00	80.00	944.21	.43	1.05	.19	15.18	1.21	17.29
	17928.000	58.00	0.00	0.00	943.00	90.00	944.28	.47	1.08	.20	16.54	1.28	17.98
*	17928.000	58.00	0.00	0.00	943.00	100.00	944.35	.49	1.06	.21	18.13	1.35	25.13
	18328.000	400.00	0.00	0.00	944.00	50.00	946.74	.08	2.49	.07	22.98	2.74	15.79
	18328.000	400.00	0.00	0.00	944.00	80.00	947.25	.11	2.62	.10	34.31	3.25	28.88
	18328.000	400.00	0.00	0.00	944.00	90.00	947.38	.12	2.65	.10	38.43	3.38	32.35
	18328.000	400.00	0.00	0.00	944.00	100.00	947.51	.13	2.68	.11	42.37	3.51	35.36
	18638.000	310.00	0.00	0.00	945.30	4.00	947.09	.00	.25	.02	21.93	1.79	16.69
	18638.000	310.00	0.00	0.00	945.30	7.00	947.63	.00	.24	.03	31.10	2.33	17.50
	18638.000	310.00	0.00	0.00	945.30	8.00	947.77	.00	.24	.03	33.62	2.47	17.71
	18638.000	310.00	0.00	0.00	945.30	10.00	947.92	.00	.25	.04	36.22	2.62	17.93
	18668.000	30.00	0.00	0.00	945.80	4.00	947.09	.01	.00	.00	6.57	1.29	7.00
	18668.000	30.00	0.00	0.00	945.80	7.00	947.63	.01	.00	.00	10.35	1.83	7.00
	18668.000	30.00	0.00	0.00	945.80	8.00	947.77	.01	.00	.00	11.36	1.97	7.00
	18668.000	30.00	0.00	0.00	945.80	10.00	947.92	.01	.00	.00	12.38	2.12	7.00
	18669.000	1.00	0.00	0.00	945.80	4.00	947.09	.01	.00	.00	6.57	1.29	7.00
	18669.000	1.00	0.00	0.00	945.80	7.00	947.63	.01	.00	.00	10.35	1.83	7.00
	18669.000	1.00	0.00	0.00	945.80	8.00	947.77	.01	.00	.00	11.36	1.97	7.00
	18669.000	1.00	0.00	0.00	945.80	10.00	947.92	.01	.00	.00	12.38	2.12	7.00
	18678.000	9.00	950.20	947.20	945.20	4.00	947.09	.02	.00	.01	3.94	1.89	2.40
	18678.000	9.00	950.20	947.20	945.20	7.00	947.62	.03	.00	.01	4.96	2.42	2.40
	18678.000	9.00	950.20	947.20	945.20	8.00	947.82	.03	.07	0.00	5.72	2.62	2.40
	18678.000	9.00	950.20	947.20	945.20	10.00	947.99	.04	.10	0.00	6.14	2.79	2.40
	18679.000	1.00	0.00	0.00	945.20	4.00	947.09	.02	.00	.00	3.96	1.89	2.40
	18679.000	1.00	0.00	0.00	945.20	7.00	947.62	.03	.00	.00	5.25	2.42	2.40
	18679.000	1.00	0.00	0.00	945.20	8.00	947.82	.03	.00	.00	5.72	2.62	2.40
	18679.000	1.00	0.00	0.00	945.20	10.00	947.99	.04	.00	.00	6.14	2.79	2.40
	18989.000	310.00	0.00	0.00	945.10	4.00	947.12	.00	.01	.00	28.70	2.02	18.00
	18989.000	310.00	0.00	0.00	945.10	7.00	947.67	.00	.01	.01	38.69	2.57	18.00
	18989.000	310.00	0.00	0.00	945.10	8.00	947.87	.00	.01	.01	42.22	2.77	18.00
	18989.000	310.00	0.00	0.00	945.10	10.00	948.06	.00	.02	.01	45.69	2.96	18.00
	19019.000	30.00	0.00	0.00	944.60	4.00	947.11	.01	.00	.00	5.97	2.51	2.40
	19019.000	30.00	0.00	0.00	944.60	7.00	947.67	.01	.00	.01	7.28	3.07	2.40
	19019.000	30.00	0.00	0.00	944.60	8.00	947.86	.02	.00	.01	7.74	3.26	2.40
	19019.000	30.00	0.00	0.00	944.60	10.00	948.05	.02	.00	.01	8.20	3.45	2.40

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
19020.000	1.00	0.00	0.00	944.60	4.00	947.12	.01	.00	.00	5.95	2.52	2.40
19020.000	1.00	0.00	0.00	944.60	7.00	947.67	.01	.00	.00	7.28	3.07	2.40
19020.000	1.00	0.00	0.00	944.60	8.00	947.86	.02	.00	.00	7.75	3.26	2.40
19020.000	1.00	0.00	0.00	944.60	10.00	948.05	.02	.00	.00	8.20	3.45	2.40
19059.000	39.00	948.40	946.70	944.60	4.00	947.15	.01	.04	0.00	6.07	2.55	2.40
19059.000	39.00	948.40	946.70	944.60	7.00	947.80	.01	.13	0.00	7.61	3.20	2.40
19059.000	39.00	948.40	946.70	944.60	8.00	948.03	.01	.17	0.00	8.17	3.43	2.40
19059.000	39.00	948.40	946.70	944.60	10.00	948.32	.02	.27	0.00	8.88	3.72	2.40
19060.000	1.00	0.00	0.00	944.60	4.00	947.15	.01	.00	.00	6.05	2.55	2.40
19060.000	1.00	0.00	0.00	944.60	7.00	947.80	.01	.00	.00	7.59	3.20	2.40
19060.000	1.00	0.00	0.00	944.60	8.00	948.03	.01	.00	.00	8.16	3.43	2.40
19060.000	1.00	0.00	0.00	944.60	10.00	948.32	.02	.00	.00	8.85	3.72	2.40

SUMMARY OF ERRORS

CAUTION SECNO=12565.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=12565.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=12565.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=13382.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=13382.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=13382.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=13382.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO=13382.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=13382.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=13382.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO=13382.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=13382.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=13382.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO=13382.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=13382.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=13383.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=15504.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=15504.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=15504.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=17928.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO=17928.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW WOODPECKER + MORRIS LAKES

4) DOCUMENT TYPE: REPORT

00BREAK00

HYDRAULIC ANALYSIS

Introduction

The stream being investigated is the channel between Woodpecker Lake and Morris Lake. This study area is in the Township of West Bloomfield, Oakland County, Michigan. The total reach length is approximately 1.0 miles. The 10, 50, 100, and 500 year flood frequency flows were calculated by the SCS method. These flows have been approved by the Michigan Department of Natural Resources (MDNR), Water Management Division. The Project Manager is Richard Zanotti.

Method of Analysis

The flood profiles were calculated by the HEC-2 computer program developed by the U.S. Corps of Engineers (Reference 1). All bridges have been modeled by the requirements of the HEC-2 normal bridge routine and special bridge routine.

Variables and Coefficients

The roughness factors (Manning's "n") were determined by comparing the descriptions in Ven Te Chow's Open-Channel Hydraulics (Reference 2) with photographs and field descriptions taken in West Bloomfield by survey crews in March, 1979. To reflect the changes in cross-section geometry, the contraction and expansion coefficients used in this study were .3 and .5, respectively; "n" values are indicative of summer conditions.

The inlet loss coefficients and outlet loss coefficients used in this study were taken from Hydraulic Charts for the Selection of Highway Culverts (Reference 3). The weir coefficients were taken from charts of the U.S. Geological Survey (Reference 4) and Bureau of Public Roads (Reference 5) supplied by the MDNR.

Starting Conditions

The starting water-surface elevations for this study were the Morris Lake elevations which were determined by the SCS method. These elevations are fairly close to those obtained from the HEC-2 run done by J&A in the West Bloomfield Township Flood Insurance Study for the Franklin Branch of the Rouge River. These starting elevations have been approved by the Department of Natural Resources, Water Management Division.

Discussion

The backwater analysis was run essentially with no attempt to encroach beyond the natural floodway due to the fact of a very narrow natural floodway. High water marks were not available for this portion of the stream.

References

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Manual, User's Manual, Oct. 1973.

2. Chow, Ven Te, Open-Channel Hydraulics, McGraw-Hill, 1959, pp. 101-123.

3. Herr, Lester A., Hydraulic Charts for the Selection of Highway Culverts, Hydraulic Engineering Circular No. 5, Bureau of Public Roads, U.S. Department of Commerce, Dec. 1965.

4. U.S. Geological Survey, Measurements of Peak Discharge at Dams by Indirect Methods, Book 3, Chapter A5, 1976.

5. Bureau of Public Roads, Hydraulics of Bridge Waterways, 1970.

Township of West Bloomfield
Channel d/s of Woodpecker Lake
5850-10-1
MSC 4-24-79

ORIGINAL CROSS-SECTION LOCATION

Cross Section	J & A Section	SECNO	Location
BM	63	32249	± 2305' u/s from u/s face of Lockhart Drive
BN	64	32489	± 2545' u/s from u/s face of Lockhart Drive
BO	65	32789	± 2845' u/s from u/s face of Lockhart Drive
BP	66	33239	± 3295' u/s from u/s face of Lockhart Drive
BQ	67	33539	± 3595' u/s from u/s face of Lockhart Drive
BR	68	33889	± 3945' u/s from u/s face of Lockhart Drive
BS	69	34615	d/s face of small culvert
		34639	u/s face of small culvert
BT	70	35240	± 1340' d/s from d/s face of Arrowhead Road
BU	71	35730	± 850' d/s from d/s face of Arrowhead Road
BV	72	36500	± 80' d/s from d/s face of Arrowhead Road
BW	73	36581	d/s face of Arrowhead Road
		36625	u/s face of Arrowhead Road
BX	74	36907	d/s face of Check Dam
		36908	u/s face of Check Dam
BY	75	37339	± 760' u/s from u/s face of Arrowhead Road

Johnson & Anderson, Inc.
Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

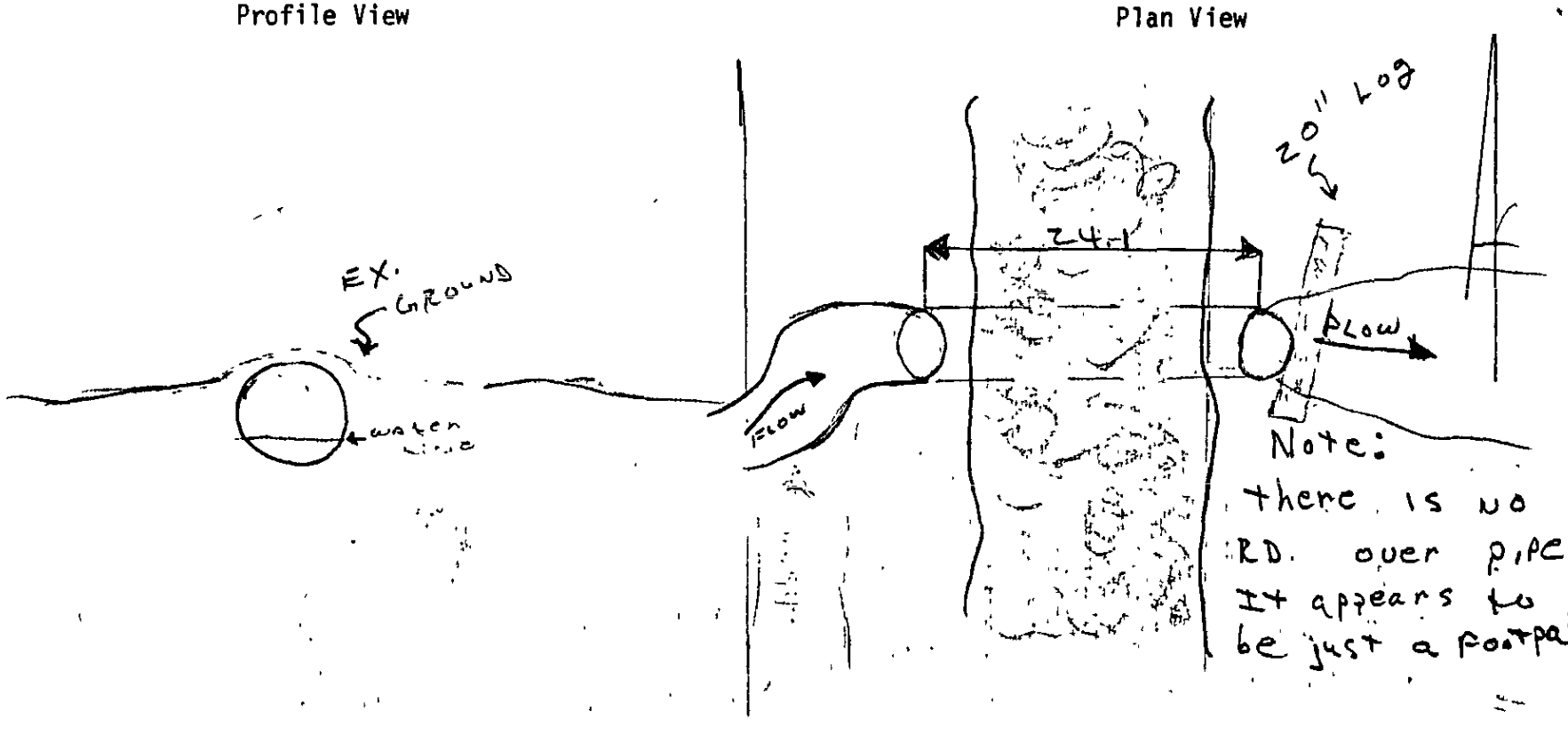
HYDRAULIC STRUCTURAL DATA

BS 69

Code No. 5850-10

Job Name: W. Bloomfield TWP #15			By: Mapley, Baker
Date: 3-22-79	Feature: 30" Earth bridge over conc pipe		Water Course:
Remarks:			
Width of Piers: 0	Pier Shape: 0	No. of Piers: 0	Area:
Water Elevation:	Length: 24.10	Width of Deck:	Skew: 0

FIELD SKETCH



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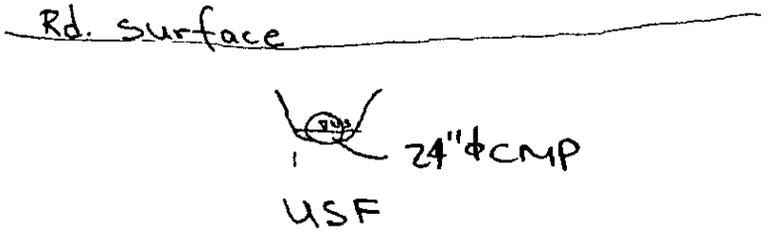
HYDRAULIC STRUCTURAL DATA

Code No. 5850-10-BS#73

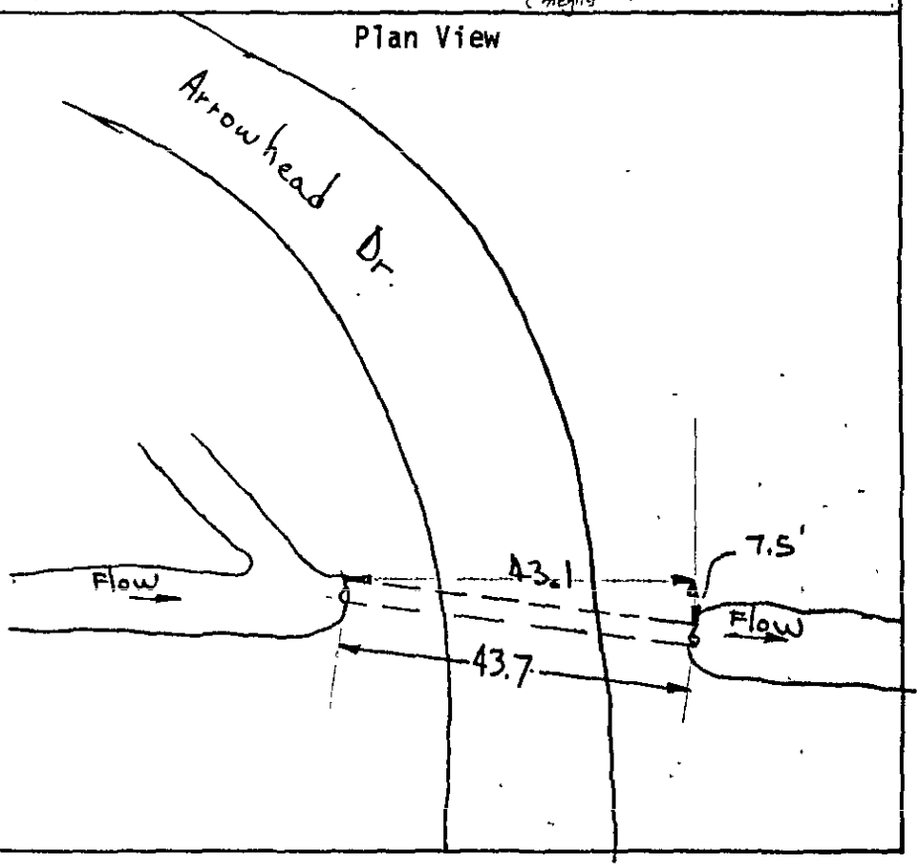
Job Name: W. Bloomfield Twp FIS			By: Mapley Spellman Baker
Date: 3-6-79	Feature: Arrowhead Rd 24"ϕ culvert		Water Course:
Remarks: Culvert has CMP Flared end sections on both ends			
Width of Piers:	Pier Shape:	No. of Piers:	Area:
Water Elevation:	Length: 43.7	Width of Deck:	Skew: See drwg.

FIELD SKETCH

Profile View



Plan View (negligible)



Johnson & Anderson, Inc.
Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

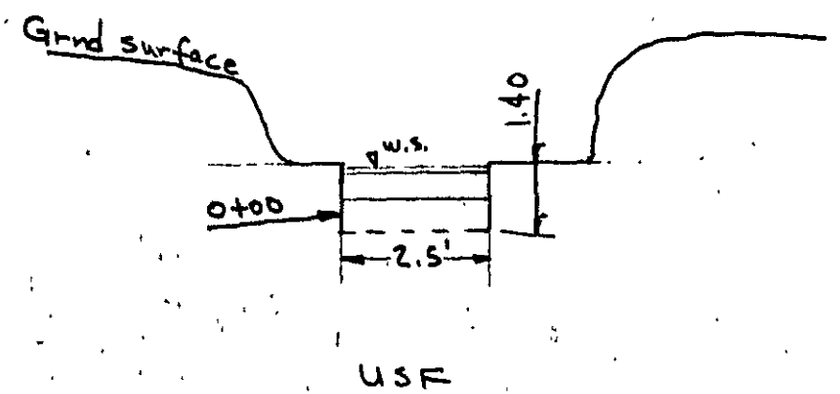
HYDRAULIC STRUCTURAL DATA

Code No. 5850-10-Dam Sect -74

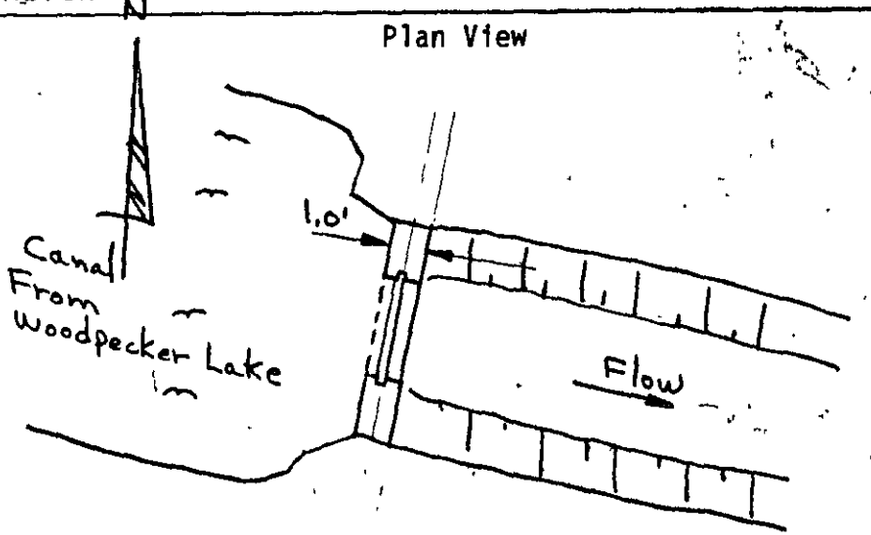
Job Name: W. Bloomfield Twp FIS			By: Mapley Baker
Date: 3-22-79	Feature: Dam at outlet of Woodpecker Lake		Water Course:
Remarks: CONC. DAM			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area:
Water Elevation: USE-947.99 DSE-946.34	Length: 7.5	Width of Deck:	Skew:

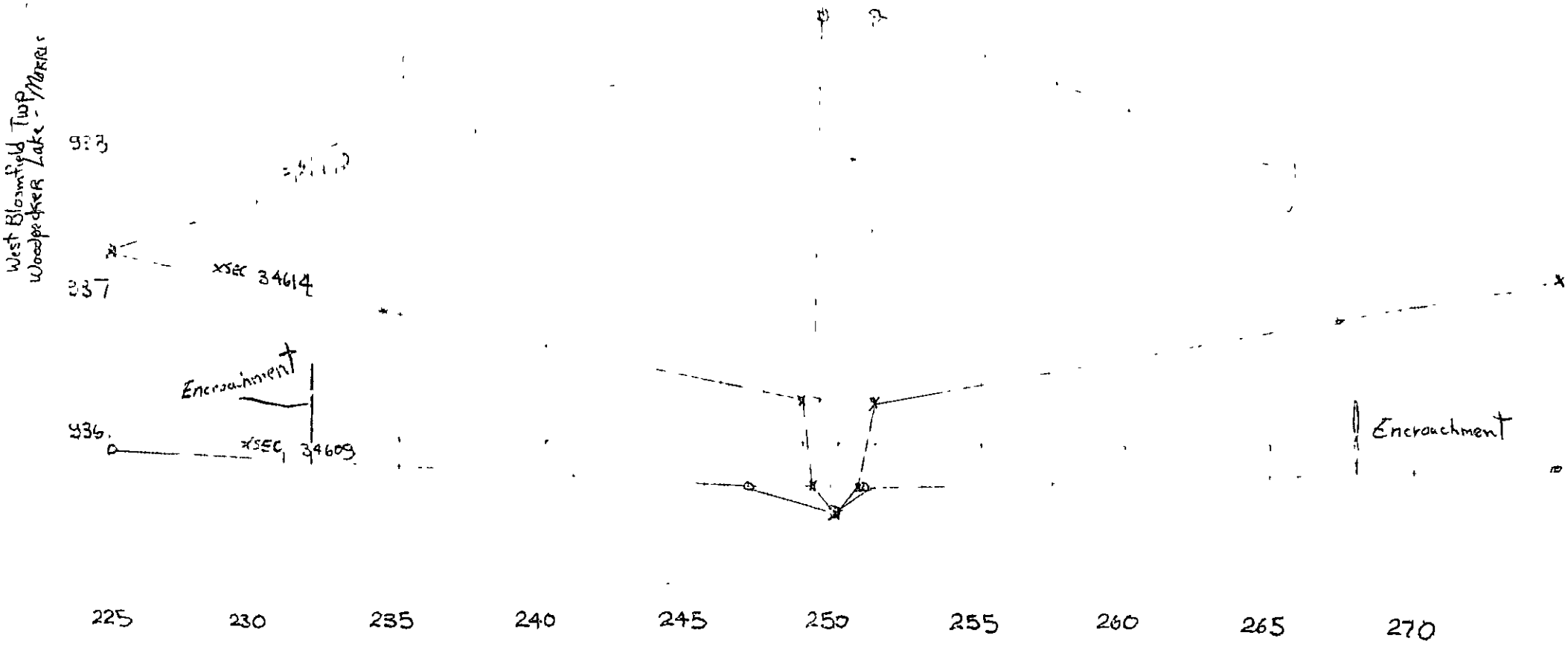
FIELD SKETCH

Profile View



Plan View




West Bloomfield Twp
Woodpecker Lake - Marsh
938
937
936
xsec 34614
xsec 34609
Encroachment
Encroachment
225
230
235
240
245
250
255
260
265
270

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW WOODPECKER + MORRIS LAKES

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

*PROF 1

CCHV= .300 CEHV= .500

*SECNO 32024.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
32024.00	1.32	925.32	925.32	925.02	925.75	.43	0.00	0.00	926.20
25.	0.	25.	0.	0.	5.	0.	0.	0.	925.90
0.00	0.00	5.24	0.00	.100	.050	.100	0.000	924.00	276.76
.047076	0.	0.	0.	0	10	0	0.00	5.63	282.39

3720 CRITICAL DEPTH ASSUMED

2080' U/S FROM U/S FACE OF LOCKHART DRIVE

*SECNO 32080.000

32080.00	2.05	926.65	0.00	0.00	926.75	.10	.91	.10	926.80
25.	0.	25.	0.	0.	10.	0.	0.	0.	926.50
.01	0.00	2.56	.01	.105	.055	.105	.054	924.60	275.29
.008101	55.	56.	60.	4	0	0	0.00	8.53	283.82

*SECNO 32137.000

32137.00	1.95	927.15	0.00	0.00	927.27	.12	.51	.01	927.40
25.	0.	25.	0.	0.	9.	0.	0.	0.	927.10
.01	0.00	2.76	.01	.105	.055	.105	.054	925.20	275.48
.010083	55.	57.	60.	3	0	0	0.00	7.85	283.33

*SECNO 32249.000

2305' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#63 SEC. BM

32249.00	1.93	928.33	0.00	0.00	928.45	.13	1.18	.00	928.60
25.	0.	25.	0.	0.	9.	0.	0.	0.	928.30
.02	0.00	2.84	.01	.105	.055	.105	.054	926.40	275.54
.010965	110.	112.	120.	2	0	0	0.00	7.60	283.15

*SECNO 32489.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 931.10 ELREA= 939.90

2545' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#64 SEC. BN

32489.00	1.74	930.54	0.00	0.00	930.63	.09	2.16	.01	931.10
25.	0.	25.	0.	0.	10.	0.	0.	0.	939.90
.05	0.00	2.40	0.00	.105	.055	.105	.055	928.80	139.06
.007532	240.	240.	240.	3	0	0	0.00	9.08	148.14

*SECNO 32789.000

2845' U/S FROM U/S FACE OF LOCKHART DRIVE, VS.65 SEC. BO

32789.00	1.89	931.39	0.00	0.00	931.42	.02	.77	.02	930.30
25.	5.	20.	0.	13.	15.	0.	0.	0.	939.70
.12	.37	1.37	0.00	.095	.047	.095	.052	929.50	109.83
.001283	300.	300.	300.	5	0	0	0.00	33.60	143.43

*SECNO 33239.000

3295' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#66 SEC. BP

33239.00	1.19	932.89	932.86	0.00	933.11	.22	1.60	.10	932.50
25.	2.	23.	0.	2.	6.	0.	0.	0.	938.90
.15	.90	3.92	0.00	.100	.049	.100	.051	931.70	165.36
.032834	425.	450.	425.	4	14	0	0.00	18.96	184.32

*SECNO 33539.000

3595' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#67 SEC. BQ

33539.00	2.13	935.03	0.00	0.00	935.07	.04	1.90	.06	935.20
25.	0.	25.	0.	0.	16.	0.	0.	1.	935.90
.21	0.00	1.52	0.00	.100	.050	.100	.051	932.90	65.68
.002594	300.	300.	300.	6	0	0	0.00	15.44	81.13

*SECNO 33889.000

3945' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#68 SEC. BR

33889.00	1.64	935.34	0.00	0.00	935.34	.00	.26	.01	935.50
17.	0.	12.	5.	0.	23.	31.	1.	1.	935.10
.46	0.00	.49	.18	.105	.052	.105	.051	933.70	78.96
.000268	360.	350.	345.	5	0	0	0.00	74.27	153.23

*SECNO 34239.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34239.00	.88	935.48	0.00	0.00	935.48	.00	.14	.00	935.60
17.	0.	4.	13.	0.	9.	57.	1.	2.	935.50
.80	0.00	.45	.22	.110	.055	.110	.051	934.60	128.62
.000680	350.	350.	350.	3	0	0	0.00	141.91	272.19

*SECNO 34424.000

3265 DIVIDED FLOW

34424.00	.66	935.71	0.00	0.00	935.72	.00	.24	.00	936.05
17.	0.	5.	12.	0.	6.	32.	1.	2.	935.95
.90	0.00	.85	.37	.110	.055	.110	.052	935.05	131.86
.003205	185.	185.	185.	2	0	0	0.00	118.22	268.94

*SECNO 34609.000

3470 ENCROACHMENT STATIONS= 232.0 268.0 TYPE= 1 TARGET= 36.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34609.00	.89	936.39	0.00	0.00	936.40	.01	.68	.00	935.70
17.	6.	5.	7.	9.	3.	11.	2.	3.	935.70
.96	.62	1.49	.63	.110	.055	.110	.052	935.50	232.00
.004224	185.	185.	185.	3	0	0	0.00	36.00	268.00

*SECNO 34614.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34614.00	1.29	936.79	936.79	0.00	936.98	.19	.05	.09	936.30
17.	3.	11.	3.	3.	3.	3.	2.	3.	936.30
.96	.97	4.22	.97	.110	.055	.110	.052	935.50	237.17
.033855	5.	5.	5.	20	14	0	0.00	26.99	264.16

*SECNO 34615.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

D/S FACE OF SMALL CULVERT, BS#69 SEC. BS

MANNING COEFFICIENT FOR CHANNEL HAS BEEN RAISED TO ACCOUNT FOR

THE EFFECT OF 20 IN. LOG AT D/S OF THE CULVERT

34615.00	1.35	936.85	936.85	0.00	937.42	.57	.04	.19	939.00
17.	0.	17.	0.	0.	3.	0.	2.	3.	939.00
.96	0.00	6.05	0.00	.090	.040	.090	.052	935.50	248.80
.046575	1.	1.	1.	20	19	0	0.00	2.50	251.30

*SECNO 34639.000

3265 DIVIDED FLOW

3501 HV CHANGED NOTE THAT HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.40

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

U/S FACE OF SMALL CULVERT, BS#69 SEC. BS

34639.00	1.93	937.83	0.00	0.00	937.87	.04	.29	.16	939.00
17.	4.	9.	4.	8.	4.	7.	2.	3.	939.00
.97	.50	2.19	.56	.090	.040	.090	.052	935.90	203.15
.005471	24.	24.	24.	2	0	0	-.09	55.01	290.10

*SECNO 34640.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34640.00	1.95	937.85	0.00	0.00	937.88	.03	.01	.00	939.00
17.	4.	8.	4.	9.	4.	8.	2.	3.	939.00
.97	.49	1.96	.55	.110	.055	.110	.052	935.90	201.95
.007295	1.	1.	1.	0	0	0	0.00	57.71	290.81

*SECNO 35240.000

1340' D/S FROM D/S FACE OF ARROWHEAD RD, VS#70 SEC. BT

35240.00	1.76	941.36	0.00	0.00	941.42	.05	3.53	.01	944.20
17.	0.	17.	0.	0.	9.	0.	2.	3.	944.80
1.06	0.00	1.86	0.00	.100	.052	.095	.052	939.60	92.37
.004747	575.	600.	675.	4	0	0	0.00	9.26	101.63

1490 NH CARD USED

*SECNO 35730.000

850' D/S FROM D/S FACE OF ARROWHEAD RD, VS#71 SEC. BU

35730.00	1.48	944.08	0.00	0.00	944.17	.09	2.73	.02	946.50
17.	0.	17.	0.	0.	7.	0.	2.	3.	945.90
1.12	0.00	2.34	0.00	.100	.048	.095	.052	942.60	132.84
.006657	525.	490.	480.	4	0	0	0.00	7.21	140.05

*SECNO 36180.000

3470 ENCROACHMENT STATIONS= 270.0 470.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

36180.00	1.39	944.89	0.00	0.00	944.89	.00	.70	.02	944.50
17.	1.	7.	9.	9.	10.	36.	2.	4.	944.40
1.43	.13	.67	.24	.095	.050	.095	.051	943.50	335.18
.000642	380.	450.	520.	6	0	0	0.00	134.82	470.00

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*SECNO 36500.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST

          80' D/S FROM D/S FACE OF ARROWHEAD RD, VS#72                    SEC. BV

 36500.00       .88     945.18       0.00       0.00     945.24       .05        .32        .02     947.60
        6.        0.         6.         0.         0.         3.         0.         2.         5.     947.60
     1.48      0.00       1.84       0.00       .095       .050       .095       .051     944.30      61.90
  .008226      310.       320.       360.          3          0          0       0.00       5.33      67.22

*SECNO 36580.000
 36580.00      1.50     945.80       0.00       0.00     945.89       .08        .64        .02     950.40
        6.        0.         6.         0.         0.         3.         0.         2.         5.     950.40
     1.49      0.00       2.31       0.00       .080       .040       .060       .051     944.30     199.00
  .007682        80.        80.        80.          2          0          0       0.00       2.00     201.00

*SECNO 36581.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  950.10 MAX ELLC=  946.30

          D/S FACE OF ARROWHEAD RD CULVERT, BS#73                         SEC. BW

 36581.00      1.51     945.81       0.00       0.00     945.89       .08        .00        .00     950.40
        6.        0.         6.         0.         0.         3.         0.         2.         5.     950.40
     1.49      0.00       2.29       0.00       .050       .024       .050       .051     944.30     199.00
  .002701         1.         1.         1.          0          0          0       0.00       2.00     201.00

*SECNO 36625.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD=  950.10 MAX ELLC=  946.60

          U/S FACE OF ARROWHEAD RD CULVERT, BS#73                         SEC. BW

 36625.00      1.34     945.94       0.00       0.00     946.05       .11        .14        .01     950.40
        6.        0.         6.         0.         0.         2.         0.         2.         5.     950.40
     1.49      0.00       2.64       0.00       .050       .024       .050       .051     944.60     199.00
  .003883        44.        44.        44.          2          0          0       0.00       2.00     201.00

*SECNO 36626.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      950.10 ELREA=      950.10

 36626.00      1.34     945.94       0.00       0.00     946.05       .11        .01        .00     950.40
        6.        0.         6.         0.         0.         2.         0.         2.         5.     950.40
     1.49      0.00       2.63       0.00       .090       .042       .090       .051     944.60     199.00
  .011803         1.         1.         1.          0          0          0       0.00       2.00     201.00

*SECNO 36906.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID      ENDST
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36906.00	1.02	947.12	0.00	0.00	947.15	.02	1.07	.02	949.80	
6.	0.	6.	0.	0.	5.	0.	3.	5.	950.40	
1.56	0.00	1.25	0.00	.085	.040	.085	.050	946.10	128.39	
.001867	400.	280.	200.	4	0	0	0.00	6.12	134.51	

*SECNO 36907.000

O/S FACE OF CHECK DAM, DS#74 SEC. BX

36907.00	1.02	947.12	0.00	0.00	947.15	.02	.00	.00	949.80
6.	0.	6.	0.	0.	5.	0.	3.	5.	950.40
1.56	0.00	1.25	0.00	.085	.030	.085	.050	946.10	128.39
.001050	1.	1.	1.	0	0	0	0.00	6.12	134.51

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.00	3.39	0.00	.01	0.00	.01	0.00	946.80	946.20

*SECNO 36908.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
6537.19	947.85	0.00	6.	0.	0.	0.	946.80	948.20

U/S FACE OF CHECK DAM, DS#74 SEC. BX

36908.00	1.95	948.75	0.00	0.00	948.76	.01	1.61	0.00	949.80
6.	0.	6.	0.	0.	10.	0.	3.	5.	950.30
1.56	0.00	.59	0.00	.085	.030	.085	.050	946.80	128.13
.000143	1.	1.	1.	0	0	16	0.00	7.25	135.38

*SECNO 36909.000

36909.00	1.95	948.75	0.00	0.00	948.76	.01	.00	.00	949.80
6.	0.	6.	0.	0.	10.	0.	3.	5.	950.30
1.56	0.00	.59	0.00	.100	.040	.075	.050	946.80	128.14
.000257	1.	1.	1.	0	0	0	0.00	7.23	135.37

*SECNO 37339.000

3265 DIVIDED FLOW

760' U/S FROM U/S FACE OF ARROWHEAD RD, VS#75 SEC. BY

37339.00	7.76	948.76	0.00	0.00	948.76	.00	.00	.00	949.20
6.	2.	4.	0.	227.	83.	33.	4.	6.	946.90
5.47	.01	.04	.01	.100	.040	.080	.049	941.00	21.78
.000000	470.	430.	400.	2	0	0	0.00	337.04	505.34

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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T1      5850-10, FIS - WEST BLOOMFIELD TWP, LAKE STUDY, PM = DICK ZANOTTI
T2      50-YEAR FLOOD
T3      CHANNEL BETWEEN WOODPECKER @ MORRIS LAKES

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       3.        0.        0.  0.000000      0.00      0.0       0.   925.680     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 2

CCHV= .300 CEHV= .500

*SECNO 32024.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
		2080' U/S FROM U/S FACE OF LOCKHART DRIVE							
32024.00	1.68	925.68	0.00	925.68	926.03	.35	0.00	0.00	926.20
33.	0.	33.	0.	0.	7.	0.	0.	0.	925.90
0.00	0.00	4.77	0.00	.100	.050	.100	0.000	924.00	276.04
.029988	0.	0.	0.	0	0	0	0.00	6.73	282.77

*SECNO 32080.000

32080.00	2.23	926.83	0.00	0.00	926.97	.14	.87	.07	926.80
33.	0.	33.	0.	0.	11.	0.	0.	0.	926.50
.01	.01	2.97	.42	.105	.055	.105	.054	924.60	274.46
.009524	55.	56.	60.	3	0	0	0.00	10.35	284.81

*SECNO 32137.000

32137.00	2.20	927.40	0.00	0.00	927.54	.14	.57	.00	927.40
33.	0.	33.	0.	0.	11.	0.	0.	0.	927.10
.01	0.00	3.06	.40	.105	.055	.105	.054	925.20	275.00
.010415	55.	57.	60.	3	0	0	0.00	9.61	284.61

*SECNO 32249.000

2305' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#63 SEC. BM

32249.00	2.18	928.58	0.00	0.00	928.73	.15	1.19	.00	928.60
33.	0.	33.	0.	0.	11.	0.	0.	0.	928.30
.02	0.00	3.09	.40	.105	.055	.105	.054	926.40	275.03
.010786	110.	112.	120.	2	0	0	0.00	9.49	284.53

*SECNO 32489.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 931.10 ELREA= 939.90

2545' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#64 SEC. BN

32489.00	2.00	930.80	0.00	0.00	930.91	.11	2.16	.01	931.10
33.	0.	33.	0.	0.	13.	0.	0.	0.	939.90
.05	0.00	2.61	0.00	.105	.055	.105	.055	928.80	138.58
.007636	240.	240.	240.	3	0	0	0.00	9.93	148.51

*SECNO 32789.000

2845' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#65 SEC. BO

32789.00	2.15	931.65	0.00	0.00	931.68	.02	.74	.02	930.30
33.	8.	25.	0.	19.	17.	0.	0.	0.	939.70
.12	.42	1.44	0.00	.095	.047	.095	.052	929.50	104.31
.001215	300.	300.	300.	5	0	0	0.00	39.76	144.07

*SECNO 33239.000

3295' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#66 SEC. BP

33239.00	1.33	933.03	932.98	0.00	933.26	.23	1.48	.10	932.50
33.	4.	29.	0.	4.	7.	0.	1.	1.	938.90
.15	1.02	4.07	0.00	.100	.049	.100	.051	931.70	161.70
.027466	425.	450.	425.	2	14	0	0.00	22.74	184.44

*SECNO 33539.000

3595' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#67 SEC. BQ

33539.00	2.31	935.21	0.00	0.00	935.26	.05	1.95	.06	935.20
33.	0.	33.	0.	0.	19.	0.	1.	1.	935.90
.20	.01	1.72	0.00	.100	.050	.100	.051	932.90	64.40
.002831	300.	300.	300.	4	0	0	0.00	16.92	81.32

*SECNO 33889.000

3945' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#68 SEC. BR

33889.00	1.83	935.53	0.00	0.00	935.53	.00	.26	.01	935.50
22.	0.	14.	8.	0.	27.	41.	1.	1.	935.10
.44	.00	.51	.20	.105	.052	.105	.051	933.70	77.75
.000247	360.	350.	345.	5	0	0	0.00	77.24	155.00

*SECNO 34239.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34239.00	1.04	935.64	0.00	0.00	935.65	.00	.11	.00	935.60
22.	0.	5.	17.	0.	13.	78.	2.	2.	935.50
.82	.00	.40	.22	.110	.055	.110	.051	934.60	122.22
.000456	350.	350.	350.	3	0	0	0.00	152.44	274.67

*SECNO 34424.000

3265 DIVIDED FLOW

34424.00	.76	935.81	0.00	0.00	935.81	.00	.17	.00	936.05
22.	0.	6.	16.	0.	7.	42.	2.	3.	935.95
.92	0.00	.83	.37	.110	.055	.110	.052	935.05	131.27
.002489	185.	185.	185.	2	0	0	0.00	127.76	270.36

*SECNO 34609.000

3470 ENCROACHMENT STATIONS= 232.0 268.0 TYPE= 1 TARGET= 36.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34609.00	.95	936.45	0.00	0.00	936.47	.02	.65	.01	935.70
22.	7.	6.	9.	10.	3.	12.	2.	3.	935.70
.97	.74	1.75	.74	.110	.055	.110	.052	935.50	232.00
.005278	185.	185.	185.	3	0	0	0.00	35.00	268.00

*SECNO 34614.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34614.00	1.38	936.88	936.88	0.00	937.07	.19	.05	.09	936.30
22.	4.	13.	5.	4.	3.	4.	2.	3.	936.30
.97	1.09	4.47	1.09	.110	.055	.110	.052	935.50	235.04
.034106	5.	5.	5.	20	11	0	0.00	31.49	266.53

*SECNO 34615.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

D/S FACE OF SMALL CULVERT, BS#69 SEC. BS

MANNING COEFFICIENT FOR CHANNEL HAS BEEN RAISED TO ACCOUNT FOR

THE EFFECT OF 20 IN. LOG AT D/S OF THE CULVERT

34615.00	2.05	937.55	937.55	0.00	937.81	.25	.03	.03	939.00
22.	1.	19.	2.	2.	4.	2.	2.	3.	939.00
.97	.60	4.33	.75	.090	.040	.090	.052	935.50	214.42
.020852	1.	1.	1.	20	9	0	-.14	29.87	283.56

*SECNO 34639.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TI E	VLOB	VCH	V OB	XnL	X CH	X	WTN	EL I	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE, NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.40

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

U/S FACE OF SMALL CULVERT, BS#69 SEC. BS

34639.00	2.12	938.02	0.00	0.00	938.05	.02	.17	.07	939.00
22.	7.	8.	7.	15.	5.	13.	2.	3.	939.00
.98	.49	1.76	.53	.090	.040	.090	.052	935.90	194.81
.003411	24.	24.	24.	2	0	0	-.17	73.65	294.95

*SECNO 34640.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34640.00	2.13	938.03	0.00	0.00	938.05	.02	.00	.00	939.00
22.	7.	8.	7.	15.	5.	13.	2.	3.	939.00
.98	.48	1.64	.53	.110	.055	.110	.052	935.90	194.30
.004845	1.	1.	1.	0	0	0	0.00	74.79	295.25

*SECNO 35240.000

1340' D/S FROM D/S FACE OF ARROWHEAD RD, VS#70 SEC. BT

35240.00	1.83	941.43	0.00	0.00	941.51	.08	3.43	.03	944.20
22.	0.	22.	0.	0.	10.	0.	2.	4.	944.80
1.05	0.00	2.25	0.00	.100	.052	.095	.052	939.60	92.27
.006644	575.	600.	675.	4	0	0	0.00	9.50	101.77

1490 NH CARD USED

*SECNO 35730.000

850' D/S FROM D/S FACE OF ARROWHEAD RD, VS#71 SEC. BU

35730.00	1.76	944.36	0.00	0.00	944.45	.09	2.94	.00	946.50
22.	0.	22.	0.	0.	9.	0.	2.	4.	945.90
1.11	0.00	2.35	0.00	.100	.048	.095	.052	942.60	132.51
.005443	525.	490.	480.	3	0	0	0.00	7.84	140.35

*SECNO 36180.000

3470 ENCROACHMENT STATIONS= 270.0 470.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

36180.00	1.52	945.02	0.00	0.00	945.02	.00	.55	.02	944.50
22.	2.	8.	12.	17.	12.	46.	3.	5.	944.40
1.44	.14	.66	.25	.095	.050	.095	.051	943.50	318.20
.000504	380.	450.	520.	7	0	0	0.00	151.80	470.00

*SECNO 36500.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

TIME SLOPE	VLOB XLOBL	VCH XLCH	VROB XLOBR	XNL ITRIAL	XNCH IDC	XNR ICONT	WTN CORAR	ELMIN TOPWID	SSTA ENDST

80' D/S FROM D/S FACE OF ARROWHEAD RD, VS#72 — SEC. BV

36500.00	.95	945.25	0.00	0.00	945.33	.08	.27	.04	947.60
8.	0.	8.	0.	0.	4.	0.	3.	5.	947.60
1.49	0.00	2.20	0.00	.095	.050	.095	.051	944.30	61.79
.010802	310.	320.	360.	3	0	0	0.00	5.54	67.33

*SECNO 36580.000

36580.00	1.73	946.03	0.00	0.00	946.14	.11	.79	.02	950.40
8.	0.	8.	0.	0.	3.	0.	3.	5.	950.40
1.49	0.00	2.62	0.00	.080	.040	.060	.051	944.30	199.00
.009147	80.	80.	80.	2	0	0	0.00	2.00	201.00

*SECNO 36581.000

3370 NORMAL BRIDGE, NRD= 10 MIN ELTRD= 950.10 MAX ELLC= 946.30

D/S FACE OF ARROWHEAD RD CULVERT, BS#73 — SEC. BW

36581.00	1.73	946.03	0.00	0.00	946.15	.12	.01	.00	950.40
8.	0.	8.	0.	0.	3.	0.	3.	5.	950.40
1.50	0.00	2.72	0.00	.050	.024	.050	.051	944.30	199.00
.004818	1.	1.	1.	0	0	0	-.14	2.00	201.00

*SECNO 36625.000

3370 NORMAL BRIDGE, NRD= 10 MIN ELTRD= 950.10 MAX ELLC= 946.60

U/S FACE OF ARROWHEAD RD CULVERT, BS#73 — SEC. BW

36625.00	1.65	946.25	0.00	0.00	946.37	.12	.22	.00	950.40
8.	0.	8.	0.	0.	3.	0.	3.	5.	950.40
1.50	0.00	2.81	0.00	.050	.024	.050	.051	944.60	199.00
.005135	44.	44.	44.	2	0	0	-.05	2.00	201.00

*SECNO 36626.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 950.10 ELREA= 950.10

36626.00	1.66	946.26	0.00	0.00	946.38	.12	.01	.00	950.40
8.	0.	8.	0.	0.	3.	0.	3.	5.	950.40
1.50	0.00	2.76	0.00	.090	.042	.090	.051	944.60	199.00
.011387	1.	1.	1.	0	0	0	0.00	2.00	201.00

*SECNO 36906.000

SECNO Q TIME SLOPE	DEPTH QLOB VLOB XLOBL	CWSEL QCH VCH XLCH	CRIWS QROB VROB XLOBR	WSELK ALOB XNL ITRIAL	EG ACH XNCH IDC	HV AROB XNR ICONT	HL VOL WTN CORAR	OLOSS TWA ELMIN TOPWID	BANK ELEV LEFT/RIGHT SSTA ENDST
36906.00	1.24	947.34	0.00	0.00	947.37	.03	.96	.03	949.80
8.	0.	8.	0.	0.	6.	0.	3.	5.	950.40
1.56	0.00	1.32	0.00	.085	.040	.085	.050	946.10	128.38

.001631	4 0.	280.	200.	5	0	0	0.00	6.17	134.55

*SECNO 36907.000

D/S FACE OF CHECK DAM, DS#74 SEC. BX

36907.00	1.24	947.34	0.00	0.00	947.37	.03	.00	.00	949.80
8.	0.	8.	0.	0.	6.	0.	3.	5.	950.40
1.56	0.00	1.31	0.00	.085	.030	.085	.050	946.10	128.38
.000896	1.	1.	1.	0	0	0	0.00	6.17	134.55

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.00	3.39	0.00	.01	0.00	.01	0.00	946.80	946.20

*SECNO 36908.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
10885.23	948.07	0.00	8.	0.	0.	0.	946.80	948.20

U/S FACE OF CHECK DAM, DS#74 SEC. BX

36908.00	2.04	948.84	0.00	0.00	948.84	.01	1.48	0.00	949.80
8.	0.	8.	0.	0.	11.	0.	3.	5.	950.30
1.56	0.00	.74	0.00	.085	.030	.085	.050	946.80	127.87
.000220	1.	1.	1.	0	0	16	0.00	7.66	135.52

*SECNO 36909.000

36909.00	2.04	948.84	0.00	0.00	948.84	.01	.00	.00	949.80
8.	0.	8.	0.	0.	11.	0.	3.	5.	950.30
1.56	0.00	.74	0.00	.100	.040	.075	.050	946.80	127.89
.000396	1.	1.	1.	0	0	0	0.00	7.62	135.51

*SECNO 37339.000

3265 DIVIDED FLOW

760' U/S FROM U/S FACE OF ARROWHEAD RD, VS#75 SEC. BY

37339.00	7.85	948.85	0.00	0.00	948.85	.00	.00	.00	949.20
8.	3.	5.	1.	250.	85.	38.	5.	7.	946.90
4.80	.01	.06	.01	.100	.040	.080	.049	941.00	21.00
.000001	470.	430.	400.	2	0	0	0.00	346.36	508.26

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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T1      5850-10, FIS - WEST BLOOMFIELD TWP, LAKE STUDY, PM = DICK ZANOTTI
T2      500-YEAR FLOOD
T3      CHANNEL BETWEEN WOODPECKER @ MORRIS LAKES

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       5.        0.        0.  0.000000      0.00      0.0       0.   926.500     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     15.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 4

CCHV=     .300 CEHV=     .500
*SECNO 32024.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          OLOB       OCH        OROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

            2080' U/S FROM U/S FACE OF LOCKHART DRIVE

 32024.00      2.50     926.50       0.00     926.50     926.67       .17       0.00       0.00     926.20
       45.         0.       44.         1.         1.        13.         1.         0.         0.     925.90
     0.00        .37       3.31        .58       .100       .050       .100      0.000     924.00     270.43
  .007719         0.         0.         0.          0          0          0       0.00      15.80     286.23

*SECNO 32080.000
 32080.00      2.41     927.01       0.00       0.00     927.20       .19        .52        .01     926.80
       45.         0.       44.         0.         0.        12.         1.         0.         0.     926.50
      .00        .34       3.52        .60       .105       .055       .105       .054     924.60     271.82
  .011424         55.        56.        60.         2          0          0       0.00      13.93     285.74

*SECNO 32137.000
 32137.00      2.45     927.65       0.00       0.00     927.83       .18        .63        .00     927.40
       45.         0.       44.         0.         0.        13.         1.         0.         0.     927.10
       .01        .36       3.44        .60       .105       .055       .105       .054     925.20     271.28
  .010554         55.        57.        60.         2          0          0       0.00      14.65     285.93

*SECNO 32249.000

            2305' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#63                SEC. BM

 32249.00      2.44     928.84       0.00       0.00     929.02       .18       1.19        .00     928.60
       45.         0.       44.         0.         0.        13.         1.         0.         0.     928.30
       .02        .35       3.45        .60       .105       .055       .105       .054     926.40     271.37
  .010688        110.       112.       120.         1          0          0       0.00      14.53     285.90

*SECNO 32489.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          OLOB       OCH        OROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      931.10 ELREA=      939.90

            2545' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#64                SEC. BN

 32489.00      2.28     931.08       0.00       0.00     931.21       .12       2.17        .02     931.10
       45.         0.       44.         0.         0.        16.         0.         0.         0.     939.90
       .04       0.00       2.84       0.00       .105       .055       .105       .055     928.80     138.03
  .007764        240.       240.       240.         4          0          0       0.00      10.91     148.94

*SECNO 32789.000

            2845' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#65                SEC. BO
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32789.00	2.44	931.94	0.00	0.00	931.96	.03	.72	.03	930.30
45.	13.	31.	0.	28.	21.	0.	0.	0.	939.70
.11	.47	1.51	0.00	.095	.047	.095	.052	929.50	98.21
.001160	300.	300.	300.	5	0	0	0.00	46.58	144.79

*SECNO 33239.000

3295' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#66 SEC. BP

33239.00	1.51	933.21	0.00	0.00	933.44	.23	1.37	.10	932.50
45.	7.	37.	0.	6.	9.	0.	1.	1.	938.90
.14	1.12	4.18	0.00	.100	.049	.100	.051	931.70	157.23
.022573	425.	450.	425.	2	0	0	0.00	27.36	184.59

*SECNO 33539.000

3595' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#67 SEC. BQ

33539.00	2.52	935.42	0.00	0.00	935.48	.06	1.99	.05	935.20
45.	0.	44.	0.	1.	22.	0.	1.	1.	935.90
.19	.19	1.97	0.00	.100	.050	.100	.051	932.90	58.99
.003118	300.	300.	300.	5	0	0	0.00	22.52	81.52

*SECNO 33889.000

3945' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#68 SEC. BR

33889.00	2.05	935.75	0.00	0.00	935.75	.00	.26	.02	935.50
30.	0.	18.	12.	0.	32.	53.	1.	1.	935.10
.41	.05	.56	.22	.105	.052	.105	.051	933.70	75.75
.000240	360.	350.	345.	4	0	0	0.00	81.36	157.10

*SECNO 34239.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34239.00	1.25	935.85	0.00	0.00	935.85	.00	.10	.00	935.60
30.	0.	7.	23.	2.	17.	104.	2.	2.	935.50
.78	.06	.42	.22	.110	.055	.110	.051	934.60	109.38
.000328	350.	350.	350.	3	0	0	0.00	168.37	277.75

*SECNO 34424.000

34424.00	.92	935.97	0.00	0.00	935.97	.00	.12	.00	936.05
30.	0.	7.	23.	0.	10.	61.	3.	3.	935.95
.89	0.00	.72	.37	.110	.055	.110	.052	935.05	127.52
.001714	185.	185.	185.	2	0	0	0.00	145.21	272.74

*SECNO 34609.000

3470 ENCROACHMENT STATIONS= 232.0 268.0 TYPE= 1 TARGET= 36.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34609.00	1.02	936.32	1.00	0.00	936.33	.03	.37	.01	935.70
30.	10.	8.	12.	11.	4.	13.	3.	3.	935.70
.93	.91	2.15	.92	.110	.055	.110	.052	935.50	232.00
.007104	185.	185.	185.	2	0	0	0.00	36.00	268.00

*SECNO 34614.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34614.00	1.47	936.97	936.97	0.00	937.18	.21	.07	.09	936.30
30.	7.	15.	8.	5.	3.	6.	3.	3.	936.30
.94	1.27	4.97	1.27	.110	.055	.110	.052	935.50	232.76
.037910	5.	5.	5.	20	14	0	0.00	36.30	269.05

*SECNO 34615.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

D/S FACE OF SMALL CULVERT, BS#69 SEC. BS

MANNING COEFFICIENT FOR CHANNEL HAS BEEN RAISED TO ACCOUNT FOR

THE EFFECT OF 20 IN. LOG AT D/S OF THE CULVERT

34615.00	2.28	937.78	937.78	0.00	937.93	.15	.02	.02	939.00
30.	5.	19.	6.	6.	5.	6.	3.	3.	939.00
.94	.81	3.89	.92	.090	.040	.090	.052	935.50	205.01
.016148	1.	1.	1.	20	6	0	-.23	50.87	289.03

*SECNO 34639.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE, NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.40

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

U/S FACE OF SMALL CULVERT, BS#69 SEC. BS

34639.00	2.22	938.12	0.00	0.00	938.14	.02	.17	.04	939.00
30.	11.	9.	10.	19.	5.	16.	3.	3.	939.00
.94	.58	1.93	.62	.090	.040	.090	.052	935.90	190.73
.004009	24.	24.	24.	2	0	0	-.21	82.74	297.32

*SECNO 34640.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34640.00	2.23	938.13	0.00	0.00	938.15	.02	.00	.00	939.00
30.	11.	9.	10.	19.	5.	16.	3.	3.	939.00
.94	.57	1.80	.61	.110	.055	.110	.052	935.90	190.31
.005724	1.	1.	1.	0	0	0	0.00	83.70	297.56

*SECNO 35240.000

1340' D/S FROM D/S FACE OF ARROWHEAD RD, VS#70 SEC. BT

35240.00	2.11	941.71	0.00	0.00	941.79	.09	3.61	.03	944.20
30.	0.	30.	0.	0.	13.	0.	3.	4.	944.80
1.01	0.00	2.39	0.00	.100	.052	.095	.052	939.60	91.84
.006163	575.	600.	675.	4	0	0	0.00	10.53	102.37

1490 NH CARD USED

*SECNO 35730.000

850' D/S FROM D/S FACE OF ARROWHEAD RD, VS#71 SEC. BU

35730.00	2.02	944.62	0.00	0.00	944.72	.11	2.92	.01	946.50
30.	0.	30.	0.	0.	11.	0.	3.	4.	945.90
1.06	0.00	2.62	0.00	.100	.048	.095	.052	942.60	132.21
.005767	525.	490.	480.	2	0	0	0.00	8.42	140.63

*SECNO 36180.000

3470 ENCROACHMENT STATIONS= 270.0 470.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

36180.00	1.71	945.21	0.00	0.00	945.21	.00	.46	.03	944.50
30.	5.	9.	16.	32.	14.	60.	4.	5.	944.40
1.42	.15	.65	.27	.095	.050	.095	.051	943.50	294.77
.000391	380.	450.	520.	7	0	0	0.00	175.23	470.00

*SECNO 36500.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST

80' D/S FROM D/S FACE OF ARROWHEAD RD, VS#72 SEC. BV

36500.00	1.07	945.37	0.00	0.00	945.47	.10	.21	.05	947.60
11.	0.	11.	0.	0.	4.	0.	4.	6.	947.60
1.45	0.00	2.55	0.00	.095	.050	.095	.051	944.30	61.59
.012577	310.	320.	360.	3	0	0	0.00	5.93	67.52

*SECNO 36580.000

36580.00	2.01	946.31	0.00	0.00	946.45	.14	.96	.02	950.40
11.	0.	11.	0.	0.	4.	0.	4.	6.	950.40
1.46	0.00	3.05	0.00	.080	.040	.060	.051	944.30	199.00
.011455	80.	80.	80.	2	0	0	0.00	2.00	201.00

*SECNO 36581.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD= 950.10 MAX ELLC= 946.30

D/S FACE OF ARROWHEAD RD CULVERT, BS#73 SEC. BW

36581.00	2.00	946.30	0.00	0.00	946.48	.18	.01	.02	950.40
11.	0.	11.	0.	0.	3.	0.	4.	6.	950.40
1.46	0.00	3.44	0.00	.050	.024	.050	.051	944.30	199.00
.007693	1.	1.	1.	2	0	0	-.40	2.00	201.00

*SECNO 36625.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD= 950.10 MAX ELLC= 946.60

U/S FACE OF ARROWHEAD RD CULVERT, BS#73 SEC. BW

36625.00	2.08	946.68	0.00	0.00	946.86	.18	.38	.00	950.40
11.	0.	11.	0.	0.	3.	0.	4.	6.	950.40
1.46	0.00	3.44	0.00	.050	.024	.050	.051	944.60	199.00
.009604	44.	44.	44.	2	0	0	-.55	2.00	201.00

*SECNO 36626.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 950.10 ELREA= 950.10

36626.00	2.17	946.77	0.00	0.00	946.89	.12	.01	.02	950.40
11.	0.	11.	0.	0.	4.	0.	4.	6.	950.40
1.46	0.00	2.80	0.00	.090	.042	.090	.051	944.60	199.00
.010211	1.	1.	1.	2	0	0	0.00	2.00	201.00

*SECNO 36906.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
36906.00	1.58	947.68	0.00	0.00	947.70	.03	.79	.03	949.80
11.	0.	11.	0.	0.	8.	0.	4.	6.	950.40
1.52	0.00	1.35	0.00	.085	.040	.085	.050	946.10	128.36
.001296	400.	280.	200.	5	0	0	0.00	6.26	134.61

*SEC. O 36907.000

D/S FACE OF CHECK DAM, DS#74 SEC. BX

36907.00	1.58	947.68	0.00	0.00	947.71	.03	.00	.00	949.80
11.	0.	11.	0.	0.	8.	0.	4.	6.	950.40
1.52	0.00	1.34	0.00	.085	.030	.085	.050	946.10	128.36
.000716	1.	1.	1.	0	0	0	0.00	6.26	134.62

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.00	3.39	0.00	.01	0.00	.01	0.00	946.80	946.20

*SECNO 36908.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
19736.50	948.41	0.00	11.	0.	0.	0.	946.80	948.20

U/S FACE OF CHECK DAM, DS#74 SEC. BX

36908.00	2.14	948.94	0.00	0.00	948.96	.01	1.25	0.00	949.80
11.	0.	11.	0.	0.	12.	0.	4.	6.	950.30
1.52	0.00	.94	0.00	.085	.030	.085	.050	946.80	127.55
.000346	1.	1.	1.	1	0	16	0.00	8.16	135.71

*SECNO 36909.000

36909.00	2.14	948.94	0.00	0.00	948.96	.01	.00	.00	949.80
11.	0.	11.	0.	0.	12.	0.	4.	6.	950.30
1.52	0.00	.94	0.00	.100	.040	.075	.050	946.80	127.57
.000622	1.	1.	1.	0	0	0	0.00	8.13	135.69

*SECNO 37339.000

3265 DIVIDED FLOW

760' U/S FROM U/S FACE OF ARROWHEAD RD, VS#75 SEC. BY

37339.00	7.96	948.96	0.00	0.00	948.96	.00	.00	.00	949.20
11.	4.	6.	1.	281.	88.	45.	7.	8.	946.90
4.20	.01	.07	.02	.100	.040	.080	.049	941.00	19.97
.000001	470.	430.	400.	2	0	0	0.00	358.62	512.10

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  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CHANNEL BETWEEN WOODPECK

SUMMARY PRINTOUT

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
*	32024.000	0.00	0.00	0.00	924.00	24.70	925.32	.43	0.00	0.00	4.72	1.32	5.63
	32024.000	0.00	0.00	0.00	924.00	33.10	925.68	.35	0.00	0.00	6.94	1.68	6.73
	32024.000	0.00	0.00	0.00	924.00	36.50	925.94	.27	0.00	0.00	8.79	1.94	7.70
	32024.000	0.00	0.00	0.00	924.00	44.50	926.50	.17	0.00	0.00	14.85	2.50	15.80
	32080.000	56.00	0.00	0.00	924.60	24.70	926.65	.10	.91	.10	9.71	2.05	8.53
	32080.000	56.00	0.00	0.00	924.60	33.10	926.83	.14	.87	.07	11.40	2.23	10.35
	32080.000	56.00	0.00	0.00	924.60	36.50	926.87	.16	.79	.03	11.73	2.27	10.99
	32080.000	56.00	0.00	0.00	924.60	44.50	927.01	.19	.52	.01	13.51	2.41	13.93
	32137.000	57.00	0.00	0.00	925.20	24.70	927.15	.12	.51	.01	8.96	1.95	7.85
	32137.000	57.00	0.00	0.00	925.20	33.10	927.40	.14	.57	.00	11.04	2.20	9.61
	32137.000	57.00	0.00	0.00	925.20	36.50	927.48	.16	.61	.00	11.81	2.28	11.15
	32137.000	57.00	0.00	0.00	925.20	44.50	927.65	.18	.63	.00	14.01	2.45	14.65
	32249.000	112.00	0.00	0.00	926.40	24.70	928.33	.13	1.18	.00	8.70	1.93	7.60
	32249.000	112.00	0.00	0.00	926.40	33.10	928.58	.15	1.19	.00	10.89	2.18	9.49
	32249.000	112.00	0.00	0.00	926.40	36.50	928.67	.16	1.19	.00	11.72	2.27	10.97
	32249.000	112.00	0.00	0.00	926.40	44.50	928.84	.18	1.19	.00	13.92	2.44	14.53
	32489.000	240.00	0.00	0.00	928.80	24.70	930.54	.09	2.16	.01	10.29	1.74	9.08
	32489.000	240.00	0.00	0.00	928.80	33.10	930.80	.11	2.16	.01	12.69	2.00	9.93
	32489.000	240.00	0.00	0.00	928.80	36.50	930.89	.11	2.16	.01	13.64	2.09	10.25
	32489.000	240.00	0.00	0.00	928.80	44.50	931.08	.12	2.17	.02	15.69	2.28	10.91
	32789.000	300.00	0.00	0.00	929.50	24.70	931.39	.02	.77	.02	27.24	1.89	33.60
	32789.000	300.00	0.00	0.00	929.50	33.10	931.65	.02	.74	.02	36.76	2.15	39.76
	32789.000	300.00	0.00	0.00	929.50	36.50	931.74	.03	.74	.03	40.45	2.24	41.90
	32789.000	300.00	0.00	0.00	929.50	44.50	931.94	.03	.72	.03	49.17	2.44	46.58
	33239.000	450.00	0.00	0.00	931.70	24.70	932.89	.22	1.60	.10	7.74	1.19	18.96
	33239.000	450.00	0.00	0.00	931.70	33.10	933.03	.23	1.48	.10	10.79	1.33	22.74
	33239.000	450.00	0.00	0.00	931.70	36.50	933.08	.23	1.45	.10	12.07	1.38	24.15
	33239.000	450.00	0.00	0.00	931.70	44.50	933.21	.23	1.37	.10	15.28	1.51	27.36
	33539.000	300.00	0.00	0.00	932.90	24.70	935.03	.04	1.90	.06	16.23	2.13	15.44
	33539.000	300.00	0.00	0.00	932.90	33.10	935.21	.05	1.95	.06	19.30	2.31	16.92
	33539.000	300.00	0.00	0.00	932.90	36.50	935.28	.05	1.96	.05	20.42	2.38	18.73
	33539.000	300.00	0.00	0.00	932.90	44.50	935.42	.06	1.99	.05	23.14	2.52	22.52

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
	33889.000	350.00	0.00	0.00	933.70	17.00	935.34	.00	.26	.01	53.95	1.64	74.27
	33889.000	350.00	0.00	0.00	933.70	22.00	935.53	.00	.26	.01	68.09	1.83	77.24
	33889.000	350.00	0.00	0.00	933.70	24.00	935.60	.00	.25	.01	73.88	1.90	78.62
	33889.000	350.00	0.00	0.00	933.70	30.00	935.75	.00	.26	.02	85.72	2.05	81.36
	34239.000	350.00	0.00	0.00	934.60	17.00	935.48	.00	.14	.00	66.19	.88	141.91
	34239.000	350.00	0.00	0.00	934.60	22.00	935.64	.00	.11	.00	90.54	1.04	152.44
	34239.000	350.00	0.00	0.00	934.60	24.00	935.70	.00	.11	.00	99.70	1.10	157.03
	34239.000	350.00	0.00	0.00	934.60	30.00	935.85	.00	.10	.00	123.51	1.25	168.37
	34424.000	185.00	0.00	0.00	935.05	17.00	935.71	.00	.24	.00	38.12	.66	118.22
	34424.000	185.00	0.00	0.00	935.05	22.00	935.81	.00	.17	.00	49.78	.76	127.76
	34424.000	185.00	0.00	0.00	935.05	24.00	935.85	.00	.15	.00	55.04	.80	131.83
	34424.000	185.00	0.00	0.00	935.05	30.00	935.97	.00	.12	.00	71.47	.92	145.21
	34609.000	185.00	0.00	0.00	935.50	17.00	936.39	.01	.68	.00	22.92	.89	36.00
	34609.000	185.00	0.00	0.00	935.50	22.00	936.45	.02	.65	.01	25.12	.95	36.00
	34609.000	185.00	0.00	0.00	935.50	24.00	936.47	.02	.63	.01	25.78	.97	36.00
	34609.000	185.00	0.00	0.00	935.50	30.00	936.52	.03	.57	.01	27.79	1.02	36.00
*	34614.000	5.00	0.00	0.00	935.50	17.00	936.79	.19	.05	.09	8.63	1.29	26.99
*	34614.000	5.00	0.00	0.00	935.50	22.00	936.88	.19	.05	.09	11.26	1.38	31.49
*	34614.000	5.00	0.00	0.00	935.50	24.00	936.91	.19	.06	.08	12.34	1.41	33.17
*	34614.000	5.00	0.00	0.00	935.50	30.00	936.97	.21	.07	.09	14.51	1.47	36.30
*	34615.000	1.00	937.20	938.00	935.50	17.00	936.85	.57	.04	.19	2.81	1.35	2.50
*	34615.000	1.00	937.20	938.00	935.50	22.00	937.55	.25	.03	.03	8.56	2.05	29.87
*	34615.000	1.00	937.20	938.00	935.50	24.00	937.61	.24	.03	.03	10.25	2.11	34.78
*	34615.000	1.00	937.20	938.00	935.50	30.00	937.78	.15	.02	.02	17.58	2.28	50.87
	34639.000	24.00	937.20	938.40	935.90	17.00	937.83	.04	.29	.16	19.08	1.93	55.01
	34639.000	24.00	937.20	938.40	935.90	22.00	938.02	.02	.17	.07	31.89	2.12	73.65
	34639.000	24.00	937.20	938.40	935.90	24.00	938.06	.02	.17	.07	34.60	2.16	77.02
	34639.000	24.00	937.20	938.40	935.90	30.00	938.12	.02	.17	.04	39.50	2.22	82.74
	34640.000	1.00	0.00	0.00	935.90	17.00	937.85	.03	.01	.00	20.81	1.95	57.71
	34640.000	1.00	0.00	0.00	935.90	22.00	938.03	.02	.00	.00	32.97	2.13	74.79
	34640.000	1.00	0.00	0.00	935.90	24.00	938.07	.02	.00	.00	35.74	2.17	78.16
	34640.000	1.00	0.00	0.00	935.90	30.00	938.13	.02	.00	.00	40.56	2.23	83.70
	35240.000	600.00	0.00	0.00	939.60	17.00	941.36	.05	3.53	.01	9.15	1.76	9.26
	35240.000	600.00	0.00	0.00	939.60	22.00	941.43	.08	3.43	.03	9.77	1.83	9.50
	35240.000	600.00	0.00	0.00	939.60	24.00	941.49	.08	3.45	.03	10.34	1.89	9.72
	35240.000	600.00	0.00	0.00	939.60	30.00	941.71	.09	3.61	.03	12.56	2.11	10.53
	35730.000	490.00	0.00	0.00	942.60	17.00	944.08	.09	2.73	.02	7.25	1.48	7.21
	35730.000	490.00	0.00	0.00	942.60	22.00	944.36	.09	2.94	.00	9.35	1.76	7.84
	35730.000	490.00	0.00	0.00	942.60	24.00	944.44	.09	2.96	.00	9.97	1.84	8.01
	35730.000	490.00	0.00	0.00	942.60	30.00	944.62	.11	2.92	.01	11.45	2.02	8.42
	36180.000	450.00	0.00	0.00	943.50	17.00	944.89	.00	.70	.02	55.83	1.39	134.82
	36180.000	450.00	0.00	0.00	943.50	22.00	945.02	.00	.55	.02	75.14	1.52	151.80
	36180.000	450.00	0.00	0.00	943.50	24.00	945.07	.00	.52	.03	82.86	1.57	158.08
	36180.000	450.00	0.00	0.00	943.50	30.00	945.21	.00	.46	.03	105.55	1.71	175.23

SECNO	XLCH	ELTRO	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	AREA	DEPTH	TOPWID
36500.000	320.00	0.00	0.00	944.30	6.00	945.18	.05	.32	.02	3.26	.88	5.33
36500.000	320.00	0.00	0.00	944.30	8.00	945.25	.08	.27	.04	3.63	.95	5.54
36500.000	320.00	0.00	0.00	944.30	9.00	945.28	.09	.25	.04	3.80	.98	5.64
36500.000	320.00	0.00	0.00	944.30	11.00	945.37	.10	.21	.05	4.32	1.07	5.93
36580.000	80.00	0.00	0.00	944.30	6.00	945.80	.08	.64	.02	2.60	1.50	2.00
36580.000	80.00	0.00	0.00	944.30	8.00	946.03	.11	.79	.02	3.05	1.73	2.00
36580.000	80.00	0.00	0.00	944.30	9.00	946.13	.12	.87	.02	3.26	1.83	2.00
36580.000	80.00	0.00	0.00	944.30	11.00	946.31	.14	.96	.02	3.60	2.01	2.00
36581.000	1.00	950.10	946.30	944.30	6.00	945.81	.08	.00	.00	2.62	1.51	2.00
36581.000	1.00	950.10	946.30	944.30	8.00	946.03	.12	.01	.00	2.94	1.73	2.00
36581.000	1.00	950.10	946.30	944.30	9.00	946.13	.14	.01	.01	3.04	1.83	2.00
36581.000	1.00	950.10	946.30	944.30	11.00	946.30	.18	.01	.02	3.20	2.00	2.00
36625.000	44.00	950.10	946.60	944.60	6.00	945.94	.11	.14	.01	2.28	1.34	2.00
36625.000	44.00	950.10	946.60	944.60	8.00	946.25	.12	.22	.00	2.85	1.65	2.00
36625.000	44.00	950.10	946.60	944.60	9.00	946.39	.14	.26	.00	2.98	1.79	2.00
36625.000	44.00	950.10	946.60	944.60	11.00	946.68	.18	.38	.00	3.20	2.08	2.00
36626.000	1.00	0.00	0.00	944.60	6.00	945.94	.11	.01	.00	2.28	1.34	2.00
36626.000	1.00	0.00	0.00	944.60	8.00	946.26	.12	.01	.00	2.90	1.66	2.00
36626.000	1.00	0.00	0.00	944.60	9.00	946.42	.12	.01	.01	3.24	1.82	2.00
36626.000	1.00	0.00	0.00	944.60	11.00	946.77	.12	.01	.02	3.93	2.17	2.00
36906.000	280.00	0.00	0.00	946.10	6.00	947.12	.02	1.07	.02	4.79	1.02	6.12
36906.000	280.00	0.00	0.00	946.10	8.00	947.34	.03	.96	.03	6.07	1.24	6.17
36906.000	280.00	0.00	0.00	946.10	9.00	947.45	.03	.91	.03	6.73	1.35	6.20
36906.000	280.00	0.00	0.00	946.10	11.00	947.68	.03	.79	.03	8.16	1.58	6.26
36907.000	1.00	0.00	0.00	946.10	6.00	947.12	.02	.00	.00	4.79	1.02	6.12
36907.000	1.00	0.00	0.00	946.10	8.00	947.34	.03	.00	.00	6.12	1.24	6.17
36907.000	1.00	0.00	0.00	946.10	9.00	947.45	.03	.00	.00	6.78	1.35	6.20
36907.000	1.00	0.00	0.00	946.10	11.00	947.68	.03	.00	.00	8.21	1.58	6.26
36908.000	1.00	948.20	946.80	946.80	6.00	948.75	.01	1.61	0.00	10.22	1.95	7.25
36908.000	1.00	948.20	946.80	946.80	8.00	948.84	.01	1.48	0.00	10.86	2.04	7.66
36908.000	1.00	948.20	946.80	946.80	9.00	948.87	.01	1.41	0.00	11.13	2.07	7.82
36908.000	1.00	948.20	946.80	946.80	11.00	948.94	.01	1.25	0.00	11.70	2.14	8.16
36909.000	1.00	0.00	0.00	946.80	6.00	948.75	.01	.00	.00	10.18	1.95	7.23
36909.000	1.00	0.00	0.00	946.80	8.00	948.84	.01	.00	.00	10.80	2.04	7.62
36909.000	1.00	0.00	0.00	946.80	9.00	948.87	.01	.00	.00	11.09	2.07	7.80
36909.000	1.00	0.00	0.00	946.80	11.00	948.94	.01	.00	.00	11.65	2.14	8.13
37339.000	430.00	0.00	0.00	941.00	6.00	948.76	.00	.00	.00	343.43	7.76	337.04
37339.000	430.00	0.00	0.00	941.00	8.00	948.85	.00	.00	.00	373.36	7.85	346.36
37339.000	430.00	0.00	0.00	941.00	9.00	948.89	.00	.00	.00	387.37	7.89	350.64
37339.000	430.00	0.00	0.00	941.00	11.00	948.96	.00	.00	.00	413.99	7.96	358.62

SUMMARY OF ERRORS

CAUTION SECNO=32024.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

CAUTION SECNO=34614.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=34614.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=34614.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=34614.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO=34614.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=34614.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL

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 CAUTIO.  SEC .O=34614.000  PROFILE= 5  CRITICAL DEPTH ASSU ED
 CAUTION  SECNO=34614.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO=34614.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO=34614.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO=34614.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO=34614.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

 CAUTION  SECNO=34615.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO=34615.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO=34615.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO=34615.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO=34615.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO=34615.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO=34615.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO=34615.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO=34615.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO=34615.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO=34615.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO=34615.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW. WOODPECKER + MORRIS LAKES

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**************************************************

C
T1      5850-10, FIS - WEST BLOOMFIELD TWP, LAKE STUDY, PM = DICK ZANOTTI
T2      10-YEAR FLOOD
T3      CHANNEL BETWEEN WOODPECKER @ MORRIS LAKES

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
       -1.        2.         0.         0.  0.000000       0.00       0.0        0.    925.020      0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE
      1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
      38.000     39.000     40.000     41.000     42.000     43.000      1.000     10.000     11.000     12.000

      25.000      8.000      4.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

NC       .100       .100       .050       .300       .500      0.000      0.000      0.000      0.000      0.000
OT      4.000     24.700     33.100     36.500     44.500      0.000      0.000      0.000      0.000      0.000

          2080' U/S FROM U/S FACE OF LOCKHART DRIVE

X1  32024.000     12.000    275.000    283.000      0.000      0.000      0.000      0.000     -2.400      0.000
GR    945.700      0.000    939.800     75.000    932.400    175.000    930.900    240.000    928.600    275.000
GR    926.600    279.000    926.400    280.000    926.400    281.000    928.300    283.000    929.600    290.000
GR    931.600    315.000    944.900    390.000      0.000      0.000      0.000      0.000      0.000      0.000
NC       .105       .105       .055      0.000      0.000      0.000      0.000      0.000      0.000      0.000

X1  32080.000      0.000      0.000      0.000     55.000     60.000     56.000      0.000       .600      0.000

X1  32137.000      0.000      0.000      0.000     55.000     60.000     57.000      0.000       .600      0.000

          2305' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#63                SEC. BM

X1  32249.000      0.000      0.000      0.000    110.000    120.000    112.000      0.000      1.200      0.000

          2545' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#64                SEC. BN

X1  32489.000     10.000    138.000    162.000    240.000    240.000    240.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
GR    945.300      0.000    940.900     25.000    930.600     50.000    931.100    138.000    929.000    142.000
GR    928.800    144.000    929.100    146.000    939.900    162.000    938.700    173.000    945.300    230.000
NC       .095       .095       .047      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          2845' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#65                SEC. BO

X1  32789.000     10.000    133.000    164.000    300.000    300.000    300.000      0.000      0.000      0.000
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GR	942.200	0.000	937.300	70.000	932.700	82.000	930.300	133.000	932.600	134.000
GR	929.500	136.000	929.600	139.000	939.700	164.000	944.500	200.000	946.400	213.000
NC	.100	.100	.049	0.000	0.000	0.000	0.000	0.000	0.000	0.000

3295' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#66 SEC. BP

X1	33239.000	10.000	175.000	193.000	425.000	425.000	450.000	0.000	0.000	0.000
GR	956.000	0.000	935.500	100.000	932.500	175.000	932.600	178.000	931.700	180.000
GR	932.000	182.000	932.500	184.000	933.700	185.000	938.900	193.000	950.200	280.000
NC	.100	.100	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000

3595' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#67 SEC. BQ

X1	33539.000	11.000	65.000	82.000	300.000	300.000	300.000	0.000	0.000	0.000
GR	956.800	0.000	936.100	40.000	935.200	65.000	933.700	71.000	932.900	75.000
GR	933.900	77.000	934.900	81.000	935.900	82.000	936.900	90.000	942.200	93.000
GR	955.800	123.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.105	.105	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OT	4.000	17.000	22.000	24.000	30.000	0.000	0.000	0.000	0.000	0.000

3945' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#68 SEC. BR

X1	33889.000	13.000	78.000	100.000	360.000	345.000	350.000	0.000	0.000	0.000
GR	955.500	0.000	938.600	50.000	935.500	78.000	934.500	84.000	933.700	89.000
GR	933.800	94.000	934.300	99.000	935.100	100.000	935.100	115.000	934.100	140.000
GR	935.000	150.000	944.500	240.000	955.400	290.000	0.000	0.000	0.000	0.000
NC	.110	.110	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	34239.000	16.000	125.000	147.000	350.000	350.000	350.000	0.000	0.000	0.000
GR	950.000	0.000	940.000	70.000	938.000	80.000	936.000	100.000	935.600	125.000
GR	935.400	131.000	934.600	136.000	934.700	141.000	935.200	146.000	935.500	147.000
GR	935.000	185.000	934.800	225.000	935.000	265.000	936.000	280.000	940.000	310.000
GR	950.000	362.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	34424.000	0.000	0.000	0.000	185.000	185.000	185.000	0.000	.450	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	34609.000	9.000	247.000	251.000	185.000	185.000	185.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	232.000	0.000	268.000	0.000	0.000	0.000	0.000
GR	938.000	0.000	938.000	120.000	936.000	215.000	935.700	247.000	935.500	250.000
GR	935.700	251.000	936.000	290.000	938.000	315.000	940.000	340.000	0.000	0.000

X1	34614.000	18.000	248.800	251.300	5.000	5.000	5.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	952.900	0.000	939.000	50.000	938.100	60.000	937.600	90.000	938.100	110.000
GR	939.100	150.000	937.300	225.000	936.300	248.800	936.300	248.800	935.700	249.200
GR	935.500	250.000	935.700	250.900	936.300	251.300	936.300	251.300	937.200	275.000
GR	940.300	350.000	941.600	375.000	954.900	425.000	0.000	0.000	0.000	0.000
NC	.090	.090	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF SMALL CULVERT, BS#69 SEC. BS

MANNING COEFFICIENT FOR CHANNEL HAS BEEN RAISED TO ACCOUNT FOR

THE EFFECT OF 20 IN. LOG AT D/S OF THE CULVERT

X1	34615.000	18.000	248.800	251.300	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	18.000	0.000	952.900	0.000	50.000	939.000	0.000	60.000	938.100	0.000
BT	90.000	937.600	0.000	110.000	938.100	0.000	150.000	939.100	0.000	225.000
BT	937.300	0.000	248.800	939.000	0.000	248.800	939.000	937.200	249.200	939.000
BT	937.800	250.000	939.000	938.000	250.900	939.000	937.800	251.300	939.000	937.200
BT	251.300	939.000	0.000	275.000	937.200	0.000	350.000	940.300	0.000	375.000
BT	941.600	0.000	425.000	954.900	0.000	0.000	0.000	0.000	0.000	0.000
GR	952.900	0.000	939.000	50.000	938.100	60.000	937.600	90.000	938.100	110.000
GR	939.100	150.000	937.300	225.000	939.000	248.800	936.300	248.800	935.700	249.200
GR	935.500	250.000	935.700	250.900	936.300	251.300	939.000	251.300	937.200	275.000
GR	940.300	350.000	941.600	375.000	954.900	425.000	0.000	0.000	0.000	0.000

U/S FACE OF SMALL CULVERT, BS#69 SEC. BS

X1	34639.000	18.000	248.800	251.300	24.000	24.000	24.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	18.000	0.000	952.900	0.000	50.000	939.000	0.000	60.000	938.100	0.000
BT	90.000	937.600	0.000	110.000	938.100	0.000	150.000	939.100	0.000	225.000
BT	937.300	0.000	248.800	939.000	0.000	248.800	939.000	937.600	249.200	939.000
BT	938.200	250.000	939.000	938.400	250.900	939.000	938.200	251.300	939.000	937.600
BT	251.300	939.000	0.000	275.000	937.200	0.000	350.000	940.300	0.000	375.000
BT	941.600	0.000	425.000	954.900	0.000	0.000	0.000	0.000	0.000	0.000
GR	952.900	0.000	939.000	50.000	938.100	60.000	937.600	90.000	938.100	110.000
GR	939.100	150.000	937.300	225.000	939.000	248.800	936.700	248.800	936.100	249.200
GR	935.900	250.000	936.100	250.900	936.700	251.300	939.000	251.300	937.200	275.000
GR	940.300	350.000	941.600	375.000	954.900	425.000	0.000	0.000	0.000	0.000
NC	.110	.110	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	34640.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.095	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1340' D/S FROM D/S FACE OF ARROWHEAD RD, VS#70 SEC. BT

X1	35240.000	11.000	88.000	109.000	575.000	675.000	600.000	0.000	0.000	0.000
GR	955.100	0.000	944.600	60.000	944.200	88.000	940.300	94.000	939.600	96.000
GR	940.200	98.000	940.600	100.000	944.800	109.000	945.300	122.000	951.900	138.000
GR	961.600	230.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NH	4.000	.098	130.000	.048	142.000	.090	300.000	.098	400.000	0.000

850' D/S FROM D/S FACE OF ARROWHEAD RD, VS#71 SEC. BU

X1	35730.000	11.000	130.000	142.000	525.000	480.000	490.000	0.000	0.000	0.000
GR	958.700	0.000	948.100	100.000	946.500	130.000	943.100	134.000	942.600	138.000
GR	943.100	139.000	945.900	142.000	948.100	155.000	951.700	200.000	957.900	300.000
GR	964.400	400.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.095	.095	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	36180.000	16.000	384.000	396.000	380.000	520.000	450.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	270.000	0.000	470.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	948.000	15.000	946.000	30.000	945.500	100.000	946.000	140.000
GR	947.000	165.000	946.000	195.000	944.500	384.000	944.000	388.000	943.500	392.000
GR	944.000	393.000	944.600	396.000	944.400	470.000	946.000	628.000	948.000	720.000
GR	950.000	780.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	6.000	8.000	9.000	11.000	0.000	0.000	0.000	0.000	0.000

80' D/S FROM U/S FACE OF ARROWHEAD RD, VS#72 — SEC. BV

X1	36500.000	9.000	58.000	71.000	310.000	360.000	320.000	0.000	0.000	0.000
GR	951.200	0.000	949.800	42.000	947.600	58.000	944.500	63.000	944.300	65.000
GR	944.400	66.000	947.600	71.000	951.900	108.000	953.300	145.000	0.000	0.000
NC	.080	.060	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	36580.000	10.000	199.000	201.000	80.000	80.000	80.000	0.000	0.000	0.000
GR	951.000	0.000	950.100	100.000	950.400	199.000	944.700	199.000	944.300	200.000
GR	944.700	201.000	950.400	201.000	953.600	300.000	956.200	400.000	956.000	500.000
NC	.050	.050	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF ARROWHEAD RD CULVERT, BS#73 — SEC. BW

X1	36581.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	10.000	0.000	951.000	0.000	100.000	950.100	0.000	199.000	950.400	0.000
BT	199.000	950.400	945.900	200.000	950.400	946.300	201.000	950.400	945.900	201.000
BT	950.400	0.000	300.000	953.600	0.000	400.000	956.200	0.000	500.000	956.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE OF ARROWHEAD RD CULVERT, BS#73 — SEC. BW

X1	36625.000	10.000	199.000	201.000	44.000	44.000	44.000	0.000	0.000	0.000
BT	10.000	0.000	951.000	0.000	100.000	950.100	0.000	199.000	950.400	0.000
BT	199.000	950.400	946.200	200.000	950.400	946.600	201.000	950.400	946.200	201.000
BT	950.400	0.000	300.000	953.600	0.000	400.000	956.200	0.000	500.000	956.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	951.000	0.000	950.100	100.000	950.400	199.000	945.000	199.000	944.600	200.000
GR	945.000	201.000	950.400	201.000	953.600	300.000	956.200	400.000	956.000	500.000
NC	.090	.090	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	36626.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	950.100	950.100	0.000
NC	.085	.085	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	36906.000	13.000	125.000	138.000	400.000	200.000	280.000	0.000	0.000	0.000
GR	949.100	0.000	949.600	50.000	949.800	125.000	948.700	128.300	946.900	128.400
GR	946.200	130.000	946.100	131.300	946.200	132.500	946.600	134.400	948.600	134.800
GR	950.400	138.000	952.400	230.000	954.500	295.000	0.000	0.000	0.000	0.000
NC	.085	.085	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF CHECK DAM, DS#74 — SEC. BX

X1	36907.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SB	0.000	1.000	3.390	0.000	.010	0.000	.010	0.000	946.800	946.200

U/S FACE OF CHECK DAM, DS#74 — SEC. BX

X1	36908.000	13.000	125.000	138.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	946.800	948.200	0.000	0.000	0.000	0.000	0.000
BT	12.000	0.000	949.100	0.000	50.000	949.600	0.000	125.000	949.800	0.000
BT	128.500	948.500	0.000	130.000	948.500	0.000	130.000	948.200	0.000	132.500
BT	948.200	0.000	132.500	948.400	0.000	134.500	948.400	0.000	138.000	950.400
BT	0.000	230.000	952.400	0.000	295.000	954.500	0.000	0.000	0.000	0.000
GR	949.100	0.000	949.600	50.000	949.800	125.000	948.400	129.200	946.800	129.300
GR	946.800	130.000	947.000	131.300	947.000	132.500	946.800	134.500	948.300	134.600
GR	950.300	138.000	952.400	230.000	954.500	295.000	0.000	0.000	0.000	0.000
NC	.100	.075	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	36909.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.100	.080	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

760' U/S FROM U/S FACE OF ARROWHEAD RD. VS#75 SEC. BY

X1	37339.000	20.000	401.000	425.000	470.000	400.000	430.000	0.000	0.000	0.000
GR	951.200	0.000	948.400	25.000	947.500	125.000	948.000	225.000	948.100	287.000
GR	949.300	289.000	949.500	325.000	949.200	392.000	949.200	401.000	948.000	402.000
GR	946.600	407.000	946.200	410.000	941.000	413.000	944.500	420.000	948.700	425.000
GR	946.900	425.000	949.300	470.000	948.600	500.000	950.100	550.000	951.800	575.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********************************************

T1      5850-10, FIS - WEST BLOOMFIELD TWP, LAKE STUDY, PM = DICK ZANOTTI
T2      100-YEAR FLOOD
T3      CHANNEL BETWEEN WOODPECKER & MORRIS LAKES

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       4.        0.        0.  0.000000      0.00      0.0       0.   925.940     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

*PROF 3

CCHV= .300 CEHV= .500

*SECNO 32024.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
	2080' U/S FROM U/S FACE OF LOCKHART DRIVE								
32024.00	1.94	925.94	0.00	925.94	926.21	.27	0.00	0.00	926.20
37.	0.	36.	0.	0.	9.	0.	0.	0.	925.90
0.00	0.00	4.15	.02	.100	.050	.100	0.000	924.00	275.52
.019180	0.	0.	0.	0	0	0	0.00	7.70	283.22

*SECNO 32080.000

32080.00	2.27	926.87	0.00	0.00	927.03	.16	.79	.03	926.80
37.	0.	36.	0.	0.	11.	0.	0.	0.	926.50
.00	.01	3.21	.47	.105	.055	.105	.054	924.60	273.98
.010732	55.	56.	60.	2	0	0	0.00	10.99	284.98

*SECNO 32137.000

32137.00	2.28	927.48	0.00	0.00	927.63	.16	.61	.00	927.40
37.	0.	36.	0.	0.	11.	0.	0.	0.	927.10
.01	.01	3.19	.47	.105	.055	.105	.054	925.20	273.87
.010540	55.	57.	60.	2	0	0	0.00	11.15	285.02

*SECNO 32249.000

2305' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#63 SEC. BM

32249.00	2.27	928.67	0.00	0.00	928.83	.16	1.19	.00	928.60
37.	0.	36.	0.	0.	11.	0.	0.	0.	928.30
.02	.01	3.21	.47	.105	.055	.105	.054	926.40	274.00
.010766	110.	112.	120.	1	0	0	0.00	10.97	284.97

*SECNO 32489.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 931.10 ELREA= 939.90

2545' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#64 SEC. BN

32489.00	2.09	930.89	0.00	0.00	931.00	.11	2.16	.01	931.10
37.	0.	36.	0.	0.	14.	0.	0.	0.	939.90
.04	0.00	2.68	0.00	.105	.055	.105	.055	928.80	138.40
.007627	240.	240.	240.	4	0	0	0.00	10.25	143.65

*SECNO 32789.000

2845' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#65 SEC. BO

32789.00	2.24	931.74	0.00	0.00	931.77	.03	.74	.03	930.30
37.	10.	27.	0.	22.	18.	0.	0.	0.	939.70
.11	.43	1.46	0.00	.095	.047	.095	.052	929.50	102.40
.001200	300.	300.	300.	5	0	0	0.00	41.90	144.30

*SECNO 33239.000

3295' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#66 SEC. BP

33239.00	1.38	933.08	0.00	0.00	933.32	.23	1.45	.10	932.50
37.	5.	32.	0.	4.	8.	0.	1.	1.	938.90
.15	1.05	4.11	0.00	.100	.049	.100	.051	931.70	160.34
.025876	425.	450.	425.	2	0	0	0.00	24.15	184.49

*SECNO 33539.000

3595' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#67 SEC. BQ

33539.00	2.38	935.28	0.00	0.00	935.33	.05	1.96	.05	935.20
37.	0.	36.	0.	0.	20.	0.	1.	1.	935.90
.19	.01	1.80	0.00	.100	.050	.100	.051	932.90	62.65
.002915	300.	300.	300.	3	0	0	0.00	18.73	81.38

*SECNO 33889.000

3945' U/S FROM U/S FACE OF LOCKHART DRIVE, VS#68 SEC. BR

33889.00	1.90	935.60	0.00	0.00	935.60	.00	.25	.01	935.50
24.	0.	15.	9.	0.	29.	45.	1.	1.	935.10
.44	.00	.52	.20	.105	.052	.105	.051	933.70	77.08
.000233	360.	350.	345.	4	0	0	0.00	78.62	155.70

*SECNO 34239.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34239.00	1.10	935.70	0.00	0.00	935.70	.00	.11	.00	935.60
24.	0.	6.	18.	0.	14.	85.	2.	2.	935.50
.81	.04	.40	.21	.110	.055	.110	.051	934.60	118.53
.000402	350.	350.	350.	3	0	0	0.00	157.03	275.55

*SECNO 34424.000

3265 DIVIDED FLOW

34424.00	.80	935.85	0.00	0.00	935.85	.00	.15	.00	936.05
24.	0.	7.	17.	0.	8.	47.	2.	3.	935.95
.92	0.00	.81	.37	.110	.055	.110	.052	935.05	131.01
.002221	185.	185.	185.	2	0	0	0.00	131.83	270.97

*SECNO 34609.000

3470 ENCROACHMENT STATIONS= 232.0 268.0 TYPE= 1 TARGET= 36.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

34609.00	.97	936.47	0.00	0.00	936.49	.02	.63	.01	935.70
24.	8.	6.	9.	10.	3.	12.	2.	3.	935.70
.96	.78	1.86	.79	.110	.055	.110	.052	935.50	232.00
.005780	185.	185.	185.	3	0	0	0.00	36.00	268.00

*SECNO 34614.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34614.00	1.41	936.91	936.91	0.00	937.10	.19	.06	.08	936.30
24.	5.	13.	6.	4.	3.	5.	2.	3.	936.30
.97	1.13	4.54	1.13	.110	.055	.110	.052	935.50	234.24
.033772	5.	5.	5.	20	11	0	0.00	33.17	267.41

*SECNO 34615.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.00

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

D/S FACE OF SMALL CULVERT, BS#69 SEC. BS

MANNING COEFFICIENT FOR CHANNEL HAS BEEN RAISED TO ACCOUNT FOR

THE EFFECT OF 20 IN. LOG AT D/S OF THE CULVERT — 4.4 ft²

34615.00	2.11	937.61	937.61	0.00	937.85	.24	.03	.03	939.00
24.	2.	20.	3.	3.	5.	3.	2.	3.	939.00
.97	.68	4.34	.82	.090	.040	.090	.052	935.50	212.22
.020719	1.	1.	1.	20	9	0	-.16	34.78	284.84

*SECNO 34639.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

plot of [illegible] indicates [illegible] of 34614 is between 541.0 ft higher than [illegible] 34609, possibly [illegible] are not appropriate.

[illegible] #09 (5ft d/s of crossing) not submerging rd profile

d_c in culvert = 1.52 ft @ 20 cfs
d_c in culvert = 1.67 @ 24 cfs

flow in channel is through culvert, in overbanks its weir flow

TIME	VLOB	WCH	VROB	XNL	XNCH	XNR	WSEL	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

30" RCP
Perlee

3370 NORMAL BRIDGE, NRD= 18 MIN ELTRD= 937.20 MAX ELLC= 938.40

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

U/S FACE OF SMALL CULVERT, BS#69 SEC. BS

34639.00	2.14	938.04	0.00	0.00	938.08	.02	.17	.07	939.00
24.	8.	8.	0.	16.	5.	14.	2.	3.	939.00
.97	.51	1.77	.58	.090	.040	.090	.052	935.90	193.38
.003417	24.	24.	24.	2	0	0	-.18	77.02	295.83

182.53

*SECNO 34640.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 150.0 425.0 TYPE= 1 TARGET= -150.000

34640.00	2.17	938.09	0.00	0.00	938.09	.02	.00	.00	939.00
24.	8.	8.	8.	17.	5.	14.	2.	3.	939.00
.97	.50	1.77	.58	.110	.055	.110	.052	935.90	192.78
.004843	1.	1.	1.	0	0	0	0.00	78.16	296.13

*SECNO 35240.000

1340' D/S FROM D/S FACE OF ARROWHEAD RD. XS#70 SEC. BT

35240.00	1.89	941.49	0.00	0.00	941.57	.08	3.45	.03	944.20
24.	0.	24.	0.	0.	10.	0.	3.	4.	944.80
1.05	0.00	2.32	0.00	.100	.052	.095	.052	939.60	92.18
.006754	575.	498.	475.	4	0	0	0.00	9.72	101.90

1490 NH CARD USED

*SECNO 35730.000

850' D/S FROM D/S FACE OF ARROWHEAD RD. XS#71 SEC. BU

35730.00	1.84	944.44	0.00	0.00	944.53	.09	2.96	.00	946.50
24.	0.	24.	0.	0.	10.	0.	3.	4.	945.90
1.10	0.00	2.41	0.00	.100	.048	.095	.052	942.60	132.42
.005423	525.	498.	488.	3	0	0	0.00	8.01	140.44

*SECNO 36180.000

3470 ENCROACHMENT STATIONS= 270.0 470.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

36180.00	1.57	945.07	0.00	0.00	945.07	.00	.52	.03	944.50
24.	3.	8.	13.	21.	13.	50.	3.	5.	944.40
1.44	.15	.65	.26	.095	.050	.095	.051	943.50	311.92
.000466	380.	450.	520.	7	0	0	0.00	158.08	470.00

*SECNO 36500.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

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TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

80' D/S FROM D/S FACE OF ARROWHEAD RD, VS#72 — SEC. BV

36580.00	.98	945.28	0.00	0.00	945.37	.09	.25	.04	947.60
9.	0.	9.	0.	0.	4.	0.	4.	5.	947.60
1.48	0.00	2.37	0.00	.095	.050	.095	.051	944.30	61.74
.012013	310.	320.	360.	3	0	0	0.00	5.64	67.38

*SECNO 36580.000

36580.00	1.83	946.13	0.00	0.00	946.25	.12	.07	.02	950.40
9.	0.	9.	0.	0.	3.	0.	4.	5.	950.40
1.49	0.00	2.76	0.00	.080	.040	.060	.051	944.30	199.00
.009834	80.	80.	80.	2	0	0	0.00	2.00	201.00

*SECNO 36581.000

3370 NORMAL BRIDGE, NRD= 10 MIN ELTRD= 950.10 MAX ELLC= 946.30

D/S FACE OF ARROWHEAD RD CULVERT, BS#73 — SEC. BW

36581.00	1.83	946.13	0.00	0.00	946.27	.14	.01	.01	950.40
9.	0.	9.	0.	0.	3.	0.	4.	5.	950.40
1.49	0.00	2.96	0.00	.050	.024	.050	.051	944.30	199.00
.005709	1.	1.	1.	1	0	0	-.24	2.00	201.00

*SECNO 36625.000

3370 NORMAL BRIDGE, NRD= 10 MIN ELTRD= 950.10 MAX ELLC= 946.60

U/S FACE OF ARROWHEAD RD CULVERT, BS#73 — SEC. BW

36625.00	1.79	946.39	0.00	0.00	946.53	.14	.26	.00	950.40
9.	0.	9.	0.	0.	3.	0.	4.	5.	950.40
1.49	0.00	2.82	0.00	.050	.024	.050	.051	944.60	199.00
.005923	44.	44.	44.	2	0	0	-.18	2.00	201.00

*SECNO 36626.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 950.10 ELREA= 950.10

36626.00	1.82	946.42	0.00	0.00	946.54	.12	.01	.01	950.40
9.	0.	9.	0.	0.	3.	0.	4.	5.	950.40
1.49	0.00	2.78	0.00	.090	.042	.090	.051	944.60	199.00
.010949	1.	1.	1.	2	0	0	0.00	2.00	201.00

*SECNO 36906.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
36906.00	1.35	947.45	0.00	0.00	947.47	.03	.91	.03	949.80
9.	0.	9.	0.	0.	7.	0.	4.	5.	950.40
1.55	0.00	1.34	0.00	.085	.040	.085	.050	946.10	128.37

247.cmp

$\theta = 4\cos^{-1}\sqrt{\frac{1.83}{2}} = 95.18^{\circ}$

$\left(\frac{2\pi}{180}\theta + \sin\theta\right)\frac{2}{8} = 7.877^{2}$

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.001524	400.	280.	200.	5	0	0	0.00	6.20	134.57

*SECNO 36907.000

D/S FACE OF CHECK DAM, DS#74 SEC. BX

36907.00	1.55	947.63	0.00	0.00	967.47	.03	.00	.00	949.80
9.	0.	9.	0.	0.	7.	0.	0.	5.	950.40
1.55	0.00	1.33	0.00	.085	.030	.085	.050	946.10	128.37
.000839	1.	1.	1.	0	0	0	0.00	6.20	134.57

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.00	3.39	0.00	.01	0.00	.01	0.00	946.80	946.20

*SECNO 36908.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
13525.09	948.18	0.00	9.	0.	0.	0.	946.80	948.20

U/S FACE OF CHECK DAM, DS#74 SEC. BX

36908.00	2.07	948.07	0.00	0.00	948.88	.01	1.41	0.00	949.80
9.	0.	9.	0.	0.	11.	0.	4.	5.	950.30
1.55	0.00	.81	0.00	.085	.030	.085	.050	946.80	127.76
.000262	1.	1.	1.	1	0	16	0.00	7.82	135.58

*SECNO 36909.000

36909.00	2.07	948.07	0.00	0.00	948.88	.01	.00	.00	949.80
9.	0.	9.	0.	0.	11.	0.	4.	5.	950.30
1.55	0.00	.81	0.00	.100	.040	.075	.050	946.80	127.78
.000470	1.	1.	1.	0	0	0	0.00	7.80	135.58

*SECNO 37339.000

3265 DIVIDED FLOW

760' U/S FROM U/S FACE OF ARROWHEAD RD, VS#75 SEC. BY

37339.00	7.89	948.89	0.00	0.00	948.89	.00	.00	.00	949.20
9.	3.	5.	1.	261.	86.	40.	6.	7.	946.90
4.57	.01	.06	.01	.100	.040	.080	.049	941.00	20.64
.000801	478.	630.	400.	2	0	0	0.00	350.64	509.60

50yr. stage on Woodpecker Lake given as 949.0 from Feb 1965-31, entire runoff 35 Aft. stored in lake.

Appears to be wide

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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL D/S OF CARUS LAKE

4) DOCUMENT TYPE: 100 YR CONVERGENCE

00BREAK00

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**********
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********

C
T1      5850-02 @ 10, FIS - CONNERCE @ WEST BLOOMFIELD TWP, PH = DICK ZANOTTI
T2      100-YEAR FLOOD        CONVERGENT RUN
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ        NINV       IDIR       STRT      METRIC     HVINS      Q          WSEL       FQ
      -1.        4.         0.         0.   0.000000       0.00       0.0        0.    919.500      0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLOC      XLK        CHNIM      ITRACE
     1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
     38.000     39.000     40.000     41.000     42.000     43.000      1.000     10.000     11.000     12.000

     25.000      8.000      4.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

NC       .090       .090       .060       .300       .500      0.000      0.000      0.000      0.000      0.000
QT      6.000    175.000    250.000    265.000    320.000      0.000      0.000      1.000      0.000      0.000
NH      6.000       .095     54.000       .075     80.000       .045     95.000       .095    255.000       .045
NH    460.000       .075    580.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, XSB9.5                SEC. A

X1   5749.000     18.000     54.000     98.000      0.000      0.000      0.000      0.000      0.000      0.000
X3      0.000      0.000      0.000      0.000      0.000    200.000      0.000      0.000      0.000      0.000
GR    932.600      0.000    920.000     39.000    919.200     54.000    918.000     57.000    918.000     62.000
GR    919.200     82.000    918.100     88.000    913.000     92.000    918.000     95.000    919.100     93.000
GR    919.300    100.000    920.300    137.000    929.000    201.000    921.700    295.000    920.500    300.000
GR    919.800    400.000    920.500    460.000    925.800    580.000      0.000      0.000      0.000      0.000
NH      3.000       .095    744.000       .050    755.000       .095   1400.000      0.000      0.000      0.000

          250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, XSB9                  SEC. B

X1   6349.000     25.000    700.000    835.000    600.000    500.000    660.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
GR    931.900      0.000    935.500     73.000    935.100    100.000    934.000    200.000    932.400    300.000
GR    933.900    400.000    933.300    500.000    930.200    600.000    924.600    632.000    923.000    700.000
GR    921.700    744.000    921.200    748.000    922.300    755.000    922.200    800.000    921.200    805.000
GR    921.300    815.000    921.200    825.000    921.600    835.000    922.900    900.000    925.000    937.000
GR    927.700   1010.000    926.200   1100.000    925.400   1200.000    929.100   1270.000    934.700   1400.000
NH      3.000       .095    744.000       .065    755.000       .095   1400.000      0.000      0.000      0.000

X1   6599.000      0.000      0.000      0.000    250.000    250.000    250.000      0.000       .200      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          D/S FACE OF WELCH ROAD CULVERT, XSB10                              SEC. C

X1   6600.000      0.000      0.000      0.000      1.000      1.000      1.000      0.000      0.000      0.000
```

X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.200	.200	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	3.320	3.020	0.000	0.000	0.000	11.780	0.000	921.400	921.400

U/S FACE OF JELCH ROAD CULVERT, BSC10 — SEC. C

X1	6659.000	30.000	897.500	902.500	59.000	39.000	99.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	924.600	420.100	0.000	0.000	0.000	1.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	923.100	923.100	0.000
BT	28.000	0.000	933.500	0.000	100.000	932.800	0.000	200.000	932.600	0.000
BT	300.000	932.000	0.000	600.000	931.400	0.000	500.000	930.800	0.000	600.000
BT	930.300	0.000	700.000	929.800	1.000	300.000	929.100	0.000	897.500	929.500
BT	0.000	897.500	929.500	922.300	397.500	923.500	923.400	893.400	923.500	924.200
BT	900.000	928.500	924.400	901.600	929.500	924.200	902.500	928.500	923.400	902.500
BT	928.500	922.300	902.500	928.500	0.000	1000.000	929.100	0.000	1100.000	928.400
BT	0.000	1200.000	929.400	0.000	1300.000	930.600	0.000	1400.000	932.400	0.000
BT	1500.000	933.900	0.000	1600.000	935.300	0.000	1700.000	936.900	0.000	1800.000
BT	936.500	0.000	1900.000	940.200	0.000	0.000	0.000	0.000	0.000	0.000
GR	933.500	0.000	932.300	100.000	932.600	200.000	932.300	300.000	931.400	670.000
GR	930.800	500.000	930.300	600.000	929.800	700.000	929.100	800.000	924.000	899.000
GR	923.100	892.000	923.000	896.000	922.300	897.500	921.600	895.400	921.400	900.000
GR	921.600	901.600	922.300	902.500	923.300	904.000	924.100	920.000	924.600	934.000
GR	928.100	1000.000	928.400	1100.000	929.400	1200.000	930.600	1300.000	932.400	1400.000
GR	933.900	1500.000	935.300	1600.000	936.900	1700.000	938.500	1800.000	940.200	1900.000
NC	.095	.095	.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6665.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.097	.097	.068	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1570' U/S FROM U/S FACE OF JELCH ROAD CULVERT, VSC11 — SEC. D

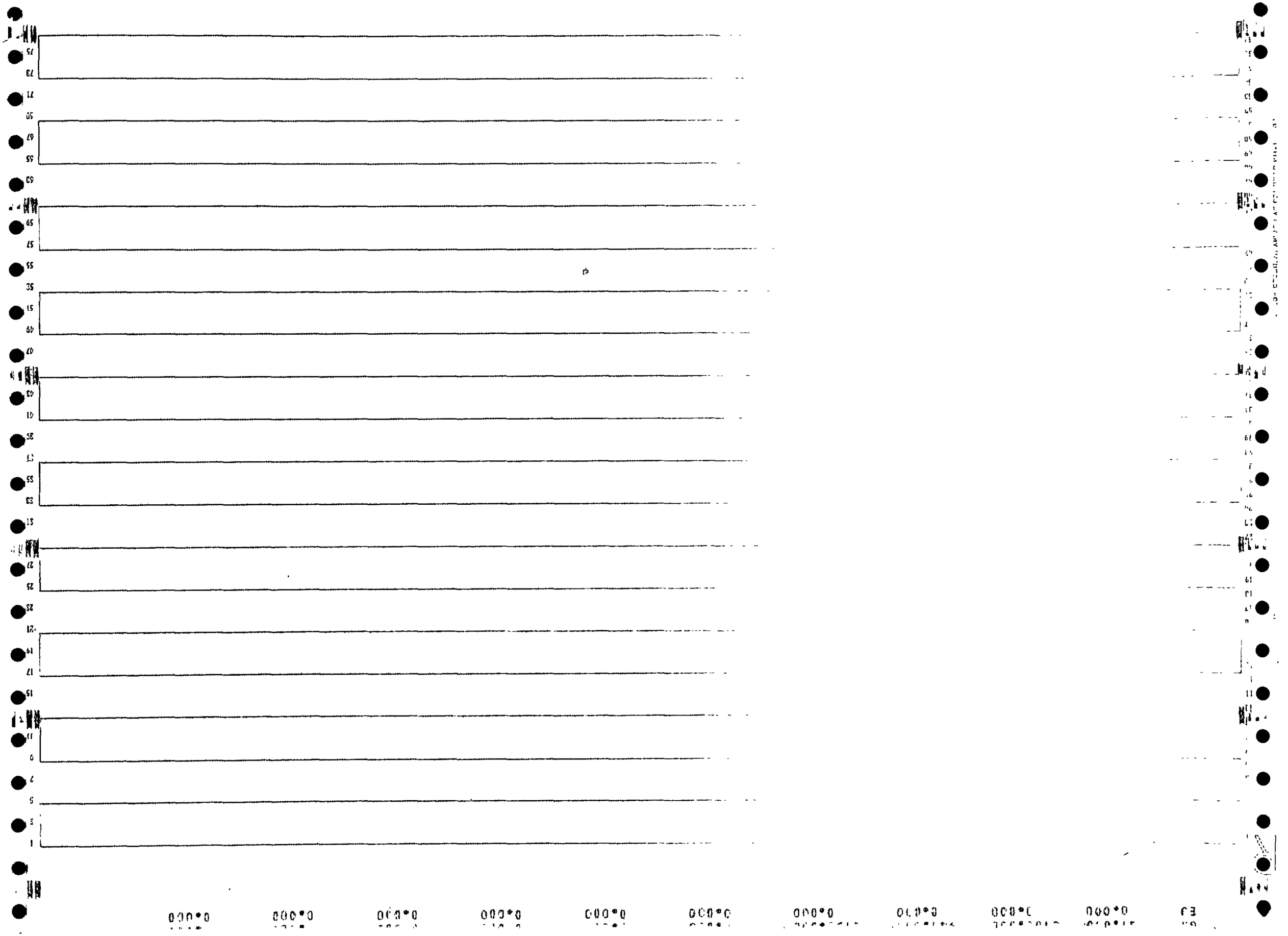
X1	8230.000	29.000	1234.000	1250.000	1500.000	1520.000	1565.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	929.400	0.000	927.100	50.000	927.200	100.000	927.900	150.000	929.800	200.000
GR	931.200	300.000	933.200	400.000	935.200	500.000	936.200	600.000	932.100	700.000
GR	931.700	800.000	931.200	900.000	931.500	1000.000	929.700	1100.000	928.000	1200.000
GR	928.900	1234.000	927.600	1238.000	927.900	1262.000	927.900	1245.000	929.100	1250.000
GR	928.100	1350.000	930.400	1450.000	932.300	1550.000	936.500	1650.000	936.800	1750.000
GR	934.200	1950.000	934.300	1950.000	938.400	2050.000	0.000	0.000	0.000	0.000
NC	.098	.098	.055	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OT	6.000	90.000	140.000	150.000	190.000	0.000	0.000	0.000	0.000	0.000

3070' U/S FROM U/S FACE OF HELCH ROAD CULVERT, VSC12 — SEC. E

X1	9730.000	19.000	591.000	600.000	1500.000	1500.000	1500.000	0.000	0.000	0.000
GR	949.800	0.000	935.400	100.000	936.300	200.000	941.300	315.000	939.300	400.000
GR	934.400	500.000	931.300	591.000	930.600	593.000	930.300	595.000	930.300	598.000
GR	931.100	600.000	930.000	700.000	930.100	800.000	929.500	900.000	930.500	1000.000
GR	930.900	1100.000	933.000	1170.000	941.400	1277.000	963.300	1400.000	0.000	0.000
NC	.110	.110	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VSC13 — SEC. F

X1	10730.000	32.000	1291.000	1300.000	1000.000	1000.000	1000.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	870.000	0.000	1700.000	0.000	0.000	0.000	0.000
GR	938.300	0.000	938.600	100.000	932.700	123.000	930.200	200.000	930.500	300.000
GR	930.300	400.000	930.300	500.000	929.900	600.000	929.900	700.000	929.000	800.000
GR	929.600	900.000	930.000	1000.000	930.000	1100.000	931.100	1200.000	931.000	1291.000
GR	930.200	1296.000	930.000	1296.000	930.300	1298.000	931.000	1300.000	930.000	1400.000
GR	930.400	1439.000	934.000	1500.000	938.300	1563.000	936.700	1600.000	937.300	1700.000
GR	931.500	1800.000	930.900	1900.000	931.300	1950.000	934.300	2000.000	939.300	2054.000



#PROF 1

CCHV= .300 CEHV= .500
1490 NH CARD USED
#SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	VSELK	EG	HV	HL	HLOSS	BANK ELEV
Q	CLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	ANL	XNCH	XNR	XTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= .1 200.0 TYPE= 1 TARGET= 199.995

825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VSEC 9.5 SEC. A

5749.00	1.50	919.50	919.50	919.50	919.99	.49	0.00	0.00	919.20
265.	1.	265.	1.	1.	47.	1.	0.	0.	919.10
0.00	1.07	5.64	1.29	.095	.085	.095	0.000	918.00	43.36
.058150	0.	0.	0.	0	4	0	0.00	56.64	104.98

1490 NH CARD USED
#SECNO 6349.000

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VSEC SEC. B

6349.00	2.27	923.47	0.00	0.00	923.49	.01	3.35	.14	923.00
265.	1.	199.	65.	5.	199.	35.	2.	2.	921.80
.18	.26	1.00	.75	.085	.047	.095	.040	921.20	679.92
.001955	600.	600.	600.	9	0	0	0.00	243.80	923.72

1490 NH CARD USED
#SECNO 6599.000

6599.00	2.46	923.86	0.00	0.00	923.87	.01	.38	.00	923.20
265.	2.	196.	67.	9.	224.	106.	4.	4.	921.80
.26	.26	.87	.64	.095	.085	.095	.040	921.40	671.98
.001235	250.	250.	250.	5	0	0	0.00	259.51	931.67

#SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BSEC10 SEC. C

6600.00	2.45	923.86	0.00	0.00	923.87	.01	.00	.00	923.20
265.	2.	196.	67.	9.	224.	106.	4.	4.	921.80
.26	.26	.87	.64	.095	.085	.095	.040	921.40	671.91
.001231	1.	1.	1.	0	0	0	0.00	259.62	931.53

SPECIAL BRIDGE

SB	XK	XKOR	CDFO	RDLEN	BUC	BHP	BAREA	SS	ELCHU	ELCHD
	0.00	3.32	0.02	0.00	3.93	0.00	11.78	0.00	921.40	921.40

#SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	VSELK	EG	HV	HL	HLOSS	BANK ELEV
Q	CLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	XTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

EGPRS	EGLWC	KE	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRO
949.95	932.88	0.00	153.	116.	12.	12.	926.40	928.13

From Z-Plot, it appears as if WSPRO is at DOR
⇒ no flow in LOB

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.16	928.56	0.00	0.00	928.67	.11	4.90	0.00	922.30
265.	52.	929.	73.	257.	34.	323.	5.	4.	923.30
.27	.24	3.75	.23	.200	.023	.200	.039	921.40	930.30
.000221	59.	59.	59.	2	0	10	0.00	507.56	1115.93

#SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	928.70	.01	.00	.03	922.30
265.	101.	43.	121.	269.	35.	353.	5.	4.	922.30
.29	.37	1.22	.34	.095	.049	.095	.039	921.40	305.31
.000116	6.	6.	6.	2	0	0	0.00	522.96	1129.23

#SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.25	.04	.55	.02	926.90
265.	131.	52.	81.	119.	19.	90.	20.	15.	929.10
.59	1.10	2.79	.90	.097	.046	.097	.045	927.50	1041.21
.006728	1500.	1565.	1520.	3	0	0	0.00	517.76	1548.96

#SECNO 9730.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.58	931.30	0.00	0.00	931.38	.00	2.11	.01	931.30
150.	0.	3.	147.	0.	7.	487.	33.	30.	931.10
1.95	.04	.46	.30	.098	.055	.098	.040	929.80	583.49
.000367	1500.	1500.	1500.	6	0	0	0.00	527.70	1114.19

#SECNO 10730.000

3470 ENCROACHMENT STATIONS= 870.0 1700.0 TYPE= 1 TARGET= 130.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.00	931.60	0.00	0.00	931.60	.00	.22	.00	931.00
150.	115.	6.	31.	554.	11.	177.	47.	62.	931.00
3.31	.21	.33	.18	.110	.060	.110	.051	929.30	170.00
.000142	1000.	1000.	1000.	6	0	0	0.00	539.35	1659.35

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**********
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********

T1      5850-02 @ 10, FIS - COMMERCE & WEST BLOOMFIELD TWP, PM = DICK ZAMOTTI
T2
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
       -1.       6.        0.        0.  0.000000      0.00      0.0       0.   920.500     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IDC       CHNIM     ITRACE
     2.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

*FROF 2

CCHV= .300 CEHV= .500
1490 NH CARD USED
*SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	WNL	XNCH	WMR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 200.0 TYPE= 1 TARGET= 149.99%

825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VSD9.5 SEC. A

5749.00	2.50	920.50	0.00	920.50	920.59	.09	0.00	0.00	919.20
265.	15.	232.	18.	14.	90.	20.	3.	0.	919.10
0.00	1.06	2.57	.89	.095	.062	.095	0.003	919.00	37.45
.005691	0.	0.	0.	0	0	0	0.01	92.15	129.60

1490 NH CARD USED
*SECNO 6349.000

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VSD9 SEC. B

6349.00	2.04	923.26	0.00	0.00	923.26	.02	2.64	.02	923.00
265.	0.	204.	60.	1.	167.	66.	2.	2.	921.60
.14	.23	1.23	.91	.095	.060	.095	.060	921.20	599.97
.003614	600.	600.	600.	5	0	0	0.00	223.95	913.92

1490 NH CARD USED
*SECNO 6599.000

6599.00	2.39	923.79	0.00	0.00	923.80	.01	.56	.00	923.20
265.	2.	197.	66.	7.	215.	97.	4.	4.	921.81
.23	.25	.92	.68	.095	.036	.095	.040	921.40	674.01
.001639	250.	250.	250.	3	0	0	0.00	253.69	928.60

*SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BSD10 SEC. C

6600.00	2.39	923.79	0.00	0.00	923.80	.01	.00	.00	923.20
265.	2.	197.	66.	7.	215.	97.	4.	4.	921.80
.23	.26	.92	.68	.095	.036	.095	.040	921.40	674.85
.001636	1.	1.	1.	0	0	0	0.00	253.75	929.63

SPECIAL BRIDGE

SB	XK	XKOR	COFD	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.32	3.02	0.00	3.93	0.80	11.78	0.00	921.40	921.40

*SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XMR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLOC	HB	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
949.83	933.42	0.00	153.	115.	12.	12.	924.60	928.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. L

6659.00	7.16	928.56	0.00	0.00	928.67	.11	4.86	0.00	922.30
265.	52.	129.	73.	257.	34.	323.	5.	4.	922.30
.23	.24	3.79	.23	.200	.020	.200	.039	921.40	903.40
.000221	59.	59.	59.	2	0	13	0.00	307.36	1115.79

*SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	928.70	.01	.00	.03	922.30
265.	101.	43.	121.	269.	55.	352.	5.	4.	922.30
.24	.38	1.22	.36	.095	.045	.095	.039	921.40	903.33
.000116	6.	6.	6.	2	0	3	0.00	322.79	1129.13

*SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.26	.04	.55	.02	923.90
265.	131.	52.	81.	119.	19.	90.	23.	15.	929.10
.54	1.11	2.79	.90	.097	.048	.097	.045	927.50	1081.23
.006743	1500.	1565.	1520.	3	0	0	0.00	317.71	1391.84

*SECNO 9730.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.58	931.38	0.00	0.00	931.38	.00	2.11	.01	931.30
150.	0.	3.	147.	0.	7.	487.	33.	30.	931.19
1.91	.04	.46	.30	.098	.055	.098	.049	929.80	583.48
.000366	1500.	1500.	1500.	6	0	0	0.00	527.72	1115.20

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 870.0 1700.0 TYPE= 1 TARGET= 930.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.00	931.60	0.00	0.00	931.60	.00	.22	.00	931.00
150.	115.	6.	31.	556.	11.	177.	47.	42.	931.00
3.27	.21	.33	.18	.110	.060	.110	.051	929.60	870.00
.000142	1000.	1000.	1000.	6	0	0	0.00	589.35	1459.35

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**********
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********

T1      5850-02 @ 10, FIS - COMMERCE & WEST BLOOMFIELD TWP, PH = DICK ZAPPOTTI
T2
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     D         WSEL      FQ
       -1.       4.        0.        0.  0.000000      0.00      0.0       0.   921.500     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     T3N       CHNIN     ITRACE
     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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#PROF 3

CCHV=    .300 CEHV=    .500
1490 NH CARD USED
#SECNO 5749.000
   SECNO     DEPTH     CHSEL     CRIHS     HSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       ARQB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XIR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=        .0     200.0  TYPE=      1  TARGLT=      156.999

          825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5                SEC. A

  5749.00      3.50    921.50      0.00    921.50    921.53       .03       0.00      0.00    919.20
    265.        26.       200.       41.       32.      134.       60.         7.        0.    919.10
     0.00       .76      1.49       .68       .095      .050      .045     0.000    913.00     34.36
 .001123         0.        0.        0.         0         0        .0       0.00    108.02    142.38

1490 NH CARD USED
#SECNO 6349.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      923.06 ELRTA=      921.50

          250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9                  SEC. B

  6349.00      1.75    922.95      0.00      0.00    922.99       .04       1.65       .00    923.00
    265.        0.       212.       53.       0.      124.       66.         3.        2.    921.60
     .11       0.00      1.04      1.15       .095      .089      .095      .060    921.20    701.68
 .008664       600.      600.      600.         3         0         0      0.09    200.95    902.33

1490 NH CARD USED
#SECNO 6599.000
  6599.00      2.35    923.75      0.00      0.00    923.77       .01       .77       .01    923.20
    265.        2.       198.       65.       7.      210.       94.         4.        3.    921.80
     .19       .26       .94       .70       .095      .086      .095      .040    921.40    676.42
 .001560       250.      250.      250.         3         0         0      0.00    250.70    927.13

#SECNO 6600.000

          D/S FACE OF WELCH ROAD CULVERT, BS#10                          SEC. C

  6600.00      2.36    923.75      0.00      0.00    923.77       .01       .00       .00    923.20
    265.        2.       198.       65.       7.      210.       94.         4.        3.    921.80
     .19       .26       .94       .69       .095      .086      .095      .040    921.40    676.21
 .001542         1.        1.        1.         0         0         0      0.00    251.12    927.33


SPECIAL BRIDGE

SB  XK          XKOR        COFQ        RDLEN       BUC         DHP         BAREA       SS          ELCHU       ELCHD
      0.00        3.32        3.02        0.00        3.93        0.00       11.78        0.00      921.40      921.40

#SECNO 6659.000
   SECNO     DEPTH     CHSEL     CRIHS     HSELK     EG        HV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROU      ALOB      ACH       ARQB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XIR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	OPO	QAREA	TRAPEZOID AREA	ELLC	ELTRO
949.86	933.70	0.00	152.	115.	12.	12.	924.40	924.10

U/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6659.00	7.10	928.56	0.30	0.00	928.66	.11	6.80	0.00	922.30
265.	62.	129.	73.	257.	34.	323.	5.	4.	922.30
.20	.24	3.76	.23	.200	.020	.200	.039	921.60	805.41
.000221	59.	59.	59.	2	0	10	0.00	307.31	1115.72

*SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	929.70	.01	.00	.03	922.30
265.	101.	43.	121.	269.	35.	352.	5.	4.	922.30
.20	.38	1.22	.34	.095	.045	.395	.039	921.40	896.34
.000116	6.	6.	6.	2	0	0	0.00	322.72	1129.06

*SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, BS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.26	.04	.55	.02	925.90
265.	131.	52.	81.	119.	19.	90.	20.	15.	929.10
.51	1.11	2.79	.90	.097	.048	.097	.045	927.50	1081.24
.006751	1500.	1565.	1520.	3	0	0	0.00	317.69	1398.93

*SECNO 9730.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, BS#12 SEC. E

9730.00	1.58	931.38	0.00	0.00	931.38	.01	4.11	.01	931.30
150.	0.	3.	147.	0.	7.	487.	53.	30.	931.10
1.87	.04	.44	.30	.098	.055	.093	.049	929.30	598.48
.000366	1500.	1500.	1500.	5	0	0	0.00	527.72	1116.20

*SECNO 10730.000

3470 ENCROACHMENT STATIONS= 870.0 1700.0 TYPE= 1 TARGET= 930.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, BS#13 SEC. F

10730.00	2.00	931.60	0.00	0.00	931.60	.00	.22	.00	931.00
150.	115.	4.	31.	554.	11.	177.	47.	42.	931.00
3.24	.21	.33	.18	.110	.060	.110	.051	929.60	870.00
.000162	1000.	1000.	1000.	4	0	0	0.00	589.34	1459.34

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
*****************************************************

T1      5850-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP, PM = DICK ZANOTTI
T2
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK    INQ       NINV      IOIR      STRT      METRIC    HVINS     1         WSEL      FJ

      -1.       4.        0.        0.  0.000000      0.00      0.0       0.   922.500     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IBW       CHNIM     ITRACE

      4.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 4

CCHV=    .300 CEHV=    .500
1490 NH CARD USED
*SECNO 5749.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TJA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      ANR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=        .0     200.0  TYPE=     1  TARGET=     199.999

          825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VSD9.5          SEC. A

  5749.00      4.50    922.50      0.00    922.50    922.51       .01       0.00      0.00    919.20
     265.       29.       180.       56.       53.       178.       108.       0.        0.    919.10
     0.00       .55      1.01       .52      .095      .060       .095     0.000    918.00     31.26
  .000355         0.        0.        0.         0         0          0      0.00    118.80    150.95

1490 NH CARD USED
*SECNO 6349.000

          250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VSD9            SEC. B

  6349.00      1.85    923.05      0.00      0.00    923.00       .03       .56       .01    923.00
     265.       0.       209.       56.       0.       162.       53.       6.        2.     921.60
      .12       .01      1.47       1.06      .095      .089       .095      .040    921.20    897.60
  .006206       600.      600.       600.        2         0          0      0.00    203.39    906.49

1490 NH CARD USED
*SECNO 6599.000
  6599.00      2.36    923.76      0.00      0.00    923.77       .01       .60       .01    923.20
     265.       2.       198.       65.       7.       211.       94.       5.        4.     921.80
      .20       .26       .94       .69      .095      .086       .095      .040    921.40    876.05
  .001529       250.      250.       250.        1         0          0      0.00    251.44    927.49

*SECNO 6600.000

          D/S FACE OF WELCH ROAD CULVERT, BSD10                SEC. C

  6600.00      2.36    923.76      0.00      0.00    923.77       .01       .00       .00    923.20
     265.       2.       198.       65.       7.       210.       94.       5.        4.     921.80
      .20       .26       .94       .69      .095      .086       .095      .040    921.40    876.20
  .001541         1.        1.        1.         0         0          0      0.00    251.14    927.34

SPECIAL BRIDGE

SB  XK        XKOR      COFO      ROLEN     BHC       BHP       BAREA     SS        ELCHU     ELCHD
      0.00      3.32      3.02      0.00      3.93      0.00     11.73      0.00    921.40    921.60

*SECNO 6659.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TJA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      ANR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

PRESSURE AND WEIR FLOW
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EGPRS	EGLHC	HB	QWEIR	QPR	QAREA	TRAPEZOID AREA	ELLC	ELTRD
949.85	933.69	0.00	152.	115.	12.	12.	924.60	928.10

U/S FACE OF WELCH ROAD CULVERT, RS#10 SEC. C

6659.00	7.16	928.56	0.00	0.00	928.66	.11	4.[illegible]	0.00	922.30
265.	62.	129.	73.	257.	36.	323.	9.	6.	922.30
.21	.24	3.76	.23	.200	.028	.200	.039	921.40	[illegible]
.000221	59.	59.	59.	2	0	10	0.00	307.31	1115.72

#SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	928.70	.01	.00	.03	922.30
265.	101.	43.	121.	269.	35.	352.	5.	4.	922.34
.21	.38	1.22	.36	.095	.065	.095	.039	921.40	905.38
.000116	6.	6.	6.	2	0	0	0.00	322.73	1129.07

#SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.26	.04	.55	.02	928.90
265.	131.	52.	81.	119.	19.	90.	21.	15.	929.10
.52	1.11	2.79	.90	.097	.048	.097	.045	927.50	1091.24
.006750	1500.	1565.	1520.	3	0	0	0.00	317.29	1368.93

#SECNO 9730.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.56	931.38	0.00	0.00	931.38	.00	2.11	.01	931.30
150.	0.	3.	147.	0.	7.	487.	36.	30.	931.10
1.89	.06	.44	.30	.098	.055	.098	.069	929.20	588.48
.000366	1500.	1500.	1503.	6	0	0	0.00	527.72	1116.20

#SECNO 10730.000

3470 ENCROACHMENT STATIONS= 370.0 1700.0 TYPE= 1 TARGET= 830.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.00	931.60	0.00	0.00	931.60	.00	.22	.00	931.00
150.	115.	4.	31.	554.	11.	177.	43.	63.	931.00
3.25	.21	.33	.18	.110	.060	.110	.051	929.60	370.00
.000142	1000.	1000.	1000.	4	0	0	0.00	580.34	1059.34

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**********************************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********************************************************************

T1      5B50-02 @ 10, FIS - COMMERCE @ WEST BLOOMFIELD TWP, PN = DICK ZAROTTI
T2
T3      CHANNEL D/S OF PLEASANT LAKE AND CARUS LAKE

J1  ICHECK     INO        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
      -1.        4.         0.         0.   0.000000       0.00       0.0        0.    923.500      0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLOC      ICU        CTHIY      ITRACE
    15.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
```

#PROF 5

CCHV= .300 CEHV= .500
1490 NH CARD USED
#SECNO 5749.000

SECNO	DEPTH	CWSEL	CRIWS	USELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	ANL	XNCH	XNR	DTM	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CURAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 200.0 TYPE= 1 TARGET= 199.999

825' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9.5 SEC. A

5749.00	5.50	923.50	0.00	923.50	923.51	.01	0.00	0.00	919.20
265.	33.	166.	66.	77.	222.	107.	0.	0.	919.10
0.00	.42	.75	.48	.095	.055	.095	0.000	516.30	28.17
.000168	0.	0.	0.	0	0	0	0.00	125.59	157.74

1490 NH CARD USED
#SECNO 6349.000

250' D/S FROM D/S FACE OF WELCH ROAD CULVERT, VS#9 SEC. B

6349.00	2.49	923.69	0.00	0.00	923.70	.01	.19	.00	923.00
265.	3.	194.	68.	10.	223.	107.	6.	3.	921.60
.21	.27	.85	.64	.095	.036	.095	.040	921.20	570.57
.001197	600.	600.	600.	2	3	3	0.00	282.26	932.33

1490 NH CARD USED
#SECNO 6599.000

6599.00	2.56	923.96	0.00	0.00	923.97	.01	.27	.00	923.20
265.	3.	194.	68.	12.	238.	114.	8.	4.	921.80
.30	.26	.81	.60	.095	.045	.095	.040	921.40	657.47
.000992	250.	250.	250.	2	0	0	0.00	265.23	935.78

#SECNO 6600.000

D/S FACE OF WELCH ROAD CULVERT, BS#10 SEC. C

6600.00	2.57	923.97	0.00	0.00	923.97	.01	.00	.00	923.20
265.	3.	194.	68.	12.	238.	114.	8.	4.	921.80
.30	.26	.81	.60	.095	.045	.095	.040	921.40	657.47
.000988	1.	1.	1.	0	0	0	0.00	268.28	935.35

SPECIAL BRIDGE

SB XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	3.32	3.02	0.00	3.95	0.00	11.78	0.03	921.40	921.50

#SECNO 6659.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	DTM	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CURAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

FGPRS	EGLWC	45	OWEIR	OPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
950.05	932.19	0.00	155.	113.	12.	12.	924.40	928.10

U/S FACE OF WELCH ROAD CULVERT, RS#10 SEC. C

6659.00	7.16	928.56	0.00	0.00	928.67	.11	6.69	0.00	922.30
265.	62.	129.	73.	257.	36.	324.	8.	5.	922.30
.31	.24	3.75	.23	.200	.020	.200	.039	921.40	901.34
.000221	59.	59.	59.	2	0	10	0.00	307.80	1115.14

#SECNO 6665.000

6665.00	7.29	928.69	0.00	0.00	928.70	.01	.00	.03	922.30
265.	101.	65.	121.	269.	35.	353.	8.	5.	922.30
.32	.37	1.22	.34	.095	.045	.095	.039	921.40	905.25
.000116	5.	6.	6.	2	0	0	0.00	325.10	1129.45

#SECNO 8230.000

3470 ENCROACHMENT STATIONS= 500.0 2050.0 TYPE= 1 TARGET= -500.000

1570' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#11 SEC. D

8230.00	1.73	929.23	0.00	0.00	929.26	.06	.55	.02	923.90
265.	131.	52.	81.	119.	19.	90.	24.	10.	929.10
.62	1.10	2.73	.90	.097	.048	.097	.045	927.50	1061.13
.006704	1500.	1565.	1520.	3	0	3	0.00	317.62	1090.00

#SECNO 9730.000

3070' U/S FROM U/S FACE OF WELCH ROAD CULVERT, VS#12 SEC. E

9730.00	1.58	931.38	0.00	0.00	931.38	.00	2.11	.01	931.30
150.	0.	5.	167.	0.	7.	487.	36.	30.	931.10
1.99	.04	.64	.30	.098	.055	.098	.049	929.80	583.69
.000367	1500.	1500.	1500.	6	0	0	0.00	527.63	1115.13

#SECNO 10730.000

3470 ENCROACHMENT STATIONS= 670.0 1700.0 TYPE= 1 TARGET= 830.000

1940' D/S FROM D/S FACE OF HAGGERTY ROAD CULVERT, VS#13 SEC. F

10730.00	2.00	931.60	0.00	0.00	931.60	.00	.22	.00	931.00
150.	115.	4.	31.	555.	11.	177.	50.	43.	931.00
3.35	.21	.33	.13	.110	.060	.110	.051	929.60	870.00
.000141	1000.	1000.	1000.	4	0	0	0.91	589.35	1459.35

HEC2 RELEASE DATED NOV 76 UPDATED AUG1977
ERROR CORR - 01,02
MODIFICATION - 50,51,52,53

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

CHANNEL D/S OF PLEASANT

SUMMARY PRINTOUT

	SECNO	XLCH	ELTRC	ELLC	ELMIN	Q	CWSEL	AV	HL	OLOSS	AREA	DEPTH	TOPWID
*	5749.000	0.00	0.00	0.00	918.00	265.00	919.50	.49	0.00	0.00	45.50	1.50	55.54
	5749.000	0.00	0.00	0.00	918.00	265.00	920.50	.09	0.00	0.00	124.70	2.50	92.19
	5749.000	0.00	0.00	0.00	918.00	265.00	921.50	.03	0.00	0.00	226.56	3.50	108.02
	5749.000	0.00	0.00	0.00	918.00	265.00	922.50	.01	0.00	0.00	339.97	4.50	118.66
	5749.000	0.00	0.00	0.00	918.00	265.00	923.50	.01	0.00	0.00	454.16	5.50	129.59
	6349.000	600.00	0.00	0.00	921.20	265.00	923.47	.01	3.25	.14	259.59	2.27	243.10
	6349.000	600.00	0.00	0.00	921.20	265.00	923.24	.02	2.64	.02	234.27	2.04	225.95
	6349.000	600.00	0.00	0.00	921.20	265.00	922.95	.06	1.46	.00	174.90	1.75	200.85
	6349.000	600.00	0.00	0.00	921.20	265.00	923.35	.03	.56	.01	195.63	1.85	208.59
	6349.000	600.00	0.00	0.00	921.20	265.00	923.69	.01	.19	.01	345.26	2.69	262.22
	6599.000	250.00	0.00	0.00	921.40	265.00	923.66	.01	.38	.00	336.70	2.46	259.51
	6599.000	250.00	0.00	0.00	921.40	265.00	923.79	.01	.54	.00	316.91	2.39	253.57
	6599.000	250.00	0.00	0.00	921.40	265.00	923.75	.01	.77	.01	309.92	2.35	250.70
	6599.000	250.00	0.00	0.00	921.40	265.00	923.76	.01	.68	.01	312.12	2.36	251.44
	6599.000	250.00	0.00	0.00	921.40	265.00	923.96	.01	.27	.00	366.09	2.55	269.23
	6600.000	1.00	0.00	0.00	921.40	265.00	923.86	.01	.00	.00	337.06	2.46	259.02
	6600.000	1.00	0.00	0.00	921.40	265.00	923.79	.01	.00	.00	319.09	2.39	253.75
	6600.000	1.00	0.00	0.00	921.40	265.00	923.76	.01	.00	.00	311.16	2.36	251.12
	6600.000	1.00	0.00	0.00	921.40	265.00	923.76	.01	.00	.00	311.22	2.36	251.14
	6600.000	1.00	0.00	0.00	921.40	265.00	923.97	.01	.00	.00	366.60	2.57	268.34
	6659.000	59.00	928.10	924.40	921.40	265.00	928.54	.11	4.40	0.00	614.84	7.16	307.56
	6659.000	59.00	928.10	924.40	921.40	265.00	928.56	.11	4.86	0.00	614.40	7.16	307.39
	6659.000	59.00	928.10	924.40	921.40	265.00	928.56	.11	4.93	0.00	614.19	7.16	307.31
	6659.000	59.00	928.10	924.40	921.40	265.00	928.56	.11	4.89	0.00	614.20	7.16	307.31
	6659.000	59.00	928.10	924.40	921.40	265.00	928.56	.11	4.89	0.00	615.50	7.16	307.80
	6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	656.84	7.29	322.74
	6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	656.43	7.29	322.79
	6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	656.23	7.29	322.72
	6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	656.24	7.29	322.73
	6665.000	6.00	0.00	0.00	921.40	265.00	928.69	.01	.00	.03	657.46	7.29	323.16

SECNO	XLOC	ELTRD	ELLOC	ELMIN	Q	CUSEL	HV	HL	DLOSS	AREA	DEPTH	TOPWID
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	227.96	1.73	317.74
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	227.79	1.73	317.71
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	227.70	1.73	317.69
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	227.71	1.73	317.69
8230.000	1565.00	0.00	0.00	927.50	265.00	929.23	.04	.55	.02	226.23	1.73	317.32
9730.000	1500.00	0.00	0.00	929.80	150.00	931.38	.00	2.11	.01	494.23	1.56	527.70
9730.000	1500.00	0.00	0.00	929.80	150.00	931.38	.00	2.11	.01	494.34	1.56	527.72
9730.000	1500.00	0.00	0.00	929.80	150.00	931.38	.00	2.11	.01	494.39	1.56	527.72
9730.000	1500.00	0.00	0.00	929.80	150.00	931.38	.00	2.11	.01	494.39	1.56	527.72
9730.000	1500.00	0.00	0.00	929.80	150.00	931.38	.00	2.11	.01	494.07	1.56	527.66
10730.000	1000.00	0.00	0.00	929.60	150.00	931.60	.00	.22	.00	742.21	2.00	539.35
10730.000	1000.00	0.00	0.00	929.60	150.00	931.60	.00	.22	.00	742.17	2.00	539.35
10730.000	1000.00	0.00	0.00	929.60	150.00	931.60	.00	.22	.00	742.15	2.00	539.34
10730.000	1000.00	0.00	0.00	929.60	150.00	931.60	.00	.22	.00	742.15	2.00	539.34
10730.000	1000.00	0.00	0.00	929.60	150.00	931.60	.00	.22	.00	742.27	2.00	539.35

SUMMARY OF ERRORS

CAUTION SECNO= 5749.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: CHANNEL BTW. PLEASANT & CARUS LAKES

4) DOCUMENT TYPE: REPORT

00BREAK00

HYDRAULIC ANALYSIS

Introduction

The stream being investigated is the channel between Carus Lake and Pleasant Lake. This stream is in the Township of West Bloomfield, Oakland County, Michigan. The total reach length is about 1.3 miles. Also included in this study is the prediction of lake elevations for Carus Lake and Pleasant Lake. The lake elevations and the outflows of Pleasant Lake for the 10-, 50-, 100-, and 500-year flood frequencies were determined by SCS's TR-20 computer program. The hydrographs for the local areas downstream of Pleasant Lake were calculated by Brater's unit hydrograph-infiltration capacity method. These hydrographs were then routed by SCS method.

Method of Analysis

The flood profiles were calculated by the HEC-2 computer program developed by the U.S. Corps of Engineers (Reference 1). All bridges have been modeled by the requirements of the HEC-2 normal bridge routine and special bridge routine.

Variables and Coefficients

The roughness factors (Manning's "n") were determined by comparing the descriptions in Ven Te Chow's Open-Channel Hydraulics (Reference 2) with photographs and field descriptions taken in West Bloomfield by survey crews in March, 1979. To reflect the changes in cross-section geometry, the contraction and expansion coefficients used in this study were .3 and .5, respectively; "n" values are indicative of summer conditions.

The inlet loss coefficients and outlet loss coefficients used in this study were taken from Hydraulic Charts for the Selection of Highway Culverts (Reference 3). The weir coefficients were taken from charts of the U.S. Geological Survey (Reference 4) and Bureau of Public Roads (Reference 5) supplied by the MDNR.

Starting Conditions

The computation starts at the section about 1.2 miles downstream from Carus Lake with slope-area method. A convergent run has been done for 100-year flood. Elevations ranged from 919.5 (critical depth) to 923.5 ft. (USGS datum) and 1.0 ft. increment between elevations was utilized. It was found that water-surface elevations did converge at Welch Road (SECNØ = 6659). The stationing starts at the corporate boundary with the Village of Wolverine Lake at Commerce Road.

Discussion

1. Three storage effects have been found, i.e., area between Pontiac Trail Road and Grand Trunk Western Railroad, area u/s of Grand Trunk Western Railroad, and Pleasant Lake. To consider 3 storage effects, both TR-20 and HEC-2 computer programs have been used to coordinate both flows and elevations.

2. The storage effect for Carus Lake is too small and has been ignored in this study. The water-surface elevations of Carus Lake were determined by back-water calculation (HEC-2).

3. High water marks were not available for this portion of the stream.

4. An encroached run has been done.

References

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Manual, User's Manual, Oct. 1973.

2. Chow, Ven Te, Open-Channel Hydraulics, McGraw-Hill, 1959, pp. 101-123.

3. Herr, Lester A., Hydraulic Charts for the Selection of Highway Culverts, Hydraulic Engineering Circular No. 5, Bureau of Public Roads, U.S. Department of Commerce, Dec. 1965.

4. U.S. Geological Survey, Measurements of Peak Discharge at Dams by Indirect Methods, Book 3, Chapter A5, 1976.

5. Bureau of Public Roads, Hydraulics of Bridge Waterways, 1970.

ORIGINAL CROSS-SECTIONS LOCATION

Cross Section	J & A Section	SECNO	Location
A	9A	5749	±825' d/s from d/s face of Welch Rd. culvert
B	9	6349	±250' d/s from d/s face of Welch Rd. culvert
C	10	6600	d/s face of Welch Rd. culvert
		6659	u/s face of Welch Rd. culvert
D	11	8230	±1570' u/s from u/s face of Welch Rd. culvert
E	12	9730	±3070' u/s from u/s face of Welch Rd. culvert
F	13	10730	±1940' d/s from d/s face of Haggerty Rd. culvert
G	14	12250	±420' d/s from d/s face of Haggerty Rd. culvert
H	15	12671	d/s face of Haggerty Rd. culvert
		12716	u/s face of Haggerty Rd. culvert
I	16	12912	±195' u/s from u/s face of Haggerty Rd. culvert
J	17	13332	±615' u/s from u/s face of Haggerty Rd. culvert
K	18	13383	d/s face of Pontiac Trail Rd. culvert
		13473	u/s face of Pontiac Trail Rd. culvert
L	19	14034	±560' u/s from u/s face of Pontiac Trail Rd.
M	20	14674	±1200' u/s from u/s face of Pontiac Trail Rd.
N	21	15359	±145' d/s from d/s face of Grand Trunk Western RR
O	24	15469	±35' d/s from d/s face of Grand Trunk Western RR
P	25	15505	d/s face of Grand Trunk Western Railroad culvert
		15537	u/s face of Grand Trunk Western Railroad culvert
Q	26	16438	±900' u/s from u/s face of Grand Trunk Western RR
R	27	17468	±1930' u/s from u/s face of Grand Trunk Western RR
S	28	17928	±1090' d/s from d/s face of Halstead Rd. culvert
T	29	18328	±690' d/s from d/s face of Halstead Rd. culvert
U	30	18638	±380' d/s from d/s face of Halstead Rd. culvert

ORIGINAL CROSS-SECTIONS LOCATION

Cross Section	J & A Section	SECNO	Location
V	31	18669	d/s face of Driveway Bridge
		18678	u/s face of Driveway Bridge
W	32	18989	±30' d/s from d/s face of Halstead Rd. culvert
X	33	19020	d/s face of Halstead Rd. culvert
		19059	u/s face of Halstead Rd. culvert

BS-10

Johnson & Anderson, Inc.
Consulting Engineers
P O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

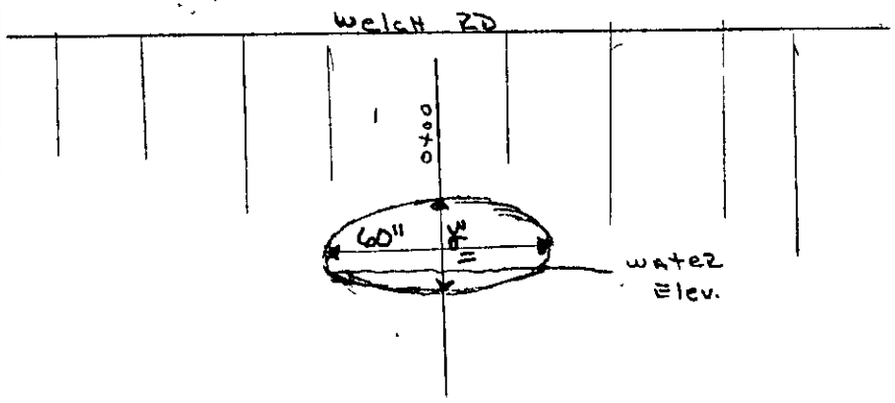
HYDRAULIC STRUCTURAL DATA

Code No. 5850-02 / BS-10

Job Name: Commerce Twp. F.I.S.			By: Mapley, Baker, Spellman
Date: 1-24-79	Feature: 60" wide x 36" high elliptical Culvert under welch rD		Water Course:
Remarks:			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area:
Water Elevation: US DS	Length: 58.7'	Width of Deck: —	Skew:

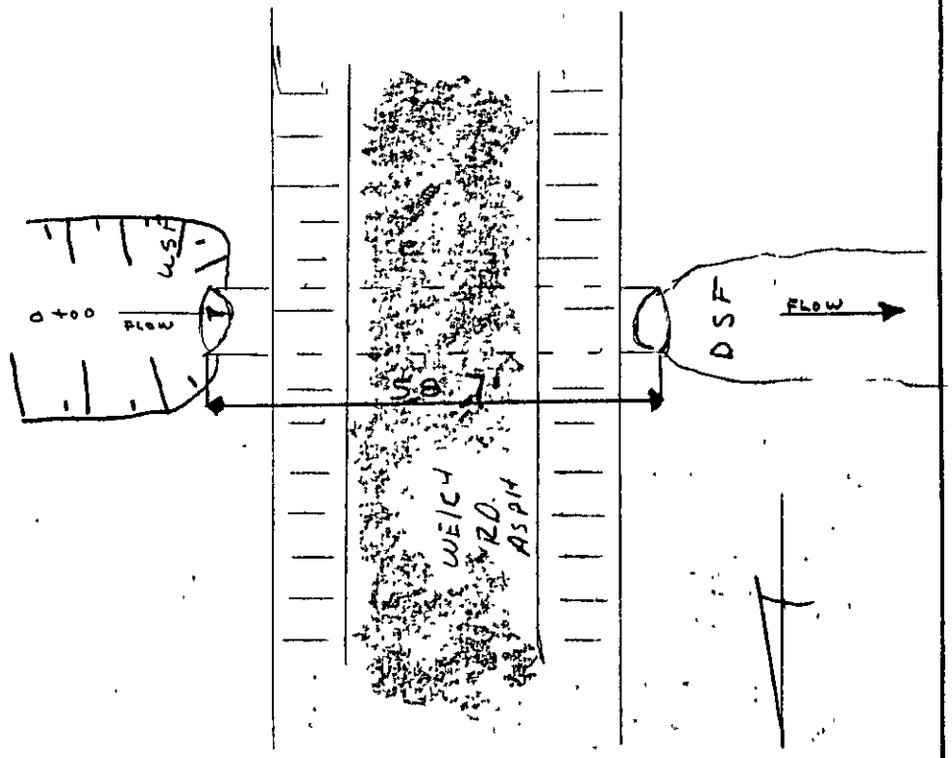
FIELD SKETCH

Profile View



U.S.F.

Plan View



WELCH ROAD

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 3/12/79 JOB DESCRIPTION EIS - Commerce Township SHEET 1 OF 1
SUBJECT Channel d/s of Carus Lake ; Culvert Under Welch Road ; BS #10 JOB NO. 5850-02-1

Culvert Feature : 60" x 36" Elliptical Culvert (CMP)

Area : $A = \pi (2.5)(1.5) = 11.78 \text{ ft}^2$

Wetted Perimeter : $P = 2\pi \sqrt{\frac{1}{2}[(2.5)^2 + (1.5)^2]} = 12.95 \text{ ft}$

Hydraulic Radius : $R = A/P = 0.91 \text{ ft}$

Manning Coefficient : $n = 0.027$

Length : $L = 59.0 \text{ ft}$

Max. Depth : $D = 3.0 \text{ ft}$

$BWC = \frac{A}{D} = 3.93 \text{ ft}$

Entrance Loss : $K_e = 0.90$ (Projecting from fill)

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 1.42$$

$$\Sigma K \Phi R = 1 + K_e + K_f = 3.32$$

Weir Coefficient : $C = 3.02$ (Paved Road)

Invert Elevations : d/s : 921.3 ft.
u/s : 921.4 ft

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Consulting Engineers
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HYDRAULIC STRUCTURAL DATA

B.S.# 15

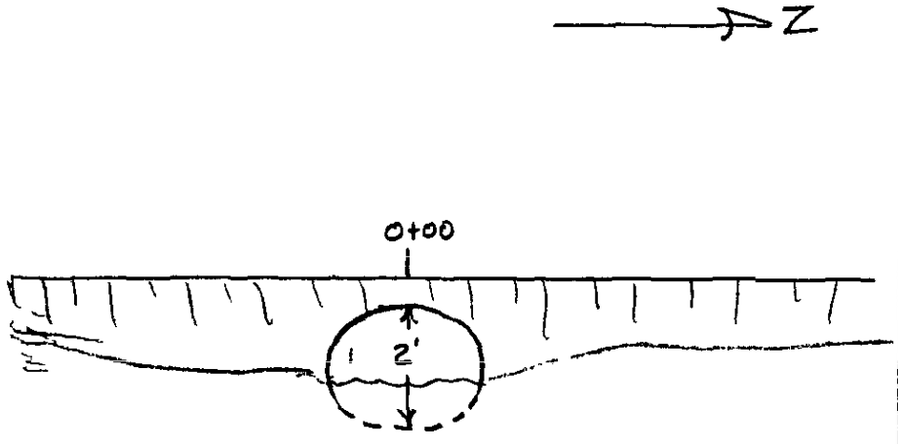
Code No. 5850-10

Job Name: WEST BLOOMFIELD F.I.S.		By: D. NETT
Date: 2-19-79	Feature: 24" ϕ C.M.P.	Water Course:
Remarks: CULV. HAS 1'(±) OF BLACK MUCK IN CHANNEL		
		PICTURES ROLL "A" 1 D.S.F. 2 U.S.F. 3 L 4 R 5 D 6 U

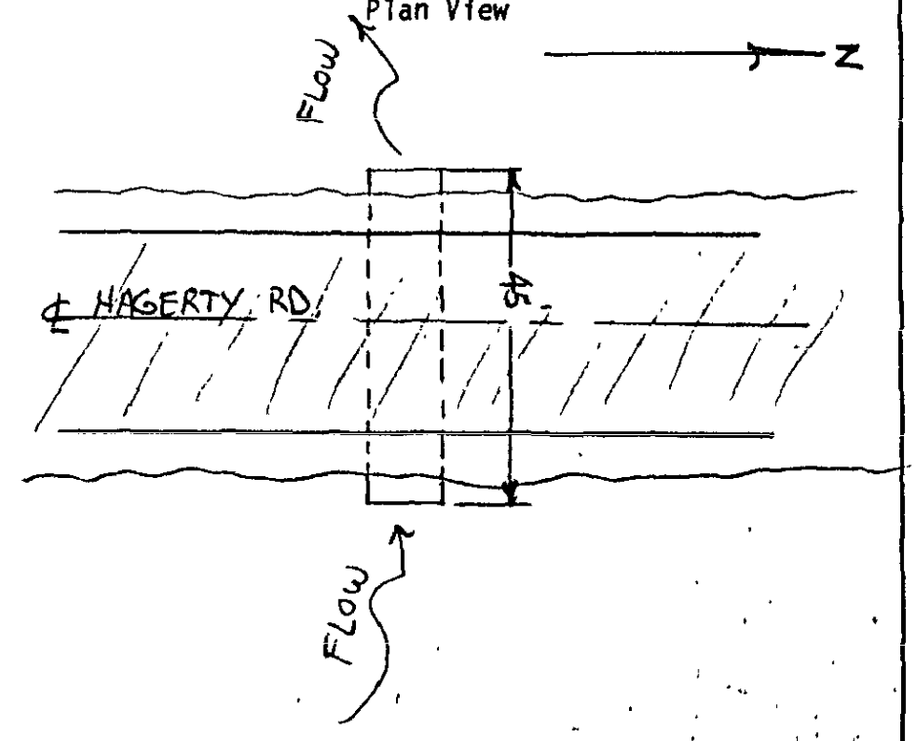
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 934.52	Length: 45'	Width of Deck: —	Skew: 0

FIELD SKETCH

Profile View



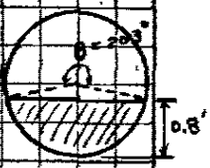
Plan View



HAGERTY ROAD

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 3/13/79 JOB DESCRIPTION EIS - Commerce Township SHEET 1 OF 1
SUBJECT Channel d/s of Pleasant Lake ; Hegerty Road ; BS #15 JOB NO. 5850-02-1



Culvert Feature : 24"ϕ CMP ; Silted by 0.8'

Area : $A = \frac{1}{8}(\theta - \sin\theta) d_o^2 = 1.97$ ft²

Wetted Perimeter : $P = 1.96 + 3.54 = 5.50$ ft

1.96

Hydraulic Radius : $R = A/P = 0.36$ ft

Length : $L = 45$ ft.

Manning Coefficient : $n = 0.028$ (CMP with sandy bottom)

Entrance Loss : $K_e = 0.9$ (Projecting from fill)

Max Depth : $D = 1.2$ ft

$B_{WC} = \frac{A}{D} = 1.64$ ft.

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 4.01$$

$$\Sigma K\phi R = 1 + K_e + K_f = 5.91$$

Weir Coefficient : $C = 3.03$ (Paved Road)

Invert Elevation : d/s : 933.5 ft
u/s : 933.5 ft.

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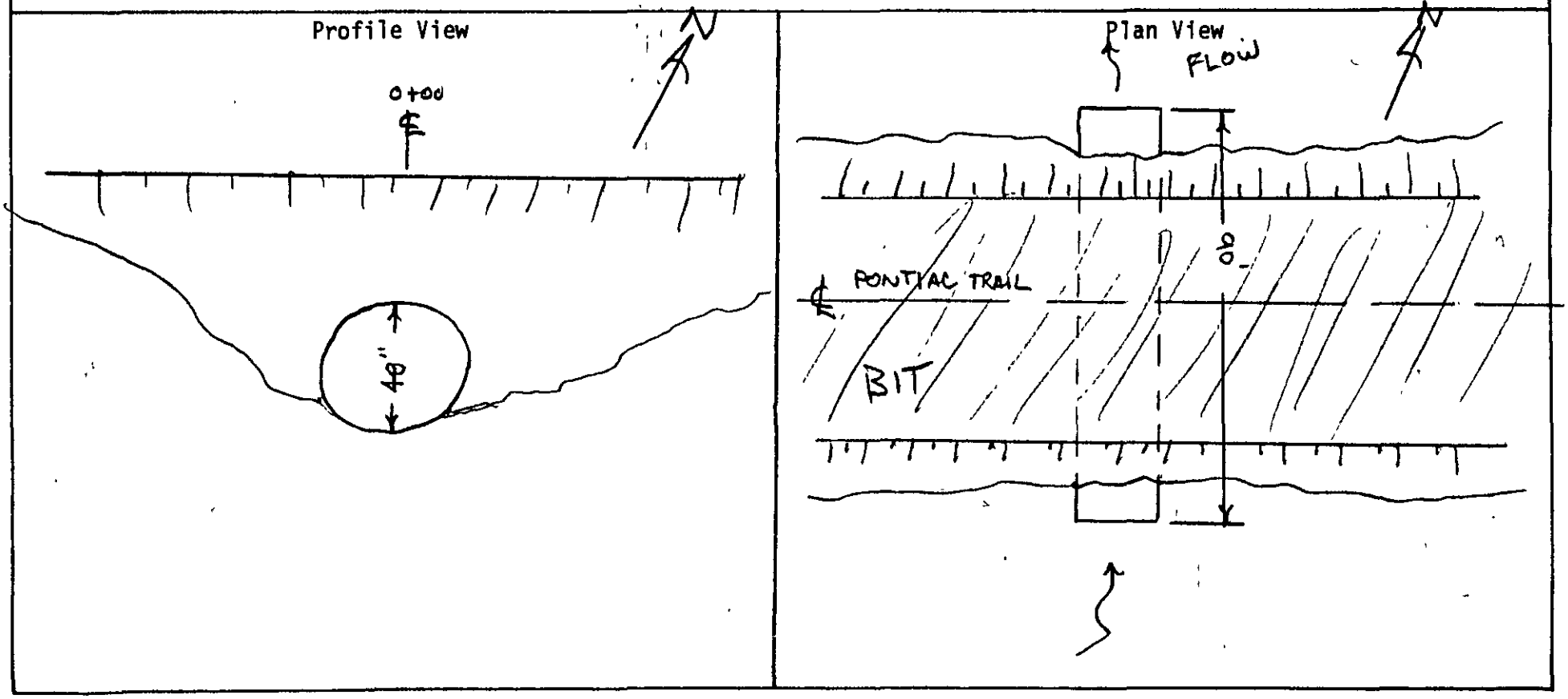
HYDRAULIC STRUCTURAL DATA

B.S.# 18

Code No. 5850-10

Job Name: WEST BLOOM FIELD F.I.S.			By: D.NETT
Date: 2-20-79	Feature: 48" C.M.P.		Water Course:
Remarks:			
PICTURE'S 15 ROLL "A" 16 17 18 19 20 U/S. D. DS.E. R L			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: NO WATER	Length: 90'	Width of Deck: —	Skew: 0

FIELD SKETCH



PONTIAC TRAIL

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 3/13/79 JOB DESCRIPTION FIS - Commerce Township SHEET 1 OF 1
SUBJECT Channel 4's of Pleasant Lake i Pontiac Trail Road i BS# 18 JOB NO. 5850-02

Culvert Feature : 48" ϕ CMP

Area = $A = \frac{\pi}{4}D^2 = 12.57$ ft²

Hydraulic Radius = $R = D/4 = 1.0$ ft.

Length = $L = 90'$ ft.

Manning Coefficient = $n = 0.024$

Entrance Loss = $K_e = 0.90$ (Projecting from Fill)

Max. Depth = $D = 4.0$ ft.

$BWC = \frac{A}{D} = 3.14$ ft

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 1.51$$

$$\Sigma K\phi R = 1 + K_e + K_f = 3.41$$

Weir Coefficient = $C = 3.02$ (Paved Road)

Invert Elevations = u/s : 936.2 ft.
d/s : 936.6 ft.

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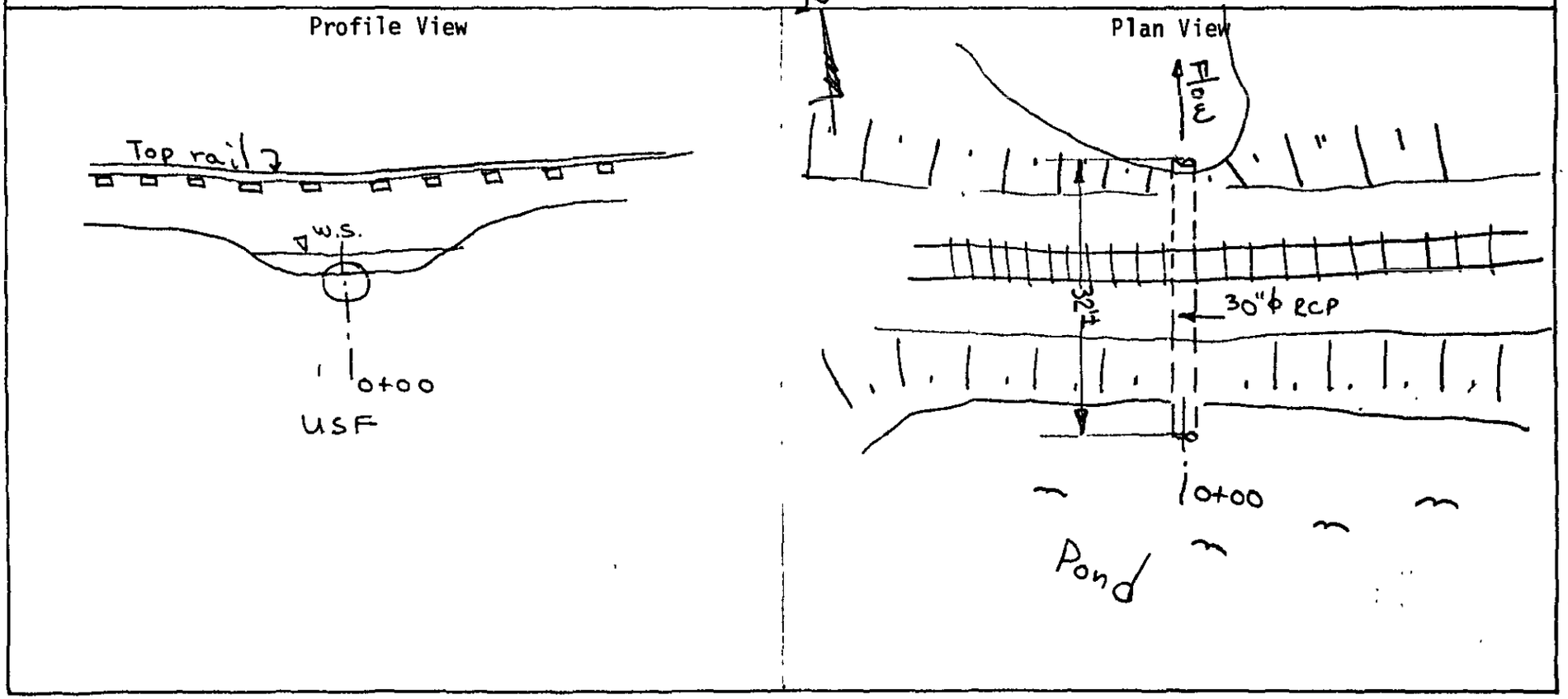
HYDRAULIC STRUCTURAL DATA

Code No. 5850-10-BS#25

Job Name: W. Bloomfield Twp FIS			By: Mapley Baker
Date: 3-29-79	Feature: RR culvert 30"ϕ RCP		Water Course:
Remarks: RR ballast (1"± ϕ slag, uniformly graded & natural gravel) has overflowed from tracks & spilled down over ends of pipe, almost entirely closing both ends.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area:
Water Elevation: USF 939.64 DSF 939.20	Length: 32'± Both ends under water	Width of Deck: —	Skew:

FIELD SKETCH



RAILROAD CULVERT

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 4/4/79 JOB DESCRIPTION FIS - West Bloomfield Township SHEET 1 OF 1

SUBJECT RR Culvert over channel between Pleasant & Carus Lakes (BS # 25) JOB NO. 5850-10-1

Culvert Feature : 30" ϕ RCP ; u/s silted by 2.0 ft
d/s silted by 2.3 ft

Area :
A_u = 0.69 ft²
A_d = 0.19 ft²
A_{ave} = 0.44 ft²

Wetted Perimeter :
P_u = 4.31 ft
P_d = 2.80 ft
P_{ave} = 3.55 ft

Hydraulic Radius : $R = A/P = 0.12$ ft

Length : $L = 32$ ft

Manning Coefficient : $n = 0.20$ (RCP with sandy bottom)

Entrance Loss : $K_e = 0.7$

Max. Depth : $D = 0.5$ ft

$BWC = 0.44/0.5 = 0.88$ ft.

$$K_f = \frac{29.1 n^2 L}{R^{4/3}} = 6.29$$

$$\Sigma K \phi R = 1 + K_e + K_f = 7.99$$

Weir Coefficient : $C = 2.82$ (Gravel Road)

Invert Elevations :
u/s : 937.8 ft
d/s : 938.7 ft

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Consulting Engineers
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HYDRAULIC STRUCTURAL DATA

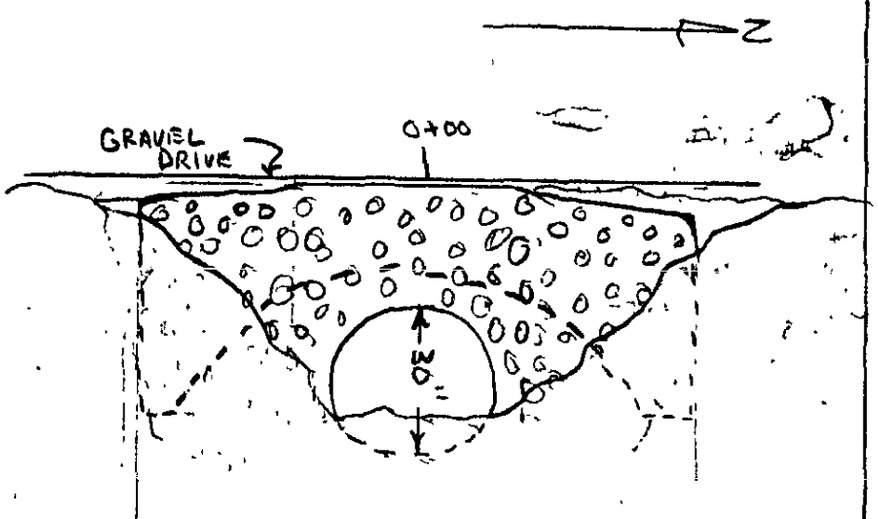
B.S. # 31

Code No. 5850-10

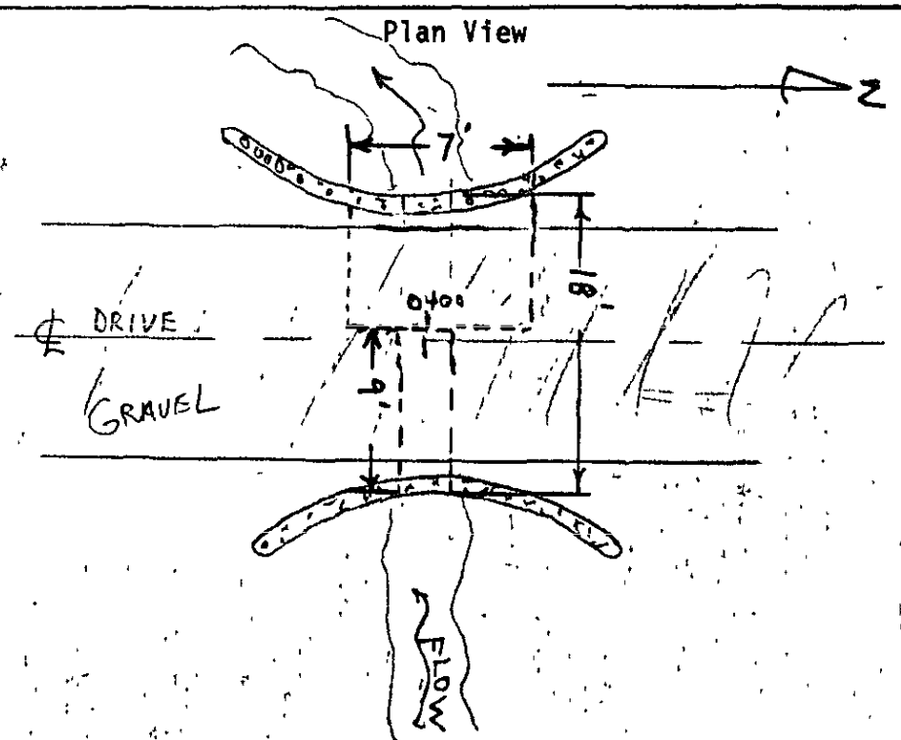
Job Name: WEST BLOOMFIELD F.I.S.			By: D. NETT
Date: 3-1-79	Feature: 30" ϕ C.M.P. W/ STONE HEADWALL'S UPSTREAM		Water Course:
Remarks: 1.2 (±) BLACK MUCK & DIRT IN INV. OF C.M.P. NOT 1.2' Maybe 0.2'		DOWN STREAM FACE (STONE ARCH)	
Field chd. 3-28-79 CM		ROLL "D" PHOTO's 5 U, 6 U.S.F., 7 D, 8 D.S.F., 9 L, 10 R	
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 945.77	Length: 9' OF C.M.P. & 9' OF ARCH	Width of Deck: —	Skew: 0

FIELD SKETCH

Profile View



Plan View



Gravel Drive Bridge

Johnson & Anderson, Inc.
Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

HYDRAULIC STRUCTURAL DATA

B.S.# 33

Code No. 5850-10

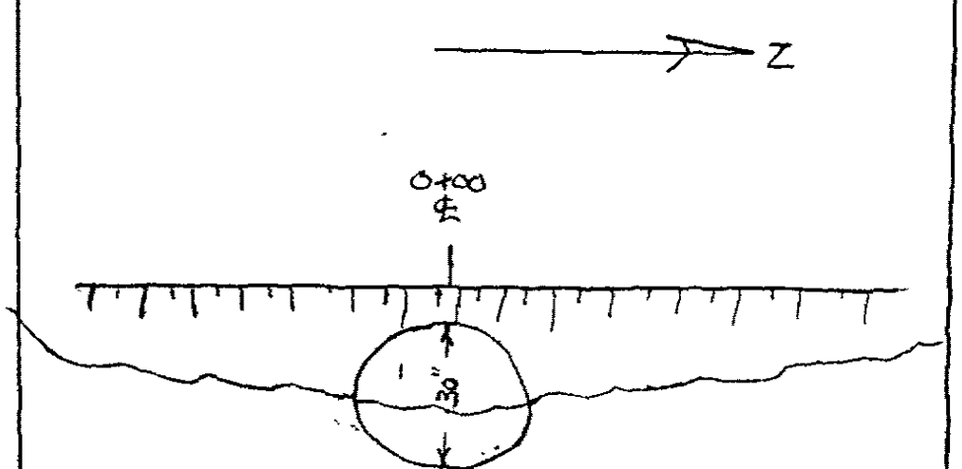
Job Name: WEST BLOOMFIELD F.I.S.		By: D. NETT
Date: 2-27-79	Feature: 30" ϕ C.M.P.	Water Course:
Remarks: INVERT MORE THAN 0.5' FILLED WITH BLACK MUCK		

PICTURES 13 ROLL 14 U.S.F. "C" 15 D 16 D.S.P. 17 L 18 R

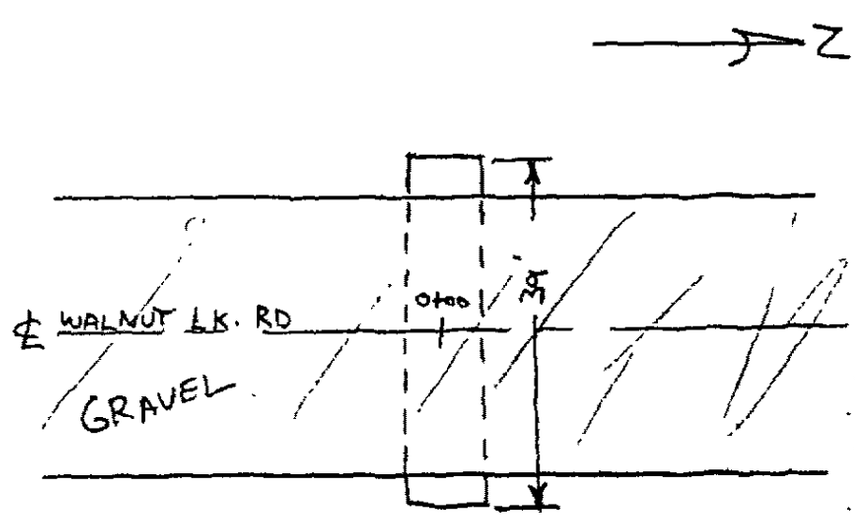
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 946.30	Length: 39'	Width of Deck: —	Skew: 0

FIELD SKETCH

Profile View



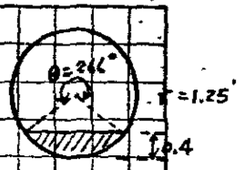
Plan View



WALNUT LAKE ROAD

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 3/13/79 JOB DESCRIPTION FIS - West Bloomfield Township SHEET 1 OF 1
SUBJECT Channel d/s of Pleasant Lake & Walnut Lake Road & BS # 33 JOB NO. 5850-10-1



Culvert Feature = 30"ϕ CMP ; silted by 0.4'

Area = $A = \frac{1}{8}(\theta - \sin\theta) d_o^2 = 4.41 \text{ ft}^2$

Wetted Perimeter = $P = 5.80 + 1.83 = 7.63 \text{ ft}$

Hydraulic Radius = $R = A/P = 0.58 \text{ ft.}$

Length = $L = 39 \text{ ft.}$

Manning Coefficient = $n = 0.027$ (CMP with silt)

Entrance Loss = $K_e = 0.9$

Max. Depth = $D = 2.1 \text{ ft}$

$BWC = \frac{A}{D} = 2.10 \text{ ft.}$

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 1.71$$

$$\text{XK}\phi\text{R} = 1 + K_e + K_f = 3.61$$

Weir Coefficient = $C = 2.85$

Invert Elevations = u/s = 944.6'
d/s = 944.6'

00BREAK00

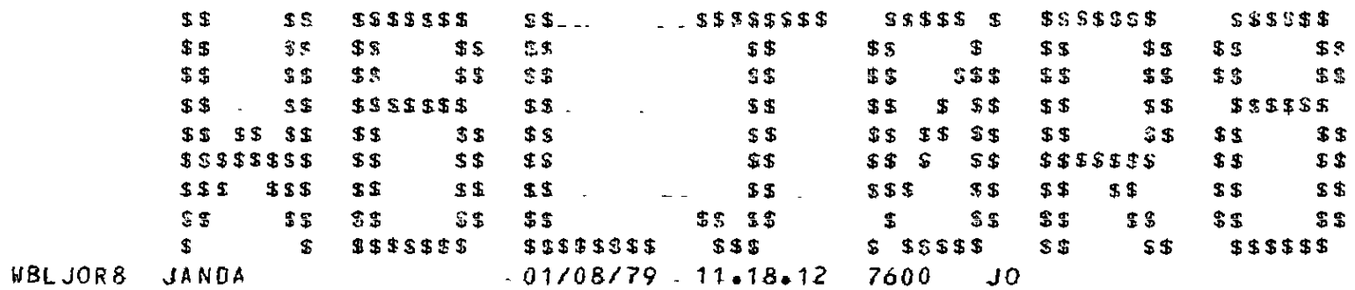
1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: FRANKLIN BRANCH – ROUGE RIVER

4) DOCUMENT TYPE: 100YR ENCROACHED

00BREAK00



TWP OF WEST BLOOMFIELD FIS

5850-10

FRANKLIN BRANCH - ROUGE RIVER

(ENCROACHMENT FOR DOHERTY ROAD)

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**** 7000 SCOPE 2.1 LVL  221  12/14/78  20.52.16  01/08/79      79008

SYS DEVICES 819/ 4/PF FLS=200K FLL=764K MXS=160K MXL=453K MXB=453B

HH.MM.SS CPU SECOND ORIGIN
          11.23.13.MFA. JO    LV461 NOSBE B+W LYNRELEASE447 02/04/78
11.18.11 00000.006 MFZ.     -WBLJO10,T20,STMFZ.   W. BLOOMFIELD TWP. FIS
11.18.12 00000.022 USR.      CHARGE.810-0037-45-78-5810,JANDA,001,D,JANDA.
11.18.12 00000.058 JOB.     -ATTACH,LGO,HEC2N76V2,ID=HEC.
11.18.12 00000.063 MFZ.        PF254 - CYCLE    1 ATTACHED FROM SN=SYSTEM
11.18.12 00000.064 LOD.     -LGO(PL=999999).
11.18.15 00000.887 MFZ.        LD610 - FLS REQUIRED TO LOAD - 0027777 OU.COG
11.18.15 00000.891 MFZ.        LD603 - EXECUTION INITIATED OS.EXP
11.18.15 00000.891 USR.       FORTRAN LIBRARY 439          08/20/78
11.18.16 00001.309 USR.          STOP
11.18.16 00001.309 USR.            .417 CP SECONDS EXECUTION TIME
11.18.16 00001.313 MFZ.        RM770 - MAXIMUM ACTIVE FILES                  5
11.18.16 00001.313 MFZ.        RM771 - OPEN/CLOSE CALLS                     20
11.18.16 00001.314 MFZ.        RM772 - DATA TRANSFER CALLS                1,271
11.18.16 00001.314 MFZ.        RM773 - CONTROL/POSITIONING CALLS             25
11.18.16 00001.314 MFZ.        RM774 - BM DATA TRANSFER CALLS               346
11.18.16 00001.314 MFZ.        RM775 - BM CONTROL/POSITIONING CALLS          55
11.18.16 00001.314 MFZ.        RM776 - QUEUE MANAGER CALLS                   67
11.18.16 00001.315 MFZ.        RM777 - RECALL CALLS                          57
11.18.16 00001.315 MFZ.        BWMSG - NUMBER OF TAPES MOUNTED
11.18.16 00001.315 MFZ.        SRU                   1.373  SEC
11.18.16 00001.315 MFZ.        SCM                  21.203  KWS
11.18.16 00001.316 MFZ.        I/O                   0.023  MW
11.18.16 00001.316 MFZ.        RMS                   0.015  MWS
11.18.16 00001.316 MFZ.        USER                  0.306  SEC
11.18.16 00001.316 MFZ.        JOB                   1.318  SEC
11.18.16 00001.317 MFZ.        SC050 - 000006 SC/LC SWAPS
11.18.16 00001.317 MFZ.      WBLJOR8   WBLJOR8
11.18.16.EJ  END OF JOB
WBLJOR8  JANDA                01/08/79  11.18.12  7600    JO
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PROGRAM WILL BE ENTERED AT MAIN (355) SCM LENGTH 64711 LCM LENGTH 0

BLOCK	ADDRESS	LENGTH
/CONTRL/	100	17
MAIN	117	253
/DOUBLE/	372	10
/NAMES/	402	202
H2MAIN	604	15337
ADDPTS	16143	321
BLFLO	16464	1021
BLOCK	17505	261
BWEIR	17766	1427
CARD	21415	2463
CHIMP	24100	1650
DC	25750	706
DONE	26656	60
FLDHAZ	26736	2220
FLODIS	31156	453
BLKDAT.	31631	0
NEAR	31631	16
PRIAH	31647	251
PROF	32120	1142
SCALE	33262	236
SLARA	33520	243
SUMPO	33763	2744
XSEC	36727	1256
YCRIT	40205	122
MAPIT	40327	50
QVAR	40377	24
SAVEIT	40423	24
/STP.END/	40447	1
/FCL.C./	40450	23
/Q8.IO./	40473	140
Q8NTRY=	40633	1
COMIO=	40634	44
ENDFIL=	40700	45
EOF	40745	20
FECMSK=	40765	41
FLTIN=	41026	156
FLTOUT=	41204	315
FMTAP=	41521	372
FORSYS=	42113	561
FORUTL=	42674	16
GETFIT=	42712	43
INCOM=	42755	256
/IO.BUF./	43233	227
INPB=	43462	324
INPC=	44006	173
KODER=	44201	467
KRAKER=	44670	454
OUTB=	45344	246
/HEADING/	45612	16
/LIN.CNT/	45630	1
OUTC=	45631	1054
OUTCOM=	46705	204

REWIND=	47111	36
GOTOER=	47147	14
ALOG	47163	77
EXP	47262	102
ITOJ*	47364	52
SQRT	47436	46
SYSAID=	47504	1
SYS=1ST	47505	62
XTOY*	47567	55
//	47644	15045

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**********************************************
 HEC2 RELEASE DATED NOV 76 UPDATED. AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**********************************************

T1
T2
T3
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J1	ICHECK	INQ	NINV	IDIR	STRT	METRIC	HVINS	Q	WSEL	FQ
	0.	4.	0.	0.	0.000000	0.00	0.0	0.	895.000	0.000
J2	NPROF	IPLOT	PRFVS	XSECV	XSECH	FN	ALLDC	IBW	CHNIM	ITRACE
	1.000	0.000	-1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.048	.045	.044	.300	.500	0.000	0.000	0.000	0.000	0.000
QT	4.000	430.000	430.000	430.000	430.000	0.000	0.000	0.000	0.000	0.000
X1	23390.000	13.000	175.000	192.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	899.000	0.000	898.000	71.000	896.000	91.000	894.000	170.000	894.800	175.000
GR	891.400	182.000	891.400	185.000	891.200	188.000	893.000	192.000	894.000	250.000
GR	896.000	298.000	898.000	320.000	898.000	350.000	0.000	0.000	0.000	0.000
NC	.085	.085	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	23460.000	0.000	0.000	0.000	70.000	70.000	70.000	0.000	-.100	0.000
SB	0.000	2.600	3.020	0.000	4.300	0.000	14.300	0.000	891.400	891.100
X1	23527.000	18.000	740.000	747.900	67.000	67.000	67.000	.690	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	.690	0.000
X3	0.000	0.000	0.000	575.000	0.000	900.000	0.000	0.000	0.000	0.000
BT	11.000	575.000	899.500	0.000	740.000	898.900	892.600	740.600	898.900	893.400
BT	741.600	898.900	894.200	742.800	898.900	894.600	744.100	898.900	894.700	745.100
BT	898.900	894.600	746.300	898.900	894.200	747.300	898.900	893.400	747.900	898.900
BT	892.600	900.000	899.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	902.000	0.000	901.000	250.000	900.000	433.000	899.200	650.000	893.500	700.000
GR	892.600	740.000	891.800	740.600	891.600	741.600	891.400	742.800	891.400	744.100
GR	891.400	745.100	891.600	746.300	891.800	747.300	892.600	747.900	893.500	795.000
GR	899.200	835.000	900.000	1080.000	902.000	1185.000	0.000	0.000	0.000	0.000
NC	.030	.030	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	23839.000	14.000	285.000	302.000	350.000	300.000	312.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	70.000	898.000	180.000	896.000	260.000	895.100	285.000
GR	894.400	285.000	892.800	288.000	892.100	294.000	893.000	298.000	894.400	302.000
GR	895.100	302.000	896.000	400.000	896.500	415.000	910.000	415.000	0.000	0.000
X1	23840.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000
BT	7.000	95.000	898.000	0.000	180.000	898.000	0.000	260.000	896.000	0.000
BT	285.000	895.100	894.500	302.000	895.100	894.500	400.000	896.000	0.000	415.000
BT	896.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	23843.000	0.000	0.000	0.000	3.000	3.000	3.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000
X1	23844.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000
X1	24009.000	15.000	350.000	365.500	150.000	175.000	165.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
GR	906.000	0.000	902.000	70.000	900.000	120.000	898.000	220.000	896.000	290.000
GR	896.100	350.000	894.400	350.000	893.100	354.000	892.000	358.000	892.700	362.000
GR	894.600	365.500	895.500	365.500	896.000	390.000	898.000	422.000	910.000	422.000
X1	24010.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
BT	7.000	180.000	898.800	0.000	220.000	898.000	0.000	290.000	896.000	0.000
BT	350.000	896.100	895.600	365.500	895.500	895.000	390.000	896.000	0.000	422.000
BT	898.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24014.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
X1	24015.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
X1	24064.000	18.000	320.000	332.500	49.000	49.000	49.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
GR	908.000	0.000	906.000	28.000	904.000	41.000	902.000	64.000	900.000	150.000
GR	898.000	175.000	896.000	259.000	894.000	300.000	895.800	320.000	894.000	320.000
GR	892.900	322.000	891.800	326.000	892.300	329.000	894.800	332.500	895.800	332.500
GR	896.000	350.000	896.000	376.000	910.000	376.000	0.000	0.000	0.000	0.000
X1	24065.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
BT	12.000	0.000	908.000	0.000	28.000	906.000	0.000	41.000	904.000	0.000
BT	64.000	902.000	0.000	150.000	900.000	0.000	175.000	898.000	0.000	259.000
BT	896.000	0.000	300.000	894.000	0.000	320.000	895.800	895.000	332.500	895.800
BT	895.000	350.000	896.000	0.000	376.000	896.000	0.000	0.000	0.000	0.000
X1	24070.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
X1	24071.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
X1	24179.000	14.000	270.000	284.000	150.000	100.000	108.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	20.000	896.000	81.000	894.000	265.000	894.800	269.500
GR	895.200	270.000	892.900	270.000	891.700	277.000	893.000	282.000	894.300	284.000
GR	896.300	284.000	896.000	309.000	896.000	330.000	910.000	330.000	0.000	0.000
X1	24180.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000

BT	7.000	145.000	895.300	0.000	265.000	894.000	0.000	269.500	894.800	0.000
BT	270.000	895.200	894.000	284.000	896.300	895.100	309.000	896.000	0.000	330.000
BT	896.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24185.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
X1	24186.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
X1	24276.000	0.000	0.000	0.000	200.000	75.000	90.000	0.000	-.400	0.000
X3	0.000	0.000	0.000	252.000	0.000	302.000	0.000	0.000	0.000	0.000
X1	24339.000	16.000	440.000	445.000	63.000	63.000	63.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	180.000	896.300	440.000	893.500	440.000	891.500	440.000
GR	890.500	441.000	890.000	442.000	890.000	443.000	890.500	444.000	891.500	445.000
GR	893.500	445.000	896.300	445.000	896.500	545.000	897.100	645.000	898.000	870.000
GR	900.000	1092.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.020	.020	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24340.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
BT	9.000	330.000	897.000	0.000	440.000	896.300	893.500	441.000	896.300	894.500
BT	442.000	896.300	895.000	443.000	896.300	895.000	444.000	896.300	894.500	445.000
BT	896.300	893.500	545.000	896.500	0.000	550.000	896.500	0.000	0.000	0.000
X1	24380.000	18.000	440.000	445.000	40.000	40.000	40.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
BT	9.000	330.000	897.000	0.000	440.000	896.300	894.000	441.000	896.300	895.000
BT	442.000	896.300	895.500	443.000	896.300	895.500	444.000	896.300	895.000	445.000
BT	896.300	894.000	545.000	896.500	0.000	550.000	896.500	0.000	0.000	0.000
GR	900.000	0.000	898.000	180.000	897.000	330.000	896.300	440.000	894.000	440.000
GR	892.000	440.000	891.000	441.000	890.500	442.000	890.500	443.000	891.000	444.000
GR	892.000	445.000	894.000	445.000	896.300	445.000	896.500	545.000	896.500	550.000
GR	897.100	645.000	898.000	870.000	900.000	1092.000	0.000	0.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24381.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24455.000	14.000	438.000	453.000	74.000	74.000	74.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	300.000	0.000	500.000	0.000	0.000	0.000	0.000
GR	898.000	0.000	898.000	140.000	896.000	340.000	894.000	403.000	894.200	438.000
GR	893.500	440.000	892.500	445.000	893.600	450.000	894.100	453.000	894.000	465.000
GR	896.000	740.000	898.000	765.000	900.000	800.000	902.000	920.000	0.000	0.000
NC	.080	.080	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	25350.000	12.000	125.000	139.000	800.000	900.000	895.000	0.000	0.000	0.000
GR	904.000	0.000	902.000	20.000	900.000	35.000	898.000	60.000	897.100	125.000
GR	895.400	127.000	895.400	132.000	896.100	137.000	897.100	139.000	898.000	190.000
GR	900.000	210.000	901.000	235.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	25700.000	10.000	460.000	474.000	550.000	300.000	350.000	0.000	0.000	0.000

X3	0.000	0.000	0.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	60.000	898.200	460.000	896.500	462.000	896.500	467.000
GR	897.200	472.000	898.200	474.000	898.000	655.000	900.000	700.000	901.000	840.000
X1	25749.000	-19.000	580.000	608.000	49.000	49.000	49.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	70.000	906.000	110.000	904.000	170.000	902.000	240.000
GR	900.000	380.000	899.200	480.000	900.000	580.000	898.800	580.000	897.400	587.000
GR	896.900	592.000	896.700	595.000	898.400	597.000	898.400	608.000	899.600	608.000
GR	899.200	708.000	899.300	808.000	900.000	920.000	900.200	1125.000	0.000	0.000
NC	.030	.030	.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	25750.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
BT	17.000	0.000	910.000	0.000	70.000	908.000	0.000	110.000	906.000	0.000
BT	170.000	904.000	0.000	240.000	902.000	0.000	380.000	900.000	0.000	480.000
BT	899.200	0.000	580.000	900.000	899.000	587.000	899.900	898.900	592.000	899.800
BT	898.800	595.000	899.800	898.800	597.000	899.800	898.800	608.000	899.600	898.600
BT	708.000	899.200	0.000	808.000	899.300	0.000	920.000	900.000	0.000	1125.000
BT	900.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	25759.000	0.000	0.000	0.000	9.000	9.000	9.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
X1	25760.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
NC	.035	.035	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	25780.000	10.000	460.000	474.000	20.000	20.000	20.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	220.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	60.000	898.200	460.000	896.000	462.000	896.000	467.000
GR	897.200	472.000	898.200	474.000	898.000	655.000	900.000	700.000	901.000	840.000
SB	0.000	1.950	3.020	0.000	6.200	0.000	19.250	0.000	896.000	896.000
X1	25822.000	17.000	615.000	621.000	42.000	42.000	42.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	899.100	902.500	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	430.000	0.000	940.000	0.000	902.500	902.500	0.000
BT	7.000	430.000	902.500	0.000	465.000	902.000	0.000	615.000	902.500	899.100
BT	615.000	902.500	896.500	621.000	902.500	899.100	621.000	902.500	896.000	940.000
BT	902.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	85.000	906.000	140.000	904.000	320.000	902.500	430.000
GR	902.000	465.000	902.500	590.000	896.500	615.000	896.100	617.000	896.000	621.000
GR	902.500	646.000	902.300	940.000	902.000	1350.000	904.000	1410.000	906.000	1462.000
GR	908.000	1523.000	910.000	1560.000	0.000	0.000	0.000	0.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

*PROF 1

CCHV= .300 CEHV= .500

*SECNO 23390.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
23390.00	3.80	895.00	0.00	895.00	895.13	.13	0.00	0.00	894.80
430.	26.	172.	232.	23.	47.	99.	0.	0.	893.00
0.00	1.15	3.67	2.35	.048	.044	.045	0.000	891.20	130.50
.003346	0.	0.	0.	0	0	0	0.00	143.50	274.00

*SECNO 23460.000

23460.00	3.98	895.08	0.00	0.00	895.43	.35	.19	.11	894.70
430.	19.	287.	124.	32.	50.	114.	0.	0.	892.90
.00	.60	5.75	1.09	.085	.024	.085	.024	891.10	123.30
.002245	70.	70.	70.	2	0	0	0.00	155.08	278.38

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.60	3.02	0.00	4.30	0.00	14.30	0.00	891.40	891.10

*SECNO 23527.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
931.59	895.76	0.00	276.	154.	14.	14.	894.70	898.90

3470 ENCROACHMENT STATIONS= 396.8 621.0 TYPE= 1 TARGET= 325.000

23527.00	8.32	899.72	0.00	0.00	899.74	.02	4.31	0.00	892.60
430.	161.	97.	172.	320.	44.	329.	1.	1.	892.60
.03	.50	2.21	.52	.085	.024	.085	.024	891.40	396.75
.000100	67.	67.	67.	2	0	8	0.00	224.25	621.00

*SECNO 23839.000

3470 ENCROACHMENT STATIONS= 230.0 320.0 TYPE= 1 TARGET= 90.000

23839.00	7.65	899.75	0.00	0.00	899.77	.02	.02	.00	895.10
430.	184.	173.	74.	206.	115.	82.	5.	2.	895.10
.10	.89	1.50	.90	.030	.025	.030	.024	892.10	230.00
.000058	350.	312.	300.	2	0	0	0.00	90.00	320.00

*SECNO 23840.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 FOR AL BRIDGE WRP= 7.MI ELTRD= 895.10 AX ELLC= 894.50

3470 ENCROACHMENT STATIONS= 230.0 320.0 TYPE= 1 TARGET= 90.000

23840.00	7.65	899.75	0.00	0.00	899.77	.02	.00	.00	895.10
430.	238.	97.	95.	206.	105.	82.	5.	2.	895.10
.10	1.15	.92	1.16	.030	.025	.030	.024	892.10	230.00
.000098	1.	1.	1.	0	0	0	-10.20	90.00	320.00

*SECNO 23843.000

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 895.10 MAX ELLC= 894.50

3470 ENCROACHMENT STATIONS= 230.0 320.0 TYPE= 1 TARGET= 90.000

23843.00	7.65	899.75	0.00	0.00	899.77	.02	.00	.00	895.10
430.	238.	97.	95.	206.	105.	82.	5.	2.	895.10
.11	1.15	.92	1.16	.030	.025	.030	.024	892.10	230.00
.000097	3.	3.	3.	0	0	0	-10.20	90.00	320.00

*SECNO 23844.000

3470 ENCROACHMENT STATIONS= 230.0 320.0 TYPE= 1 TARGET= 90.000

23844.00	7.65	899.75	0.00	0.00	899.77	.02	.00	.00	895.10
430.	184.	173.	74.	206.	115.	82.	5.	2.	895.10
.11	.89	1.50	.90	.030	.025	.030	.024	892.10	230.00
.000058	1.	1.	1.	0	0	0	0.00	90.00	320.00

*SECNO 24009.000

3470 ENCROACHMENT STATIONS= 320.0 400.0 TYPE= 1 TARGET= 80.000

24009.00	7.76	899.76	0.00	0.00	899.78	.03	.01	.00	896.10
430.	111.	176.	143.	111.	104.	133.	7.	2.	895.50
.14	1.00	1.70	1.08	.030	.025	.030	.024	892.00	320.00
.000084	150.	165.	175.	0	0	0	0.00	80.00	400.00

*SECNO 24010.000

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 895.50 MAX ELLC= 895.60

3470 ENCROACHMENT STATIONS= 320.0 400.0 TYPE= 1 TARGET= 80.000

24010.00	7.76	899.76	0.00	0.00	899.78	.03	.00	.00	896.10
430.	143.	104.	183.	110.	96.	133.	7.	2.	895.50
.14	1.29	1.09	1.38	.030	.025	.030	.024	892.00	320.00
.000140	1.	1.	1.	0	0	0	-7.75	80.00	400.00

*SECNO 24014.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 895.50 MAX ELLC= 895.60

3470 ENCROACHMENT STATIONS= 320.0 400.0 TYPE= 1 TARGET= 80.000

24014.00	7.76	899.76	0.00	0.00	899.79	.03	.00	.00	896.10
430.	143.	104.	183.	111.	96.	133.	7.	2.	895.50
.14	1.29	1.08	1.38	.030	.025	.030	.024	892.00	320.00

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  .000139        4.        4.        4.        0         0         0     -7.75     80.00    400.00

*SECNO 24015.000

3470 ENCROACHMENT STATIONS=    320.0     400.0  TYPE=      1  TARGET=       80.000
 24015.00      7.76    899.76      0.00      0.00    899.79       .03       .00       .00    896.10
     430.      111.      176.      143.      111.      104.      133.        7.        2.     895.50
      .14      1.00      1.20      1.08      .030      .025      .030      .024    892.00    320.00
  .000084         1.        1.        1.         0         0         0      0.00     80.00    400.00

*SECNO 24064.000

3470 ENCROACHMENT STATIONS=    280.0     356.0  TYPE=      1  TARGET=       76.000
 24064.00      7.97    899.77      0.00      0.00    899.79       .02       .00       .00    895.80
     430.      222.      126.       82.      203.       87.       90.        7.        2.     895.80
      .15      1.09      1.45       .91      .030      .025      .030      .024    891.80    280.00
  .000065        49.       49.       49.         0         0         0      0.00     76.00    356.00

*SECNO 24065.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  894.00 MAX ELLC=  895.00

3470 ENCROACHMENT STATIONS=    280.0     356.0  TYPE=      1  TARGET=       76.000
 24065.00      7.97    899.77      0.00      0.00    899.79       .02       .00       .00    895.80
     430.      265.       67.       98.      203.       77.       90.        7.        2.     895.80
      .15      1.30       .86      1.09      .030      .025      .030      .024    891.80    280.00
  .000092         1.        1.        1.         0         0         0    -10.00     76.00    356.00

*SECNO 24070.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  894.00 MAX ELLC=  895.00

3470 ENCROACHMENT STATIONS=    280.0     356.0  TYPE=      1  TARGET=       76.000
 24070.00      7.97    899.77      0.00      0.00    899.79       .02       .00       .00    895.80
     430.      265.       67.       98.      203.       77.       90.        7.        2.     895.80
      .15      1.30       .86      1.09      .030      .025      .030      .024    891.80    280.00
  .000092         5.        5.        5.         0         0         0    -10.00     76.00    356.00

*SECNO 24071.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=    280.0     356.0  TYPE=      1  TARGET=       76.000
 24071.00      7.97    899.77      0.00      0.00    899.79       .02       .00       .00    895.80
     430.      222.      126.       82.      203.       87.       90.        7.        2.     895.80
      .15      1.09      1.45       .91      .030      .025      .030      .024    891.80    280.00
  .000065         1.        1.        1.         0         0         0      0.00     76.00    356.00

*SECNO 24179.000

3470 ENCROACHMENT STATIONS=    235.0     330.0  TYPE=      1  TARGET=       95.000
 24179.00      8.09    899.79      0.00      0.00    899.80       .01       .01       .00    895.20
     430.      181.      122.      126.      195.      102.      170.        8.        2.     896.30
       19        93      1.20        74      .030        25      .030        02    891.70    235.00
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.000043	150.	108.	100.	0	0	0	0.00	95.00	330.00

*SECNO 24180.000

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 894.00 MAX ELLC= 895.10

3470 ENCROACHMENT STATIONS=			235.0	330.0	TYPE=	1	TARGET=	95.000	
24180.00	8.09	899.79	0.00	0.00	899.80	.02	.00	.00	895.20
430.	220.	60.	150.	195.	85.	168.	8.	2.	896.30
.19	1.13	.70	.89	.030	.025	.030	.024	891.70	235.00
.000064	1.	1.	1.	0	0	0	-18.90	95.00	330.00

*SECNO 24185.000

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 894.00 MAX ELLC= 895.10

3470 ENCROACHMENT STATIONS=			235.0	330.0	TYPE=	1	TARGET=	95.000	
24185.00	8.09	899.79	0.00	0.00	899.80	.02	.00	.00	895.20
430.	220.	60.	150.	195.	85.	168.	8.	2.	896.30
.19	1.13	.70	.89	.030	.025	.030	.024	891.70	235.00
.000064	5.	5.	5.	0	0	0	-18.90	95.00	330.00

*SECNO 24186.000

3470 ENCROACHMENT STATIONS=			235.0	330.0	TYPE=	1	TARGET=	95.000	
24186.00	8.09	899.79	0.00	0.00	899.80	.01	.00	.00	895.20
430.	181.	122.	126.	195.	102.	170.	8.	2.	896.30
.19	.93	1.20	.74	.030	.025	.030	.024	891.70	235.00
.000043	1.	1.	1.	0	0	0	0.00	95.00	330.00

*SECNO 24276.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=			252.0	302.0	TYPE=	1	TARGET=	50.000	
24276.00	8.48	899.78	0.00	0.00	899.82	.04	.01	.01	894.80
430.	147.	204.	79.	108.	108.	72.	9.	3.	895.90
.22	1.36	1.90	1.09	.030	.025	.030	.023	891.30	252.00
.000101	200.	90.	75.	1	0	0	0.00	50.00	302.00

*SECNO 24339.000

3470 ENCROACHMENT STATIONS=			375.0	475.0	TYPE=	1	TARGET=	100.000	
24339.00	9.82	899.82	0.00	0.00	899.84	.02	.01	.01	896.30
430.	248.	62.	120.	215.	47.	105.	10.	3.	896.30
.23	1.15	1.33	1.15	.030	.025	.030	.023	890.00	375.00
.000118	63.	63.	63.	2	0	0	0.00	100.00	475.00

*SECNO 24340.000

3370 NORMAL BRIDGE,NRD= 9 MIN ELTRD= 896.30 MAX ELLC= 895.00

3470 ENCROACHMENT STATIONS= 375.0 475.0 TYPE= 1 TARGET= 100.000

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 24340.00      9.81    899.81      0.00      0.00    899.84       .02       .00       .00    896.30
     430.       278.       18.       135.       215.       38.       105.       10.        3.    896.30
      .23       1.29       .47       1.29       .020       .033       .020       .023    890.00    375.00
  .000066         1.         1.         1.          0          0          0     -9.00    100.00    475.00

 *SECNO 24380.000

 3370 NORMAL BRIDGE,NRD=  9. MIN ELTRD=  896.30 MAX ELLC=  895.50


 3470 ENCROACHMENT STATIONS=      375.0      475.0  TYPE=      1  TARGET=      100.000
 24380.00      9.32    899.82      0.00      0.00    899.84       .02       .00       .00    896.30
     430.       278.       18.       134.       215.       38.       105.       10.        3.    896.30
      .24       1.29       .48       1.28       .020       .033       .020       .023    890.50    375.00
  .000065         40.        40.        40.          0          0          0     -6.50    100.00    475.00

 *SECNO 24381.000

 3470 ENCROACHMENT STATIONS=      375.0      475.0  TYPE=      1  TARGET=      100.000
 24381.00      9.32    899.82      0.00      0.00    899.84       .02       .00       .00    896.30
     430.       235.       59.       136.       215.       44.       105.       10.        3.    896.30
      .24       1.09       1.35       1.30       .060       .047       .050       .023    890.50    375.00
  .000419         1.         1.         1.          0          0          0      0.00    100.00    475.00

 *SECNO 24455.000
    SECNO      DEPTH      CWSEL       CRWS      WSELK         EG         HV         HL      QLOSS   BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA   LEFT/RIGHT
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

 3470 ENCROACHMENT STATIONS=      300.0      500.0  TYPE=      1  TARGET=      200.000
 24455.00      7.35    899.85      0.00      0.00    899.85       .00       .01       .01    894.20
     430.       245.       57.       128.       652.       98.       270.       11.        3.    894.10
      .29       .38       .58       .47       .060       .047       .050       .025    892.50    300.00
  .000029         74.        74.        74.          1          0          0      0.00    200.00    500.00

 *SECNO 25350.000
 25350.00      4.50    899.90      0.00      0.00    899.94       .04       .07       .02    897.10
     430.       165.       135.       130.       176.       57.       138.       25.        7.    897.10
      .46       .94       2.36       .94       .080       .047       .080       .035    895.40     36.20
  .000925       800.       895.       900.          2          0          0      0.00    172.84    209.04

 *SECNO 25700.000

 3470 ENCROACHMENT STATIONS=      200.0      840.0  TYPE=      1  TARGET=     -200.000
 25700.00      3.61    900.11      0.00      0.00    900.11       .00       .16       .01    898.20
     430.       217.       43.       171.       512.       45.       413.       31.       10.    898.20
      .71       .42       .96       .41       .080       .047       .080       .036    896.50    200.00
  .000213       550.       350.       300.          1          0          0      0.00    514.46    714.46

 *SECNO 25749.000

 3470 ENCROACHMENT STATIONS=         .0      900.0  TYPE=      1  TARGET=      899.999
 25749.00      3.41    900.11      0.00      0.00    900.17       .06       .03       .03    900.00
     430.        70.       183.       177.       102.       63.       204.       32.       11.    899.60
      .71       .68       2.92       .87       .080       .047       .080       .036    896.70    372.45
  .003364        49.        49.        49.          2          0          0      0.00    527.55    900.00
```

*SECNO 25750.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 899.20 MAX ELLC= 899.00

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.999

25750.00	3.46	900.16	0.00	0.00	900.18	.02	.00	.01	900.00
430.	116.	33.	281.	113.	36.	220.	32.	11.	899.60
.71	1.02	.90	1.28	.030	.028	.030	.036	896.70	368.65
.000933	1.	1.	1.	2	0	0	-28.00	531.35	900.00

*SECNO 25759.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	ANL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 899.20 MAX ELLC= 899.00

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.999

25759.00	3.47	900.17	0.00	0.00	900.19	.02	.01	.00	900.00
430.	118.	32.	280.	117.	37.	226.	32.	11.	899.60
.72	1.00	.87	1.24	.030	.028	.030	.036	896.70	367.32
.000855	9.	9.	9.	0	0	0	-28.00	532.68	900.00

*SECNO 25760.000

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.999

25760.00	3.47	900.17	0.00	0.00	900.20	.03	.00	.00	900.00
430.	89.	126.	214.	115.	64.	223.	32.	11.	899.60
.72	.77	1.96	.96	.030	.028	.030	.036	896.70	367.94
.000519	1.	1.	1.	0	0	0	0.00	532.06	900.00

*SECNO 25780.000

3470 ENCROACHMENT STATIONS= 220.0 840.0 TYPE= 1 TARGET= -220.000

25780.00	4.20	900.20	0.00	0.00	900.20	.00	.00	.01	898.20
430.	204.	50.	176.	492.	50.	435.	33.	11.	898.20
.73	.42	1.00	.40	.035	.020	.035	.036	896.00	220.00
.000037	20.	20.	20.	1	0	0	0.00	506.81	726.81

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.95	3.02	0.00	6.20	0.00	19.25	0.00	896.00	896.00

*SECNO 25822.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
915.31	900.99	0.00	259.	173.	19.	19.	899.10	902.50

3470 ENCROACHMENT STATIO S= 430.0 840.0 TYPE= 1 TARGET= 510.000

25822.00	6.52	902.52	0.00	0.00	902.65	.13	2.44	0.00	896.50
430.	127.	168.	135.	119.	38.	117.	33.	11.	896.00
.73	1.07	4.39	1.16	.035	.020	.035	.036	896.00	430.00
.000297	42.	42.	42.	2	0	7	0.00	510.00	940.00

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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**** 7000 SCOPE 2.1 LVL  221  12/14/78  20.52.16  01/08/79      79008

SYS DEVICES 819/ 4/PF FLS=200K FLL=764K MXS=160K MXL=453K MXB=453B

HH.MM.SS CPU SECOND ORIGIN
         11.23.13.MFA. JO    LV461 NOSBE B+W LYNRELEASE447 02/04/78
11.18.11 00000.006 MFZ.     -WBLJO10,T20,STMFZ.   W. BLOOMFIELD TWP. FIS
11.18.12 00000.022 USR.      CHARGE.810-0037-45-78-5810,JANDA,001,D,JANDA.
11.18.12 00000.058 JOB.     -ATTACH,LGO,HEC2N76V2,ID=HEC.
11.18.12 00000.063 MFZ.       PF254 - CYCLE    1 ATTACHED FROM SN=SYSTEM
11.18.12 00000.064 LOD.     -LGO(PL=999999).
11.18.15 00000.887 MFZ.       LD610 - FLS REQUIRED TO LOAD - 0027777 OU.COG
11.18.15 00000.891 MFZ.       LD603 - EXECUTION INITIATED OS.EXP
11.18.15 00000.891 USR.      FORTRAN LIBRARY 439          08/20/78
11.18.16 00001.309 USR.         STOP
11.18.16 00001.309 USR.           .417 CP SECONDS EXECUTION TIME
11.18.16 00001.313 MFZ.       RM770 - MAXIMUM ACTIVE FILES                    5
11.18.16 00001.313 MFZ.       RM771 - OPEN/CLOSE CALLS                       20
11.18.16 00001.314 MFZ.       RM772 - DATA TRANSFER CALLS                 1,271
11.18.16 00001.314 MFZ.       RM773 - CONTROL/POSITIONING CALLS              25
11.18.16 00001.314 MFZ.       RM774 - BM DATA TRANSFER CALLS                346
11.18.16 00001.314 MFZ.       RM775 - BM CONTROL/POSITIONING CALLS           55
11.18.16 00001.314 MFZ.       RM776 - QUEUE MANAGER CALLS                    67
11.18.16 00001.315 MFZ.       RM777 - RECALL CALLS                           57
11.18.16 00001.315 MFZ.       BWMSG - NUMBER OF TAPES MOUNTED
11.18.16 00001.315 MFZ.       SRU                1.373  SEC
11.18.16 00001.315 MFZ.       SCM               21.203  KWS
11.18.16 00001.316 MFZ.       I/O                0.023  MW
11.18.16 00001.316 MFZ.       RMS                0.015  MWS
11.18.16 00001.316 MFZ.       USER               0.306  SEC
11.18.16 00001.316 MFZ.       JOB                1.318  SEC
11.18.16 00001.317 MFZ.       SC050 - 000006 SC/LC SWAPS
11.18.16 00001.317 MFZ.       WBLJOR8    WBLJOR8
11.18.16.EJ  END OF JOB
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: FRANKLIN BRANCH – ROUGE RIVER

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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**** 7000 SCOPE 2.1 LVL  221  09/21/78  22.45.50  10/12/78      78285

SYS DEVICES 819/ 4/PF FLS=200K FLL=700K MXS=160K MXL=4533 MXB=4558

MM.MM.SS CPU SECOND ORIGIN
         14.18.22.MFA. ID    LV461  JOB ID 3+W LYNRALEANF447 02/04/78
14.17.20 00000.022 MFZ.    -WELJOHA,T20,STMFZ.    9. ,LOC/FIELD TYP. FIS
14.17.21 00000.033 USR.     CHARGE.81C-0037-45-78-3010,JANDA,CJ1,J,JANDA.
14.17.22 00000.074 JOB.    -ATTACH,LGO,HEC2N76V2,ID=HEC.
14.17.22 00000.079 MFZ.      PF754 - CYCLE    1 ATTACHED FROM SN=SYSTEM
14.17.22 00000.080 LDR.    -LGO(PL=999999).
14.24.50 00000.905 MFZ.      LM410 - FLS REQUIRED TO LOAD = 0027777 30.COC
14.24.50 00000.909 MFZ.      LM503 - EXECUTION INITIATED OS.EXP
14.24.50 00000.910 USR.     FORTRAN LIBRARY 439          08/20/75
14.27.08 00004.236 USR.       STOP
14.27.08 00004.236 USR.         3.325 CP SECONDS EXECUTION TIME
14.27.08 00004.240 MFZ.      RM770 - MAXIMUM ACTIVE FILES                    7
14.27.08 00004.240 MFZ.      RM771 - OPEN/CLOSE CALLS                       24
14.27.08 00004.240 MFZ.      RM772 - DATA TRANSFER CALLS                 9,203
14.27.08 00004.241 MFZ.      RM773 - CONTROL/POSITIONING CALLS              46
14.27.08 00004.241 MFZ.      RM774 - I/O DATA TRANSFER CALLS               425
14.27.08 00004.241 MFZ.      RM775 - I/O CONTROL/POSITIONING CALLS          37
14.27.08 00004.241 MFZ.      RM776 - QUEUE MANAGER CALLS                   127
14.27.08 00004.241 MFZ.      RM777 - MS CALL CALLS                          75
14.27.08 00004.242 MFZ.      SRU50 - NUMBER OF TAPES MOUNTED
14.27.08 00004.242 MFZ.      SRU                4.577  SEC
14.27.08 00004.242 MFZ.      SCU              102.209  KWS
14.27.08 00004.243 MFZ.      IPP                0.121  SEC
14.27.08 00004.243 MFZ.      RMS                0.194  SEC
14.27.08 00004.243 MFZ.      USER               3.316  SEC
14.27.08 00004.243 MFZ.      JOB                8.245  SEC
14.27.08 00004.243 MFZ.      SC050 - 000022 SC/LC SJAPS
14.27.08 00004.244 MFZ.    WELJOHA   WELJOHA
14.27.08.33  END OF JOB
WELJOHA  JANDA                  10/12/78  14.17.29  7401   JOB
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PROGRAM WILL BE ENTERED AT MAIN (255) SCM LENGTH 64711 LCM LENGTH 0

BLOCK	ADDRESS	LENGTH
/CONTRL/	100	17
MAIN	117	253
/DOUBLE/	372	10
/NAMES/	404	202
P2MAIN	606	15337
ADDPTS	16143	321
PLFLC	16464	1021
PLOCK	17505	261
SWEIR	17766	1427
CARD	21415	2443
CPINP	24100	1550
DC	25750	706
DONE	26656	60
FLOFAZ	26736	2720
FLODIS	31156	453
FLRDAT*	31531	0
HEAR	31531	10
PRIAM	31647	251
PROF	32120	1142
SCALE	33262	256
SLARA	33520	243
SUMPD	33765	2744
XSEC	36727	1256
YCRIT	40205	122
YAPIT	40327	50
.VAR	40377	24
SAVEIT	40423	24
/STP.CND/	40447	1
/FCL.C./	40450	23
/DO.IC./	40473	140
GETRY=	40633	1
COMIC=	40634	44
INFIL=	40700	65
PCF	40745	20
PECMSK=	40765	41
PLTIN=	41026	156
PLTOUT=	41204	315
PRTAP=	41521	572
PORSYS=	42113	561
PORUTL=	42674	15
PETFIT=	42712	43
INCOM=	42755	256
/IO.BUF./	43233	227
INPC=	43462	322
INPC=	44006	173
KODER=	44201	467
CRAKER=	44670	456
OUTC=	45344	246
/HEADING/	45612	16
/LIN.CNT/	45730	1
OUTC=	45531	177
OUTCOM=	46705	204

REMIND=	47111	54
SDTOBS=	47147	14
ALOG	47161	77
EXP	47262	102
ITOJ*	47364	52
SQRT	47436	44
SYSAID=	47504	1
SYS=1ST	47505	60
XTOY*	47567	55
//	47644	15045

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*****************************************************
  HEC2 RELEASE DATED NOV 75 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1          W.BLOOMFIELD TWP. FIG
T2           100 YEAR FLOOD
T3            FRANKLIN BRANCH OF THE ROUGE RIVER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        4.        0.        0.  0.000000      0.00      0.0       0.   799.720     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IUN       CHNIM     ITRACE

    -1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    39.000    40.000    41.000    42.000    43.000     1.000     3.000    25.000     0.000

     4.000    53.000    54.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .050      .090      .040      .300      .500     0.000     0.000     0.000     0.000     0.000
OT     4.000   745.000  1140.000  1310.000  1305.000     0.000     0.000     0.000     0.000     0.000

                    VALLEY SECTION #16                    SECT.A

X1      0.000    17.000   378.000   416.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    820.000     0.000   810.000    52.000   806.000    67.000   805.000    90.000   804.000   350.000
GR    802.000   360.000   800.000   370.000   798.000   374.000   796.000   378.000   793.100   392.000
GR    792.900   401.000   793.100   408.000   795.400   415.000   800.000   450.000   810.000   472.000
GR    820.000   500.000   830.000   538.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      .070      .065      .040     0.000     0.000     0.000     0.000     0.000     0.000     0.000

                    VALLEY SECTION #17                    SECT.B

X1    520.000    22.000   146.000   167.000   520.000   520.000   520.000     0.000     0.000     0.000
GR    830.000     0.000   820.000    35.000   810.000    30.000   808.000    70.000   806.000    78.000
GR    804.000    87.000   802.000    93.000   800.000   122.000   798.000   140.000   797.300   146.000
GR    794.300   150.000   793.700   158.000   794.200   165.000   793.200   169.000   800.000   192.000
GR    802.000   209.000   804.000   219.000   806.000   230.000   808.000   235.000   810.000   247.000
GR    820.000   257.000   820.000   273.000     0.000     0.000     0.000     0.000     0.000     0.000

X1   1325.000    17.000   200.000   223.000   805.000   805.000   805.000     0.000     0.000     0.000
GR    830.000     0.000   820.000    30.000   810.000    70.000   808.000   100.000   806.000   115.000
GR    804.000   135.000   802.000   155.000   799.100   200.000   795.100   204.000   795.500   212.000
GR    796.000   217.000   800.000   225.000   810.000   237.000   820.000   243.000    30.000   283.000
GR    840.000   275.000   850.000   310.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      .030      .060      .042     0.000     0.000     0.000     0.000     0.000     0.000     0.000

                    VALLEY SECTION #18                    SECT.C
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X1	2790.000	16.000	50.000	99.000	1465.000	1465.000	1465.000	0.000	0.000	0.000
GR	810.000	0.000	308.000	27.000	806.000	55.000	804.100	72.000	132.000	60.000
GR	799.400	25.000	798.500	69.000	799.000	94.000	801.000	99.000	102.000	155.000
GR	804.000	210.000	306.000	248.000	807.000	252.000	810.000	870.000	320.000	208.000
GR	830.000	330.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3310.000	20.000	250.000	253.000	520.000	300.000	520.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	115.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	810.000	0.000	808.000	10.000	806.000	20.000	806.000	55.000	108.000	50.000
GR	808.000	115.000	306.000	140.000	804.000	225.000	802.000	230.000	200.500	215.000
GR	800.300	241.000	800.000	247.000	802.000	253.000	802.000	250.000	804.000	255.000
GR	804.000	325.000	804.000	425.000	806.000	440.000	806.000	450.000	410.000	470.000
X1	3370.000	90.000	250.000	273.000	60.000	50.000	80.000	0.000	0.000	0.000
GR	810.200	0.000	809.000	6.600	807.700	17.200	807.100	25.500	807.000	34.400
GR	807.500	43.100	806.200	51.700	806.300	50.300	808.100	68.700	807.200	77.500
GR	807.500	80.200	807.400	94.800	807.400	104.400	807.400	112.000	807.400	120.600
GR	807.200	129.300	806.700	137.900	806.200	144.500	805.900	155.100	805.700	163.700
GR	805.600	172.400	805.500	181.000	805.300	189.600	805.200	198.200	805.000	206.800
GR	804.900	215.500	804.700	224.100	804.600	232.700	804.500	241.300	802.900	250.000
GR	802.600	250.700	802.200	251.500	801.900	252.300	801.500	253.000	801.200	253.800
GR	800.500	254.200	800.700	255.300	800.700	256.100	800.700	256.900	800.800	257.600
GR	800.800	258.400	800.800	259.200	800.900	259.900	800.900	260.700	800.900	261.500
GR	800.900	262.200	800.900	263.000	800.900	263.700	800.900	264.500	800.900	265.200
GR	800.900	265.000	800.900	266.500	801.100	267.600	801.200	268.300	801.400	269.100
GR	801.500	269.900	801.700	270.600	801.900	271.400	802.000	272.200	802.200	273.000
GR	802.400	279.000	803.000	285.100	803.600	291.100	804.300	297.200	804.300	303.200
GR	804.800	309.300	805.000	315.400	805.000	321.500	805.100	327.500	805.200	333.600
GR	805.300	339.700	805.800	345.700	805.400	351.800	805.600	357.900	806.200	363.900
GR	806.700	370.000	807.200	376.100	807.800	382.100	808.100	388.200	808.500	394.300
GR	809.500	400.300	809.700	406.400	809.900	413.500	809.300	419.500	810.300	424.600
GR	811.300	430.700	812.400	436.700	813.400	442.800	814.200	446.900	815.000	455.000
NC	.080	.070	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3430.000	90.000	270.000	293.000	0.000	60.000	80.000	0.000	0.000	0.000
GR	810.500	0.000	809.600	9.300	803.700	15.600	806.200	27.900	808.100	37.200
GR	800.400	46.500	809.800	55.800	808.700	65.100	805.200	74.400	807.600	83.700
GR	807.100	93.100	806.900	102.400	805.900	111.700	806.900	121.000	806.900	130.300
GR	804.500	139.500	806.400	148.800	805.100	158.200	805.900	167.500	805.800	176.800
GR	805.700	186.200	805.800	195.500	805.500	204.800	805.400	214.100	805.300	223.400
GR	805.200	232.700	805.100	242.000	805.000	251.300	804.900	260.600	805.500	270.000
GR	805.400	270.700	802.900	271.500	802.600	272.300	802.000	273.000	801.500	273.800
GR	801.000	274.500	800.900	275.300	800.600	276.100	800.800	276.900	800.900	277.600
GR	801.000	278.400	801.000	279.200	801.000	279.900	801.100	280.700	801.100	281.500
GR	801.100	282.200	801.100	283.000	801.100	283.700	801.100	284.500	801.100	285.300
GR	801.100	286.000	801.100	286.900	801.200	287.600	801.400	288.300	801.600	289.100
GR	801.700	289.900	801.600	290.800	802.100	291.400	802.200	292.200	802.400	293.000
GR	802.800	297.900	803.500	302.700	804.100	307.600	804.600	312.500	805.300	317.400
GR	805.700	322.300	806.000	327.200	806.100	332.100	806.500	337.000	806.400	341.900
GR	806.600	346.800	806.700	351.700	806.900	356.800	807.500	361.900	808.400	366.800
GR	809.500	371.500	810.500	375.200	811.500	381.100	812.200	386.300	812.700	390.900
GR	813.100	395.200	813.500	400.700	814.000	405.800	814.500	410.500	815.400	415.400
GR	816.200	420.300	817.500	425.200	818.400	430.100	819.200	435.000	820.000	440.000
X1	3490.000	90.000	290.000	313.000	50.000	60.000	60.000	0.000	0.000	0.000
GR	810.700	0.000	810.200	10.000	809.700	21.000	809.400	29.900	809.200	39.900
GR	809.300	49.900	809.400	59.900	809.100	69.500	807.300	79.900	807.500	89.900
GR	806.700	99.900	806.400	109.900	806.400	119.900	805.400	129.900	806.400	139.900
GR	806.300	149.900	806.200	159.900	806.000	169.900	805.900	179.900	805.800	189.900
GR	805.800	199.900	805.700	209.900	805.700	219.900	805.600	229.900	805.500	239.900
GR	805.500	249.900	805.400	259.900	805.400	269.900	805.300	279.900	804.800	290.000

GR	804.200	290.700	805.000	291.500	805.000	292.300	802.300	293.000	801.700	293.800
GR	801.300	294.600	801.000	295.300	801.000	296.100	801.100	296.900	801.100	297.600
GR	801.100	298.400	801.200	299.200	801.200	299.900	801.300	300.700	801.300	301.500
GR	801.300	302.200	801.300	303.000	801.300	303.700	801.300	304.500	801.300	305.300
GR	801.300	306.000	801.300	306.800	801.400	307.600	801.600	308.300	801.600	309.100
GR	801.900	309.900	802.100	310.600	802.300	311.400	802.500	312.200	802.600	313.000
GR	803.200	316.700	805.500	320.400	806.700	324.100	805.400	327.900	805.000	331.600
GR	806.800	335.500	807.300	339.100	807.200	342.800	807.500	346.500	807.700	350.300
GR	807.900	354.000	808.100	357.700	808.300	361.500	809.000	365.200	810.600	368.900
GR	812.200	372.700	813.300	376.400	815.400	380.100	815.400	383.900	817.000	387.500
GR	817.700	391.300	819.900	395.100	819.000	398.800	819.700	402.500	820.500	406.300
GR	821.400	410.000	822.400	413.700	823.300	417.500	824.100	421.200	825.300	425.000

VALLEY SECTION 819 SECT.0

X1	3550.000	13.000	310.000	350.000	60.000	60.000	50.000	0.000	0.000	0.000
GR	811.000	0.000	810.000	70.000	808.000	90.000	806.300	110.000	805.300	810.000
GR	801.200	815.000	801.500	821.000	801.500	827.000	802.900	833.000	818.000	750.000
GR	810.000	865.000	820.000	830.000	838.000	840.000	0.000	0.000	0.000	0.000
MC	.050	.050	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3485.000	10.000	340.000	363.000	335.000	335.000	335.000	0.000	0.000	0.000
GR	811.000	0.000	810.000	90.000	808.000	190.000	805.000	340.000	802.500	945.000
GR	805.200	351.000	805.200	357.000	804.000	863.000	810.000	868.000	812.000	870.000
X1	4310.000	11.000	190.000	213.000	425.000	425.000	425.000	0.000	0.000	0.000
GR	814.000	0.000	812.000	30.000	810.000	80.000	80.000	191.000	804.900	195.000
GR	805.200	201.000	805.200	207.000	805.000	213.000	805.000	253.000	810.000	260.000
GR	820.000	305.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	4030.000	10.000	155.000	176.000	320.000	320.000	320.000	0.000	0.000	0.000
GR	813.000	0.000	812.000	20.000	810.000	155.000	806.400	140.000	806.700	166.000
GR	805.700	172.000	805.200	178.000	810.000	192.300	810.000	220.000	810.000	233.000
GT	4.010	5.000	570.000	580.000	595.000	0.000	0.000	0.000	0.000	0.000
X1	5200.000	13.000	330.000	353.000	570.000	570.000	570.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	364.000	0.000	0.000	0.000	0.000
GR	821.000	0.000	820.000	30.000	812.000	30.000	812.000	150.000	812.000	185.000
GR	816.000	260.000	815.000	300.000	814.000	320.000	812.000	330.000	809.200	335.000
GR	809.500	341.000	809.500	347.000	810.900	351.000	812.000	370.000	814.000	420.000
GR	816.000	445.000	818.000	460.000	820.000	500.000	0.000	0.000	0.000	0.000
X1	5225.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.100	0.000
X3	0.000	0.000	0.000	325.000	0.000	367.000	0.000	0.000	0.000	0.000
X1	5230.000	0.000	0.000	0.000	13.000	13.000	13.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	329.000	0.000	354.000	0.000	0.000	0.000	0.000
MC	.025	.025	.015	1.100	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE TEN MILL DRIVE CULVERT

X1	5250.000	25.000	190.000	209.000	12.000	12.000	12.000	0.000	0.000	0.000
X3	11.000	0.000	0.000	0.000	0.000	0.000	0.000	315.500	315.500	0.000
GR	822.000	0.000	820.100	35.000	816.100	50.000	811.000	180.000	811.000	190.000
GR	810.000	191.000	809.500	142.000	809.501	195.000	810.000	194.000	811.000	195.000
GR	810.900	197.000	809.900	196.000	805.400	199.000	809.400	200.000	809.900	201.000
GR	810.900	202.000	810.900	204.000	809.900	205.000	809.400	205.000	809.400	207.000
GR	809.900	208.000	810.900	209.000	815.000	219.000	814.200	315.000	820.000	471.000

SB	0.000	1.570	2.240	0.000	11.500	0.000	55.700	0.000	309.400	207.400

U/S FACE TEN HILL DRIVE CULVERT D.S. 420 SECT.E

X1	5273.000	0.000	0.000	0.000	23.000	25.000	25.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	318.000	218.000	0.000
RT	25.000	0.000	322.000	0.000	35.000	620.000	0.000	90.000	81.100	0.000
RT	190.000	618.000	611.000	190.000	312.000	613.000	191.000	613.000	314.000	192.000
RT	816.000	614.500	195.000	318.000	314.500	194.000	816.000	814.000	195.000	816.000
RT	813.000	195.000	118.000	811.000	197.000	318.000	116.900	197.000	811.000	812.900
LT	199.000	513.000	513.900	199.000	113.000	314.400	200.000	518.000	314.400	201.000
LT	516.000	813.900	202.000	518.000	812.900	202.000	516.000	810.900	204.000	815.000
LT	810.900	204.000	815.000	812.900	205.000	816.000	813.900	206.000	813.000	814.200
RT	207.000	618.000	312.400	208.000	313.000	813.900	209.000	812.000	812.900	209.000
RT	810.000	810.900	313.000	816.200	0.000	471.000	320.000	0.000	0.000	0.000
NC	.070	.070	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 421 SECT.F

X1	5300.000	19.000	190.000	208.000	22.000	22.000	21.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	168.000	0.000	231.000	0.000	0.000	0.000	0.000
GR	830.000	0.000	818.000	8.000	820.000	19.000	824.000	21.000	22.000	32.000
GR	820.000	45.000	818.000	56.000	816.000	52.000	816.000	180.000	815.500	190.000
CR	811.000	194.000	810.000	191.700	810.700	185.000	813.000	203.000	814.000	200.000
CR	816.000	246.000	818.100	242.000	820.000	395.000	822.000	450.000	0.000	0.000

X1	6170.000	15.000	250.000	258.000	870.000	870.000	870.000	0.000	0.000	0.000
CR	830.000	0.000	826.000	10.000	820.000	10.000	824.000	22.000	22.000	23.000
GR	820.000	59.000	818.000	250.000	815.000	254.000	814.000	259.000	815.100	215.000
GR	817.400	268.000	820.000	268.000	830.000	330.000	0.000	0.000	0.000	0.000

X1	6665.000	15.000	150.100	170.000	459.000	459.000	459.000	0.000	0.000	0.000
GR	840.000	0.000	838.100	18.000	820.000	22.000	826.000	28.000	24.000	35.000
GR	821.900	148.000	821.500	168.000	817.100	176.000	817.400	165.000	817.200	170.500
GR	821.100	170.500	821.500	185.000	822.000	250.000	824.000	237.000	826.000	263.000
GR	828.000	251.000	830.000	260.000	836.000	300.000	840.000	306.000	0.000	0.000
NC	.070	.070	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PRIVATE BRIDGE

X1	6670.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
RT	15.000	0.000	840.000	0.000	16.000	830.000	0.000	25.000	828.000	0.000
LT	35.000	824.000	0.000	146.000	171.900	0.000	150.000	821.500	820.100	170.500
RT	821.100	619.800	185.000	821.500	0.000	250.000	822.000	0.000	817.000	824.000
RT	0.000	243.000	176.000	0.000	451.000	0.000	0.000	820.000	35.000	0.000
RT	300.000	838.000	0.000	336.000	320.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PRIVATE BRIDGE D.S. 422 SECT.G

X1	6600.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.100	.080	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6681.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

VALLEY SECTION 423 SECT.G

X1	6700.000	20.000	165.000	195.000	19.000	19.000	19.000	0.000	0.000	0.000
GR	840.000	0.000	830.000	20.000	814.000	25.000	825.000	30.000	824.000	40.000
GR	822.500	195.000	818.000	174.000	817.200	182.000	817.900	187.000	821.500	195.000
GR	822.000	205.000	824.000	220.000	826.000	234.000	828.000	245.000	830.000	254.000
GR	832.000	257.000	834.000	280.000	836.000	291.000	835.000	300.000	840.000	306.000
NC	.080	.065	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6735.000	0.000	0.000	0.000	36.000	36.000	36.000	0.000	0.000	0.000
SB	0.000	1.000	3.420	0.000	.010	0.000	.010	0.000	817.200	317.200

PRIVATE DAM DAM SECTION B23-A SECT.I

X1	6737.000	15.000	144.500	155.500	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PT	12.000	0.000	830.000	0.000	10.000	826.000	0.000	20.000	826.400	0.000
PT	144.500	826.400	0.000	144.600	824.500	0.000	154.700	824.500	0.000	154.900
PT	825.100	0.000	155.410	825.100	0.000	155.500	826.400	0.000	220.000	826.400
PT	0.000	240.000	822.000	0.000	250.000	830.000	0.000	0.000	0.000	0.000
GR	830.000	0.000	826.000	10.000	826.400	20.000	824.000	50.000	820.000	100.000
GR	817.200	144.500	817.200	144.600	817.200	154.700	817.200	154.900	17.200	155.400
GR	817.200	155.500	820.000	180.000	826.400	220.000	825.000	240.000	830.000	250.000
NC	.090	.070	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 824 SECT.J

X1	6990.000	25.000	66.000	207.000	253.000	253.000	353.000	0.000	0.000	0.000
GR	840.000	0.000	836.000	10.000	834.000	17.000	832.000	25.000	850.000	30.000
GR	829.400	56.000	826.700	84.000	832.400	70.000	822.200	90.000	821.600	110.000
GR	824.400	139.000	827.500	150.000	824.700	170.000	822.200	160.000	824.500	200.000
GR	827.200	207.000	829.000	215.000	830.000	230.000	832.000	237.000	834.000	250.000
GR	836.000	260.000	838.000	259.000	840.000	270.000	842.000	293.000	843.000	300.000

X1	7100.000	0.000	0.000	0.000	110.000	110.000	110.000	0.000	-.200	0.000
X3	0.000	0.000	0.000	70.000	0.000	15.000	0.000	0.000	0.000	0.000

X1	7140.000	0.000	0.000	0.000	60.000	40.000	40.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	80.000	0.000	145.000	0.000	0.000	0.000	0.000

X1	7150.000	0.000	0.000	0.000	40.000	40.000	40.000	0.000	-.100	0.000
X3	0.000	0.000	0.000	90.000	0.000	135.000	0.000	0.000	0.000	0.000
NC	.080	.050	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	7195.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	94.000	0.000	133.000	0.000	0.000	0.000	0.000

X1	7210.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	92.000	0.000	125.000	0.000	0.000	0.000	0.000
NC	.080	.050	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	7259.000	21.000	150.000	175.000	49.000	49.000	49.000	0.000	0.000	0.000
GR	850.000	0.000	848.000	10.000	846.000	19.000	844.000	27.000	860.000	41.000
GR	838.000	55.000	836.000	80.000	832.000	113.000	830.000	151.000	28.000	145.000
PT	827.500	150.000	821.300	130.000	841.400	154.500	841.300	162.000	845.000	175.000
GR	829.000	155.000	830.000	190.000	832.000	200.000	834.000	215.000	836.000	240.000
GR	836.000	260.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

3/5 FACE PRIVATE BRIDGE

X1	7280.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SR	0.000	1.800	2.340	0.000	0.000	0.000	39.000	0.000	821.200	821.400

3/5 FACE PRIVATE BRIDGE [illegible] SECTION

X1	7269.000	21.600	150.000	175.000	9.000	9.000	9.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GT	20.000	0.000	150.000	0.000	10.000	846.000	0.000	16.000	846.000	0.000
BT	27.000	844.000	0.000	41.000	840.000	0.000	55.000	836.000	0.000	20.000
GT	836.000	0.000	110.000	832.000	0.000	131.000	830.000	0.000	145.000	823.000
BT	0.000	160.000	826.900	821.200	160.000	826.900	825.000	169.000	826.900	825.600
BT	164.000	826.900	821.400	165.000	829.000	0.000	160.000	830.000	0.000	200.600
BT	842.000	0.000	215.000	834.000	0.000	240.000	836.000	0.000	250.000	833.000
GT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	850.000	0.000	146.000	10.000	846.000	16.000	844.000	27.000	840.000	41.000
GR	836.000	55.000	836.000	70.000	832.000	110.000	830.000	131.000	828.000	145.000
GR	827.500	150.000	821.200	160.000	821.400	164.500	821.200	169.000	826.000	175.000
GR	829.000	195.000	830.000	190.000	832.000	200.000	834.000	215.000	836.000	240.000
GR	830.000	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	7270.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.030	.060	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #26 SECTION

X1	7200.000	18.000	155.000	172.000	1.000	50.000	50.000	0.000	0.000	0.000
GR	850.000	0.000	848.000	10.000	846.000	16.000	844.000	27.000	40.000	41.000
GR	836.000	21.000	834.000	50.000	832.000	57.000	830.000	100.000	826.000	105.000
GR	826.500	155.000	823.600	159.000	822.000	163.000	825.900	170.000	825.900	172.000
GR	850.000	180.000	840.000	205.000	854.000	240.000	0.000	0.000	0.000	0.000
NC	.040	.080	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #27 SECTION

X1	8260.000	16.000	150.000	176.000	900.000	900.000	900.000	0.000	0.000	0.000
GR	842.000	0.000	840.000	30.000	838.000	61.000	75.000	75.000	836.000	105.000
GR	834.000	129.000	832.000	139.000	30.000	153.000	825.700	152.000	825.200	159.000
GR	825.900	166.000	826.900	170.000	826.900	180.000	829.000	206.000	840.000	390.000
GR	830.000	415.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	9680.000	12.000	50.000	104.000	275.000	300.000	320.000	0.000	0.000	0.000
GR	840.000	0.000	838.000	40.000	30.000	50.000	27.700	94.000	827.400	95.000
GR	827.400	101.000	829.000	104.000	832.000	820.000	834.000	260.000	836.000	270.000
GR	820.000	230.000	840.000	300.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.100	.065	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #28 SECTION

X1	9060.000	15.000	81.000	75.000	225.000	300.000	300.000	0.000	0.000	0.000
GR	850.000	0.000	840.000	28.000	838.000	39.000	838.000	41.000	832.000	61.000
GR	829.700	65.000	829.300	69.000	829.300	72.000	831.400	75.000	832.000	155.000
GR	834.000	292.000	836.000	307.000	836.000	320.000	340.000	339.000	842.000	320.000

X1	10060.000	15.000	125.000	139.000	1000.000	1000.000	1000.000	0.000	0.000	0.000
GR	676.000	0.000	870.000	50.000	868.000	75.000	850.000	100.000	840.000	115.000
GR	837.000	125.000	834.700	129.000	834.400	133.000	834.400	136.000	832.800	139.000
GR	838.000	190.000	840.000	275.000	450.000	345.000	0.000	0.000	0.000	0.000

X1	10700.000	10.000	40.000	54.000	600.000	350.000	540.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	125.000	0.000	0.000	0.000	0.000
GR	850.000	0.000	840.000	30.000	620.000	40.000	837.900	44.300	937.600	43.000
GR	837.600	51.000	840.000	54.000	720.000	90.000	842.000	190.000	350.000	230.000
X1	10780.000	0.000	0.000	0.000	30.000	80.000	80.000	0.000	.400	0.000
X3	0.000	0.000	0.000	0.000	0.000	165.000	0.000	0.000	0.300	0.000
X1	10860.000	0.000	0.000	0.000	50.000	70.000	60.000	0.000	.400	0.000
X3	0.000	0.000	0.000	0.000	0.000	85.000	0.000	0.000	0.000	0.000
X1	10890.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	.200	0.000
X3	0.000	0.000	0.000	0.000	0.000	75.000	0.000	0.000	0.000	0.000
X1	10920.000	0.000	0.000	0.000	20.000	30.000	30.000	0.000	.100	0.000
X3	0.000	0.000	0.000	27.000	0.000	55.000	0.000	0.000	0.000	0.000
NC	.060	.060	.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10930.000	0.000	0.000	0.000	10.000	17.000	10.000	0.000	.100	0.000
X3	0.000	0.000	0.000	29.000	0.000	65.000	0.000	0.000	0.000	0.000
X1	10940.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	31.000	0.000	65.000	0.000	0.000	0.000	0.000
X1	10946.000	0.000	0.000	0.000	2.000	7.000	6.000	0.000	.100	0.000
X3	0.000	0.000	0.000	32.000	0.000	61.000	0.000	0.000	0.000	0.000
X1	10947.000	0.000	0.000	0.000	0.000	7.000	7.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	33.000	0.000	60.000	0.000	0.000	0.000	0.000

VALLEY SECTION #29 STA 0

X1	10950.000	12.000	40.000	59.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	859.000	0.000	854.000	12.000	652.000	71.000	850.000	30.000	941.100	40.000
GR	859.300	45.000	838.900	40.000	659.600	51.000	842.600	59.000	950.000	95.000
GR	860.000	106.000	870.000	120.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10954.000	0.000	0.000	0.000	2.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	35.000	0.000	64.000	0.000	0.000	0.000	0.000
X1	10958.000	0.000	0.000	0.000	2.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	36.000	0.000	64.000	0.000	0.000	0.000	0.000
X1	10962.000	0.000	0.000	0.000	4.000	6.000	6.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	36.000	0.000	64.000	0.000	0.000	0.000	0.000
X1	10975.000	0.000	0.000	0.000	5.000	13.000	13.000	0.000	.100	0.000
X3	0.000	0.000	0.000	39.000	0.000	61.000	0.000	0.000	0.000	0.000
X1	10987.000	0.000	0.000	0.000	8.000	12.000	12.000	0.000	0.000	0.000

S	0.000	0.000	0.000	42.000	0.000	55.000	0.000	0.000	0.000	0.000
X1	10991.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	43.000	0.000	57.000	0.000	0.000	0.000	0.000
X1	10993.000	0.000	0.000	0.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	43.000	0.000	56.000	0.000	0.000	0.000	0.000
X1	10995.000	0.000	0.000	0.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	44.000	0.000	56.000	0.000	0.000	0.000	0.000
X1	10999.000	9.000	267.000	277.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	849.500	849.500	0.000
GR	858.900	0.000	856.500	67.000	855.200	167.000	356.000	262.000	839.000	267.000
CT	839.900	272.000	840.800	277.000	856.200	282.000	858.900	339.000	0.000	0.000
NC	.020	.020	.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WEST MAPLE ROAD

X1	11000.000	9.000	267.000	277.000	1.000	1.000	1.000	0.000	0.000	0.000
RT	0.000	0.000	858.900	0.000	67.000	855.500	0.000	167.000	855.200	0.000
CT	267.000	856.000	849.500	277.000	856.000	849.500	849.000	858.900	0.000	0.000
GR	859.900	0.000	855.500	67.000	855.200	167.000	856.000	267.000	839.000	267.000
GR	839.900	272.000	840.800	277.000	856.600	277.000	858.900	339.000	0.000	0.000

D/S FACE WEST MAPLE ROAD B.S. #30 > CT.>

X1	11055.000	0.000	0.000	0.000	55.000	55.000	55.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.070	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	11056.000	9.000	267.000	277.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	849.500	849.500	0.000
CR	858.900	0.000	856.500	67.000	855.200	167.000	856.000	262.000	839.000	267.000
GR	839.900	272.000	860.600	277.000	856.200	282.000	858.900	339.000	0.000	0.000
A1	11058.000	15.000	220.000	234.000	2.000	2.000	2.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	220.000	0.000	236.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	850.000	40.000	848.000	200.000	846.000	210.000	844.000	215.000
GR	842.500	220.000	839.700	224.000	839.000	227.000	839.600	231.000	842.200	234.000
GR	844.000	290.000	846.000	305.000	848.000	312.000	850.000	330.000	860.000	375.000
X1	11060.000	0.000	0.000	0.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	213.000	0.000	236.000	0.000	0.000	0.000	0.000
X1	11200.000	15.000	220.000	234.000	145.000	125.000	140.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	100.000	0.000	370.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	850.000	40.000	848.000	200.000	846.000	210.000	844.000	215.000
GR	842.500	220.000	840.700	224.000	840.000	227.000	840.600	231.000	842.200	234.000
GR	844.000	290.000	846.000	305.000	848.000	312.000	850.000	330.000	860.000	375.000

VALLEY SECTION #31 SECT.0

X1	11425.000	19.000	90.000	104.000	125.000	225.000	225.000	0.000	0.000	0.000
GR	862.000	0.000	860.000	25.000	855.000	55.000	856.000	60.000	854.000	55.000

GR	852.000	86.000	891.000	70.000	848.100	78.000	844.000	90.000	842.200	74.000
GR	841.500	97.000	842.100	101.000	863.700	104.000	844.010	150.000	846.000	108.000
GR	848.000	231.000	850.000	253.000	850.000	291.000	862.000	310.000	0.000	0.000
NC	.070	.085	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 832 SECT.1

X1	12220.000	20.000	139.000	156.000	575.000	500.000	795.000	0.000	0.000	0.000
GR	864.000	0.000	860.000	15.000	854.000	57.000	852.000	50.000	850.000	55.000
GR	848.000	60.000	846.000	39.000	875.000	153.000	843.700	143.000	843.000	147.000
GR	846.100	151.000	845.600	156.000	846.000	326.000	846.000	340.000	850.000	373.000
GR	852.000	510.000	854.000	571.000	856.000	850.000	853.000	859.000	860.000	879.000
X1	12920.000	20.000	585.000	602.000	800.000	350.000	700.000	0.000	0.000	0.000
GR	870.000	0.000	250.000	50.000	350.000	72.000	856.000	130.000	854.000	155.000
GR	852.000	190.000	850.000	225.000	848.000	485.000	847.200	585.000	845.300	869.000
GR	844.600	993.000	845.700	997.000	847.200	992.000	848.000	1002.000	845.800	1022.000
GR	848.000	1052.000	847.000	1712.000	842.000	1387.000	850.000	1317.000	850.000	1467.000
NC	.085	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	13160.000	23.000	550.000	567.000	245.000	190.000	240.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	325.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	20.000	850.000	160.000	854.000	160.000	852.000	240.000
GR	850.000	270.000	843.000	550.000	845.500	554.000	845.100	554.000	846.200	502.000
GR	845.000	567.000	849.000	875.000	850.000	990.000	850.000	920.000	849.000	935.000
GR	848.000	1090.000	848.000	1110.000	850.000	1165.000	852.000	1225.000	856.000	1230.000
GR	850.000	1295.000	855.000	1335.000	860.000	1370.000	0.000	0.000	0.000	0.000
X1	13192.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	822.000	0.000	0.000	0.000	0.000
X1	13205.000	0.000	0.000	0.000	17.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	821.000	0.000	0.000	0.000	0.000
X1	13225.000	23.000	550.000	567.000	18.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	350.000	0.000	803.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	30.000	858.000	170.000	856.000	160.000	854.000	210.000
GR	852.000	245.000	850.000	225.000	848.600	550.000	846.000	554.000	845.300	558.000
GR	845.400	562.000	845.000	567.000	849.000	830.000	50.000	850.000	850.000	850.000
GR	849.000	900.000	849.000	1070.000	850.000	1100.000	852.000	1150.000	854.000	1210.000
GR	856.000	1260.000	858.000	1285.000	860.000	1325.000	0.000	0.000	0.000	0.000
X1	13250.000	15.000	560.000	579.000	26.000	20.000	25.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	346.000	0.000	792.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.200	40.000	858.000	115.000	850.000	270.000	849.600	311.000
GR	848.200	560.000	845.900	563.000	845.400	569.000	848.200	579.000	849.100	605.000
GR	850.000	832.000	850.000	868.000	849.100	911.000	849.100	1061.000	850.000	1240.000
X1	13275.000	18.000	570.000	588.000	26.000	20.000	25.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	342.000	0.000	796.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	859.000	40.000	858.000	117.000	856.700	158.000	852.000	255.000
GR	850.900	283.000	850.000	310.000	849.400	491.000	849.200	570.000	846.200	573.000
GR	845.400	577.000	848.900	585.000	849.600	810.000	850.000	850.000	850.000	892.000
GR	849.600	919.000	849.900	1096.000	849.500	1150.000	0.000	0.000	0.000	0.000
X1	13300.000	21.000	580.000	597.000	26.000	24.000	25.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	422.000	0.000	843.000	0.000	0.000	0.000	0.000

GR	860.000	0.000	556.000	125.000	856.000	140.000	554.000	209.000	152.000	270.000
GR	850.000	315.000	850.000	350.000	850.000	500.000	849.200	580.000	846.200	584.000
GR	845.500	506.000	846.500	592.000	849.200	567.000	853.000	650.000	850.000	900.000
GR	850.000	1100.100	852.000	1135.000	854.010	1200.000	856.000	1250.000	858.000	1275.000
GR	760.000	1360.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	13250.000	19.000	500.000	517.000	50.000	45.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	760.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	859.000	40.000	856.000	91.000	854.000	110.000	852.000	175.000
GR	850.000	475.000	850.000	500.000	846.300	504.000	845.600	506.000	846.700	512.000
GR	849.400	517.000	850.000	750.000	850.000	840.000	850.000	1000.000	852.000	1040.000
GR	854.000	1075.000	856.000	1125.000	858.000	1175.000	860.000	1200.000	0.000	0.000
X1	13530.000	20.000	520.000	538.000	205.000	185.000	186.000	0.000	0.000	0.000
GR	670.000	0.000	860.000	90.000	853.000	120.000	156.000	170.000	154.000	200.000
GR	852.000	220.000	850.300	820.000	846.700	820.000	846.000	829.000	847.200	834.000
GR	850.400	858.000	851.000	880.000	852.000	900.000	852.000	960.000	852.000	1040.000
GR	854.000	1110.000	856.000	1150.000	858.000	1180.000	860.000	1200.000	870.000	1300.000

VALLEY SECTION 823 SECT.S

X1	13855.000	16.000	530.000	543.000	250.000	270.000	355.000	0.000	0.000	0.000
X3	1.000	0.000	0.000	496.000	1.000	774.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	90.000	56.300	115.000	856.000	140.000	854.000	175.000
GR	852.000	280.000	850.400	530.000	847.300	555.000	842.800	539.600	847.800	544.000
GR	850.500	546.000	852.000	616.000	852.000	998.000	854.000	1013.600	856.000	1068.000
GR	358.000	1118.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	14199.000	25.000	390.000	254.200	314.000	314.000	314.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	30.000	856.000	69.000	854.000	101.000	852.000	190.000
GR	552.000	270.000	851.500	220.000	849.500	263.000	843.900	280.300	848.600	281.700
GR	848.500	281.700	848.500	282.500	849.600	283.100	848.900	283.900	849.500	284.200
GR	851.900	284.200	852.000	290.300	852.500	351.000	0.000	505.000	854.100	850.000
GR	856.000	650.100	851.300	862.000	0.000	870.100	864.000	891.000	871.000	712.000
NC	.000	.000	.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	14200.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	25.000	0.000	860.000	0.000	30.000	350.000	0.000	69.000	350.000	0.000
BT	101.000	354.000	0.000	190.000	252.000	0.000	270.000	852.000	0.000	270.000
BT	353.000	0.000	280.000	853.000	849.500	280.200	853.000	850.200	281.100	853.000
BT	850.900	281.700	853.000	851.100	282.500	853.000	851.100	282.100	853.000	850.900
BT	283.900	853.000	851.100	284.200	853.000	849.500	290.000	853.000	0.000	290.000
BT	852.200	0.000	380.000	852.500	0.000	505.000	854.000	0.000	850.000	854.000
BT	0.000	850.000	856.000	0.000	852.000	852.000	0.000	875.000	860.000	0.000
BT	891.000	864.000	0.000	712.000	870.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE E.S. 836 S.F.T.T

X1	14215.000	26.000	230.000	254.200	15.000	15.000	15.000	0.000	0.000	0.000
BT	25.000	0.000	860.000	0.000	30.000	850.000	0.000	69.000	856.000	0.000
BT	101.000	354.000	0.000	190.000	252.000	0.000	270.000	852.000	0.000	270.000
BT	353.000	0.000	280.000	853.000	850.400	280.200	853.000	851.100	281.100	853.000
BT	851.500	281.700	853.000	852.000	282.500	853.000	852.000	283.100	853.000	851.900
BT	283.900	853.000	851.100	284.200	853.000	850.400	290.000	853.000	0.000	290.000
BT	852.200	0.000	380.000	852.500	0.000	505.000	854.000	0.000	850.000	854.000
BT	0.000	850.000	856.000	0.000	852.000	852.000	0.000	875.000	860.000	0.000
BT	891.000	864.000	0.000	712.000	870.000	0.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	30.000	856.000	69.000	854.000	101.000	852.000	150.000

GR	852.000	270.000	831.500	280.000	826.400	280.000	847.000	280.000	847.700	280.500
GR	849.500	231.100	849.500	281.700	849.500	282.500	849.500	283.100	849.300	283.400
GR	850.400	284.200	851.900	284.200	852.200	296.000	852.600	327.000	854.100	305.000
GR	854.000	650.000	856.000	650.000	858.000	652.000	850.000	875.000	864.000	891.000
GR	870.000	712.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.075	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 935 SECT.U

X1	16740.000	16.000	230.000	243.000	525.000	525.000	525.000	0.000	0.000	0.000
GR	868.000	0.000	866.000	23.000	864.000	41.000	852.000	59.000	840.000	78.000
GP	852.000	100.000	856.000	151.000	854.000	170.000	852.300	230.000	850.600	833.000
GR	851.100	236.000	851.800	230.000	852.900	245.000	854.000	305.000	856.000	860.000
GR	852.000	470.000	860.000	395.000	870.000	420.000	0.000	0.000	0.000	0.000
X1	15225.000	15.000	470.000	483.000	485.000	485.000	485.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	80.000	858.000	105.000	856.000	155.000	854.000	470.000
GR	853.100	473.000	853.000	476.000	854.000	479.000	855.400	485.000	856.000	503.000
GR	854.000	518.000	860.000	503.000	870.000	503.000	0.000	0.000	0.000	0.000
X1	15550.000	15.000	270.000	283.000	475.000	225.000	325.000	0.000	0.000	0.000
X5	0.000	0.000	0.000	110.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	70.000	858.000	80.000	850.000	170.000	855.000	340.000
GR	856.000	270.000	854.700	373.000	855.400	270.000	855.500	279.000	857.000	283.000
GR	851.000	340.000	860.000	390.000	870.000	410.000	0.000	0.000	0.000	0.000
X1	15664.000	11.000	370.000	290.000	110.000	220.000	314.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	144.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	844.000	50.000	842.000	70.000	842.000	100.000	850.000	150.000
GR	858.000	370.000	856.300	375.000	856.500	385.000	851.000	390.000	850.000	855.000
GR	870.000	470.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15879.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
X3	0.000	0.000	0.000	151.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15894.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X5	1.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15904.000	22.000	380.000	404.000	10.000	10.000	10.000	0.000	0.000	0.000
GR	876.000	0.000	874.000	20.000	872.000	35.000	870.000	45.000	868.000	60.000
GR	866.000	71.000	864.000	85.000	862.000	200.000	860.000	220.000	860.000	380.000
GP	859.000	380.000	858.900	382.000	858.500	394.000	858.000	398.000	856.500	394.000
GR	857.800	402.000	859.100	404.000	860.100	402.000	862.000	469.000	858.000	482.000
GR	870.000	502.000	860.000	520.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.050	.045	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE

X1	15905.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	15.000	0.000	876.000	0.000	20.000	874.000	0.000	55.000	872.000	0.000
BT	45.000	-70.000	0.000	50.000	866.000	0.000	71.000	868.000	0.000	85.000
BT	864.000	0.000	200.000	862.000	0.000	225.000	860.000	0.000	380.000	860.000
BT	859.000	383.000	858.500	859.500	394.000	858.500	859.500	404.000	857.000	856.000
BT	463.000	500.000	0.000	469.000	482.000	0.000	482.000	866.000	0.000	502.000
BT	870.000	0.000	520.000	880.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. #36 SECT.V

X1	15909.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X1	15910.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	15979.000	27.000	250.000	268.000	169.000	169.000	169.000	0.000	0.000	0.000
GR	878.000	0.000	874.000	12.000	872.000	25.000	870.000	40.000	253.000	50.000
GR	856.000	58.000	864.000	70.000	862.000	60.000	860.000	155.000	360.000	245.000
GR	860.000	250.000	853.100	250.000	850.100	250.000	760.100	253.000	657.200	255.000
GR	857.400	259.000	857.400	264.000	858.400	269.000	861.200	266.000	859.400	266.000
GR	854.500	273.000	862.000	350.000	864.000	370.000	860.000	371.000	868.000	378.000
GR	870.000	320.000	866.000	423.000	0.000	0.000	0.000	0.000	0.000	0.000
MC	.065	.075	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE

X1	16060.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
ST	19.000	0.000	876.000	0.000	12.000	874.000	0.000	25.000	872.000	0.000
ST	40.000	870.000	0.000	50.000	856.000	0.000	58.000	860.000	0.000	70.000
ST	864.000	0.000	80.000	862.000	0.000	155.000	860.100	0.000	265.000	860.000
ST	0.000	250.000	853.100	862.000	268.000	851.200	860.400	273.000	859.500	0.000
ST	350.000	862.000	0.000	370.000	864.000	0.000	371.000	866.000	0.000	378.000
ST	868.000	0.000	890.000	870.000	0.000	423.000	870.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. 837 SECT.'A'

X1	16054.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.055	.055	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16025.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	15275.000	12.000	60.000	30.000	150.000	100.000	190.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	182.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	40.000	660.000	60.000	859.000	56.000	250.400	70.000
GR	858.900	72.000	860.000	80.000	862.000	155.000	864.000	220.000	260.000	250.000
GR	868.000	240.000	870.000	250.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16301.000	9.000	92.000	102.000	26.000	0.000	26.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	182.000	0.000	0.000	0.000	0.000
GR	871.000	0.000	854.200	30.000	850.500	52.000	860.600	82.000	256.500	71.000
GR	850.500	102.000	845.000	208.000	836.100	244.000	871.000	272.000	0.000	0.000
X1	16327.000	12.000	152.000	172.000	26.000	0.000	26.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	59.000	0.000	223.000	0.000	0.000	0.000	0.000
GR	875.000	0.000	871.500	29.000	874.100	52.000	862.200	109.000	242.000	152.000
GR	859.300	150.000	856.700	162.000	859.500	150.000	862.000	172.000	166.000	238.000
GR	866.000	241.000	876.500	235.100	0.000	0.000	0.000	0.000	0.000	0.000
X1	16353.000	10.000	130.000	150.000	26.000	0.000	26.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	96.000	0.000	197.000	0.000	0.000	0.000	0.000
GR	875.000	0.000	884.500	45.000	862.000	88.000	861.300	130.000	850.900	140.000
GR	859.200	144.000	861.700	150.000	862.500	219.000	865.100	260.000	875.000	315.000
X1	16379.000	9.000	109.000	127.000	26.000	0.000	26.000	0.000	0.000	0.000

X3	0.000	0.000	0.000	66.000	0.000	161.000	0.000	0.000	0.000	0.000
GR	873.000	0.000	854.900	38.000	851.200	69.000	860.900	109.000	859.100	115.000
GR	860.900	127.000	862.100	200.000	864.000	241.000	873.000	291.000	0.000	0.000
X1	16405.000	13.000	175.000	196.000	25.000	9.000	26.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	144.000	0.000	151.000	0.000	0.000	0.000	0.000
GR	872.300	0.000	873.000	50.000	864.100	65.000	863.000	119.000	862.500	178.000
GR	859.900	182.000	859.200	196.000	859.900	191.000	862.800	196.000	863.600	262.000
GR	867.000	305.000	872.500	323.000	878.100	359.000	0.000	0.000	0.000	0.000
X1	16418.000	0.000	0.000	0.000	15.000	4.000	15.000	0.000	.100	0.000
X3	0.000	0.000	0.000	148.000	0.000	228.000	0.000	0.000	0.000	0.000

VALLEY SECTION M38 SECT.X

X1	16430.000	21.000	200.000	220.000	12.000	2.000	12.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	175.000	0.000	247.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	874.000	15.000	874.000	35.000	872.000	39.000	870.000	89.000
GR	869.000	50.000	866.000	65.000	864.000	71.000	863.300	203.000	860.000	268.000
GR	859.400	210.000	859.900	214.000	863.300	220.000	864.000	285.000	865.000	325.000
GR	870.000	333.000	872.000	340.000	874.000	345.000	871.000	361.000	878.000	371.000
GR	880.000	376.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16443.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	-.200	0.000
X3	0.000	0.000	0.000	177.000	0.000	244.000	0.000	0.000	0.000	0.000
X1	16455.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	-.200	0.000
X3	0.000	0.000	0.000	120.000	0.000	241.000	0.000	0.000	0.000	0.000
NC	.070	.070	.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000

T/S FACE MIDDLEBELT ROAD

X1	16450.000	0.000	0.000	0.000	25.000	25.000	45.700	0.000	-.500	0.000
X3	0.000	0.000	0.000	180.000	0.000	254.000	0.000	0.000	0.000	0.000
SB	0.000	1.760	3.020	0.000	0.000	0.000	44.000	0.000	853.700	853.700

B/S FACE MIDDLEBELT ROAD B.R. #39 SECT.Y

X1	16532.000	15.000	300.000	350.000	52.000	52.000	52.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ST	14.000	0.000	280.000	0.000	70.000	475.000	0.000	100.000	876.000	0.000
BT	210.000	874.000	0.000	254.000	872.000	0.000	325.000	870.000	856.900	525.000
BT	870.800	864.100	853.000	870.800	864.100	853.000	870.800	856.700	860.000	872.000
BT	0.000	415.000	874.000	0.000	456.000	872.000	0.000	495.000	871.000	0.000
BT	525.000	880.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	878.000	70.000	878.000	180.000	874.000	218.000	872.000	253.000
GR	871.200	300.000	862.800	325.000	856.700	329.000	850.700	338.000	871.600	350.000
BT	872.000	500.000	874.000	415.000	876.000	495.000	872.000	495.000	870.000	525.000
NC	.030	.075	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 460 SECT.Z

X1	17510.000	15.000	100.000	118.000	500.000	750.000	978.700	0.000	0.000	0.000
GR	880.000	0.000	870.000	0.000	858.000	25.000	865.000	70.000	864.200	100.000
GR	868.200	105.000	852.200	104.000	852.300	112.000	865.200	118.000	866.000	300.000
GR	868.000	400.000	870.000	450.000	872.000	450.000	876.000	470.000	880.000	765.000
NC	.020	.060	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #41 SECT.AA

X1	17990.000	15.000	240.000	254.000	300.000	250.000	440.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	672.000	0.000	672.000	55.000	870.000	150.000	584.000	165.000	865.900	240.000
GR	884.900	244.000	884.400	247.000	945.000	259.000	886.000	254.000	958.000	325.000
GR	870.000	381.000	872.000	431.000	970.000	430.000	878.000	503.000	960.000	519.000
NC	.090	.030	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #42 SECT.AB

X1	18400.000	17.000	100.000	112.000	38.000	410.000	410.000	0.000	0.000	0.000
GR	850.000	0.000	850.000	5.000	892.000	15.000	860.000	22.000	870.000	45.000
GR	860.400	100.000	886.400	102.000	936.000	107.000	865.000	110.000	868.000	112.000
GR	870.000	152.000	872.000	161.000	974.000	179.000	900.000	212.000	902.000	226.000
GR	884.000	236.000	886.000	252.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19510.000	0.000	0.000	0.000	110.000	110.000	110.000	0.000	.500	0.000
NC	.075	.035	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DT	4.000	240.000	380.000	480.000	600.000	0.000	0.000	0.000	0.000	0.000
X1	19450.000	7.000	150.000	170.000	150.000	120.000	140.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	870.000	10.000	870.400	120.000	870.000	120.000	880.100	142.000
GR	867.500	105.000	867.700	190.000	970.000	200.000	830.000	250.000	0.000	0.000

VALLEY SECTION #43 SECT.AC

X1	19750.000	19.000	211.000	222.000	120.000	80.000	100.000	0.000	0.000	0.000
GR	890.000	0.000	838.000	20.000	985.000	30.000	884.000	65.000	962.000	52.000
GR	880.000	65.000	877.700	72.000	973.400	97.000	872.400	127.000	972.300	172.000
GR	870.700	211.000	888.400	213.100	992.000	210.000	877.200	227.000	979.300	222.000
GR	870.700	232.000	870.300	230.000	997.000	275.000	884.000	290.000	0.000	0.000
X1	19950.000	16.000	160.000	171.000	150.000	200.000	200.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	45.000	970.000	50.000	176.000	70.000	974.000	80.000
GR	872.000	150.000	871.400	150.000	970.100	122.000	89.500	105.000	969.700	170.000
GR	871.300	171.000	874.300	210.000	976.000	210.000	875.000	225.000	0.000	205.000
GR	890.000	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.075	.050	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19110.000	15.000	115.000	126.000	150.000	35.000	150.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	50.000	978.000	50.000	876.000	70.000	74.000	90.000
GR	872.000	115.000	871.300	117.000	970.700	120.000	870.900	125.000	873.000	126.000
GR	874.000	220.000	876.000	240.000	978.000	255.000	880.000	275.000	890.000	310.000
NC	.035	.035	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECT. #44 SECT.AD

X1	19250.000	22.000	106.000	116.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	890.000	0.000	884.000	9.000	986.000	11.000	884.000	20.000	982.000	25.000
GR	880.000	33.000	876.000	40.000	976.000	65.000	874.000	79.000	972.000	104.000
GR	872.400	107.000	871.700	111.000	972.300	114.000	873.300	115.000	974.000	140.000
GR	876.000	210.000	878.000	225.000	980.000	240.000	882.000	255.000	984.000	284.000
GR	888.000	294.000	890.000	305.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19265.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000

X1	19280.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
X1	19295.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
NC	.075	.080	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19299.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
SB	0.000	1.600	3.490	0.000	.010	0.000	.010	875.300	272.000	0.000

PRIVATE DAM DAM SECTION #45 SECT.A:

X1	19500.000	12.000	70.000	80.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GT	11.000	0.000	890.000	0.000	40.000	880.300	0.400	60.000	380.300	0.000
GT	70.000	250.300	0.000	70.100	875.400	0.000	79.900	875.400	0.000	20.000
BT	380.400	0.000	90.000	880.400	0.300	110.000	880.400	0.000	210.000	2.000
BT	0.000	270.000	390.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	880.300	40.000	875.000	60.000	875.000	70.000	875.000	70.100
GR	875.000	79.900	875.000	30.000	375.000	90.000	875.000	110.000	375.000	175.000
GR	882.000	215.000	890.000	270.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.045	.065	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19440.000	0.000	90.000	330.000	100.000	60.000	140.000	0.000	0.000	0.000
GR	390.000	0.000	880.000	70.000	879.000	90.000	875.700	91.000	875.700	329.000
GR	879.000	330.000	380.000	340.000	890.000	375.000	0.000	0.000	0.000	0.000
X1	19500.000	0.000	85.000	200.000	130.000	100.000	100.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	50.000	879.000	85.000	876.600	86.000	876.400	199.000
GR	870.000	230.000	880.000	210.000	890.000	250.000	0.000	0.000	0.000	0.000
X1	19450.000	8.000	25.000	100.000	110.000	70.000	90.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	80.000	0.000	1.000	1.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	35.000	876.900	86.000	876.900	199.000	880.000	200.000
GR	890.000	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19770.000	13.000	101.000	107.000	72.000	85.000	70.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	48.000	880.000	50.000	884.000	61.000	870.000	75.000
GR	879.000	101.000	877.200	104.000	878.500	107.000	880.000	125.000	350.000	150.000
GR	884.000	170.000	884.000	195.000	890.000	201.000	0.000	0.000	0.000	0.000
X1	19850.000	14.000	100.000	107.000	72.000	85.000	70.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	48.000	880.000	50.000	884.000	61.000	870.000	75.000
GR	879.800	100.000	879.000	101.000	877.600	104.000	878.000	107.000	880.000	125.000
GR	880.000	135.000	884.000	170.000	884.000	195.000	890.000	201.000	0.000	0.000

VALLEY SECTION #46 SECT.AF

X1	19930.000	15.000	100.000	100.000	71.000	85.000	80.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	48.000	880.000	50.000	884.000	61.000	870.000	75.000
GR	880.400	100.000	879.000	101.000	877.000	104.000	878.800	107.000	880.400	100.000
GR	880.000	135.000	884.000	150.000	884.000	170.000	884.000	195.000	890.000	201.000
AC	.035	.040	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #47 SECT.AG

X1	20 15•0 0	20•000	175•000	185•000	565•000	585•000	385•000	0•000	0•000	0•000
GR	900•000	0•000	896•000	12•000	895•000	25•000	894•000	46•000	892•000	80•000
GR	890•000	100•000	108•000	121•000	0•000	135•000	203•900	175•000	282•700	177•000
GR	881•900	179•000	882•100	101•000	885•500	105•000	886•000	195•000	888•000	202•000
GR	890•000	200•000	894•000	238•000	896•000	247•000	898•000	253•000	900•000	260•000

VALLEY SECTION 248 SECT.AH

X1	21730•000	14•000	150•000	159•000	915•000	915•000	915•000	0•000	0•000	0•000
GR	898•000	0•000	896•000	12•000	894•000	35•000	890•000	90•000	887•000	138•000
GR	886•000	143•000	885•700	148•000	885•900	156•000	887•400	159•000	890•000	245•000
SP	897•000	251•000	896•000	291•000	895•000	909•000	910•000	900•000	0•000	0•000
NC	•070	•070	•042	0•000	0•000	0•000	0•000	0•000	0•000	0•000

X1	21860•000	10•000	190•000	211•000	150•000	150•000	150•000	0•000	0•000	0•000
GR	896•000	0•000	894•000	50•000	892•000	80•000	890•000	115•000	887•800	190•000
GR	886•000	195•000	885•500	200•000	886•500	204•000	888•200	211•000	890•000	245•000
SP	897•000	300•000	894•000	340•000	895•000	420•000	896•000	490•000	898•000	545•000
GR	890•000	705•000	0•000	0•000	0•000	0•000	0•000	0•000	0•000	0•000
NC	•055	•085	•052	0•000	0•000	0•000	0•000	0•000	0•000	0•000

X1	22050•000	17•000	150•000	151•000	170•000	140•000	170•000	0•000	0•000	0•000
GR	898•000	0•000	894•000	20•000	892•000	40•000	890•000	55•000	888•500	150•000
GR	887•200	135•000	886•900	140•000	887•100	145•000	885•900	151•000	890•000	165•000
SP	892•000	275•000	894•000	290•000	890•000	310•000	896•000	365•000	898•000	420•000
GR	898•000	500•000	900•000	620•000	0•000	0•000	0•000	0•000	0•000	0•000
NC	•060	•060	•020	0•000	0•000	0•000	0•000	0•000	0•000	0•000

O/S FACE SCHOOL ACCESS ROAD CULVERT

X1	22175•000	0•000	0•000	0•000	125•000	125•000	125•000	0•000	•200	0•000
X3	0•000	0•000	0•000	53•000	0•000	193•000	0•000	0•000	0•000	0•000
SP	0•000	2•170	2•450	0•000	0•000	0•000	12•570	0•000	227•500	227•500

O/S FACE SCHOOL ACCESS ROAD CULVERT SEC. 249 SECT.AI

X1	22191•000	17•000	205•000	209•000	16•000	15•000	15•000	0•000	0•000	0•000
X2	0•000	0•000	1•000	690•000	592•000	0•000	0•000	0•000	0•000	0•000
GT	15•000	0•000	999•000	0•000	70•000	698•000	0•000	95•000	896•000	0•000
GT	150•000	894•000	0•000	115•000	892•000	0•000	205•000	892•300	888•000	205•000
GT	892•300	890•300	206•500	892•300	891•200	207•500	892•300	891•000	209•000	892•300
GT	890•300	209•000	892•300	888•300	229•000	892•200	0•000	230•000	892•000	0•000
GT	304•000	894•000	0•000	350•000	896•000	0•000	270•000	898•300	0•000	466•000
GT	900•000	0•000	521•000	902•000	0•000	0•000	0•000	0•000	0•000	0•000
GR	894•000	0•000	898•000	70•000	896•000	95•000	894•000	150•000	890•000	175•000
GR	889•200	195•000	887•200	205•000	887•800	210•500	887•500	207•500	888•000	209•000
GR	890•000	239•000	892•000	250•000	894•000	503•000	896•000	350•000	898•000	370•000
GR	900•000	465•000	902•000	520•000	0•000	0•000	0•000	0•000	0•000	0•000
NC	•055	•070	•040	0•000	0•000	0•000	0•000	0•000	0•000	0•000

VALLEY SECTION 250 SECT.AJ

X1	22250•000	21•000	140•000	169•000	59•000	59•000	59•000	0•000	0•000	0•000
GR	902•000	0•000	900•000	30•000	898•000	45•000	896•000	55•000	894•000	75•000
GR	892•000	100•000	890•000	115•000	891•500	140•000	887•900	145•000	886•300	154•000
GR	886•300	159•000	887•700	165•000	889•700	167•000	890•000	175•000	892•000	249•000
GR	894•000	260•000	896•000	320•000	898•000	355•000	900•000	400•000	902•000	425•000
GR	904•000	445•000	0•000	0•000	0•000	0•000	0•000	0•000	0•000	0•000

X1	22474.000	21.000	200.000	204.000	224.000	224.000	224.000	0.000	0.000	0.000
GR	904.000	0.000	902.000	21.000	900.000	31.000	398.000	50.000	896.000	65.000
GR	894.000	103.000	892.000	169.000	892.100	175.000	890.200	200.000	888.700	210.000
GR	887.700	201.500	887.700	202.500	888.700	204.000	890.200	204.000	892.100	217.000
GR	894.000	231.000	896.000	260.000	898.000	280.000	900.000	311.000	902.000	352.000
GR	904.000	373.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SCHOOL ACCESS CULVERT #2

X1	22475.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SS	0.000	2.410	3.020	0.000	3.140	0.000	12.570	0.000	885.200	887.700

U/S FACE SCHOOL ACCESS CULVERT #2 B.S. 151 SECT.AK

X1	22491.000	21.000	200.000	204.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	892.200	892.400	0.000	0.000	0.000	0.000	0.000
ST	17.000	0.000	904.000	0.000	21.000	902.000	1.000	31.000	900.000	0.000
ST	50.000	898.000	0.000	55.000	896.000	0.000	103.000	894.000	0.000	159.000
ST	892.000	0.000	200.000	892.400	200.700	201.500	892.400	892.200	202.500	892.400
ST	892.200	204.000	892.400	890.700	231.000	294.000	0.000	260.000	896.000	0.000
ST	280.000	898.000	0.000	311.000	900.000	0.000	352.000	902.000	0.000	373.000
ST	904.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SR	904.000	0.000	902.000	21.000	900.000	21.000	898.000	50.000	896.000	65.000
SR	894.000	103.000	892.000	169.000	892.000	175.000	890.700	200.000	889.200	200.000
SR	888.200	201.500	887.200	202.500	889.200	204.000	890.700	207.000	893.900	229.000
GR	894.000	231.000	896.000	260.000	898.000	280.000	900.000	311.000	902.000	352.000
GR	904.000	373.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.045	.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	22492.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

VALLEY SECTION #52 SECT.AL

X1	23213.000	14.000	7[illegible]	92.000	715.000	715.000	715.000	0.000	0.000	0.000
GR	[illegible]	0.000	894.000	25.000	896.000	32.000	898.000	52.000	[illegible]	76.000
CR	892.000	81.000	890.000	84.000	891.100	87.000	892.400	92.000	892.000	100.000
GR	894.000	140.000	896.000	200.000	894.000	243.000	898.000	200.000	0.000	0.000
NC	.060	.045	.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #53 SECT.AM

X1	23390.000	13.000	175.000	192.000	180.000	186.000	180.000	0.000	0.000	0.000
GR	899.000	0.000	898.000	71.000	896.000	91.000	894.000	170.000	894.000	175.000
GR	891.400	112.000	891.400	135.000	891.400	135.000	893.000	192.000	894.000	250.000
GR	896.000	274.000	898.000	330.000	898.000	350.000	0.000	0.000	0.000	0.000
NC	.035	.085	.064	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALNUT LAKE ROAD CULVERT

X1	23400.000	0.000	0.000	0.000	70.000	70.000	70.000	0.000	-.100	0.000
SS	0.000	2.000	3.020	0.000	4.200	0.000	14.300	0.000	891.400	891.100

U/S FACE WALNUT LAKE ROAD CULVERT B.S. 854 SECT.AN

X1	23527.000	15.000	740.000	747.400	67.000	67.000	67.000	.690	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	.690	0.000
ST	11.000	575.000	899.500	0.000	740.000	890.900	892.600	740.500	892.900	893.400
ST	741.600	898.900	894.200	742.800	898.900	894.600	744.100	898.700	894.700	745.100
ST	898.900	894.600	746.300	898.900	894.200	747.300	898.900	893.400	747.900	898.900

BT	92.600	900.000	8..500	0.000	0.000	0.000	0.000	0.00 0	0.000	.000
GR	902.000	0.000	901.000	250.000	900.000	434.000	899.200	650.000	893.500	700.000
GR	892.600	740.000	891.500	750.000	891.000	741.600	891.400	742.500	891.400	744.100
GR	891.400	745.100	891.600	746.300	891.400	747.300	892.500	747.900	893.500	745.000
GR	899.200	835.000	900.000	1000.000	902.000	1105.000	0.000	0.000	0.000	0.000
NC	.030	.030	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	23839.000	14.000	285.000	302.000	250.000	300.500	312.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	95.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	892.000	70.000	896.000	100.000	896.000	250.000	895.100	285.000
GR	894.400	285.000	892.000	250.000	892.100	294.000	893.000	298.000	894.400	302.000
GR	895.100	302.000	895.100	400.000	896.500	415.000	910.000	415.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	23840.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	95.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	7.000	45.000	890.000	0.000	190.000	290.000	0.000	260.000	896.000	0.000
BT	235.000	295.100	894.500	302.000	895.100	894.500	400.000	896.000	0.000	415.000
BT	896.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE S.S. #06-A SECT.AA

X1	23843.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	95.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	23844.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	95.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24009.000	15.000	350.000	365.500	150.000	175.000	165.000	0.000	0.300	0.300
X3	0.000	1.000	0.000	130.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	912.000	70.000	896.000	170.000	896.000	220.000	895.000	250.000
GR	894.100	350.000	894.400	350.000	893.100	354.000	892.000	352.000	892.700	362.000
GR	892.600	365.500	895.500	365.500	896.000	390.000	896.000	422.000	910.000	422.000

D/S FACE WALKWAY BRIDGE

X1	24010.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	130.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	7.000	150.000	890.000	0.000	220.000	390.000	0.000	290.000	896.000	0.000
BT	350.000	896.100	895.600	365.500	895.500	895.000	390.000	896.000	0.000	422.000
BT	293.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE S.S. #06 SECT.AA

X1	24014.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	130.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24015.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	180.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24064.000	18.000	320.000	332.500	45.000	45.000	45.000	0.000	0.000	0.000
GR	900.000	0.000	906.000	25.000	904.000	41.000	902.000	80.000	900.000	150.000
GR	898.000	175.000	896.000	259.000	894.000	300.000	895.000	320.000	894.000	320.000
GR	892.900	322.000	891.800	326.000	842.300	329.000	894.800	332.500	895.800	332.500

G.	696.000	350.000	896.000	576.000	710.000	576.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	24065.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	12.000	0.000	969.000	0.000	25.000	905.000	0.000	41.000	904.000	0.000
BT	64.000	902.000	0.000	150.000	900.000	0.000	175.000	896.000	0.000	859.000
BT	694.000	0.000	300.000	894.000	0.000	320.000	895.800	895.000	332.500	895.240
BT	895.000	350.000	896.000	0.000	576.000	896.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE D.S. B&F SECT.AA

X1	24070.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X1	24071.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	24179.000	14.000	270.000	284.000	150.000	100.000	196.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	145.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	398.000	20.000	396.000	81.000	894.000	265.000	294.830	269.500
GR	895.200	270.000	892.900	270.000	291.700	277.000	293.000	232.000	294.300	234.000
GR	896.300	284.000	896.000	302.000	96.000	330.000	910.000	330.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	24140.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	145.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	7.000	145.000	895.300	0.000	205.000	89.000	0.000	294.500	294.800	0.000
BT	270.000	895.200	894.000	282.000	396.300	895.100	309.000	296.000	0.000	330.000
BT	896.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE D.S. AA SECT.A

X1	24185.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	145.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24186.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	145.000	0.000	0.000	0.000	0.000	0.000	0.000
MC	.020	.020	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	24339.000	15.000	440.000	445.000	295.000	150.000	155.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	330.000	0.000	550.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	391.000	150.000	396.500	440.000	395.500	440.000	391.500	440.000
GR	890.500	441.000	390.000	442.000	390.000	443.000	390.500	444.000	391.500	445.000
GR	893.500	445.000	896.300	445.000	396.500	545.000	397.100	645.000	395.000	270.000
GR	900.000	1092.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE DOHERTY ROAD BRIDGE

X1	24340.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	145.000	0.000	0.000	0.000	0.000	0.000	0.000
PT	9.000	430.000	97.300	0.000	441.000	295.300	395.500	441.000	195.300	394.500
BT	442.000	396.300	895.000	443.000	396.300	895.000	444.000	896.300	394.500	445.000
BT	396.300	895.500	545.300	896.500	0.000	550.000	645.500	0.000	0.000	0.000

D/S FACE DOMPEY ROAD BRIDGE B.S. 469 SECT.AS

X1	24380.000	10.000	440.000	445.000	80.000	40.000	20.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	330.000	0.000	550.000	0.000	0.000	0.000	0.000
DT	0.000	330.000	397.000	0.000	440.000	396.300	396.000	441.000	396.300	395.000
RT	442.000	396.300	395.500	443.000	396.300	395.500	444.000	396.300	395.000	445.000
LT	395.300	394.100	575.000	396.000	0.000	550.000	396.500	0.000	0.000	0.000
GR	900.000	0.000	396.300	140.000	397.300	540.000	396.300	440.000	394.000	440.000
GR	893.000	440.000	391.000	441.000	390.500	442.000	390.500	443.000	391.000	444.000
GR	892.000	445.000	894.000	445.000	896.200	445.000	895.500	545.000	896.500	550.000
GR	897.100	645.000	898.000	870.000	900.000	1092.000	0.000	0.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	24361.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	330.000	0.000	550.000	0.000	0.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #70 SECT.AT

X1	26455.000	14.000	436.000	453.000	74.000	74.000	74.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	250.000	0.000	515.000	0.000	0.000	0.000	0.000
GR	898.000	0.000	896.000	140.000	396.000	540.000	674.000	403.000	894.200	458.000
GR	895.500	440.000	892.500	445.000	893.300	450.000	894.100	453.000	894.000	465.000
GR	896.000	740.000	896.000	765.000	900.000	900.000	902.000	920.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	25350.000	12.000	125.000	134.000	800.000	900.000	895.000	0.000	0.000	0.000
GR	704.000	0.000	902.000	20.000	540.000	55.000	898.000	70.000	897.100	125.000
GR	895.400	147.000	895.400	152.000	896.100	137.000	897.100	139.000	896.000	190.000
GR	900.000	210.000	901.000	255.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #71 SECT.AU

X1	25709.000	10.000	466.000	474.000	570.000	700.000	696.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	896.000	60.000	898.200	600.000	896.500	462.000	896.500	467.000
GR	897.200	472.000	895.200	474.000	893.000	855.000	900.000	700.000	901.000	840.000

X1	25749.000	14.000	500.000	505.000	69.000	49.000	47.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	905.000	70.000	902.000	110.000	904.000	170.000	902.000	250.000
GR	900.000	380.000	899.200	460.000	900.000	585.000	895.000	580.000	897.400	537.000
GR	896.900	592.000	896.700	595.000	898.400	597.000	896.400	603.000	899.000	608.000
GR	898.200	705.000	899.000	908.000	900.000	920.000	900.000	1125.000	0.000	0.000
NC	.050	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SIDEWALK BRIDGE

X1	25751.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000
DT	17.000	0.000	910.000	0.000	70.000	900.000	0.000	110.000	900.000	0.000
DT	170.000	904.000	0.000	240.000	902.000	0.000	350.000	500.000	0.000	450.000
RT	899.200	0.000	580.000	900.000	899.000	587.000	899.900	898.900	592.000	599.000
RT	898.300	595.000	899.000	898.000	597.000	899.300	895.300	600.000	899.600	598.600
LT	702.000	599.200	0.000	905.000	899.300	0.000	520.000	700.000	0.000	1125.000
RT	900.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SIDEWALK BRIDGE B.S. #72 SECT.AV

X1	25759.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
X1	25760.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	901.000	0.000	0.000	0.000	0.000
YC	.055	.055	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE ORCHARD LAKE ROAD BRIDGE

X1	25780.000	10.000	460.000	474.000	20.000	20.000	20.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	220.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	50.000	896.200	0.000	898.000	462.000	894.000	467.000
GR	897.200	472.000	898.200	474.000	898.000	855.000	900.000	700.000	901.000	840.000
SD	0.000	1.950	3.020	0.000	6.200	0.000	19.250	0.000	856.000	896.000

U/S FACE ORCHARD LAKE ROAD BRIDGE 8.5. 775 SECT.AK

X1	25522.000	17.000	615.000	621.000	42.000	42.000	42.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	899.100	902.500	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	430.000	0.000	960.000	0.000	902.500	902.500	0.000
BT	7.000	430.000	902.500	0.000	465.000	902.000	0.000	615.000	902.500	899.100
BT	615.000	902.500	899.500	621.000	902.500	899.100	621.000	902.500	896.100	940.100
BT	902.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	906.000	85.000	906.000	760.000	904.000	520.000	912.500	830.000
GR	902.000	465.000	902.500	590.000	896.500	615.000	896.100	617.000	896.000	621.000
GR	902.500	546.000	902.300	940.000	902.000	1250.000	902.000	1410.000	906.000	1462.000
GR	908.000	1523.000	910.000	1550.000	0.000	0.000	0.000	0.000	0.000	0.000
YC	.065	.070	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #74 SECT.AK

X1	25700.000	15.000	330.000	342.000	20.000	20.000	17.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	20.000	906.000	50.000	904.000	70.000	902.000	105.000
GR	901.200	320.000	900.400	332.000	900.000	320.000	899.700	334.000	901.200	342.000
GR	902.000	475.000	904.000	480.000	906.000	895.000	903.000	505.000	909.200	525.000
X1	25900.000	15.000	290.000	302.000	150.000	220.000	200.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	135.000	0.000	262.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	900.000	25.000	908.000	50.000	904.000	30.000	902.000	190.000
GR	902.000	290.000	901.200	292.000	900.000	295.000	900.500	299.000	902.000	302.000
GR	902.000	450.000	902.000	575.000	904.000	615.000	906.000	550.000	908.000	865.000
GR	910.000	885.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	27000.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.000	0.000
X3	0.000	0.000	0.000	122.000	0.000	379.000	0.000	0.000	0.000	0.000
X1	27050.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	.000	0.000
X3	0.000	0.000	0.000	154.000	0.000	385.000	0.000	0.000	0.000	0.000
X1	27075.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.100	0.000
X3	0.000	0.000	0.000	100.000	0.000	405.000	0.000	0.000	0.000	0.000
X1	27099.000	14.000	260.000	272.000	17.000	17.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	160.000	0.000	372.000	0.000	0.000	0.000	0.000
GR	915.000	0.000	905.200	79.000	904.800	90.000	905.000	171.000	902.000	250.000
GR	901.500	262.000	901.200	269.000	902.300	272.000	902.000	305.000	903.000	340.000

GR	905.800	440.000	915.500	502.000	907.900	531.000	914.000	600.000	0.000	0.000
X1	27250.000	15.000	215.000	227.000	162.000	162.000	162.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	343.000	0.000	0.000	0.000	0.000
GR	920.000	0.000	910.000	70.000	905.000	100.000	910.000	150.000	904.000	210.000
GR	902.300	215.000	902.500	217.000	902.100	221.000	911.800	224.000	903.300	227.000
GR	904.000	240.000	906.000	250.000	902.000	400.000	910.000	450.000	912.000	495.000
GR	920.000	550.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	27410.000	20.000	260.000	272.000	225.000	75.000	180.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	224.000	0.000	221.000	0.000	0.000	0.000	0.000
GR	920.000	0.000	913.000	10.000	916.000	20.000	914.000	50.000	912.000	80.000
GR	910.000	70.000	908.000	100.000	915.000	250.000	903.900	260.000	905.100	302.000
GR	902.700	256.000	902.500	269.000	903.500	272.000	905.000	325.000	906.000	435.000
GR	910.000	465.000	912.000	550.000	914.000	580.000	916.000	575.000	917.000	600.000
X1	27440.000	0.000	0.000	0.000	40.000	20.000	30.000	0.000	.100	0.000
X3	0.000	0.000	0.000	222.000	0.000	311.000	0.000	0.000	0.000	0.000
X1	27470.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	.100	0.000
X3	0.000	0.000	0.000	229.000	0.000	303.000	0.000	0.000	0.000	0.000
X1	27500.000	0.000	0.000	0.000	20.000	50.000	50.000	0.000	.200	0.000
X3	0.000	0.000	0.000	228.000	0.000	287.000	0.000	0.000	0.000	0.000
NC	.030	.030	.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	27510.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	231.000	0.000	285.000	0.000	0.000	0.000	0.000
GR	1.030	1.700	2.170	0.000	2.510	1.700	13.300	0.000	902.500	916.500

U/S FACE PRIVATE BRIDGE H.S. D/S SECT.AY

X1	27532.000	19.000	330.000	334.000	22.000	22.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	908.900	909.900	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	305.000	0.000	354.000	0.000	909.900	909.900	0.000
GT	12.000	305.000	909.900	0.000	330.000	909.900	902.800	330.000	909.900	905.800
GT	330.400	909.900	906.200	331.000	909.900	906.600	331.000	909.900	906.600	332.200
GT	909.900	906.800	333.000	909.900	906.600	333.600	909.900	906.200	334.000	909.900
GT	905.800	334.000	909.900	902.600	359.000	910.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	914.000	100.000	912.000	150.000	910.000	200.000	909.900	940.000
GR	907.800	330.000	902.600	330.400	902.200	331.000	902.300	331.900	902.300	332.200
GR	902.800	333.000	902.700	333.000	902.700	334.000	910.000	354.000	910.000	400.000
GR	912.000	400.000	912.000	540.000	914.000	561.000	916.000	565.000	0.000	0.000
NC	.030	.042	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION D/S SECT.AZ

X1	27590.000	9.000	9.000	19.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	920.000	0.000	908.200	0.000	906.500	9.000	905.400	10.000	904.700	13.000
GR	905.500	15.000	907.100	19.000	909.100	25.000	920.000	25.000	0.000	0.000
NC	.040	.040	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE GREEN ROAD CULVERT

X1	27640.000	16.000	270.000	276.000	50.000	50.000	50.000	0.000	0.000	0.000

GR	914.000	0.000	912.500	70.000	911.300	170.000	912.300	250.000	906.800	270.000
GR	905.300	270.000	904.500	271.000	903.400	272.000	903.600	274.000	904.300	275.000
GR	905.800	275.000	906.800	276.000	912.200	295.000	914.000	355.000	916.000	444.000
GR	916.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	3.000	3.020	0.000	4.700	3.000	25.300	0.000	904.700	904.700

U/S FACE SPUR ROAD CULVERT R.S. 477 SECT.3A

X1	27732.000	16.000	270.000	276.000	92.000	92.000	92.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	910.700	912.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	200.000	0.000	0.000	0.000	912.000	912.000	0.000
ST	10.000	200.000	912.000	0.000	670.000	912.400	907.700	271.000	913.400	910.200
ST	272.000	912.400	910.700	274.000	912.400	910.700	275.000	912.400	910.200	276.000
ST	912.400	907.700	355.000	914.000	0.000	444.000	916.000	0.000	650.000	916.000
ST	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	914.000	0.000	912.800	70.000	911.600	170.000	912.300	250.000	907.700	270.000
GR	906.700	270.000	905.200	271.000	904.700	272.000	904.700	274.000	905.200	275.000
GR	905.700	276.000	907.700	276.000	912.300	295.000	914.000	355.000	916.000	444.000
GR	916.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MC	.035	.033	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DT	4.000	65.000	67.000	123.000	164.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION R7F SECT.6B

X1	28110.000	7.000	12.000	17.000	32.000	32.000	32.000	0.000	0.000	0.000
GR	914.700	0.000	907.000	12.000	907.000	14.000	907.300	16.000	911.600	27.000
GR	912.500	34.000	920.000	34.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28135.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.000	0.000
X3	0.000	0.000	0.000	10.000	0.000	20.000	0.000	0.000	0.000	0.000
X1	28147.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.000	0.000
X3	0.000	0.000	0.000	10.000	0.000	20.000	0.000	0.000	0.000	0.000
X1	28159.000	15.000	200.000	206.000	12.000	12.000	12.000	0.000	0.000	0.000
GR	924.000	0.000	922.000	57.000	920.000	120.000	918.700	200.000	911.600	200.000
GR	910.600	200.000	909.100	201.000	908.600	202.000	908.600	204.000	909.100	205.000
GR	910.600	205.000	911.600	206.000	918.700	395.000	918.000	250.000	915.000	395.000
NC	.020	.020	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE DOMINION DRIVE CULVERT

X1	28220.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
DT	11.000	0.000	926.000	0.000	57.000	922.000	0.000	120.000	920.000	0.000
BT	200.000	918.700	911.600	201.000	912.700	914.100	202.000	912.700	914.600	204.000
DT	918.700	914.600	205.000	916.700	914.100	206.000	916.700	911.600	250.000	914.000
DT	0.000	395.000	914.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE DOMINION DRIVE CULVERT R.S. 479 SECT.3C

X1	28275.000	15.000	200.000	206.000	115.000	115.000	115.000	0.000	0.000	0.000
DT	11.000	0.000	926.000	0.000	57.000	922.000	0.000	120.000	920.000	0.000
BT	200.000	918.700	912.700	201.000	912.700	915.200	202.000	913.700	915.700	204.000
DT	918.700	915.700	205.000	916.700	915.200	206.000	918.700	912.700	250.000	913.000
ST	0.000	395.000	914.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	924.000	0.000	922.000	57.000	920.000	120.000	918.700	200.000	912.700	200.000
GR	911.700	200.000	910.200	201.000	909.700	202.000	909.700	204.000	910.200	205.000
GR	911.700	205.000	912.700	206.000	918.700	206.000	918.000	250.000	914.000	395.000
NC	.050	.040	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	28270.000	3.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.030	.040	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #30 SECTION

X1	28310.000	7.000	27.000	70.000	34.000	34.000	34.000	0.000	0.000	0.000
GR	920.400	0.000	916.400	27.000	909.900	38.000	909.900	41.000	910.300	63.000
GR	911.500	52.000	918.600	70.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.033	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28339.000	7.000	35.000	70.000	50.000	110.000	50.000	0.000	0.000	0.000
GR	920.800	0.000	916.000	35.000	910.400	45.000	910.900	55.000	917.800	70.000
GR	913.500	58.000	921.000	98.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28462.000	8.000	42.000	71.000	50.000	68.000	50.000	0.000	0.000	0.000
GR	921.000	0.000	915.700	42.000	911.000	50.000	912.300	50.000	917.000	71.000
GR	918.100	100.000	919.100	104.000	923.200	124.000	0.000	0.000	0.000	0.000
X1	28525.000	7.000	50.000	72.000	43.000	43.000	43.000	0.000	0.000	0.000
GR	921.500	0.000	915.000	50.000	911.300	55.000	915.500	72.000	916.000	112.000
GR	919.400	141.000	925.000	144.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28568.000	6.000	51.000	71.000	43.000	43.000	43.000	0.000	0.000	0.000
GR	921.500	0.000	915.000	51.000	911.500	55.000	916.700	71.000	918.000	119.000
GR	925.900	150.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.040	.036	.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #31 SECTION

X1	28555.000	13.000	41.000	74.000	100.000	83.000	74.000	0.000	0.000	0.000
GR	922.000	0.000	920.000	13.000	912.000	55.000	916.000	50.000	914.100	90.000
GR	912.200	61.000	912.100	63.000	912.900	55.000	915.500	74.000	916.500	130.000
GR	918.000	131.000	920.000	145.000	928.000	175.000	0.000	0.000	0.000	0.000
X1	28665.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	43.000	0.000	92.000	0.000	0.000	0.000	0.000
X1	28675.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.300	0.000
X3	0.000	0.000	0.000	45.000	0.000	89.000	0.000	0.000	0.000	0.000
X1	28685.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	48.000	0.000	87.000	0.000	0.000	0.000	0.000
X1	28695.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	50.000	0.000	84.000	0.000	0.000	0.000	0.000
X1	28705.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.300	0.000
X3	0.000	0.000	0.000	53.000	0.000	82.000	0.000	0.000	0.000	0.000
X1	28715.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	55.000	0.000	79.000	0.000	0.000	0.000	0.000

X1	28727.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.300	0.000
X3	0.000	0.000	0.000	58.000	0.000	73.000	0.000	0.000	0.000	0.000
X1	28739.000	22.000	90.000	114.000	12.000	12.000	12.000	0.000	0.000	0.000
GR	926.000	0.000	924.000	5.000	922.000	20.000	920.000	35.000	918.000	55.000
GR	918.200	90.000	917.200	90.000	916.300	94.000	915.300	96.000	914.300	98.000
GR	914.100	100.000	914.400	102.000	917.300	105.000	917.400	106.000	917.900	114.000
GR	918.700	114.000	921.500	156.000	922.000	165.000	924.000	182.000	925.000	190.000
GR	928.000	200.000	930.000	215.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.045	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	28740.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	16.000	0.000	926.000	0.000	9.000	924.000	0.000	20.000	922.000	0.000
BT	35.000	920.000	0.000	55.000	918.000	1.000	90.000	918.200	917.400	96.000
BT	919.900	919.100	102.000	920.600	919.800	106.000	920.200	919.400	114.000	918.700
BT	917.900	156.000	921.500	0.000	165.000	922.000	0.000	182.000	924.000	0.000
BT	190.000	925.000	0.000	200.000	928.000	0.000	215.000	930.000	0.000	0.000

U/S FACE PRIVATE BRIDGE U.S. #82 [illegible]

X1	28746.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.037	.037	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28747.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	28747.000	13.000	60.000	74.000	100.000	100.000	100.000	0.000	2.800	0.000
GR	923.000	0.000	920.000	15.000	915.000	35.000	916.000	50.000	914.100	60.000
GR	912.200	61.000	912.100	33.000	912.000	55.000	915.500	74.000	916.300	100.000
GR	918.000	131.000	920.000	145.000	928.000	175.000	0.000	0.000	0.000	0.000
X1	28947.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.800	0.000
X1	29047.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.700	0.000
X1	29083.000	0.000	0.000	0.000	36.000	36.000	36.000	0.000	.300	0.000
X1	29119.000	0.000	0.000	0.000	36.000	36.000	36.000	0.000	.200	0.000
X1	29131.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.100	0.000
X3	0.000	0.000	0.000	58.000	0.000	73.000	0.000	0.000	0.000	0.000
X1	29143.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.100	0.000
X3	0.000	0.000	0.000	60.000	0.000	72.000	0.000	0.000	0.000	0.000
X1	29147.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	51.000	0.000	70.000	0.000	0.000	0.000	0.000
GT	4.000	29.000	38.000	51.000	57.000	0.000	5.000	0.000	0.000	0.000
X1	29154.000	19.000	265.000	271.000	5.000	5.000	5.000	0.000	0.000	0.000

GR	•[illegible]	0.000	[illegible]	•0.000	[illegible]	105.000	[illegible]	[illegible]	[illegible]	[illegible]
GR	922.600	265.000	920.700	265.000	919.300	265.000	917.600	266.000	917.300	267.000
GR	917.300	269.000	917.800	270.000	919.300	271.000	920.300	271.000	928.300	271.000
GR	930.000	410.000	932.000	496.000	934.000	550.000	936.000	582.000	0.000	0.000
NC	•020	•020	•033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE HARDWOODS DRIVE CULVERT

X1	29155.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
PT	15.000	0.000	938.000	0.000	50.000	936.000	0.000	105.000	934.000	0.000
PT	145.000	932.000	0.000	200.000	930.000	0.000	265.000	928.300	920.300	266.000
PT	928.800	922.000	267.000	928.800	923.300	269.000	928.800	923.300	270.000	928.800
PT	922.800	271.000	928.800	920.700	410.000	930.000	0.000	496.000	932.000	0.000
PT	551.000	934.000	0.000	582.000	930.000	0.000	0.000	0.000	0.000	0.000

U/S FACE HARDWOODS DRIVE CULVERT U.S. 813 SECT.90

X1	29281.000	17.000	265.000	271.000	1[illegible]	12[illegible]	12[illegible]	0.000	0.000	0.000
PT	15.000	0.000	938.000	0.000	50.000	936.000	0.000	105.000	934.000	0.000
PT	145.000	932.000	0.000	200.000	930.000	0.000	265.000	928.300	921.100	266.000
PT	928.800	923.600	267.000	923.800	924.100	269.000	928.000	924.100	270.000	928.800
PT	923.600	271.000	928.800	921.100	410.000	930.000	0.000	496.000	932.000	0.000
PT	550.000	934.000	0.000	582.000	930.000	0.000	0.000	0.000	0.000	0.000
GR	938.000	0.000	936.000	50.000	934.000	105.000	932.000	145.000	930.000	200.000
GR	932.000	265.000	921.100	265.000	920.100	265.000	918.600	266.000	918.100	267.000
GR	918.100	269.000	918.600	270.000	920.100	271.000	921.100	271.000	928.800	271.000
GR	930.000	410.000	932.000	496.000	934.000	550.000	936.000	582.000	0.000	0.000
NC	•055	•070	•045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	29282.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	•055	•070	•045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 934 SECT.[illegible]

X1	29300.000	6.000	8.000	50.000	18.000	18.000	18.000	0.000	0.000	0.000
GR	929.600	0.000	928.600	8.000	919.100	25.000	918.500	27.000	919.300	30.000
GR	929.500	50.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	29392.000	0.000	0.000	0.000	92.000	92.000	92.000	0.000	.500	0.000

X1	29484.000	0.000	0.000	0.000	92.000	92.000	92.000	0.000	.500	0.000

X1	29571.000	0.000	0.000	0.000	92.000	92.000	92.000	0.000	.500	0.000

X1	29669.000	17.000	33.000	35.000	93.000	95.000	95.000	0.000	0.000	0.000
GR	935.000	0.000	925.100	0.000	923.500	25.000	922.200	33.000	921.300	33.000
SE	920.600	34.000	921.300	35.000	922.201	95.000	923.300	45.000	924.010	50.000
GR	925.000	50.000	928.000	95.000	930.000	210.000	932.000	225.000	934.000	250.000
GR	936.000	265.000	937.700	300.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	•055	•070	•045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	29670.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SE	0.000	2.210	2.300	0.100	1.570	0.000	3.140	0.000	920.600	920.600

D/S FACE PRIVATE BRIDGE U.S. 883 SECT.31

X1	29689.000	17.000	33.000	35.000	19.000	19.000	19.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	922.500	923.000	0.000	0.000	0.000	0.000	0.000
LT	12.000	0.000	925.100	0.000	33.000	923.000	922.200	34.000	923.000	922.600
RT	35.000	923.000	922.200	60.000	924.000	0.000	80.000	926.000	0.000	95.000
RT	925.000	0.000	200.000	950.000	0.000	225.000	932.000	0.000	250.000	934.000
LT	0.000	265.000	936.000	0.000	300.000	937.700	0.000	0.000	0.000	0.000
GR	935.000	0.000	925.100	0.000	924.000	12.000	922.200	33.000	921.000	33.000
GR	920.600	34.000	921.000	35.000	922.200	35.000	923.000	50.000	924.000	60.000
GR	926.000	80.000	923.000	95.000	930.000	200.000	932.000	225.000	934.000	250.000
GR	936.000	265.000	937.700	300.000	0.000	0.000	0.000	0.000	0.000	0.000
MC	.035	.038	.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	29690.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
CT	6.000	9.000	15.000	17.000	21.000	0.000	0.000	0.000	0.000	0.000
MC	.035	.035	.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	29860.000	0.000	0.000	0.000	170.000	170.000	170.000	0.000	.500	0.000
X3	0.000	0.000	0.000	22.000	0.000	47.000	0.000	0.000	0.000	0.000
SP	0.000	1.750	2.670	0.000	1.570	0.000	1.140	0.000	921.100	921.100

D/S FACE PRIVATE BRIDGE U.S. 826 SECT.33

X1	29876.000	14.000	65.000	67.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	923.100	924.500	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	15.000	0.000	924.500	924.500	0.000
RT	0.000	0.000	924.000	0.000	56.100	922.000	0.000	65.000	924.900	922.700
LT	66.000	924.900	923.100	67.000	924.900	922.700	100.000	924.500	0.000	0.000
GR	920.000	0.000	926.000	56.000	925.500	66.000	922.700	65.000	921.500	65.000
GR	921.100	66.000	921.500	67.000	922.700	67.000	924.900	72.000	924.500	215.000
CR	924.800	215.000	924.000	315.000	924.000	525.000	930.700	965.000	0.000	0.000
MC	.045	.045	.029	0.000	0.000	1.000	0.000	0.000	0.000	0.000

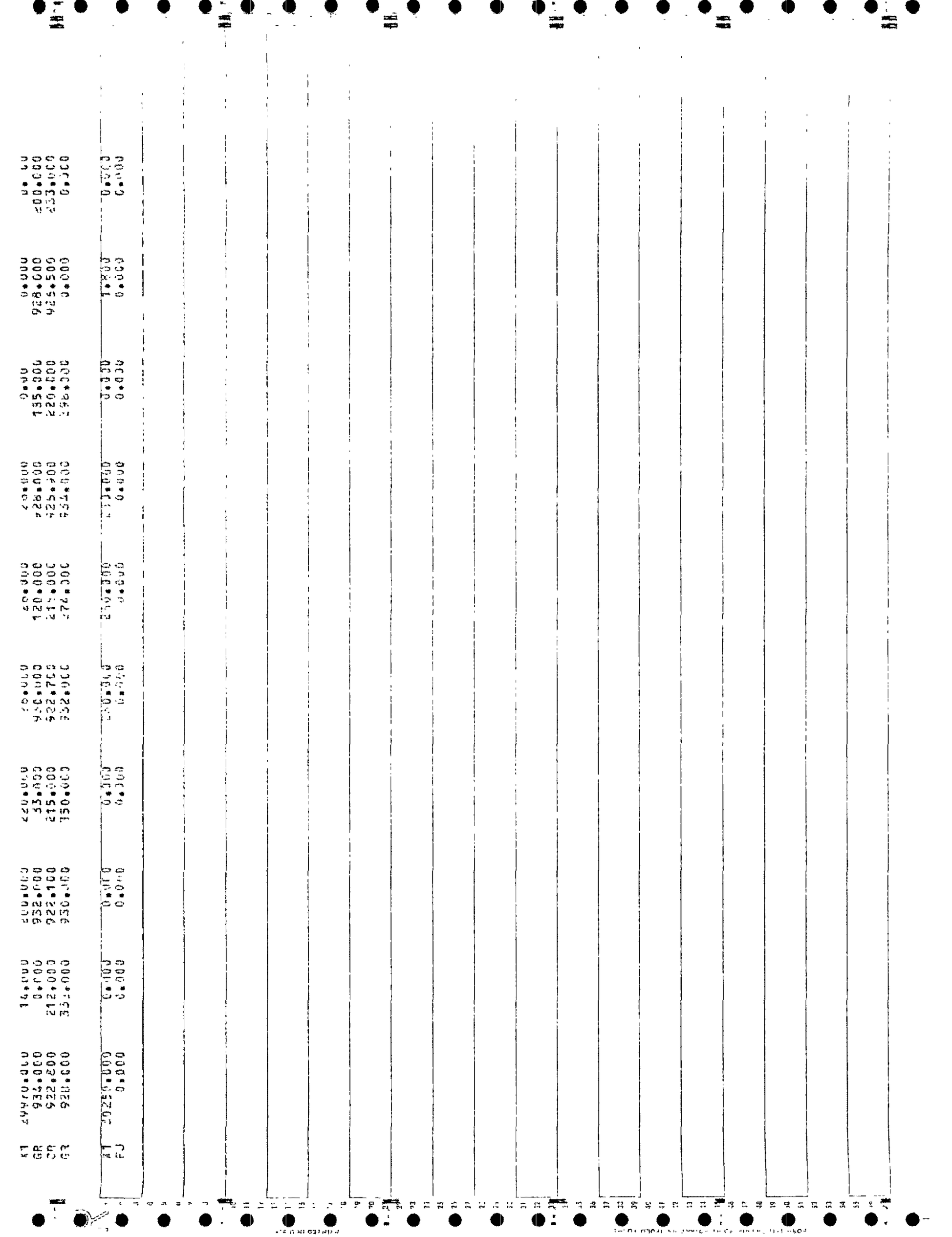
D/S FACE LOCKHART DRIVE CULVERT

X1	29920.000	20.000	230.000	233.000	24.000	24.000	24.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	925.500	925.500	0.000
GR	934.000	0.000	932.000	70.000	930.000	85.000	928.000	150.000	926.710	210.000
GR	923.000	230.000	922.600	250.500	922.500	250.700	922.400	251.500	922.400	251.500
GR	922.400	251.700	922.500	252.300	922.600	252.700	925.000	253.000	926.600	253.000
GR	928.000	320.000	930.000	375.000	932.000	405.000	931.000	430.000	936.000	460.000
SP	0.000	3.300	2.000	0.000	2.200	0.000	3.900	0.000	922.400	922.400

D/S FACE LOCKHART DRIVE CULVERT U.S. 787 SECT.JK

X1	29944.000	0.000	0.000	0.000	24.000	24.000	24.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	924.200	924.200	1.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	220.000	0.000	0.000	0.000	926.200	926.200	0.000
LT	15.000	221.000	926.500	0.000	250.000	926.200	925.000	230.500	925.200	574.500
RT	250.700	926.200	924.000	231.300	926.200	924.200	231.500	926.200	924.200	231.700
RT	926.200	924.200	232.300	926.200	924.000	232.700	924.200	923.500	253.000	926.200
RT	923.000	320.000	926.000	0.000	375.000	930.000	0.500	405.000	932.000	0.000
RT	420.000	934.000	0.000	450.000	936.000	0.000	0.000	0.000	0.000	0.000
MC	.056	.052	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #63 SECT.3L



*PROF 1

CCHV= .300 CEHV= .500
*SECNO .000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	FV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	XNCST
			VALLEY SECTION 419			SECT.A			
0.00	6.82	799.72	0.00	799.72	800.15	.41	0.00	0.00	796.00
1310.	29.	1196.	94.	14.	224.	89.	3.	0.	795.40
0.00	2.15	5.35	1.22	.050	.040	.040	0.000	792.90	570.56
.001693	0.	0.	0.	0	0	0	0.00	77.37	447.93

*SECNO 520.000

			VALLEY SECTION 417			SECT.B			
520.00	7.21	801.01	0.00	0.00	801.75	.73	1.64	.10	797.30
1310.	146.	1061.	103.	64.	141.	46.	3.	1.	795.20
.02	2.29	7.52	2.14	.070	.040	.065	.040	793.70	107.40
.006141	520.	520.	520.	2	0	0	0.00	95.15	200.56

*SECNO 1325.000

1325.00	3.25	803.75	0.00	0.00	804.19	.44	2.36	.09	799.10
1310.	323.	970.	3.	159.	165.	7.	9.	3.	800.30
.07	3.03	6.11	1.29	.070	.040	.065	.040	795.50	197.54
.002127	305.	305.	305.	2	0	0	0.00	89.21	245.75

*SECNO 2790.000

			VALLEY SECTION 415			SECT.C			
2790.00	7.22	806.12	0.00	0.00	806.21	.09	1.02	.10	802.80
1310.	86.	397.	826.	30.	116.	479.	25.	7.	301.00
.25	2.30	3.37	1.75	.030	.042	.060	.041	796.90	56.19
.000873	1465.	1465.	1465.	4	0	0	0.00	192.01	244.24

*SECNO 3310.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	FV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	XNCST

3670 ENCROACHMENT STATIONS= 115.0 670.0 TYPE= 1 TARGET= -115.000

3310.00	5.93	806.43	0.00	0.00	806.50	.07	.29	.01	802.00
1310.	272.	395.	653.	140.	125.	479.	25.	9.	302.00
.29	1.96	3.09	1.36	.030	.042	.060	.044	800.50	134.63
.000120	520.	520.	520.	2	0	0	0.00	307.52	442.15

*SECNO 3370.000

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 3370.00     5.73   806.43     0.00     0.00   806.54      .21      .37      .07   802.90
   1310.     412.     567.     331.     136.     120.     164.      30.      10.   802.20
     .30     3.02     4.75     1.97     .080     .042     .060     .043   800.70   142.48
 .002071      50.      60.      60.        2        0        0     0.00   224.27   365.75

*SECNO 3430.000
 3430.00     5.63   806.43     0.00     0.00   807.03      .55      .21      .17   803.90
   1310.     229.     825.     255.     126.     115.      77.      31.      10.   802.40
     .30     1.62     7.20     3.32     .080     .050     .070     .044   806.80   147.12
 .007290      60.      60.      60.        2        0        0     0.00   196.65   343.77

*SECNO 3490.000
 3490.00     5.05   807.05     0.00     0.00   807.44      .40      .37      .05   804.80
   1310.     369.     771.     170.     227.     121.      55.      31.      10.   802.60
     .30     1.63     6.34     3.10     .080     .050     .070     .044   801.00    95.48
 .005362      60.      60.      60.        3        0        0     0.00   244.60   340.09

*SECNO 3550.000

                    VALLEY SECTION #19                          SECT.D

 3550.00     5.36   807.56     0.00     0.00   807.77      .21      .27      .06   805.80
   1310.     556.     754.       0.     345.     162.       0.      32.      10.   806.00
     .21     1.61     4.64     0.00     .080     .050     .070     .044   801.20    94.33
 .003904      60.      60.      60.        2        0        0     0.00   256.23   348.55

*SECNO 3885.000
   SECNO     DEPTH     CWSEL     CRIVS     WSELK     FG        HV        HL        OLOSS    BANK ELEV
   0         OLOU      OCH       OROS      ALOT      ACH       AROS      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       XTL       XLIN      SSTA
   SLOPE     XLOWL     XLCH      XLOSR     ITRIAL    ISC       ICONT     CORAR     TOPWID    LNDST

 3885.00     6.04   808.14     0.00     0.00   809.20      .27     1.65      .0    806.00
   1310.     505.     751.      54.     293.     121.      26.      33.      12.   804.60
     .33     1.73     6.23     1.91     .080     .045     .060     .044   802.80   146.29
 .004156     335.     335.     335.        2        0        0     0.00   226.04   376.33

*SECNO 4310.000
 4310.00     5.72   810.82     0.00     0.00   810.90      .28     1.69      .02   803.00
   1310.     282.     655.     372.     183.     115.     168.      40.      15.   805.80
     .36     1.54     5.72     2.21     .080     .045     .080     .044   804.90    64.50
 .003760     425.     425.     425.        2        0        0     0.00   217.05   231.55

*SECNO 4630.000
 4630.00     5.68   812.08     0.00     0.00   812.82      .74     1.69      .23   810.00
   1310.     255.     911.     145.     146.     112.      46.      43.      16.   808.40
     .30     1.74     8.12     3.11     .080     .045     .060     .044   806.40    18.34
 .007921     320.     320.     320.        2        0        0     0.00   179.49   197.83

*SECNO 5200.000

3470 ENCROACHMENT STATIONS=      320.0      364.0  TYPE=      1  TARGET=      44.000
 5200.00     6.07   815.27     0.00     0.00   815.53      .27     2.57      .14   812.00
    660.      30.     553.      77.      23.     124.      44.      46.      17.   810.90
     .42     1.32     4.47     1.75     .080     .045     .060     .044   809.20   320.00
 .002042     570.     570.     570.        2        0        0     0.00    44.00   364.00
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*SECNO 5225.000

3470 ENCROACHMENT STATIONS=      326.0      357.0  TYPE=      1  TARGET=       31.000
  5225.00      5.97    815.27      0.00      0.00    815.55       .36       .06       .05    812.10
     660.       15.      619.       26.       11.      122.       17.       46.       17.    811.00
      .42      1.39      5.09      1.57      .080      .045      .080      .044    809.30    326.00
  .002716       25.       25.       25.         2         0         0      0.00     31.00    357.00

*SECNO 5230.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   0         QLOB      QCH       QROB      ALOB      AC        ARCB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID     UNDST

3470 ENCROACHMENT STATIONS=      329.0      354.0  TYPE=      1  TARGET=       25.000
  5232.00      5.97    815.27      0.00      0.00    815.72       .44       .04       .03    812.10
     660.        3.      654.        4.        3.      122.        4.       46.       17.    811.00
      .42       .36      5.37       .39      .080      .045      .080      .044    809.30    329.00
  .003022       13.       13.       13.         2         0         0      0.00     25.00    354.00

*SECNO 5250.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      815.50 ELREA=      815.50

                 D/S FACE TEN HILL DRIVE CULVERT

  5250.00      5.74    815.14      0.00      0.00    815.39       .75       .02       .15    811.00
     660.        0.      660.        0.        0.       95.        0.       46.       17.    810.90
      .42      0.00      6.95      0.00      .025      .018      .025      .044    809.40    190.00
  .001259       12.       12.       12.         2         0         0      0.00     19.00    209.00

SPECIAL BRIDGE

SD  XK        XKOR      COFQ      RDLEX     DWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      1.39      2.84      0.00      11.50     0.00      58.90     0.00      809.40    809.40

*SECNO 5278.000
PRESSURE FLOW

 EGPRS      EGLWC      M3        QWEIR      QPR       BAREA    TRAPEZOID      ELLC      ELTRD
                                                                AREA
  817.85    815.89      0.00        0.       660.       59.       59.       814.50    818.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      818.00 ELREA=      818.00

                 U/S FACE TEN HILL DRIVE CULVERT F.S. M20          ACCT.F

  5278.00      8.11    817.31      0.00      0.00    817.85       .35      1.95      0.00    811.00
     660.        0.      660.        0.        0.      140.        0.       46.       17.    810.90
      .42      0.00      4.72      0.00      .025      .018      .025      .044    809.40    190.00
  .000581       21.       28.       28.         2         0         0      0.00     19.00    209.00

*SECNO 5300.000
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3470 EXTRADOS STATIONS= 100.0 251.0 ITYP= 1 TARGET= 65.000

VALLEY SECTION 621 SECT.F

5300.00	7.47	817.77	0.00	0.00	817.92	.15	.01	.06	815.63
660.	45.	424.	191.	41.	195.	98.	46.	17.	813.00
.42	1.10	3.09	1.95	.070	.045	.070	.044	310.20	168.08
.001290	22.	22.	22.	2	0	0	0.00	63.00	231.00

*SECNO 6170.000

6170.00	4.99	819.59	0.00	0.00	820.05	.37	2.03	.11	818.00
660.	189.	437.	34.	132.	74.	20.	51.	20.	817.40
.48	1.39	5.89	1.70	.070	.045	.070	.044	314.70	88.88
.005305	870.	870.	870.	4	0	0	0.00	196.72	285.59

*SECNO 6669.000

SPCVO	DEPTH	DWSEL	CRITW	WSELK		HV	EL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	XTW	FLPIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	SMDAT
6669.00	5.77	822.97	0.00	0.00	823.39	.42	3.31	.03	821.40
660.	76.	352.	232.	47.	5 .	94.	54.	22.	821.10
.51	1.64	6.58	2.41	.070	.045	.070	.044	317.20	90.59
.000302	499.	499.	499.	3	0	0	0.00	165.01	233.40

*SECNO 6670.000

3370 NORMAL BRIDGE,NRD= 15 MIN SLTRD= 821.10 MAX SLLC= 820.10

D/S FACE PRIVATE BRIDGE

5570.00	5.77	822.97	0.00	0.00	823.41	.45	.01	.01	821.40
660.	94.	420.	246.	47.	44.	94.	54.	22.	821.10
.51	1.59	7.19	2.93	.070	.025	.070	.044	317.20	90.02
.012280	1.	1.	1.	0	0	0	-13.65	143.40	233.42

*SECNO 6[illegible] 0.000

3370 NORMAL BRIDGE,NRD= 15 MIN SLTRD= 821.10 MAX SLLC= 820.10

U/S FACE PRIVATE BRIDGE B.S. 822 SECT.G

6560.00	5.11	822.31	0.00	0.00	823.58	.65	.04	.06	821.40
660.	124.	272.	265.	73.	49.	105.	54.	22.	821.10
.51	1.69	5.66	2.51	.070	.025	.070	.044	317.20	72.14
.006897	10.	10.	10.	3	0	0	-13.65	162.45	234.58

*SECNO 6681.000

6681.00	5.95	823.15	0.00	0.00	823.72	.59	.01	.17	821.40
660.	54.	446.	160.	60.	60.	95.	54.	22.	821.10
.51	.91	7.44	1.68	.100	.030	.030	.044	317.20	80.71
.004545	1.	1.	1.	2	1	0	0.00	153.32	234.03

*SECNO 6700.000

VALLEY SECTION 623 SECT.G

6700.00	6.37	823.57	0.00	0.00	823.37	.30	.04	.09	822.50
660.	16.	622.	22.	48.	139.	27.	54.	22.	821.60
.51	.34	4.49	.79	.100	.030	.080	.044	817.20	75.39
.001166	19.	19.	19.	2	1	0	0.00	141.43	216.82

*SECNO 6736.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EC	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XWL	XNCH	XNR	WTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

6736.00	6.47	823.67	0.00	0.00	823.72	.26	.05	.01	822.50
660.	28.	600.	32.	57.	141.	29.	54.	22.	821.60
.51	.48	4.25	1.09	.080	.035	.065	.044	817.20	67.21
.001377	36.	36.	36.	0	0	0	0.00	150.55	217.55

SPECIAL BRIDGE

SB XK	XKOR	COFC	RDLEW	BWC	BWP	BAREA	SS	ELCHU	ELCHD
0.00	1.00	3.44	0.00	.01	0.00	.01	0.00	817.20	817.20

*SECNO 6737.000
PRESSURE AND WEIR FLOW

[illegible] may be little high, but is of little significance; weir length 2212 ft, not all of which is strong crested.

FSPRS	ESLWC	HS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
*********	823.72	0.00	660.	0.	0.	-0.	0.00	822.50

PRIVATE DAM DAM SECTION #23-A SECT.I

6737.00	10.01	827.21	0.00	0.00	827.22	.01	5.25	0.00	817.20
660.	313.	147.	200.	707.	110.	376.	54.	22.	817.20
.51	.44	1.34	.53	.080	.035	.065	.044	817.20	14.30
.000046	1.	1.	1.	0	0	10	0.00	215.35	230.23

*SECNO 6990.000

3265 DIVIDED FLOW

VALLEY SECTION #24 SECT.J

6990.00	5.62	827.22	0.00	0.00	827.25	.03	.02	.01	825.70
660.	0.	660.	0.	0.	497.	0.	59.	25.	827.20
.56	.00	1.33	.00	.090	.030	.070	.043	821.60	64.08
.000132	253.	253.	253.	0	0	0	0.00	137.54	207.19

*SECNO 7100.000

3470 ENCROACHMENT STATIONS= 70.0 153.0 TYPE= 1 TARGET= 93.000

7100.00	5.82	827.22	0.00	0.00	827.[illegible]	.05	.02	.01	100000.00
660.	0.	660.	0.	0.	364.	0.	59.	24.	100000.00
.56	0.00	1.61	0.00	.090	.030	.070	.043	821.40	70.00
.000203	110.	110.	110.	0	0	0	0.00	53.00	153.00

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*SECNO 7140.000

3470 ENCROACHMENT STATIONS=      90.0      143.0  TYPE=      1  TARGET=      43.000
  7140.00      5.82    827.22      0.00      0.00    827.30       .07       .01       .01100000.00
     660.        0.      660.        0.        0.      301.        0.       60.       24. 100000.00
      .59      0.00      2.19      0.00      .090      .030      .070      .043    821.40     90.00
  .000782       40.       40.       40.         0         0         0      0.00     43.00    143.00


*SECNO 7180.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VCL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      90.0      133.0  TYPE=      1  TARGET=      43.000
  7180.00      5.91    827.21      0.00      0.00    827.34       .14       .01       .03100000.00
     660.        0.      660.        0.        0.      224.        0.       61.       24. 100000.00
      .59      0.00      2.97      0.00      .090      .030      .070      .043    821.30     90.00
  .000519       40.       40.       40.         2         0         0      0.00     43.00    133.00


*SECNO 7195.000

3470 ENCROACHMENT STATIONS=      94.0      130.0  TYPE=      1  TARGET=      36.000
  7195.00      5.89    827.19      0.00      0.00    827.37       .19       .01       .03100000.00
     660.        0.      660.        0.        0.      189.        0.       61.       24. 100000.00
      .59      0.00      3.49      0.00      .080      .030      .050      .043    821.30     94.00
  .000745       15.       15.       15.         2         0         0      0.00     36.00    130.00


*SECNO 7210.000

3470 ENCROACHMENT STATIONS=      98.0      126.0  TYPE=      1  TARGET=      28.000
  7210.00      5.85    827.15      0.00      0.00    827.43       .20       .01       .03100000.00
     660.        0.      660.        0.        0.      160.        0.       61.       24. 100000.00
      .59      0.00      4.42      0.00      .080      .030      .050      .043    821.30     98.00
  .001282       15.       15.       15.         2         0         0      0.00     28.00    126.00


*SECNO 7259.000
  7259.00      5.71    827.01      0.00      0.00    827.81       .30       .12       .25    827.50
     660.        0.      660.        0.        0.       92.        0.       61.       24.     826.00
      .59      0.00      7.16      0.00      .080      .035      .050      .043    821.30    150.78
  .005719       49.       49.       49.         2         0         0      0.00     23.34    174.12


*SECNO 7260.000

                    D/S FACE PRIVATE BRIDGE

  7260.00      5.72    827.02      0.00      0.00    827.82       .30       .01       .00    827.50
     660.        0.      660.        0.        0.       90.        0.       61.       24.     826.00
      .59      0.00      7.17      0.00      .080      .035      .050      .043    821.30    150.78
  .005710        1.        1.        1.         0         0         0      0.00     23.34    174.12


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.80      2.84      0.00      9.00      0.00     39.60      0.00    821.20    821.20

*SECNO 7269.000
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SECNO	DEPTH	CWSEL	CRIWS	WSEL	EG	HV	HL	DLOSS	BANK ELEV
O	OLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

ESPRS	FGLWS	HB	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRC
834.79	827.72	0.00	301.	362.	40.	40.	825.60	826.90

U/S FACE PRIVATE BRIDGE U.S. #25 SECT.K

7269.00	7.84	829.04	0.00	0.00	829.33	.31	1.53	0.00	827.50
660.	7.	649.	4.	10.	144.	5.	61.	24.	828.00
.59	.68	4.52	.73	.080	.035	.050	.043	821.20	137.70
.001394	9.	9.	9.		0	4	0.00	47.51	185.21

*SECNO 7270.000

7270.00	7.84	829.04	0.00	0.00	829.35	.31	.00	.00	827.50
660.	7.	649.	4.	10.	144.	5.	61.	24.	828.00
.59	.68	4.51	.74	.080	.035	.050	.043	821.20	137.69
.001392	1.	1.	1.	0	0	0	0.00	47.53	185.22

*SECNO 7300.000

VALLEY SECTION #26 SECT.L

7300.00	6.99	826.99	0.00	0.00	829.53	.56	.06	.11	826.30
660.	65.	583.	13.	44.	94.	9.	61.	24.	825.90
[illegible]	1.49	6.23	1.35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	121.57
.00343[illegible]	30.	30.	[illegible]	2	0	0	0.00	57.44	175.04

*SECNO 8260.000

VALLEY SECTION #27 SECT.M

8260.00	5.96	831.16	0.00	0.00	831.24	[illegible]	1.57	.14	830.30
660.	2.	360.	299.	2.	119.	332.	65.	25.	828.90
.71	.70	3.03	.90	.040	.042	.080	.043	825.20	144.45
.001110	900.	960.	600.	2	0	0	0.00	223.44	367.39

*SECNO 8680.000

8680.00	4.34	831.74	0.00	0.00	831.96	.21	.65	.06	830.00
660.	302.	245.	112.	93.	51.	100.	69.	27.	829.00
.74	3.24	4.83	1.13	.040	.042	.020	.044	827.40	33.02
.003809	275.	420.	300.	2	0	0	0.00	173.53	206.55

*SECNO 9060.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	DLOSS	BANK ELEV
O	OLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION #28 SECT.N

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 9060.00     4.07   833.47     0.00     0.00   833.83      .36     1.80      .07   832.00
    660.      11.     316.     433.       5.      47.     200.      70.      29.   831.80
     .76     1.94     6.73     1.66     .060     .045     .100     .044   829.40    53.03
 .009423     225.     330.     300.        3        0        0     0.00   202.27   255.91

*SECNO 10060.000
 10060.00     5.35   839.75     0.00     0.00   840.04      .50     6.19      .02   837.00
    560.      25.     369.     265.      13.      65.     135.      75.      35.   838.80
     .84     1.97     5.68     1.44     .060     .045     .100     .044   837.40   115.84
 .004377    1000.    1000.    1000.        4        0        0     0.00   148.49   264.33

*SECNO 10700.000

3470 ENCROACHMENT STATIONS=        .0      123.0  TYPE=      1  TARGET=      122.999
 10700.00     4.08   842.28     0.00     0.00   842.55      .27     2.50      .01   840.00
    660.      36.     317.     258.      31.      56.     146.      79.      34.   840.00
     .67     2.80     5.67     1.76     .060     .045     .100     .045   837.60    23.17
 .005272     600.     640.     350.        3        0        0     0.00    99.83   123.00

*SECNO 10780.000

3470 ENCROACHMENT STATIONS=        .0      103.0  TYPE=      1  TARGET=      102.999
 10780.00     4.69   842.69     0.00     0.00   843.05      .35      .46      .04   840.40
    660.      94.     347.     219.      31.      55.     111.      79.      34.   840.40
     .88     3.06     6.18     1.97     .060     .045     .100     .045   833.00    23.12
 .006229      80.      80.      80.        2        0        0     0.00    79.38   103.00

*SECNO 10 .0.000

3470 ENCROACHMENT STATIONS=        .0       82.0  TYPE=      1  TARGET=       82.999
 10860.00     4.77   843.17     0.00     0.00   843.66      .50      .55      .06   840.80
    660.     111.     [illegible]     151.      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]      [illegible]
     .88     3.47     6.97     2.20     .060     .045     .100     .045   [illegible]    [illegible]
 .007737      80.      80.      80.        1        0        0     0.00    [illegible]    [illegible]

*SECNO 10890.000
   SECNO     DEPTH     CWNEL     CRIWS     WSELK     [illegible]      HV       HL       DLOSS    BANK ELEV
   Q         DLOB      CCH       DROP      ALOE      ACH      AROP     VOL      TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROP      XNL       XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC      ICONT    CORAR    TOPWID     ENDST

3470 ENCROACHMENT STATIONS=        .0       75.0  TYPE=      1  TARGET=       74.999
 10890.00     4.77   843.37     0.00     0.00   843.47      .61      .25      .05   841.00
    660.     119.     426.     115.      32.      57.      50.      80.      34.   841.00
     .88     3.70     7.43     2.31     .060     .045     .100     .045   833.60    22.87
 .008765      30.      30.      30.        1        0        0     0.00    52.13    75.00

*SECNO 10920.000

3470 ENCROACHMENT STATIONS=       27.0       68.0  TYPE=      1  TARGET=       41.000
 10920.00     4.89   843.59     0.00     0.00   844.29      .69      .27      .04   841.10
    660.     125.     454.      81.      31.      59.      35.      30.      34.   841.10
     .89     4.04     7.70     2.33     .060     .045     .100     .045   833.70    27.00
 .009071      30.      30.      30.        2        0        0     0.00    41.00    68.00

*SECNO 10930.000
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3470 ENCROACHMENT STATIONS= 29.0 65.0 TYPE= 1 TARGET= 35.000

10930.00	4.63	843.63	0.00	0.00	844.43	.80	.09	.05	841.20
660.	110.	473.	77.	27.	58.	27.	80.	34.	841.20
.39	4.15	8.15	2.86	.060	.043	.080	.045	838.86	25.00
.009454	10.	10.	10.	2	0	0	0.00	35.00	65.00

*SECNO 10940.000

3470 ENCROACHMENT STATIONS= 31.0 62.0 TYPE= 1 TARGET= 31.000

10940.00	4.24	843.64	0.00	0.00	844.67	.99	.10	.09	841.20
660.	82.	514.	56.	22.	56.	20.	80.	34.	841.20
.64	4.03	8.85	2.97	.060	.043	.060	.045	838.80	31.00
.011072	10.	10.	10.	2	0	0	0.00	31.00	62.00

*SECNO 10944.000

3470 ENCROACHMENT STATIONS= 32.0 61.0 TYPE= 1 TARGET= 29.000

10944.00	4.70	843.60	0.00	0.00	844.77	1.17	.12	.09	841.30
660.	77.	553.	30.	18.	56.	16.	30.	34.	841.30
.89	4.22	9.48	5.10	.060	.043	.080	.045	838.90	32.00
.013370	4.	4.	4.	2	0	0	0.00	29.00	61.00

*SECNO 10947.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	FV	SL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	XLOB	ACH	AROB	VOL	TIA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	LNDST

3470 ENCROACHMENT STATIONS= 30.0 60.0 TYPE= 1 TARGET= 27.000

10947.00	4.66	843.56	0.00	0.00	844.87	1.25	.04	.05	841.30
660.	57.	547.	43.	13.	56.	11.	80.	34.	841.30
.81	4.27	9.41	.12	.060	.043	.080	.045	838.90	33.00
.014391	3.	3.	3.	2	0	0	0.00	27.00	60.00

*SECNO 10950.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	FV	SL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	XLOB	ACH	AROB	VOL	TIA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	LNDST

7145 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

VALLEY SECTION 829 SECT.0

10950.00	4.66	843.56	843.56	0.00	845.12	1.55	.05	.15	841.10
660.	11.	624.	5.	3.	54.	2.	81.	34.	842.60
.85	3.15	10.10	1.51	.060	.043	.080	.045	838.90	37.25
.011119	3.	3.	3.	2	3	3	0.00	26.35	63.56

*SECNO 10954.000

3001 HV CHANGED MORE THAN HVINC

3470 ENCROACHMENT STATIONS= 36.0 64.0 TYPE= 1 TARGET= 26.000

10954.00	5.52	844.42	0.00	0.00	845.53	.93	.05	.14	841.10

```
     660.      16.     653.      11.       [illegible]      [illegible]      [illegible]      80.      34.     842.[illegible]
      .39     2.59     7.90     1.79     .060     .043     .080     .045    [illegible].90     36.2[illegible]
  .008216       2.       4.       4.        5        0        0     0.00     27.72     64.00

*SECNO 10958.000

3470 ENCROACHMENT STATIONS=      36.0      64.0  TYPE=      1  TARGET=      28.000
 10958.00     5.61   844.51     0.00     0.00   845.39     .88      .03      .01    841.10
     660.      17.     631.      12.       7.      62.       7.      80.      34.     842.60
      .89     2.53     7.70     1.78     .060     .043     .080     .045    838.90     36.17
  .007571       2.       4.       4.        2        0        0     0.00     27.85     64.00

*SECNO 10962.000

3470 ENCROACHMENT STATIONS=      36.0      64.0  TYPE=      1  TARGET=      28.000
 10962.00     5.68   844.56     0.00     0.00   845.42     .05      .03      .01    841.10
     660.      17.     630.      13.       7.      [illegible]      7.      80.      34.     842.60
      .89     2.49     7.56     1.78     .060     .043     .080     .045    838.90     36.09
  .007142       4.       4.       4.        3        0        0     0.00     27.91     64.00

*SECNO 10975.000
   SECNO    DEPTH    CWSEL    CPTHS    WSELK    EG       AV       PL       CLOSS   BANK ELEV
   0        QLOB     QCH      QRCH     ALOB     ACH      ARUP     VOL      TWA     LEFT/RIGHT
   TIME     VLOB     VCH      VRCH     XNL      XNCH     XNP      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IUC      ICONT    LOBAR    TOPWID     INDST

3470 ENCROACHMENT STATIONS=      39.0      61.0  TYPE=      1  TARGET=      22.000
 10975.00     5.63   844.[illegible]     0.00     0.00   845.5[illegible]     .55      .10      .05    841.20
     660.       6.     649.       6.       3.      [illegible]      3.      80.      34.     842.70
      .89     1.35     7.88     1.61     .060     .043     .080     .045    839.00     39.00
  .007885       9.      1[illegible].      13.        2        0        0     0.00     22.00     61.00

*SECNO 10987.000

3470 ENCROACHMENT STATIONS=      42.0      58.0  TYPE=      1  TARGET=      16.000
 10987.00     5.56   844.58     0.00     0.00   845.89     1.31      .13      .12100000.00
     660.       0.     660.       0.       0.      72.       0.      80.      34. 100000.00
      .89     0.00     9.19     0.00     .060     .043     .080     .045    839.00     42.00
  .01566[illegible]       3.      13.      12.        2        0        0     0.00     16.00     58.00

*SECNO 10991.000

3470 ENCROACHMENT STATIONS=      43.0      57.0  TYPE=      1  TARGET=      14.000
 10991.00     5.47   844.47     0.00     0.00   846.15     1.[illegible]      .07      .18100000.00
     660.       0.     660.       0.       0.      54.       0.      80.      34. 100000.00
      .89     0.00    10.39     0.00     .060     .043     .080     .045    839.00     43.00
  .021430       4.       4.       4.        2        0        0     0.00     14.00     57.00

*SECNO 10993.000

3470 ENCROACHMENT STATIONS=      43.0      56.0  TYPE=      1  TARGET=      13.000
 10993.00     5.41   844.41     0.00     0.00   846.29     1.68      .05      .10100000.00
     660.       0.     660.       0.       0.      60.       0.      80.      34. 100000.00
      .89     0.00    11.00     0.00     .060     .043     .080     .045    839.00     43.00
  .024524       2.       2.       2.        2        0        0     0.00     13.00     56.00

*SECNO 10995.000
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SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      44.0      56.0  TYPE=      1  TARGET=      12.000
 10995.00     5.29   844.29   844.29     0.00   846.51     2.32      .06      .22100000.00
     660.       0.     660.       0.       0.      54.       0.      80.      34. 100000.00
      .89     0.00    12.22     0.00     .060     .043     .000     .045   839.00    44.00
  .032843       2.       2.       2.        2        3        0     0.00    12.00    56.00

*SECNO 10999.000
SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       QLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA      LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN    SSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID   ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      849.50  AREA=      849.50

 10999.00     6.03   845.03   845.03     0.00   847.60     2.57      .10      .15   839.00
     660.       0.     660.       0.       0.      51.       0.      80.      34.   840.80
      .89     0.00    12.37     .00     .030     .043     .080     .045   839.00   267.00
  .020561       4.       4.       4.       20        0        0     0.00    10.00   277.00

*SECNO 11000.000

7201 HV CHANGED MORE THAN EVERS

3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  855.20 MAX ELLC=  849.50

                 U/S FACE WEST MAPLE ROA

 11000.00     7.05   846.05     0.00     0.00   847.56     1.79      .01      .24   856.00
     660.       0.     660.       0.       0.      61.       0.      80.      34.   856.00
      .89     0.00    10.74     0.00     .020     .013     .020     .045   839.00   267.00
  .004418       1.       1.       1.        0        0        0     0.00    10.00   277.00

*SECNO 11055.000

3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  855.20 MAX ELLC=  849.50

                 U/S FACE WEST MAPLE ROAD  U.S. 250                    SECT.A

 11055.00     7.68   846.53     0.00     0.00   848.15     1.47      .21      .10   856.00
     660.       0.     660.       0.       0.      65.       0.      80.      34.   856.00
      .89     0.00     9.73     0.00     .020     .019     .020     .044   839.00   267.00
  .003424      55.      55.      55.        2        0        0     0.00    10.00   277.00

*SECNO 11056.000
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May be ~2' low, will dissipate very rapidly

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34.5  VERBAL AREA ASSUMED NON-EFFECTIVE ELLA=      849.50 FLREA=      849.50

 11056.00     7.69   846.69     0.00     0.00   848.16     1.47      .01      .00   839.00
     560.       0.     560.       0.       0.      65.       0.      60.      34.   840.50
      .09     0.00     9.73     0.00     .070     .045     .090     .044   839.00   267.00
  .010002       1.       1.       1.        0        0        0     0.00    10.00   277.00

*SECNO 11053.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      220.0      234.0  TYPE=      1  TARGET=      14.000
 11058.00     8.85   847.85     0.00     0.00   848.44      .50      .01      .27   842.50
     600.       0.     600.       0.       0.     100.       0.      80.      34. 100000.00
      .09     0.00     6.14     0.00     .070     .045     .090     .044   839.00   220.00
  .005403       2.       2.       2.        3        0        0     0.00    14.00   234.00

*SECNO 11060.000
    SECNO     DEPTH     CWSEL     CRIMS     WSELK     FG        HV        HL        GLOSS   BANK ELEV
    Q         GLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XML       XNCH      XMR       XTN       FLMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     COPAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=      218.0      236.0  TYPE=      1  TARGET=      18.000
 11060.00     8.97   847.97     0.00     0.00   848.47      .50      .01      .02   842.50
     560.      14.     534.      12.      10.     109.      11.      80.      34.   842.20
      .09     1.35     5.41     1.05     .070     .045     .090     .044   839.00   218.00
  .002325       2.       2.       2.        2        0        0     0.00    18.00   236.00

*SECNO 11200.000

3470 ENCROACHMENT STATIONS=      100.0      570.0  TYPE=      1  TARGET=     270.000
 11200.00     8.67   848.67     0.00     0.00   848.71      .04      .10      .14   842.50
     660.      61.     251.     347.      80.     109.     381.      81.      35.   842.20
      .92      .77     2.32      .91     .070     .045     .090     .044   840.00   146.49
  .000349     145.     140.     125.        2        0        0     0.00   171.53   313.02

*SECNO 11425.000

                    VALLEY SECTION #31                          SECT.J

 11425.00     7.26   848.76     0.00     0.00   848.74      .03      .10      .03   844.00
     650.      49.     195.     416.      52.      39.     422.      84.      35.   843.70
      .95      .95     2.20      .85     .070     .045     .090     .044    41.50    72.54
  .000411     125.     225.     225.        3        0        0     0.00   188.85   239.39

*SECNO 12220.000

                    VALLEY SECTION #32                          SECT.R

 12220.00     5.99   848.99     0.00     0.00   849.00      .01      .20      .01   845.60
     660.     160.     130.     370.     210.      32.     579.      93.      38.   845.60
     1.16      .74     1.58      .64     .070     .045     .085     .045   843.00    59.01
  .000297     573.     795.     500.        1        0        0     0.00   297.38   356.39

*SECNO 12920.000
 12920.00     4.55   849.15     0.00     0.00   849.15      .01      .15      .00   847.20
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660.	70.	87.	470.	247.	55.	1043.	104.	44.	841.20
1.35	.45	1.40	.45	.070	.045	.065	.046	844.10	335.72
.000374	500.	700.	350.	2	0	0	0.00	958.51	1304.22

*SECNO 13160.000

SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	BL	VELHD	BANK ELEV
Q	CLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 825.1 TYPE= 1 TARGET= 824.999

13160.00	4.17	849.27	0.00	0.00	849.46	.19	.21	.09	846.00
660.	121.	267.	271.	112.	50.	219.	108.	48.	845.00
1.40	1.09	5.35	1.24	.065	.045	.050	.046	845.10	372.77
.007057	245.	240.	190.	2	0	0	0.00	852.23	825.00

*SECNO 13193.000

3470 ENCROACHMENT STATIONS= .0 822.0 TYPE= 1 TARGET= 821.999

13193.00	4.34	849.54	0.00	0.00	849.66	.12	.18	.02	846.10
660.	135.	283.	298.	145.	57.	262.	109.	48.	845.10
1.40	.93	4.43	1.11	.065	.045	.050	.046	845.20	345.46
.004429	35.	33.	30.	3	0	0	0.00	873.54	822.00

*SECNO 13209.000

3470 ENCROACHMENT STATIONS= .0 821.0 TYPE= 1 TARGET= 820.999

13209.00	4.31	849.61	0.00	0.00	849.74	.13	.07	.01	84[illegible].20
660.	133.	279.	285.	139.	56.	259.	109.	48.	845.20
1.41	.96	4.53	1.14	.065	.046	.050	.046	845.30	352.33
.006805	17.	16.	15.	2	0	0	0.00	858.12	821.00

*SECNO 13225.000

3470 ENCROACHMENT STATIONS= 550.0 800.0 TYPE= 1 TARGET= 550.000

13225.00	4.45	849.75	0.00	0.00	849.31	.06	.05	.02	845.00
660.	187.	192.	274.	269.	55.	251.	109.	49.	845.00
1.41	.90	3.46	.98	.065	.047	.050	.046	845.30	350.00
.003525	15.	15.	15.	2	0	0	0.00	850.00	800.00

*SECNO 13250.000

3470 ENCROACHMENT STATIONS= 746.0 798.0 TYPE= 1 TARGET= 745.001

13250.00	4.40	849.20	0.00	0.00	849.[illegible]	.[illegible]	.05	.01	846.20
660.	104.	227.	229.	214.	60.	251.	109.	49.	845.20
1.41	.91	3.58	.95	.065	.045	.050	.046	845.40	346.00
.002686	26.	25.	25.	2	0	0	0.00	844.01	798.00

*SECNO 13275.000

SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	AL	VELHD	BANK ELEV
Q	CLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	TA	ELMIN	SSTA
SLOP	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED *SEL.CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3710 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 362.0 756.0 TYPE= 1 TARGET= 434.000

13275.00	4.55	849.95	849.95	0.00	850.21	.52	.11	.12	849.00
660.	115.	352.	193.	103.	57.	153.	110.	49.	844.90
1.41	1.12	6.15	1.26	.063	.049	.090	.046	845.40	362.00
.008830	26.	25.	23.	20	9	0	0.00	434.00	796.00

*SECNO 13400.000

SECNO	DEPTH	CNSEL	CRITS	WSELK	EG	HV	-L	SLOPE	BANK ELEV
0	ELOB	OCH	CROB	ALOB	ACH	ARCH	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XLCH	XNR	ATW	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CNSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 420.0 -42.0 TYPE= 1 TARGET= 421.000

13300.00	4.12	-50.32	-50.52	0.00	-50.00	.34	.22	.01	849.20
660.	93.	359.	218.	83.	58.	172.	110.	49.	849.20
1.42	1.13	6.24	1.21	.035	.046	.090	.046	845.50	422.00
.005416	28.	25.	24.	24	5	0	0.00	421.00	843.00

*SECNO 13350.000

3470 ENCROACHMENT STATIONS= .0 760.0 TYPE= 1 TARGET= 759.999

13350.00	5.24	850.84	0.00	0.00	850.98	.13	.27	.00	850.00
660.	55.	287.	317.	74.	62.	275.	110.	50.	849.40
1.42	.74	4.57	1.13	.055	.044	.090	.046	845.00	340.49
.004135	50.	50.	45.	2	0	0	0.00	411.51	760.00

*SECNO 13530.000

13530.00	5.57	851.57	0.00	0.00	851.72	.15	.27	.00	850.50
660.	150.	312.	195.	189.	70.	212.	110.	52.	850.40
1.44	.79	4.51	.91	.065	.049	.090	.047	845.00	341.53
.003751	205.	160.	195.	2	0	1	0.00	389.83	391.37

*SECNO 13585.000

3470 ENCROACHMENT STATIONS= 776.0 776.0 TYPE= 1 TARGET= 476.000

VALLEY SECTION L33 SECT.S

13585.00	5.65	852.45	0.00	0.00	852.52	.07	.20	.02	850.40
660.	295.	260.	27.	316.	77.	153.	110.	55.	850.50
1.43	.93	3.50	.94	.035	.046	.090	.046	840.80	296.00
.001921	250.	355.	270.	2	0	0	0.00	473.00	774.00

*SECNO 14199.000

SECNO	DEPTH	CNSEL	CRITS	WSELK	EG	HV	-L	SLOPE	BANK ELEV
0	ELOB	OCH	CROB	ALOB	ACH	ARCH	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XLCH	XNR	ATW	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

14199.00	5.62	852.52	0.00	0.00	852.61	.09	1.03	.00	851.50
660.	356.	96.	209.	191.	23.	149.	113.	58.	851.90
1.53	1.66	4.73	1.41	.065	.045	.090	.046	843.50	122.23
.007811	314.	314.	314.	2	0	0	0.00	340.16	462.40

*SECNO 14200.000

3370 NORMAL BRIDGE,NRD= 25 MIN ELTRD= 852.00 MAX ELLC= 851.10

D/S FACE WALKWAY BRIDGE

14200.00	5.04	853.54	0.00	0.00	853.52	.09	.01	.00	851.50
660.	456.	39.	165.	154.	11.	107.	110.	58.	851.90
1.53	2.48	3.68	1.54	.080	.053	.080	.046	848.50	122.02
.012952	1.	1.	1.	0	0	0	-56.76	340.90	452.12

*SECNO 14215.000

3370 NORMAL BRIDGE,NRD= 25 MIN ELTRD= 852.00 MAX ELLC= 852.00

U/S FACE WALKWAY BRIDGE B.S. 824 SECT.T

14215.00	4.22	853.72	0.00	0.00	853.78	.06	.14	.01	851.50
660.	433.	35.	191.	215.	11.	143.	119.	58.	851.90
1.53	2.01	3.13	1.36	.080	.053	.080	.046	849.50	113.53
.007441	15.	15.	15.	2	1	0	-54.63	360.33	474.86

*SECNO 14740.000

VALLEY SECTION U/S SECT.U

14740.00	4.92	855.52	0.00	0.00	855.51	.07	1.00	.01	852.30
660.	295.	141.	204.	163.	51.	154.	126.	63.	852.90
1.60	1.00	3.19	1.28	.060	.050	.075	.046	850.60	110.63
.001908	525.	525.	525.	5	0	0	0.00	205.00	346.42

*SECNO 15225.000

15225.00	3.53	855.83	1.00	0.00	855.87	.14	1.03	.01	854.30
660.	553.	85.	18.	391.	33.	20.	123.	65.	855.40
1.59	1.41	2.69	.91	.060	.050	.075	.047	855.11	159.33
.002520	485.	485.	485.	4	0	0	0.00	338.37	507.70

*SECNO 15550.000

SECNO	DEPTH	CWSEL	CRWS	LSELK	EG	HV	PL	CLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	STN	FLOMIN	SSTA
SLOPE	XLOBL	XLOBR	XLOBR	ITRIAL	IWC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 110.0 410.0 TYPE= 1 TARGET= -110.000

15550.00	3.22	857.92	0.00	0.00	858.00	.07	1.31	.02	856.00
660.	556.	87.	17.	267.	30.	24.	132.	65.	857.00
1.75	2.08	2.93	.69	.051	.050	.075	.046	854.78	110.00
.003431	475.	325.	225.	3	3	1	0.00	225.48	335.46

*SECNO 15964.000

3470 ENCROACHMENT STATIONS= 144.0 470.0 TYPE= 1 TARGET= -144.000

15964.00	2.51	858.81	0.00	0.00	859.01	.21	.95	.07	858.00
660.	430.	221.	9.	150.	41.	7.	132.	69.	858.00
1.76	2.39	5.33	1.21	.060	.050	.075	.047	56.50	144.00
.012628	110.	314.	260.	1	0	0	0.00	253.99	407.99

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*SECNO 15879.000

3470 ENCROACHMENT STATIONS=      151.0      470.0  TYPE=      1  TARGET=     -151.000
 15879.00      2.64    859.04      0.00      0.00    859.18       .15       .15       .02    858.10
     660.      448.      201.       11.      207.       44.       10.      133.       69.    858.10
     1.76      2.17      4.52      1.09      .060      .050      .075      .047    856.40    151.00
  .008293       15.       15.       15.         2         0         0      0.00    260.26    411.26


*SECNO 15894.000

3470 ENCROACHMENT STATIONS=      159.0      470.0  TYPE=      1  TARGET=     -159.000
 15894.00      2.78    859.18      0.00      0.00    859.30       .11       .10       .01    858.10
     660.      430.      187.       14.      231.       47.       15.      133.       69.    858.10
     1.76      1.99      3.94      1.01      .060      .050      .075      .047    856.40    159.00
  .005787       15.       15.       15.         0         0         0      0.00    255.60    414.60


*SECNO 15904.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     FC        RV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QRCH      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCH      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 15904.00      4.00    860.50    860.50      0.00    860.96       .44       .08       .17    860.00
     660.      127.      479.       54.       73.       74.       36.      133.       69.    859.80
     1.76      1.64      5.22      1.45      .060      .050      .075      .047    856.50    221.00
  .011199       10.       10.       10.        20        19         0      0.00    243.50    464.50


*SECNO 15905.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     FC        RV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QRCH      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VRCH      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD= 18 MIN FLTRD=  859.80 MAX FLLC=  859.30

                 D/S FACE WALKWAY BRIDGE

 15905.00      4.45    860.95    860.62      0.00    861.07       .11       .01       .10    860.00
     660.      290.      225.      145.      152.       62.       64.      133.       69.    859.80
     1.76      1.91      3.64      2.26      .050      .025      .045      .047    856.50    214.59
  .004499        1.        1.        1.        13        15         0    -25.40    251.22    465.87


*SECNO 15909.000

3370 NORMAL BRIDGE,NRD= 18 MIN FLTRD=  859.80 MAX FLLC=  859.30

                 U/S FACE WALKWAY BRIDGE  B.S. #36                    SECT.V

 15909.00      4.48    860.98      0.00      0.00    861.09       .11       .02       .00    860.00
     660.      293.      221.      146.      157.       63.       65.      133.       69.    859.80
     1.76      1.87      3.53      2.23      .050      .025      .045      .047    856.50    214.21
  .004180        4.        4.        4.         0         0         0    -25.40    251.75    465.96
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*SECNO 15910.000
 15910.00     4.41    860.91     0.00     0.00    861.16      .26      .00      .06    860.00
     660.     153.     430.      77.     143.      86.      61.     133.      59.    859.80
     1.75     1.06     5.00     1.28     .050     .025     .045     .047   856.50    215.32
  .001500       1.       1.       1.        2        0        0     0.00   250.40    465.72

*SECNO 16079.000
 16079.00     4.10    861.30     0.00     0.00    861.31      .21      .33      .02    860.00
     660.     261.     296.     103.     156.      58.      30.     134.      70.    859.40
     1.75     1.67     5.10     1.75     .050     .025     .045     .047   857.20    106.02
  .002620     169.     169.     169.        2        0        0     0.00   222.62    328.63

*SECNO 16080.000

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  859.50 MAX ELLC=  862.30

                 U/S FACE WALKWAY BRIDGE

 16080.00     4.20    861.40     0.00     0.00    861.53      .14      .00      .02    860.00
     660.     329.     237.      94.     169.      55.      65.     134.      70.    859.40
     1.78     1.94     4.29     1.49     .065     .030     .075     .047   857.20    102.58
  .005513       1.       1.       1.        4        0        0    -6.41   228.67    331.45

*SECNO 16084.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     BO        RV        HL        BLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       STA       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ISC       ICONT     CORAR     TOPWIC     ENDST

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD=  859.50 MAX ELLC=  862.30

                 U/S FACE WALKWAY BRIDGE  B.S. 337                    SECT.U

 16084.00     4.25    861.43     0.00     0.00    861.56      .13      .02      .00    860.00
     660.     331.     234.      95.     173.      56.      65.     134.      70.    859.40
     1.79     1.92     4.21     1.47     .065     .030     .075     .047   857.20    101.76
  .005294       4.       4.       4.        1        0        0    -6.60   230.38    332.13

*SECNO 16085.000
 16085.00     4.29    861.49     0.00     0.00    861.58      .09      .00      .01    860.00
     660.     335.     202.     120.     183.      61.      71.     134.      70.    859.40
     1.73     1.85     3.28     1.69     .055     .045     .055     .047   857.20     99.13
  .003321       1.       1.       1.        2        0        0     0.00   235.16    334.29

*SECNO 16275.000

3470 ENCROACHMENT STATIONS=        .0     162.0  TYPE=      1  TARGET=     161.999
 16275.00     3.64    862.04     0.00     0.00    862.24      .19      .51      .05    860.00
     660.     161.     271.     247.      49.      56.     118.     135.      70.    860.00
     1.79     2.28     4.70     2.10     .055     .045     .055     .047   858.40     31.83
  .005008     150.     190.     100.        2        0        0     0.00   150.17    132.00

*SECNO 16301.000
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3470 ENCROACHMENT STATIONS=        .0      162.0  TYPE=      1  TARGET=      181.999
 16301.00      3.45    862.05      0.00      0.00    862.56       .52       .16       .16    860.50
     660.      163.      357.      140.       43.       50.       51.      135.       70.    860.50
     1.79      3.76      7.21      2.75      .055      .045      .055      .047    858.50     45.19
  .014607       26.       26.        8.         2         0         0      0.00    122.42    157.62

*SECNO 16327.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=       99.0      225.0  TYPE=      1  TARGET=      126.000
 16327.00      4.39    863.09    863.09      0.00    863.66       .57       .31       .03    862.00
     660.      142.      435.       24.       49.       60.       36.      135.       70.    862.00
     1.79      2.86      7.24      2.31      .055      .045      .055      .047    858.70     99.00
  .012239       26.       26.        9.        20        12         0      0.00    126.00    225.00

*SECNO 16353.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=       84.0      197.0  TYPE=      1  TARGET=      113.000
 16353.00      4.84    863.74      0.00      0.00    863.90       .16       .12       .12    861.80
     660.      164.      303.      172.       64.       72.       81.      135.       70.    861.70
     1.79      2.20      4.19      2.12      .055      .045      .055      .047    858.90     84.00
  .003073       26.       26.        8.         2         0         0      0.00    113.00    197.00

*SECNO 16379.000

3470 ENCROACHMENT STATIONS=       56.0      138.0  TYPE=      1  TARGET=      100.000
 16379.00      4.73    863.85      0.00      0.00    863.97       .09       .04       .02    860.90
     660.      237.      215.      207.      116.       70.      109.      135.       71.    860.90
     1.80      2.04      3.06      1.91      .055      .045      .055      .047    859.10     58.00
  .001463       26.       26.        8.         1         0         0      0.00    100.00    163.00

*SECNO 16405.000

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      144.0      231.0  TYPE=      1  TARGET=       37.000
 16405.00      4.73    863.93    863.93      0.00    864.53       .65       .07       .28    862.80
     660.      106.      468.       85.       36.       63.       32.      135.       71.    862.80
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1.80	2.72	7.43	2.75	.055	.045	.055	.047	859.20	144.00
.011370	26.	26.	9.	20	5	0	0.00	87.00	231.00

*SECNO 16418.000

3670 ENCROACHMENT STATIONS= 148.0 228.0 TYPE= 1 TARGET= 50.000

16418.00	4.74	864.04	0.00	0.00	864.73	.09	.13	.02	862.90
660.	98.	479.	83.	33.	63.	30.	135.	71.	862.90
1.80	2.99	7.62	2.75	.055	.045	.055	.047	859.30	148.00
.011456	13.	13.	4.	0	0	0	0.00	80.00	228.00

*SECNO 16430.000

SECNO	DEPTH	CWSEL	CRITS	*SELK	FR	HV	HL	BLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TOA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	INL	XNCH	ANR	HTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3670 ENCROACHMENT STATIONS= 175.0 247.0 TYPE= 1 TARGET= 75.000

VALLEY SECTION #36 PLOT.X

16430.00	4.65	864.25	864.25	0.00	865.07	.62	.13	.06	864.30
660.	64.	539.	56.	24.	66.	22.	135.	71.	865.30
1.80	2.73	7.92	2.58	.055	.045	.055	.047	859.90	173.00
.012627	12.	12.	4.	0	0	0	0.00	74.00	247.00

*SECNO 16443.000

SECNO	DEPTH	CWSEL	CRITS	*SELK	FR	HV	HL	BLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TOA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	INL	XNCH	ANR	HTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

3670 ENCROACHMENT STATIONS= 177.0 244.0 TYPE= 1 TARGET= 67.000

16443.00	5.77	864.47	0.00	0.00	865.30	.33	.05	.15	863.10
660.	101.	459.	100.	41.	85.	42.	135.	71.	863.10
1.80	2.45	5.31	2.40	.055	.045	.055	.047	859.20	177.00
.004121	13.	13.	13.	4	0	0	0.00	57.00	244.00

*SECNO 16455.000

3670 ENCROACHMENT STATIONS= 120.0 241.0 TYPE= 1 TARGET= 1.000

16455.00	6.06	865.06	0.00	0.00	865.35	.24	.04	.31	862.90
660.	101.	459.	102.	42.	92.	43.	135.	71.	862.90
1.80	2.39	4.05	2.36	.055	.045	.055	.047	859.00	120.00
.003278	12.	12.	12.	6	0	0	0.00	71.00	241.00

*SECNO 16480.000

3670 ENCROACHMENT STATIONS= 166.0 254.0 TYPE= 1 TARGET= 48.000

S/S FACE MIDDLEBELT ROAD

16480.00	5.87	864.47	0.00	0.00	865.52	.54	.04	.13	862.90
660.	31.	599.	30.	55.	97.	32.	135.	71.	862.90
1.80	.94	6.20	.93	.070	.013	.070	.047	75.70	186.00

.000777	25.	65.	25.	2	4	0	0.00	46.00	234.00

SPECIAL BRIDGE

NE	XK	XKOR	CDEQ	RCLEN	SOC	DLP	BAREA	AS	ELCHU	ELCHD
	0.00	1.76	3.02	0.00	8.00	0.00	44.00	0.00	858.70	858.70

*SECNO 16532.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HB	WEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
871.12	865.49	0.00	2.	651.	54.	43.	864.10	870.80

U/S FACE MIDDLEBELT ROAD B.S. #39 SECT.Y

16532.00	12.20	870.90	0.00	0.00	870.96	.06	5.44	1.00	871.20
660.	0.	660.	0.	0.	543.	0.	136.	71.	871.60
1.81	0.00	1.92	0.00	.070	.016	.070	.047	858.70	300.60
.000040	52.	52.	52.	2	0	0	0.00	48.48	349.06

*SECNO 17510.000

VALLEY SECTION #40 SECT.Z

17510.00	8.20	871.00	0.00	0.00	871.00	.00	.02	.02	864.20
660.	222.	56.	372.	407.	136.	1559.	157.	75.	865.40
2.44	.54	.50	.24	.030	.045	.075	.047	582.80	0.00
.000016	500.	970.	730.	2	0	0	0.00	439.97	439.97

*SECNO 17990.000

SECNO	DEPTH	DWSEL	CRIWS	WSELK	EG	HV	HL	BLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	NTH	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ZOC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 150.0 519.0 TYPE= 1 TARGET= -150.000

VALLEY SECTION #41 SECT.AA

17990.00	6.70	871.00	0.00	0.00	871.02	.02	.01	.01	866.90
660.	230.	149.	281.	297.	80.	346.	166.	77.	866.60
2.52	.77	1.37	.73	.080	.045	.080	.047	254.30	150.00
.000344	300.	480.	250.	0	0	0	0.00	251.15	401.15

*SECNO 18400.000

VALLEY SECTION #42 SECT.AB

18400.00	4.60	871.10	0.00	0.00	871.29	.19	.19	.09	866.40
660.	124.	213.	322.	106.	52.	87.	189.	78.	868.00
2.55	1.17	4.13	3.72	.090	.042	.030	.048	866.30	42.47
.002178	38.	410.	310.	2	0	0	0.00	114.48	156.95

*SECNO 18510.000

18510.00	4.55	871.36	0.00	0.00	871.51	.25	.28	.03	868.90
460.	118.	231.	312.	92.	49.	76.	169.	78.	865.50
2.55	1.28	4.74	4.10	.090	.042	.030	.048	855.80	43.03
.003097	110.	110.	110.	2	0	0	0.00	112.83	155.65

*SECNO 18650.000

3470 ENCROACHMENT STATIONS= 150.0 250.0 TYPE= 1 TARGET= -150.000

18650.00	4.34	871.64	0.00	0.00	872.16	.32	.32	.04	870.00
430.	110.	229.	91.	52.	39.	30.	170.	78.	867.70
2.56	2.10	5.87	2.38	.075	.045	.085	.048	867.50	150.00
.005736	150.	140.	120.	2	1	0	0.00	59.22	209.22

*SECNO 18750.000

VALLEY SECTION #43 SECT.AC

18750.00	4.42	872.42	871.95	0.00	872.74	.51	.08	.10	870.70
430.	62.	294.	74.	39.	43.	29.	170.	79.	869.30
2.57	1.57	6.80	2.59	.075	.045	.085	.047	868.00	126.04
.003064	120.	100.	80.	4	9	1	0.00	111.15	237.19

*SECNO 18950.000

SECNO	DEPTH	CWSEL	CRIVS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

18950.00	4.42	873.92	0.00	0.00	874.15	.24	1.14	.02	871.60
430.	133.	227.	71.	36.	44.	50.	171.	79.	871.30
2.58	1.55	5.20	1.43	.075	.045	.085	.047	869.50	82.79
.004682	150.	200.	200.	2	0	0	0.00	120.06	203.85

*SECNO 19110.000

19110.00	3.96	874.66	0.00	0.00	874.91	.25	.75	.01	873.00
430.	50.	209.	171.	31.	38.	111.	171.	79.	873.00
2.59	1.60	5.52	1.34	.075	.042	.080	.047	870.70	33.45
.005436	160.	150.	85.	2	0	0	0.00	143.15	226.95

*SECNO 19250.000

VALLEY SECT. #44 SECT.AC

19250.00	3.60	875.30	0.00	0.00	875.42	.12	.44	.04	872.80
430.	154.	122.	154.	53.	36.	69.	172.	80.	873.30
2.61	2.39	3.39	2.24	.035	.042	.035	.047	871.70	69.92
.002216	140.	140.	140.	2	0	0	0.00	115.47	105.39

*SECNO 19265.000

19265.00	3.53	875.33	0.00	0.00	75.45	.14	.04	.01	872.90
430.	154.	126.	150.	51.	35.	64.	172.	80.	873.40
2.61	3.03	3.58	2.34	.035	.042	.035	.047	871.80	70.42
.002546	15.	15.	15.	2	0	0	0.00	112.49	182.91

*SECNO 19280.000

19280.00	3.46	875.36	0.00	0.00	875.51	.15	.04	.01	873.00
430.	154.	129.	147.	49.	34.	50.	172.	80.	873.50
2.61	3.16	3.76	2.45	.035	.042	.035	.047	871.90	70.87

*0082Y5	15.	15.	15.	0	0	0.00	189.11	180.50	

*SECNO 19295.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	KNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IJC	ICONT	CORAR	TOPWID	ENDST
19295.00	3.40	875.40	0.00	0.00	875.57	.17	.05	.01	875.10
430.	154.	133.	143.	47.	54.	56.	172.	60.	873.60
2.61	3.30	3.95	2.50	.035	.041	.035	.047	872.00	71.50
.003687	15.	15.	15.	0	0	0	0.00	187.21	176.51
*SECNO 19299.000									
19299.00	3.22	875.22	875.20	0.00	875.79	.57	.02	.20	875.10
430.	102.	243.	85.	41.	52.	45.	172.	60.	873.60
2.61	2.48	7.79	1.50	.075	.035	.040	.047	872.00	72.52
.003897	4.	4.	4.	4	12	3	0.00	99.90	172.41

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RELEN	SPC	BJF	SAREA	SE	ELCHU	ELCHD
	0.00	1.00	2.49	0.00	.01	0.00	.01	875.00	872.00	0.00

*SECNO 19300.000

3301 AV CHANGED MORE THAN FVINS

PRESSURE AND WEIR FLOW

IBRPS	TELKC	TS	WEIR	QT	SAREA	TRAP ZBOT	ELLC	ELRC
**********	881.59	0.00	.00	0.	0.00	855.71	0.00	87.40

PRIVATE BAR CAM SECTION 445 SECTBR

19300.00	5.29	881.29	0.00	0.00	881.56	.01	5.51	0.60	875.00
430.	55.	66.	308.	136.	63.	712.	172.	60.	875.00
2.61	.40	1.05	.43	.075	.035	.080	.047	875.00	35.89
.000053	1.	1.	1.	0	0	11	0.00	175.09	213.98
*SECNO 19440.000									
19440.00	5.60	881.30	0.00	0.00	881.30	.00	.00	.00	879.00
430.	5.	423.	2.	42.	1340.	71.	175.	61.	879.00
2.71	.12	.32	.09	.045	.040	.065	.047	875.70	60.91
.003007	150.	140.	0.	2	0	0	0.00	259.63	344.56
*SECNO 19600.000									
19600.00	4.90	881.30	0.00	0.00	881.30	.01	.00	.00	876.00
430.	31.	392.	6.	85.	562.	26.	179.	61.	875.00
2.75	.37	.70	.24	.045	.040	.055	.047	875.50	43.49
.000043	180.	160.	100.	0	0	0	0.00	171.72	215.21

*SECNO 19690.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	FR	HV	HL	CLOSS	BANK ELEV

Q = ..., be high for the embankments, effects is negligible

flow is wier, not low flow

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Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     CSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID    ENDST

3470 ENCROACHMENT STATIONS=      80.0      250.0  TYPE=      1  TARGET=      -80.000
19690.00     4.40   881.30     0.00     0.00   881.31      .01      .00      .00100000.00
   430.       0.     429.       1.       0.     526.       4.     180.      82.     880.00
   2.81     0.00      .82      .14     .045     .040     .065     .047   875.90     80.00
 .000072     100.      90.      70.        0        0        0     0.00   125.50    205.50

*SECNO 19770.000
19770.00     4.00   881.20     0.00     0.00   881.45      .24      .02      .12   879.00
   430.     171.     110.     149.      47.      19.      65.     181.      82.     878.80
   2.82     3.65     5.80     2.30     .045     .040     .065     .047   877.20     70.79
 .006344      72.      80.      85.        2        0        0     0.00    85.24    156.02

*SECNO 19850.000
19850.00     4.09   881.69     0.00     0.00   881.88      .20      .42      .01   879.60
   430.     155.     117.     153.      49.      23.      69.     181.      82.     878.80
   2.82     3.14     5.13     2.29     .045     .040     .065     .047   877.60     69.13
 .004560      72.      80.      85.        2        0        0     0.00    80.55    149.65

*SECNO 19930.000

                    VALLEY SECTION #46                          SECT.AF

19930.00     4.05   882.05     0.00     0.00   882.27      .22      .67      .01   880.40
   430.     181.     134.     115.      54.      27.      56.     181.      82.     880.40
   2.85     3.37     5.06     2.06     .045     .040     .065     .047   878.00     67.83
 .005046      71.      80.      85.        2        0        0     0.00    82.37    150.50

*SECNO 20015.000

                    VALLEY SECTION #47                          SECT.AG

20015.00     4.68   886.53     0.00     0.00   886.85      .30     4.52      .04   883.90
   430.     262.     149.      13.      64.      27.       3.     183.      84.     885.50
   2.89     4.09     5.05     2.17     .035     .042     .040     .047   881.90    131.30
 .005173     865.     885.     885.        4        0        0     0.00    64.08    195.38

*SECNO 21730.000
SECNO    DEPTH    CWSEL    CRIPS    WS LK    EG       HV       GL       GLOSS    BANK ELEV
Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN     CSTA
SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IOC      ICONT    CORAR    TOPWID    ENDST

                    VALLEY SECTION #48                          SECT.AH

21730.00     3.70   889.40     0.00     0.00   889.52      .11     2.63      .06   887.00
   430.      95.     230.     105.      46.      69.      56.     186.      86.     887.40
   2.95     2.05     3.31     1.59     .035     .042     .040     .047   885.70     99.54
 .001831     915.     915.     915.        4        0        0     0.00   125.73    225.27

*SECNO 21860.000
21860.00     3.43   889.73     0.00     0.00   890.02      .26      .41      .06   887.60
   430.      91.     312.      27.      64.      63.      22.     187.      86.     888.20
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    2.99      1.43      4.96      1.22      .070      .042      .070      .047    888.30    124.03
 .004714     160.      150.      130.         2         0         0      0.00    115.96    239.99

*SECNO 22050.000
 22050.00      3.45    890.35      0.00      0.00    890.6[illegible]      .34       .64       .05    886.50
     430.       66.      331.       12.       23.       [illegible]      1[illegible].      18[illegible].       [illegible]7.     838.90
      3.00      1.04      5.27       .78      .085      .0[illegible]      .085      .047    880.90     52.37
 .003117     170.      170.      150.         2         0         0      0.00    131.92    184.29

*SECNO 22175.000

3470 ENCROACHMENT STATIONS=      [illegible]9.0      19[illegible].0  TYPE=      1  TARGET=      1[illegible]9.000

                    U/S FACE SCHOOL ACCESS ROAD CULVERT

 22175.00      3.67    890.77      0.00      0.00    890.99      .21       .26       .04    888.70
     430.      114.      2[illegible].       [illegible]0.       97.       6[illegible].       25.      138.       87.     889.10
      3.01      1.17      4.39       .81      .060      .0[illegible]      .060      .046    887.10     59.00
 .001500     125.      1[illegible]5.      135.         2         0         [illegible]      0.00    137.59    196.59

SPECIAL BRIDGE

BR   XK        XKDS       DOHQ       RDLEN      PWC        [illegible]        PAREA      SS         FLCHU      ELCHD
     0.00       2.17       2.95       0.00       [illegible].00       0.00      12.57       0.00    887.60    887.50

*SECNO 22191.000
PRESSURE AND WEIR FLOW

 FSPRS      EGLLC       HS        UWEIR      UPR        [illegible]        TRAPEZOID      ELLC      FSTRD
                                                                          AREA
  930.21     891.67      0.00      325.       107.       13.        12.       890.90    892.00

                    U/S FACE SCHOOL ACCESS ROAD CULVERT U.S. #49       SECT.AI

 22191.00      5.33    893.18      0.30      0.00    893.21      .03       2.22      0.00    888.80
     430.      155.       57.      215.      145.       20.      211.      188.       87.     [illegible].80
      3.0[illegible]      1.09      2.[illegible]4      1.02      .0[illegible]0      .02[illegible]      .060      .046    [illegible]7.80    155.14
 .000405       16.       16.       15.         [illegible]         [illegible]         [illegible]      0.00    1[illegible].99    294.13

*SECNO 22250.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     [illegible]       HV        HL        GLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLCH      VCH       VROB      XNL       XNCH      XNR       VTR       ELMIN       SSTA
   SLOPE     XLCBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWIC      ENDST

                    VALLEY SECTION #50                                  SECT.AJ

 22250.00      6.90    893.20      0.00      0.00    893.23      .02       .02       .00    891.30
     430.       59.      239.      121.      106.      155.      218.      189.       27.     889.70
      3.03       .65      1.55       .55      .055      .040      .070      .045    8[illegible]5.30     34.94
 .000200       59.       59.       59.         2         0         0      0.00    182.73    257.67

*SECNO 22474.000
 22474.00      5.51    893.21      0.00      0.00    893.49      .28       .15       .13    890.20
     430.      211.      132.       [illegible]7.       73.       21.       31.      190.       88.     890.20
```

3.05	2.57	5.43	2.79	.055	.040	.070	.046	887.70	[illegible]
.007975	224.	224.	224.	2	0	0	0.00	95.02	225.16

*SECNO 22475.000

D/S FACE SCHOOL ACCESS CULVERT #3

22475.00	5.52	893.22	0.00	0.00	893.50	.23	.01	.00	890.20
430.	211.	132.	57.	74.	21.	31.	190.	80.	890.20
3.05	2.36	6.42	2.70	.055	.040	.070	.046	887.70	129.03
.007928	1.	1.	1.	0	0	0	0.00	95.16	225.19

SPECIAL BRIDGE

SB	XK	XKOR	COFC	RDLEN	BWC	EWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.41	3.02	0.00	3.14	0.00	12.57	0.00	896.20	887.70

*SECNO 22491.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
937.01	894.00	0.00	332.	49.	13.	13.	892.20	892.40

U/S FACE SCHOOL ACCESS CULVERT #2 U.S. #51 SECT.AK

22491.00	5.43	893.63	0.00	0.00	893.76	.15	.25	0.00	890.70
430.	240.	101.	60.	111.	20.	41.	190.	80.	889.20
3.05	2.25	5.01	1.98	.055	.040	.070	.046	888.20	115.00
.003679	16.	16.	16.	2	0	0	0.00	112.10	227.19

*SECNO 22492.000

22492.00	5.51	893.71	0.00	0.00	893.80	.09	.00	.02	890.70
430.	279.	63.	88.	117.	21.	42.	190.	80.	889.20
3.05	2.37	3.07	2.07	.035	.044	.045	.046	888.20	112.58
.001834	1.	1.	1.	2	0	0	0.00	115.12	227.69

*SECNO 23210.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	LOBAR	TOPWID	ENDST

VALLEY SECTION #52 SECT.AL

23210.00	4.11	894.71	0.00	0.00	894.72	.06	.97	.01	895.20
430.	165.	111.	155.	79.	4[illegible].	47.	194.	90.	89[illegible].40
3.15	2.02	2.30	1.60	.035	.042	.045	.045	893.60	29.49
.001126	718.	718.	718.	3	0	0	0.00	132.02	161.51

*SECNO 23390.000

VALLEY SECTION #53 SECT.AM

23390.00	3.90	895.00	0.00	0.00	895.13	.13	.32	.03	894.80

	450.	20.	171.	[illegible]	25.	47.	99.	145.	97.	995.30
	3.17	1.14	5.66	2.34	.048	.044	.045	.046	491.20	130.34
	.003313	150.	130.	150.	2	0	0	0.00	143.75	274.10

*SECNO 23460.000

D/S FACE WALNUT LAKE ROAD CULVERT

23460.00	3.98	895.02	0.00	0.00	895.43	.35	.19	.11	894.70	
430.	19.	27.	124.	32.	50.	115.	195.	91.	892.90	
3.17	.60	5.75	1.08	.085	.024	.085	.046	491.10	123.22	
.002239	70.	70.	70.	2	0	0	0.00	195.21	278.42	

SPECIAL BRIDGE

SF	KK	XKOR	CORD	RDLEN	RSC	SAF	SAREA	PE	FLCHD	FLCAD
	0.00	2.60	3.07	0.00	4.30	0.30	14.30	0.00	391.40	391.10

*SECNO 23527.000
PRESSURE AND WEIR FLOW

PSECO	PGLWC	HS	QWEIR	QPR	AAREA	TRAPEZOID AREA	ELLC	ELTRD
931.59	895.76	0.00	277.	154.	14.	14.	894.70	892.90

D/S FACE WALNUT LAKE ROAD CULVERT [illegible] 894. 894 SSTA=

23527.00	3.52	899.72	0.00	0.00	899.75	.02	4.31	0.00	892.60	
420.	161.	97.	172.	326.	44.	329.	195.	91.	892.90	
3.20	.49	2.21	.51	.085	.024	.085	.046	391.40	351.79	
.010099	67.	67.	7.	2	0	0	0.00	225.53	275.47	

*SECNO 23539.000

3470 ENCROACHMENT STATIONS= 95.0 415.0 TYPE= 1 TARGET= -95.000

23539.01	7.65	899.75	0.00	0.00	899.76	.01	.01	.01	895.10	
430.	155.	77.	198.	474.	115.	464.	202.	94.	895.10	
3.40	.33	.67	.43	.030	.025	.030	.046	492.10	95.00	
.000012	350.	512.	300.	2	0	0	0.00	520.00	415.00	

*SECNO 23540.000

SECNO	DEPTH	CWSEL	CRINS	ROBLR	VEL	EV	HL	ELTRD	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	WSL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	RTW	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 895.10 MAX ELLC= 894.50

3470 ENCROACHMENT STATIONS= 95.0 415.0 TYPE= 1 TARGET= -95.000

D/S FACE WALKWAY BRIDGE

23840.00	7.65	899.75	0.00	0.00	899.75	.00	.00	.00	895.10	
430.	172.	37.	221.	474.	105.	464.	202.	94.	895.10	
3.40	.36	.35	.48	.030	.025	.030	.046	492.10	95.00	

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 .000 14        1.        1.        1.        0         0         0   -10.20    320.00    415.00

*SECNO 23843.000

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.10 MAX ELLC=  894.50

3470 ENCROACHMENT STATIONS=       95.0      415.0  TYPE=      1  TARGET=      -95.000

                 U/S FACE WALKWAY BRIDGE  B.S. #66-A                  SECT.AD

 23843.00      7.65    899.75      0.00      0.00    899.76       .00       .00       .00    895.10
     430.      172.       37.      221.      474.      105.      464.      202.       94.    895.10
     3.40       .36       .35       .48      .030      .025      .030      .046    892.10     95.00
  .000014        3.        3.        3.         0         0         0   -10.20    320.00    415.00

*SECNO 23844.000

3470 ENCROACHMENT STATIONS=       95.0      415.0  TYPE=      1  TARGET=      -95.000
 23844.00      7.65    899.75      0.00      0.00    899.76       .00       .00       .00    895.10
     430.      155.       77.      196.      474.      115.      464.      202.       94.    895.10
     3.40       .33       .67       .43      .030      .025      .030      .046    892.10     95.00
  .000012        1.        1.        1.         0         0         0      0.00    320.00    415.00

*SECNO 24009.000

3470 ENCROACHMENT STATIONS=      180.0      422.0  TYPE=      1  TARGET=     -180.000
 24009.00      7.75    899.75      0.00      0.00    899.76       .01       .00       .00    896.10
     430.      236.       94.      100.      469.      104.      186.      206.       95.    895.50
     3.46       .50       .90       .54      .030      .025      .030      .046    892.00    180.00
  .000024      150.      165.      175.         0         0         0      0.00    242.00    422.00

*SECNO 24010.000

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.50 MAX ELLC=  895.50

3470 ENCROACHMENT STATIONS=      180.0      422.0  TYPE=      1  TARGET=     -180.000

                 D/S FACE WALKWAY BRIDGE

 24010.00      7.76    899.76      0.00      0.00    899.76       .01       .00       .00    896.10
     430.      268.       49.      114.      469.       96.      186.      206.       95.    895.50
     3.45       .57       .51       .61      .030      .025      .030      .046    892.00    180.00
  .000031        1.        1.        1.         0         0         0     -7.75    242.00    422.00

*SECNO 24014.000
   SECNO     DEPTH     CWSEL     CRIMS     WSELK     ES        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       SWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOWL     XLCH      XLOWR     ITRIAL    IPC       ICONT     DEPAR     TOPWIL      CNDST

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.50 MAX ELLC=  895.50

3470 ENCROACHMENT STATIONS=      180.0      422.0  TYPE=      1  TARGET=     -180.000

                 U/S FACE WALKWAY BRIDGE  B.S. #66                    SECT.AD
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24014.00     7.75    899.75     0.00     0.00    899.76      .01      .00      .00    896.10
    430.     258.      49.     114.     469.      96.     186.     206.      95.     895.50
    3.48      .57      .51      .61     .030     .025     .030     .046   892.00    180.00
 .000031       4.       4.       4.        0        0        0    -7.75   242.00    422.00

*SECNO 24015.000

3470 ENCROACHMENT STATIONS=      180.0      422.0  TYPE=      1  TARGET=     -180.000
24015.00     7.75    899.75     0.00     0.00    899.76      .01      .00      .00    896.10
    430.     236.      94.     100.     469.     104.     186.     206.      95.     895.50
    3.48      .50      .90      .54     .030     .025     .030     .046   892.00    180.00
 .000024       1.       1.       1.        0        0        0     0.00   242.00    422.00

*SECNO 24064.000
24064.00     7.96    899.76     0.00     0.00    899.76      .00      .00      .00    895.80
    430.     280.      58.      82.     543.      87.     165.     207.      95.     895.80
    3.51      .57      .78      .50     .030     .025     .030     .046   891.80    153.05
 .000019       49.      49.      49.        0        0        0     0.00   222.95    376.00

*SECNO 24065.000

3370 NORMAL BRIDGE,NRC= 12 MIN FLTRD=  894.00 MAX FLLC=  895.00

                    U/S FACE WALKWAY BRIDGE

24065.00     7.96    899.76     0.00     0.00    899.76      .00      .00      .00    895.80
    430.     307.      33.      90.     543.      77.     165.     207.      95.     895.80
    3.51      .57      .43      .55     .030     .025     .030     .046   891.80    153.04
 .000023       1.       1.       1.        0        0        0   -10.00   222.97    376.00

*SECNO 24070.000

3370 NORMAL BRIDGE,NRC= 12 MIN FLTRD=  894.00 MAX FLLC=  895.00

                    U/S FACE WALKWAY BRIDGE  D.S. #67                  SECT.A2

24070.00     7.96    899.76     0.00     0.00    899.76      .00      .00      .00    895.80
    430.     307.      33.      90.     543.      77.     165.     207.      95.     895.80
    3.51      .57      .43      .54     .030     .025     .030     .046   891.80    153.03
 .000023       5.       5.       5.        0        0        0   -10.00   222.97    376.00

*SECNO 24071.000
   SECND     DEPTH     CWSEL     CRIWS     WSELR     FR        HV        HL        GLOSS    BANK ELEV
   H         QLOB      QCH       QROC      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TINF      VLOB      VCH       VROC      XNL       XNCH      XNR       ITR       HLMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     COBAR     TOPWID     ENDST

24071.00     7.96    899.76     0.00     0.00    899.76      .00      .00      .00    895.80
    430.     280.      68.      82.     543.      87.     165.     207.      95.     895.80
    3.51      .52      .70      .50     .030     .025     .030     .046   891.80    153.03
 .000019       1.       1.       1.        0        0        0     0.00   222.97    376.00

*SECNO 24179.000

3470 ENCROACHMENT STATIONS=      145.0      330.0  TYPE=      1  TARGET=     -145.000
24179.00     8.06    899.76     0.00     0.00    899.76      .00      .00      .00    895.20
    430.     305.      61.      63.     639.     101.     169.     209.      96.     896.30
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     3.59      .48      .61      .37      .030     .025     .030     .045   891.70   145.00
  .000011     150.     103.     100.        0        0        0     0.00   185.00   330.00

*SECNO 24130.000

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  894.00 MAX ELLC=  895.10

3470 ENCROACHMENT STATIONS=      145.0      330.0  TYPE=      1  TARGET=     -145.000

                D/S FACE WALKWAY BRIDGE

 24120.00     8.06   899.76     0.00     0.00   899.76      .00      .00      .00   895.20
     430.     335.      27.      68.     640.      85.     167.     209.      96.   896.30
     3.59      .52      .32      .41     .030     .025     .030     .045   891.70   145.00
  .000013       1.       1.       1.        0        0        0   -18.90   185.00   330.00

*SECNO 24135.000

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  894.00 MAX ELLC=  895.10

3470 ENCROACHMENT STATIONS=      145.0      330.0  TYPE=      1  TARGET=     -145.000

                D/S FACE WALKWAY BRIDGE  B.S. #68                    SECT.AR

 24135.00     8.06   899.76     0.00     0.00   899.76      .00      .00      .00   895.20
     430.     335.      27.      68.     640.      85.     167.     209.      96.   896.30
     3.59      .52      .32      .41     .030     .025     .030     .045   891.70   145.00
  .000013       5.       5.       5.        0        0        0   -18.90   185.00   330.00

*SECNO 24136.000

3470 ENCROACHMENT STATIONS=      145.0      330.0  TYPE=      1  TARGET=     -145.000
 24136.00     8.06   899.76     0.00     0.00   899.76      .00      .00      .00   895.20
     430.     305.      61.      68.     640.     102.     169.     209.      96.   896.30
     3.59      .48      .61      .37     .030     .025     .030     .045   891.70   145.00
  .000011       1.       1.       1.        0        0        0     0.00   185.00   330.00

*SECNO 24339.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   0         OLOB      OCH       OROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       HTN       ELMIN      ESTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    ISC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=      330.0      550.0  TYPE=      1  TARGET=      220.000
 24339.00     9.76   899.76     0.00     0.00   899.77      .01      .00      .00   896.30
     430.     198.      15.     216.     341.      46.     353.     213.      97.   896.30
     3.68      .58      .35      .61     .020     .023     .020     .045   890.00   330.00
  .000014     225.     153.     153.        0        0        0     0.00   220.00   550.00

*SECNO 24340.000

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  896.30 MAX ELLC=  895.00

3470 ENCROACHMENT STATIONS=      330.0      550.0  TYPE=      1  TARGET=      220.000

                D/S FACE DOHERTY ROAD BRIDGE
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 24340.00     9.76   899.76     0.00     0.00   899.77      .01      .00      .00   896.30
     430.     202.       8.     220.     341.      37.     353.     213.      97.    896.30
     3.69      .59      .22      .62     .020     .033     .020     .045   890.00   330.00
  .000014       1.       1.       1.        0        0        0    -9.00   220.00   550.00

*SECNO 24380.000

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  896.30 MAX ELLC=  895.50

3470 ENCROACHMENT STATIONS=      330.0      550.0  TYPE=      1  TARGET=      220.000

                 U/S FACE DOHERTY ROAD BRIDGE  B.S. #54                SECT.AS

 24350.00     9.26   899.76     0.00     0.00   899.77      .01      .00      .00   896.30
     430.     202.       8.     220.     342.      37.     353.     214.      97.    896.30
     3.70      .59      .22      .62     .020     .033     .020     .045   890.50   330.00
  .000014      40.      40.      40.        0        0        0    -8.50   220.00   550.00

*SECNO 24381.000

3470 ENCROACHMENT STATIONS=      330.0      550.0  TYPE=      1  TARGET=      220.000
 24381.00     9.26   899.76     0.00     0.00   899.77      .01      .00      .00   896.30
     430.     174.      28.     227.     342.      44.     353.     214.      97.    896.30
     3.70      .51      .64      .64     .060     .047     .050     .045   890.50   330.00
  .000095       1.       1.       1.        0        0        0     0.00   220.00   550.00

*SECNO 24455.000

3470 ENCROACHMENT STATIONS=      250.0      515.0  TYPE=      1  TARGET=      265.000

                 VALLEY SECTION #70                                SECT.AT

 24455.00     7.27   899.77     0.00     0.00   899.77      .00      .00      .00   894.20
     430.     441.      41.     141.     797.      97.     343.     216.      97.    894.10
     3.75      .30      .49      .41     .060     .047     .050     .045   892.50   250.00
  .000021      74.      74.      74.        0        0        0     0.00   265.00   515.00

*SECNO 25350.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     CW        HV        VL        QLOSS    BANK ELEV
   D         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       JTN       DLYIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 25350.00     4.41   899.81     0.00     0.00   899.85      .04      .05      .02   897.10
     430.     164.     158.     129.     168.      56.     132.     231.     102.    897.10
     3.92      .93     2.46      .97     .020     .047     .080     .045   595.40    37.33
  .001042     800.     895.     900.        1        0        0     0.00   170.81   208.14

*SECNO 25700.000

3470 ENCROACHMENT STATIONS=      200.0      640.0  TYPE=      1  TARGET=     -200.000

                 VALLEY SECTION #71                                SECT.AU

 25700.00     3.54   900.04     0.00     0.00   900.04      .00      .19      .01   898.20
     430.     215.      44.     170.     493.      44.     396.     237.     105.    898.20
     4.16      .44     1.00      .43     .080     .047     .080     .045   896.50   200.00
  .000241     550.     350.     300.        1        0        0     0.00   504.15   704.15
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*SECNO 25749.000

3470 ENCROACHMENT STATIONS=        .0      900.0  TYPE=      1  TARGET=      899.999
 25749.00      3.33    900.03      0.00      0.00    900.11       .09       .03       .04    900.00
     430.       51.      200.      109.       86.       60.      182.      238.      105.    899.60
     4.17       .71      3.30       .53      .080      .047      .080      .045    896.70    377.94
  .004510       49.       49.       49.         2         0         0      0.00    522.06    900.00

*SECNO 25750.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  899.20 MAX ELLC=  899.00

3470 ENCROACHMENT STATIONS=        .0      900.0  TYPE=      1  TARGET=      899.999

                 D/S FACE SIDEWALK BRIDGE

 25750.00      3.41    900.11      0.00      0.00    900.13       .03       .00       .02    900.00
     430.      112.       35.      284.      102.       35.      205.      238.      105.    899.60
     4.17      1.09      1.00      1.39      .030      .028      .030      .045    896.70    372.35
  .001203        1.        1.        1.         2         0         0    -28.00    527.65    900.00

*SECNO 25759.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD=  899.20 MAX ELLC=  899.00

3470 ENCROACHMENT STATIONS=        .0      900.0  TYPE=      1  TARGET=      899.999

                 U/S FACE SIDEWALK BRIDGE  I.C. #72                  SECT.AV

 25759.00      3.42    900.12      0.00      0.00    900.14       .02       .01       .00    900.00
     430.      112.       34.      283.      108.       35.      210.      238.      106.    899.60
     4.17      1.07       .90      1.35      .030      .028      .030      .045    896.70    371.04
  .001101        9.        9.        9.         1         0         0    -28.00    528.91    900.00

*SECNO 25760.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     FG        HV        HL        QLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VCL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       VTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     XTRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=        .0      900.0  TYPE=      1  TARGET=      899.999
 25760.00      3.42    900.12      0.00      0.00    900.13       .03       .00       .00    900.00
     430.       84.      134.      211.      105.       63.      208.      238.      105.    899.60
     4.17       .80      2.13      1.01      .030      .028      .030      .045    896.70    371.49
  .000631        1.        1.        1.         0         0         0      0.00    528.51    900.00

*SECNO 25760.000

3470 ENCROACHMENT STATIONS=      220.0      840.0  TYPE=      1  TARGET=     -220.000

                 D/S FACE ORCHARD LAKE ROAD BRIDGE

 25780.00      4.15    900.16      0.00      0.00    900.16       .00       .00       .01    898.20
     430.      204.       50.      175.      494.       50.      426.      238.      106.    898.20
     4.15       .42      1.02       .41      .035      .020      .037      .045    895.00    220.00
  .000039       20.       20.       20.         2         0         0      0.00    501.74    721.74
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SPECIAL BRIDGE

SD	XK	XKOR	CDFQ	RCLEV	SSC	DWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.95	3.02	0.00	6.20	0.00	19.25	0.00	896.00	896.00

*SECNO 25822.000
PRESSURE AND WEIR FLOW

FGPRS	EGLWL	HS	QWSTR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
515.26	900.98	0.00	257.	175.	19.	19.	849.10	902.50

3470 ENCROACHMENT STATIONS= 430.0 940.0 TYP = 1 TARGET= 510.000

U/S FACE ORCHARD LAKE ROAD BRIDGE B.C. #73 SECT.A4

25822.00	6.52	902.52	0.00	0.00	902.65	.13	2.49	0.00	896.50
430.	126.	168.	135.	116.	38.	116.	239.	105.	896.00
4.19	1.07	4.39	1.12	.035	.020	.035	.045	896.00	430.00
.000292	42.	42.	42.	2	0	7	0.00	510.00	940.00

*SECNO 26700.000

VALLEY SECTION #74 SECT.A4

26700.00	3.34	903.04	0.00	0.00	903.05	.01	.37	.04	901.30
430.	235.	53.	138.	321.	31.	192.	247.	115.	901.20
4.47	.75	1.60	.72	.065	.047	.070	.045	399.70	86.68
.000708	750.	878.	950.	2	0	0	0.00	390.71	477.59

*SECNO 26900.000

3470 ENCROACHMENT STATIONS= 135.0 442.0 TYPE= 1 TARGET= 307.000

26900.00	2.75	903.25	0.00	0.00	903.26	.03	.22	.01	902.00
430.	161.	59.	190.	166.	25.	175.	249.	117.	902.00
4.51	1.09	2.26	1.08	.065	.047	.070	.045	900.50	135.00
.001455	160.	200.	220.	2	0	0	0.00	307.00	442.00

*SECNO 27000.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	[illegible]	HV	HL	BLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	LMIN	NSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWIC	ENDST

3470 ENCROACHMENT STATIONS= 132.0 377.0 TYPE= 1 TARGET= 257.000

27000.00	2.70	903.50	0.00	0.00	903.55	.05	.26	.01	902.30
430.	222.	77.	130.	159.	25.	92.	250.	117.	902.30
4.53	1.40	3.03	1.42	.065	.047	.070	.045	900.80	124.16
.003571	100.	100.	100.	2	0	0	0.00	254.81	379.00

*SECNO 27050.000

3470 ENCROACHMENT STATIONS= 134.0 366.0 TYPE= 1 TARGET= 232.000

27050.00	2.68	903.68	0.00	0.00	903.74	.06	.19	.00	902.50

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     430.      235.       91.      113.      155.       25.       76.      250.      118.      902.30
     4.53      1.51      3.22      1.20      .065      .047      .070      .045    901.00    134.00
  .004069       50.       50.       50.         2         0         0      0.00    232.00    366.00

*SECNO 27075.000

3470 ENCROACHMENT STATIONS=      156.0      405.0  TYPE=      1  TARGET=      219.000
 27075.00      2.69    903.79      0.00      0.00    903.84       .05       .05       .00    902.60
     430.      185.       76.      170.      122.       25.      121.      250.      118.      902.60
     4.54      1.51      3.00      1.40      .065      .047      .070      .045    901.10    186.00
  .003537       25.       25.       25.         0         0         0      0.10    219.00    405.00

*SECNO 27088.000

3470 ENCROACHMENT STATIONS=      160.0      372.0  TYPE=      1  TARGET=      212.000
 27088.00      2.63    903.83      0.00      0.00    903.90       .08       .05       .01    902.20
     430.      200.       99.      130.      117.       28.       95.      250.      118.      902.30
     4.56      1.71      3.60      1.38      .065      .047      .070      .045    901.20    160.00
  .004417       13.       13.       13.         1         0         0      0.00    212.00    372.00

*SECNO 27250.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VCL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=        .0      343.0  TYPE=      1  TARGET=      312.999
 27250.00      3.34    905.14    905.14      0.00    905.63       .49      1.13       .21    903.30
     430.       63.      240.      127.       27.       33.       55.      251.      118.      903.30
     4.55      2.34      7.25      2.30      .065      .047      .070      .045    901.80    175.34
  .014351      152.      152.      152.         6        11         0      0.00    [illegible].75    302.63

*SECNO 27410.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VCL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=      224.0      321.0  TYPE=      1  TARGET=      104.000
 27410.00      4.15    906.56      0.00      0.00    906.75       .22      1.08       .08    903.90
     430.       43.      214.      173.       26.       43.       37.      251.      119.      903.90
     4.56      1.64      4.97      1.99      .065      .047      .070      .065    902.40    224.00
  .004782      225.      160.       75.         3         0         0      0.00    104.00    326.00

*SECNO 27440.000

3470 ENCROACHMENT STATIONS=      222.0      311.0  TYPE=      1  TARGET=       39.000
 27440.00      4.16    906.68      0.00      0.00    906.92       .22       .13       .01    904.00
     430.       45.      218.      167.       27.       43.       74.      251.      119.      904.00
     4.56      1.65      5.04      3.24      .065      .047      .070      .045    902.50    222.00
  .004874       40.       30.       20.         3         0         0      0.00     39.00    311.00

*SECNO 27470.000
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3470 ENCROACHMENT STATIONS=      229.0      303.0  TYPE=      1  TARGET=      74.000
 27470.00      4.22    906.82      0.00      0.00    907.07       .25       .15       .01    904.10
     430.       43.      226.      157.       27.       44.       55.      251.      119.    904.10
     4.57      1.77      5.15      2.39      .065      .047      .070      .045    902.80    229.00
  .004993       30.       30.       30.         0         0         0      0.00     74.00    303.00

*SECNO 27500.000

3470 ENCROACHMENT STATIONS=      223.0      287.0  TYPE=      1  TARGET=      59.000
 27500.00      4.11    906.91      0.00      0.00    907.30       .45       .19       .10    904.30
     430.       51.      272.      107.       24.       42.       35.      252.      119.    904.30
     4.57      2.15      6.42      3.07      .065      .047      .070      .045    902.80    228.00
  .008117       30.       30.       30.         2         0         0      0.00     59.00    287.00

*SECNO 27510.000

3470 ENCROACHMENT STATIONS=      231.0      285.0  TYPE=      1  TARGET=      54.000

                U/S FACE PRIVATE BRIDGE

 27510.00      4.08    906.38      0.00      0.00    907.44       .56       .03       .06    904.30
     430.       44.      296.       90.       22.       42.       30.      252.      119.    904.30
     4.57      1.99      7.02      2.99      .030      .015      .030      .045    902.80    231.00
  .001437       10.       10.       10.         2         0         0      0.00     54.00    285.00

SPECIAL BRIDGE

SD  XK        XKCR      COFD      POLEN     DWD       DWF       BAREA     SS        ELCHU     ELCHD
     0.00      1.70      2.94      0.00      3.40      0.10     12.60      0.00    902.80    902.80

*SECNO 27532.000

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIME     WSELK     EG        HV        L         HLOSS     BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XML       XNCH      XNR       LTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

PRESSURE AND WEIR FLOW

 ECPTS      EGLWC      WS        QWEIR      OPR       BAREA     TRAPEZOID     ELLC      ELTRD
                                                                  AREA
   933.27    917.64      0.00      255.      176.       14.       14.       906.80    909.90

3470 ENCROACHMENT STATIONS=      305.0      359.0  TYPE=      1  TARGET=      54.000

                U/S FACE PRIVATE BRIDGE  3.5. #75                    SECT.AY

 27532.00      8.44    911.24      0.00      0.00    911.29       .05      3.84      0.00    902.80
     430.      197.       97.      136.      156.       34.      121.      252.      119.    902.80
     4.57      1.25      2.80      1.12      .030      .018      .030      .045    902.80    305.00
  .000071       22.       22.       22.         2         0         0      0.00     54.00    359.00

*SECNO 27590.000

                VALLEY SECTION #75                                   SECT.AZ
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27590.00	6.44	911.14	0.00	0.00	911.41	.27	.01	.11	906.60	
430.	138.	247.	45.	34.	55.	11.	252.	119.	907.10	
4.57	4.10	4.50	2.49	.030	.040	.042	.045	904.70	6.30	
.001745	58.	58.	56.	2	0	0	0.00	25.00	25.00	

*SECNO 27640.000

D/S FACE GREEN ROAD CULVERT

27640.00	7.41	911.21	0.00	0.00	911.54	.33	.10	.05	906.80
430.	102.	235.	45.	35.	41.	24.	252.	119.	906.90
4.58	2.68	5.64	3.87	.040	.032	.040	.045	904.80	253.97
.002401	50.	50.	50.	2	0	0	0.00	25.72	240.69

SPECIAL BRIDGE

SO	XK	XKOR	CDFD	ROLEN	ANC	PWP	AREA	SS	FLCHO	ELCHO
	0.00	3.08	3.02	0.00	4.70	0.00	28.30	0.00	904.70	904.70

*SECNO 27732.000

PRESSURE AND WEIR FLOW

ESPRS	ECLWC	KS	QWEIR	APR	SAREA	TRAP:2OBD AREA	ELLC	ELTRD
922.25	912.44	0.00	249.	122.	28.	28.	910.70	912.00

3470 ENCROACHMENT STATIONS= 200.0 650.0 TYPE= 1 TARGET= -200.000

U/S FACE GREEN ROAD CULVERT C.O. 877 SECT.9A

27732.00	7.40	913.10	0.00	0.00	913.15	.05	1.55	.00	907.70
431.	165.	159.	109.	110.	47.	59.	254.	119.	907.70
4.59	1.50	3.36	1.80	.040	.032	.040	.045	904.70	200.00
.000644	92.	92.	92.	2	0	7	6.00	110.58	310.58

*SECNO 28110.000

VALLEY SECTION 878 SECT.3D

28110.00	6.33	913.33	0.00	0.00	913.36	.03	.15	.02	907.80
123.	84.	74.	5.	27.	68.	9.	254.	120.	911.80
4.67	.90	1.46	.56	.035	.032	.033	.045	907.80	2.36
.000139	570.	570.	570.	2	0	0	0.00	51.62	54.00

*SECNO 28135.000

SECNO	SEPTH	CRSEL	LRIVS	NSELK	LR	RV	AL	BLOCK	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	VNL	VNCH	VNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAT	TOPWID	CONST

3470 ENCROACHMENT STATIONS= 10.0 25.0 TYPE= 1 TARGET= 17.000

28135.00	5.53	913.38	0.00	0.00	913.39	.05	.01	.02	907.80
123.	9.	113.	1.	8.	54.	2.	254.	120.	912.40
4.67	1.07	2.09	.63	.035	.032	.033	.045	907.80	10.00
.000398	25.	25.	25.	2	0	0	0.00	19.00	29.00

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*SECNO 28147.000

3470 ENCROACHMENT STATIONS=      15.0      26.0  TYPE=     1  TARGET=      15.000
 28147.00      5.19    913.30      0.00      0.00    913.43      .13       .01       .03100000.00
      123.        0.      123.        0.        0.      45.       3.      254.      120.  100000.00
     4.68       0.00      2.89      0.00      .035      .032      .033      .045    903.20     13.00
 .001359         15.       12.       12.         2         0         0      0.00     15.00     26.00


*SECNO 28159.000
 28159.00      5.59    913.19      0.00      0.00    913.59      .39       .05       .13    913.70
      123.        0.      123.        0.        0.      25.       0.      254.      120.    913.70
     4.68       0.00      5.01      0.00      .045      .032      .033      .045    906.60    200.00
 .004991         12.       12.       12.         2         0         0      0.00      0.00    205.00


*SECNO 28160.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=    913.00 MAX ELLC=    914.00

                    D/S FACE DOMINION DRIVE CULVERT

 28160.00      4.57    913.17      0.00      0.00    913.62      .45       .01       .03    915.70
      123.        0.      123.        0.        0.      25.       0.      254.      120.    913.70
     4.68       0.00      5.36      0.00      .020      .033      .020      .045    909.60    200.00
 .007423          1.        1.        1.         2         0         0     -1.57      6.00    205.00


*SECNO 28275.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=    913.00 MAX ELLC=    915.70

                    U/S FACE DOMINION DRIVE CULVERT       SECT.NO

 28275.00      4.35    914.05      0.00      0.00    914.55      .50       .01       .02    915.70
      123.        0.      123.        0.        0.      22.       0.      254.      120.    913.70
     4.68       0.00      5.65      0.00      .020      .033      .020      .045    909.70    200.00
 .002372        115.      115.      115.         2         0         1     -1.35      5.00    205.00


*SECNO 28276.000
   SECNO      DEPTH      CHSL       CRIT       HSELR        LB         HV         HL        CLOSS    BANK ELEV
       0       OLOD       QCH       QROI       ALOB       ACH       AROB       VOL        TVA    LEFT/RIGHT
    TIME       VLOE       VCH       VROI       XNL       XNCH       XNR       ITM       ELMIN       SSTA
   SLOPE       XLOSL      XLCH      XLOSR      ITRIAL      IUC       ICONT     CORAR      TOPWID      FLOST


 28276.00      4.46    914.16      0.00      0.00    914.56      .41       .01       .02    915.70
      123.        0.      123.        0.        0.      24.       0.      254.      120.    915.70
     4.68       0.00      5.17      0.00      .030      .033      .040      .045    909.70    200.00
 .005744          1.        1.        1.         2         0         0      0.00      6.00    205.00


*SECNO 28310.000

                    VALLEY SECTION 900                    SECT.NO

 28310.00      4.79    914.69      0.00      0.00    914.72      .03       .02       .12    916.40
      123.        0.      163.        0.        0.      50.       0.      254.      120.    916.60
     4.69       0.00      1.37      0.00      .030      .043      .040      .045    909.90     29.99
 .000235         34.       34.       34.         2         0         0      0.00     30.19     60.02
```

*SECNO 28396.000

28396.00	4.31	914.71	0.00	0.00	914.75	.04	.03	.01	916.00
123.	0.	123.	0.	0.	73.	0.	254.	120.	917.80
4.70	0.00	1.69	0.00	.035	.033	.035	.045	910.40	37.31
.000391	60.	58.	110.	2	0	0	0.00	25.27	63.28

*SECNO 28482.000

28482.00	3.74	914.74	0.00	0.00	914.33	.09	.35	.02	915.30
123.	0.	123.	0.	0.	51.	0.	254.	120.	917.00
4.71	0.00	2.42	0.00	.035	.033	.033	.045	911.00	43.05
.001079	56.	56.	86.	0	0	0	0.00	22.34	65.70

*SECNO 28525.000

28525.00	3.41	914.71	0.00	0.00	915.03	.33	.39	.12	915.00
123.	0.	123.	0.	0.	27.	0.	254.	120.	916.50
4.72	0.30	4.58	0.00	.035	.043	.035	.045	911.30	50.39
.005797	43.	43.	43.	1	0	0	0.00	15.75	56.15

*SECNO 28566.000

SECNO	DEPTH	CWSEL	CRWS	WSELK	FR	HV	-L	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TRA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTH	CLMIN	CSTA
SLOPE	XLOCL	XLOCH	XLOCR	ITRIAL	ICC	ICONT	CCRAB	TOPWID	ENDST
28566.00	3.50	915.00	0.00	0.00	915.27	.23	.22	.02	915.00
123.	0.	123.	0.	0.	27.	0.	254.	120.	916.20
4.73	0.00	4.21	0.00	.035	.043	.033	.045	911.50	51.00
.004630	43.	43.	43.	2	0	0	0.00	15.02	57.68

*SECNO 2 655.000

VALLEY SECTION #1 ACT=0

28655.00	3.36	915.44	0.00	0.00	915.72	.28	.45	.00	914.10
123.	10.	113.	0.	5.	26.	0.	254.	120.	915.50
4.72	2.11	4.38	0.00	.040	.036	.030	.045	912.10	52.60
.005659	100.	97.	100.	1	0	0	0.00	20.80	73.77

*SECNO 28665.000

3470 ENCROACHMENT STATIONS= 43.0 92.0 TYPE= 1 TARGET= 49.000

28665.00	3.17	915.47	0.00	0.00	915.72	.25	.06	.03	914.30
123.	5.	115.	0.	4.	24.	0.	254.	120.	915.70
4.73	2.22	4.46	0.00	.040	.038	.035	.045	913.30	53.83
.007460	10.	10.	10.	2	0	0	0.00	19.38	75.21

*SECNO 2 675.000

3470 ENCROACHMENT STATIONS= 43.0 92.0 TYPE= 1 TARGET= 44.000

28675.00	2.68	915.40	0.00	0.00	916.01	.55	.10	.09	914.60
123.	5.	113.	0.	2.	20.	0.	254.	120.	916.00
4.73	2.39	5.93	0.00	.040	.036	.031	.045	912.50	55.33
.012366	10.	10.	10.	2	1	0	0.00	19.11	72.19

*SECNO 28685.000

3470 ENCROACHMENT STATIONS= 48.0 87.0 TYPE= 1 TARGET= 39.000

25[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
123.	4.	119.	0.	2.	19.	0.	254.	120.	916.20	
4.73	2.42	6.37	0.00	.040	.039	.038	.045	912.30	55.91	
.015300	10.	10.	10.	0	11	0	0.00	15.54	71.35	

*SECNO 2[illegible]95.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	ES	AV	AL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	CNDST

7105 MINIMUM SPECIFIC ENERGY
5720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 50.0 66.0 TYPE= 1 TARGET= 34.000

2[illegible]95.00	2.72	915.72	915.72	0.00	916.[illegible]	.07	.16	.03	915.00
123.	3.	120.	0.	1.	19.	0.	254.	120.	915.40
4.73	2.43	6.65	0.00	.040	.039	.038	.045	913.30	56.22
.017163	10.	10.	10.	0	5	0	0.00	19.42	71.64

*SECNO 20705.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	ES	AV	AL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	CNDST

7105 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 55.0 82.0 TYPE= 1 TARGET= 29.000

20705.00	2.71	916.01	916.01	0.00	916.69	.06	.17	.00	915.30	912.94
123.	3.	120.	0.	1.	19.	0.	254.	120.	916.70	
4.73	2.43	6.67	0.00	.040	.038	.038	.045	913.50	56.25	
.017352	10.	10.	10.	[illegible]	5	0	0.00	15.57	71.42	

*SECNO 20715.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	ES	AV	AL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	CNDST

7105 MINIMUM SPECIFIC ENERGY
5720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 55.0 79.0 TYPE = 1 TARGET= 24.000

20715.00	2.71	916.21	916.21	0.00	916.69	.05	.17	.00	915.50	
123.	3.	120.	0.	1.	19.	0.	254.	120.	916.90	913.01
4.73	2.43	6.63	0.00	.040	.038	.038	.045	913.50	56.26	
.017357	10.	10.	11.	0	5	0	0.00	15.58	71.62	

*SECNO 20727.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	ES	AV	AL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	CNDST

7105 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 58.0 76.0 TYPE= 1 TARGET= 18.000

25727.00	2.65	916.48	915.43	0.00	917.14	.72	.22	.02	915.30
123.	3.	120.	0.	1.	10.	0.	254.	120.	917.20
4.73	2.83	6.06	0.00	.040	.036	.035	.045	913.30	50.30
.018643	12.	12.	12.	2	3	0	0.00	13.50	71.50

*SECNO 28739.000

28739.00	2.84	916.94	0.00	0.00	917.43	.50	.17	.07	918.20
123.	0.	123.	0.	0.	22.	0.	254.	120.	918.70
4.73	0.00	5.65	0.00	.040	.036	.038	.045	914.10	91.13
.011547	12.	12.	12.	5	0	0	0.00	13.51	104.63

*SECNO 28740.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	ANCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ISC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 918.00 MAX ELLC= 919.80

U/S FACE PRIVATE BRIDGE

28740.00	2.95	916.95	0.00	0.00	917.44	.49	.01	.00	913.20
123.	0.	123.	0.	0.	22.	0.	254.	120.	916.70
4.73	0.00	5.53	0.00	.035	.035	.045	.045	914.10	91.10
.005521	1.	1.	1.	0	0	0	0.00	13.52	104.62

*SECNO 28746.000

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 918.00 MAX ELLC= 919.80

U/S FACE PRIVATE BRIDGE T.S. NO2 SECT.F

28746.00	2.93	917.05	0.00	0.00	917.49	.45	.03	.02	918.20
123.	0.	123.	0.	0.	23.	0.	254.	120.	918.70
4.73	0.00	5.27	0.00	.035	.035	.045	.045	914.10	90.81
.006658	6.	6.	6.	3	0	0	0.00	14.14	104.75

*SECNO 28747.000

28747.00	2.97	917.07	0.00	0.00	917.50	.43	.01	.00	918.20
123.	0.	123.	0.	0.	23.	0.	254.	120.	918.70
4.73	0.00	5.26	0.00	.037	.035	.037	.045	914.10	90.60
.009101	1.	1.	1.	0	0	0	0.00	14.19	104.75

*SECNO 28847.000

28847.00	3.09	917.99	0.00	0.00	918.37	.39	.07	.01	916.90
123.	7.	116.	0.	3.	20.	0.	255.	120.	918.30
4.73	2.39	5.15	0.00	.037	.035	.037	.045	914.90	54.31
.003231	100.	100.	100.	3	0	0	0.00	18.51	72.39

*SECNO 28947.000

28947.00	3.10	918.80	0.00	0.00	919.15	.34	.01	.00	917.70
123.	0.	115.	0.	3.	20.	0.	255.	120.	919.10
4.74	2.37	5.07	0.00	.037	.035	.037	.045	915.70	54.19
.007093	100.	100.	100.	2	0	0	0.00	18.79	72.99

*SECNO 29047.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST
29047.00	5.19	919.59	0.00	0.00	919.92	.33	.72	.01	918.40
123.	9.	114.	0.	4.	24.	0.	255.	120.	919.80
4.75	2.31	4.76	0.00	.037	.035	.037	.045	916.40	53.39
.006675	100.	100.	100.	1	0	0	0.00	15.62	73.31

*SECNO 29083.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST
29083.00	5.13	919.03	0.00	0.00	920.20	.37	.26	.02	918.70
123.	8.	115.	0.	3.	23.	0.	255.	120.	920.10
4.75	2.36	4.99	0.00	.037	.035	.037	.045	916.70	54.06
.007563	36.	36.	36.	2	0	0	0.00	14.00	73.06

*SECNO 29119.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST
29119.00	5.25	920.15	0.00	0.00	920.46	.31	.25	.02	918.90
123.	9.	114.	0.	4.	25.	0.	255.	120.	920.30
4.75	2.27	4.62	0.00	.037	.035	.037	.045	916.90	53.44
.006160	36.	36.	36.	2	0	0	0.00	20.05	73.47

*SECNO 29131.000

3470 ENCROACHMENT STATIONS= 55.0 70.0 TYPE= 1 TARGET= 10.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST
29131.00	3.20	920.20	0.00	0.00	920.56	.36	.18	.02	919.00
123.	5.	118.	0.	2.	24.	0.	255.	120.	920.40
4.75	2.68	4.90	0.00	.037	.035	.037	.045	917.60	55.00
.007066	12.	12.	12.	2	0	0	0.00	15.31	73.31

*SECNO 29143.000

3470 ENCROACHMENT STATIONS= 60.0 72.0 TYPE= 1 TARGET= 12.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST
29143.00	5.16	920.26	0.00	0.00	920.69	.43	.09	.04	919.10
123.	0.	123.	0.	0.	23.	0.	255.	120.	100000.00
4.75	0.00	5.29	0.00	.037	.035	.037	.045	917.10	60.00
.002782	12.	12.	12.	2	0	0	0.00	12.00	73.00

*SECNO 29149.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 61.5 70.0 TYPE= 1 TARGET= 9.500

SECNO	DEPTH	CWSEL	CRITS	WSELK	FR	HV	HL	CLOSS	BANK ELEV
Q	CLOS	TCH	CRDS	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VRDS	XNL	XNCH	XNR	WTP	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IPC	ICONT	CONAR	TOPWID	ENDST
29149.00	3.07	920.17	0.00	0.00	920.92	.76	.07	.1	100000.00
123.	0.	123.	0.	0.	18.	0.	255.	120.	100000.00
4.75	0.00	6.97	0.00	.037	.035	.037	.045	917.10	61.50
.017379	6.	6.	6.	2	0	0	0.00	8.50	70.00

*SECNO 29154.000

3301 HV CHANGED MORE THAN HVINS

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29154.00     3.75    921.05     0.00     0.00    921.15      .11      .03      .19    928.80
     51.       0.       51.       0.       0.       19.       0.      255.     120.    928.80
    4.75     0.00     2.62     0.00     .037     .035     .037     .045   917.30   265.00
 .001849       5.       5.       5.        3        0        0     1.00     6.00   271.00

*SECNO 29155.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  928.30 MAX ELLC=  923.30

                D/S FACE HARDWOODS DRIVE CULVERT

29155.00     3.74    921.04     0.00     0.00    921.16      .11      .00      .00    928.30
     51.       0.       51.       0.       0.       19.       0.      255.     120.    928.80
    4.75     0.00     2.72     0.00     .020     .035     .020     .045   917.30   265.00
 .002090       1.       1.       1.        1        0        0     -.75     6.00   271.00

*SECNO 29231.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  928.00 MAX ELLC=  924.10

                U/S FACE HARDWOODS DRIVE CULVERT  B.R. #85          SECT.PG

29281.00     3.24    921.34     0.00     0.00    921.49      .15      .31      .02    928.80
     51.       0.       51.       0.       0.       13.       0.      255.     120.    928.80
    4.76     0.00     3.15     0.00     .020     .035     .020     .045   918.10   265.00
 .003035      126.     126.     126.        2        0        0     -.24     6.00   271.00

*SECNO 29282.000
29282.00     3.25    921.35     0.00     0.00    921.50      .15      .00      .00    928.80
     51.       0.       51.       0.       0.       13.       0.      255.     120.    928.80
    4.76     0.00     3.10     0.00     .055     .042     .070     .045   918.10   265.00
 .004125       1.       1.       1.        0        0        0     1.00     6.00   271.00

*SECNO 29300.000
   SECNO     DEPTH     CWSEL     CPINS     WSELK     EP        HV        FL        CLOSS    BANK ELEV
   O         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      ESTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IEC       ICONT     CORAR     TOPWID     ENDST

                    VALLEY SECTION #84                          SECT.BH

29300.00     3.01    921.51     0.00     0.00    921.57      .06      .05      .03    928.80
     51.       0.       51.       0.       0.       26.       0.      255.     120.    929.50
    4.77     0.00     1.99     0.00     .055     .045     .070     .045   918.50    19.94
 .001891       18.      18.      18.        2        0        0     0.00    14.40    34.34

*SECNO 29392.000
29392.00     2.72    921.72     0.00     0.00    921.80      .09      .22      .01    929.10
     51.       0.       51.       0.       0.       22.       0.      255.     120.    930.00
    4.78     0.00     2.37     0.00     .055     .045     .070     .045   919.00    20.44
 .003031       92.      92.      92.        2        0        0     0.00    15.32    33.76

*SECNO 29484.000
29484.00     2.53    922.03     0.00     0.00    922.16      .11      .33      .01    929.60
     51.       0.       51.       0.       0.       19.       0.      255.     120.    930.50
    4.79     0.00     2.66     0.00     .055     .045     .070     .045   919.50    20.75
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.0041	.6	92.	92.	2	0	0	0.00	12.64	31.37

*SECNO 29576.000

29576.00	2.35	922.46	0.00	0.00	922.50	.14	.45	.01	930.70
51.	0.	51.	0.	0.	17.	0.	255.	120.	931.10
4.80	0.00	2.99	0.00	.055	.045	.070	.045	920.10	21.03
.005711	92.	92.	92.	7	2	0	0.00	12.03	53.06

*SECNO 29669.000

29669.00	2.74	923.34	0.00	0.00	923.66	.32	.97	.09	922.20
51.	12.	28.	11.	4.	5.	5.	255.	120.	922.20
4.80	2.89	5.53	2.32	.055	.045	.070	.045	920.60	25.96
.022695	95.	93.	95.	4	1	0	0.00	13.01	43.99

*SECNO 29670.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	SF	HL	QLOSS	BANK ELEV	
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VCL	TWA	LEFT/RIGHT	
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	ATN	ELMIN	SSTA	
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IUC	XCONT	CORAR	TOPLOB	BADST	

U/S FACE PRIVATE BRIDGE

29670.00	2.96	923.56	0.00	0.00	923.72	.17	.02	.05	922.20
51.	14.	23.	14.	6.	3.	7.	255.	120.	922.20
4.00	2.30	4.23	1.90	.055	.045	.070	.045	920.60	24.03
.012617	1.	1.	1.	2	1	0	0.00	25.34	49.37

SPECIAL BRIDGE

SK	XR	AR/B	CD/O	RTEM	WC	SRF	TA/PA	FS	TLCHU	TLCHD
0.00	2.21	2.90	0.00	1.57	0.00	-.14	0.00	920.60	920.00	

*SECNO 29689.000
PRESSURE AND WEIR FLOW

TOPRS	FOLWC	HS	TWEIR	QPP	PAREA	TRAPEZOID AREA	TLLC	TLTRD
932.61	923.72	0.00	41.	10.	5.	5.	922.60	923.00

U/S FACE PRIVATE BRIDGE 3.96 0.45 SECT.81

29689.00	3.29	923.29	0.00	0.00	923.96	.05	.22	0.00	922.20
51.	17.	15.	19.	12.	6.	16.	255.	120.	922.20
4.00	1.43	2.41	1.19	.055	.045	.070	.045	920.60	18.09
.003531	19.	19.	19.	2	0	0	0.00	38.44	57.33

*SECNO 29690.000

29690.00	3.31	923.91	0.00	0.00	923.94	.03	.00	.00	922.20
51.	17.	10.	24.	12.	6.	16.	255.	120.	922.20
4.30	1.40	1.43	1.49	.038	.045	.036	.045	920.60	18.82
.001609	1.	1.	1.	0	0	0	0.00	36.70	57.53

*SECNO 29360.000

```
3470 ENC OACHMENT STATIONS=      22.0      47.0  TYPE=      1  TARGET=      25.000

                D/S FACE PRIVATE BRIDGE

 29860.00     2.95   924.05     0.00     0.00   924.08      .02      .13      .00   922.70
      17.       4.       9.       5.       8.       6.      10.     255.     121.   922.70
     4.65      .46     1.58      .50     .035     .015     .035     .044   921.10    22.00
  .000197     170.     170.     170.        2        0        0     0.00    25.00    47.00


SPECIAL BRIDGE

SD  XK        XKOR      COFQ      RDLEN     RWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.76      2.64      0.00      1.57      0.00      3.14      0.00    921.10    921.10

*SECNO 29876.000
PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3       OWEIR      QPR       BAREA   TRAPEZOID     ELLC      ELTRD
                                                                 AREA
   924.65    924.20     0.00        0.       17.        3.        3.     923.10    924.80


3470 ENCROACHMENT STATIONS=       .0      36.0  TYPE=      1  TARGET=      65.999

                D/S FACE PRIVATE BRIDGE  B.S. #06                  SECT.PJ

 29876.00     3.71   924.81     0.00     0.00   924.84      .0.      .77     0.00   922.70
      17.       2.      12.       3.       4.       7.       5.     255.     121.   922.70
     4.65      .53     1.73      .54     .035     .015     .035     .044   921.10    61.23
  .000172      16.      16.      16.        2        0        4     0.00    10.56    71.79


*SECNO 29920.000
   SECNO     DEPTH     CHSEL     CRIWS     WBELK     TC        RV        RL        BLOSS    BANK ELEV
   C         QLOB      QCH       QROD      ALOB      ACH       APOB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROH      XNL       XNCH      XNR       WTH       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      925.50 ELREA=      925.50

                D/S FACE LOCKHART DRIVE CULVERT

 29920.00     2.39   924.79     0.00     0.00   924.39      .10      .02      .03   923.00
      17.       0.      17.       0.       0.       1.       0.     255.     121.   923.00
     4.65     0.00     2.51     0.00     .045     .029     .045     .044   922.40   230.00
  .001675      44.      44.      44.        2        0        0     0.00     3.00   233.00


SPECIAL BRIDGE

SP  XK        XKOR      COFQ      RDLEN     DWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      3.30      2.90      0.00      2.21      0.00      3.90      0.00    922.40    922.40

*SECNO 29944.000
PRESSURE FLOW

 EGPRS      EGLWC      H3       OWEIR      QPR       BAREA   TRAPEZOID     ELLC      ELTRD
```

	925.77	924.89	0.00	0.	17.	4.	4.	924.20	926.20	

3470 ENCROACHMENT STATIONS= 220.0 450.0 TYPE= 1 TARGET= -220.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 926.20 ELREA= 926.20

U/S FACE LOCKHART DRIVE CULVERT B.S. #87 SECT.UK

29944.00	5.32	925.72	0.00	0.00	925.77	.05	.38	0.00	923.00	
17.	0.	17.	0.	0.	17.	0.	255.	121.	923.00	
4.66	0.00	1.79	0.00	.045	.029	.045	.044	922.40	230.00	
.000623	24.	24.	24.	2	0	0	0.00	3.00	233.00	

*SECNC 29970.000

VALLEY SECTION #88 SECT.BL

29970.00	3.66	925.78	0.00	0.00	925.79	.00	.00	.01	922.00	
17.	0.	17.	0.	0.	33.	0.	255.	121.	925.90	
4.66	0.00	.51	0.00	.038	.042	.038	.044	922.10	205.12	
.000621	24.	24.	24.	2	0	0	0.00	14.81	219.93	

*SECNC 30250.000

30250.00	1.93	925.83	0.00	0.00	925.36	.03	.06	.01	939.80	
17.	0.	17.	0.	0.	13.	0.	255.	121.	927.70	
1.93	0.00	1.42	0.00	.038	.042	.038	.044	923.90	209.16	
.001418	240.	240.	240.	2	0	0	0.00	9.67	218.83	

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  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

FRANKLIN BRANCH D

SUMMARY PRINTOUT

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
0.000	0.00	0.00	0.00	792.90	1310.00	799.72	800.13	305.47	6.82	77.37	370.56	447.93
520.000	520.00	0.00	0.00	793.70	1310.00	801.01	801.73	252.52	7.31	93.16	107.40	200.56
1325.000	805.00	0.00	0.00	795.50	1310.00	803.75	804.13	323.79	8.25	89.21	157.54	226.75
2790.000	1465.00	0.00	0.00	798.90	1310.00	806.12	806.21	623.13	7.22	192.06	56.16	243.24
3310.000	520.00	0.00	0.00	800.50	1310.00	806.43	806.50	743.20	5.93	307.52	134.63	442.15
3370.000	60.00	0.00	0.00	800.70	1310.00	806.45	806.64	224.13	5.73	220.27	142.40	366.75
3430.000	60.00	0.00	0.00	800.80	1310.00	806.46	807.03	317.55	5.66	196.05	147.12	343.77
3490.000	60.00	0.00	0.00	801.00	1310.00	807.05	807.47	402.77	6.05	244.00	95.48	340.09
3550.000	60.00	0.00	0.00	801.20	1310.00	807.53	807.77	508.30	5.36	254.25	94.33	348.58
3685.000	335.00	0.00	0.00	802.80	1310.00	808.54	809.20	441.32	5.04	228.04	148.29	376.33
4310.000	625.00	0.00	0.00	804.90	1310.00	810.62	811.90	495.71	5.72	217.05	64.50	281.55
4630.000	320.00	0.00	0.00	806.40	1310.00	812.09	812.82	304.83	5.66	179.49	18.34	197.83
5200.000	570.00	0.00	0.00	809.20	660.00	815.27	815.53	190.53	6.07	44.00	320.00	364.00
5225.000	25.00	0.00	0.00	809.50	660.00	815.27	815.35	149.17	5.97	31.00	326.00	357.00
5238.000	13.00	0.00	0.00	809.30	660.00	815.27	815.72	128.97	5.97	25.00	329.00	354.00
5250.000	12.00	0.00	0.00	809.40	660.00	815.14	815.39	95.01	5.74	19.00	190.00	209.00
5273.000	24.00	810.00	814.50	809.40	660.00	817.51	817.65	139.95	6.11	19.00	190.00	209.00
5500.000	22.00	0.00	0.00	810.30	660.00	817.77	817.94	253.50	7.47	55.00	196.00	251.00
6170.000	670.00	0.00	0.00	814.70	660.00	819.69	820.05	230.21	4.99	196.72	88.88	285.59
6664.000	494.00	0.00	0.00	817.20	660.00	822.97	823.09	166.50	5.77	143.01	90.39	233.40

SECND	XLCH	ELTRD	ELLC	ELMIN	D	CUSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
6670.000	1.00	821.10	820.10	817.20	660.00	822.97	823.41	175.83	5.77	143.40	90.02	233.42
6680.000	10.00	821.10	820.10	817.20	660.00	823.31	823.56	226.66	6.11	162.45	72.14	234.58
6681.000	1.00	0.00	0.00	817.20	660.00	823.15	823.74	215.16	5.95	153.32	80.71	234.03
6700.000	19.00	0.00	0.00	817.20	660.00	823.57	823.37	213.70	6.37	141.43	75.39	216.82
6736.000	36.00	0.00	0.00	817.20	660.00	823.67	823.92	228.03	6.47	150.35	67.21	217.55
6737.000	1.00	824.50	0.00	817.20	660.00	827.21	827.22	1193.44	10.01	215.35	14.88	230.23
6990.000	255.00	0.00	0.00	821.60	660.00	827.22	827.25	497.13	5.62	137.55	64.08	207.19
7100.000	110.00	0.00	0.00	821.40	660.00	827.22	827.28	364.38	5.82	83.00	70.00	153.00
7140.000	40.00	0.00	0.00	821.40	660.00	827.22	827.30	301.49	5.82	63.00	80.00	143.00
7180.000	40.00	0.00	0.00	821.30	660.00	827.21	827.34	222.44	5.91	43.00	90.00	133.00
7195.000	15.00	0.00	0.00	821.30	660.00	827.19	827.38	188.86	5.89	36.00	94.00	130.00
7210.000	15.00	0.00	0.00	821.30	660.00	827.15	827.45	149.18	5.85	28.00	98.00	126.00
7259.000	49.00	0.00	0.00	821.30	660.00	827.01	827.81	91.96	5.71	23.34	150.78	174.12
7260.000	1.00	0.00	0.00	821.30	660.00	827.02	827.82	92.02	5.72	23.34	150.78	174.12
7269.000	9.00	826.90	825.60	821.20	660.00	829.04	829.35	159.40	7.84	47.51	137.70	185.21
7270.000	1.00	0.00	0.00	821.20	660.00	829.04	829.35	159.49	7.84	47.53	137.69	185.22
7500.000	30.00	0.00	0.00	822.00	660.00	828.99	829.53	146.44	6.99	56.44	121.59	178.04
8260.000	960.00	0.00	0.00	825.20	660.00	831.16	831.24	453.13	5.96	223.44	144.45	367.89
8680.000	420.00	0.00	0.00	827.40	660.00	831.74	831.96	243.90	4.34	173.53	33.02	206.55
9060.000	380.00	0.00	0.00	829.40	660.00	833.47	833.83	252.62	4.07	202.27	53.63	255.91
10060.000	1000.00	0.00	0.00	834.40	660.00	839.75	840.04	262.26	5.35	148.49	115.84	264.33
10700.000	640.00	0.00	0.00	837.60	660.00	842.28	842.55	232.62	4.66	99.83	23.17	123.00
10750.000	50.00	0.00	0.00	838.00	660.00	842.69	843.05	197.74	4.69	79.86	23.12	103.00
10860.000	70.00	0.00	0.00	838.40	660.00	843.17	843.68	157.70	4.77	60.09	22.91	83.00
10890.000	30.00	0.00	0.00	838.60	660.00	843.37	843.97	139.40	4.77	52.13	22.87	75.00
10920.000	30.00	0.00	0.00	838.70	660.00	843.59	844.29	124.73	4.89	41.00	27.00	68.00
10930.000	10.00	0.00	0.00	838.80	660.00	843.63	844.43	111.41	4.83	36.00	29.00	65.00
10940.000	10.00	0.00	0.00	838.30	660.00	843.64	844.63	99.65	4.84	31.00	31.00	62.00
10944.000	4.00	0.00	0.00	838.90	660.00	843.60	844.77	90.64	4.70	29.00	32.00	61.00

	SECNO	XLCH	FLTRB	FLLC	ELMIN	Q	CUSEL	FG	AREA	DEPTH	TOPWID	SSTA	ENDST
	10947.000	3.00	0.00	0.00	838.90	660.00	843.58	844.67	85.64	4.68	27.00	33.00	60.00
*	10950.000	3.00	0.00	0.00	838.90	660.00	843.56	845.12	69.57	4.66	26.33	37.23	63.56
	10954.000	4.00	0.00	0.00	838.90	660.00	844.42	845.35	92.66	5.52	27.72	36.28	64.00
	10958.000	4.00	0.00	0.00	838.90	660.00	844.51	845.39	95.40	5.61	27.83	36.17	64.00
	10962.000	4.00	0.00	0.00	838.90	660.00	844.53	845.43	97.41	5.66	27.91	36.09	64.00
	10975.000	13.00	0.00	0.00	839.00	660.00	844.63	845.58	88.75	5.63	22.00	39.00	61.00
	10987.000	12.00	0.00	0.00	839.00	660.00	844.58	845.89	71.79	5.58	16.00	42.00	58.00
	10991.000	4.00	0.00	0.00	839.00	660.00	844.47	846.15	63.51	5.47	14.00	43.00	57.00
	10993.000	2.00	0.00	0.00	839.00	660.00	844.41	846.29	60.62	5.41	13.00	43.00	56.00
*	10995.000	2.00	0.00	0.00	839.00	660.00	844.39	846.61	54.00	5.29	12.00	44.00	56.00
*	10999.000	4.00	0.00	0.00	839.00	660.00	845.03	847.60	51.26	6.03	10.00	267.00	277.00
	11000.000	1.00	855.20	849.50	839.00	660.00	846.05	847.84	61.46	7.05	10.00	267.00	277.00
	11055.000	55.00	855.20	849.50	839.00	660.00	846.22	848.15	67.83	7.68	10.00	267.00	277.00
	11056.000	1.00	0.00	0.00	839.00	660.00	846.59	848.16	67.66	7.69	10.00	267.00	277.00
	11058.000	2.00	0.00	0.00	839.00	660.00	847.35	848.44	107.57	8.85	14.00	220.00	234.00
	11060.000	2.00	0.00	0.00	839.00	660.00	847.57	848.47	120.96	8.97	13.00	218.00	236.00
	11300.000	140.00	0.00	0.00	840.00	660.00	848.67	848.71	569.12	8.67	171.53	143.49	316.02
	11425.000	225.00	0.00	0.00	841.50	660.00	848.76	848.79	628.55	7.26	166.85	72.54	239.39
	12220.000	795.00	0.00	0.00	843.00	660.00	848.99	849.00	879.28	5.99	297.33	59.01	356.39
	12920.000	700.00	0.00	0.00	844.60	660.00	849.15	849.15	1343.40	4.55	968.51	335.72	1304.22
	13160.000	240.00	0.00	0.00	845.10	660.00	849.27	849.46	380.75	4.17	452.23	372.77	825.00
	13193.000	33.00	0.00	0.00	845.20	660.00	849.54	849.66	459.53	4.34	473.54	343.46	822.00
	13209.000	16.00	0.00	0.00	845.30	660.00	849.61	849.74	444.11	4.31	468.12	352.88	821.00
	13225.000	16.00	0.00	0.00	845.30	660.00	849.75	849.81	555.21	4.45	450.00	350.00	800.00
	13250.000	25.00	0.00	0.00	845.40	660.00	849.80	849.83	528.70	4.40	446.00	346.00	792.00
*	13275.000	25.00	0.00	0.00	845.40	660.00	849.93	850.28	512.55	4.55	434.00	362.00	796.00
*	13300.000	25.00	0.00	0.00	845.50	660.00	850.32	850.66	312.39	4.62	421.00	422.00	843.00
	13350.000	50.00	0.00	0.00	845.60	660.00	850.34	850.99	412.37	5.24	411.51	348.49	760.00
	13530.000	180.00	0.00	0.00	846.00	660.00	851.57	851.72	472.69	5.57	569.34	321.53	891.37

	SECNC	XLCH	ELTRD	ELLC	ELMIN	C	CWSEL	EC	AREA	DEPTH	TOPWID	SSTA	ENDST
	13885.000	355.00	0.00	0.00	846.80	660.00	852.45	852.53	544.97	5.65	476.00	296.00	774.00
	14199.000	314.00	0.00	0.00	848.50	660.00	853.52	853.61	358.99	5.02	340.15	122.23	462.40
	14200.000	1.00	852.00	251.10	848.50	660.00	853.54	853.62	301.37	5.04	340.80	122.02	462.82
	14215.000	15.00	852.00	852.00	849.50	660.00	853.72	853.78	369.34	4.22	366.33	113.53	479.86
	14740.000	525.00	0.00	0.00	850.60	660.00	855.52	855.58	373.12	4.92	205.80	140.63	346.42
	15225.000	485.00	0.00	0.00	853.10	660.00	856.63	856.67	444.37	3.33	368.37	139.33	507.70
	15550.000	325.00	0.00	0.00	854.70	660.00	857.92	858.00	321.01	3.22	225.46	110.00	335.46
	15864.000	314.00	0.00	0.00	856.30	660.00	858.81	859.01	228.67	2.51	263.99	144.00	407.99
	15879.000	15.00	0.00	0.00	856.40	660.00	859.04	859.18	261.42	2.64	260.26	151.00	411.26
	15894.000	15.00	0.00	0.00	856.40	660.00	859.18	859.30	291.50	2.78	255.50	159.00	414.60
*	15904.000	10.00	0.00	0.00	856.50	660.00	860.50	860.96	189.88	4.00	243.50	221.00	464.50
	15905.000	1.00	859.80	859.30	856.50	660.00	860.95	861.07	277.62	4.45	251.28	214.59	465.87
	15909.000	4.00	859.50	859.30	856.50	660.00	861.23	861.07	284.55	4.47	251.75	214.21	465.96
	15910.000	1.00	0.00	0.00	856.50	660.00	860.91	861.14	290.09	4.41	250.40	215.32	465.72
	16079.000	169.00	0.00	0.00	857.20	660.00	861.50	861.51	273.72	4.10	222.62	106.02	328.63
	16080.000	1.00	859.50	862.30	857.20	660.00	861.41	861.53	288.80	4.20	223.67	102.58	331.45
	16084.000	4.00	859.50	862.30	857.20	660.00	861.45	861.50	292.85	4.23	230.38	101.76	332.13
	16085.000	1.00	0.00	0.00	857.20	660.00	861.49	861.58	315.76	4.29	235.16	99.13	334.29
	16275.000	190.00	0.00	0.00	858.40	660.00	862.04	862.24	224.75	3.64	150.17	31.83	182.00
	16301.000	26.00	0.00	0.00	858.60	660.00	862.05	862.56	143.50	3.45	122.42	45.19	167.62
*	16327.000	26.00	0.00	0.00	858.70	660.00	863.09	863.66	145.71	4.39	126.00	99.00	225.00
	16353.000	26.00	0.00	0.00	858.90	660.00	863.74	863.90	237.55	4.84	113.00	84.00	197.00
	16379.000	26.00	0.00	0.00	859.10	660.00	863.88	863.97	294.75	4.78	100.00	68.00	168.00
*	16405.000	26.00	0.00	0.00	859.20	660.00	863.93	864.53	131.23	4.73	87.00	164.00	231.00
	16415.000	13.00	0.00	0.00	859.30	660.00	864.04	864.73	125.83	4.74	80.00	148.00	228.00
*	16430.000	12.00	0.00	0.00	859.40	660.00	864.25	865.07	113.44	4.85	74.00	173.00	247.00
	16443.000	13.00	0.00	0.00	859.20	660.00	864.97	865.30	169.55	5.77	67.00	177.00	244.00
	16455.000	12.00	0.00	0.00	859.00	660.00	865.06	865.35	177.85	6.06	61.00	180.00	241.00
	16480.000	25.00	0.00	0.00	858.70	660.00	864.97	865.52	161.45	6.27	48.00	186.00	234.00

SECNO	XLCH	ELTRC	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
16532.000	52.00	870.80	864.10	858.70	660.00	870.90	870.96	343.24	12.20	48.48	300.50	349.06
17510.000	978.00	0.00	0.00	862.80	660.00	871.00	871.00	2098.14	8.20	439.97	0.00	439.97
17990.000	480.00	0.00	0.00	864.30	660.00	871.00	871.02	762.34	6.70	251.15	150.00	401.15
18400.000	410.00	0.00	0.00	866.30	660.00	871.10	871.29	244.34	4.80	114.45	42.47	156.95
18510.000	110.00	0.00	0.00	866.60	660.00	871.35	871.61	216.61	4.56	112.83	43.03	155.86
18650.000	140.00	0.00	0.00	867.50	430.00	871.84	872.16	129.71	4.34	59.22	150.00	209.22
18750.000	100.00	0.00	0.00	868.00	430.00	872.42	873.94	111.31	4.42	111.15	122.04	237.19
18950.000	200.00	0.00	0.00	869.50	430.00	873.92	874.16	178.85	4.42	126.00	82.79	208.85
19110.000	160.00	0.00	0.00	870.70	430.00	874.65	874.91	179.67	3.96	143.10	83.45	226.55
19250.000	140.00	0.00	0.00	871.70	430.00	875.30	875.42	156.23	3.60	115.47	69.92	185.39
19265.000	15.00	0.00	0.00	871.50	430.00	875.33	875.46	150.14	3.55	112.49	70.42	182.91
19280.000	15.00	0.00	0.00	871.90	430.00	875.36	875.51	142.99	3.46	109.79	70.87	180.66
19295.000	15.00	0.00	0.00	872.00	430.00	875.40	875.57	136.33	3.40	107.21	71.30	178.51
19299.000	4.00	0.00	0.00	872.00	430.00	875.22	875.79	118.30	3.22	99.90	72.52	172.41
19300.000	1.00	878.40	0.00	875.00	430.00	881.29	881.30	912.43	6.29	175.09	35.89	210.98
19440.000	140.00	0.00	0.00	875.70	430.00	881.30	881.30	1403.09	5.80	203.65	80.91	344.54
19500.000	160.00	0.00	0.00	876.40	430.00	881.30	881.30	673.47	4.90	171.72	43.49	215.21
19690.000	90.00	0.00	0.00	876.90	430.00	881.30	881.31	530.69	4.40	126.50	80.00	206.50
19770.000	80.00	0.00	0.00	877.20	430.00	881.20	881.45	130.73	4.00	85.24	70.79	156.02
19850.000	80.00	0.00	0.00	877.60	430.00	881.69	881.88	141.10	4.09	80.55	69.13	149.68
19930.000	80.00	0.00	0.00	878.00	430.00	882.05	882.27	136.10	4.05	82.67	67.83	150.50
20615.000	685.00	0.00	0.00	881.90	430.00	886.54	886.83	101.95	4.63	64.08	131.30	195.38
21730.000	915.00	0.00	0.00	885.70	430.00	889.40	889.52	181.97	3.70	125.73	99.54	225.27
21800.000	150.00	0.00	0.00	886.30	430.00	889.73	890.02	149.01	3.63	115.96	124.03	239.99
22050.000	170.00	0.00	0.00	886.90	430.00	890.55	890.69	161.88	3.48	131.92	52.37	184.29
22175.000	125.00	0.00	0.00	887.10	430.00	890.77	890.99	189.25	3.67	137.59	59.00	196.59
22191.000	16.00	892.00	890.90	887.80	430.00	893.19	893.21	375.61	5.38	138.99	155.14	294.13
22250.000	59.00	0.00	0.00	886.30	430.00	893.20	893.23	478.10	6.90	182.73	84.94	267.67
22474.000	224.00	0.00	0.00	887.70	430.00	893.21	893.49	125.27	5.51	96.02	129.14	225.16

	SECNO	XLOC	ELTTO	ILLC	TLNIN	Q	C+SEL	FO	AREA	DEPTH	TOP&3D	SSTA	ENDST
1	22475.000	1.00	0.00	0.00	887.70	430.00	893.22	893.50	125.61	5.52	96.10	109.03	225.19
3	22491.000	16.00	892.40	892.20	888.20	430.00	893.53	893.78	172.09	5.43	112.18	115.00	227.17
5	22492.000	1.00	0.00	0.00	888.20	430.00	893.71	893.80	180.45	5.51	115.12	112.38	227.69
7	23210.000	718.00	0.00	0.00	890.60	430.00	894.71	894.78	223.97	4.11	152.02	29.49	181.51
9	23390.000	180.00	0.00	0.00	891.20	430.00	895.00	895.13	169.12	3.30	143.75	130.34	274.10
11	23460.000	70.00	0.00	0.00	891.10	430.00	895.08	895.23	196.08	3.30	155.21	123.22	278.43
13	23527.000	67.00	894.90	894.70	891.40	430.00	899.72	899.74	708.62	8.32	335.58	350.79	686.47
15	23639.000	112.00	0.00	0.00	892.10	430.00	899.75	899.76	1053.65	7.65	320.00	95.00	415.00
17	23940.000	1.00	895.10	894.50	892.10	430.00	899.75	899.76	1043.68	7.65	320.00	95.00	415.00
19	23943.000	3.00	895.10	894.50	892.10	430.00	899.75	899.76	1043.83	7.65	320.00	95.00	415.00
21	23944.000	1.00	0.00	0.00	892.10	430.00	899.75	899.76	1054.03	7.65	320.40	95.00	415.00
23	24009.000	165.00	0.00	0.00	892.00	430.00	899.75	899.76	759.42	7.75	242.00	180.00	422.00
25	24010.000	1.00	895.50	895.00	892.00	430.00	899.75	899.76	761.46	7.76	242.00	180.00	422.00
27	24014.000	4.00	895.50	895.00	892.00	430.00	899.76	899.76	761.74	7.76	242.00	180.00	422.00
29	24015.000	1.00	0.00	0.00	892.00	430.00	899.75	899.76	759.51	7.75	242.00	180.00	422.00
31	24064.000	49.00	0.00	0.00	891.80	430.00	899.75	899.76	705.12	7.95	222.95	153.05	376.00
33	24065.000	1.00	894.00	895.00	891.80	430.00	899.76	899.76	705.30	7.95	222.96	153.04	376.00
35	24070.000	5.00	894.00	895.00	891.80	430.00	899.75	899.76	705.64	7.95	222.97	153.03	376.00
37	24071.000	1.00	0.00	0.00	891.80	430.00	899.75	899.76	705.45	7.95	222.97	153.03	376.00
39	24179.000	108.00	0.00	0.00	891.70	430.00	899.75	899.76	910.12	8.00	185.00	145.00	330.00
41	24180.000	1.00	894.00	895.10	891.70	430.00	899.76	899.76	891.43	8.06	185.00	145.00	330.00
43	24165.000	5.00	894.00	895.10	891.70	430.00	899.76	899.76	891.43	8.06	185.00	145.00	330.00
45	24160.000	1.00	0.00	0.00	891.70	430.00	899.75	899.76	910.33	8.00	185.00	145.00	330.00
47	24339.000	153.00	0.00	0.00	890.00	430.00	899.76	899.77	740.31	9.76	220.00	330.00	550.00
49	24340.000	1.00	895.50	895.00	890.00	430.00	899.75	899.77	731.19	9.76	220.00	330.00	550.00
51	24360.000	20.00	896.50	895.50	890.50	430.00	899.76	899.77	732.41	9.82	220.00	330.00	550.00
53	24381.000	1.00	0.00	0.00	890.50	430.00	899.76	899.77	738.92	9.82	220.00	330.00	550.00
55	24455.000	74.00	0.00	0.00	892.50	430.00	899.77	899.77	1242.22	7.27	265.00	250.00	515.00
57	25350.000	895.00	0.00	0.00	895.40	430.00	899.81	899.85	355.57	4.41	170.61	37.53	208.14

	SECNO	XLOW	ELTRO	TLLO	FLMIN	Q	CWSEL	EJ	AREA	DEPTH	TOPWID	SSTA	ENDST
	25700.000	350.00	0.00	0.00	896.50	430.00	900.02	900.04	951.82	3.54	504.15	200.00	704.15
	25749.000	49.00	0.00	0.00	896.70	430.00	900.03	900.11	327.91	3.33	522.00	377.94	900.00
	25750.000	1.00	899.20	899.00	896.70	430.00	900.11	900.13	341.32	3.41	527.65	372.35	900.00
	25759.000	9.00	899.20	899.00	896.70	430.00	900.12	900.14	351.40	3.42	526.91	371.08	900.00
	25760.000	1.00	0.00	0.00	896.70	430.00	900.12	900.15	376.31	3.42	526.51	371.49	900.00
	25780.000	20.00	0.00	0.00	896.00	430.00	900.15	900.16	958.53	4.15	501.74	220.00	721.74
	25822.000	42.00	902.50	899.10	896.00	430.00	902.52	902.65	273.14	2.52	510.00	430.00	940.00
	25700.000	878.00	0.00	0.00	899.70	430.00	903.04	903.05	546.46	3.34	590.71	86.88	477.59
	26900.000	200.00	0.00	0.00	900.50	430.00	903.25	903.26	387.43	2.75	307.00	135.00	442.00
	27000.000	100.00	0.30	0.00	900.80	430.00	903.50	903.55	270.64	2.70	254.51	124.18	379.00
	27050.000	50.00	0.00	0.00	901.30	430.00	903.72	903.74	257.08	2.66	232.00	134.00	366.00
	27075.000	25.00	0.00	0.00	901.10	430.00	903.79	903.84	269.18	2.69	219.00	136.00	405.00
	27083.300	13.00	0.00	0.00	901.20	430.00	903.95	903.98	269.71	2.69	218.00	130.00	372.00
M	27250.000	162.00	0.00	0.00	901.80	430.00	905.14	905.63	115.36	3.54	126.79	175.84	302.63
	27410.000	160.00	0.00	0.00	902.40	430.00	906.56	906.78	150.05	4.16	104.00	224.00	328.00
	27440.000	30.00	0.00	0.00	902.50	430.00	906.68	906.77	145.17	4.16	85.00	222.00	311.00
	27470.000	30.00	0.00	0.00	902.50	430.00	906.87	907.07	138.13	4.23	78.00	229.00	303.00
	27500.000	30.00	0.00	0.00	902.80	430.00	906.91	907.36	100.74	4.11	59.00	228.00	287.00
	27510.000	10.00	0.00	0.00	902.80	430.00	906.99	907.44	94.49	4.13	54.00	231.00	285.00
	27532.000	22.00	909.90	909.30	902.80	430.00	911.24	911.29	310.55	6.44	54.00	305.00	359.00
	27590.000	58.00	0.00	0.00	904.70	430.00	911.18	911.41	106.72	6.46	25.00	0.00	25.00
	27640.000	50.00	0.00	0.00	905.30	430.00	911.21	911.54	109.13	7.41	30.72	253.97	290.69
	27732.000	92.00	912.00	910.70	904.70	430.00	912.10	913.19	216.43	8.40	110.56	200.00	310.56
	28110.000	378.00	0.00	0.00	907.00	123.00	913.33	913.36	101.93	6.33	31.62	2.38	34.00
	28135.000	25.00	0.00	0.00	907.60	123.00	913.35	913.38	73.99	5.57	17.00	10.00	29.00
	28147.000	12.00	0.00	0.00	907.20	123.00	913.37	913.43	42.55	5.10	13.00	13.00	26.00
	28159.000	12.00	0.00	0.00	908.60	123.00	913.19	913.58	24.57	4.59	6.00	200.00	206.00
	28160.000	1.00	916.00	914.00	908.60	123.00	913.17	913.72	22.65	4.57	5.00	200.00	205.00
	28275.000	115.00	916.00	915.70	909.70	123.00	914.05	914.55	21.70	4.35	5.00	200.00	205.00

	SECND	ALCH	ELTRD	ELLC	ELMIN	D	CNTEL	ED	AREA	DEPTH	TORVID	BSTA	ENDST
	25276.000	1.00	0.00	0.00	909.70	123.00	914.16	914.58	23.79	4.46	6.00	200.00	206.00
	25310.000	34.00	0.00	0.00	909.90	123.00	914.69	914.74	69.94	4.79	50.19	29.90	80.08
	25396.000	86.00	0.00	0.00	910.40	123.00	914.71	914.75	72.88	4.31	25.97	37.31	63.28
	25482.000	86.00	0.00	0.00	911.00	123.00	914.74	914.83	50.73	3.75	22.54	43.05	65.70
	25525.000	43.00	0.00	0.00	911.30	123.00	914.71	915.03	26.85	3.41	15.75	50.39	66.15
	25568.000	43.00	0.00	0.00	911.50	123.00	915.00	915.27	29.19	3.50	16.68	51.00	67.68
	25653.000	85.00	0.00	0.00	912.10	123.00	915.44	915.72	50.95	3.54	20.80	52.93	73.77
	25765.000	10.00	0.00	0.00	912.30	123.00	915.47	915.64	27.25	3.17	19.36	53.93	73.21
	25875.000	10.00	0.00	0.00	912.60	123.00	915.48	916.01	21.94	2.38	16.81	55.38	72.19
	25885.000	10.00	0.00	0.00	912.60	123.00	915.57	916.19	20.50	2.77	15.94	55.97	71.85
*	25895.000	10.00	0.00	0.00	912.60	123.00	915.73	916.29	19.57	2.72	15.42	56.22	71.64
*	25905.000	10.00	0.00	0.00	913.30	123.00	915.81	916.69	19.28	2.71	15.37	56.25	71.62
*	25915.000	10.00	0.00	0.00	913.50	123.00	915.91	916.69	19.27	2.71	15.36	56.26	71.62
*	25927.000	12.00	0.00	0.00	913.80	123.00	916.43	917.14	16.51	2.56	13.58	58.00	71.58
	28739.000	12.00	0.00	0.00	918.10	123.00	916.94	917.43	21.75	2.64	15.51	91.13	106.64
	28740.000	1.00	918.00	919.30	918.10	123.00	916.97	917.44	21.73	2.65	15.52	91.10	106.64
	28746.000	6.00	918.00	919.50	914.10	123.00	917.00	917.49	23.55	2.93	14.12	90.61	104.73
	28747.000	1.00	0.00	0.00	914.10	123.00	917.07	917.50	23.60	2.97	14.16	90.60	104.76
	28847.000	100.00	0.00	0.00	915.90	123.00	917.76	917.97	25.53	3.09	16.33	54.31	72.69
	28947.000	100.00	0.00	0.00	916.70	123.00	918.30	918.18	25.42	3.18	13.79	54.19	72.98
	29047.000	100.00	0.00	0.00	916.40	123.00	919.59	919.92	27.80	3.16	19.62	53.69	73.31
	29053.000	56.00	0.00	0.00	916.70	123.00	919.75	920.20	26.42	3.17	19.06	54.04	73.06
	29119.000	36.00	0.00	0.00	916.90	123.00	920.15	920.49	26.73	3.25	20.63	53.44	73.47
	29131.000	12.00	0.00	0.00	917.00	123.00	920.29	920.56	26.14	3.20	15.31	58.00	73.31
	29143.000	12.00	0.00	0.00	917.10	123.00	920.29	920.69	23.28	3.16	14.00	58.00	72.00
	29149.000	6.00	0.00	0.00	917.10	123.00	920.17	920.92	17.64	3.07	7.50	61.50	70.00
	29154.000	5.00	0.00	0.00	917.30	51.00	921.05	921.15	19.47	3.75	6.00	265.00	271.00
	29155.000	1.00	920.80	921.30	917.30	51.00	921.04	921.16	13.75	3.74	6.00	265.00	271.00
	29281.000	126.00	920.90	924.10	918.10	51.00	921.54	921.49	16.19	3.24	6.00	265.00	271.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	ES	AREA	DEPTH	TOPWID	SSTA	ENDST
29282.000	1.00	0.00	0.00	918.10	51.00	921.35	921.50	16.45	3.25	5.00	265.00	271.00
29300.000	18.00	0.00	0.00	918.50	51.00	921.51	921.57	25.66	3.01	14.40	19.94	34.34
29392.000	92.00	0.00	0.00	919.00	51.00	921.72	921.80	21.56	2.72	13.32	20.44	33.75
29484.000	92.00	0.00	0.00	919.50	51.00	922.03	922.14	19.14	2.53	12.54	20.75	33.39
29576.000	92.00	0.00	0.00	920.10	51.00	922.46	922.60	17.08	2.34	12.03	21.03	33.06
29669.000	93.00	0.00	0.00	920.60	51.00	923.34	923.66	13.83	2.76	13.01	25.98	43.99
29670.000	1.00	0.00	0.00	920.60	51.00	923.56	923.72	18.59	2.96	25.34	24.03	49.37
29689.000	19.00	923.00	922.60	920.60	51.00	923.89	923.94	34.10	3.29	33.44	13.89	57.33
29690.000	1.00	0.00	0.00	920.60	51.00	923.91	923.94	34.41	3.31	33.70	18.32	57.53
29940.000	170.00	0.00	0.00	921.10	17.00	924.05	924.08	22.64	2.95	25.00	22.00	47.00
29976.000	16.00	924.60	923.10	921.10	17.00	924.81	924.84	16.05	3.71	10.56	61.23	71.79
29920.000	44.00	0.00	0.00	922.40	17.00	924.79	924.89	6.76	2.39	3.00	230.00	233.00
29944.000	24.00	925.20	924.20	922.40	17.00	925.72	925.77	9.54	3.32	3.00	230.00	233.00
29970.000	26.00	0.00	0.00	922.10	17.00	925.74	925.79	33.33	3.40	14.61	205.12	219.93
30250.000	280.00	0.00	0.00	923.90	17.00	925.83	925.86	11.94	1.93	9.67	209.16	213.83

SUMMARY OF ERRORS

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CAUTION  SECNO=10950.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=10950.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=10995.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=10995.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=10999.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=10999.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=10999.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=13275.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=13275.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=13275.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=13300.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=13300.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=13300.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=15904.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=15904.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=15904.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=16327.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=16327.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=16327.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: MINNOW POND DRAIN

4) DOCUMENT TYPE: 100YR NATURAL

00BREAK00

Revised

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HH        HH EEEEEEEEEEEE   CCCCCCCC                    22222222
HH        HH EEEEEEEEEEEE  CCCCCCCCCC                 2222222222
HH        HH EE            CCC      CC               22      222
HH        HH EE            CC                                22
HH        HH EE            CC                                22
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HH        HH EE            CC                                22
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HH        HH EE            CC                    22
HH        HH EE            CC                    22
HH        HH EE            CCC      CC           22
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HH        HH EEEEEEEEEEEE   CCCCCCCC             222222222222

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  II      NNN       NN PP        PPP UU        UU     TT
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  II      NNNN      NN PP         PP UU        UU     TT
  II      NN NN     NN PP         PP UU        UU     TT
  II      NN  NN    NN PP        PPP UU        UU     TT
  II      NN   NN   NN PPPPPPPPPPP  UU        UU     TT
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5850 - 10 - 1

FIS - West Bloomfield TWP

Minnow Pond Drain

(Please see notes shown at the end of the 100-year flood water surface elevations calculation)

Inclu. East side of the island problem at 14 Mile Road.

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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**************************************************

C
T1      5850-10, FIS - WEST BLOOMFIELD TWP, PH   RICHARD ZANOTTI
T2      10 YEAR FLOOD
T3      MINNOW POND DRAIN

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
        -1.        2.         0.         0.  0.000000       0.00       0.0        0.    881.400     0.000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE
       1.000      0.000     -1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT
      38.000     40.000     41.000     42.000     43.000      1.000      8.000     10.000     12.000      3.000

      39.000      4.000     25.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

OT     4.000     90.000    105.000    117.000    140.000      0.000      0.000      0.000      0.000      0.000
NC      .035       .035       .032       .300       .500      0.000      0.000      0.000      0.000      0.000

                D/S FACE OF 14 MILE ROAR CULVERT, BS#4                          SEC. A

X1      0.000     20.000   1095.700   1104.300      0.000      0.000      0.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    888.600    888.600      0.000
BT     22.000      0.000    890.000      0.000    100.000    886.200      0.000    200.000    883.300      0.000
BT    300.000    881.200      0.000    400.000    881.000      0.000    425.000    881.100      0.000    500.000
BT    881.300      0.000    600.000    881.700      0.000    700.000    882.600      0.000    800.000    883.800
BT      0.000    900.000    884.600      0.000   1000.000    886.300      0.000   1095.700    888.600      0.000
BT   1095.700    888.600    879.100   1095.700    888.600    881.100   1097.000    888.600    883.000   1100.000
BT    888.600    884.000   1103.000    888.600    883.000   1104.300    888.600    881.100   1104.300    888.600
BT    879.100   1104.300    888.600      0.000   1200.000    892.500      0.000      0.000      0.000      0.000
GR    890.000      0.000    886.200    100.000    883.300    200.000    881.200    300.000    881.000    400.000
GR    881.100    425.000    881.300    500.000    881.700    600.000    882.600    700.000    883.800    800.000
GR    884.600    900.000    886.300   1000.000    888.600   1095.700    879.100   1095.700    878.400   1097.000
GR    878.100   1100.000    878.400   1103.000    879.100   1104.300    888.600   1104.300    892.500   1200.000

                U/S FACE OF 14 MILE ROAD CULVERT, BS#4                          SEC. A

X1     42.000     20.000   1095.700   1104.300     42.000     42.000     42.000      0.000      0.000      0.000
X3     10.000      0.000      0.000      0.000      0.000      0.000      0.000    888.600    888.600      0.000
BT     22.000      0.000    890.000      0.000    100.000    886.200      0.000    200.000    883.300      0.000
BT    300.000    881.200      0.000    400.000    881.000      0.000    425.000    881.100      0.000    500.000
BT    881.300      0.000    600.000    881.700      0.000    700.000    882.600      0.000    800.000    883.800
BT      0.000    900.000    884.600      0.000   1000.000    886.300      0.000   1095.700    888.600      0.000
BT   1095.700    888.600    879.400   1095.700    888.600    881.400   1097.000    888.600    883.300   1100.000
BT    888.600    884.300   1103.000    888.600    883.300   1104.300    888.600    881.400   1104.300    888.600
BT    879.400   1104.300    888.600      0.000   1200.000    892.500      0.000      0.000      0.000      0.000
GR    890.000      0.000    886.200    100.000    883.300    200.000    881.200    300.000    881.000    400.000
GR    881.100    425.000    881.300    500.000    881.700    600.000    882.600    700.000    883.800    800.000
GR    884.600    900.000    886.300   1000.000    888.600   1095.700    879.400   1095.700    878.700   1097.000
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NC	.070	.070	.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000

END OF ISLAND PROBLEM, FROM FIS - FARMINGTON HILLS

X1	43.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	888.600	888.600	0.000
NC	.085	.085	.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000

50@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#1 SEC. B

X1	93.000	19.000	1100.000	1114.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	1053.000	0.000	1162.000	0.000	0.000	0.000	0.000
GR	881.500	0.000	880.100	100.000	879.500	200.000	879.800	300.000	879.500	400.000
GR	880.800	425.000	879.300	500.000	879.700	600.000	881.200	700.000	881.800	800.000
GR	881.900	900.000	882.500	1000.000	881.600	1100.000	879.800	1103.000	879.400	1107.000
GR	879.700	1111.000	881.700	1114.000	888.500	1200.000	892.900	1270.000	0.000	0.000
NC	.090	.090	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OT	4.000	135.000	260.000	350.000	615.000	0.000	0.000	0.000	0.000	0.000

X1	393.000	14.000	325.000	339.000	450.000	275.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	130.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	10.000	886.000	20.000	884.000	95.000	883.900	200.000
GR	883.900	325.000	882.100	328.000	881.700	332.000	882.000	336.000	884.000	339.000
GR	884.000	350.000	886.000	365.000	888.000	380.000	890.000	390.000	0.000	0.000

650@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#2 SEC. C

X1	693.000	31.000	133.000	144.000	300.000	275.000	300.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	8.000	906.000	12.000	904.000	15.000	902.000	18.000
GR	900.000	22.000	898.000	29.000	896.000	36.000	894.000	43.000	892.000	50.000
GR	892.000	75.000	890.000	83.000	888.000	115.000	887.400	133.000	884.200	136.000
GR	884.100	139.000	884.300	142.000	885.600	144.000	886.000	195.000	888.000	205.000
GR	890.000	212.000	892.000	214.000	894.000	216.000	896.000	218.000	898.000	219.000
GR	900.000	220.000	902.000	223.000	904.000	225.000	906.000	228.000	908.000	230.000
GR	910.000	240.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.080	.085	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OT	4.000	105.000	230.000	310.000	490.000	0.000	0.000	0.000	0.000	0.000

X1	918.000	18.000	170.000	185.000	300.000	175.000	225.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	5.000	896.000	13.000	894.000	23.000	892.000	38.000
GR	890.000	50.000	888.000	78.000	887.500	170.000	885.400	172.000	884.600	177.000
GR	885.200	181.000	887.500	185.000	890.000	210.000	892.000	220.000	894.000	252.000
GR	896.000	265.000	898.000	280.000	900.000	300.000	0.000	0.000	0.000	0.000
NC	.055	.060	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF WALKWAY BRIDGE, BS#3 SEC. D

X1	919.000	20.000	170.000	185.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	17.000	0.000	900.000	0.000	5.000	898.000	0.000	13.000	896.000	0.000
BT	23.000	894.000	0.000	38.000	892.000	0.000	50.000	890.000	0.000	78.000
BT	888.000	0.000	170.000	887.500	0.000	170.000	887.500	886.200	185.000	887.500
BT	886.200	185.000	887.500	0.000	210.000	890.000	0.000	220.000	892.000	0.000
BT	252.000	894.000	0.000	265.000	896.000	0.000	280.000	898.000	0.000	300.000
BT	900.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	5.000	896.000	13.000	894.000	23.000	892.000	38.000
GR	890.000	50.000	888.000	78.000	887.500	170.000	886.200	170.000	885.400	172.000
GR	884.000	177.000	885.200	181.000	886.200	185.000	887.500	185.000	890.000	210.000
GR	892.000	220.000	894.000	252.000	896.000	265.000	898.000	280.000	900.000	300.000

U/S FACE OF WALKWAY BRIDGE, BS#3 SEC. D

X1	929.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.100	.085	.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	930.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.095	.090	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1808@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#5 SEC. E

X1	1850.000	29.000	145.000	149.000	800.000	1000.000	920.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	268.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	9.000	906.000	14.000	904.000	18.000	902.000	24.000
GR	900.000	30.000	898.000	35.000	896.000	40.000	894.000	44.000	892.000	49.000
GR	891.000	145.000	890.500	146.000	890.200	147.000	890.400	148.000	891.300	149.000
GR	892.000	260.000	894.000	268.000	894.000	289.000	892.000	301.000	892.000	470.000
GR	894.000	497.000	896.000	509.000	898.000	511.000	900.000	520.000	902.000	528.000
GR	904.000	536.000	906.000	546.000	908.000	557.000	910.000	560.000	0.000	0.000
NC	.095	.095	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2055.000	0.000	0.000	0.000	205.000	205.000	205.000	0.000	1.950	0.000
X3	0.000	0.000	0.000	0.000	0.000	268.000	0.000	0.000	0.000	0.000

2218@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#6 SEC. F

X1	2260.000	20.000	350.000	359.000	205.000	205.000	205.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	210.000	0.000	450.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	900.000	35.000	899.600	50.000	895.500	75.000	894.900	150.000
GR	895.800	250.000	895.500	350.000	894.800	352.000	894.100	355.000	894.300	357.000
GR	895.500	359.000	897.400	410.000	900.000	420.000	905.000	450.000	900.000	495.000
GR	894.000	535.000	893.000	565.000	894.000	600.000	896.000	620.000	910.000	700.000
NC	.094	.094	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

2718@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#7 SEC. G

X1	2760.000	16.000	31.000	43.000	475.000	475.000	500.000	0.000	0.000	0.000
GR	930.000	0.000	920.000	11.000	910.000	20.000	901.400	31.000	898.600	35.000
GR	898.600	38.000	899.000	41.000	899.600	43.000	900.000	67.000	902.000	138.000
GR	904.000	142.000	906.000	148.000	908.000	155.000	910.000	161.000	920.000	180.000
GR	930.000	215.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.100	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2781.000	90.000	36.600	48.300	18.000	20.000	21.000	0.000	0.000	0.000
GR	928.300	0.000	927.100	1.200	925.900	2.500	924.700	3.700	923.500	5.000
GR	922.400	6.300	921.400	7.500	920.400	8.800	919.300	10.100	918.300	11.300
GR	917.500	12.600	916.500	13.900	915.500	15.100	914.500	16.400	913.500	17.700
GR	912.500	18.900	911.500	20.200	910.500	21.500	909.500	22.700	908.600	24.000
GR	907.800	25.200	907.100	26.500	906.400	27.800	905.700	29.000	905.000	30.300
GR	904.300	31.600	903.600	32.800	902.800	34.100	902.100	35.400	901.400	36.600
GR	901.100	37.000	900.800	37.400	900.500	37.800	900.300	38.200	900.100	38.600
GR	899.900	39.000	899.600	39.400	899.400	39.700	899.200	40.100	899.000	40.500
GR	899.000	40.900	899.000	41.300	899.000	41.700	899.000	42.100	899.000	42.500
GR	899.000	42.800	899.000	43.200	899.000	43.600	899.000	44.000	899.100	44.400
GR	899.200	44.800	899.200	45.200	899.300	45.600	899.400	46.000	899.400	46.300
GR	899.600	46.700	899.700	47.100	899.800	47.500	899.900	47.900	900.100	48.300
GR	900.200	53.600	900.300	58.900	900.300	64.200	900.400	69.500	900.600	74.800
GR	900.700	80.100	900.900	85.400	901.000	90.700	901.200	96.000	901.300	101.300
GR	901.500	106.600	901.600	112.000	901.700	117.300	901.900	122.600	902.000	127.900

GR	.910.400	159.700	913.000	165.000	915.500	170.300	918.000	175.600	919.400	180.900
GR	921.000	186.200	922.600	191.500	924.500	196.800	926.400	202.100	928.300	207.400
X1	2802.000	90.000	42.300	53.600	18.000	20.000	21.000	0.000	0.000	0.000
GR	926.600	0.000	925.200	1.400	923.800	2.900	922.400	4.300	921.000	5.800
GR	919.800	7.200	918.700	8.700	917.600	10.200	916.500	11.600	915.500	13.100
GR	914.800	14.500	914.000	16.000	913.200	17.500	912.300	18.900	911.500	20.400
GR	910.700	21.800	909.800	23.300	909.000	24.800	908.200	26.200	907.400	27.700
GR	906.800	29.100	906.200	30.600	905.600	32.100	905.000	33.500	904.400	35.000
GR	903.800	36.400	903.300	37.900	902.700	39.400	902.100	40.800	901.500	42.300
GR	901.200	42.600	900.800	43.000	900.500	43.400	900.400	43.800	900.200	44.200
GR	900.000	44.500	899.900	44.900	899.700	45.300	899.500	45.700	899.300	46.000
GR	899.300	46.400	899.300	46.800	899.300	47.200	899.300	47.600	899.300	47.900
GR	899.300	48.300	899.300	48.700	899.400	49.100	899.400	49.500	899.500	49.800
GR	899.600	50.200	899.700	50.600	899.800	51.000	899.900	51.300	899.900	51.700
GR	900.100	52.100	900.200	52.500	900.300	52.900	900.500	53.200	900.600	53.600
GR	900.700	58.500	900.800	63.400	900.800	68.200	900.900	73.100	901.100	78.000
GR	901.200	82.900	901.300	87.800	901.500	92.600	901.600	97.500	901.700	102.400
GR	901.900	107.300	902.000	112.100	902.100	117.000	902.300	121.900	902.400	126.800
GR	902.500	131.700	903.400	136.500	905.000	141.400	906.400	146.300	907.800	151.200
GR	909.500	156.100	911.700	160.900	913.800	165.800	915.900	170.700	917.100	175.600
GR	918.600	180.500	920.200	185.300	922.300	190.200	924.500	195.100	926.600	200.000
X1	2823.000	90.000	48.000	59.000	18.000	20.000	21.000	0.000	-.100	0.000
GR	925.000	0.000	923.300	1.600	921.700	3.300	920.100	4.900	918.500	6.600
GR	917.200	8.200	916.000	9.900	914.800	11.500	913.700	13.200	912.600	14.800
GR	912.000	16.500	911.400	18.200	910.800	19.800	910.100	21.500	909.500	23.100
GR	908.800	24.800	908.200	26.400	907.500	28.100	906.900	29.700	906.300	31.400
GR	905.800	33.100	905.300	34.700	904.800	36.400	904.400	38.000	903.900	39.700
GR	903.400	41.300	902.900	43.000	902.500	44.600	902.000	46.300	901.500	48.000
GR	901.200	48.300	900.900	48.700	900.500	49.000	900.400	49.400	900.300	49.800
GR	900.200	50.100	900.100	50.500	900.000	50.900	899.900	51.200	899.800	51.600
GR	899.800	52.000	899.800	52.300	899.800	52.700	899.800	53.100	899.800	53.400
GR	899.800	53.800	899.800	54.200	899.800	54.500	899.900	54.900	900.000	55.300
GR	900.100	55.600	900.200	56.000	900.300	56.400	900.300	56.700	900.400	57.100
GR	900.600	57.500	900.700	57.800	900.800	58.200	901.000	58.600	901.100	59.000
GR	901.200	63.400	901.300	67.800	901.400	72.300	901.400	76.700	901.600	81.200
GR	901.700	85.600	901.800	90.100	901.900	94.500	902.000	99.000	902.100	103.400
GR	902.300	107.900	902.400	112.300	902.500	116.800	902.600	121.200	902.700	125.700
GR	902.900	130.100	903.600	134.600	904.900	139.000	906.000	143.500	907.200	147.900
GR	908.700	152.400	910.400	156.800	912.100	161.300	913.800	165.700	914.800	170.200
GR	916.100	174.600	917.700	179.100	920.100	183.500	922.500	188.000	925.000	192.500
X1	2844.000	90.000	53.600	64.300	18.000	20.000	21.000	0.000	-.150	0.000
GR	923.300	0.000	921.500	1.800	919.600	3.700	917.800	5.500	916.000	7.400
GR	914.500	9.200	913.300	11.100	912.100	12.900	910.800	14.800	909.700	16.600
GR	909.300	18.500	908.800	20.300	908.400	22.200	907.900	24.000	907.400	25.900
GR	907.000	27.700	906.500	29.600	906.000	31.400	905.600	33.300	905.100	35.100
GR	904.800	37.000	904.400	38.800	904.100	40.700	903.700	42.500	903.300	44.400
GR	903.000	46.200	902.600	48.100	902.300	49.900	902.000	51.800	901.600	53.600
GR	901.300	54.000	900.900	54.300	900.500	54.700	900.500	55.100	900.400	55.400
GR	900.400	55.800	900.300	56.100	900.300	56.500	900.200	56.800	900.200	57.200
GR	900.200	57.500	900.200	57.900	900.200	58.200	900.200	58.600	900.200	59.000
GR	900.200	59.300	900.200	59.700	900.200	60.000	900.300	60.400	900.400	60.700
GR	900.500	61.100	900.600	61.400	900.700	61.800	900.800	62.200	900.900	62.500
GR	901.100	62.900	901.200	63.200	901.300	63.600	901.500	63.900	901.600	64.300
GR	901.700	68.300	901.800	72.300	901.900	76.400	901.900	80.400	902.000	84.400
GR	902.100	88.400	902.300	92.400	902.400	96.500	902.500	100.500	902.600	104.500
GR	902.700	108.500	902.800	112.600	902.900	116.600	903.000	120.600	903.100	124.600
GR	903.200	128.600	903.700	132.700	904.700	136.700	905.700	140.700	906.700	144.700
GR	907.800	148.700	909.100	152.800	910.400	156.800	911.600	160.800	912.500	164.800
GR	913.700	168.800	915.300	172.900	918.000	176.900	920.600	180.900	923.300	184.900

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

X1	2886.000	14.000	65.000	75.000	36.000	40.000	42.000	0.000	0.000	0.000
GR	920.000	0.000	910.000	10.000	904.000	20.000	902.000	60.000	901.800	65.000
GR	900.600	66.000	901.000	68.000	901.000	71.000	902.700	75.000	904.000	130.000
GR	906.000	140.000	908.000	155.000	910.000	160.000	920.000	170.000	0.000	0.000
NC	.095	.095	.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

X1	3011.000	11.000	150.000	160.000	105.000	120.000	125.000	0.000	0.000	0.000
GR	920.000	0.000	910.000	8.000	908.000	22.000	906.000	35.000	903.900	150.000
GR	902.700	151.000	903.100	153.000	903.100	156.000	904.800	160.000	910.000	180.000
GR	920.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

X1	3136.000	12.000	70.000	80.000	105.000	120.000	125.000	0.000	0.000	0.000
GR	920.000	0.000	910.000	18.000	908.000	35.000	906.000	70.000	904.800	71.000
GR	905.200	73.000	905.200	76.000	906.000	80.000	906.000	110.000	908.000	135.000
GR	910.000	145.000	920.000	170.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	3157.000	0.000	0.000	0.000	18.000	20.000	21.000	0.000	.350	0.000

X1	3178.000	0.000	0.000	0.000	18.000	20.000	21.000	0.000	.350	0.000

X1	3199.000	0.000	0.000	0.000	18.000	20.000	21.000	0.000	.350	0.000

X1	3220.000	15.000	93.000	103.000	18.000	20.000	21.000	0.000	.700	0.000
GR	940.000	0.000	930.000	15.000	920.000	28.000	913.300	50.000	910.300	55.000
GR	908.100	93.000	906.900	94.000	907.300	96.000	907.300	99.000	909.000	103.000
GR	908.600	143.000	912.600	151.000	920.000	155.000	930.000	170.000	940.000	180.000

3220@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#8 SEC. H

X1	3261.000	0.000	0.000	0.000	35.000	40.000	41.000	0.000	.700	0.000
NC	.100	.100	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	95.000	175.000	220.000	330.000	0.000	0.000	0.000	0.000	0.000

3295@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#9 SEC. I

X1	3941.000	15.000	90.000	99.000	680.000	680.000	680.000	0.000	0.000	0.000
GR	950.000	0.000	940.000	25.000	930.000	40.000	923.400	50.000	920.500	57.000
GR	918.900	90.000	917.100	92.000	917.300	94.000	917.400	97.000	918.400	99.000
GR	919.700	120.000	922.700	125.000	930.000	160.000	940.000	172.000	950.000	195.000
NC	.090	.090	.037	0.000	0.000	0.000	0.000	0.000	0.000	0.000

2770@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#10 SEC. J

X1	4466.000	9.000	58.000	74.000	475.000	475.000	525.000	0.000	0.000	0.000
GR	940.000	0.000	930.000	30.000	927.600	58.000	922.300	64.000	922.100	68.000
GR	922.400	72.000	923.400	74.000	928.000	128.000	940.000	138.000	0.000	0.000
NC	.085	.085	.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	5031.000	26.000	300.000	577.000	565.000	565.000	565.000	0.000	0.000	0.000
GR	950.000	0.000	940.000	68.000	938.000	90.000	936.000	110.000	934.100	215.000
GR	932.000	229.000	930.000	240.000	928.000	260.000	927.100	300.000	925.100	305.000
GR	923.700	320.000	923.500	350.000	922.800	400.000	922.600	412.000	923.000	425.000
GR	923.200	450.000	923.500	500.000	924.500	550.000	925.600	577.000	928.600	617.000
GR	938.000	620.000	939.300	660.000	938.000	705.000	936.000	740.000	938.000	812.000
GR	940.000	885.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.086	.086	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	5756.000	0.000	0.000	0.000	725.000	725.000	725.000	.600	1.600	0.000
NC	.050	.050	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF DRIVEWAY BRIDGE, BS#12 SEC. L

X1	5757.000	23.000	440.000	443.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	926.400	926.400	0.000
BT	23.000	0.000	940.000	0.000	80.000	932.000	0.000	150.000	932.000	0.000
BT	200.000	932.000	0.000	250.000	934.000	0.000	275.000	934.000	0.000	300.000
BT	932.000	0.000	323.000	930.000	0.000	340.000	927.000	0.000	430.000	926.800
BT	0.000	440.000	926.800	0.000	440.000	926.800	925.400	440.500	926.800	926.100
BT	441.500	926.800	926.400	442.500	926.800	926.100	443.000	926.800	925.400	443.000
BT	926.800	0.000	446.000	926.800	0.000	480.000	927.800	0.000	517.000	928.000
BT	0.000	535.000	930.000	0.000	580.000	940.000	0.000	625.000	950.000	0.000
GR	940.000	0.000	932.000	80.000	932.000	150.000	932.000	200.000	934.000	250.000
GR	934.000	275.000	932.000	300.000	930.000	323.000	927.000	340.000	926.800	430.000
GR	926.800	440.000	924.400	440.000	924.200	440.500	924.200	441.500	924.200	442.500
GR	924.400	443.000	926.800	443.000	926.800	446.000	927.800	480.000	928.000	517.000
GR	930.000	535.000	940.000	580.000	950.000	625.000	0.000	0.000	0.000	0.000

U/S FACE OF DRIVEWAY BRIDGE, BS#12 SEC. L

X1	5774.000	0.000	0.000	0.000	17.000	17.000	17.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.085	.085	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	5775.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
QT	4.000	80.000	120.000	140.000	178.000	0.000	0.000	0.000	0.000	0.000

1085@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#12A SEC. M

X1	6150.000	19.000	285.000	296.000	375.000	375.000	375.000	0.000	0.000	0.000
GR	940.000	0.000	938.000	40.000	936.000	130.000	934.000	180.000	932.000	210.000
GR	930.000	242.000	928.000	262.000	927.700	285.000	926.400	288.000	925.800	292.000
GR	926.200	294.000	927.400	296.000	928.000	325.000	930.000	340.000	932.000	360.000
GR	934.000	373.000	936.000	385.000	938.000	399.000	940.000	410.000	0.000	0.000
NC	.090	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

320@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#13 SEC. N

X1	6915.000	17.000	270.000	282.000	800.000	750.000	765.000	0.000	0.000	0.000
GR	950.000	0.000	940.000	55.000	938.000	75.000	936.000	120.000	934.000	163.000
GR	932.000	180.000	931.800	220.000	930.500	270.000	928.100	274.000	928.100	277.000
GR	928.600	279.000	930.400	282.000	932.000	320.000	936.000	340.000	938.000	370.000
GR	940.000	415.000	950.000	483.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.095	.095	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	6960.000	0.000	0.000	0.000	40.000	50.000	45.000	0.000	.800	0.000

X1	6983.000	0.000	0.000	0.000	20.000	25.000	23.000	0.000	.400	0.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

X1	7005.000	15.000	260.000	272.000	20.000	25.000	22.000	0.000	0.000	0.000
GR	950.000	0.000	940.000	65.000	938.000	90.000	936.000	130.000	934.000	170.000
GR	932.000	210.000	931.500	260.000	929.700	264.000	929.700	267.000	930.200	269.000
GR	931.500	272.000	932.000	280.000	934.000	290.000	940.000	310.000	942.000	335.000

X1	7028.000	90.000	260.000	272.000	20.000	25.000	23.000	0.000	0.000	0.000
GR	950.000	0.000	948.500	8.900	947.100	17.900	945.700	26.800	944.300	35.800
GR	942.900	44.800	941.500	53.700	940.200	62.700	939.500	71.700	938.600	80.600
GR	937.900	89.600	937.400	98.600	936.800	107.500	936.400	116.500	935.900	125.500
GR	935.500	134.400	935.000	143.400	934.600	152.400	934.200	161.300	933.800	170.300
GR	933.500	179.300	933.100	188.200	932.700	197.200	932.300	206.200	932.100	215.100
GR	932.000	224.100	931.900	233.100	931.800	242.000	931.700	251.000	931.600	260.000
GR	931.400	260.400	931.300	260.700	931.100	261.100	931.000	261.500	930.800	261.900
GR	930.600	262.300	930.500	262.700	930.300	263.100	930.200	263.500	930.000	263.900
GR	930.000	264.300	930.000	264.700	930.000	265.100	930.000	265.500	930.000	265.900
GR	930.000	266.300	930.000	266.700	930.100	267.100	930.200	267.500	930.300	267.900
GR	930.400	268.300	930.500	268.700	930.600	269.100	930.700	269.500	930.900	269.900
GR	931.000	270.300	931.200	270.700	931.300	271.100	931.400	271.500	931.600	272.000
GR	931.700	273.800	931.900	275.700	932.100	277.600	932.300	279.500	932.600	281.400
GR	933.000	283.300	933.400	285.200	933.800	287.100	934.300	289.000	934.900	290.900
GR	935.600	292.800	936.200	294.600	936.800	296.500	937.400	298.400	938.000	300.300
GR	938.600	302.200	939.300	304.100	939.900	306.000	940.100	307.900	940.300	309.800
GR	940.400	311.700	940.600	313.600	940.800	315.500	940.900	317.300	941.100	319.200
GR	941.300	321.100	941.400	323.000	941.600	324.900	941.800	326.800	942.000	328.700

X1	7039.000	90.000	260.000	272.000	10.000	13.000	11.000	0.000	0.000	0.000
GR	950.000	0.000	948.500	8.900	947.100	17.900	945.700	26.800	944.300	35.800
GR	942.800	44.800	941.400	53.700	940.100	62.700	939.300	71.700	938.500	80.600
GR	937.800	89.600	937.300	98.600	936.700	107.500	936.200	116.500	935.800	125.500
GR	935.400	134.400	934.900	143.400	934.500	152.400	934.100	161.300	933.800	170.300
GR	933.500	179.300	933.100	188.200	932.800	197.200	932.400	206.200	932.200	215.100
GR	932.100	224.100	932.000	233.100	931.900	242.000	931.800	251.000	931.600	260.000
GR	931.500	260.400	931.400	260.700	931.200	261.100	931.100	261.500	930.900	261.900
GR	930.800	262.300	930.600	262.700	930.500	263.100	930.400	263.500	930.200	263.900
GR	930.200	264.300	930.200	264.700	930.200	265.100	930.200	265.500	930.200	265.900
GR	930.200	266.300	930.200	266.700	930.300	267.100	930.400	267.500	930.500	267.900
GR	930.600	268.300	930.700	268.700	930.800	269.100	930.900	269.500	931.000	269.900
GR	931.100	270.300	931.300	270.700	931.400	271.100	931.500	271.500	931.600	272.000
GR	931.800	273.700	932.000	275.500	932.200	277.300	932.400	279.100	932.700	280.900
GR	933.100	282.700	933.500	284.500	933.800	286.200	934.400	288.000	935.000	289.800
GR	935.600	291.600	936.200	293.400	936.800	295.200	937.400	297.000	938.000	298.800
GR	938.700	300.500	939.300	302.300	939.900	304.100	940.100	305.900	940.300	307.700
GR	940.400	309.500	940.600	311.300	940.800	313.100	940.900	314.800	941.100	316.600
GR	941.300	318.400	941.400	320.200	941.600	322.000	941.800	323.800	942.000	325.600

X1	7050.000	90.000	260.000	272.000	10.000	13.000	11.000	0.000	0.000	0.000
GR	950.000	0.000	948.500	8.900	947.100	17.900	945.600	26.800	944.200	35.800
GR	942.800	44.800	941.300	53.700	940.000	62.700	939.200	71.700	938.500	80.600
GR	937.800	89.600	937.200	98.600	936.600	107.500	936.100	116.500	935.700	125.500
GR	935.200	134.400	934.800	143.400	934.400	152.400	934.100	161.300	933.800	170.300
GR	933.500	179.300	933.100	188.200	932.800	197.200	932.500	206.200	932.300	215.100
GR	932.200	224.100	932.100	233.100	932.000	242.000	931.800	251.000	931.700	260.000
GR	931.600	260.400	931.400	260.700	931.300	261.100	931.200	261.500	931.100	261.900
GR	930.900	262.300	930.800	262.700	930.700	263.100	930.500	263.500	930.400	263.900
GR	930.400	264.300	930.400	264.700	930.400	265.100	930.400	265.500	930.400	265.900
GR	930.400	266.300	930.400	266.700	930.400	267.100	930.500	267.500	930.600	267.900

GR	931.300	270.300	931.400	270.700	931.500	271.100	931.600	271.500	931.700	272.000
GR	931.900	273.600	932.100	275.300	932.300	277.000	932.500	278.700	932.800	280.400
GR	933.200	282.000	933.500	283.700	933.900	285.400	934.400	287.100	935.000	288.800
GR	935.600	290.500	936.200	292.100	936.800	293.800	937.400	295.500	938.100	297.200
GR	938.700	298.900	939.300	300.600	939.900	302.200	940.100	303.900	940.300	305.600
GR	940.400	307.300	940.600	309.000	940.800	310.700	940.900	312.300	941.100	314.000
GR	941.300	315.700	941.400	317.400	941.600	319.100	941.800	320.800	942.000	322.500

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

X1	7095.000	13.000	260.000	272.000	40.000	50.000	45.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	232.000	0.000	305.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	940.000	60.000	938.000	85.000	936.000	110.000	934.000	150.000
GR	932.000	260.000	931.200	264.000	931.200	267.000	931.700	269.000	932.000	272.000
GR	934.000	282.000	940.000	295.000	942.000	310.000	0.000	0.000	0.000	0.000

X1	7118.000	90.000	255.000	267.000	20.000	25.000	23.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	232.000	0.000	294.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	948.600	8.700	947.200	17.500	945.800	26.300	944.400	35.100
GR	943.000	43.900	941.700	52.700	940.400	61.500	939.700	70.300	939.000	79.100
GR	938.300	87.900	937.600	96.700	936.800	105.500	936.200	114.300	935.700	123.100
GR	935.300	131.800	934.800	140.600	934.400	149.400	934.100	158.200	933.900	167.000
GR	933.600	175.800	933.400	184.600	933.300	193.400	933.200	202.200	933.100	211.000
GR	933.000	219.800	932.800	228.600	932.700	237.400	932.600	246.200	932.500	255.000
GR	932.400	255.300	932.300	255.700	932.200	256.100	932.100	256.500	932.000	256.900
GR	931.900	257.300	931.800	257.700	931.700	258.100	931.600	258.500	931.500	258.900
GR	931.500	259.300	931.500	259.700	931.500	260.100	931.500	260.500	931.500	260.900
GR	931.500	261.300	931.500	261.700	931.600	262.100	931.600	262.500	931.700	262.900
GR	931.800	263.300	931.900	263.700	931.900	264.100	931.900	264.500	932.000	264.900
GR	932.100	265.300	932.200	265.700	932.300	266.100	932.400	266.500	932.500	267.000
GR	932.800	268.400	933.200	269.800	933.600	271.200	934.000	272.700	934.400	274.100
GR	934.800	275.500	935.200	277.000	935.600	278.400	936.100	279.800	936.700	281.300
GR	937.300	282.700	937.800	284.100	938.400	285.600	939.000	287.000	939.600	288.400
GR	940.100	289.900	940.700	291.300	941.200	292.700	941.500	294.200	941.700	295.600
GR	942.000	297.000	942.300	298.500	942.500	299.900	942.700	301.300	942.900	302.800
GR	943.100	304.200	943.300	305.600	943.500	307.100	943.700	308.500	944.000	310.000

X1	7140.000	90.000	250.000	262.000	20.000	25.000	23.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	232.000	0.000	283.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	948.700	8.600	947.500	17.200	946.100	25.800	944.800	34.400
GR	943.600	43.100	942.300	51.700	941.100	60.300	940.300	68.900	939.700	77.500
GR	939.000	86.200	938.300	94.800	937.500	103.400	936.800	112.000	936.300	120.600
GR	935.800	129.300	935.400	137.900	934.900	146.500	934.500	155.100	934.200	163.700
GR	933.800	172.400	933.600	181.000	933.500	189.600	933.500	198.200	933.400	206.800
GR	933.300	215.500	933.300	224.100	933.200	232.700	933.100	241.300	933.100	250.000
GR	932.900	250.300	932.800	250.700	932.600	251.100	932.500	251.500	932.400	251.900
GR	932.200	252.300	932.100	252.700	932.000	253.100	932.000	253.500	931.900	253.900
GR	931.900	254.300	931.900	254.700	931.900	255.100	931.900	255.500	931.900	255.900
GR	931.900	256.300	931.900	256.700	931.900	257.100	932.000	257.500	932.000	257.900
GR	932.100	258.300	932.100	258.700	932.200	259.100	932.200	259.500	932.200	259.900
GR	932.300	260.300	932.500	260.700	932.600	261.100	932.800	261.500	933.000	262.000
GR	933.500	263.600	934.000	265.200	934.600	266.700	935.100	268.300	935.700	269.900
GR	936.200	271.500	936.700	273.100	937.200	274.700	937.700	276.300	938.200	277.900
GR	938.800	279.500	939.300	281.100	939.900	282.700	940.500	284.300	941.000	285.900
GR	941.500	287.500	942.000	289.100	942.500	290.700	942.900	292.300	943.200	293.900
GR	943.600	295.500	943.900	297.100	944.300	298.700	944.600	300.300	944.800	301.900
GR	945.000	303.500	945.300	305.100	945.500	306.700	945.700	308.300	946.000	310.000

X1	7163.000	90.000	245.000	257.000	20.000	25.000	23.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	232.000	0.000	272.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	948.900	8.400	947.800	16.800	946.500	25.300	945.200	33.700

GR	939.700	84.400	939.100	92.900	938.200	101.300	937.400	109.800	936.900	118.200
GR	936.400	126.700	935.900	135.100	935.400	143.600	935.000	152.000	934.500	160.500
GR	934.000	168.900	933.800	177.400	933.800	185.800	933.700	194.300	933.700	202.700
GR	933.700	211.200	933.700	219.600	933.600	228.100	933.600	236.500	933.600	245.000
GR	933.400	245.300	933.300	245.700	933.100	246.100	933.000	246.500	932.800	246.900
GR	932.600	247.300	932.500	247.700	932.400	248.100	932.400	248.500	932.300	248.900
GR	932.300	249.300	932.300	249.700	932.300	250.100	932.300	250.500	932.300	250.900
GR	932.300	251.300	932.300	251.700	932.300	252.100	932.300	252.500	932.400	252.900
GR	932.400	253.300	932.400	253.700	932.400	254.100	932.400	254.500	932.400	254.900
GR	932.600	255.300	932.800	255.700	933.000	256.100	933.200	256.500	933.500	257.000
GR	934.100	258.700	934.800	260.500	935.500	262.200	936.200	264.000	936.900	265.800
GR	937.600	267.500	938.200	269.300	938.700	271.100	939.200	272.800	939.800	274.600
GR	940.300	276.400	940.800	278.100	941.400	279.900	941.900	281.700	942.500	283.400
GR	943.000	285.200	943.400	287.000	943.900	288.700	944.300	290.500	944.700	292.300
GR	945.100	294.000	945.500	295.800	946.000	297.600	946.400	299.300	946.600	301.100
GR	946.900	302.900	947.200	304.600	947.400	306.400	947.700	308.200	948.000	310.000

50@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#14 SEC. O

X1	7185.000	19.000	240.000	252.000	20.000	25.000	22.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	232.000	0.000	261.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	948.000	18.000	946.000	30.000	944.000	48.000	942.000	61.000
GR	940.000	90.000	938.000	108.000	936.000	140.000	934.000	170.000	936.200	240.000
GR	932.800	243.000	932.700	250.000	934.000	252.000	940.000	266.000	942.000	274.000
GR	944.000	281.000	946.000	290.000	948.000	297.000	950.000	310.000	0.000	0.000
NC	.090	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE OF W. MAPLE ROAD CULVERT, BS#15 SEC. P

X1	7235.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	-1.500	0.000
X3	0.000	0.000	0.000	247.000	0.000	250.500	0.000	0.000	0.000	0.000
SB	0.000	2.120	3.020	0.000	2.750	0.000	9.620	0.000	931.600	931.200

U/S FACE OF W. MAPLE ROAD CULVERT, BA#15 SEC. P

X1	7315.000	20.000	415.000	418.500	80.000	80.000	80.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	935.100	947.700	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	947.700	947.700	0.000
BT	18.000	0.000	958.000	0.000	60.000	956.000	0.000	130.000	954.000	0.000
BT	205.000	952.000	0.000	337.000	950.000	0.000	415.000	949.300	933.400	415.100
BT	949.300	934.000	415.500	949.300	934.600	416.100	949.300	935.000	416.700	949.300
BT	935.100	417.300	949.300	935.000	418.000	949.300	934.600	418.400	949.300	934.000
BT	418.500	949.300	933.400	515.000	949.000	0.000	770.000	948.000	0.000	975.000
BT	947.700	0.000	1140.000	948.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	950.000	0.000	956.000	60.000	954.000	130.000	952.000	205.000	950.000	337.000
GR	933.400	415.000	933.400	415.000	932.700	415.100	932.100	415.500	931.700	416.100
GR	931.600	416.700	931.700	417.300	932.100	418.000	932.700	418.400	933.400	418.500
GR	933.400	418.500	949.000	515.000	948.000	770.000	947.700	975.000	948.000	1140.000
NC	.092	.092	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	7316.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
QT	4.000	45.000	155.000	233.000	475.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.035	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	.100	14.000	0.000	1200.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	450.000	0.000	0.000	0.000	0.000	0.000	0.000
X5	4.000	881.500	881.730	881.840	882.090	0.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	886.200	100.000	883.300	200.000	881.200	300.000	881.000	400.000
GR	881.100	425.000	881.300	500.000	881.700	600.000	882.600	700.000	883.800	800.000
GR	884.600	900.000	886.300	1000.000	888.600	1100.000	892.500	1200.000	0.000	0.000

X1	42.100	0.000	0.000	0.000	42.000	42.000	42.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	450.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.052	.052	.052	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	43.100	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	450.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.085	.085	.041	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	93.100	19.000	1100.000	1114.000	50.000	50.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	440.000	0.000	810.000	0.000	0.000	0.000	0.000
GR	881.500	0.000	880.100	100.000	879.500	200.000	879.800	300.000	879.500	400.000
GR	880.800	425.000	879.300	500.000	879.700	600.000	881.200	700.000	881.800	800.000
GR	881.900	900.000	882.500	1000.000	881.600	1100.000	879.800	1103.000	879.400	1107.000
GR	879.700	1111.000	881.700	1114.000	888.500	1200.000	892.900	1270.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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 HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
 ERROR CORR -  01,02
 MODIFICATION -  50,51,52,53
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T1       5850-10, FIS - WEST BLOOMFIELD TWP, PM   RICHARD ZANOTTI
T2       100-YEAR FLOOD
T3       MINNOW POND DRAIN

J1   ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        -1.        4.        0.        0.  0.000000      0.00      0.0       0.   881.720     0.000

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
        3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 3

CCHV=     .300 CEHV=     .500
*SECNO .000
     SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
     Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
     TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
     SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 3370 NORMAL BRIDGE,NRD= 22 MIN ELTRD=  881.00 MAX ELLC=  884.00

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      888.60 ELREA=      888.60

           D/S FACE OF 14 MILE ROAR CULVERT, BS#4                              SEC. A   = BX (FARMINGTON HILLS)
       0.00      3.62    881.72     0.00    881.72    882.02      .30      0.00      0.00    888.60
       117.         0.      117.       0.        0.       26.       0.        0.        0.    888.60
       0.00      0.00      4.43     0.00      .035      .032      .035     0.000    878.10   1095.70
    .004466         0.        0.        0         0         0         0     -2.11      8.60   1104.30

*SECNO 42.000

 3370 NORMAL BRIDGE,NRD= 22 MIN ELTRD=  881.00 MAX ELLC=  884.30

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      888.60 ELREA=      888.60

           U/S FACE OF 14 MILE ROAD CULVERT, BS#4                              SEC. A   = BX (U/S) FARMINGTON HILLS.
      42.00      3.51    881.91     0.00      0.00    882.23      .32       .20       .01    888.60
       117.         0.      117.       0.        0.       26.       0.        0.        0.    888.60
        .00      0.00      4.57     0.00      .035      .032      .035      .031    878.40   1095.70
    .004866        42.       42.       42.         0         0         0     -1.96      8.60   1104.30

*SECNO 43.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      888.60 ELREA=      888.60

           END OF ISLAND PROBLEM, FROM FIS = FARMINGTON HILLS
      43.00      3.59    881.99     0.00      0.00    882.25      .27       .00       .02    888.60   = 38753 (FARMINGTON HILLS)
       117.         0.      117.       0.        0.       28.       0.        0.        0.    888.60
        .00      0.00      4.14     0.00      .070      .037      .070      .031    878.40   1095.70
    .004234         1.        1.        1         2         0         0      0.00      8.60   1104.30

*SECNO 93.000

 3470 ENCROACHMENT STATIONS=     1053.0     1162.0  TYPE=      1  TARGET=      109.000

           50@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#1                         SEC. B
      93.00      2.93    882.33     0.00      0.00    882.46      .14       .17       .04    881.60
       117.        15.      101.       1.        24.       32.       2.        0.        0.    881.70
        .01       .60      3.19       .43       .085      .041      .085      .036    879.40   1053.00
    .002874        50.       50.       50.         2         0         0      0.00     68.94   1121.94
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*SECNO 393.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 130.0 390.0 TYPE= 1 TARGET= -130.000

393.00	2.88	884.58	0.00	0.00	884.85	.27	2.32	.07	883.90
350.	164.	178.	8.	130.	31.	8.	1.	1.	884.00
.03	1.26	5.72	1.08	.090	.042	.090	.036	881.70	130.00
.009986	450.	300.	275.	4	0	0	0.00	224.35	354.35

*SECNO 693.000

650@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#2 SEC. C

693.00	3.29	887.39	0.00	0.00	887.68	.29	2.82	.01	887.40
350.	0.	170.	180.	0.	29.	86.	2.	2.	885.60
.06	0.00	5.87	2.11	.090	.042	.090	.039	884.10	133.01
.009246	300.	300.	275.	4	0	0	0.00	68.92	201.93

*SECNO 918.000

918.00	4.14	888.74	0.00	0.00	888.93	.19	1.22	.03	887.50
310.	101.	203.	6.	95.	48.	8.	3.	3.	887.50
.08	1.06	4.21	.74	.080	.042	.085	.040	884.60	67.56
.003408	300.	225.	175.	3	0	0	0.00	129.89	197.46

*SECNO 919.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 887.50 MAX ELLC= 886.20

D/S FACE OF WALKWAY BRIDGE, BS#3 SEC. D

919.00	4.31	888.91	0.00	0.00	888.97	.06	.00	.04	887.50
310.	210.	88.	12.	112.	35.	10.	3.	3.	887.50
.08	1.87	2.50	1.25	.055	.035	.060	.040	884.60	65.27
.004109	1.	1.	1.	2	0	0	-19.50	133.83	199.09

*SECNO 929.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 887.50 MAX ELLC= 886.20

U/S FACE OF WALKWAY BRIDGE, BS#3 SEC. D

929.00	4.35	888.95	0.00	0.00	889.01	.06	.04	.00	887.50
310.	211.	86.	13.	116.	36.	10.	3.	3.	887.50
.08	1.82	2.42	1.22	.055	.035	.060	.040	884.60	64.80
.003775	10.	10.	10.	0	0	0	-19.50	134.63	199.43

*SECNO 930.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

930.00	4.31	888.91	0.00	0.00	889.06	.16	.00	.05	887.50
310.	94.	208.	7.	112.	55.	10.	3.	3.	887.50
.08	.84	3.82	.73	.100	.043	.085	.039	884.60	65.32
.002779	1.	1.	1.	2	0	0	0.00	133.74	199.06

*SECNO 1850.000

3470 ENCROACHMENT STATIONS= .0 268.0 TYPE= 1 TARGET= 267.999

1808@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#5 SEC. E

1850.00	2.42	892.62	0.00	0.00	892.66	.04	3.57	.03	891.00
310.	143.	30.	137.	108.	8.	108.	7.	7.	891.30
.24	1.33	3.71	1.27	.095	.047	.090	.044	890.20	47.46
.006237	800.	920.	1000.	3	0	0	0.00	215.00	262.46

*SECNO 2055.000

3470 ENCROACHMENT STATIONS= .0 268.0 TYPE= 1 TARGET= 267.999

2055.00	2.22	894.37	894.09	0.00	894.45	.08	1.77	.02	892.95
310.	146.	38.	126.	88.	7.	85.	8.	8.	893.25
.27	1.66	5.17	1.47	.095	.045	.095	.044	892.15	47.96
.012679	205.	205.	205.	12	13	0	0.00	213.70	261.66

*SECNO 2260.000

3470 ENCROACHMENT STATIONS= 210.0 450.0 TYPE= 1 TARGET= 240.000

2218@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#6 SEC. F

2260.00	2.51	896.61	0.00	0.00	896.74	.13	2.27	.02	895.50
310.	206.	87.	17.	136.	18.	17.	9.	9.	895.50
.29	1.51	4.92	1.05	.095	.045	.095	.044	894.10	210.00
.009762	205.	205.	205.	5	0	0	0.00	178.91	388.91

*SECNO 2760.000

2718@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#7 SEC. G

2760.00	2.93	901.53	0.00	0.00	901.80	.28	4.98	.07	901.40
310.	0.	156.	154.	0.	27.	83.	10.	10.	899.60
.33	.02	5.66	1.87	.094	.045	.094	.044	898.60	30.84
.010845	475.	500.	475.	4	0	0	0.00	90.23	121.07

*SECNO 2781.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
2781.00	2.70	901.70	0.00	0.00	902.19	.49	.29	.11	901.40
310.	0.	180.	130.	0.	25.	60.	10.	10.	900.10
.33	.02	7.12	2.18	.100	.045	.100	.044	899.00	36.08
.018378	18.	21.	20.	2	0	0	0.00	81.35	117.43

*SECNO 2802.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2802.00	2.85	902.15	902.15	0.00	902.72	.57	.38	.04	901.50
310.	0.	194.	116.	1.	26.	54.	10.	10.	900.60
.33	.96	7.50	2.14	.100	.045	.100	.044	899.30	40.69
.018974	18.	21.	20.	2	8	0	0.00	77.43	118.13

*SECNO 2823.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2823.00	2.90	902.60	902.60	0.00	903.15	.55	.36	.01	901.40
310.	4.	198.	108.	2.	27.	55.	10.	10.	901.00
.33	1.50	7.33	1.98	.100	.045	.100	.044	899.70	43.82
.016229	18.	21.	20.	1	5	0	0.00	81.68	125.50

*SECNO 2844.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

2844.00	2.96	903.01	903.01	0.00	903.58	.58	.33	.01	901.45
310.	12.	203.	95.	6.	28.	50.	10.	10.	901.45
.33	1.80	7.39	1.90	.100	.045	.100	.044	900.05	45.25
.015594	18.	21.	20.	2	8	0	0.00	81.66	126.91

*SECNO 2886.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

2886.00	3.16	903.76	903.76	0.00	904.37	.61	.70	.02	901.80
310.	87.	191.	32.	40.	24.	24.	10.	10.	902.70
.33	2.17	7.82	1.35	.100	.045	.100	.044	900.60	24.84
.019277	36.	42.	40.	2	8	0	0.00	94.92	119.76

*SECNO 3011.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

3011.00	3.14	905.84	0.00	0.00	906.11	.28	1.65	.10	903.90
310.	164.	144.	2.	103.	24.	2.	11.	10.	904.80
.34	1.59	5.96	1.03	.095	.044	.095	.044	902.70	43.86
.010812	105.	125.	120.	2	0	0	0.00	120.14	163.99

*SECNO 3136.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

3136.00	2.60	907.40	0.00	0.00	907.83	.42	1.64	.07	906.00
310.	29.	148.	133.	17.	21.	54.	11.	11.	906.00
.35	1.68	7.15	2.45	.095	.044	.095	.045	904.80	45.43
.018613	105.	125.	120.	2	0	0	0.00	82.12	127.55

*SECNO 3157.000

3157.00	2.66	907.81	0.00	0.00	908.19	.39	.36	.01	906.35
310.	30.	145.	135.	18.	21.	57.	11.	11.	906.35
.35	1.63	6.88	2.37	.095	.044	.095	.045	905.15	44.58
.016709	18.	21.	20.	3	0	0	0.00	83.58	128.16

*SECNO 3178.000

3178.00	2.65	908.15	0.00	0.00	908.53	.39	.34	.00	906.70
310.	30.	145.	135.	19.	21.	57.	11.	11.	906.70
.35	1.63	6.87	2.37	.095	.044	.095	.044	905.50	44.55
.016659	18.	21.	20.	0	0	0	0.00	83.62	128.18

*SECNO 3199.000

3199.00	2.63	908.48	0.00	0.00	908.89	.40	.35	.01	907.05
310.	30.	146.	134.	18.	21.	56.	11.	11.	907.05
.35	1.66	7.01	2.41	.095	.044	.095	.044	905.85	44.98
.017584	18.	21.	20.	1	0	0	0.00	82.88	127.87

*SECNO 3220.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3220.00	2.92	909.12	909.12	0.00	909.63	.51	.38	.05	907.40
310.	51.	166.	93.	25.	22.	42.	11.	11.	908.30
.35	1.99	7.57	2.20	.095	.044	.095	.044	906.20	63.33
.019831	18.	21.	20.	20	8	0	0.00	82.11	145.44

*SECNO 3261.000

3220@ U/S FROM U/S FACE OF 14 MILE ROAD, VS#8 SEC. H

3261.00	3.04	909.94	0.00	0.00	910.34	.40	.68	.03	908.10
310.	53.	159.	98.	29.	23.	48.	11.	11.	909.00
.36	1.81	6.83	2.07	.095	.044	.095	.044	906.90	61.16
.014979	35.	41.	40.	2	0	0	0.00	84.53	145.69

*SECNO 3941.000

3295@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#9 SEC. I

3941.00	3.00	920.10	920.08	0.00	920.67	.57	10.24	.08	918.90
220.	19.	159.	42.	15.	23.	22.	12.	12.	918.40
.39	1.30	7.04	1.88	.100	.045	.100	.045	917.10	65.31
.015173	680.	680.	680.	8	8	0	0.00	55.35	120.66

*SECNO 4466.000

2770@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#10 SEC. J

4466.00	3.15	925.25	0.00	0.00	925.70	.46	5.00	.03	927.60
220.	0.	194.	26.	0.	34.	20.	13.	13.	923.40
.42	0.00	5.75	1.28	.090	.037	.090	.044	922.10	60.66
.006744	475.	525.	475.	5	0	0	0.00	35.04	95.70

*SECNO 5031.000

2205@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#11 SEC. K

5031.00	3.31	925.91	0.00	0.00	925.91	.00	.07	.14	927.10
220.	0.	220.	0.	0.	627.	1.	18.	15.	925.60
.86	0.00	.35	.03	.085	.044	.085	.044	922.60	302.97
.000036	565.	565.	565.	3	0	0	0.00	278.20	581.17

*SECNO 5756.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
5756.00	1.77	925.97	0.00	0.00	926.01	.04	.08	.02	928.70
220.	0.	220.	0.	0.	138.	0.	24.	18.	927.20
.99	0.00	1.59	0.00	.086	.045	.086	.044	924.20	187.65
.002347	725.	725.	725.	2	0	0	0.00	138.62	326.28

*SECNO 5757.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLDB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 23 MIN ELTRD= 926.80 MAX ELLC= 926.40

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

D/S FACE OF DRIVEWAY BRIDGE, BS#12 SEC. L

5757.00	3.16	927.36	927.36	0.00	927.60	.24	.01	.10	926.80
220.	158.	43.	19.	47.	7.	7.	24.	18.	926.80
.99	3.33	5.94	2.69	.050	.030	.050	.044	924.20	337.95
.034328	1.	1.	1.	20	14	0	-2.15	127.13	465.08

*SECNO 5774.000

3370 NORMAL BRIDGE, NRD= 23 MIN ELTRD= 926.80 MAX ELLC= 926.40

U/S FACE OF DRIVEWAY BRIDGE, BS#12 SEC. L

5774.00	3.58	927.78	0.00	0.00	927.83	.06	.18	.05	926.80
220.	172.	21.	27.	90.	8.	19.	24.	18.	926.80
.99	1.91	2.51	1.41	.050	.030	.050	.044	924.20	335.62
.004967	17.	17.	17.	2	0	0	-2.15	143.43	479.05

*SECNO 5775.000

5775.00	3.56	927.76	0.00	0.00	927.86	.10	.01	.02	926.80
220.	149.	48.	23.	89.	11.	19.	24.	18.	926.80
.99	1.68	4.56	1.24	.085	.042	.085	.044	924.20	335.69
.011210	1.	1.	1.	2	0	0	0.00	142.99	478.67

*SECNO 6150.000

10850 D/S FROM D/S FACE OF W. MAPLE ROAD, VS#12A SEC. M

6150.00	3.41	929.21	0.00	0.00	929.26	.05	1.38	.02	927.70
140.	28.	73.	39.	39.	30.	49.	25.	19.	927.40
1.06	.72	2.42	.79	.085	.042	.085	.044	925.80	249.89
.001322	375.	375.	375.	4	0	0	0.00	84.20	334.08

*SECNO 6915.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3200 D/S FROM D/S FACE OF W. MAPLE ROAD, VS#13 SEC. N

6915.00	3.04	931.14	0.00	0.00	931.47	.33	2.07	.14	930.50
140.	5.	130.	5.	8.	27.	6.	26.	20.	930.40
1.10	.70	4.81	.77	.090	.045	.090	.044	928.10	245.54
.008232	800.	765.	750.	4	0	0	0.00	53.93	299.48

*SECNO 6960.000

6960.00	2.65	931.55	931.30	0.00	932.14	.59	.54	.13	931.30
140.	1.	138.	1.	1.	22.	1.	26.	20.	931.20
1.11	.54	6.20	.68	.095	.047	.095	.044	928.90	260.35
.019155	40.	45.	50.	4	11	0	0.00	29.98	290.33

*SECNO 6983.000

6983.00	2.73	932.03	931.70	0.00	932.56	.54	.41	.02	931.70
140.	1.	137.	2.	2.	23.	2.	26.	20.	931.60
1.11	.60	5.93	.71	.095	.047	.095	.044	929.30	257.65
.016675	20.	23.	25.	6	11	0	0.00	34.35	292.00

*SECNO 7005.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

7005.00	3.04	932.74	0.00	0.00	932.83	.09	.13	.13	931.50
140.	45.	88.	7.	55.	29.	9.	26.	20.	931.50

6003100	20.	22.	25.	3	0	0	0.00	88.37	283.67

*SECNO 7028.000

7028.00	2.80	932.80	0.00	0.00	932.92	.11	.08	.01	931.60
140.	46.	88.	6.	51.	27.	7.	27.	20.	931.60
1.11	.91	3.29	.88	.095	.047	.095	.044	930.00	195.04
6004009	20.	23.	25.	2	0	0	0.00	87.30	282.33

*SECNO 7039.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
7039.00	2.64	932.84	0.00	0.00	932.97	.12	.05	.01	931.60
140.	46.	88.	6.	48.	25.	7.	27.	20.	931.60
1.11	.96	3.48	.94	.095	.047	.095	.044	930.20	195.85
6004707	10.	11.	13.	0	0	0	0.00	85.71	281.55

*SECNO 7050.000

7050.00	2.49	932.89	0.00	0.00	933.03	.13	.05	.01	931.70
140.	47.	88.	6.	46.	24.	6.	27.	21.	931.70
1.12	1.01	3.64	.98	.095	.047	.095	.044	930.40	194.37
6005464	10.	11.	13.	0	0	0	0.00	86.41	280.78

*SECNO 7095.000

3470 ENCROACHMENT STATIONS= 232.0 305.0 TYPE= 1 TARGET= 75.000

MANUFACTURED SECTION FROM 2-FOOT CONTOUR MAP

7095.00	1.98	933.18	0.00	0.00	933.43	.25	.34	.06	932.00
140.	41.	94.	4.	26.	20.	3.	27.	21.	932.00
1.12	1.61	4.80	1.19	.095	.047	.095	.044	931.20	232.00
6012154	40.	45.	50.	2	0	0	0.00	45.88	277.88

*SECNO 7118.000

3470 ENCROACHMENT STATIONS= 232.0 294.0 TYPE= 1 TARGET= 62.000

7118.00	1.94	933.44	0.00	0.00	933.81	.37	.32	.06	932.50
140.	33.	105.	3.	19.	19.	2.	27.	21.	932.50
1.12	1.76	5.54	1.44	.095	.047	.095	.044	931.50	232.00
6017189	20.	23.	25.	2	0	0	0.00	38.64	270.64

*SECNO 7140.000

3470 ENCROACHMENT STATIONS= 232.0 283.0 TYPE= 1 TARGET= 51.000

7140.00	1.90	933.80	933.79	0.00	934.31	.51	.44	.07	933.10
140.	21.	118.	1.	12.	19.	1.	27.	21.	933.00
1.12	1.76	6.22	1.38	.095	.047	.095	.044	931.90	232.00
6022188	20.	23.	25.	2	8	0	0.00	32.54	264.54

*SECNO 7163.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 232.0 272.0 TYPE= 1 TARGET= 40.000

7163.00	1.97	934.27	934.22	0.00	934.81	.53	.48	.01	933.60
140.	15.	124.	1.	9.	20.	1.	27.	21.	933.50
1.12	1.67	6.19	1.25	.095	.047	.095	.044	932.30	232.00
.020469	20.	23.	25.	4	5	0	0.00	27.15	259.15

*SECNO 7185.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 232.0 261.0 TYPE= 1 TARGET= 29.000

50@ D/S FROM D/S FACE OF W. MAPLE ROAD, VS#14 SEC. 0

7185.00	2.00	934.70	934.70	0.00	935.36	.66	.49	.06	934.20
140.	6.	133.	1.	4.	20.	1.	27.	21.	934.00
1.12	1.50	6.68	1.15	.095	.047	.095	.044	932.70	232.00
.024456	20.	22.	25.	2	5	0	0.00	21.63	253.63

*SECNO 7235.000

3470 ENCROACHMENT STATIONS= 247.0 250.5 TYPE= 1 TARGET= 3.500

D/S FACE OF W. MAPLE ROAD CULVERT, BS#15 SEC. P

7235.00	4.90	936.10	0.00	0.00	937.15	1.05	1.60	.20100000.00	
140.	0.	140.	0.	0.	17.	0.	27.	21.	100000.00
1.12	0.00	8.23	0.00	.090	.045	.090	.044	931.20	247.00
.043562	50.	50.	50.	2	0	0	0.00	3.50	250.50

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.12	3.02	0.00	2.75	0.00	9.62	0.00	931.60	931.20

*SECNO 7315.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
943.07	937.72	0.00	0.	140.	10.	10.	935.10	947.70

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 947.70 ELREA= 947.70

U/S FACE OF W. MAPLE ROAD CULVERT, BA#15 SEC. P

140.	0.	140.	0.	0.	38.	0.	27.	21.	933.40
1.13	0.00	3.68	0.00	.090	.045	.090	.044	931.60	415.00
0003643	80.	80.	80.	2	0	0	0.00	3.50	418.50

*SECNO 7316.000

7316.00	11.54	943.14	0.00	0.00	943.14	.00	.00	.06	933.40
140.	50.	23.	67.	223.	39.	293.	27.	21.	933.40
1.13	.23	.58	.23	.092	.045	.092	.044	931.60	369.26
0000025	1.	1.	1.	2	0	0	0.00	109.47	478.72

(REFERS TO EAST SIDE OF ISLAND PROBLEM @ 14 MILE RD)

*SECNO .100
WATER EL=X5 CARD= 881.840

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 450.0 1200.0 TYPE= 1 TARGET= -450.000

.10	.67	881.84	881.84	0.00	882.04	.20	0.00	.10100000.00	
(1) 233.	0.	233.	0.	0.	65.	0.	27.	21.	100000.00
1.13	0.00	3.56	0.00	.035	.035	.035	.044	881.17	450.00
0024398	0.	0.	0.	0	23	0	0.00	165.56	615.56

East side of the island problem:
① d/s Face of 14 Mile Road
② Water surface elevation is obtained from FIS for the City of Farmington Hills.
③ "stationings" have been added by 0.1 ft to avoid the problem of "Comment cards"

*SECNO 42.100

3470 ENCROACHMENT STATIONS= 450.0 1200.0 TYPE= 1 TARGET= -450.000

42.10	1.11	882.27	0.00	0.00	882.31	.04	.23	.05100000.00	
(2) 233.	0.	233.	0.	0.	147.	0.	27.	21.	892.50
1.14	0.00	1.59	0.00	.035	.035	.035	.044	881.17	450.00
0002308	42.	42.	42.	2	0	0	0.00	213.38	663.38

d/s Face of 14 Mile Rd

*SECNO 43.100

3470 ENCROACHMENT STATIONS= 450.0 1200.0 TYPE= 1 TARGET= -450.000

43.10	1.11	882.28	0.00	0.00	882.31	.04	.00	.00100000.00	
(3) 233.	0.	233.	0.	0.	150.	0.	27.	21.	892.50
1.14	0.00	1.55	0.00	.052	.052	.052	.044	881.17	450.00
0004790	1.	1.	1.	0	0	0	0.00	215.05	665.05

End of Island problem.
Water inundation area above 14 mile Rd so further is not necessary.

*SECNO 93.100

3470 ENCROACHMENT STATIONS= 440.0 810.0 TYPE= 1 TARGET= 370.000

93.10	3.04	882.34	0.00	0.00	882.34	.00	.02	.01100000.00	
233.	233.	0.	0.	710.	0.	0.	27.	21.	100000.00
1.18	.33	0.00	0.00	.085	.041	.085	.044	879.30	440.00
0000124	50.	50.	50.	2	0	0	0.00	370.00	810.00

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  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

MINNOW POND DRAIN

SUMMARY PRINTOUT

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	0.000	881.00	884.00	878.10	90.00	881.40	3.30	.22	0.00	881.62	0.00	8.60	24.10
	0.000	881.00	884.00	878.10	105.00	881.58	3.48	.27	0.00	881.85	0.00	8.60	25.41
	0.000	881.00	884.00	878.10	117.00	881.72	3.62	.30	0.00	882.02	0.00	8.60	26.44
	0.000	881.00	884.00	878.10	140.00	881.96	3.86	.38	0.00	882.34	0.00	8.60	28.19
	42.000	881.00	884.30	878.40	90.00	881.54	3.14	.24	.01	881.78	42.00	8.60	22.95
	42.000	881.00	884.30	878.40	105.00	881.75	3.35	.29	.01	882.03	42.00	8.60	24.45
	42.000	881.00	884.30	878.40	117.00	881.91	3.51	.32	.01	882.23	42.00	8.60	25.62
	42.000	881.00	884.30	878.40	140.00	882.18	3.78	.40	.01	882.58	42.00	8.60	27.65
	43.000	0.00	0.00	878.40	90.00	881.59	3.19	.20	.01	881.79	1.00	8.60	24.85
	43.000	0.00	0.00	878.40	105.00	881.81	3.41	.24	.01	882.05	1.00	8.60	26.76
	43.000	0.00	0.00	878.40	117.00	881.99	3.59	.27	.02	882.25	1.00	8.60	28.24
	43.000	0.00	0.00	878.40	140.00	882.29	3.89	.32	.02	882.61	1.00	8.60	30.89
	93.000	0.00	0.00	879.40	90.00	881.81	2.41	.21	.00	882.01	50.00	38.18	26.90
	93.000	0.00	0.00	879.40	105.00	882.09	2.69	.17	.02	882.27	50.00	65.99	42.82
	93.000	0.00	0.00	879.40	117.00	882.33	2.93	.14	.04	882.46	50.00	68.94	58.57
	93.000	0.00	0.00	879.40	140.00	882.72	3.32	.10	.07	882.82	50.00	73.93	86.76
*	393.000	0.00	0.00	881.70	135.00	884.14	2.44	.25	.02	884.39	300.00	221.03	70.55
	393.000	0.00	0.00	881.70	260.00	884.42	2.72	.27	.05	884.69	300.00	223.13	132.52
	393.000	0.00	0.00	881.70	350.00	884.58	2.88	.27	.07	884.85	300.00	224.35	168.98
	393.000	0.00	0.00	881.70	615.00	884.97	3.27	.27	.09	885.24	300.00	227.33	258.71
	693.000	0.00	0.00	884.10	135.00	886.53	2.43	.22	.01	886.75	300.00	63.87	58.15
	693.000	0.00	0.00	884.10	260.00	887.10	3.00	.25	.00	887.35	300.00	67.21	95.00
	693.000	0.00	0.00	884.10	350.00	887.39	3.29	.29	.01	887.68	300.00	68.92	114.57
	693.000	0.00	0.00	884.10	615.00	887.99	3.89	.44	.08	888.43	300.00	89.88	162.95
	918.000	0.00	0.00	884.60	105.00	887.72	3.12	.15	.02	887.87	225.00	56.28	37.18
	918.000	0.00	0.00	884.60	230.00	888.40	3.80	.20	.02	888.60	225.00	121.53	107.69
	918.000	0.00	0.00	884.60	310.00	888.74	4.14	.19	.03	888.93	225.00	129.89	151.52
	918.000	0.00	0.00	884.60	490.00	889.50	4.90	.14	.09	889.64	225.00	148.04	256.60
	919.000	887.50	886.20	884.60	105.00	887.37	2.77	.87	.36	888.24	1.00	15.00	14.00
	919.000	887.50	886.20	884.60	230.00	888.57	3.97	.07	.04	888.64	1.00	125.61	113.14
	919.000	887.50	886.20	884.60	310.00	888.91	4.31	.06	.04	888.97	1.00	133.83	157.54
	919.000	887.50	886.20	884.60	490.00	889.61	5.01	.06	.03	889.67	1.00	150.71	257.61

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	929.000	887.50	886.20	884.60	105.00	888.53	3.93	.02	.26	888.54	10.00	124.70	108.39
	929.000	887.50	886.20	884.60	230.00	888.64	4.04	.06	.00	888.70	10.00	127.04	120.66
	929.000	887.50	886.20	884.60	310.00	888.95	4.35	.06	.00	889.01	10.00	134.63	162.04
	929.000	887.50	886.20	884.60	490.00	889.64	5.04	.06	.00	889.69	10.00	151.27	261.15
	930.000	0.00	0.00	884.60	105.00	888.52	3.92	.03	.01	888.55	1.00	124.48	126.73
	930.000	0.00	0.00	884.60	230.00	888.60	4.00	.14	.04	888.74	1.00	126.44	136.99
	930.000	0.00	0.00	884.60	310.00	888.91	4.31	.16	.05	889.06	1.00	133.74	176.53
	930.000	0.00	0.00	884.60	490.00	889.59	4.99	.15	.05	889.74	1.00	150.23	274.08
*	1850.000	0.00	0.00	890.20	105.00	891.85	1.65	.16	.06	892.00	920.00	171.55	62.96
	1850.000	0.00	0.00	890.20	230.00	892.38	2.18	.05	.03	892.42	920.00	213.51	174.61
	1850.000	0.00	0.00	890.20	310.00	892.62	2.42	.04	.03	892.66	920.00	215.00	223.71
	1850.000	0.00	0.00	890.20	490.00	892.99	2.79	.05	.03	893.04	920.00	217.45	305.35
	2055.000	0.00	0.00	892.15	105.00	894.08	1.93	.03	.04	894.11	205.00	211.82	119.17
	2055.000	0.00	0.00	892.15	230.00	894.24	2.09	.07	.01	894.31	205.00	212.91	154.91
	2055.000	0.00	0.00	892.15	310.00	894.37	2.22	.08	.02	894.45	205.00	213.70	180.90
	2055.000	0.00	0.00	892.15	490.00	894.65	2.50	.10	.02	894.75	205.00	215.54	241.61
*	2260.000	0.00	0.00	894.10	105.00	896.01	1.91	.17	.07	896.18	205.00	162.65	67.09
	2260.000	0.00	0.00	894.10	230.00	896.41	2.31	.13	.03	896.54	205.00	173.68	136.17
	2260.000	0.00	0.00	894.10	310.00	896.61	2.51	.13	.02	896.74	205.00	178.91	170.56
	2260.000	0.00	0.00	894.10	490.00	896.94	2.84	.15	.03	897.09	205.00	187.74	230.84
	2760.000	0.00	0.00	898.60	105.00	900.74	2.14	.15	.01	900.89	500.00	61.28	50.59
	2760.000	0.00	0.00	898.60	230.00	901.27	2.67	.24	.05	901.51	500.00	80.82	88.18
	2760.000	0.00	0.00	898.60	310.00	901.53	2.93	.28	.07	901.80	500.00	90.23	110.02
	2760.000	0.00	0.00	898.60	490.00	902.01	3.41	.34	.09	902.35	500.00	107.79	158.09
	2781.000	0.00	0.00	899.00	105.00	900.86	1.86	.37	.11	901.23	21.00	46.95	31.45
	2781.000	0.00	0.00	899.00	230.00	901.44	2.44	.45	.10	901.89	21.00	68.49	65.35
	2781.000	0.00	0.00	899.00	310.00	901.70	2.70	.49	.11	902.19	21.00	81.35	85.04
	2781.000	0.00	0.00	899.00	490.00	902.19	3.19	.54	.10	902.73	21.00	97.75	128.63
*	2802.000	0.00	0.00	899.30	105.00	901.29	1.99	.41	.02	901.70	21.00	44.61	28.63
*	2802.000	0.00	0.00	899.30	230.00	901.88	2.58	.52	.04	902.40	21.00	65.44	61.20
*	2802.000	0.00	0.00	899.30	310.00	902.15	2.85	.57	.04	902.72	21.00	77.43	80.31
*	2802.000	0.00	0.00	899.30	490.00	902.60	3.30	.67	.06	903.26	21.00	92.57	118.80
	2823.000	0.00	0.00	899.70	105.00	901.66	1.96	.44	.01	902.10	21.00	40.97	26.73
*	2823.000	0.00	0.00	899.70	230.00	902.31	2.61	.52	.00	902.83	21.00	68.06	63.17
*	2823.000	0.00	0.00	899.70	310.00	902.60	2.90	.55	.01	903.15	21.00	81.68	84.21
*	2823.000	0.00	0.00	899.70	490.00	903.04	3.34	.66	.00	903.70	21.00	89.45	122.58
*	2844.000	0.00	0.00	900.05	105.00	902.02	1.97	.47	.02	902.49	21.00	39.04	25.21
*	2844.000	0.00	0.00	900.05	230.00	902.72	2.67	.54	.01	903.26	21.00	68.61	62.33
*	2844.000	0.00	0.00	900.05	310.00	903.01	2.96	.58	.01	903.58	21.00	81.66	83.88
*	2844.000	0.00	0.00	900.05	490.00	903.45	3.40	.69	.01	904.14	21.00	88.93	122.07
	2886.000	0.00	0.00	900.60	105.00	902.84	2.24	.44	.01	903.28	42.00	37.22	27.07
*	2886.000	0.00	0.00	900.60	230.00	903.52	2.92	.53	.00	904.05	42.00	80.28	67.67
*	2886.000	0.00	0.00	900.60	310.00	903.76	3.16	.61	.02	904.37	42.00	94.92	88.26
	2886.000	0.00	0.00	900.60	490.00	904.30	3.70	.54	.04	904.84	42.00	111.97	145.84

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	3011.000	0.00	0.00	902.70	105.00	904.94	2.24	.23	.06	905.18	125.00	68.16	45.63
	3011.000	0.00	0.00	902.70	230.00	905.53	2.83	.28	.07	905.81	125.00	102.04	94.82
	3011.000	0.00	0.00	902.70	310.00	905.84	3.14	.28	.10	906.11	125.00	120.14	129.12
	3011.000	0.00	0.00	902.70	490.00	906.19	3.49	.35	.06	906.53	125.00	131.56	173.87
	3136.000	0.00	0.00	904.80	105.00	906.66	1.86	.28	.02	906.93	125.00	59.76	39.46
	3136.000	0.00	0.00	904.80	230.00	907.18	2.38	.36	.04	907.54	125.00	75.50	74.94
	3136.000	0.00	0.00	904.80	310.00	907.40	2.60	.42	.07	907.83	125.00	82.12	92.32
	3136.000	0.00	0.00	904.80	490.00	907.87	3.07	.49	.07	908.36	125.00	96.19	134.15
	3157.000	0.00	0.00	905.15	105.00	907.02	1.87	.27	.00	907.29	21.00	59.97	39.88
	3157.000	0.00	0.00	905.15	230.00	907.54	2.39	.36	.00	907.89	21.00	75.56	75.09
	3157.000	0.00	0.00	905.15	310.00	907.81	2.66	.39	.01	908.19	21.00	83.58	96.36
	3157.000	0.00	0.00	905.15	490.00	908.24	3.09	.48	.00	908.72	21.00	96.59	135.42
	3178.000	0.00	0.00	905.50	105.00	907.37	1.87	.27	.00	907.64	21.00	59.94	39.82
	3178.000	0.00	0.00	905.50	230.00	907.89	2.39	.36	.00	908.25	21.00	75.44	74.79
	3178.000	0.00	0.00	905.50	310.00	908.15	2.65	.39	.00	908.53	21.00	83.62	96.48
	3178.000	0.00	0.00	905.50	490.00	908.60	3.10	.47	.00	909.08	21.00	96.84	136.24
	3199.000	0.00	0.00	905.85	105.00	907.72	1.87	.27	.00	907.99	21.00	59.92	39.77
	3199.000	0.00	0.00	905.85	230.00	908.24	2.39	.36	.00	908.60	21.00	75.53	75.01
	3199.000	0.00	0.00	905.85	310.00	908.48	2.63	.40	.01	908.89	21.00	82.88	94.43
	3199.000	0.00	0.00	905.85	490.00	908.96	3.11	.47	.00	909.43	21.00	96.97	136.64
*	3220.000	0.00	0.00	906.20	105.00	908.43	2.23	.34	.03	908.77	21.00	68.93	38.02
*	3220.000	0.00	0.00	906.20	230.00	908.92	2.72	.43	.04	909.35	21.00	78.21	73.46
*	3220.000	0.00	0.00	906.20	310.00	909.12	2.92	.51	.05	909.63	21.00	82.11	89.67
*	3220.000	0.00	0.00	906.20	490.00	909.51	3.31	.63	.08	910.14	21.00	89.74	123.67
*	3261.000	0.00	0.00	906.90	105.00	909.15	2.25	.32	.00	909.47	41.00	69.19	38.95
	3261.000	0.00	0.00	906.90	230.00	909.63	2.73	.42	.00	910.05	41.00	78.48	74.54
	3261.000	0.00	0.00	906.90	310.00	909.94	3.04	.40	.03	910.34	41.00	84.53	100.14
	3261.000	0.00	0.00	906.90	490.00	910.45	3.55	.43	.06	910.88	41.00	91.95	145.32
	3941.000	0.00	0.00	917.10	95.00	919.33	2.23	.42	.05	919.75	680.00	33.05	24.75
	3941.000	0.00	0.00	917.10	175.00	919.95	2.85	.47	.02	920.42	680.00	52.00	51.44
	3941.000	0.00	0.00	917.10	220.00	920.10	3.00	.57	.08	920.67	680.00	55.35	59.53
*	3941.000	0.00	0.00	917.10	330.00	920.53	3.43	.64	.11	921.18	680.00	64.47	85.80
	4466.000	0.00	0.00	922.10	95.00	924.26	2.16	.28	.04	924.54	525.00	22.38	25.62
	4466.000	0.00	0.00	922.10	175.00	924.89	2.79	.43	.01	925.32	525.00	30.39	42.06
	4466.000	0.00	0.00	922.10	220.00	925.25	3.15	.46	.03	925.70	525.00	35.04	53.87
	4466.000	0.00	0.00	922.10	330.00	925.83	3.73	.57	.02	926.40	525.00	42.56	76.54
	5031.000	0.00	0.00	922.60	95.00	924.73	2.13	.00	.08	924.73	565.00	246.72	315.22
	5031.000	0.00	0.00	922.60	175.00	925.53	2.93	.00	.13	925.53	565.00	271.52	524.41
	5031.000	0.00	0.00	922.60	220.00	925.91	3.31	.00	.14	925.91	565.00	278.20	628.14
	5031.000	0.00	0.00	922.60	330.00	926.63	4.03	.00	.17	926.63	565.00	289.57	831.90
*	5756.000	0.00	0.00	924.20	95.00	925.05	.85	.18	.09	925.23	725.00	83.36	28.19
	5756.000	0.00	0.00	924.20	175.00	925.60	1.40	.06	.03	925.66	725.00	125.25	89.56
	5756.000	0.00	0.00	924.20	220.00	925.97	1.77	.04	.02	926.01	725.00	138.62	138.00
	5756.000	0.00	0.00	924.20	330.00	926.68	2.48	.03	.01	926.71	725.00	155.46	242.39

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
*	5757.000	926.80	926.40	924.20	95.00	927.22	3.02	.11	.02	927.33	1.00	121.44	43.94
*	5757.000	926.80	926.40	924.20	175.00	927.30	3.10	.22	.08	927.51	1.00	124.63	53.82
*	5757.000	926.80	926.40	924.20	220.00	927.36	3.16	.24	.10	927.60	1.00	127.13	61.75
*	5757.000	926.80	926.40	924.20	330.00	927.50	3.30	.29	.13	927.80	1.00	132.69	79.98
	5774.000	926.80	926.40	924.20	95.00	927.44	3.24	.03	.02	927.47	17.00	130.36	72.26
	5774.000	926.80	926.40	924.20	175.00	927.68	3.48	.05	.05	927.73	17.00	139.63	103.80
	5774.000	926.80	926.40	924.20	220.00	927.78	3.58	.06	.05	927.83	17.00	143.43	117.36
	5774.000	926.80	926.40	924.20	330.00	927.97	3.77	.08	.06	928.05	17.00	177.59	149.29
	5775.000	0.00	0.00	924.20	95.00	927.42	3.22	.08	.02	927.50	1.00	129.66	72.12
	5775.000	0.00	0.00	924.20	175.00	927.67	3.47	.09	.02	927.76	1.00	139.19	104.41
	5775.000	0.00	0.00	924.20	220.00	927.76	3.56	.10	.02	927.86	1.00	142.99	117.90
	5775.000	0.00	0.00	924.20	330.00	927.96	3.76	.12	.02	928.08	1.00	175.24	149.27
	6150.000	0.00	0.00	925.80	80.00	928.62	2.82	.05	.01	928.67	375.00	73.86	71.47
	6150.000	0.00	0.00	925.80	120.00	929.03	3.23	.05	.01	929.08	375.00	80.98	102.94
	6150.000	0.00	0.00	925.80	140.00	929.21	3.41	.05	.02	929.26	375.00	84.20	118.15
	6150.000	0.00	0.00	925.80	178.00	929.56	3.76	.05	.02	929.61	375.00	90.27	148.44
	6915.000	0.00	0.00	928.10	80.00	930.66	2.56	.22	.08	930.88	765.00	24.38	22.54
	6915.000	0.00	0.00	928.10	120.00	931.00	2.90	.30	.13	931.31	765.00	45.44	34.36
	6915.000	0.00	0.00	928.10	140.00	931.14	3.04	.33	.14	931.47	765.00	53.93	41.14
	6915.000	0.00	0.00	928.10	178.00	931.34	3.24	.38	.17	931.72	765.00	66.95	53.78
	6960.000	0.00	0.00	928.90	80.00	931.04	2.14	.37	.08	931.41	45.00	11.31	16.29
	6960.000	0.00	0.00	928.90	120.00	931.41	2.51	.51	.11	931.93	45.00	21.92	21.62
	6960.000	0.00	0.00	928.90	140.00	931.55	2.65	.59	.13	932.14	45.00	29.98	24.98
*	6960.000	0.00	0.00	928.90	178.00	931.81	2.91	.66	.14	932.47	45.00	45.82	34.63
	6983.000	0.00	0.00	929.30	80.00	931.43	2.13	.38	.00	931.81	23.00	11.26	16.12
	6983.000	0.00	0.00	929.30	120.00	931.84	2.54	.51	.00	932.35	23.00	22.63	21.87
	6983.000	0.00	0.00	929.30	140.00	932.03	2.73	.54	.02	932.56	23.00	34.35	27.24
	6983.000	0.00	0.00	929.30	178.00	932.34	3.04	.54	.04	932.88	23.00	54.20	41.37
	7005.000	0.00	0.00	929.70	80.00	931.90	2.20	.23	.04	932.13	22.00	58.04	27.95
	7005.000	0.00	0.00	929.70	120.00	932.51	2.81	.11	.12	932.62	22.00	82.69	73.32
	7005.000	0.00	0.00	929.70	140.00	932.74	3.04	.09	.13	932.83	22.00	88.37	92.73
	7005.000	0.00	0.00	929.70	178.00	933.04	3.34	.09	.14	933.13	22.00	96.07	121.16
	7028.000	0.00	0.00	930.00	80.00	932.16	2.16	.18	.02	932.34	23.00	65.97	35.14
	7028.000	0.00	0.00	930.00	120.00	932.60	2.60	.13	.01	932.73	23.00	81.64	67.02
	7028.000	0.00	0.00	930.00	140.00	932.80	2.80	.11	.01	932.92	23.00	87.30	84.49
	7028.000	0.00	0.00	930.00	178.00	933.10	3.10	.10	.01	933.20	23.00	95.42	111.73
	7039.000	0.00	0.00	930.20	80.00	932.25	2.05	.19	.00	932.43	11.00	65.06	34.20
	7039.000	0.00	0.00	930.20	120.00	932.65	2.45	.14	.01	932.79	11.00	79.95	63.21
	7039.000	0.00	0.00	930.20	140.00	932.84	2.64	.12	.01	932.97	11.00	85.71	79.57
	7039.000	0.00	0.00	930.20	178.00	933.14	2.94	.11	.01	933.24	11.00	95.46	105.96
	7050.000	0.00	0.00	930.40	80.00	932.34	1.94	.19	.00	932.53	11.00	63.83	33.33
	7050.000	0.00	0.00	930.40	120.00	932.71	2.31	.16	.01	932.86	11.00	79.94	60.39
	7050.000	0.00	0.00	930.40	140.00	932.89	2.49	.13	.01	933.03	11.00	86.41	75.84
	7050.000	0.00	0.00	930.40	178.00	933.17	2.77	.12	.00	933.29	11.00	95.39	101.49

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	7095.000	0.00	0.00	931.20	80.00	932.80	1.60	.20	.00	933.00	45.00	44.02	32.19
	7095.000	0.00	0.00	931.20	120.00	933.05	1.85	.24	.04	933.29	45.00	45.27	43.39
	7095.000	0.00	0.00	931.20	140.00	933.18	1.98	.25	.06	933.43	45.00	45.88	48.91
	7095.000	0.00	0.00	931.20	178.00	933.39	2.19	.28	.08	933.67	45.00	46.96	58.92
	7118.000	0.00	0.00	931.50	80.00	933.08	1.58	.28	.04	933.36	23.00	37.37	25.62
	7118.000	0.00	0.00	931.50	120.00	933.33	1.83	.34	.05	933.67	23.00	38.24	35.00
	7118.000	0.00	0.00	931.50	140.00	933.44	1.94	.37	.06	933.81	23.00	38.64	39.31
	7118.000	0.00	0.00	931.50	178.00	933.64	2.14	.41	.07	934.05	23.00	39.34	47.02
	7140.000	0.00	0.00	931.90	80.00	933.45	1.55	.36	.04	933.81	23.00	31.44	20.88
	7140.000	0.00	0.00	931.90	120.00	933.70	1.80	.47	.06	934.16	23.00	32.20	28.44
	7140.000	0.00	0.00	931.90	140.00	933.80	1.90	.51	.07	934.31	23.00	32.54	31.87
	7140.000	0.00	0.00	931.90	178.00	933.99	2.09	.59	.09	934.57	23.00	33.15	38.14
	7163.000	0.00	0.00	932.30	80.00	933.89	1.59	.37	.01	934.26	23.00	26.07	19.16
	7163.000	0.00	0.00	932.30	120.00	934.16	1.86	.48	.01	934.64	23.00	26.86	26.62
	7163.000	0.00	0.00	932.30	140.00	934.27	1.97	.53	.01	934.81	23.00	27.15	29.70
	7163.000	0.00	0.00	932.30	178.00	934.46	2.16	.64	.03	935.10	23.00	27.62	34.77
	7185.000	0.00	0.00	932.70	80.00	934.31	1.61	.41	.02	934.72	22.00	20.73	16.42
	7185.000	0.00	0.00	932.70	120.00	934.58	1.88	.59	.05	935.17	22.00	21.35	22.02
*	7185.000	0.00	0.00	932.70	140.00	934.70	2.00	.66	.06	935.36	22.00	21.63	24.60
*	7185.000	0.00	0.00	932.70	178.00	934.93	2.23	.77	.06	935.70	22.00	22.18	29.72
	7235.000	0.00	0.00	931.20	80.00	935.33	4.13	.49	.04	935.81	50.00	3.50	14.30
	7235.000	0.00	0.00	931.20	120.00	935.89	4.69	.85	.13	936.73	50.00	3.50	16.25
	7235.000	0.00	0.00	931.20	140.00	936.10	4.90	1.05	.20	937.15	50.00	3.50	17.01
	7235.000	0.00	0.00	931.20	178.00	936.39	5.19	1.51	.37	937.91	50.00	3.50	18.02
	7315.000	947.70	935.10	931.60	80.00	937.32	5.72	.29	0.00	937.61	80.00	3.50	18.64
	7315.000	947.70	935.10	931.60	120.00	940.77	9.17	.24	0.00	941.01	80.00	3.50	30.72
	7315.000	947.70	935.10	931.60	140.00	942.86	11.26	.21	0.00	943.07	80.00	3.50	38.04
	7315.000	947.70	935.10	931.60	178.00	947.49	15.89	.17	0.00	947.66	80.00	3.50	54.25
	7316.000	0.00	0.00	931.60	80.00	937.67	6.07	.01	.08	937.69	1.00	50.02	119.29
	7316.000	0.00	0.00	931.60	120.00	941.08	9.48	.00	.07	941.08	1.00	87.05	352.45
	7316.000	0.00	0.00	931.60	140.00	943.14	11.54	.00	.06	943.14	1.00	109.47	554.81
	7316.000	0.00	0.00	931.60	178.00	947.71	16.11	.00	.05	947.71	1.00	172.55	1169.66
*	.100	0.00	0.00	881.17	45.00	881.50	.33	.09	.04	881.59	1.00	100.00	18.33
*	.100	0.00	0.00	881.17	155.00	881.73	.57	.16	.08	881.89	1.00	153.54	48.16
*	.100	0.00	0.00	881.17	233.00	881.84	.67	.20	.10	882.04	1.00	165.56	65.42
*	.100	0.00	0.00	881.17	475.00	882.09	.92	.29	.14	882.38	1.00	193.33	110.28
	42.100	0.00	0.00	881.17	45.00	881.78	.61	.01	.03	881.79	42.00	158.95	55.77
	42.100	0.00	0.00	881.17	155.00	882.12	.95	.03	.04	882.14	42.00	196.26	115.41
	42.100	0.00	0.00	881.17	233.00	882.27	1.11	.04	.05	882.31	42.00	213.38	146.98
	42.100	0.00	0.00	881.17	475.00	882.63	1.46	.07	.07	882.69	42.00	252.20	229.95
	43.100	0.00	0.00	881.17	45.00	881.78	.61	.01	.00	881.79	1.00	159.52	56.60
	43.100	0.00	0.00	881.17	155.00	882.12	.95	.03	.00	882.15	1.00	197.26	117.19
	43.100	0.00	0.00	881.17	233.00	882.28	1.11	.04	.00	882.31	1.00	215.05	150.19
	43.100	0.00	0.00	881.17	475.00	882.63	1.47	.06	.00	882.70	1.00	253.25	233.14

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
93.100	0.00	0.00	879.30	45.00	881.79	2.49	.00	.00	881.79	50.00	358.83	506.47
93.100	0.00	0.00	879.30	155.00	882.17	2.87	.00	.01	882.17	50.00	370.00	644.08
93.100	0.00	0.00	879.30	233.00	882.34	3.04	.00	.01	882.34	50.00	370.00	709.53
93.100	0.00	0.00	879.30	475.00	882.75	3.45	.00	.02	882.75	50.00	370.00	859.98

SUMMARY OF ERRORS

CAUTION SECNO= 393.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 393.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 1850.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1850.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1850.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 2260.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2260.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 2802.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2802.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2802.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2802.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2802.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2802.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2802.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2802.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 2823.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2823.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2823.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2823.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2823.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2823.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 2844.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2844.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2844.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2844.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2844.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2844.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2844.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2844.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 2886.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2886.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 2886.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2886.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 3220.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3220.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 3220.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 3220.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3220.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 3220.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 3220.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3220.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 3220.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 3220.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3220.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 3261.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 3941.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3941.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 5756.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 5756.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 5756.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 5757.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 5757.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 5757.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 5757.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 5757.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 5757.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 5757.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 5757.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 5757.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 5757.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 5757.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 5757.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 6960.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 6960.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 7185.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 7185.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 7185.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 7185.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

NOTE SECNO= .100 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO= .100 PROFILE= 2 WSEL BASED ON X5 CARD
NOTE SECNO= .100 PROFILE= 3 WSEL BASED ON X5 CARD
NOTE SECNO= .100 PROFILE= 4 WSEL BASED ON X5 CARD

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16.03.18.WBLOOM,P40,CM120000.
16.03.18.AQCR,       0.483 KCDS. FROM ECJOAND
16.03.18.ACCOUNT,C0635,.      585010
16.03.19.SYSCALL,HEC2.
16.03.21.*****************************************
16.03.21.*HEC2          07 JUN 78
16.03.21. *K242 GP50-739
16.03.21.*HEC2-HYDROLOGIC ENGR. CENTER/V.OCT77
16.03.21. *120K(OCTAL) MFL RECOMMENDED*
16.03.21.*HEC2-MODIFICATION 53/CORRECTION 02
16.03.21.**WATER SURFACE PROFILE ANALYSIS*
16.03.21.$IF(.NOT.NUM(0))$GOTO,1A.
16.03.21.*****
16.03.21.*****OPTIONS*****
16.03.21.*  NONOTES  - SUPRESS PRINT OF PROC
16.03.21.*             NOTES IN DAYFILE
16.03.21.*            DEFAULT, PROC NOTES PRINTED
16.03.21.*            IN DAYFILE
16.03.21.*  NOECHO   - SUPRESS ECHO OF INPUT
16.03.21.*             DATA
16.03.21.*            DEFAULT, ECHO OF INPUT
16.03.21.*            DATA PRINTED
16.03.21.*****
16.03.21.1A,*
16.03.21.$ONEXIT.
16.03.21.$IF(EF.GT.8)$GOTO(1EF)
16.03.21.$ATTACH(HEC2=H2A710/UN=ESLIB,M=E,PW=)
16.03.21.
16.03.22.$IF(FILE(SYSIN,AS))$GOTO(1C)
16.03.22.$COPYBR,,SYSIN.
16.03.23. COPY COMPLETE.
16.03.23.1C,*
16.03.23.$REWIND,SYSIN.
16.03.23.$IF(.NOT.NUM(0).OR.SW6)$GOTO,2C.
16.03.23.BANNERS. *HEC-2*INPUT*ECHO*
16.03.23.$COPYSBF,SYSIN.
16.03.24. END OF INFORMATION ENCOUNTERED.
16.03.24.$REWIND,SYSIN.
16.03.24.$BANNERS. *END ECHO*
16.03.24.2C,*
16.03.24. INITIATE PPI PROCESSING.
16.03.26.HEC2,SYSIN,PL=9999999.
16.03.54.     STOP
16.03.54.      7.065 CP SECONDS EXECUTION TIME
16.03.55.     I5     19.608          0.000
16.03.55.$REWIND(TAPE92)
16.03.55.$COPYEI(TAPE92,OUTPUT)
16.03.55. EOI ENCOUNTERED.
16.03.55.$GOTO,10K.
16.03.55.10K,*
16.03.55.$RETURN,HEC2,SYSIN.
16.03.55.$SYSEND.
16.03.56.*****************************************
16.03.56.   MAX FL   120000 WORDS
16.03.56.   MSMX       4.540 KPRS.
16.03.56.   MS         2.654 KPRS.
```

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16.03.56.
16.03.56.  IO      12.684 SECS.
16.03.56.  CP       7.215 SECS.
16.03.56.  MRU     20.193
```

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: MINNOW POND DRAIN

4) DOCUMENT TYPE: REPORT

00BREAK00

HYDRAULIC ANALYSIS

Introduction

The stream being studied is the Minnow Pond Drain in the Township of West Bloomfield, Oakland County, Michigan. The study starts from 14 Mile Road, the southern corporate boundary of the Township, to West Maple Road. It covers a distance of approximately 1.39 river miles. The drainage areas at the upstream and downstream ends of the study are 1.82 square miles and 2.75 swuare miles, respectively. The 10-, 50-, 100-, and 500-year flood frequency flows were primarily determined by Brater's unit hydrograph-infiltration capacity method. And then the TR-20 program was used to determine the out-flows from a significant storage area upstream of West Maple Road. These flows have been approved by the Michigan Department of Natural Resources (MDNR), Water Management Division. The project manager is Richard Zanotti.

Method of Analysis

The flood profiles were calculated by the HEC-2 computer program developed by the U.S. Corps of Engineers (Reference 1). All bridged have been modeled by the requirements of the HEC-2 normal bridge routine and special bridge routine.

Variables and Coefficients

The roughness factors (Manning's "n") were determined by comparing the descriptions in Ven Te Chow's Open-Channel Hydraulics (Reference 2) with photographs and field descriptions taken in West Bloomfield by survey crews in March, 1978. To reflect the generally gradual changes in cross-section geometry, the contraction and expansion coefficients used in this study were .3 and .5, respectively; "n" values were indicative of summer conditions.

The inlet loss coefficients and outlet loss coefficients used in this study were taken from Hydraulic Charts for the Selection of Highway Culverts (Reference 3). The weir discharge coefficients were taken from charts of the U.S. Geological Survey (Reference 4) and Bureau of Public Roads (Reference 5) supplied by the MDNR.

Starting Calculations

The starting water-surface elevations for this study were obtained from the City of Farmington Hills Flood Insurance Study done by Johnson & Anderson, Inc., in 1977.

Discussion

The ground elevation of the area upstream of West Maple Road is about 10 to 12 feet lower than the elevation of West Maple Road. The culvert under West Maple Road is very restricted (3.5 feet diameter concrete pipe) so that a significant storage effect was observed. The TR-20 program has been employed to take this storage into consideration.

REFERENCES

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Users Manual, Oct. 1973.

2. Chow, Ven Te, Open-Channel Hydraulics, McGraw-Hill, 1959, pp. 101-123.

3. Herr, Lester A., Hydraulic Charts for the Selection of Highway Culverts, Hydraulic Engineering Circular No. 5, Bureau of Public Roads, U.S. Department of Commerce, Dec. 1965.

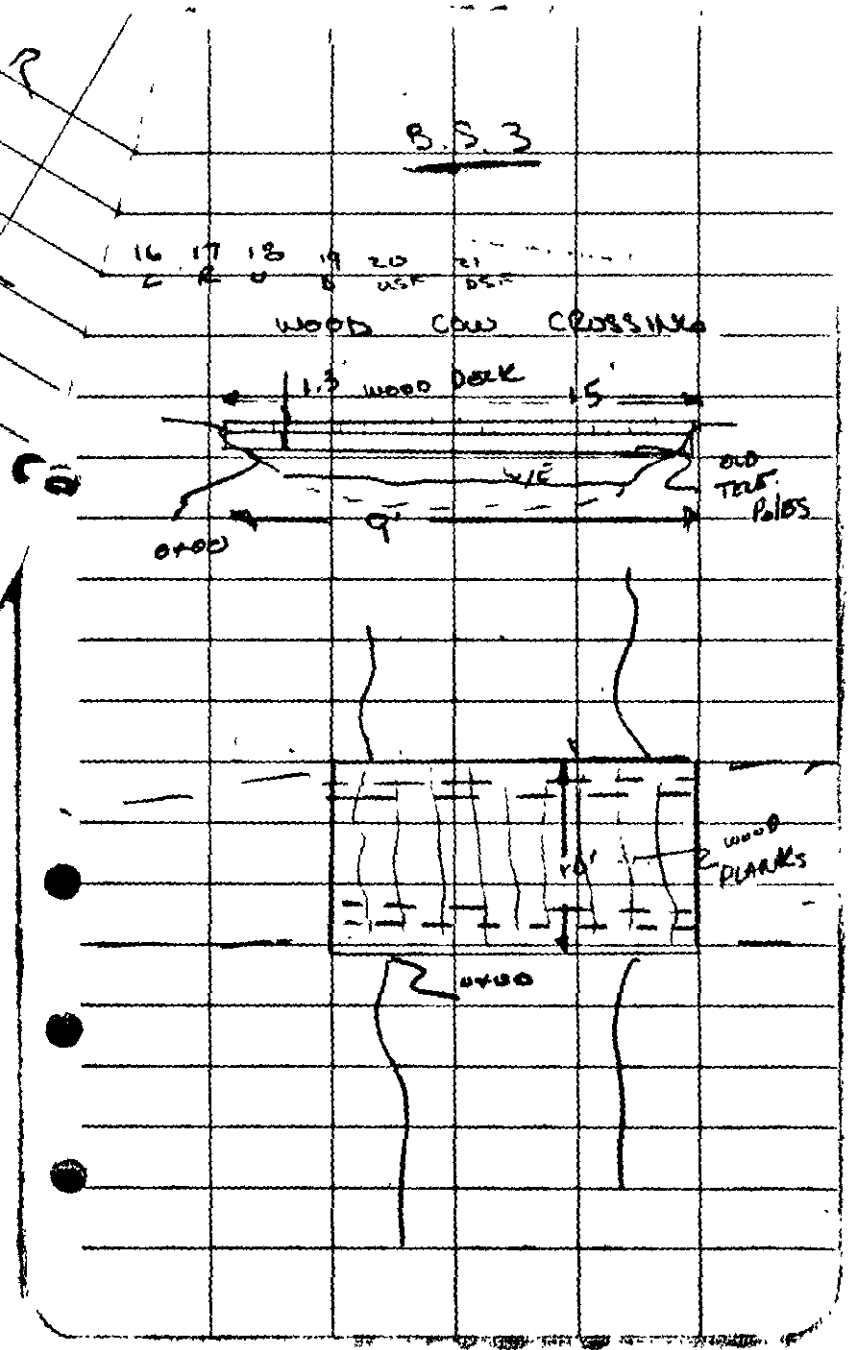
4. U.S. Geological Survey, Measurements of Peak Discharge at Dams by Indirect Methods, Bood 3, Chapter A5, 1976.

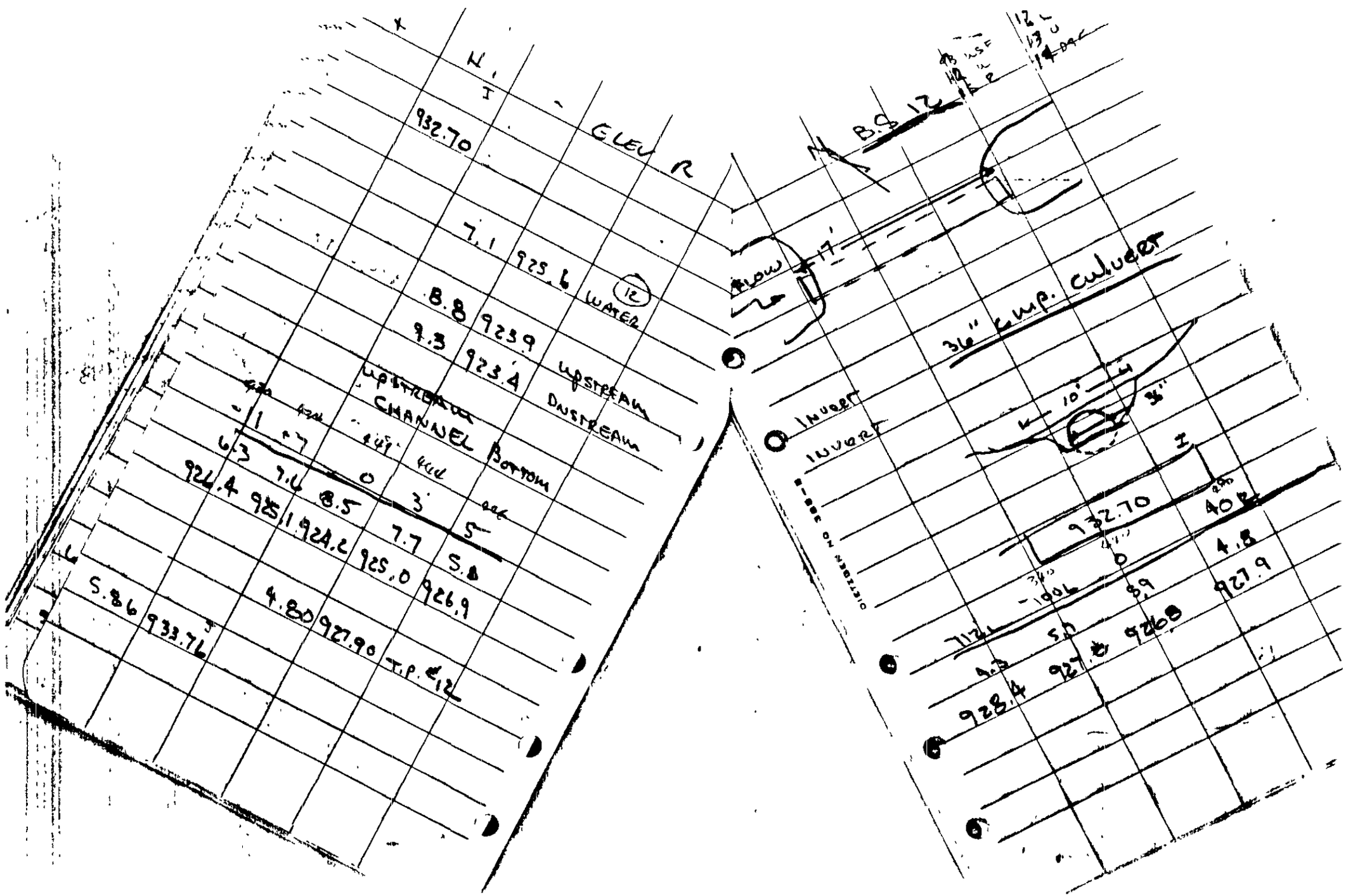
5. Bureau of Public Roads, Hydraulics of Bridge Waterways, 1970.

Original Cross Section Location

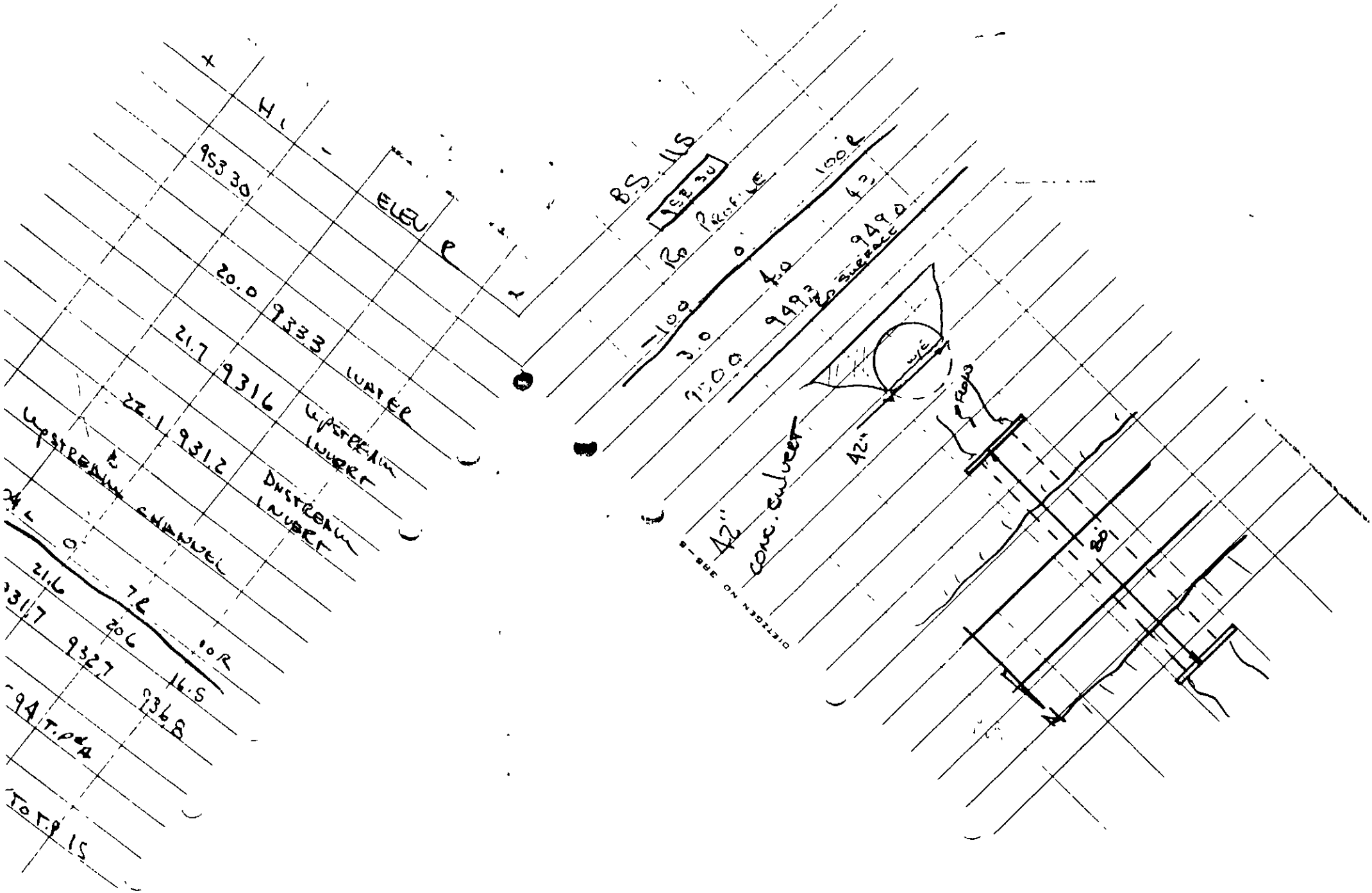
Cross Section	J&A Section No.	SECNO	Location
A	4	42	u/s face of 14 Mile Road Culvert
B	1	93	± 50' u/s from u/s face of 14 Mile Road Culvert
C	2	693	± 650' u/s from u/s face of 14 Mile Road Culvert
D	3	929	u/s face of Walkway Bridge
E	5	1850	± 1810' u/s from u/s face of 14 Mile Road Culvert
F	6	2260	± 2220' u/s from u/s face of 14 Mile Road Culvert
G	7	2760	± 2720' u/s from u/s face of 14 Mile Road Culvert
H	8	3261	± 3220' u/s from u/s face of 14 Mile Road Culvert
I	9	3941	± 3295' d/s from d/s face of West Maple Road
J	10	4466	± 2770' d/s from d/s face of West Maple Road
K	11	5031	± 2205' d/s from d/s face of West Maple Road
L	12	5774	u/s face of Driveway Bridge
M	12A	6150	± 1085' d/s from d/s face of West Maple Road
N	13	6915	± 320' d/s from d/s face of West Maple Road
O	14	7185	± 50' d/s from d/s face of West Maple Road
P	15	7315	u/s face of West Maple Road Culvert

+	HI	−	ELEV.	R
	897.73 (B)			
		12.1	885.6	WATER (B)
		11.5	886.2	LOW CHORD
		UPSTREAM CHANNEL BOTTOM		
T/B				T/B
-2	0'	5'R	9'R	13'R
16.1	12.3	13.1	12.5	9.7
887.6	885.4	884.6	885.2	888.0





ELEV R
932.70
7.1 925.6 WATER
8.8 923.9 UPSTREAM
9.3 923.4 DNSTREAM
UPSTREAM CHANNEL BOTTOM
6.3 7.6 8.5 7.7 5.8
926.4 925.1 924.2 925.0 926.9
5.86 933.76
4.80 927.90 T.P. #12
B.S. 12
FLOW
36" CMP. CULVERT
INVERT
INVERT
932.70
928.4
927.9



ELEV
BS 115
RO PROFILE
100 R
4.3
9490
RO SURFACE
9493
4.0
3.0
-100
9500
42"
CONC. CULVERT
42"
FLOW
80'
20.0
9333
WATER
21.7
9316
UPSTREAM INVERT
22.1
9312
DNSTREAM INVERT
UPSTREAM CHANNEL
21.6
7.2
10 R
20.6
16.5
9327
9368
TO T.P. 15

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY MSC DATE 7/24/78 JOB DESCRIPTION FIS - West Bloomfield Township SHEET 1 OF 1
SUBJECT West Maple Road over Pioneer Pond Drain JOB NO. 5850-10-L

Culvert Feature : 42" ϕ Concrete Culvert

Area : $A = 9.62 \text{ ft}^2$

Hydraulic Radius : $R = 3.5/4 = 0.88 \text{ ft.}$

Length : $L = 80 \text{ ft.}$

Manning Coefficient : $n = 0.015$

Entrance Loss : $K_e = 0.5$ (Headwall ; Square Edge)

Max. Depth : $D = 3.5 \text{ ft}$

$BWC = \frac{A}{D} = 2.75 \text{ ft.}$

$$K_f = \frac{29.1\, n^2 L}{R^{4/3}} = 0.62$$

$$\Sigma K\phi R = 1 + K_e + K_f = 2.12$$

Weir Coefficient : $C = 3.02$

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE:

4) DOCUMENT TYPE: BENCHMARKS

00BREAK00

WEST BLOOMFIELD TWP.
BM'S & TBM'S
All elevations are referenced to N.G.V.D. 1929.

SECTION 1 -

1-4 Arrow on hydr. at NE cor. of Orchard LK. & Stout Rd.
Elevation- 950.30

1-5 W. flange bolt on hydr. at N.W. cor. of R.R. "X" & Orchard LK. Rd. by powerline. Elevation- 940.90

1-6 Arrow on hydr. at S.W. cor. of Middlebelt & Orchard LK. Rds.
Elevations- 963.10

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 2 -

2-7 Arrow on hydr. at SW cor. of Fordham & Orchard Lk. Rds.
Elev. 946.76

WEST BLOOMFIELD TWP.
COMMUNITY ASSISTANCE PROGRAM
U.S. ARMY CORPS OF ENGINEERS -TBM'S

SECTION 3 -

TBM # 6 (II) "+" Cut in S. bolt on top ring of F.H. at the NE cor. of Rosedale Rd. & Greer Rd.
Elev. 943.60

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 4 -

4-5 R.R. spike in W. face of P.P. at SE cor. of Hiller Rd. & Greer Rd. Elev. 965.32

4-9 R.R. spike in E. face of P.P. W. side of Hiller Rd. opposite Recreation Dr. Elev. 958.09

CORPS OF ENGINEERS TBM'S

TBM #1 (II) "+"Cut in S. bolt on top ring of a F.H. on S. side of Greer Rd. +/- 100FT. E. of Hiller Rd.
Elev. 956.90

TBM #2 (II) "+" Cut in S. bolt on top ring of a F.H. on S. side Of Greer Rd. 0.2 mile E. of Hiller Rd.
Elev. 960.56

SECTION 4 - U.S. ARMY CORPS OF ENGINEERS
TBM'S

TBM #3 (II) "+" Cut in S. bolt on top ring of F.H. on the S. side of Greer Rd. at Res.# 5255 Greer Rd. 0.1 mile E. along Greer Rd. from Charrington Rd.
Elev. 964.52

TBM #4 (II) "+" Cut in S. bolt on top ring of F.H. on the S.W. cor. of Greer Rd. & Greydale St.
Elev. 946.42

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 5 -

5-2 R.R. Spike in E. face of P.P. at S.W. cor. of Lochaven Rd. & Hunt Rd.
Elev. 954.31

5-2A Arrow on hydr. N. side of Cooley Lake Rd. +/- 300ft. W. of Lochaven Rd.
Elev. 955.77

5-5 Arrow on hydr. at N.E. cor. of Greer Rd. & Lochaven Rd.
Elev. 964.23

5-5A Arrow on hydr. at N.W. cor. of Lochaven Rd. & Martin Knoll Dr.
Elev. 955.35

5-6 Arrow on hydr. at S.W. cor. of Greer Rd. & Kolomyia Rd.
Elev. 977.86

5-8 Arrow on hydr. +/- 250 ft. S of Blue Spruce ct. on W. side of Lochaven Rd.
Elev. 953.84

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 6 -

6-1A "M" in Mueller on hydr. N. side of Cooley Lake Rd. opp. Marylestone Dr.
Elev. 961.32

WEST BLOOMFIELD TWP.
BM'S & TBM'S

6-2 Arrow on hydr. on N. side of Cooley Lake Rd.+/- 200 ft. W. of McDonalds. 0.6 mile E. of Union Lake Rd.
Elev. 954.79

6-3 Arrow on hydr. at N.E. cor. of Williams Lake Rd. & Cooley Lake Rd.
Elev. 958.66

6-3A R.R. Spike in a P.P. on the S. side of Cooley Lake Rd., 158 ft. W. of Union Lake Rd.
Elev. 948.10

6-4 R.R. Spike in a P.P. at N.E. cor. of Union Lake Rd. & Mario Dr. 0.55 mile N. of Willow Rd.
Elev. 950.35

6-9 R.R. Spike in a P.P. at N.W. cor. of Union Lake Rd. & Golf Ln. 0.1 mile N. of Willow Rd.
Elev. 933.27

CORPS OF ENGINEERS TBM'S

SECTION 7 -

7-2 Bent R.R. Spike in W face of P.P. at S.E. cor. of Willow Rd. & Keith Rd.
Elev. 947.62

7-4 Arrow on hydr. at S.W. cor. of Union Lake Rd. & Commerce Rd.
Elev. 955.78

7-5 R.R. Spike in W. face of a P.P. on E. side of Keith Rd. opp. Keith Elementary School. 0.2 mile N. of Commerce Lake Rd.
Elev. 948.99

WEST BLOOMFIELD TWP.
BM'S & TBM'S

7-5A "M" in Mueller on hydr. at N.E. cor. of Commerce Rd & Keith Rd. 0.7 mile E. of Union Lake Rd.
Elev. 946.92

7-6 R.R. Spike in P.P. at N. E. cor. of Commerce Rd. & Warner Dr.
Elev. 935.16

CORPS OF ENGINEERS TBM'S

TBM #1 (I) "+" Cut in E. bolt of btm. ring of a F.H. at the S.W. cor. of Res # 3135 West Acres Rd. 0.1 mile N. of Honeysuckle Rd.

Elev. 946.56

TBM #2 (I) "[X]" Cut in W. side of the rim for a san. M.H. in the centerline of West Acres Rd. & Honeysuckle Rd.

Elev. 947.51

TBM #3 (I) "[X]" Cut in W. side of the rim for a san. M.H. in the centerline of West Acres Rd. & Buckthorn Dr.

Elev. 946.46

TBM #4 (I) "[X]" Cut in W. side of the rim for a san. M.H. in the centerline of West Acres Rd. & Arrowood Dr.

Elev. 948.17

WEST BLOOMFIELD TWP.
BM'S TBM'S

SECTION 8 -

8-2 R.R. Spike in N. face of Light Pole S. side of Willow Rd. at Lochaven Rd.

Elev. 955.41

8-4 "M" in Mueller on hydr. S. side of Commerce Rd. +\- 250 ft. W. of Park Forest Dr.

Elev. 948.07

8-7 R.R. Spike in E. face of P.P. S. side of Commerce Rd. opp. Wellington Ct.

Elev. 942.14

8-8 Arrow on hydr. at S.E. cor. of Green Lake Rd. & Commerce Rd.

Elev. 952.55

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 9 -

9-4 P.K. nail in E. face of P.P. E. side of Old Orchard Tr. second P.P. S. of Commerce Rd.

Elev. 956.41

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 11 -

11-1 Arrow on hydr. at S.E. cor. of Rycroft & Orchard Lake Rd.

Elev. 944.33

11-1A Arrow on hydr. E. side of Orchard Lake Rd. +\- 300 ft. N. of Summers Rd. Bldg. #3297.

Elev. 944.58

11-5 Chiseled [] on S. end of conc. lake headwall, E. side of Orchard Lake Rd. opp. Res. #3638 "[]" on the S.W. cor. & painted red.

Elev. 940.46

11-5A Arrow on hydr. w. side of Orchard Lake Rd. opp. Pine Lake Rd.

Elev. 946.28

11-6 Top of prop. cor. monument on S. side of Pine Lake Rd. opp. Res. #3120, 8 ft. N. of the Lake & at the end of a wood seawall, 1.5 ft. E. of wood horizontal pole used for revetment.

Elev. 934.34

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION-12

12-2 Arrow on hydr. at S.W. cor. of Middlebelt Rd. & Square Lake Rd.

Elev. 948.10

12-2A

Arrow on hydr. at N.W. cor. of Middlebelt Rd. & Mid Pine Rd.

Elev. 941.13

12-5 Arrow on hydr. N. side of Pine Lake Rd. +\- 250 ft. E. of Birch Harbor Lane

Elev. 942.29

12-6 Arrow on hydr. W. side of Middlebelt Rd. +\- 200 ft. N. side of Pine Lake Rd.

Elev. 945.26

12-7 Arrow on hydr. at N.E. cor. of Middlebelt Rd. & W. Shore Hill Dr.

Elev. 959.08

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 13 -

13-2 Arrow on hydr. E. side of Middlebelt Rd. +\- 400 ft. N. of W. Long Lake Rd.

Elev. 958.75

13-5 Arrow on hydr. at S.E. cor. of Middlebelt Rd. & Bordeaux Dr.

Elev. 955.04

13-9 Arrow on hydr. W. side of Middlebelt Rd. between Brookefiled Lake and a cemetery.

Elev. 938.05

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 14 -

14-1 Arrow on hydr. S. side of W. Long Lake Rd. opp. Interlaken Dr.

Elev. 970.06

14-2 R.R Spike in E. face of a P.P. at Indian Trail Rd. & Orchard Lake Rd., near a lake.

Elev. 935.69

14-4 Arrow on hydr. at S.E. of W. Long Lake Rd. & Orchard Lake Rd.

Elev. 966.02

14-5A Arrow on hydr. S. side of W. Long Lake Rd. opp. Maple Hill E. Rd.

Elev. 965.35

14-7 Arrow on hydr. N.W. cor. of Lone Pine Rd. & Southmoor Ln.

Elev. 973.94

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 15 -

15-6 R.R. Spike in P.P. at Sunoco Station, at the S.W. cor. of Orchard Lake Rd.& Pontiac Trail Rd. (2) spikes in pole, one in N.E. face, one in S.W. face with orange flagging. Use one in S.W. face.

Elev. 930.41

15-7 Arrow on hydr. W. side of Orchard Lake Rd. by bldg. #4272 (strip mall) 1/4 mile S. of Pontiac Trail Rd.

Elev. 932.15

15-8 Arrow on hydr. S. side of Pontiac Trail Rd. center of Cherry Hill Dr.

Elev. 967.13

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 16 -

16-7 Arrow on hydr. S. side of Pontiac Trail Rd. opp. Deer Run Cir.

Elev. 960.48

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 17 -

17-2 R.R Spike in P.P. at S.W. cor. of Green Lake Rd. & Duffield Rd.

Elev. 985.86

17-2A R.R. Spike in E. face of twin 16 inch elms at the W. side of Green Lake Rd. at Res. #3472. 0.2 mile S. of Commerce Lake Rd.

Elev. 966.12

17-5 R.R. Spike in P.P. at N.W. cor. of Green Lake Rd. & Fieldview Ave.

Elev. 940.24

17-5A R.R. Spike in P.P. at N.W. cor. of Green Lake Rd. & Dandison Blvd.

Elev. 973.06

17-9 P.K. nail in W. face of a triple 18 inch oak on the E. side of Green Lake Rd. at Res. #4375. 0.1 mile S. of Richardson Rd.

Elev. 960.90

17-9A R.R. Spike in a P.P. at S.E. cor. of Green Lake Rd. & Richardson Rd.

Elev. 969.59

17-9B R.R. Spike in a P.P. at S.W. cor. of Green Lake Rd. & Welland Dr.

Elev. 964.32

CORPS OF ENGINEERS TBM'S

TBM #8 (III) "+" Cut in E. bolt on ring of F.H. at the S.E. cor. of Green Lake Rd. & Richardson Rd.

Elev. 970.75

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 18 -

18-9 Arrow on hydr. at N.W. cor. of Haggerty Rd. & Goldie St.

Elev. 944.32

18-9A N. rim of Mon. Box at Inters. of Oakley Park & Haggerty Rd.

Elev. 950.94

CORPS OF ENGINEERS TBM'S

TBM #5 (I) [X] Cut in W. side of rim for a san. M.H. in the centerline of West Acres Dr. & Sweet Briar Dr.

Elev. 947.48

TBM #6 (I) [X] Cut on the N. bolt on the top ring of a F.H. at Res. #7408 Sweet Briar Dr. 0.1 mile E. of West Acres Dr.

Elev. 952.18

TBM #7 (I) [X] Cut in W. side of the rim for a san. M.H. at Sweet Briar Dr. & South Elder Rd.

Elev. 951.80

TBM #8 (I) [] Cut in S.E. cor. of a conc. slab for tel. box No. 3606 on W. side of S. Elder Rd. 0.1 mile S. of TBM # 7 (I) on Sweet Briar Rd.

Elev. 951.58

TBM #9 (I) "+" Cut in N. bolt on top ring of a F.H. off the S.W. corner of Res. no. 3675 S. Elder Rd. at Old Pineway Rd.

Elev. 951.85

TBM #10 (I) "+" Cut in N. bolt on top ring of a F.H. off the S.W. cor. of Res. #3715 S. Elder Rd.- Approx. 0.1 mile E. from Old Pine Way Rd.

Elev. 946.52

SECTION 18 -

TBM #11 (I) [X] Cut in W. side of the rim of a san. M.H. at the centerline of S. Elder Rd. & Dandison Court.

Elev. 954.82

TBM #1 (III) Spike in S. face of a P.P. on the N. side of Richardson Rd. at the Inters. of Haggerty Rd. & Richardson Rd.

Elev. 951.22

TBM #2 (III) R.R. Spike in the N. face of a P.P. at the S.W. cor. of Maple Blvd. & Richardson Rd.

Elev. 951.46

TBM #3 (III) [+] cut on S. side of the rim for a san. M.H. on the N. side of Richardson Rd. at the N.W. cor. of the Inters. of Richardson Rd. & Crooks Rd.

Elev. 952.76

TBM Lake Pt (III) Spike in the S.W face of a light pole on the W. side of Richardson Rd. at the bend near Lake Pt. St. 0.4 mile E. of Haggerty Rd.

Elev. 950.78

TBM #4 (III) Nail in S. face of park sign near entrance to the park. +\-14 ft. from the edge of the road 0.65 mile E. of Haggerty Rd.

Elev. 953.90

TBM #5 (III) Spike in N. face of a light pole at the S.E. cor. of Richardson Rd. & Bankside Rd. pole #5-35.

Elev. 966.75

TBM #6 (III) Spike in S. face of a light pole at the N.E. cor. of the Inters. of Richardson Rd. & Forbush Rd. near Res. #7242.

Elev. 963.32

TBM #7 (III) Spike in N. face of a light pole at the S.E. cor. of Richardson Rd. & Middlebelt Rd. pole #5-80 near Res. #7071

Elev. 971.84

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 19 -

19-1 Arrow on hydr. +\- 300 ft. W. of Green Lake Rd. S. side of Pontiac Trail Rd.

Elev. 967.32

19-3 Arrow on hydr. 1/4 mile S. of Oakley Park Rd. on the W. side of Haggerty Rd. at Bldg. #2873. TBM is approx. 0.3 mile N. of Pontiac Trail Rd.

Elev. 952.04

19-4 Nail Spike in N.W. face of P.P. at S.E. cor. of Haggerty Rd. & Pontiac Trail Rd.

Elev. 946.57

19-5 Arrow on hydr. S. side of Pontiac Trail Rd. bldg. #7791 1/4 mile E. of Haggerty Rd.

Elev. 959.61

19-5A Arrow on hydr. +\- 200 ft. W. of Res. #7265 on S. side of Pontiac Trail Rd., approx. 0.7 mile E. of Haggerty Rd.

Elev. 964.82

19-9 Bolt in 15 inch oak tree at S.E. cor. of Haggerty Rd. Rd. & Walnut Lake Rd.

Elev. 962.52

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 20 -

20-2 Arrow on hydr. on N. side of Pontiac Trail Rd. opp. Halsted Rd.

Elev. 965.94

20-3 Arrow on hydr. on S. side of Pontiac Trail Rd. opp. Borland Ave.

Elev. 959.33

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 20 -

20-3A R.R. Spike in W. face of a 36 inch oak tree on E. side of Green Lake Rd.,at Res# 4521 0.2 mile N. of Pontiac Trail Rd.
Elev. 964.75

20-5 Arrow on hydr. at N.W. cor. of Walnut Lake Rd. & N. Pleasant Lake Dr.
Elev. 969.09

20-8 Arrow on hydr. at N.W. cor. of Walnut Lake Rd. & Water-view Dr. published Elev. 962.66
corps of Eng. Elev. 962.33

20-9 R.R. Spike in N. face of a 30 inch poplar tree on S. side of Walnut Lake Rd. at a bend, 0.3 mile N. along Walnut Lake Rd. from Halsted Rd. & Grand Ave.
Elev. 949.98

20-9A R.R. Spike in P.P. on E. side of Walnut Lake Rd. +\- 100 ft. S. of Grand Ave. & Intersection.
Elev. 948.36

CORPS OF ENGINEERS TBM'S

SECTION 20 -

USC&GS BM43 1/2 (G.T.W.R.R.) Quad 420831 pg4 6/1961 (IV)A — 3.5 mile S.W. along the G.T.W.R.R. from the station at Orchard Lake, Oakland County, Mi. 0.5 mile W. of milepost 43, at a dirt(now paved) road crossing, 120 yard E. of the crossing(Halsted Rd.) of the centerline of the road & the N. rail, 21 ft. N. of the N. rail, 1 ft. S. of the Right-of-way fence, & about level with the top of the rail. A copper bolt, stamped "43 1/2" & set in top of a conc. post. Elev. 971.661

TBM RR (IV)A [+] Cut in the W. bolt of ring of a F.H. on the W. side of Halsted Rd. 25 ft. N. of R.R. tracks. R.R. tracks are N. of Walnut Lake Rd. & S. of Pontiac Trail Rd.
Elev. 972.76

CORPS OF EGINEERS TBM'S

SECTION 20 -

TBM #1 (IV)A [+] Cut in bolt of F.H. at the S.W. cor. of Halsted Rd. & Torybrooke Cir. Dr. Bolt is on the top ring facing the road.
Elev. 974.93

TBM #2 (IV)A [+] Cut in E. bolt of F.H. on the top ring at the N.W. cor. of Halsted Rd. & Walnut Lake Rd.
Elev. 969.39

TBM #3 (IV)A [+] Cut in bolt on top ring of a F.H. at the road face in the N.W. cor. of Walnut Lake Rd. & Leytonstone Rd.
Elev. 973.26

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 21 -

21-3 Arrow on hydr. on S. side of Pontiac Trail Rd. at N.E. cor. of Rue Demers Rd.
Elev. 974.19

21-7 Arrow on hydr. at N.E. cor. of Walnut Lake Rd. & Tequesta Dr.
Elev. 987.74

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 22 -

22-1 Arrow on hydr. on W. side of Orchard Lake Rd., +\- 400 ft. S. of the old township hall. 0.4 mile N. of Green Rd.
Elev. 925.54

22-6 Arrow on hydr. on W. side of Orchard Lake Rd., +\- 200 Ft. S. of Old Dominion Dr.
Elev. 932.91

22-7 Arrow on hydr. on W. side of Orchard Lake Rd., +\- 300 ft. N. of Walnut Lake Rd.
Elev. 923.23

22-9 Arrow on hydr. at N.E. cor of Walnut Lake Rd. & High Court Way.
Elev. 971.67

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 24 -

24-3 R.R. Spike in N.W. face of P.P. at S.E. cor. of Lone Pine Rd. & Middlebelt Rd.
Elev. 937.78

24-5 Arrow on hydr. N. side of Lone Pine Rd. opp. Maura Ln.
Elev. 932.05

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 25 -

25-1 Arrow on hydr. N.W. cor. of Inkster Rd. & Langham Rd.
Elev. 911.48

25-3 Arrow on hydr. S. side of Walnut Lake Rd. opp. Comfort St. 1/4 mile E. of Middlebelt Rd.
Elev. 903.91

25-6 Arrow on hydr. at N.E. cor. of Inkster Rd. & Walnut Lake Rd.
Elev. 876.40

25-6A Arrow on hydr. at S.W. cor. of Inkster Rd. & Wycliffe Ave.
Elev. 896.96

25-7 Arrow on hydr. on S. side of Maple Rd. opp. bldg. #5075 Maple Rd. (temple). 0.25 mile W. of Inkster Rd.
Elev. 888.86

25-7A Arrow on hydr. +\- 200 ft. N. of Maple Rd. on E. side of Inkster Rd.
Elev. 879.01

25-8 Arrow on hydr. +\- 150 ft. E. of Bloomfield Ln. on N. side of Maple Rd.
Elev. 885.30

25-9 Arrow on hydr. at N.E. cor. of Maple Rd. & Buxton Dr.
Elev. 898.60

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 26 -

26-1 Arrow on hydr. at N.E. cor. of Walnut Lake Rd. & Powder Horn Dr.
Elev. 892.98

26-1A Arrow on hydr. S. side of Walnut Lake Rd. +\- 400 ft. W. of Middlebelt Rd.
Elev. 905.66

26-2 Arrow on hydr. S. side of Walnut Lake Rd. +\- 200 ft. E. of Doherty Elementary House #3551. 0.4 mile E. of Orchard Lake Rd.
Elev. 905.19

26-3 Arrow on hydr. S. side of Walnut Lake Rd. opp. Doherty Dr.
Elev. 902.87

26-3A Arrow on hydr. at N.E. cor. of Orchard Lake Rd. & Hollyhock Dr.
Elev. 944.60

26-4 "M" in Mueller on hydr. at bldg. #6161 on E. side of Orchard Lake Rd. 0.3 mile N. of 15 mile Rd.
Elev. 935.35

26-9 Arrow on hydr. at N.E. cor. of Maple Rd. & Buxton Dr.
Elev. 913.09

RM 7 (V) FEMA BM is on top of the body of the F.H. just below the shut off nut located at the S.E. cor. of Walnut Lake Rd. & Swan Lake Rd.
Elev. 910.17

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 27 -

27-2 Arrow on hydr. S. side of Walnut Lake Rd. +\- 200 ft. W. of Dunmore Dr.
Elev. 962.68

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 27

27-7 Arrow on hydr. W. side of Orchard Lake Rd. in front of English Gardens +\- 800 ft. N. Maple Rd.
Elev. 931.08

27-8 Arrow on hydr. N. side of Maple Rd. +\- 250 ft. E. of Bauervic Ave.
Elev. 929.11

27-8A Arrow on hydr. at N.W. cor. of Maple Rd. & Rose Blvd.
Elev. 945.07

27-9 Arrow on Hydr. at N.E. cor. of Maple Rd. & Farmington Rd.
Elev. 950.06

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 28 -

28-1 Arrow on hydr. on S. side of Walnut Lake Rd., bldg. #5085 (temple) 0.4 mile W. of Farmington Rd.
Elev. 957.71

28-3 Arrow on hydr. at S.W. cor. of Walnut Lake Rd. & Greenbriar Dr.
Elev. 1004.36

28-3A Arrow on hydr. S. side of Walnut Lake +\- 130 ft. E. of Ridgewood Dr.
Elev. 981.19

28-8 Arrow on hydr. at N.W. cor. of Maple Rd. & Royal Pointe Dr.
Elev. 949.28

28-8A Arrow on hydr. on N. side of Maple Rd. opp. Stonebridge Homes. 0.4 mile W. of Farmington Rd.
Elev. 962.47

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 29 -

29-1 Arrow on hydr. at S.W. cor. of Walnut Lake Rd. & Drake Rd.
Elev. 979.47

29-3 R.R. Spike in 24 inch hickory tree at S.E. cor. of Halsted Rd. & Long Ave.
Elev. 978.27

29-6A Arrow on hydr. W. side of Drake Rd. +\- 150 ft. N. of Wincliffe Dr.
Elev. 983.93

29-7A Arrow on hydr. on N. side of Maple Rd. +\- 300 ft. E. of the Community Center. 0.75 mile W. of Drake Rd.
Elev. 973.23

29-8A Arrow on hydr. on N. side of W. Maple Rd. +\- 250 ft. W. of Henry Ford Hospital Entrance. 0.35 mile west of Drake Rd.
Elev. 981.00

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 30 -

30-4 Arrow on hydr. W. side of Haggerty Rd. 1/4 mile S. of R.R. tracks.
Elev. 963.63

30-7 Arrow on hydr. N. side of Maple Rd. +\- 150 ft. W. of Halsted Rd.
Elev. 977.19

30-9 P.K. nail in N.face of P.P. at N.E. cor. of Haggerty Rd. & Maple Rd.
Elev. 947.58

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 31 -

31-3 Arrow on hydr. +\- 200 ft. N. of Little Farm Ln. on E. side of Haggerty Rd.
Elev. 954.24

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 31 -

31-4 Arrow on hydr. at S.E. cor. of Haggerty Rd. & Woodingham Dr.
Elev. 964.01

31-7 Arrow on hydr. at N.W. cor. 14 mile Rd. & Halsted Rd.
Elev. 884.75

31-8 Arrow on hydr. at N.E. cor. 14 mile Rd. & Arbors Blvd.
Elev. 924.49

31-8A Arrow on hydr. at N.E. cor. 14 mile Rd. & Westbury Rd.
Elev. 937.91

31-9A N. rim of mon. box at Inters. of Haggerty Rd. & 14 mile Rd.
Elev. 965.00

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 32 -

32-1 Arrow on hydr. at S.W. cor. of Maple Rd. & Drake Rd.
Elev. 960.24

32-6 Arrow on hydr. W. side of Drake Rd. 1/4 mile S. of Maple Rd. at S.E. cor. of Apt. Complex.
Elev. 971.13

32-6A Arrow on hydr. at S.W.cor. of Drake Rd. & Quaker Hill Dr.
Elev. 945.49

32-7 Arrow on hydr. W. side of Drake Rd. +\- 300 S. of Fairbrook Dr.
Elev. 930.37

32-7A Arrow on hydr. at N.W. cor. of 14 mile Rd. & Drake Rd.
Elev. 927.38

32-7B Arrow on hydr. S. side of 14-mile Rd. opp. Camelot Dr.
Elev. 925.10

32-8 Arrow on hydr. on S. side of 14 mile Rd.at Res. #36105 0.5 mile E. of Halsted Rd.
Elev. 941.14

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 33 -

33-7 Arrow on hydr. S. side of 14 mile Rd. +\- 550 Ft. W. of Farmington Rd.
Elev. 941.33

33-7A Arrow on hydr. at N.W. cor. of 14 Mile Rd. & Farmington Rd.
Elev. 931.26

33-8 Arrow on hydr. at N.W. cor. of 14 Mile Rd. & Birchwood Trail.
Elev. 922.68

33-9 Arrow on hydr. on S. side of 14 Mile Rd. opp. Res. #34530. 0.2 mile E. of Drake Rd.
Elev. 917.15

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 34 -

34-1 Arrow on hydr. +\- 200 ft. S. of Maple Rd. on W. side of Orchard Lake Rd.
Elev. 910.39

34-1A Arrow on hydr. on S. side of Maple Rd. by Bldg. #5777 0.2 mile W. of Orchard Lake Rd.
Elev. 910.72

34-1B Arrow on hydr on W. side of Orchard Lake Rd. opp."Uno's Pizzeria". 0.25 mile S. of 15 mile Rd.
Elev. 903.89

34-6A Arrow on hydr. on W. side of Orchard Lake Rd. at Bldg. #6900. 0.6 mile N. of 14 Mile Rd.
Elev. 909.31

34-7 Arrow on hydr. on S.W. cor of 14 Mile Rd. & Orchard Lake Rd.
Elev. 887.28

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 34 -

34-8 Arrow on hydr. at N.W. cor. of 14 Mile Rd. & Pebble Creek Appartments. 0.6 mile W. of Orchard Lake Rd.
Elev. 905.95

34-8A Arrow on hydr. at N.E. cor. of 14 Mile Rd. & Finnegan Dr.
Elev. 895.21

34-9 Arrow on hydr. at N.E. cor. of 14 Mile Rd. & Simsbury Appartments. 0.8 mile W.of Orchard Lake Rd.
Elev. 909.08

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 35 -

35-1 Arrow on hydr. at S.E. cor. of W. Maple Rd. & Perham Dr.

Elev. 900.27

35-3 Arrow on hydr. on S. side of W. Maple Rd. in front of Ealy Elem. School. 0.5 mile W. of Middlebelt Rd.

Elev. 895.15

35-7 Arrow on hydr. N. side of 14-mile Rd. 250' +- W. of Middlebelt Rd.

Elev. 871.19

35-7A Arrow on hydr. N.E. cor. of 14-mile Rd. & Franklin Ridge Way

Elev. 874.56

35-8 Arrow on hydr. on N. side of 14 Mile Rd. +\- 100 ft. E. of Res. #30340. 0.6 mile E. of Orchard Lake Rd.

Elev. 871.73

35-9 arrow on hydr. at N.W. cor. of 14 Mile Rd. & Heath Ln.

Elev. 877.58

WEST BLOOMFIELD TWP.
COMMUNITY ASSISTANCE PROGRAM
CORPS OF ENGINEERS-TBM'S

AREA VII

TBM 35-9 WEST BLOOMFIELD TWP. TBM. TBM is the arrow on a F.H. at the N.W. corner of 14 Mile Rd. & Heath Lane.

Elev. 877.58

TBM #1 VII "+" cut in N. bolt of F.H. off the SW corner of Res.# 5560 Edinborough the N. side of the road. F.H. is approx. 0.1 mile from Heather-Heath Lane.

Elev. 878.80

TBM #2 VII "[X]" cut in west side of the rim for a san. M.H. at the SE corner of Edinborough & Coach Lane at the street sign.

Elev. 876.42

TBM #3 VII "[X]" cut in east side of the rim of a water manhole at the "E" in the word gate, at the NW corner of Abington & Edinborough Roads at Res.#5520 Abington Rd.

Elev. 878.50

TBM #4 VII "+" cut in N. bolt of F.H. at the N.W. corner of Normanhurst and Edinborough Rds. F.H. on the property of Res. 5518.

Elev. 880.84

TBM #5 VII "+" cut in west bolt on the top ring of a F.H. approx. 200 FT.+- N. of Post Oak Rd. on the W. side of Edinborough Rd.

Elev. 885.69

WEST BLOOMFIELD TWP.
BM'S & TBM'S

SECTION 36 -

36-6A Arrow on hydr. E. side of Inkster Rd. +\- 100 ft. N. of Clunbury Rd.

Elev. 870.28

36-7 R.R.Spike in P.P. at N.E. cor. of Inkster Rd. & 14 Mile Rd.

Elev. 829.93

36-7A Arrow on hydr. on W. side of Inkster Rd. opp. of Old Post Court. 0.25 mile N. of 14 Mile Rd.

Elev. 852.11

36-8 Arrow on hydr. at N.W. cor. of 14 Mile Rd. & Ten Hill Rd.

Elev. 854.73

36-8A Arrow on hydr. S. side of 14-mile 100' +- E. of Rock Ridge Rd.

Elev. 853.96

36-9 Arrow on hydr. N.E. cor. of 14 Mile Rd. & Linda Ln.

Elev. 861.28

LEVEL FOR C.A.P. PROJECT

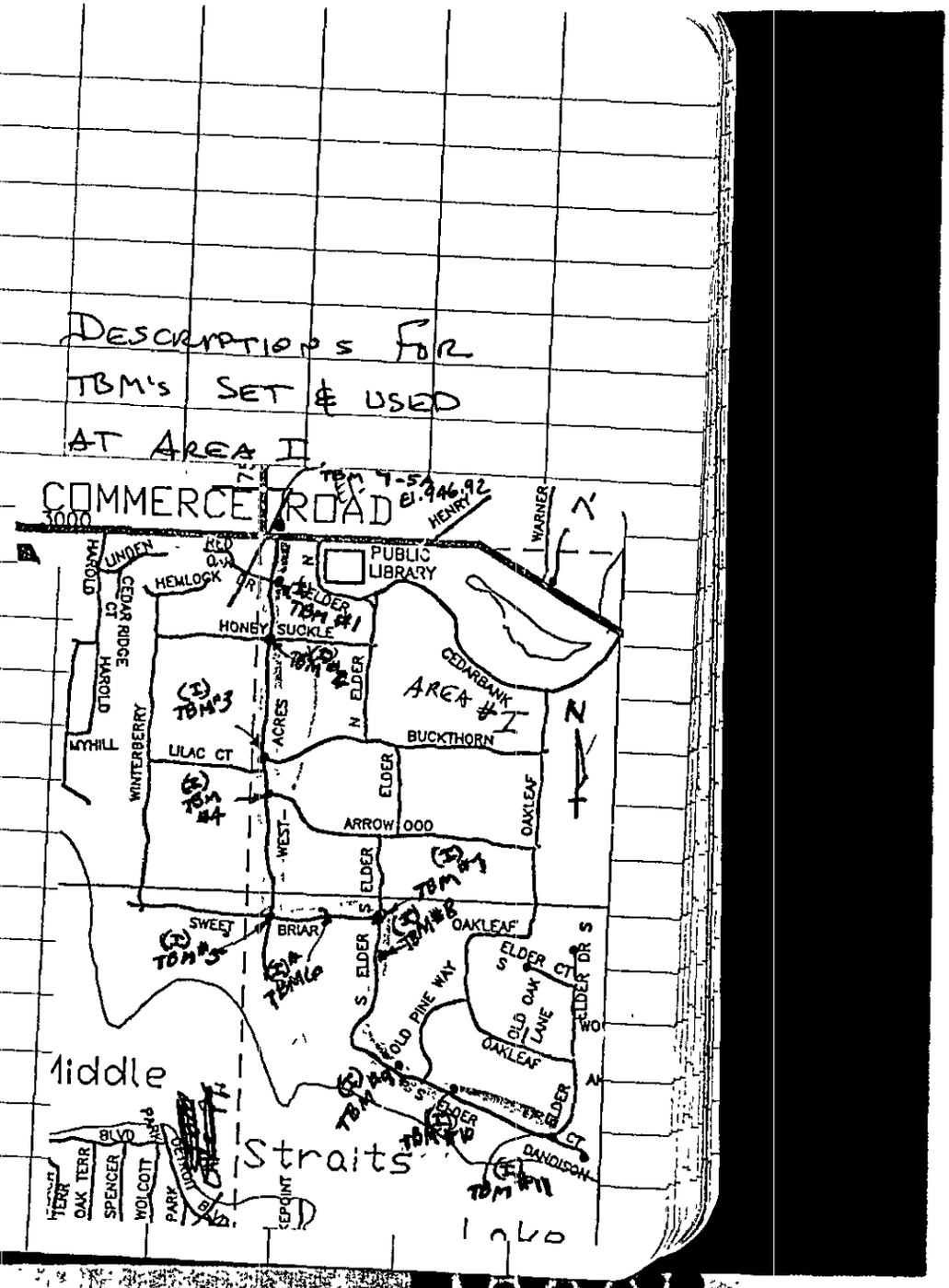
IN WEST BLOOMFIELD TWP.

NOV. 1993

ALL ELEVATIONS ARE REFERENCED TO NGVD 1929

DIETZGEN NO. 384-5

Descriptions For
TBM's Set & used
At Area II



I
TBM #1 "+" CUT IN E. BOLT OF BTM RING OF F.H. OF THE SW CORNER OF REF 3135 WEST ACRES RD 0.1 MILE NO. OF HONEYSUCKLE RD

EL. 946.56

I
TBM #2 "⊠" CUT IN WEST SIDE OF RIM FOR SAN. MH IN ℄ OF WEST ACRES RD AND HONEYSUCKLE RD

EL. 947.51

I
TBM #3 ⊠ CUT IN WEST SIDE OF RIM FOR SAN. MH IN ℄ OF WESTACRES DR AND BUCKTHORN DR

EL. 946.46

DIETZGEN NO. 384-S

(I) TBM #4 ⊠ CUT IN WEST RIM OF SAN. MH AT ℄ OF WESTACRES DR AND ARROWOOD DR

EL. 948.17

(I) TBM #5 ⊠ CUT IN WEST SIDE OF RIM FOR SAN MH. AT ℄ OF WESTACRES DR AND SWEETBRIAR RD

EL 947.48

(I) TBM #6 "+" CUT ON N. BOLT ON TOP RING OF F.H. @ RES # 7408 SWEETBRIAR 0.1 MI E. OF WESTACRES DR

EL 952.18

(I) TBM #7 "⊠" CUT ON WEST SIDE OF RIM OF SAN. MH. AT SWEETBRIAR DR AND S. ELDER RD

EL 951.80

(I) TBM #8 "□" CUT IN SE CORN. OF CONCRETE SLAB FOR TEL. BOX # 3606 ON WEST SIDE OF S. ELDER ROAD, 0.1 MILE SO. OF TBM #7 (SWEETBRIAR RD)

EL. 951.58

(I) TBM #9 "+" CUT IN NO. BOLT ON TOP RING OF F.H AFF SW. CORNER OF RES. 3675 SO. ELDER ROAD AT OLD PINE WAY RD.

EL 951.82

DIETZGEN NO 384-5

(I)
TBM #10 "+" CUT IN NO. BOLT ON TOP RING OF F.H. OFF SW CORN. OF REB # 3715, S. ELDER RD. — APPROX 0.1 mi E. FROM OLD PINE WAY RD

EL 946.52

(I)
TBM #11 "⊠" CUT IN WEST SIDE OF RIM OF SAN MH. AT ℄ OF S. ELDER RD & DANDISON CT.

EL 954.82

TBM 7-54 WEST BLOOMFIELD TWP. TBM. TBM IS "M" IN MUELLER ON F.H. AT N.E. CORNER OF COMMERCE & KEITH ROADS

EL. 946.92

DIETZGEN NO. 384-S

LEVELS FOR AREA I

FROM TBM 7-5A AT NE CORNER

OF COMMERCE & KEITH RDS, SOUTH

TO S. ELDER & DANDISON COURT

11/04/93

P.L. BAILEY

M. CUNCY

DIETZGEN NO. 384-S

	+	H.	−	ELEV.		Ø McCLINCY
TBM 7-54				946.92		[illegible] WOMFIELD [illegible]
	3.429					
TP1			5.229	945.120	−1.[illegible]	[illegible]
	5.095					
(I) TBM #1			3.655	946.560	[illegible]	F.H. [illegible]
	4.970 ~~5.035~~					
(I) TBM #2			4.020 4.072	947.510	+0.[illegible] ~~+0.[illegible]~~	[illegible]
	4.812					
TP2			5.702	946.620	[illegible]	ON W SIDE OF RD
	4.991					
(I) TBM #3			5.1[illegible]	946.458	−0.1	[illegible]
	5.552					
(I) TBM #4			3.841	948.169	+1.711	[illegible]
	5.435					
TP3			5.189	948.415	+0.246	W. SIDE OF ROAD
	4.100					
(I) TBM #5			5.030	947.485	−0.9[illegible]	ON SAN M.H.
	6.885					
TP4			4.[illegible]3	949.427	+1.94[illegible]	S. SIDE OF [illegible]

DIETZGEN NO 384-5

	+	H.	−	ELEV.	
TP4				949.429	
	5.402				
(I) TBM #6			2.648	952.181	+2.754
	3.689				
(I) TBM #7			4.070	951.800	−0.381
	2.933				
TP5			4.430	950.303	−1.497
	5.775				
(I) TBM #8			4.494	951.584	+1.281
	4.419				
TP6			4.989	951.014	−0.570
	5.706				
(I) TBM #9			4.905	951.815	+0.801
	2.640				
TP7			7.160	947.295	−4.520
	3.468				
(I) TBM #10			4.262	946.521	−0.774
	4.340				
TP8			2.445	948.416	+1.895

F.H @ 7408

☒ ON SAN MH

• W. SIDE OF RD

□ CONC. SLAB TOP BOX

• W. SIDE OF RD

F.H @ OLD PINE WASH

• N. SIDE RD

F.H

• S SIDE RD

DIETZGEN NO. 384-S

	+	H.	−	ELEV.	
TP 8				948.416	
	7.992				
(I) TBM # 11			1.589	954.819	+6.403 −
		RETURN			
(I) TBM # 11				954.819	
	1.530				
TP 8			7.935	948.414	
	2.535				
(I) TBM # 10			4.430	946.519	
	4.248				
TP 7			3.472	947.295	
	7.270				
(I) TBM # 9			2.750	951.815	
	4.915				
TP 6			5.715	951.015	
	4.905				
(I) TBM # 8			4.332	951.588	
	4.438				
TP 5			5.720	950.306	

DIETZGEN NO. 384-5

	+	H.	−	ELEV.
TP5				950.306 ✓
	4.363			
(I) TBM #7			2.865	951.804
	4.055			
(I) TBM #6			3.672	952.187
	2.695			
TP4			5.450	949.432
	4.828			
(I) TBM #5			6.771	947.489
	4.925			
TP3			3.998	948.416
	5.168			
(I) TBM #4			5.415	948.169
	3.820			
(I) TBM #3			5.530	946.459
	5.180			
TP2			5.020	946.619
	5.545			
(I) TBM 2			4.655	947.509 ✓

✓ PE

DIETZGEN NO. 384-S

	+	H1	−	ELEV.	
TBM (I) 2				947.509 ✓	
	4.022				
TBM (I) 1			4975 4022	946.556	−0.953
	3,562				
TP1			5.005 3562	945.113	−1.443
	5.097				
TBM 7-5A			3294	946.916 ✓	+1.803

PUB 946.92

✓ RB

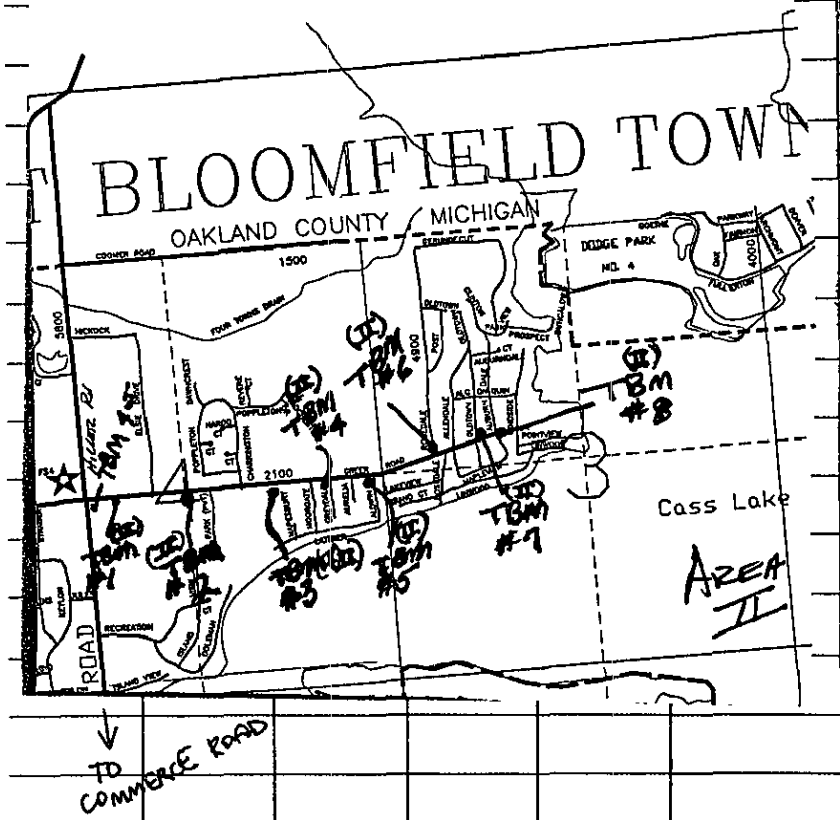
DIETZGEN NO. 384-5

DIETZGEN NO. 384-5

AREA III

AREA II

DESCRIPTIONS FOR TBM'S SET OR USED IN AREA II



DIETZGEN NO. 384-5

(II) TBM #1 "+" CUT IN S. BOLT OF TOP RING OF F.H. ON S. SIDE OF GREER Rd. ± 100' EAST OF HILLER Rd.

ELEV. 956.90

(II) TBM #2 "+" CUT IN S. BOLT OF TOP RING OF F.H. ON S. SIDE OF GREER Rd. 0.2 MILE EAST OF HILLER Rd.

ELEV. 960.56

(II) TBM #3 "+" CUT IN S. BOLT OF TOP RING OF F.H. ON S. SIDE OF GREER Rd. AT RES. 5255 GREER Rd. 0.1 MILE EAST ALONG GREER ROAD FROM CHARRINGTON ROAD.

ELEV. 964.52

DIETZGEN NO. 384-S

(II)
TBM #4 11 ± CUT IN S. BOLT OF TOP RING OF F.H. ON ~~SW SIDE OF GREEK~~ SW CORNER OF GREER Rd & GREYDALE ST.

ELEV. 946.42

(II)
TBM #5 "±" CUT IN S. BOLT OF TOP RING OF F.H. ON SW CORNER OF GREER Rd. & ALDWIN DR.

ELEV. 945.60

(II)
TBM #6 "±" CUT IN S. BOLT OF TOP RING OF F.H. ON NE CORNER OF ROSEDALE & GREER Rd.

ELEV. 943.60

DIETZGEN NO. 384-S

TBM 4-5 WEST BLOOMFIELD TWP TBM 15
A R/R SPIKE IN WEST FACE OF A POWER POLE AT THE SE CORNER OF HILLER & GREER ROADS

ELEV 965.32 FT.

LEVELS AREA ~~II~~

FROM THE SE CORNER (TBM 4-5)
OF HILLER & GREER RDS EAST
ALONG GREER RD TO A F.H.
AT NE CORNER OF GREER &
ROSEDALE RDS

TBM 4-5				965.32		W. BLOOMFIELD BM
	1.380					
TP 1			7.165	959.535	-5.785	ON S. SIDE RD
	3.364					
II TBM #1			5.997	956.902	-2.633	F.H. So. SIDE of GREER RD; 100' E. OF HILLER RD
	0.505					
TP 2			5.198	952.209	-4.693	ON S. SIDE RD
	6.060					
TP 3			2.425	955.844	+3.635	ON S. SIDE RD.
	5.922					
II TBM #2			1.210	960.556	+4.712	F.H. IN So. SIDE GREER RD 0.2 MILE E. OF HILLER RD
	2.390					
TP 4			4.207	958.739	-1.817	ON S. SIDE RD.
	7.480					
TP 5			4.750	961.469	+2.730	ON S. SIDE RD
	10.268					
TP 6			7.262	964.475	+3.006	
	4.865					
II TBM #3			4.822	964.518	+0.043	FH @ RES 5255 GREER RD 0.1 MI E OF CHARRINGTON RD

DIETZGEN NO. 384-5

II BM#3				964.518		
	0.317					
TP 7			8.557 (317)	956.278	-8.240	
	0.485					
TP 8			7.970 (485)	948.793	-7.485	
	2.105					
II 3M#4			4.480 (2105)	946.418	-2.375	F.H. SW CORNER OF GREYDALE & GREER RD.
	2.367					
TP9			4.802 (2367)	943.983	-2.435	
	4.595					F.H. SW CORNER OF ALDWIN RD & GREER RD.
II 3M#5			2.981	945.597	+1.614	
	4.187					
TP10			4.250 (4187)	945.534	-0.063	
	5.570					
TP11			5.252	945.852	+0.318	
	2.633					
BM#6			4.882 (2633)	943.603	-2.249	F.H @NE CORNER ROSEDALE & GREER RD. 912.9 +0.60

V/E

DIETZGEN NO. 384-5

RETURN

TBM #6			943.603	
	4.825			
TP11		2575	945.853	+2.250
	5.332			
TP10		5.650 / 5332	945.535	−0.318
	4.262			
II TBM #5		4.202	945.595	+0.060
	3.100			
TP9		4.712 / 3.102	943.983	−1.612
	4.791			
TBM #4		2.355	946.419	+2.436
	4.419			
TP8		2.042	948.796	+2.377
	7.878			
TP7		0.393	956.281	+7.485
	8.890			
TBM #3		0.650	964.521	+8.240
	4.815			
TP6		4.857 / 4815	964.479	−0.042
				VB

DIETZGEN NO. 384-5

TP 6			964.479	
	7.315			
TP 5		10.322	961.472	− 3.007
		7.315		
	4.610			
TP 4		7.342	958.740	− 2.732
		4.610		
	4.322			
TBM #2		2.507	960.555	+ 1.815
	1.200			
TP 3		5.910	955.845	− 4.710
		1.200		
	2.409			
TP 2		6.043	952.211	− 3.634
		2.409		
	5.155			
TBM #1		0.460	956.906	+ 4.695
	6.059			
TP 1		3.424	959.541	+ 2.635
	7.665			
TBM 4-5		1.883	965.323	+ 5.782

PUB.
965.32

V #3

DIETZGEN NO. 384-S

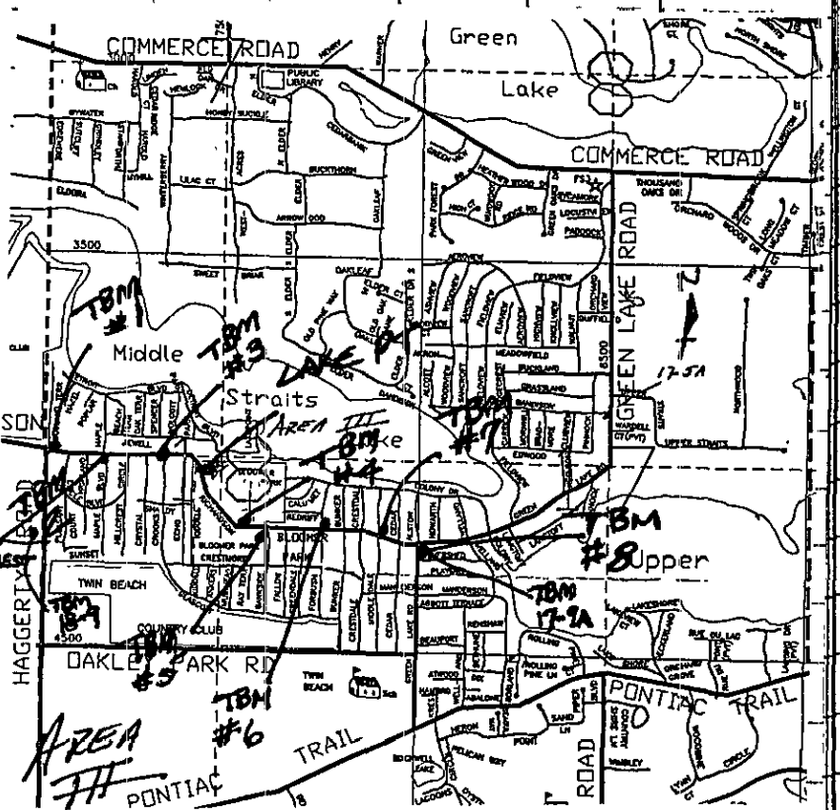
DIETZGEN NO. 384-S

DIETZGEN NO. 384-S

AREA III

AREA III

DESCRIPTIONS OF TBM'S SET OR USED



III
TBM #1 SPIKE IN SOUTH FACE OF PP ON N SIDE OF RICHARDSON Rd @ INTERSECTION OF HAGGERTY Rd & RICHARDSON

ELEV. 951.22

III
TBM #2 RR SPIKE IN NORTH FACE OF PP ON SW CORNER OF MAPLE BLVD & RICHARDSON SET BY OTHERS

ELEV. 951.46

III
TBM #3 ¼" CUT ON THE SOUTH SIDE OF RIM FOR SAN. M.H. ON N SIDE OF RICHARDSON Rd @ NW OF THE INTERSECTION OF CROOKS & RICHARDSON

ELEV. 952.76

DIETZGEN NO 384-S

TBM III
LAKE PT

SPIKE IN LP IN SW FACE ON WEST OF RICHARDSON @ BEND NEAR LAKE PT. STREET 0.4 mi E. OF HAGGERTY ROAD

ELEV. 950.78

III
TBM #4

NAIL IN PARK SIGN ON S. FACE ± 14' FROM EDGE OF Rd. NEAR PARK ENTRANCE. 0.65mi E. OF HAGGERTY RD ELEV. 953.90

III
TBM #5

SPIKE IN LP ON N. FACE ON SE CORNER OF RICHARDSON & BANKSIDE Pole No. 5-35

ELEV. 966.75

III
TBM #6

SPIKE IN LP ON S. FACE ON NE CORNER OF RICHARDSON & FORBUSH NEAR RES. 7242

ELEV. 963.32

III
TBM #7

SPIKE IN LP ON N. FACE ON SE CORNER OF RICHARDSON & MIDDLEBELT AV. NEAR RES. 7071. Pole No. 5-80

ELEV. 971.84

III
TBM #8

"+" CUT IN E. BOLT OF RING OF F.H. ON SE SIDE OF INTERSECT. OF GREEN LAKE Rd & RICHARDSON

ELEV. 970.75

17-9A
TBM

WEST BLOOMFIELD TBM. R/R SPIKE IN WEST FACE OF A P/P AT THE SE CORNER OF GREEN LAKE ROAD AND RICHARDSON ROAD

ELEV. 969.59

DIETZGEN NO. 384-S

D-3

TBM 18-9 WEST BLOOMFIELD TWP. TBM
ARROW ON F.H. AT NW CORN.
OF HAGGERTY ROAD & GOLDIE ST.
ELEV 944.32

DIETZGEN NO. 384-S

LEVELS AREA III

FROM TBM 18-9 AT NW CORNER OF HAGGERTY RD & GOLDIE ST. EAST ALONG RICHARDSON TO TBM 17-9A AT SE CORNER OF GREEN LAKE & RICHARDSON RDS

DIETZGEN NO. 384-5

11/09/93 P.L. BAILEY L#
M. CLINCY

TBM 18-9				944.32		W. BLOOMFIELD TBM
	5.865					
TP1			0.478	949.707	+5.387	WEST SIDE OF HAGGERTY RD @ DRIVE TO SHOPS
	7.088					
III TBM #1			5570	951.220 ADJ 951.225	+1.518 -0.005	SPIKE IN P/P @ NW CORN. OF RICHARDSON & HAGGERTY
	4.625					
TP2			5.429 4625	950.421	-0.809	S. SIDE RICHARDSON E. OF HAGGERTY RD
	6.138					
III TBM#2			5.090	951.458 ADJ 951.469	+1.048 -0.011	R/R SPIKE IN P/P @ SW CORN. MAPLE BLVD & RICHARDSON
	4.624					
TP3			4.261	951.832	+0.363	S. SIDE RICHARDSON
	6.052					
III TBM #3			5.107	952.761 ADJ 952.777	+0.945 .015	"+" CUT IN RIM M.H. @ NW CORN. OF CROOKS & RICHARDSON
	4.460					
TP4			5.821 4460	951.416	-1.361	S. SIDE RICHARDSON
	4.114					
III TBM LAKE PT			4.730 4114	950.778 ADJ. 950.800	-0.616 -.022	SPIKE IN L/P W. SIDE OF RICHARDSON @ BEND NEAR LAKE PT. RD
	3.128					
TP5			3.935 3128	949.993	-0.807	

VB

DIETZGEN NO. 384-5

TP 5				949.993	
	5.777				
III TBM #4			1.840	953.903 ADJ 953.930	+3.937 -.027
	5.552				
TP 6			2.958	956.524	+2.594
	6.959				
TP 7			1.750	961.738	+5.209
	6.983				
III TBM #5			1.931	966.749 ADJ. 966.785	+6.052 -.036
	4.368				
TP 8			5.552 4368	965.601	-1.184
	4.165				
III TBM #6			6.405 4165	963.320 ADJ. 963.361	-2.240 -.041
	4.980				
TP 9			2.595	965.746	+2.385
	7.429				
III TBM #7			1.288	971.841 ADJ. 971.887	+6.141 -.046
	4.552				
TP 10			7.252 4552	969.187	-2.700

✓ RE

SPIKE IN PARK POST @ ENTRANCE

SPIKE IN ½" P @ SE. CORN. RICHARDSON & BANKSIDE RDS.

SPIKE IN ½" P @ NE CORN. RICHARDSON & FOREDUSH RDS

SPIKE IN ½" P @ SE CORN. RICHARDSON & MIDDLEDALE AVE

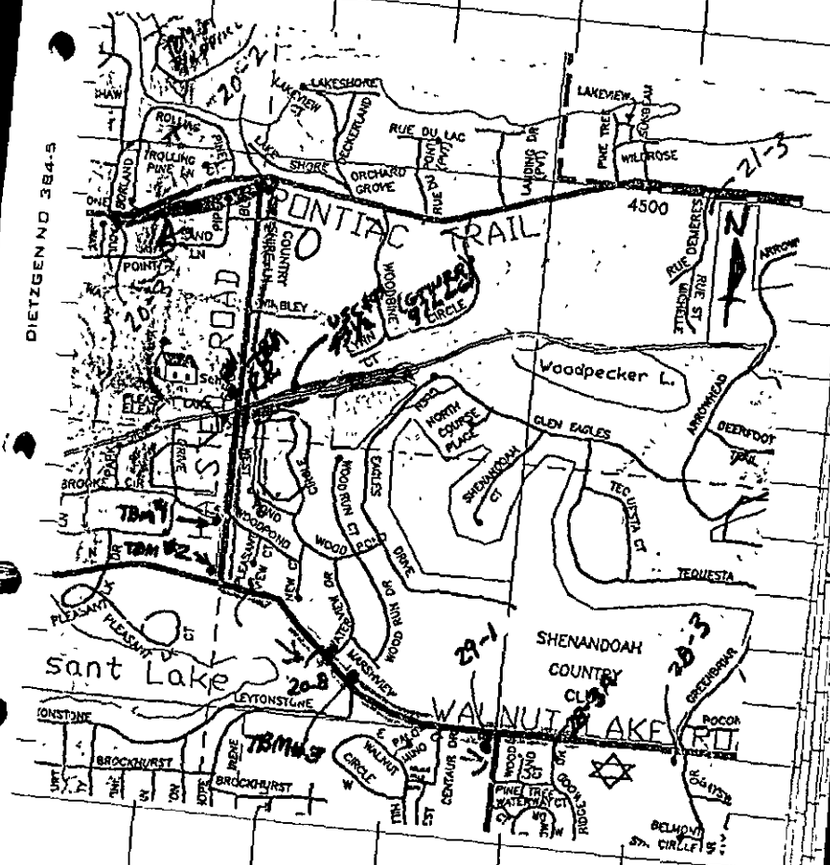
DIETZGEN NO. 384-S

TP 10			969.187				
	#393		969.59 ADJ.				
17-9A		3.938	969.642 +0.455	W. BLOOMFIELD	BM	PUB. 969.59	(+0.05)
III			970.250 ADJ.				
TBM #8	SIDE SHOT	2.780	970.800	F.H.	So. OF SE COR.	RICHARDSON & GREEN LAKE RD.	

DIETZGEN NO. 384-S

LEVEL LINE # IV "A"

Descriptions of TBMs
Set & Used



TBM RR "+" CUT IN W. BOLT OF R.W.Y OF F.H. ON WEST SIDE OF HALSTED Rd. ± 25' NORTH OF RR TRACKS NORTH FROM WALNUT LAKE Rd.

ELEV. 972.76

USC&GS
BM 43½ (GTWRR) QUAD 420831 PG. 4 6/1961

3.5 MILES SW ALONG THE G.T.W.R.R FROM THE STATION AT ORCHARD LAKE, OAKLAND COUNTY, 0.5 MILE WEST OF MILEPOST 43, AT A DIRT (PAVED) ROAD CROSSING, 120 YARDS EAST OF CROSSING (HALSTED ROAD) OF THE CENTERLINE OF THE ROAD AND THE NORTH RAIL, 21 FT. NORTH OF THE NORTH RAIL, 1 FT. SOUTH OF THE RIGHT-OF-WAY FENCE, AND ABOUT LEVEL WITH THE TOP OF THE RAIL. A COPPER BOLT, STAMPED "43-½" AND SET IN TOP OF A CONCRETE POST.

ELEV. 971.661

DIETZGEN NO. 384-S

"IV A"
TBM #1 "+" CUT IN BOLT OF F.W. AT SW CORNER OF INTER. OF HALSTED RD & TORYBROOKE CIR. BOLT IS ON TOP RING & AT ROAD FACE.

ELEV. 974.93

IV "A"
TBM #2 "+" CUT IN BOLT OF F.H. AT NW CORNER OF INTER. OF HALSTED RD & WALNUT LAKE ROAD BOLT IS ON TOP RING & AT ROAD FACE.

ELEV. 969.39

IV "A"
TBM #3 "+" CUT IN BOLT OF F.H. AT NW CORNER OF INTER. OF WALNUT LAKE ROAD & LEYTONSTONE BLVD. BOLT IS ON THE TOP RING & AT THE ROAD FACE.

ELEV. 973.26

TBM 20-2 WEST BLOOMFIELD TBM ARROW ON HYDR. AT NW CORNER OF WALNUT LAKE RD & WATERVIEW DR.

ELEV. 962.66
OUR ELEV. 962.33

TBM 29-1 WEST BLOOMFIELD TBM ARROW ON HYDR. AT SW CORNER OF WALNUT LAKE ROAD & DRAKE ROAD

ELEV 979.47
OUR ELEV 979.09

DIETZGEN NO. 384-5

LEVELS FOR AREA II "A"

FROM USC&GS BM 43½ (GTWRR)
EAST ALONG R/R TRACKS APPROX.
400 FT. EAST OF HALSTED ROAD
SOUTH ALONG HALSTED ROAD TO
WALNUT LAKE ROAD THEN EAST
ALONG WALNUT LAKE ROAD TO
DRAKE ROAD.

DIETZGEN NO. 384-S

11/08/95

USC&GS 43½ (GTWR)				971.661		SEE DESK. PAGE P-1 II "A"
	5.030					
TP1			5.130	971.561	-0.100	BOLT ON NORTH SIDE OF D. TRACK
	4.841					
TBM RR			3.643	972.759	+1.198	F.H. WEST SIDE OF HALSTED ROAD 25'± NORTH OF R/R TRACKS.
		RETURN				
TBM RR				972.759		
	3.590					
TP1			4.789 3.590	971.560	-1.199	
	5.157					
43½ (GTWR)			5055	971.662	+0.102	

DIETZGEN NO. 384-5

II A
L-2

TBM R/R			972.759		PG L-1 II "A" F.H. No. of R/R TRACKS, W. SIDE HALSTED RD.
	3.847				
TP1		2.610	973.996	+1.237	" W. S OF RD
	8.187 8.489				
TP2		3.863 4.151	978.320	4.324 +4.338	" "
	3.139				
II "A" TBM1		6.527 3.139	974.933 ADJ. ELEV 974.932	-3.388	F.H @ TORYBROOKE CIR & HALSTED RD
	3.832				
TP3		6.812 3.832	971.952	-2.980	
	2.557				
II A TBM #2		5.119 2.557	969.392 ADJ. ELEV 969.390	-2.562	F.H. @ HALSTED & WALNUT LAKE ROADS
	0.549				
TP4		7.830 5.00	962.109	-7.281	
	1.322				
TP5		6.600 1.372	956.831	-5.278	
	6.997		962.326 ADJ ELEV		
TBM 20-8		1.505	962.325	+5.492	962.66 F.H @ WATERVIEW & WALNUT LAKE RDS. 962.32 -0.34
	2.419				
TP6		2.391	962.351	+0.028	
					✓ PS

DIETZGEN NO. 384-5

TP6			962.351	
	11.225			
TP7		2.618	970.958	+8.607
	6.138			
"A" TBM #3		3.845	973.256 ADJ ELEV. 973.251	+2.293
	1.933			
TP8		6.095	969.089	−4.162
	6.240			
TP9		2.862	972.469	+3.378
	6.598			
TP10		6.692	972.373	−0.094
	5.165			
TP11		3.070	974.468	−2.095
	8.928			
TBM 29-1		4.317	979.086 ADJ 979.079	+4.611

F.H @ WALNUT LAKE & LEYTONSTONE ROADS

979.47 PUB.
979.08
-0.39

F.H. @ WALNUT LAKE & DRAKE RDS.

DIETZGEN NO. 384-S

TBM 29-1				979.079
	4.298	983.367		
TP 11			8.900	974.467
	2.900	977.367		
TP 10			4.995	972.372
	6.485	978.857		
TP 9			6.389	972.468
	2.728	975.196		
TP 8			6.105	969.091
	6.053	975.144		
TBM #3 "A"			1.895	973.249
	3.848	977.097		
TP 7			6.140	970.957
	2.623	973.580		
TP 6			11.234	962.346
	2.219	964.565		
TBM 20-8			2.245	962.320
	1.370	963.690		
TP 5			6.863	956.827

DIETZGEN NO. 384-5

TP5				956.827	
	6.679	963.506			
TP4			1.404	962.102	
	7.835	969.937			
TBM#2			0.555	969.382	.002
	5.648	975.030			
TP3			3.090	971.940	.002
	6.928	978.868			
TBM#1			3.950	974.918	
	6.612	981.530			
TP2			3.222	978.308	
	4.007	982.315			
TP1			8.332	973.983	-4.325
	2.352	976.335			
TBM R/R			3.590	972.745	

DIETZGEN NO. 384-S

972.759
972.745
(-) 0.014

VB

DIETZGEN NO. 384-5
ORCHARD LAKE ROAD
MAPLE RD.
NICHOLAS
BUXTON
BUXTON CT
WELLESLEY
WELLESLEY CT
ST JAMES
TAMERLANE
COCHISE
WINCHESTER
TABOR
ST JAMES
WELLESLEY
GERTRUDE EALY ELEMENTARY
ST JAMES CT
BROOK LANE
NORTHFIELD
WYNFORD
WINC
CT
HARTSLOCK
MARYS LANE
GILBERT
PARKLAND
NICHOLAS
SPRINGWATER LANE
STONECREST
HOLLYHOCK
TERRYBROOK
SPRINGWATER CT
SPRINGWATER LANE
PARKLAND
DOHERTY ELEM Sch
DOHERTY
CT
SWAN LAKE
APPLERIDGE
POWDERHORN
TRAIL
POWDERHORN
FAIRWAY RIDGE
FAIRWAY LN
CT
MILLOW VALLEY
SIMPSON
CRISPEN
HARRIS
LANE
WALNUT LAKE RD
COUNTRY CLUB
24-2
LAYER LINE
DESCRIPTIONS

D-1

26-2 WEST BLOOMFIELD BM
ARROW ON HYDR. S. SIDE OF WALNUT
LAKE ROAD 200 ft. ± EAST OF
DOHERTY ELEMENTARY HOUSE #3551
0.4 MILE E. OF ORCHARD LAKE ROAD
ELEV. 905.19

RM 7 TOP OF FIRE HYDRANT LOCATED
IN SOUTHEAST CORNER OF WALNUT
LAKE ROAD & SWAN LAKE ROAD
INTERSECTION

ELEV. 910.17

DIETZGEN NO 384-5

DIETZGEN NO. 384-5

LEVELS AREA II

TBM 26-2				905.19	
	2.939				
TP 1			1.800	906.329	+1.139
	6.270				
RM 7			2.412	910.187	+3.858

✓ B

16 Nov 93

II
L-1

W. BLOOMFIELD TWP. BM
ARROW OF F.H @ RES 3551 WALNUT LK. RD.

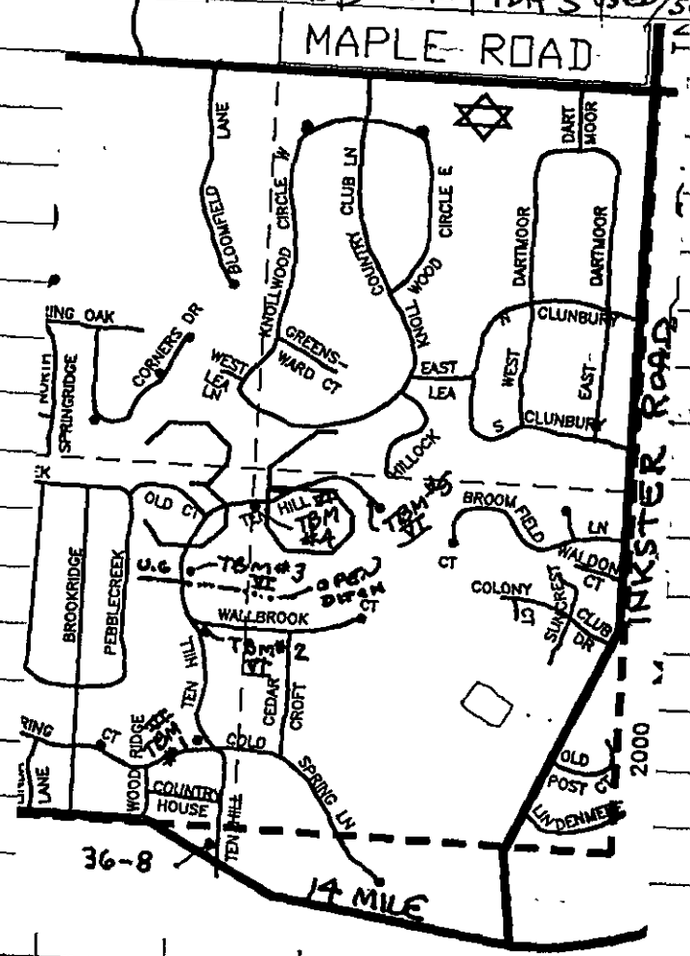


TOP OF BODY OF F.H. BELOW TOP FLANGE PUB
SWAN LAKE RD. F.E.M.A BM 910.17

DIETZGEN NO. 384-5

AREA VI

DESCRIPTIONS OF TBM'S USED/SET



DIETZGEN NO. 384-5

TBM 36-8 ARROW ON F.H. AT N.W. CORNER OF 14 MILE & TEN HILL RDS

ELEV. 854.73

VI
TBM #1 "+" CUT IN BOLT ON TOP RING OF F.H. AT N.W. CORNER OF TEN HILL RD AND COLD SPRING LN. BOLT IS ON THE SIDE FACING COLD SPRING LN.

ELEV: 858.10

VI
TBM #2 "+" CUT IN SO. END OF C.M.P AT SE CORNER OF TEN HILL RD AND BALLBROOK CT.

ELEV. 847.64

VI
TBM #3 "□" CUT IN D/S & LT SIDE OF D/S ABUTMENT. DITCH OPEN EAST D/S UNDERGROUND WEST U/S. — APPROX 300' SO. FROM OLD COURT RD.

ELEV. 824.24

VI
TBM #4 "+" CUT IN EAST BOLT OF F.H. ON TOP RING, F.H. ON SO. SIDE OF ROAD AT RES 70.55 TEN HILL F.H. IS 0.2 MILE SO. & EAST OF TBM #5. (0.1 mi NE OF OLD COURT RD)

ELEV 818.64

VI
TBM #5 "+" CUT IN SO. BOLT ON TOP RING OF F.H. AT MAIL BOX 7015 TEN HILL AT BEGINNING OF CURVE AT END OF ROAD.

ELEV. 816.30

DIETZGEN NO. 384-5

LEVELS AREA VI

FROM TBM 36-B AT NW CORNER OF 14 MILE & TEN HILL ROAD NORTH ALONG TEN HILL RD TO END OF ROAD.

DIETZGEN NO. 384-S

18NOV93
~~TII~~ R.L. BAILEY
Φ M. CLINCY

VI
L-1

TBM 36-8				854.73		F.H. AT 14 MILE & TEN HILL RDS.
	6.387					
TP1			4.599	856.518	+1.788	• E. SIDE OF TEN HILL RD.
	4.967					
VI TBM#1			3.389	858.096	+1.578	F.H @ COLDSPRING LN & TEN HILL RD.
	4.053					
TP2			4.229 4053	857.920	-0.176	
	5.475					
TP3			6.668 5475	856.727	-1.193	
	1.789					
TP4			8.192 1789	850.324	-6.403	
	3.802					
VI TBM#2			6482 3802	847.644	-2.680	CMP @ WALLBROOK CT & TEN HILL RD.
	1.990					
TP5			11.050 1990	838.584	-9.060	
	0.630					
TP6			9.893 0630	829.321	-9.263	
	2.105					
VI TBM#3			7.183 2105	824.243	-5.078	□ ON ABUT. OF DITCH 300' SO. OF OLD COURT RD.

DIETZGEN NO 384-5

VI
2-2

TBM #3 VI				824.243		
	4418 ~~4.295~~					
TP7			7940 ~~7820~~ 4295	820.721	-3.522 ~~-3.525~~	
	5011					
VI TBM #4			7.095 5011	818.637	-2.684	F.H. @ RES. 7655 TEN HILL RD, 0.2 MI SO OF TBM #5 VI
	3.830					
TP8			0.050	822.417	+3.780	
	4.657					
TP9			7945 4657	819.129	-3.288	
	3.348					
VI TBM #5			6.179 3.348	816.298	-2.831	F.H. @ MAIL BOX 7015 TEN HILL RD. @ BEGINNING OF CURVE AT END OF TEN HILL RD.
		RENUM				
VI TBM #5				816.298		
	6.130					
TP9			3.300	819.128	+2.830	
	7.978					
TP8			4.690	822.416	+3.288	
	0.039					
VI TBM #4			3.819 039	818.636	-3.780	

DIETZGEN NO 384-S

VI TBM #4				818.636	
	7.098				
TP 7			5.015	820.719	+2.083
	7.992				
VI TBM #3			4.477	824.234	+3.515
	8.170				
TP 6			3.095	829.309	+5.075
	9.858				
TP 5			0.595	838.572	+9.263
	11.175				
VI TBM #2			2.115	847.632	+9.060
	6.550				
TP 4			3.870	850.312	+2.680
	8.179				
TP 3			1.773	856.718	+6.406
	6.693				
TP 2			5.503	857.908	+1.190
	4.250				
VI TBM #1			4075	858.083	+0.175

DIETZGEN NO. 384-5

II
L-4

TBM#1				858.085		
	3,330					
TP1			4,905 / 3330	854.508	-1.575	
	4,590					
TBM36-8			6,373 / 4590	854.725	-1.783	PUB. 854.73

DIETZGEN NO. 384-S

VAB

AREA MAP
DESCRIPTIONS OF TBM'S USED

TBM 35.9 ARROW ON F.H. AT N.W CORNER OF 14 MILE ROAD & HEATH LANE

ELEV. 877.58

VII TBM #1 "+" CUT IN NO. BOLT OF F.H. OFF SW CORN. OF RES 5560. ON NO. SIDE OF (EDINBOROUGH) ROAD, 0.1 MILE FROM HEATHER HEATH LANE.

ELEV. 878.80

VII TBM #2 ☒ CUT IN WEST RIM OF SAN M/H AT SE CORN. OF EDINBOROUGH & COACH LANE. @ STREET SIGN

ELEV 876.42

VII TBM #3 ☒ CUT IN EAST SIDE OF RIM OF WATER MANHOLE AT "E" IN GATE. AT THE NW CORN. OF EDINBOROUGH & ABINGTON RD. AT RES 5520 ABINGTON RD.

ELEV. 878.50

VII TBM #4 "+" IN NO. BOLT OF F.H. AT NW. CORN. OF EDINBOROUGH & NORMANHURST. F.H. ON PROP OF RES 5518

ELEV. 880.84

VII TBM #5 "+" IN WEST BOLT OF F.H. APPROX 200 FT ± NO. OF POST OAK RD. ON WEST SIDE OF EDINBOROUGH RD. BOLT IS ON TOP RING OF F.H.

ELEV. 885.69

DIETZGEN NO. 384-S

LEVELS AREA VII

FROM W. BLOOMFIELD TBM 35-9
AT NW CORNER OF 14 MILE &
HEATHER HEATH ROAD;
NORTH TO EDINBOROUGH ROAD
EAST ALONG EDINBOROUGH
ROAD TO WHERE ROAD TURNS
NORTH, THEN NORTH ALONG
EDINBOROUGH ROAD TO APPROX
200 FT. NORTH OF POST OAK
ROAD.

DIETZGEN NO. 384-S

18NOV93 P.L. BAIEY M. CLINEY VII L-1

TBM 35-9				877.58		W. BLOOMFIELD TBM @ 14mi & HEATHLANE
	3.701					
TP1			4.730 3701	876.551	-1.029	
	6.722					
TP2			5.448	877.825	+1.274	
	4.787					
VII TBM #1			3.824	878.797 878.798	ADJ +0.973	E.H @ 5560 EDINBOROUGH
	3.230					
TP3			4.899 3230	877.129	-1.669	
	4.822					
VII TBM #2			5.525 4822	876.424 876.426	ADJ -0.703	SAM MH GACH LN & EDINBOROUGH
	6.567					
TP4			5.507	877.486	+1.060	
	4.968					
TP5			4.098	878.356	+0.870	
	4.967					
VII TBM #3			4.315	878.505 878.508	ADJ. +0.152	@ "E" ON WATER M.H. @ 5520 ABINGTON RD.
	7.120					
TP6			3728	881.900	+3.392	

DIETZGEN NO 384-5

VII
4-2

TP6				881.900	
	3.799				
TP7			6.073	879.626	-2.274
			3799		
	5.560				
~~VII~~ TBM#4			4340.	880.842 - ADJ 880.846	+1.220
	5.340				
TP8			3.280	882.906	+2.060
	5.910				
TP9			5.983	882.833	-0.073
			5910		
	5060				
~~TBM#5~~ ~~VII~~			2.202	885.686 ADJ. 885.691	+ 2.858
		RETURN			
~~VII~~ TBM#5				885.691	
	2.158				
TP9			5.015	882.834	2.857
			2 158		
	5.958				
TP8			5.883	882.909	+ 1.075
	3.850				
~~VII~~ TBM#4			5910	880.849	- 2.060
			3850		
					RB

F.H. @ NORMAN HURST DR & EDINBOROUGH

F.H. ON W. SIDE EDINBOROUGH, 200'± NO POST OAK RD

DIETZGEN NO. 384-5

TBM#4				880.849	
	4.300				
TP7			5.520	879.629	+ 1.220
	6.019		4308		
TP6			3.741	881.907	+ 2.278
	3.710				
TBM#3			7.105	878.512	- 3.395
	4.177		5710		
TP5			4.327	878.362	- 0.150
	4.088		4177		
TP4			4.960	877.490	- 0.872
	5.497		4088		
TBM#2			6.558	876.429	- 1.061
	5.630		5497		
TP3			4.925	877.134	+ 0.705
	4.820				
TBM#1			3.151	878.803	+ 1.669
	3.877				
TP2			4.848	877.832	- 0.971
			3877		
					✓ RS

DIETZGEN NO. 384-5

TP2				877,832	
	5.338				
TP1			6.610 5338	876,560	-1,272
	4.600				
TBM 35-9			3.570	877.590	+1,030

PUB
877.58 +0,01

DIETZGEN NO. 384-5

VII
L4

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: PEBBLE CREEK

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

```
*PROF 1

CCHV=     .300 CEHV=     .500
*SECNO .000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=      303.0      315.0  TYPE=      1  TARGET=      12.000

          U/S FACE OF 14 MILE ROAD, CORPORATE BOUNDARY                    SEC. A

     0.00      3.46    890.16      0.00      0.00    890.43       .27      0.00      0.00100000.00
     150.        0.      150.        0.        0.       36.        0.        0.        0. 100000.00
     0.00      0.00      4.18      0.00      .055      .040      .055     0.000    886.70    303.00
  .004497        0.        0.        0.         0         0         0      0.00     12.00    315.00

*SECNO 10.000

3470 ENCROACHMENT STATIONS=      210.0      345.0  TYPE=      1  TARGET=      135.000

          10) U/S FROM U/S FACE OF 14 MILE ROAD, VS>94                    SEC. B

    10.00      3.64    890.34      0.00      0.00    890.49       .16       .03       .03    890.00
     150.        0.      148.        2.        1.       46.        2.        0.        0.    889.40
      .00       .40      3.20       .77      .055      .040      .055      .036    886.70    292.76
  .002312       10.       10.       10.         2         0         0      0.00     29.61    322.38

*SECNO 95.000

3470 ENCROACHMENT STATIONS=       90.0      220.0  TYPE=      1  TARGET=      130.000

          95) U/S FROM U/S FACE OF 14 MILE ROAD,VS>95                     SEC. C

    95.00      3.87    890.57      0.00      0.00    890.64       .06       .11       .03    890.00
     150.        0.      116.       34.        1.       50.       46.        0.        0.    889.40
      .01       .30      2.29       .74      .065      .037      .055      .037    886.70    145.72
  .000904      125.       85.       75.         2         0         0      0.00     74.28    220.00

*SECNO 165.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      100.0      220.0  TYPE=      1  TARGET=      120.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      891.00 ELREA=      891.00

   165.00      2.80    890.60      0.00      0.00    890.84       .24       .11       .09    887.80
     150.        0.      150.        0.        0.       38.        0.        0.        0.    888.00
      .02      0.00      3.91      0.00      .065      .037      .055      .037    887.80    175.00
  .004043      100.       70.       55.         2         0         0      0.00     14.20    189.50


SPECIAL BRIDGE

SB  XK        XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
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*SECNO 191.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= 0.000 EGLWC= 890.836 ELLC= 891.000 PCWSE= 890.598 ELTRD= 891.400

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	EVDST
191.00	2.91	890.71	0.00	0.00	890.93	.22	.08	.01	887.00
150.	0.	150.	0.	0.	40.	0.	0.	0.	888.00
.02	0.00	3.76	0.00	.035	.032	.035	.036	887.80	175.00
.002695	26.	26.	26.	2	0	0	-25.20	16.20	189.50

*SECNO 384.000

384.00	2.26	891.56	0.00	0.00	891.99	.43	.96	.11	893.20
150.	0.	150.	0.	0.	28.	0.	0.	0.	893.20
.03	0.00	5.27	0.00	.050	.032	.050	.034	889.30	29.19
.011938	193.	193.	193.	2	0	0	0.00	25.81	55.00

*SECNO 385.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 896.80

385.00	2.27	891.57	0.00	0.00	892.00	.43	.01	.00	893.20
150.	0.	150.	0.	0.	29.	0.	0.	0.	893.20
.03	0.00	5.25	0.00	.050	.032	.050	.034	889.30	29.17
.011861	1.	1.	1.	0	0	0	0.00	25.83	55.00

*SECNO 391.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 896.80

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>97 SEC. E

391.00	2.51	891.81	0.00	0.00	892.09	.29	.05	.04	893.20
150.	0.	150.	0.	0.	35.	0.	0.	0.	893.20
.03	0.00	4.32	0.00	.050	.032	.050	.034	889.30	28.00
.006602	6.	6.	6.	3	0	0	0.00	27.00	55.00

*SECNO 392.000

392.00	2.52	891.82	0.00	0.00	892.10	.28	.01	.00	893.20
150.	0.	150.	0.	0.	35.	0.	0.	0.	893.20
.03	0.00	4.27	0.10	.050	.032	.050	.034	889.30	27.97

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 .006383      1.       1.       1.        0        0        0     0.00    27.07    55.00

*SECNO 785.000
  SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
  Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA     LEFT/RIGHT
  TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
  SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

        60) D/S FROM D/S FACE OF PEBBLE PT CULVERT, VS>98                    SEC. F

  785.00     3.12   893.62     0.00     0.00   893.89      .27     1.79      .00   892.80
    150.       2.     148.       0.       2.      35.       0.       1.       0.   893.60
     .06      .95     4.22      .02     .050     .032     .050     .033   890.50    23.75
 .003404     393.     393.     393.        2        0        0     0.00    22.41    46.16

*SECNO 845.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS=      80.0     145.0  TYPE=     1  TARGET=      65.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      894.50 ELREA=      894.50

  845.00     3.24   893.84     0.00     0.00   894.19      .35      .26      .04   892.00
    150.       0.     150.       0.       0.      32.       0.       1.       1.   891.30
     .06     0.00     4.73     0.00     .050     .032     .050     .033   890.60   115.00
 .005705      60.      60.      60.        2        0        0     0.00    12.00   127.30

SPECIAL BRIDGE

SB  XK        XKOR      COFO      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
    0.00      1.74      3.02      0.00     12.00      0.00     48.00     0.00     890.60    890.60

*SECNO 871.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=     0.000  EGLWC=   894.191  ELLC=   894.600  PCWSE=   893.844  ELTRD=   895.400

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  895.40 MAX ELLC=  894.60

3470 ENCROACHMENT STATIONS=      80.0     145.0  TYPE=     1  TARGET=      65.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      895.40 ELREA=      895.40

        U/S FACE  OF PEBBLE PT CULVERT,  BS>99                               SEC. G

  871.00     3.44   894.04     0.00     0.00   894.34      .30      .13      .01   892.00
    150.       0.     150.       0.       0.      34.       0.       1.       1.   891.30
     .06     0.00     4.40     0.00     .070     .032     .070     .033   890.60   115.00
 .004662      26.      26.      26.        2        0        0     0.00    12.00   127.30
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454) U/S FROM U/S FACE OF PEBBLE PT, VS>100 SEC. H

1325.00	2.55	896.05	0.00	0.00	896.21	.16	1.83	.04	915.00
150.	0.	150.	0.	0.	47.	0.	1.	1.	915.00
.10	0.00	3.20	0.00	.050	.033	.060	.033	893.50	26.05
.003515	454.	454.	454.	3	0	0	0.00	35.18	61.23

*SECNO 1795.000

924) U/S FROM U/S FACE OF PEBBLE PT, VS>101 SEC. I

1795.00	2.72	897.92	0.00	0.00	896.30	.38	1.98	.11	895.70
150.	32.	107.	11.	14.	19.	7.	2.	1.	896.70
.13	2.27	5.70	1.54	.050	.032	.050	.033	895.20	11.29
.005166	470.	470.	470.	2	0	0	0.00	32.35	43.64

*SECNO 2235.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2235.00	2.02	901.12	901.01	0.00	901.64	.52	3.26	.07	903.30
150.	0.	150.	0.	0.	26.	0.	2.	1.	903.50
.15	0.00	5.80	0.00	.050	.032	.050	.032	899.10	69.56
.011546	440.	440.	440.	10	19	0	0.00	20.15	89.71

*SECNO 2236.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2236.00	2.11	901.21	0.00	0.00	901.67	.46	.01	.02	903.30
150.	0.	150.	0.	0.	28.	0.	2.	1.	903.50
.15	0.00	5.44	0.00	.050	.032	.050	.032	899.10	69.36
.009727	1.	1.	1.	8	0	0	0.00	20.65	90.00

*SECNO 2242.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>102 SEC. J

2242.00	2.31	901.41	0.00	0.00	901.75	.34	.05	.04	903.30
150.	0.	150.	0.	0.	32.	0.	2.	1.	903.50
.15	0.00	4.69	0.00	.050	.032	.050	.032	899.10	68.86
.006411	6.	6.	6.	3	0	0	0.00	21.91	90.78

*SECNO 2243.000

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2243.00	2.32	901.42	0.00	0.00	901.76	.34	.01	.00	903.30

```
      .15       0.00      4.66      0.00      .050      .032      .050      .032    899.10     68.84
   .006286        1.        1.        1.         0         0         0      0.00     21.98     90.82

 *SECNO 2420.000

 3265 DIVIDED FLOW

 3470 ENCROACHMENT STATIONS=      85.0     131.0  TYPE=      1  TARGET=      46.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     903.00 ELREA=     903.00

   2420.00      2.48    902.38      0.00      0.00    902.69       .31       .92       .01    899.90
       150.        0.       150.        0.        0.       34.        0.        2.        1.    900.00
       .16      0.00      4.66      0.00      .050      .032      .050      .032    899.90    100.00
   .004356       177.      177.      177.         2         0         0      0.00     14.00    114.40

 SPECIAL BRIDGE

 SB  XK          XKOR       COFQ       RDLEN      BNC        BWP        BAREA      SS         ELCHU      ELCHD
          0.00       1.71       2.85       0.00      14.00       0.00      42.00      0.00     899.90     899.90

 *SECNO 2450.000

 6070,LOW FLOW BY NORMAL BRIDGE

 EGPRS=     0.000 EGLWC=   902.686 ELLC=   903.000 PCWSE=   902.377 ELTRD=   903.600

 3265 DIVIDED FLOW

   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

 3370 NORMAL BRIDGE,NRD=  6 MIN ELTRD=  903.60 MAX ELLC=  903.00

 3470 ENCROACHMENT STATIONS=      85.0     131.0  TYPE=      1  TARGET=      46.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=     903.60 ELREA=     903.60

            U/S FACE OF BRIDGE WAY CULVERT,  BS>103                                  SEC. K

   2450.00      2.65    902.55      0.00      0.00    902.82       .27       .12       .01    899.90
       150.        0.       150.        0.        0.       36.        0.        2.        1.    900.00
       .16      0.00      4.16      0.00      .060      .032      .060      .032    899.90    100.00
   .003550        30.       30.       30.         2         0         0      0.00     14.00    114.40

 *SECNO 2530.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
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3470 ENCROACHMENT STATIONS= .0 65.0 TYPE= 1 TARGET= 84.999

80) U/S FROM U/S FACE OF BRIDGE MAY CULVERT, VS>104 SEC. L

2530.00	2.61	903.81	903.81	0.00	904.33	.52	.61	.12	906.50
150.	0.	117.	33.	0.	18.	21.	2.	2.	902.80
.17	0.00	6.46	1.55	.090	.045	.100	.033	901.20	23.25
.021309	60.	80.	125.	20	5	0	0.00	45.41	68.66

*SECNO 2830.000

3470 ENCROACHMENT STATIONS= 220.0 470.0 TYPE= 1 TARGET= 250.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

2830.00	3.05	905.95	0.00	0.00	906.02	.07	1.56	.13	905.00
150.	36.	92.	22.	59.	35.	50.	3.	2.	905.00
.21	.61	2.63	.43	.090	.045	.100	.034	902.90	220.00
.002235	330.	300.	280.	7	0	0	0.00	205.10	425.10

*SECNO 3030.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3030.00	2.57	906.57	0.00	0.00	906.66	.09	.63	.01	905.80
150.	55.	88.	7.	78.	28.	10.	4.	3.	905.80
.24	.71	3.13	.63	.100	.046	.100	.035	904.00	320.00
.004309	250.	200.	125.	4	0	0	0.00	162.86	482.84

*SECNO 3085.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

3085.00	2.53	906.83	0.00	0.00	906.94	.11	.27	.01	906.10
150.	53.	91.	6.	73.	28.	9.	4.	4.	906.10
.25	.73	3.29	.65	.100	.046	.100	.035	904.30	320.00
.004926	65.	55.	35.	2	0	0	0.00	161.93	481.93

*SECNO 3130.000

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3130.00	2.53	907.08	0.00	0.00	907.12	.04	.17	.02	905.90
150.	82.	67.	2.	112.	29.	6.	4.	4.	906.50
.26	.73	2.28	.31	.100	.046	.100	.035	904.55	62.13
.002189	65.	45.	30.	2	0	0	0.00	146.25	206.38

*SECNO 3180.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3180.00	2.39	907.19	0.00	0.00	907.44	.25	.21	.10	906.50

.26	.69	4.44	1.29	.100	.046	.100	.035	904.80	98.32
.008958	65.	50.	35.	2	0	0	0.00	88.59	186.91

*SECNO 3230.000

850) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>105 SEC. N

3230.00	2.55	907.65	907.33	0.00	908.10	.45	.56	.10	907.60
150.	0.	146.	4.	0.	27.	5.	6.	6.	907.10
.27	.15	5.46	.76	.100	.046	.100	.035	905.10	469.63
.014501	65.	50.	35.	4	12	0	0.00	48.73	518.36

*SECNO 3530.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3530.00	3.16	909.66	0.00	0.00	909.77	.10	1.57	.10	908.50
150.	27.	110.	13.	43.	37.	18.	5.	5.	908.50
.30	.63	2.98	.71	.085	.045	.075	.036	906.50	346.16
.002643	260.	300.	390.	4	0	0	0.00	119.93	466.09

*SECNO 3795.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3795.00	2.76	910.46	0.00	0.00	910.61	.16	.82	.02	909.50
150.	31.	111.	8.	40.	32.	10.	5.	5.	909.50
.33	.79	3.51	.78	.085	.045	.075	.037	907.70	293.20
.004443	150.	265.	265.	3	0	0	0.00	133.00	426.19

*SECNO 4030.000

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	HV	ML	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 420.0 655.0 TYPE= 1 TARGET= 235.000

50) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>106 SEC. N

4030.00	3.10	911.80	911.18	0.00	912.17	.36	1.45	.11	911.70
150.	1.	149.	0.	4.	31.	0.	5.	6.	911.70
.34	.26	4.86	.02	.075	.043	.075	.037	908.70	512.11
.009223	230.	235.	230.	6	11	0	0.00	95.24	607.35

*SECNO 4080.000

3470 ENCROACHMENT STATIONS= 594.0 602.0 TYPE= 1 TARGET= 8.000

4080.00	4.62	912.32	0.00	0.00	912.51	.20	.30	.05100000.00	
120.	0.	120.	0.	0.	34.	0.	5.	6.	100000.00
.34	0.00	3.56	0.00	.075	.043	.075	.037	907.70	594.00
.003808	50.	50.	50.	2	0	0	0.00	8.00	602.00

*SECNO 4081.000

3470 ENCROACHMENT STATIONS= 594.0 602.0 TYPE= 1 TARGET= 8.000

4081.00	4.62	912.32	0.00	0.00	912.52	.20	.00	.00100000.00	

```
      .34       0.00      3.56      0.00      .080      .033      .080      .037    907.70    594.00
  .002234         1.        1.        1.         0         0         0      0.00      8.00    602.00


 SPECIAL BRIDGE
 SB   XK          XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
       0.00        2.73       3.02       0.00       6.11       0.00       33.00      0.00       907.70     907.70

 *SECNO 4131.000

 6070,LOW FLOW BY NORMAL BRIDGE

 EGRRS=     0.000  EGLWC=   912.525  ELLC=   913.000  PCWSE=   912.320  ELTRD=   913.000

 3370 NORMAL BRIDGE, NRD= 13 MIN ELTRD=  913.00 MAX ELLC=  913.00

 3470 ENCROACHMENT STATIONS=      440.0      640.0  TYPE=      1  TARGET=      200.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      913.00 ELREA=      913.00

          U/S FACE OF FARMINGTON ROAD CULVERT,  BS>107                    SEC. 0

  4131.00      4.73    912.43      0.00      0.00    912.66      .23       .13       .02    909.50
    120.         0.      120.        0.        0.      31.        0.         5.        6.     909.50
      .35      0.00      3.88      0.00      .080      .033      .080      .037    907.70    570.00
  .002901        50.       50.       50.         2         0         0    -52.00      7.70    577.70


 *SECNO 4132.000

 3470 ENCROACHMENT STATIONS=      440.0      640.0  TYPE=      1  TARGET=      200.000

 3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA=      913.00 ELREA=      913.00

  4132.00      4.79    912.49      0.00      0.00    912.68      .19       .00       .01    909.50
    120.         0.      120.        0.        0.      34.        0.         5.        6.     909.50
      .35      0.00      3.49      0.00      .085      .042      .090      .037    907.70    570.00
  .002483         1.        1.        1.         2         0         0      0.00      7.70    577.70


 *SECNO 4442.000
    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    0          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        THA    LEFT/RIGHT
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

          MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

  4442.00      3.47    913.27      0.00      0.00    913.35      .09       .64       .03    912.90
    120.         1.      118.        1.        2.      50.        5.         6.        6.     912.90
      .38       .24      2.36       .22      .085      .042      .090      .037    909.80    598.32
  .001758       300.      310.      360.         2         0         0      0.00     64.38    662.70


 *SECNO 4772.000

 3265 DIVIDED FLOW

 3470 ENCROACHMENT STATIONS=      570.0      730.0  TYPE=      1  TARGET=      200.000
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MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4772.00	2.45	914.25	0.00	0.00	914.50	.25	1.07	.08	916.90
120.	3.	117.	0.	5.	29.	0.	6.	6.	914.90
.41	.56	4.09	0.00	.085	.040	.085	.038	911.80	530.00
.007815	300.	330.	330.	2	0	0	0.00	43.54	610.85

*SECNO 5122.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

5122.00	2.69	916.59	0.00	0.00	916.79	.20	2.27	.02	917.00
120.	0.	120.	0.	0.	33.	0.	6.	7.	917.00
.43	0.00	3.60	0.00	.085	.040	.085	.038	913.90	371.95
.005483	300.	350.	350.	3	0	0	0.00	21.30	393.25

*SECNO 5412.000

1280) U/S FROM U/S FACE OF FARMINGTON ROAD, VS>108 SEC. P

5412.00	2.62	918.32	0.00	0.00	918.56	.24	1.75	.02	919.00
120.	0.	120.	0.	0.	30.	0.	7.	7.	919.50
.45	0.00	3.95	0.00	.085	.040	.085	.038	915.70	597.92
.006670	200.	290.	400.	2	0	0	0.00	19.39	617.31

*SECNO 5837.000

5837.00	2.89	920.64	0.00	0.00	920.82	.17	2.24	.02	921.05
120.	0.	120.	0.	0.	36.	0.	7.	7.	921.55
.49	0.00	3.35	0.00	.085	.040	.085	.038	917.75	596.75
.004252	500.	425.	350.	3	0	0	0.00	20.96	617.70

*SECNO 6262.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 340.0 620.0 TYPE= 1 TARGET= 280.000

25) D/S FROM D/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>109 SEC. Q

6262.00	1.62	921.42	0.00	0.00	921.44	.02	.58	.05	924.30
120.	0.	120.	0.	0.	105.	0.	8.	8.	924.20
.59	0.00	1.15	0.00	.075	.034	.075	.038	919.80	510.64
.000660	500.	425.	350.	5	0	0	0.00	101.00	611.64

*SECNO 6272.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
34.3 PROBABLE [illegible] SPECIFIC ENERGY

3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 340.0 610.0 TYPE= 1 TARGET= 270.000

6272.00	2.12	924.12	924.12	0.00	924.81	.69	.02	.34	924.80
120.	0.	120.	0.	0.	18.	0.	8.	8.	924.80
.59	0.00	6.67	0.00	.075	.034	.075	.038	922.00	483.30
.016841	10.	10.	10.	20	11	0	0.00	13.23	496.53

*SECNO 6287.000

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 925.00 ELREA= 925.00

6287.00	2.75	924.75	0.00	0.00	925.05	.30	.13	.12	924.80
120.	0.	120.	0.	0.	27.	0.	8.	8.	924.80
.59	0.00	4.40	0.00	.075	.034	.075	.038	922.00	482.09
.005401	15.	15.	15.	4	0	0	0.00	15.01	497.90

*SECNO 6288.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 925.30 MAX ELLC= 924.80

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 925.00 ELREA= 925.00

6288.00	2.76	924.76	0.00	0.00	925.06	.30	.01	.00	924.80
120.	0.	120.	0.	0.	27.	0.	8.	8.	924.80
.59	0.00	4.37	0.00	.042	.032	.042	.038	922.00	482.07
.004696	1.	1.	1.	0	0	0	0.00	15.86	497.93

*SECNO 6300.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 925.30 MAX ELLC= 924.80

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 925.30 ELREA= 925.30

U/S FACE OF PRIVATE DRIVEWAY BRIDGE, BS>110 SEC. R

6300.00	2.86	924.86	0.00	0.00	925.14	.28	.07	.00	924.80
120.	0.	120.	0.	0.	28.	0.	8.	8.	924.80
.59	0.00	4.27	0.00	.042	.032	.062	.038	922.00	482.00
.008098	12.	12.	12.	2	0	0	-.95	16.00	498.00

*SECNO 6301.000
WATER EL=X5 CARD= 925.120

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTM	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

*3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 925.30 ELREA= 925.30

6301.00	3.12	925.12	0.00	0.00	925.32	.20	.01	.02	924.80
120.	0.	120.	0.	0.	33.	0.	8.	8.	924.80
.59	0.00	3.62	0.00	.070	.042	.090	.038	922.00	482.00
.006431	1.	1.	1.	0	0	0	0.00	16.00	498.00

*SECNO 6601.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

6601.00	2.53	926.73	0.00	0.00	927.01	.28	1.65	.04	926.30
120.	3.	115.	2.	5.	26.	3.	8.	8.	926.20
.61	.60	4.33	.69	.075	.042	.075	.038	924.20	521.59
.007034	250.	300.	350.	2	0	0	0.00	48.27	569.86

*SECNO 6901.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

6901.00	2.50	928.90	0.00	0.00	929.19	.29	2.18	.01	928.50
120.	2.	115.	3.	4.	26.	4.	8.	8.	928.40
.63	.59	4.41	.68	.075	.042	.075	.038	926.40	422.45
.007476	300.	300.	300.	4	0	0	0.00	49.22	471.67

*SECNO 7261.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

7261.00	2.52	931.52	930.96	0.00	931.78	.26	2.58	.01	931.10
120.	7.	112.	1.	12.	26.	2.	8.	9.	931.00
.66	.58	4.26	.67	.075	.042	.075	.038	929.00	253.93
.006879	360.	360.	360.	4	9	0	0.00	78.39	332.33

*SECNO 7561.000

1260) U/S FROM U/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>111 SEC. S

7561.00	2.47	933.67	933.12	0.00	933.96	.29	2.17	.01	933.30
120.	2.	114.	4.	4.	26.	6.	9.	9.	933.20
.68	.57	4.45	.67	.075	.042	.075	.038	931.20	378.90
.007799	200.	300.	300.	6	11	0	0.00	62.09	440.99

*SECNO 8636.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUN SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

365) D/S FROM D/S FACE OF NASHWAY DR. CULVERT, VS>112 SEC. T

8636.00	2.01	942.21	942.21	0.00	942.44	.23	7.55	.02	941.80
120.	7.	84.	29.	11.	18.	29.	10.	12.	941.60
.76	.62	4.54	1.00	.080	.032	.065	.038	940.20	151.99
.006357	1075.	1075.	1075.	3	14	0	0.00	133.88	285.86

*SECNO 8900.000

```
 3470 ENCROACHMENT STATIONS=     396.0     531.0  TYPE=     1  TARGET=     135.000
  9000.00     3.26   944.56     0.00     0.00   944.72     .16     2.26     .02   944.30
    120.        1.      83.       35.       3.      22.      38.      10.      13.   946.30
     .80      .49     3.79      .92     .060     .040     .070     .038   941.30   408.31
 .006042     364.     364.     364.        2        0        0     0.00   122.69   531.00


 *SECNO 9001.000

 3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  944.00 MAX ELLC=  943.20


 3470 ENCROACHMENT STATIONS=     396.0     531.0  TYPE=     1  TARGET=     135.000
  9001.00     3.40   944.70     0.00     0.00   944.75     .06     .01     .03   944.30
    120.        6.      29.       85.       7.      12.      51.      10.      13.   944.30
     .80      .85     2.51     1.67     .040     .023     .040     .038   941.30   396.00
 .004533       1.       1.       1.        3        0        0   -11.30   135.00   531.00


 *SECNO 9038.000

 3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  944.00 MAX ELLC=  943.20


 3470 ENCROACHMENT STATIONS=     396.0     531.0  TYPE=     1  TARGET=     135.000
          U/S FACE OF NASHWAY DR. CULVERT,  BS>113                          SEC. U


          BT AND GR STATIONS HAVE BEEN SKEWED BY 0.90
  9038.00     3.54   944.84     0.00     0.00   944.87     .03     .11     .01   944.30
    120.       10.      23.       86.      12.      13.      64.      10.      13.   944.30
     .81      .84     1.82     1.35     .040     .023     .040     .038   941.30   396.00
 .002140      37.      37.      37.        2        0        0   -11.30   135.00   531.00


 *SECNO 9039.000

 3470 ENCROACHMENT STATIONS=     396.0     531.0  TYPE=     1  TARGET=     135.000
  9039.00     3.52   944.82     0.00     0.00   944.89     .07     .00     .02   944.30
    120.        6.      65.       49.      12.      24.      64.      10.      13.   944.30
     .81      .48     2.73      .77     .090     .045     .090     .038   941.30   396.00
 .003543       1.       1.       1.        1        0        0     0.00   135.00   531.00


 *SECNO 9116.000
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     ES        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


          77) U/S FROM U/S FACE OF NASHWAY DR. CULVERT,  VS>114             SEC. V
  9116.00     3.27   944.97     0.00     0.00   945.02     .05     .12     .01   942.80
    120.       19.      90.       11.      34.      46.      29.      11.      13.   943.70
     .82      .54     1.95      .38     .085     .043     .085     .038   941.70    28.22
 .000863      77.      77.      77.        2        0        0     0.00    93.76   121.98


 *SECNO 9466.000

          77) U/S FROM U/S FACE OF NASHWAY DR. CULVERT,  VS>115             SEC. W
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9466.00	2.80	945.30	0.00	0.00	945.33	.04	.31	.00	944.00
75.	9.	57.	9.	18.	33.	24.	11.	14.	944.20
.89	.49	1.73	.38	.070	.042	.080	.038	942.50	34.86
.000945	350.	350.	350.	2	0	0	0.00	87.34	122.20

*SECNO 10071.000

1032) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>116 SEC. X

10071.00	3.07	945.47	0.00	0.00	945.47	.00	.13	.01	947.10
75.	0.	14.	61.	0.	28.	337.	14.	16.	945.00
1.58	0.00	.50	.18	.070	.042	.095	.038	942.40	62.79
.000092	605.	605.	605.	3	0	0	0.00	279.26	342.06

*SECNO 10831.000

15)D/S FROM D/S FACE OF WEST MAPLE ROAD CULVERT, VS>117 SEC. Y

10831.00	1.74	945.64	0.00	0.00	945.75	.12	.23	.06	944.50
75.	27.	48.	0.	30.	14.	0.	18.	19.	945.70
1.67	.88	3.34	0.00	.100	.045	.100	.039	943.90	556.66
.007383	760.	760.	760.	2	0	0	0.00	64.23	620.90

*SECNO 10845.000

3470 ENCROACHMENT STATIONS=		614.0	619.0	TYPE=	1	TARGET=		5.000	
10845.00	5.40	945.70	0.00	0.00	945.84	.13	.07	.01100000.00	
75.	0.	75.	0.	0.	26.	0.	18.	19.	100000.00
1.67	0.00	2.93	0.00	.095	.045	.095	.039	940.30	614.00
.003920	14.	14.	14.	1	0	0	0.00	5.00	619.00

*SECNO 10846.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=		614.0	619.0	TYPE=	1	TARGET=		5.000	
10846.00	5.41	945.71	0.00	0.00	945.84	.13	.00	.00100000.00	
75.	0.	75.	0.	0.	26.	0.	18.	19.	100000.00
1.67	0.00	2.93	0.00	.080	.024	.080	.039	940.30	614.00
.001109	1.	1.	1.	0	0	0	0.00	5.00	619.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.30	3.02	0.00	3.80	0.00	11.40	0.00	940.70	940.30

*SECNO 10888.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
947.25	946.24	0.00	0.	75.	11.	11.	943.70	948.60

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.60 ELREA= 948.60

U/S FACE OF WEST MAPLE ROAD CULVERT, BS>118 SEC. 2

10888.00	6.46	947.16	0.00	0.00	947.25	.09	1.41	0.00	942.20
75.	0.	75.	0.	0.	31.	0.	18.	19.	942.20
1.68	0.00	2.46	0.00	.080	.024	.080	.038	940.70	655.00
.000453	42.	42.	42.	2	0	0	0.00	4.80	659.80

*SECNO 10889.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE, ELLEA= 948.60 ELREA= 948.60

10889.00	6.46	947.16	0.00	0.00	947.25	.09	.00	.00	942.20
75.	0.	75.	0.	0.	31.	0.	18.	19.	942.20
1.68	0.00	2.45	0.00	.070	.034	.070	.038	940.70	655.00
.000909	1.	1.	1.	0	0	0	0.00	4.80	659.80

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR - 01,02
  MODIFICATION -  50,51,52,53
*****************************************************

T1      5850-10, FIS - WEST BLOOMFIELF TWP,  PM @ RICHARD ZANOTTI
T2      50-YEAR FLOOD
T3      PEBBLE CREEK

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      -1.       3.       0.       0.  0.000000     0.00      0.0       0.   893.014   0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

     2.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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*PROF 2

CCHV=    .300 CEHV=    .500
*SECNO .000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        MV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=     220.0     335.0  TYPE=     1  TARGET=     115.000

          U/S FACE OF 14 MILE ROAD, CORPORATE BOUNDARY                    SEC. A

      0.00      6.31    893.01      0.00    890.16    893.04       .02      0.00      0.00    890.00
       315.       135.      153.       28.      189.       94.       40.       0.        0.    889.40
      0.00       .71      1.62       .69      .055      .040      .055     0.000    886.70    220.00
   .000228        0.        0.        0.         0         0         0      0.00    115.00    335.00

*SECNO 10.000

3470 ENCROACHMENT STATIONS=     210.0     345.0  TYPE=     1  TARGET=     135.000

        10) U/S FROM U/S FACE OF 14 MILE ROAD, VS>94                      SEC. B

     10.00      6.32    893.02      0.00    890.34    893.04       .02       .00       .00    890.00
       315.       139.      141.       36.      212.       94.       58.       0.        0.    889.40
       .00       .66      1.49       .62      .055      .040      .055      .036    886.70    210.00
   .000193       10.       10.       10.         0         0         0      0.00    135.00    345.00

*SECNO 95.000

3470 ENCROACHMENT STATIONS=      90.0     220.0  TYPE=     1  TARGET=     130.000

        95) U/S FROM U/S FACE OF 14 MILE ROAD, VS>95                      SEC. C

     95.00      6.36    893.06      0.00    890.57    893.06       .02       .02       .00    890.00
       315.       28.      149.      138.       74.       95.      174.       1.        0.    889.40
       .03       .38      1.57       .79      .065      .037      .055      .034    886.70     90.00
   .000184       125.       85.       75.         0         0         0      0.00    130.00    220.00

*SECNO 165.000

3470 ENCROACHMENT STATIONS=     100.0     220.0  TYPE=     1  TARGET=     120.000
     165.00      5.26    893.06      0.00    890.60    893.08       .02       .02       .00    887.80
       315.       117.      115.       83.      162.       74.       87.       1.        1.    888.00
       .04       .72      1.56       .95      .065      .037      .055      .035    887.80    100.00
   .000296       100.       70.       55.         0         0         0      0.00    120.00    220.00

SPECIAL BRIDGE

SB  XK          XKOR        COFQ        RDLEN       BWC         BWP         BAREA       SS          ELCHU       ELCHD
      0.00        1.79        3.04        0.00       14.20        0.00       42.60       0.00      887.80      887.80

*SECNO 191.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        MV        HL        OLOSS     BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
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PRESSURE AND WEIR FLOW

EGPRS	EGLWC	M3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
896.58	893.08	0.00	246.	69.	43.	45.	891.00	891.40

3470 ENCROACHMENT STATIONS= 100.0 220.0 TYPE= 1 TARGET= 120.000

U/S FACE OF BRIDGE WAY CULVERT, BS>96 SEC. D

191.00	5.32	893.12	0.00	890.71	893.13	.01	.05	0.00	887.80
315.	144.	86.	85.	167.	75.	89.	2.	1.	888.00
.05	.86	1.15	.96	.035	.032	.035	.034	887.80	100.00
.000118	26.	26.	26.	1	0	8	0.00	120.00	220.00

*SECNO 384.000

384.00	3.73	893.03	0.00	891.56	893.34	.31	.06	.15	893.20
315.	0.	315.	0.	0.	71.	0.	3.	1.	893.20
.06	0.00	4.44	0.00	.050	.032	.050	.033	889.30	25.00
.003343	193.	193.	193.	2	0	0	0.00	30.00	55.00

*SECNO 385.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 894.60

385.00	3.72	893.02	0.00	891.57	893.36	.34	.00	.02	893.20
315.	0.	315.	0.	0.	67.	0.	3.	1.	893.20
.06	0.00	4.71	0.00	.050	.032	.050	.033	889.30	25.00
.005056	1.	1.	1.	1	0	0	-3.76	30.00	55.00

*SECNO 391.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 894.80

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>97 SEC. E

391.00	3.76	893.06	0.00	891.81	893.39	.34	.03	.00	893.20
315.	0.	315.	0.	0.	67.	0.	3.	1.	893.20
.06	0.00	4.67	0.00	.050	.032	.050	.033	889.30	25.00
.004934	6.	6.	6.	1	0	0	-3.89	30.00	55.00

*SECNO 392.000

392.00	3.83	893.13	0.00	891.82	893.42	.28	.00	.02	893.20
315.	0.	315.	0.	0.	74.	0.	3.	1.	893.20
.06	0.00	4.27	0.00	.050	.032	.050	.033	889.30	25.00
.002942	1.	1.	1.	2	0	0	0.00	30.00	55.00

*SECNO 785.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

60) D/S FROM D/S FACE OF PEBBLE PT CULVERT, VS>98 SEC. F

785.00	3.92	894.42	0.00	893.62	894.96	.54	1.42	.13	892.80
315.	16.	296.	3.	8.	49.	2.	3.	1.	893.60
.08	1.86	6.07	1.36	.050	.032	.050	.032	890.50	18.77
.004538	393.	393.	393.	2	0	0	0.00	31.23	50.00

*SECNO 845.000

3470 ENCROACHMENT STATIONS= 80.0 145.0 TYPE= 1 TARGET= 65.000

845.00	4.45	895.05	0.00	893.84	895.28	.23	.23	.09	892.00
315.	61.	207.	47.	28.	46.	19.	3.	1.	891.30
.09	2.20	4.47	2.44	.050	.032	.050	.032	890.60	96.85
.003178	60.	60.	60.	3	0	0	0.00	40.80	137.65

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.74	3.02	0.00	12.00	0.00	48.00	0.00	890.60	890.60

*SECNO 871.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
896.21	895.77	0.00	32.	281.	48.	48.	894.60	895.60

3470 ENCROACHMENT STATIONS= 80.0 145.0 TYPE= 1 TARGET= 65.000

U/S FACE OF PEBBLE PT CULVERT, BS>99 SEC. G

871.00	5.21	895.81	0.00	894.04	895.97	.16	.69	0.00	892.00
315.	60.	213.	42.	43.	56.	28.	3.	1.	891.30
.09	1.38	3.83	1.50	.070	.032	.070	.032	890.60	92.32
.001828	26.	26.	26.	2	0	3	0.00	47.43	139.75

*SECNO 1325.000

454) U/S FROM U/S FACE OF PEBBLE PT, VS>100 SEC. H

1325.00	3.40	896.90	0.00	896.05	897.13	.23	1.12	.03	915.00
315.	0.	315.	0.	0.	82.	0.	4.	2.	915.00
.12	0.00	3.86	0.00	.050	.033	.060	.032	893.50	17.01
.003544	454.	454.	454.	2	0	0	0.00	46.39	63.39

*SECNO 1795.000

924) U/S FROM U/S FACE OF PEBBLE PT, VS>101 SEC. I

1795.00	3.60	898.80	0.00	897.92	899.34	.54	2.05	.15	895.70
315.	80.	187.	67.	27.	26.	21.	5.	2.	896.70
.15	2.93	7.28	2.27	.050	.032	.050	.032	895.20	6.31
.005528	470.	470.	470.	1	0	0	0.00	45.61	51.92

*SECNO 2235.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	HTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2235.00	2.88	901.98	0.00	901.12	902.72	.74	3.28	.10	903.30
315.	0.	315.	0.	0.	46.	0.	6.	3.	903.50
.16	0.00	6.90	0.00	.050	.032	.050	.032	899.10	67.48
.010573	440.	440.	440.	3	0	0	0.00	25.47	92.94

*SECNO 2236.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2236.00	2.89	901.99	0.00	901.21	902.73	.74	.01	.00	903.30
315.	0.	315.	0.	0.	46.	0.	6.	3.	903.50
.16	0.00	6.89	0.00	.050	.032	.050	.032	899.10	67.47
.010538	1.	1.	1.	0	0	0	0.00	25.48	92.95

*SECNO 2242.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>102 SEC. J

2242.00	3.24	902.34	0.00	901.41	902.85	.51	.05	.07	903.30
315.	0.	315.	0.	0.	55.	0.	6.	3.	903.50
.16	0.00	5.72	0.00	.050	.032	.050	.032	899.10	66.62
.006314	6.	6.	6.	5	0	0	0.00	27.66	94.28

*SECNO 2243.000

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2243.00	3.25	902.35	0.00	901.42	902.85	.50	.01	.00	903.30
315.	0.	315.	0.	0.	55.	0.	6.	3.	903.50
.16	0.00	5.70	0.00	.050	.032	.050	.032	899.10	66.60
.006256	1.	1.	1.	0	0	0	0.00	27.70	94.30

*SECNO 2420.000

3265 DIVIDED FLOW

3470 ENCROACHMENT STATIONS= 85.0 131.0 TYPE= 1 TARGET= 46.000

2420.00	3.51	903.41	0.00	902.38	903.58	.16	.62	.10	899.90
315.	63.	185.	67.	29.	46.	32.	6.	3.	900.00
.18	2.14	3.84	2.11	.050	.032	.050	.032	899.90	85.00
.002241	177.	177.	177.	2	0	0	0.00	45.60	131.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	SWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.71	2.85	0.00	14.00	0.00	42.00	0.00	899.90	899.90

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*SECNO 2450.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

PRESSURE AND WEIR FLOW

 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD
                                                                AREA
  904.91     904.08     0.00      56.      258.       42.       43.      903.00     903.60

3470 ENCROACHMENT STATIONS=      85.0     131.0  TYPE=     1  TARGET=      46.000

          U/S FACE OF BRIDGE WAY CULVERT,  BS>103                          SEC. K

 2450.00     4.43    904.33     0.00    902.55    904.42      .09      .84      0.00    899.90
    315.      64.      178.      73.      43.       61.       47.       6.        3.     900.00
     .18     1.49      2.91     1.56     .060      .032      .060     .032    899.90     85.00
 .001010      30.       30.      30.        2         0         3     0.00     46.00    131.00

*SECNO 2530.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=        .0      85.0  TYPE=     1  TARGET=      84.999

          80) U/S FROM U/S FACE OF BRIDGE WAY CULVERT,  VS>104             SEC. L

 2530.00     3.38    904.58    904.58    903.81    905.10      .52      .24       .22    906.50
    315.       0.      195.     120.       0.       27.       56.       7.        3.     902.60
     .19     0.00      7.18     2.16     .090      .045      .100     .032    901.20     21.46
 .018925      60.       80.     125.       20        14         0     0.00     63.54     85.00

*SECNO 2830.000

3470 ENCROACHMENT STATIONS=     220.0     470.0  TYPE=     1  TARGET=     250.000

          MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

 2830.00     3.68    906.58     0.00    905.95    906.64      .06     1.40       .14    905.00
    315.     100.      130.      85.     113.       44.      123.       8.        4.     905.00
     .24      .89      2.93      .69     .090      .045      .100     .034    902.90    220.00
 .002014     380.      300.     280.        7         0         0     0.00    221.68    441.60

*SECNO 3030.000

3470 ENCROACHMENT STATIONS=     320.0     600.0  TYPE=     1  TARGET=    -320.000

          MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

 3030.00     [illegible]
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315.	159.	133.	23.	150.	37.	27.	9.	5.	905.80
.27	1.06	3.61	.85	.100	.046	.100	.034	904.00	320.00
.004026	250.	200.	125.	3	0	0	0.00	175.81	495.81

*SECNO 3085.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

3085.00	3.09	907.39	0.00	906.83	907.49	.11	.25	.01	906.10
315.	156.	137.	22.	142.	36.	25.	9.	5.	906.10
.27	1.10	3.81	.89	.100	.046	.100	.034	904.30	320.00
.004623	65.	55.	35.	2	0	0	0.00	174.44	494.44

*SECNO 3130.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3130.00	3.09	907.64	0.00	907.08	907.70	.06	.20	.01	905.90
315.	187.	116.	13.	174.	38.	24.	10.	5.	906.50
.28	1.07	3.08	.55	.100	.046	.100	.035	904.55	52.95
.002853	65.	65.	30.	2	0	0	0.00	173.81	226.77

*SECNO 3180.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3180.00	2.97	907.77	0.00	907.19	908.10	.32	.26	.13	906.50
315.	73.	201.	42.	67.	36.	25.	10.	6.	905.90
.29	1.09	5.63	1.67	.100	.046	.100	.035	906.80	50.43
.009878	65.	50.	35.	2	0	0	0.00	142.32	192.75

*SECNO 3230.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

850) D/S FROM D/S FACE OF FARMINGTON ROAD. VS>105 SEC. H

3230.00	3.22	908.32	908.32	907.65	908.71	.39	.54	.03	907.60
315.	65.	219.	31.	64.	37.	24.	10.	6.	907.10
.29	1.01	5.95	1.28	.100	.046	.100	.035	905.10	356.13
.011239	65.	50.	35.	3	8	0	0.00	181.41	537.55

*SECNO 3530.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3530.00	3.77	910.27	0.00	909.66	910.39	.13	1.61	.08	908.50
315.	97.	172.	46.	101.	46.	42.	11.	7.	908.50
.32	.96	3.74	1.09	.085	.045	.075	.036	906.50	294.02
.007117	240	300	300	4	0	0	0.00	193.76	437.8

*SECNO 3795.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3795.00	3.37	911.07	0.00	910.46	911.21	.14	.81	.01	909.50
315.	116.	163.	36.	114.	41.	35.	12.	8.	909.50
.35	1.01	4.00	1.02	.085	.045	.075	.037	907.70	226.67
.004138	150.	265.	265.	3	0	0	0.00	226.74	453.41

*SECNO 4030.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 420.0 655.0 TYPE= 1 TARGET= 235.000

50) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>106 SEC. N

4030.00	3.61	912.31	912.27	911.80	912.61	.30	1.32	.08	911.70
315.	95.	207.	13.	84.	39.	16.	13.	9.	911.70
.36	1.12	5.36	.84	.075	.043	.075	.037	908.70	420.00
.008187	230.	235.	230.	5	8	0	0.00	235.00	655.00

*SECNO 4080.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4080.00	5.03	912.73	0.00	912.32	912.76	.01	.05	.09	910.70
260.	149.	83.	28.	289.	61.	59.	13.	9.	910.70
.38	.51	1.36	.47	.075	.043	.075	.037	907.70	440.00
.000285	50.	50.	50.	2	0	0	0.00	200.00	640.00

*SECNO 4081.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4081.00	5.02	912.72	0.00	912.32	912.74	.02	.00	.00	910.70
260.	132.	103.	25.	290.	62.	59.	13.	9.	910.70
.38	.46	1.67	.42	.080	.033	.080	.037	907.70	440.00
.000254	1.	1.	1.	0	0	0	0.00	200.00	640.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.73	3.02	0.00	6.11	0.00	33.00	0.00	907.70	907.70

*SECNO 4131.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
915.36	913.53	0.00	107.	153.	33.	32.	913.00	913.00

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

U/S FACE OF FARMINGTON ROAD CULVERT, BS>107 SEC. 0

4131.00	5.88	913.58	0.00	912.43	913.64	.05	.39	0.00	909.50
260.	77.	116.	67.	124.	43.	102.	14.	10.	909.50
.39	.62	2.72	.66	.080	.033	.080	.037	907.70	440.00
.000481	50.	50.	50.	2	0	5	0.00	200.00	640.00

*SECNO 4132.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4132.00	5.90	913.60	0.00	912.49	913.64	.04	.00	.00	909.50
260.	84.	106.	70.	125.	43.	103.	14.	10.	909.50
.39	.67	2.48	.68	.085	.042	.090	.037	907.70	440.00
.000647	1.	1.	1.	1	0	0	0.00	200.00	640.00

*SECNO 4442.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4442.00	4.10	913.90	0.00	913.27	914.07	.17	.37	.06	912.90
260.	9.	229.	21.	16.	65.	39.	15.	11.	912.90
.42	.58	3.51	.54	.085	.042	.090	.037	909.30	378.05
.002718	300.	310.	360.	2	0	0	0.00	134.46	512.51

*SECNO 4772.000

3670 ENCROACHMENT STATIONS= 530.0 730.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4772.00	3.32	915.12	0.00	914.25	915.36	.24	1.25	.04	914.90
260.	48.	210.	1.	44.	48.	4.	16.	12.	914.90
.44	1.11	4.38	.30	.085	.040	.085	.037	911.80	530.00
.005814	300.	330.	330.	3	0	0	0.00	114.43	644.43

*SECNO 5122.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

5122.00	3.41	917.31	0.00	916.59	917.72	.41	2.28	.08	917.00
260.	0.	259.	0.	1.	50.	1.	16.	12.	917.00
.46	.44	5.14	.44	.085	.040	.085	.038	913.90	363.73
.007552	300.	350.	350.	3	0	0	0.00	36.86	400.59

*SECNO 5412.000

1280) U/S FROM U/S FACE OF FARMINGTON ROAD, VS>108 SEC. P

5412.00	3.66	919.36	0.00	918.32	919.72	.36	1.99	.01	919.00
260.	1.	259.	0.	2.	53.	0.	17.	13.	919.50
.48	.45	4.85	0.00	.085	.040	.085	.038	915.70	585.86
.006252	200.	290.	400.	1	0	0	0.00	32.95	618.81

*SECNO 5837.000

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 5837.00     3.92   921.67     0.00   920.64   921.95      .29     2.21      .02   921.05
    260.       3.     257.       0.       5.      60.       1.      17.      13.   921.55
     .51      .53     4.32      .17     .085     .040     .085     .038   917.75   579.58
 .004371     500.     425.     350.        3        0        0     0.00    54.16   633.73

*SECNO 6262.000
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA     LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

3470 ENCROACHMENT STATIONS=     340.0     620.0  TYPE=     1  TARGET=     280.000

        25) D/S FROM D/S FACE OF PRIVATE DRIVEWAY BRIDGE,  VS>109       SEC. Q

 6262.00     2.58   922.38     0.00   921.42   922.40      .02      .37      .08   924.30
    260.       0.     260.       0.       0.     205.       0.      19.      14.   924.20
     .60     0.00     1.27     0.00     .075     .034     .075     .038   919.80   506.41
 .000358     500.     425.     350.        4        0        0     0.00   107.42   613.83

*SECNO 6272.000

3301 HV CHANGED MORE THAN HVINS

   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA     LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     340.0     610.0  TYPE=     1  TARGET=     270.000
 6272.00     3.28   925.28   925.28   924.12   926.02      .73      .01      .35   924.80
    260.       1.     250.       9.       1.      36.      10.      19.      14.   924.80
     .60      .75     7.00      .90     .075     .034     .075     .038   922.00   475.96
 .009685      10.      10.      10.       20       11        0     0.00    57.71   533.67

*SECNO 6287.000

3470 ENCROACHMENT STATIONS=     340.0     600.0  TYPE=     1  TARGET=     260.000
 6287.00     3.96   925.96     0.00   924.75   926.23      .27      .07      .14   924.80
    260.       7.     213.      39.      10.      47.      48.      19.      14.   924.80
     .60      .76     4.58      .82     .075     .034     .075     .038   922.00   459.44
 .002909      15.      15.      15.        6        0        0     0.00   116.01   575.45

*SECNO 6288.000

4575 CRITICAL DEPTH ASSUMED BELOW ELLC OF   924.800 EGLC=   926.139 EGC=   926.146 WSEL=   924.787

3370 NORMAL BRIDGE,NRD=  8 MIN ELTRD=  925.30 MAX ELLC=  924.80

3470 ENCROACHMENT STATIONS=     340.0     600.0  TYPE=     1  TARGET=     260.000
 6288.00     3.93   925.93   924.80   924.76   926.27      .35      .01      .04   924.80
    260.      14.     201.      46.       7.      38.      23.      19.      14.   924.80
     .60     2.07     5.28     1.95     .042     .032     .042     .038   922.00   460.60
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*SECNO 6300.000
3370 NORMAL BRIDGE,NRD=  8 MIN ELTRD=  925.30 MAX ELLC=  924.60

3470 ENCROACHMENT STATIONS=     340.0     600.0  TYPE=     1  TARGET=     260.000
          U/S FACE OF PRIVATE DRIVEWAY BRIDGE,  BS>110                    SEC. R
 6300.00     4.33   926.33     0.00   924.86   926.42     .10     .07     .08   924.80
    260.       30.      137.      92.      22.      44.      59.      19.      14.   924.80
     .60      1.40     3.09     1.57     .042     .032     .042     .038   922.00   424.87
 .003501       12.      12.      12.        5        0        0   -33.70   175.12   600.00

*SECNO 6301.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        MV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=     340.0     600.0  TYPE=     1  TARGET=     260.000
 6301.00     4.31   926.31     0.00   925.12   926.44     .14     .00     .02   924.80
    260.       18.      182.      60.      23.      52.      80.      19.      14.   924.80
     .60       .77     3.50      .75     .070     .042     .090     .038   922.00   426.71
 .002230         1.       1.       1.        2        0        0     0.00   173.28   600.00


*SECNO 6601.000
          MANUFACTURED SECTION FROM 2-FT CONTOUR MAP
 6601.00     3.16   927.36   927.23   926.73   927.70     .43    1.19     .15   926.30
    260.       33.      206.      21.      27.      35.      16.      20.      15.   926.20
     .62      1.22     5.85     1.29     .075     .042     .075     .038   926.20   491.27
 .008794       250.     300.     350.        4       16        0     0.00    93.42   586.70

*SECNO 6901.000
          MANUFACTURED SECTION FROM 2-FT CONTOUR MAP
 6901.00     3.31   929.71     0.00   928.90   930.01     .30    2.19     .04   928.50
    260.       35.      190.      35.      32.      37.      30.      20.      16.   928.40
     .64      1.11     5.08     1.17     .075     .042     .075     .038   926.40   387.55
 .006134       300.     300.     300.        4        0        0     0.00   112.32   499.87

*SECNO 7261.000
          MANUFACTURED SECTION FROM 2-FT CONTOUR MAP
 7261.00     3.09   932.09     0.00   931.52   932.38     .29    2.37     .00   931.10
    260.       72.      177.      11.      65.      34.      10.      21.      17.   931.00
     .67      1.11     5.16     1.17     .075     .042     .075     .038   929.00   188.37
 .007069       360.     360.     360.        4        0        0     0.00   152.93   341.30


*SECNO 7561.000
          1260) U/S FROM U/S FACE OF PRIVATE DRIVEWAY BRIDGE,  VS>111      SEC. S
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7561.00	3.04	934.24	0.00	933.67	934.60	.36	2.19	.04	933.30
260.	31.	188.	41.	24.	34.	30.	22.	17.	933.20
.68	1.27	5.62	1.36	.075	.042	.075	.038	931.20	355.03
.008655	200.	300.	300.	4	0	0	0.00	110.82	463.85

*SECNO 8636.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

365) D/S FROM D/S FACE OF NASHWAY DR. CULVERT, VS>112 SEC. T

8636.00	2.40	942.60	0.00	942.21	942.86	.25	8.22	.03	941.80
260.	36.	130.	94.	37.	24.	59.	24.	21.	941.60
.77	.99	5.53	1.60	.080	.032	.065	.038	940.20	113.73
.006808	1075.	1075.	1075.	4	0	0	0.00	172.41	291.14

*SECNO 9000.000

3470 ENCROACHMENT STATIONS= 396.0 531.0 TYPE= 1 TARGET= 135.000

9000.00	3.75	945.05	0.00	944.56	945.18	.13	2.28	.06	944.30
260.	26.	105.	129.	20.	26.	85.	25.	22.	944.30
.81	1.28	4.10	1.52	.060	.040	.070	.038	941.30	396.00
.005800	364.	364.	364.	3	0	0	0.00	135.00	531.00

*SECNO 9001.000

3280 CROSS SECTION 9001.00 EXTENDED .04 FEET

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD= 944.00 MAX ELLC= 943.20

3470 ENCROACHMENT STATIONS= 396.0 531.0 TYPE= 1 TARGET= 135.000

9001.00	3.84	945.14	0.00	944.70	945.20	.07	.00	.02	944.30
260.	36.	36.	189.	23.	15.	92.	25.	22.	944.30
.81	1.53	2.43	2.05	.040	.023	.040	.038	941.30	396.00
.003108	1.	1.	1.	2	0	0	-11.30	135.00	531.00

*SECNO 9038.000

3280 CROSS SECTION 9038.00 EXTENDED .15 FEET

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD= 944.00 MAX ELLC= 943.20

3470 ENCROACHMENT STATIONS= 396.0 531.0 TYPE= 1 TARGET= 135.000

U/S FACE OF NASHWAY DR. CULVERT, BS>113 SEC. U

BT AND GR STATIONS HAVE BEEN SKEWED BY 0.90

9038.00	3.95	945.25	0.00	944.84	945.30	.05	.10	.00	944.30
260.	39.	33.	100.	27.	16.	102.	25.	22.	944.30
.82	1.42	2.11	1.85	.040	.023	.040	.038	941.30	396.00
.002182	37.	37.	37.	2	0	0	-11.30	135.00	531.00

*SECNO 9039.000
3280 CROSS SECTION 9039.00 EXTENDED .13 FEET

3470 ENCROACHMENT STATIONS= 396.0 531.0 TYPE= 1 TARGET= 135.000

9039.00	3.93	945.23	0.00	944.82	945.33	.10	.00	.02	944.30
260.	27.	101.	133.	26.	27.	100.	25.	22.	944.30
.82	1.02	3.77	1.32	.090	.045	.090	.038	941.30	396.00
.005826	1.	1.	1.	2	0	0	0.00	135.00	531.00

*SECNO 9116.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

77) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>114 SEC. V

9116.00	3.76	945.46	0.00	944.97	945.57	.11	.23	.00	942.80
260.	47.	175.	38.	52.	55.	55.	26.	23.	943.70
.82	.91	3.20	.69	.085	.043	.085	.038	941.70	21.10
.001868	77.	77.	77.	2	0	0	0.00	118.12	139.22

*SECNO 9466.000

427) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>115 SEC. W

9466.00	3.54	946.04	0.00	945.30	946.09	.05	.50	.02	944.00
165.	30.	97.	37.	45.	45.	67.	27.	24.	944.20
.89	.67	2.16	.56	.070	.042	.080	.038	962.50	18.66
.000982	350.	350.	350.	3	0	0	0.00	132.15	150.62

*SECNO 10071.000

1032) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>116 SEC. X

10071.00	3.84	946.24	0.00	945.47	946.24	.00	.14	.01	947.10
165.	0.	25.	140.	0.	40.	549.	32.	27.	945.00
1.43	0.00	.63	.25	.070	.042	.095	.038	942.40	61.47
.000103	605.	605.	605.	3	0	0	0.00	324.49	385.97

*SECNO 10831.000

15)D/S FROM D/S FACE OF WEST MAPLE ROAD CULVERT, VS>117 SEC. Y

10831.00	2.53	946.43	0.00	945.64	946.49	.06	.22	.03	946.50
165.	77.	67.	21.	84.	23.	39.	38.	31.	945.70
1.55	.91	2.91	.54	.100	.045	.100	.039	943.90	533.46
.003032	760.	760.	760.	2	0	0	0.00	165.08	698.53

*SECNO 10845.000

3470 ENCROACHMENT STATIONS= 512.0 730.0 TYPE= 1 TARGET= 218.000

10845.00	6.21	946.51	0.00	945.70	946.51	.00	.00	.02	940.90
165.	73.	26.	66.	429.	64.	428.	39.	31.	942.10
1.57	.17	.42	.15	.095	.045	.095	.039	940.30	512.00
.000[illegible]	1.	1.	1.	2	0	0	0.00	218.00	730. 0

*SECNO 10846.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=		512.0	730.0	TYPE=	1	TARGET=	218.000		
10846.00	6.21	946.51	0.00	945.71	946.51	.00	.00	.00	940.90
165.	66.	38.	60.	430.	64.	428.	39.	31.	942.10
1.57	.15	.60	.14	.080	.024	.080	.039	940.30	512.00
.000010	1.	1.	1.	0	0	0	0.00	218.00	730.00

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.30	3.02	0.00	3.80	0.00	11.40	0.00	940.70	940.30

*SECNO 10888.000

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
953.99	947.40	0.00	69.	96.	11.	11.	943.70	948.60

U/S FACE OF WEST MAPLE ROAD CULVERT, BS>118 SEC. Z

10888.00	8.35	949.05	0.00	947.16	949.06	.01	2.55	0.00	942.20
165.	56.	61.	48.	177.	40.	148.	39.	31.	942.20
1.59	.32	1.53	.33	.080	.024	.080	.038	940.70	527.58
.000061	42.	42.	42.	1	0	8	0.00	213.99	741.57

*SECNO 10889.000

10889.00	8.36	949.06	0.00	947.16	949.07	.01	.00	.00	942.20
165.	65.	46.	56.	177.	40.	148.	39.	31.	942.20
1.59	.37	1.10	.38	.070	.034	.070	.038	940.70	528.07
.000064	1.	1.	1.	1	0	0	0.00	213.15	741.23

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
*****************************************************

T1      5850-10, FIS - WEST BLOOMFIELD TWP,  PM # RICHARD ZANOTTI
T2      500-YEAR FLOOD
T3      PEBBLE CREEK

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC   MVINS    O        WSEL     FQ

      -1.       5.       0.       0.  0.000000     0.00      0.0      0.   893.950   0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

    15.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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*PROF 4

CCHV=    .300 CEHV=    .500
*SECNO .000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

3470 ENCROACHMENT STATIONS=     220.0     335.0  TYPE=     1  TARGET=     115.000
          U/S FACE OF 14 MILE ROAD, CORPORATE BOUNDARY                          SEC. A
     0.00      7.25    893.95      0.00    890.16    894.03       .08      0.00      0.00    890.00
      830.      402.      347.       81.      264.      111.       56.        0.        0.    889.40
     0.00      1.53      3.11      1.45      .055      .040      .055     0.000    886.70    220.00
  .000681        0.        0.         0         0         0         0      0.00    115.00    335.00

*SECNO 10.000
3470 ENCROACHMENT STATIONS=     210.0     345.0  TYPE=     1  TARGET=     135.000
          10) U/S FROM U/S FACE OF 14 MILE ROAD, VS>94                          SEC. B
    10.00      7.28    893.98      0.00    890.34    894.05       .06       .01       .01    890.00
      830.      410.      312.       108.      299.      112.       84.        0.        0.    889.40
      .00      1.37      2.79      1.28      .055      .040      .055      .036    886.70    210.00
  .000544       10.       10.        10.         2         0         0      0.00    135.00    345.00

*SECNO 95.000
3470 ENCROACHMENT STATIONS=      90.0     220.0  TYPE=     1  TARGET=     130.000
          95) U/S FROM U/S FACE OF 14 MILE ROAD, VS>95                          SEC. C
    95.00      7.33    894.03      0.00    890.57    894.11       .08       .05       .01    890.00
      830.      122.      345.       363.      133.      113.      226.        1.        0.    889.40
      .01       .92      3.06      1.61      .065      .037      .055      .033    886.70     90.00
  .000551       125.      85.        75.         1         0         0      0.00    130.00    220.00

*SECNO 165.000
3470 ENCROACHMENT STATIONS=     100.0     220.0  TYPE=     1  TARGET=     120.000
   165.00      6.29    894.09      0.00    890.60    894.16       .07       .05       .00    887.80
      830.      348.      258.       224.      239.       89.      119.        2.        1.    888.00
      .02      1.45      2.91      1.89      .065      .037      .055      .034    887.80    100.00
  .000801       100.      70.        55.         2         0         0      0.00    120.00    220.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.79      3.04      0.00     14.20      0.00     42.60      0.00    887.80    887.80

*SECNO 191.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST
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PRESSURE AND WEIR FLOW

EGPRS	EGLWC	WS	QWEIR	QPR	SAREA	TRAPEZOID AREA	ELLC	ELTRD
904.64	894.16	0.00	725.	105.	43.	45.	891.00	891.40

3470 ENCROACHMENT STATIONS= 100.0 220.0 TYPE= 1 TARGET= 120.000

U/S FACE OF BRIDGE WAY CULVERT, BS>96 SEC. D

191.00	6.40	896.20	0.00	890.71	894.26	.05	.10	0.00	887.80
830.	417.	188.	225.	248.	90.	122.	2.	1.	888.00
.03	1.68	2.08	1.84	.035	.032	.035	.033	887.80	100.00
.000298	26.	26.	26.	2	0	7	0.00	120.00	220.00

*SECNO 384.000

3301 HV CHANGED MORE THAN HVINS

384.00	4.50	893.80	893.59	891.56	894.99	1.18	.16	.57	893.20
830.	4.	824.	2.	3.	94.	2.	4.	1.	893.20
.03	1.27	8.76	1.27	.050	.032	.050	.033	889.30	14.91
.009043	193.	193.	193.	6	18	0	0.00	46.58	61.49

*SECNO 385.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 894.80

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

385.00	4.48	893.78	893.78	891.57	895.11	1.33	.01	.07	893.20
830.	5.	822.	3.	3.	89.	2.	4.	1.	893.20
.03	1.68	9.29	1.67	.050	.032	.050	.033	889.30	15.29
.016537	1.	1.	1.	2	13	0	-4.80	45.95	61.24

*SECNO 391.000
3280 CROSS SECTION 391.00 EXTENDED .04 FEET

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 894.80

3685 20 TRIALS ATTEMPTED WSEL,CWSEL

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>97 SEC. E

391.00	5.44	894.74	893.78	891.81	895.40	.66	.09	.20	893.20
830.	56.	738.	36.	20.	108.	13.	4.	1.	893.20
.03	1.84	6.84	1.79	.050	.032	.050	.033	889.30	0.00

.012454	6.	6.	6.	20	13	0	-14.26	71.54	71.54

*SECNO 392.000
3280 CROSS SECTION 392.00 EXTENDED .22 FEET

392.00	5.61	894.91	0.00	891.82	895.44	.53	.01	.06	893.20
030.	37.	770.	23.	24.	127.	16.	4.	1.	893.20
.03	1.55	6.05	1.43	.050	.032	.050	.032	889.30	0.00
.002876	1.	1.	1.	2	0	0	0.00	73.38	73.38

*SECNO 785.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

60) D/S FROM D/S FACE OF PEBBLE PT CULVERT, VS>98 SEC. F

785.00	5.64	896.14	0.00	893.62	897.16	1.02	1.48	.25	892.80
830.	118.	686.	26.	34.	78.	9.	5.	2.	893.60
.05	3.45	8.80	2.81	.050	.032	.050	.032	890.50	9.31
.005108	393.	393.	393.	3	0	0	0.00	40.69	50.00

*SECNO 845.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 80.0 145.0 TYPE= 1 TARGET= 65.000

845.00	6.70	897.30	0.00	893.84	897.59	.29	.21	.22	892.00
830.	266.	396.	169.	90.	74.	54.	5.	2.	891.30
.05	2.96	5.36	3.14	.050	.032	.050	.032	890.60	80.00
.002445	60.	60.	60.	3	0	0	0.00	65.00	145.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	OAREA	SS	ELCHU	ELCHD
	0.00	1.74	3.02	0.00	12.00	0.00	46.00	0.00	890.60	890.60

*SECNO 871.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
905.38	897.59	0.00	591.	238.	48.	48.	896.60	895.60

3470 ENCROACHMENT STATIONS= 80.0 145.0 TYPE= 1 TARGET= 65.000

U/S FACE OF PEBBLE PT CULVERT, BS>99 SEC. G

871.00	7.06	897.66	0.00	894.04	897.97	.31	.38	0.00	892.00
830.	237.	446.	166.	103.	78.	60.	5.	2.	891.30
.05	2.31	5.70	2.43	.070	.032	.070	.032	890.60	80.00
.002556	26.	26.	26.	2	0	4	0.00	65.00	145.00

*SECNO 1325.000

454) U/S FROM U/S FACE OF PEBBLE PT, VS>100 SEC. H

1325.00	5.30	898.80	0.00	896.05	899.09	.29	1.11	.01	915.00
830.	0.	830.	0.	0.	193.	0.	7.	2.	915.00
.08	0.00	4.31	0.00	.050	.033	.060	.032	893.50	0.00
.002358	454.	456.	454.	1	0	0	0.00	68.21	68.21

*SECNO 1795.000

3301 HV CHANGED MORE THAN HVINS

924) U/S FROM U/S FACE OF PEBBLE PT, VS>101 SEC. I

1795.00	5.04	900.24	0.00	897.92	901.08	.83	1.71	.27	895.70
830.	248.	374.	207.	59.	37.	60.	9.	3.	896.70
.10	4.23	10.03	3.47	.050	.032	.050	.032	895.20	0.00
.006381	470.	470.	470.	2	0	0	0.00	65.70	65.70

*SECNO 2235.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2235.00	4.41	903.51	903.35	901.12	904.84	1.33	3.51	.25	903.30
830.	0.	830.	0.	1.	90.	0.	11.	4.	903.50
.12	.66	9.26	.03	.050	.032	.050	.032	899.10	59.22
.010272	440.	440.	440.	4	11	0	0.00	36.98	96.20

*SECNO 2236.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2236.00	4.50	903.60	903.60	901.21	904.97	1.37	.01	.02	903.30
830.	1.	829.	0.	2.	88.	0.	11.	4.	903.50
.12	.87	9.39	.42	.050	.032	.050	.032	899.10	56.02
.010756	1.	1.	1.	2	13	0	-4.20	43.82	99.84

*SECNO 2242.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>102 SEC. J

2242.00	5.39	904.49	0.00	901.41	905.21	.72	.05	.19	903.30	
830.	27.	775.	28.	11.	110.	18.	11.	4.	903.50	
.12	2.37	7.03	1.54	.050	.032	.050	.032	899.10	55.00	
.006823	6.	6.	6.	6	0	0	-8.90	78.17	133.17	

*SECNO 2243.000

3280.CROSS SECTION 2243.00 EXTENDED .04 FEET

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2243.00	5.63	904.73	0.00	901.42	905.27	.54	.00	.05	903.30	
830.	24.	772.	34.	14.	127.	29.	11.	4.	903.50	
.12	1.73	6.10	1.17	.050	.032	.050	.032	899.10	55.00	
.002807	1.	1.	1.	2	0	0	0.00	86.00	141.00	

*SECNO 2420.000

3470 ENCROACHMENT STATIONS= 85.0 131.0 TYPE= 1 TARGET= 46.000

2420.00	5.60	905.50	0.00	902.38	905.00	.30	.46	.07	899.90	
830.	200.	411.	219.	61.	78.	66.	11.	4.	900.00	
.13	3.29	5.26	3.30	.050	.032	.050	.032	899.90	85.00	
.002386	177.	177.	177.	2	0	0	0.00	46.00	131.00	

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.71	2.85	0.00	14.00	0.00	42.00	0.00	899.90	899.90

*SECNO 2450.000

3280.CROSS SECTION 2450.00 EXTENDED .35 FEET

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	SLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
915.87	905.80	0.00	563.	268.	42.	43.	903.00	903.60

3470 ENCROACHMENT STATIONS= 85.0 131.0 TYPE= 1 TARGET= 46.000

U/S FACE OF BRIDGE WAY CULVERT, BS>103 SEC. K

2450.00	6.45	906.35	0.00	902.55	906.58	.23	.78	0.00	899.90
830.	180.	425.	225.	74.	90.	81.	12.	4.	900.00
.13	2.45	4.71	2.79	.060	.032	.060	.032	899.90	85.00
.001576	30.	30.	30.	2	0	4	0.00	46.00	131.00

*SECNO 2530.000
3280.CROSS SECTION 2530.00 EXTENDED .58 FEET

3470 ENCROACHMENT STATIONS= .0 85.0 TYPE= 1 TARGET= 84.999

80) U/S FROM U/S FACE OF BRIDGE WAY CULVERT. VS>104 SEC. 1

2530.00	5.38	906.58	0.00	903.81	906.95	.37	.30	.07	906.50
830.	0.	374.	456.	0.	57.	158.	12.	4.	902.60
.14	.18	6.58	2.89	.090	.045	.100	.032	901.20	14.28
.008915	60.	80.	125.	2	0	0	0.00	70.72	85.00

*SECNO 2830.000

3470 ENCROACHMENT STATIONS= 220.0 470.0 TYPE= 1 TARGET= 250.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

2830.00	5.06	907.96	0.00	905.95	908.02	.06	.98	.09	905.00
830.	291.	221.	318.	229.	65.	308.	15.	5.	905.00
.18	1.27	3.40	1.03	.090	.045	.100	.034	902.90	220.00
.001633	380.	300.	280.	2	0	0	0.00	249.13	469.13

*SECNO 3030.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3030.00	4.40	908.40	0.00	906.57	908.51	.11	.47	.02	905.80
830.	478.	243.	109.	306.	56.	91.	17.	6.	905.80
.21	1.56	4.38	1.20	.100	.046	.100	.034	906.00	320.00
.003414	250.	200.	125.	2	0	0	0.00	211.91	531.91

*SECNO 3085.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

3085.00	4.31	908.61	0.00	906.83	908.73	.12	.21	.01	906.10
830.	477.	248.	105.	295.	54.	85.	18.	6.	906.10
.22	1.62	4.58	1.24	.100	.046	.100	.034	904.30	320.00
.003855	65.	55.	35.	2	0	0	0.00	208.05	528.05

*SECNO 3130.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	EL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3130.00	4.28	908.83	0.00	907.08	908.93	.09	.19	.01	905.90
830.	504.	226.	100.	328.	55.	96.	19.	7.	906.50
.22	1.54	4.08	1.04	.100	.046	.100	.035	904.55	27.49
.002995	65.	45.	30.	2	0	0	0.00	233.26	260.75

*SECNO 3190.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3180.00	4.19	908.99	0.00	907.19	909.24	.25	.24	.08	906.50
830.	380.	324.	126.	223.	54.	72.	19.	7.	905.90
.23	1.70	6.00	1.76	.100	.046	.100	.035	904.80	15.98
.006451	65.	50.	35.	0	0	0	0.00	211.56	227.54

*SECNO 3230.000

850) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>105 SEC. M

3230.00	4.26	909.36	0.00	907.65	909.65	.28	.39	.02	907.60
830.	365.	335.	131.	212.	52.	76.	20.	7.	907.10
.23	1.72	6.38	1.71	.100	.046	.100	.035	905.10	330.53
.008054	65.	50.	35.	2	0	0	0.00	231.58	562.11

*SECNO 3530.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3530.00	4.65	911.15	0.00	909.66	911.31	.16	1.62	.04	908.50
830.	363.	295.	173.	258.	59.	108.	22.	9.	908.50
.26	1.41	4.97	1.60	.085	.045	.075	.036	906.50	192.05
.003914	260.	300.	390.	2	0	0	0.00	337.86	529.91

*SECNO 3795.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3795.00	4.32	912.02	0.00	910.46	912.15	.13	.84	.01	909.50
830.	415.	264.	150.	309.	55.	108.	24.	11.	909.50
.29	1.34	4.82	1.39	.085	.045	.075	.037	907.70	124.56
.004038	150.	265.	265.	2	0	0	0.00	436.26	560.30

*SECNO 4030.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	ARDB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 620.0 655.0 TYPE= 1 TARGET= 235.000

50) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>106 SEC. N

4030.00	4.44	913.14	0.00	911.80	913.36	.22	1.16	.04	911.70
830.	432.	301.	97.	226.	52.	56.	26.	13.	911.70
.31	1.91	5.78	1.72	.075	.043	.075	.037	908.70	420.00
.006425	230.	235.	230.	2	0	0	0.00	235.00	655.00

*SECNO 4080.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4080.00	5.77	913.47	0.00	912.32	913.51	.04	.10	.05	910.70
705.	432.	190.	84.	401.	73.	85.	27.	13.	910.70
.31	1.08	2.58	.99	.075	.043	.075	.037	907.70	440.00
.000811	50.	50.	50.	2	0	0	0.00	200.00	640.00

*SECNO 4081.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4081.00	5.76	913.46	0.00	912.32	913.53	.07	.00	.01	910.70
705.	391.	239.	76.	401.	73.	85.	27.	13.	910.70
.32	.97	3.25	.90	.080	.033	.080	.037	907.70	440.00
.000759	1.	1.	1.	1	0	0	0.00	200.00	640.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.73	3.02	0.00	6.11	0.00	33.00	0.00	907.70	907.70

*SECNO 4131.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
932.81	913.53	0.00	562.	145.	33.	32.	913.00	913.00

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

U/S FACE OF FARMINGTON ROAD CULVERT, BS>107 SEC. 0

4131.00	6.37	914.07	0.00	912.43	914.28	.21	.75	0.00	909.50
705.	243.	267.	195.	187.	47.	133.	27.	13.	909.50
.32	1.29	5.74	1.47	.080	.033	.080	.037	907.70	440.00
.001922	50.	50.	50.	2	0	6	0.00	200.00	640.00

*SECNO 4132.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4132.00	6.65	914.15	0.00	912.49	914.30	.15	.00	.02	909.50
705.	269.	235.	201.	198.	47.	138.	27.	13.	909.50
.32	1.36	4.99	1.46	.085	.042	.090	.037	907.70	440.00
.002313	1.	1.	1.	2	0	0	0.00	200.00	640.00

*SECNO 4442.000

SECNO	DEPTH	QWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4442.00	5.18	914.98	0.00	913.27	915.21	.23	.88	.06	912.90
705.	95.	439.	171.	91.	91.	142.	30.	15.	912.90
.35	1.04	4.81	1.21	.085	.042	.090	.037	909.80	298.76
.003272	300.	310.	360.	2	0	0	0.00	240.92	539.68

*SECNO 4772.000

3470 ENCROACHMENT STATIONS= 530.0 730.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4772.00	4.43	916.23	0.00	914.25	916.48	.25	1.25	.01	914.90
705.	189.	392.	124.	108.	75.	109.	32.	16.	914.90
.37	1.76	5.25	1.13	.085	.040	.085	.038	911.80	530.00
.004652	300.	330.	330.	2	0	0	0.00	200.00	730.00

*SECNO 5122.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

5122.00	4.63	918.53	918.53	916.59	919.06	.53	1.93	.14	917.00
705.	41.	534.	130.	37.	80.	121.	34.	18.	917.00
.39	1.09	6.71	1.07	.085	.040	.085	.038	913.90	136.91
.006992	300.	350.	350.	3	6	0	0.00	311.47	597.94

*SECNO 5412.000

1280) U/S FROM U/S FACE OF FARMINGTON ROAD, VS>108 SEC. P

5412.00	4.92	920.62	920.43	918.32	921.25	.63	2.14	.05	919.00
705.	46.	582.	77.	29.	84.	59.	36.	20.	919.50
.40	1.55	6.97	1.30	.085	.040	.085	.038	915.70	565.36
.007214	200.	290.	400.	2	8	0	0.00	131.50	696.86

*SECNO 5837.000

5837.00	5.38	923.13	0.00	920.64	923.69	.36	2.16	.08	921.05
705.	61.	524.	120.	44.	95.	98.	38.	21.	921.55
.43	1.40	5.54	1.23	.085	.040	.085	.038	917.75	561.91
.003863	500.	425.	350.	2	0	0	0.00	145.98	707.89

*SECNO 6262.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 340.0 620.0 TYPE= 1 TARGET= 280.000

25) D/S FROM D/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>109 SEC. Q

6262.00	4.11	923.91	0.00	921.42	923.96	.05	.38	.09	924.30
705.	0.	705.	0.	0.	376.	0.	41.	23.	924.20
.49	0.00	1.87	0.00	.075	.034	.075	.038	919.80	501.31
.000389	500.	425.	350.	3	0	0	0.00	116.03	617.33

*SECNO 6272.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	UTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL>CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 340.0 610.0 TYPE= 1 TARGET= 270.000

6272.00	4.65	926.65	926.65	924.12	927.22	.57	.01	.26	924.80
705.	61.	438.	206.	48.	58.	119.	41.	23.	924.80
.49	1.27	7.61	1.73	.075	.034	.075	.038	922.00	391.98
.006046	10.	10.	10.	20	8	0	0.00	218.01	610.00

*SECNO 6287.000

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

6287.00	5.09	927.09	0.00	924.75	927.37	.28	.06	.09	924.80
705.	97.	370.	238.	98.	65.	160.	41.	23.	924.80
.49	1.00	5.71	1.49	.075	.034	.075	.038	922.00	347.09
.002921	15.	15.	15.	6	0	0	0.00	252.91	600.00

*SECNO 6288.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 925.30 MAX ELLC= 924.80

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

6288.00	5.37	927.37	0.00	924.76	927.44	.07	.00	.06	924.80
705.	204.	164.	337.	135.	61.	166.	41.	23.	924.80
.49	1.52	2.68	2.04	.042	.032	.042	.038	922.00	340.00
.001716	1.	1.	1.	3	0	0	-33.70	260.00	600.00

*SECNO 6300.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 925.30 MAX ELLC= 924.80

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

U/S FACE OF PRIVATE DRIVEWAY BRIDGE, BS>110 SEC. R

6300.00	5.40	927.40	0.00	924.86	927.46	.06	.02	.00	924.80
705.	207.	161.	337.	139.	62.	168.	41.	23.	924.80
.49	1.50	2.61	2.00	.042	.032	.042	.038	922.00	340.00
.001618	12.	12.	12.	0	0	0	-33.70	260.00	600.00

*SECNO 6301.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	UTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 340.0 600.0 TYPE= 1 TARGET= 260.000

6301.00	5.35	927.35	0.00	925.12	927.51	.15	.00	.05	924.80
705.	153.	313.	239.	134.	69.	187.	41.	23.	924.80
.49	1.14	4.54	1.28	.070	.042	.090	.038	922.00	340.00
.002590	1	1	1	3	0	0	0.00	260.00	600.00

*SECNO 6601.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

6601.00	4.27	928.47	0.00	926.73	928.87	.40	1.24	.12	926.30
705.	229.	351.	125.	113.	51.	60.	43.	24.	926.20
.51	2.02	6.93	2.09	.075	.042	.075	.038	924.20	441.46
.007594	250.	300.	350.	3	0	0	0.00	166.34	605.79

*SECNO 6901.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

6901.00	4.28	930.68	0.00	928.90	931.03	.35	2.14	.02	928.50
705.	197.	332.	176.	100.	51.	85.	45.	25.	928.40
.53	1.96	6.53	2.08	.075	.042	.075	.038	926.40	352.94
.006707	300.	300.	300.	3	0	0	0.00	162.15	515.09

*SECNO 7261.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

7261.00	4.05	933.05	0.00	931.52	933.30	.24	2.24	.03	931.10
705.	369.	278.	58.	191.	48.	33.	47.	27.	931.00
.56	1.93	5.82	1.77	.075	.042	.075	.038	929.00	171.47
.005787	360.	360.	360.	2	0	0	0.00	183.35	354.82

*SECNO 7561.000

1260) U/S FROM U/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>111 SEC. S

7561.00	3.81	935.01	0.00	933.67	935.55	.54	2.11	.15	933.30
705.	165.	352.	188.	69.	44.	73.	48.	28.	933.20
.58	2.38	7.94	2.57	.075	.042	.075	.039	931.20	330.64
.011894	200.	300.	300.	2	0	0	0.00	145.56	476.20

*SECNO 8636.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

365) D/S FROM D/S FACE OF NASHWAY DR. CULVERT, VS>112 SEC. T

8636.00	3.29	943.49	0.00	942.21	943.72	.23	8.08	.09	941.80
705.	190.	220.	295.	142.	35.	133.	54.	33.	941.60
.67	1.34	6.28	2.22	.080	.032	.065	.038	940.20	43.62
.005178	1075.	1075.	1075.	4	0	0	0.00	259.46	303.07

*SECNO 9000.000

3280 CROSS SECTION 9000.00 EXTENDED .74 FEET

3470 ENCROACHMENT STATIONS= 396.0 531.0 TYPE= 1 TARGET= 135.000

9000.00	4.54	945.84	0.00	944.56	946.03	.19	2.29	.01	944.30

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     .70      2.61      5.41      2.64      .060      .040      .070      .038    941.30    396.00
  .007812     364.      364.      364.         3         0         0      0.00    135.00    531.00

*SECNO 9001.000
3280 CROSS SECTION   9001.00 EXTENDED        .80 FEET

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  944.00 MAX ELLC=  943.20

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000
  9001.00      4.60    945.90      0.00    944.70    946.05       .14       .00       .01    944.30
     705.      135.       63.      507.       51.       20.      162.       56.       34.    944.30
      .70      2.67      3.13      3.13      .040      .023      .040      .038    941.30    396.00
  .003418        1.        1.        1.         2         0         0    -11.30    135.00    531.00

*SECNO 9038.000
3280 CROSS SECTION   9038.00 EXTENDED        .96 FEET

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  944.00 MAX ELLC=  943.20

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000
        U/S FACE OF NASHWAY DR. CULVERT,  BS>113                          SEC. U

        BT AND GR STATIONS HAVE BEEN SKEWED BY 0.90

  9038.00      4.74    946.04      0.00    944.84    946.16       .12       .11       .01    944.30
     705.      139.       60.      506.       56.       21.      175.       57.       34.    944.30
      .70      2.50      2.85      2.90      .040      .023      .040      .038    941.30    396.00
  .002656       37.       37.       37.         2         0         0    -11.30    135.00    531.00

*SECNO 9039.000
3280 CROSS SECTION   9039.00 EXTENDED        .92 FEET

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000
  9039.00      4.72    946.02      0.00    944.82    946.19       .18       .00       .03    944.30
     705.      114.      175.      416.       55.       32.      173.       57.       34.    944.30
      .70      2.07      5.44      2.41      .090      .045      .090      .038    941.30    396.00
  .009463        1.        1.        1.         2         0         0      0.00    135.00    531.00

*SECNO 9116.000
3280 CROSS SECTION   9116.00 EXTENDED        .11 FEET

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

        77) U/S FROM U/S FACE OF NASHWAY DR. CULVERT,  VS>114             SEC. V
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705.	151.	380.	174.	95.	71.	130.	57.	35.	943.70
.71	1.58	5.36	1.34	.085	.043	.085	.038	941.70	7.17
.003725	77.	77.	77.	2	0	0	0.00	161.83	169.00

*SECNO 9466.000

3280 CROSS SECTION 9466.00 EXTENDED .44 FEET

427) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>115 SEC. W

9466.00	4.84	947.34	0.00	945.30	947.39	.05	.66	.06	944.00
450.	115.	175.	159.	119.	66.	177.	60.	36.	944.20
.77	.97	2.66	.90	.070	.042	.080	.038	942.50	0.00
.000897	350.	350.	350.	3	0	0	0.00	176.85	176.85

*SECNO 10071.000

1032) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>116 SEC. X

10071.00	5.17	947.57	0.00	945.47	947.57	.00	.17	.01	947.10
450.	0.	55.	394.	3.	62.	1092.	70.	41.	945.00
1.16	.09	.90	.36	.070	.042	.095	.038	942.40	49.19
.000132	605.	605.	605.	3	0	0	0.00	536.04	585.24

*SECNO 10831.000

15)D/S FROM D/S FACE OF WEST MAPLE ROAD CULVERT, VS>117 SEC. Y

10831.00	3.89	947.79	0.00	945.64	947.83	.04	.24	.02	944.50
450.	203.	108.	139.	202.	38.	182.	84.	48.	945.70
1.32	1.01	2.85	.76	.100	.045	.100	.039	943.90	513.17
.001498	760.	760.	760.	2	0	0	0.00	242.84	756.01

*SECNO 10645.000

3470 ENCROACHMENT STATIONS= 512.0 730.0 TYPE= 1 TARGET= 218.000

10845.00	7.54	947.84	0.00	945.70	947.84	.00	.00	.01	940.90
450.	197.	66.	188.	559.	78.	572.	84.	48.	942.10
1.33	.35	.84	.33	.095	.045	.095	.039	940.30	512.00
.000050	14.	14.	14.	2	0	0	0.00	218.00	730.00

*SECNO 10846.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 512.0 730.0 TYPE= 1 TARGET= 216.000

10846.00	7.54	947.64	0.00	945.71	947.84	.01	.00	.00	940.90
450.	181.	96.	173.	559.	78.	572.	84.	48.	942.10
1.33	.32	1.23	.30	.080	.024	.080	.039	940.30	512.00
.000030	1.	1.	1.	0	0	0	0.00	218.00	730.00

SPECIAL BRIDGE

SR	XX	XKOR	SRSF	PRLEN	EIC	PWR	FAREA	BS	ELCHK	ELCHD

0.00	2.30	3.02	0.00	3.80	0.00	11.40	0.00	940.70	940.30

*SECNO 10888.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
1003.49	950.70	0.00	372.	78.	11.	11.	943.70	948.60

U/S FACE OF WEST MAPLE ROAD CULVERT, BS>11B SEC. Z

10888.00	8.75	949.45	0.00	947.16	949.52	.07	1.68	0.00	942.20
450.	162.	151.	137.	244.	42.	192.	85.	48.	942.20
1.33	.66	3.64	.71	.080	.024	.080	.039	940.70	437.69
.000325	42.	42.	42.	2	0	11	0.00	366.85	804.54

*SECNO 10889.000

10889.00	8.80	949.50	0.00	947.16	949.53	.03	.00	.01	942.20
450.	187.	105.	158.	257.	42.	201.	85.	48.	942.20
1.33	.73	2.52	.78	.070	.034	.070	.039	940.70	424.36
.000309	1.	1.	1.	2	0	0	0.00	389.53	813.89

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  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

PEBBLE CREEK

SUMMARY PRINTOUT

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	QCH	DEPTH	TOPWID
	0.000	0.00	0.00	0.00	886.70	150.00	890.16	.27	0.00	0.00	150.00	3.46	12.00
	0.000	0.00	0.00	0.00	886.70	315.00	893.01	.02	0.00	0.00	152.60	6.31	115.00
	0.000	0.00	0.00	0.00	886.70	425.00	893.25	.04	0.00	0.00	197.21	6.55	115.00
	0.000	0.00	0.00	0.00	886.70	830.00	893.95	.08	0.00	0.00	346.68	7.25	115.00
	10.000	10.00	0.00	0.00	886.70	150.00	890.34	.16	.03	.03	147.93	3.64	29.61
	10.000	10.00	0.00	0.00	886.70	315.00	893.02	.02	.00	.00	140.57	6.32	135.00
	10.000	10.00	0.00	0.00	886.70	425.00	893.26	.03	.00	.00	180.68	6.56	135.00
	10.000	10.00	0.00	0.00	886.70	830.00	893.98	.06	.01	.01	312.48	7.28	135.00
	95.000	85.00	0.00	0.00	886.70	150.00	890.57	.06	.11	.03	115.60	3.87	74.28
	95.000	85.00	0.00	0.00	886.70	315.00	893.04	.02	.02	.00	149.32	6.34	130.00
	95.000	85.00	0.00	0.00	886.70	425.00	893.28	.03	.03	.00	194.09	6.58	130.00
	95.000	85.00	0.00	0.00	886.70	830.00	894.03	.08	.05	.01	346.68	7.33	130.00
	165.000	70.00	0.00	0.00	887.80	150.00	890.60	.24	.11	.09	150.00	2.80	14.20
	165.000	70.00	0.00	0.00	887.80	315.00	893.06	.02	.02	.00	115.21	5.26	120.00
	165.000	70.00	0.00	0.00	887.80	425.00	893.31	.03	.02	.00	148.51	5.51	120.00
	165.000	70.00	0.00	0.00	887.80	830.00	894.09	.07	.05	.00	258.37	6.29	120.00
	191.000	26.00	891.60	891.00	887.80	150.00	890.71	.22	.08	.01	150.00	2.91	14.20
	191.000	26.00	891.40	891.00	887.80	315.00	893.12	.01	.05	0.00	85.99	5.32	120.00
	191.000	26.00	891.40	891.00	887.80	425.00	893.39	.02	.07	0.00	109.99	5.59	120.00
	191.000	26.00	891.40	891.00	887.80	830.00	894.20	.05	.10	0.00	188.12	6.40	120.00
	384.000	193.00	0.00	0.00	889.30	150.00	891.56	.43	.96	.11	150.00	2.26	25.81
	384.000	193.00	0.00	0.00	889.30	315.00	893.03	.31	.06	.15	315.00	3.73	30.00
	384.000	193.00	0.00	0.00	889.30	425.00	893.25	.47	.09	.22	425.00	3.95	31.52
	384.000	193.00	0.00	0.00	889.30	830.00	893.80	1.18	.16	.57	823.62	4.50	46.58
	385.000	1.00	893.20	894.80	889.30	150.00	891.57	.43	.01	.00	150.00	2.27	25.83
	385.000	1.00	893.20	894.80	889.30	315.00	893.02	.34	.00	.02	315.00	3.72	30.00
	385.000	1.00	893.20	894.80	889.30	425.00	893.22	.55	.01	.04	425.00	3.92	30.56
*	385.000	1.00	893.20	894.80	889.30	830.00	893.78	1.33	.01	.07	822.21	4.48	45.95
	391.000	6.00	893.20	894.80	889.30	150.00	891.81	.29	.05	.04	150.00	2.51	27.00
	391.000	6.00	893.20	894.80	889.30	315.00	893.06	.34	.03	.00	315.00	3.76	30.00
	391.000	6.00	893.20	894.80	889.30	425.00	893.33	.50	.05	.01	424.93	4.03	33.68
*	391.000	6.00	893.20	894.80	889.30	830.00	894.76	.66	.09	.20	736.18	5.44	71.54

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	MV	ML	OLOSS	QCH	DEPTH	TOPWID
392.000	1.00	0.00	0.00	889.30	150.00	891.82	.28	.01	.00	150.00	2.52	27.07
392.000	1.00	0.00	0.00	889.30	315.00	893.13	.28	.00	.02	315.00	3.83	30.00
392.000	1.00	0.00	0.00	889.30	425.00	893.47	.40	.00	.03	424.53	4.17	37.46
392.000	1.00	0.00	0.00	889.30	830.00	894.91	.53	.01	.04	770.04	5.61	73.38
785.000	393.00	0.00	0.00	890.50	150.00	893.62	.27	1.79	.00	147.97	3.12	22.41
785.000	393.00	0.00	0.00	890.50	315.00	894.42	.54	1.42	.13	295.95	3.92	31.23
785.000	393.00	0.00	0.00	890.50	425.00	894.90	.64	1.56	.12	383.86	4.40	33.92
785.000	393.00	0.00	0.00	890.50	830.00	896.14	1.02	1.48	.25	685.91	5.64	40.69
845.000	60.00	0.00	0.00	890.60	150.00	893.84	.35	.26	.04	150.00	3.24	12.00
845.000	60.00	0.00	0.00	890.60	315.00	895.05	.23	.23	.09	206.75	4.45	40.80
845.000	60.00	0.00	0.00	890.60	425.00	895.62	.27	.22	.11	260.41	5.02	65.78
845.000	60.00	0.00	0.00	890.60	830.00	897.30	.29	.21	.22	395.53	6.70	65.00
871.000	26.00	895.40	894.60	890.60	150.00	894.04	.30	.13	.01	150.00	3.44	12.00
871.000	26.00	895.40	894.60	890.60	315.00	895.81	.16	.69	0.00	213.22	5.21	47.43
871.000	26.00	895.40	894.60	890.60	425.00	896.36	.20	.68	0.00	269.35	5.76	63.29
871.000	26.00	895.40	894.60	890.60	830.00	897.66	.31	.38	0.00	446.44	7.06	65.00
1325.000	454.00	0.00	0.00	893.50	150.00	896.05	.16	1.83	.04	150.00	2.55	35.18
1325.000	454.00	0.00	0.00	893.50	315.00	896.90	.23	1.12	.03	315.00	3.40	46.39
1325.000	454.00	0.00	0.00	893.50	425.00	897.46	.24	1.10	.02	425.00	3.94	53.51
1325.000	454.00	0.00	0.00	893.50	830.00	898.80	.29	1.11	.01	830.00	5.30	68.21
1795.000	470.00	0.00	0.00	895.20	150.00	897.92	.38	1.98	.11	106.94	2.72	32.35
1795.000	470.00	0.00	0.00	895.20	315.00	898.80	.54	2.05	.15	187.35	3.60	45.61
1795.000	470.00	0.00	0.00	895.20	425.00	899.18	.63	1.93	.20	234.33	3.98	51.49
1795.000	470.00	0.00	0.00	895.20	830.00	900.24	.83	1.71	.27	374.45	5.04	65.70
2235.000	440.00	0.00	0.00	899.10	150.00	901.12	.52	3.26	.07	150.00	2.02	20.15
2235.000	440.00	0.00	0.00	899.10	315.00	901.98	.74	3.28	.10	315.00	2.88	25.47
2235.000	440.00	0.00	0.00	899.10	425.00	902.43	.85	3.36	.11	425.00	3.33	28.20
2235.000	440.00	0.00	0.00	899.10	830.00	903.51	1.33	3.51	.25	829.56	4.41	36.98
2236.000	1.00	903.30	904.70	899.10	150.00	901.21	.46	.01	.02	150.00	2.11	20.65
2236.000	1.00	903.30	904.70	899.10	315.00	901.99	.76	.01	.00	315.00	2.89	25.48
2236.000	1.00	903.30	904.70	899.10	425.00	902.44	.84	.01	.00	425.00	3.34	28.23
2236.000	1.00	903.30	904.70	899.10	830.00	903.60	1.37	.01	.02	828.60	4.50	43.82
2242.000	6.00	903.30	904.70	899.10	150.00	901.41	.34	.05	.04	150.00	2.31	21.91
2242.000	6.00	903.30	904.70	899.10	315.00	902.34	.51	.05	.07	315.00	3.24	27.66
2242.000	6.00	903.30	904.70	899.10	425.00	902.78	.62	.05	.07	425.00	3.68	29.94
2242.000	6.00	903.30	904.70	899.10	830.00	904.49	.72	.05	.19	774.94	5.39	78.17
2243.000	1.00	0.00	0.00	899.10	150.00	901.42	.34	.01	.00	150.00	2.32	21.98
2243.000	1.00	0.00	0.00	899.10	315.00	902.35	.50	.01	.00	315.00	3.25	27.70
2243.000	1.00	0.00	0.00	899.10	425.00	902.84	.58	.01	.01	425.00	3.74	30.00
2243.000	1.00	0.00	0.00	899.10	830.00	904.73	.54	.00	.05	772.05	5.63	86.00
2420.000	177.00	0.00	0.00	899.90	150.00	902.38	.31	.92	.01	150.00	2.48	14.00
2420.000	177.00	0.00	0.00	899.90	315.00	903.41	.16	.62	.10	185.00	3.51	45.60
2420.000	177.00	0.00	0.00	899.90	425.00	903.97	.19	.62	.12	230.25	4.07	46.00
2420.000	177.00	0.00	0.00	899.90	830.00	905.50	.30	.46	.07	410.51	5.60	46.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	QCH	DEPTH	TOPWID
	2450.000	30.00	903.60	903.00	899.90	150.00	902.55	.27	.12	.01	150.00	2.65	14.00
	2450.000	30.00	903.60	903.00	899.90	315.00	904.33	.09	.84	0.00	177.73	4.43	46.00
	2450.000	30.00	903.60	903.00	899.90	425.00	904.89	.12	.85	0.00	231.17	4.99	46.00
	2450.000	30.00	903.60	903.00	899.90	830.00	906.35	.23	.78	0.00	425.14	6.45	45.00
*	2530.000	80.00	0.00	0.00	901.20	150.00	903.81	.52	.61	.12	117.45	2.61	45.41
*	2530.000	80.00	0.00	0.00	901.20	315.00	904.58	.52	.24	.22	196.88	3.38	63.54
	2530.000	80.00	0.00	0.00	901.20	425.00	904.96	.51	.27	.20	236.15	3.76	64.42
	2530.000	80.00	0.00	0.00	901.20	830.00	906.58	.37	.30	.07	374.22	5.38	70.72
	2830.000	300.00	0.00	0.00	902.90	150.00	905.95	.07	1.56	.13	92.13	3.05	205.10
	2830.000	300.00	0.00	0.00	902.90	315.00	906.58	.06	1.40	.14	130.09	3.68	221.68
	2830.000	300.00	0.00	0.00	902.90	425.00	906.90	.06	1.36	.13	152.83	4.00	228.02
	2830.000	300.00	0.00	0.00	902.90	830.00	907.96	.06	.98	.09	220.87	5.06	249.13
	3030.000	200.00	0.00	0.00	904.00	150.00	906.57	.09	.63	.01	88.02	2.57	162.84
	3030.000	200.00	0.00	0.00	904.00	315.00	907.14	.10	.57	.02	132.96	3.14	175.81
	3030.000	200.00	0.00	0.00	904.00	425.00	907.44	.10	.56	.02	159.92	3.44	182.52
	3030.000	200.00	0.00	0.00	904.00	830.00	908.40	.11	.47	.02	243.25	4.40	211.91
	3085.000	55.00	0.00	0.00	904.30	150.00	906.83	.11	.27	.01	90.77	2.53	161.93
	3085.000	55.00	0.00	0.00	904.30	315.00	907.39	.11	.25	.01	136.61	3.09	174.44
	3085.000	55.00	0.00	0.00	904.30	425.00	907.68	.11	.25	.01	163.41	3.38	181.13
	3085.000	55.00	0.00	0.00	904.30	830.00	908.61	.12	.21	.01	248.01	4.31	208.05
	3130.000	45.00	0.00	0.00	904.55	150.00	907.08	.04	.17	.02	66.58	2.53	144.25
	3130.000	45.00	0.00	0.00	904.55	315.00	907.64	.06	.20	.01	115.51	3.09	173.81
	3130.000	45.00	0.00	0.00	904.55	425.00	907.93	.08	.20	.01	143.93	3.38	189.44
	3130.000	45.00	0.00	0.00	904.55	830.00	908.83	.09	.19	.01	226.40	4.28	233.26
	3180.000	50.00	0.00	0.00	904.80	150.00	907.19	.25	.21	.10	119.31	2.39	88.59
	3180.000	50.00	0.00	0.00	904.80	315.00	907.77	.32	.26	.13	200.51	2.97	142.32
	3180.000	50.00	0.00	0.00	904.80	425.00	908.09	.31	.27	.12	237.23	3.29	167.19
	3180.000	50.00	0.00	0.00	904.80	830.00	908.99	.25	.24	.08	324.25	4.19	211.56
	3230.000	50.00	0.00	0.00	905.10	150.00	907.65	.45	.56	.10	146.11	2.55	48.73
	3230.000	50.00	0.00	0.00	905.10	315.00	908.32	.39	.54	.03	218.89	3.22	181.41
	3230.000	50.00	0.00	0.00	905.10	425.00	908.58	.36	.52	.02	249.90	3.48	193.86
	3230.000	50.00	0.00	0.00	905.10	830.00	909.36	.28	.39	.02	334.69	4.26	231.58
	3530.000	300.00	0.00	0.00	906.50	150.00	909.66	.10	1.57	.10	110.13	3.16	119.93
	3530.000	300.00	0.00	0.00	906.50	315.00	910.27	.13	1.61	.08	172.13	3.77	193.78
	3530.000	300.00	0.00	0.00	906.50	425.00	910.52	.14	1.65	.07	204.19	4.02	233.94
	3530.000	300.00	0.00	0.00	906.50	830.00	911.15	.16	1.62	.04	294.67	4.65	337.86
	3795.000	265.00	0.00	0.00	907.70	150.00	910.66	.14	.82	.02	111.05	2.76	133.00
	3795.000	265.00	0.00	0.00	907.70	315.00	911.07	.14	.81	.01	163.10	3.37	226.74
	3795.000	265.00	0.00	0.00	907.70	425.00	911.34	.14	.82	.00	189.60	3.64	267.75
	3795.000	265.00	0.00	0.00	907.70	830.00	912.02	.13	.84	.01	264.28	4.32	436.24
	4030.000	235.00	0.00	0.00	908.70	150.00	911.80	.36	1.45	.11	148.97	3.10	95.24
	4030.000	235.00	0.00	0.00	908.70	315.00	912.31	.30	1.32	.08	207.36	3.61	235.00
	4030.000	235.00	0.00	0.00	908.70	425.00	912.54	.26	1.26	.06	229.02	3.84	235.00
	4030.000	235.00	0.00	0.00	908.70	830.00	913.14	.22	1.16	.04	300.90	4.44	235.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	AV	HL	OLOSS	QCH	DEPTH	TOPWID
	4080.000	50.00	0.00	0.00	907.70	120.00	912.32	.20	.30	.05	120.00	4.62	8.00
	4080.000	50.00	0.00	0.00	907.70	260.00	912.73	.01	.05	.09	83.49	5.03	200.00
	4080.000	50.00	0.00	0.00	907.70	370.00	912.91	.02	.06	.07	112.88	5.21	200.00
	4080.000	50.00	0.00	0.00	907.70	705.00	913.47	.04	.10	.05	189.53	5.77	200.00
	4081.000	1.00	0.00	0.00	907.70	120.00	912.32	.20	.00	.00	120.00	4.62	8.00
	4081.000	1.00	0.00	0.00	907.70	260.00	912.72	.02	.00	.00	103.01	5.02	200.00
	4081.000	1.00	0.00	0.00	907.70	370.00	912.90	.03	.00	.01	140.08	5.20	200.00
	4081.000	1.00	0.00	0.00	907.70	705.00	913.46	.07	.00	.01	238.59	5.76	200.00
	4131.000	50.00	913.00	913.00	907.70	120.00	912.43	.23	.13	.02	120.00	4.73	7.70
	4131.000	50.00	913.00	913.00	907.70	260.00	913.58	.05	.89	0.00	116.16	5.88	200.00
	4131.000	50.00	913.00	913.00	907.70	370.00	913.76	.09	.89	0.00	156.70	6.04	200.00
	4131.000	50.00	913.00	913.00	907.70	705.00	916.07	.21	.75	0.00	267.26	6.37	200.00
	4132.000	1.00	0.00	0.00	907.70	120.00	912.49	.19	.00	.01	120.00	4.79	7.70
	4132.000	1.00	0.00	0.00	907.70	260.00	913.60	.04	.00	.00	106.05	5.90	200.00
	4132.000	1.00	0.00	0.00	907.70	370.00	913.77	.07	.00	.01	141.44	6.07	200.00
	4132.000	1.00	0.00	0.00	907.70	705.00	914.15	.15	.00	.02	235.48	6.45	200.00
	4442.000	310.00	0.00	0.00	909.80	120.00	913.27	.09	.64	.03	118.31	3.67	64.38
	4442.000	310.00	0.00	0.00	909.80	260.00	913.90	.17	.37	.06	229.33	4.10	134.46
	4442.000	310.00	0.00	0.00	909.80	370.00	914.23	.20	.53	.07	294.90	4.43	167.38
	4442.000	310.00	0.00	0.00	909.80	705.00	914.98	.23	.88	.04	438.87	5.18	240.92
	4772.000	330.00	0.00	0.00	911.80	120.00	914.25	.25	1.07	.08	117.37	2.45	43.54
	4772.000	330.00	0.00	0.00	911.80	260.00	915.12	.24	1.25	.04	210.48	3.32	114.43
	4772.000	330.00	0.00	0.00	911.80	370.00	915.49	.25	1.29	.02	266.49	3.69	170.02
	4772.000	330.00	0.00	0.00	911.80	705.00	916.23	.25	1.25	.01	391.80	4.43	200.00
	5122.000	350.00	0.00	0.00	913.90	120.00	916.59	.20	2.27	.02	120.00	2.69	21.30
	5122.000	350.00	0.00	0.00	913.90	260.00	917.31	.41	2.28	.08	259.11	3.41	36.86
	5122.000	350.00	0.00	0.00	913.90	370.00	917.65	.59	2.32	.17	363.14	3.75	50.75
*	5122.000	350.00	0.00	0.00	913.90	705.00	918.53	.53	1.93	.16	533.91	4.63	311.47
	5412.000	290.00	0.00	0.00	915.70	120.00	918.32	.24	1.75	.02	120.00	2.62	19.39
	5412.000	290.00	0.00	0.00	915.70	260.00	919.36	.36	1.99	.01	259.26	3.66	32.95
	5412.000	290.00	0.00	0.00	915.70	370.00	919.91	.43	2.06	.05	356.73	4.21	99.15
	5412.000	290.00	0.00	0.00	915.70	705.00	920.62	.63	2.16	.05	582.11	6.92	131.50
	5837.000	425.00	0.00	0.00	917.75	120.00	920.64	.17	2.24	.02	120.00	2.89	20.96
	5837.000	425.00	0.00	0.00	917.75	260.00	921.67	.29	2.21	.02	257.34	3.92	54.16
	5837.000	425.00	0.00	0.00	917.75	370.00	922.15	.34	2.12	.03	345.43	4.40	115.00
	5837.000	425.00	0.00	0.00	917.75	705.00	923.13	.36	2.16	.08	523.77	5.38	145.98
	6262.000	425.00	0.00	0.00	919.80	120.00	921.42	.02	.58	.05	120.00	1.62	101.00
	6262.000	425.00	0.00	0.00	919.80	260.00	922.38	.02	.37	.08	260.00	2.58	107.42
	6262.000	425.00	0.00	0.00	919.80	370.00	922.90	.03	.34	.09	370.00	3.10	110.41
	6262.000	425.00	0.00	0.00	919.80	705.00	923.91	.05	.38	.09	705.00	4.11	116.03
*	6272.000	10.00	0.00	0.00	922.00	120.00	924.12	.69	.02	.34	120.00	2.12	13.23
*	6272.000	10.00	0.00	0.00	922.00	260.00	925.28	.73	.01	.35	250.17	3.28	57.71
*	6272.000	10.00	0.00	0.00	922.00	370.00	925.85	.65	.01	.31	313.18	3.85	105.20
*	6272.000	10.00	0.00	0.00	922.00	705.00	926.65	.57	.01	.26	438.24	4.65	218.01

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	MV	HL	OLOSS	OCH	DEPTH	TOPWID
	6287.000	15.00	0.00	0.00	922.00	120.00	924.75	.30	.13	.12	120.00	2.75	15.81
	6287.000	15.00	0.00	0.00	922.00	260.00	925.96	.27	.07	.14	213.04	3.96	116.01
	6287.000	15.00	0.00	0.00	922.00	370.00	926.45	.22	.06	.13	249.78	4.45	188.64
	6287.000	15.00	0.00	0.00	922.00	705.00	927.09	.20	.06	.09	369.56	5.09	252.91
	6288.000	1.00	925.30	924.80	922.00	120.00	924.76	.30	.01	.00	120.00	2.76	15.66
	6288.000	1.00	925.30	924.80	922.00	260.00	925.93	.35	.01	.04	200.79	3.93	112.81
	6288.000	1.00	925.30	924.80	922.00	370.00	926.64	.08	.00	.04	145.61	4.64	207.26
	6288.000	1.00	925.30	924.80	922.00	705.00	927.37	.07	.00	.06	163.91	5.37	260.00
	6300.000	12.00	925.30	924.80	922.00	120.00	924.86	.28	.07	.00	120.00	2.86	16.00
	6300.000	12.00	925.30	924.80	922.00	260.00	926.33	.10	.07	.08	137.39	4.33	175.12
	6300.000	12.00	925.30	924.80	922.00	370.00	926.68	.07	.03	.00	141.67	4.68	210.54
	6300.000	12.00	925.30	924.80	922.00	705.00	927.40	.06	.02	.00	161.11	5.40	260.00
*	6301.000	1.00	0.00	0.00	922.00	120.00	925.12	.20	.01	.02	120.00	3.12	16.00
	6301.000	1.00	0.00	0.00	922.00	260.00	926.31	.14	.00	.02	182.43	4.31	173.28
	6301.000	1.00	0.00	0.00	922.00	370.00	926.65	.14	.00	.04	222.77	4.65	208.06
	6301.000	1.00	0.00	0.00	922.00	705.00	927.35	.15	.00	.05	312.64	5.35	260.00
	6601.000	300.00	0.00	0.00	924.20	120.00	926.73	.28	1.65	.04	114.77	2.53	48.27
	6601.000	300.00	0.00	0.00	924.20	260.00	927.36	.43	1.19	.15	205.94	3.16	93.42
	6601.000	300.00	0.00	0.00	924.20	370.00	927.74	.43	1.23	.14	254.03	3.54	120.70
	6601.000	300.00	0.00	0.00	924.20	705.00	928.47	.40	1.24	.12	351.17	4.27	164.34
	6901.000	300.00	0.00	0.00	926.40	120.00	928.90	.29	2.18	.01	114.85	2.50	49.22
	6901.000	300.00	0.00	0.00	926.40	260.00	929.71	.30	2.19	.06	189.58	3.31	112.32
	6901.000	300.00	0.00	0.00	926.40	370.00	930.05	.31	2.17	.04	233.63	3.65	136.87
	6901.000	300.00	0.00	0.00	926.40	705.00	930.68	.35	2.14	.02	332.31	4.28	162.15
	7261.000	360.00	0.00	0.00	929.00	120.00	931.52	.26	2.58	.01	111.70	2.52	78.39
	7261.000	360.00	0.00	0.00	929.00	260.00	932.09	.29	2.37	.00	176.59	3.09	152.93
	7261.000	360.00	0.00	0.00	929.00	370.00	932.40	.25	2.26	.02	203.15	3.40	162.65
	7261.000	360.00	0.00	0.00	929.00	705.00	933.05	.24	2.24	.03	278.17	4.05	183.35
	7561.000	300.00	0.00	0.00	931.20	120.00	933.67	.29	2.17	.01	113.57	2.47	62.09
	7561.000	300.00	0.00	0.00	931.20	260.00	934.24	.36	2.19	.06	188.44	3.04	110.82
	7561.000	300.00	0.00	0.00	931.20	370.00	934.66	.44	2.16	.09	237.62	3.26	120.80
	7561.000	300.00	0.00	0.00	931.20	705.00	935.01	.54	2.11	.15	351.97	3.81	145.56
*	8636.000	1075.00	0.00	0.00	940.20	120.00	942.21	.23	7.55	.02	83.77	2.01	133.83
	8636.000	1075.00	0.00	0.00	940.20	260.00	942.60	.25	8.22	.03	130.07	2.40	172.41
	8636.000	1075.00	0.00	0.00	940.20	370.00	942.89	.23	8.16	.06	153.91	2.69	200.56
	8636.000	1075.00	0.00	0.00	940.20	705.00	943.49	.23	8.08	.09	220.00	3.29	259.46
	9000.000	364.00	0.00	0.00	941.30	120.00	944.56	.16	2.26	.02	83.40	3.26	122.69
	9000.000	364.00	0.00	0.00	941.30	260.00	945.05	.13	2.28	.04	104.80	3.75	135.00
	9000.000	364.00	0.00	0.00	941.30	370.00	945.28	.14	2.28	.03	124.15	3.98	135.00
	9000.000	364.00	0.00	0.00	941.30	705.00	945.84	.19	2.29	.01	167.61	4.56	135.00
	9001.000	1.00	944.00	943.20	941.30	120.00	944.70	.06	.01	.03	29.17	3.40	135.00
	9001.000	1.00	944.00	943.20	941.30	260.00	945.14	.07	.00	.02	35.93	3.84	135.00
	9001.000	1.00	944.00	943.20	941.30	370.00	945.36	.09	.00	.02	43.25	4.06	135.00
	9001.000	1.00	944.00	943.20	941.30	705.00	945.90	.14	.00	.01	63.01	4.60	135.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	HV	HL	OLOSS	QCH	DEPTH	TOPWID
9038.000	37.00	944.00	943.20	941.30	120.00	944.84	.03	.11	.01	23.10	3.54	135.00
9038.000	37.00	944.00	943.20	941.30	260.00	945.25	.05	.10	.00	32.81	3.95	135.00
9038.000	37.00	944.00	943.20	941.30	370.00	945.48	.07	.10	.00	40.16	4.18	135.00
9038.000	37.00	944.00	943.20	941.30	705.00	946.04	.12	.11	.01	60.05	4.74	135.00
9039.000	1.00	0.00	0.00	941.30	120.00	944.82	.07	.00	.02	65.36	3.52	135.00
9039.000	1.00	0.00	0.00	941.30	260.00	945.23	.10	.00	.02	100.60	3.93	135.00
9039.000	1.00	0.00	0.00	941.30	370.00	945.46	.12	.00	.03	122.60	4.16	135.00
9039.000	1.00	0.00	0.00	941.30	705.00	946.02	.18	.00	.03	175.23	4.72	135.00
9116.000	77.00	0.00	0.00	941.70	120.00	944.97	.05	.12	.01	90.46	3.27	93.76
9116.000	77.00	0.00	0.00	941.70	260.00	945.46	.11	.23	.00	174.93	3.76	118.12
9116.000	77.00	0.00	0.00	941.70	370.00	945.74	.16	.30	.02	232.95	4.04	132.43
9116.000	77.00	0.00	0.00	941.70	705.00	946.41	.26	.43	.04	380.43	4.71	161.83
9466.000	350.00	0.00	0.00	942.50	75.00	945.30	.06	.31	.00	57.07	2.80	87.34
9466.000	350.00	0.00	0.00	942.50	165.00	946.04	.05	.50	.02	97.20	3.54	132.15
9466.000	350.00	0.00	0.00	942.50	235.00	946.45	.05	.56	.03	119.27	3.95	149.27
9466.000	350.00	0.00	0.00	942.50	450.00	947.34	.05	.66	.06	175.17	4.84	176.85
10071.000	605.00	0.00	0.00	942.40	75.00	945.47	.00	.13	.01	14.26	3.07	279.26
10071.000	605.00	0.00	0.00	942.40	165.00	946.24	.00	.14	.01	25.08	3.84	324.49
10071.000	605.00	0.00	0.00	942.40	235.00	946.66	.00	.15	.01	32.88	4.26	387.97
10071.000	605.00	0.00	0.00	942.40	450.00	947.57	.00	.17	.01	55.65	5.17	536.04
10831.000	760.00	0.00	0.00	943.90	75.00	945.64	.12	.23	.06	48.20	1.74	64.23
10831.000	760.00	0.00	0.00	943.90	165.00	946.43	.06	.22	.03	67.46	2.53	165.08
10831.000	760.00	0.00	0.00	943.90	235.00	946.86	.05	.23	.02	77.52	2.96	189.66
10831.000	760.00	0.00	0.00	943.90	450.00	947.79	.04	.24	.02	108.46	3.89	242.64
10845.000	14.00	0.00	0.00	940.30	75.00	945.70	.13	.07	.01	75.00	5.40	5.00
10845.000	14.00	0.00	0.00	940.30	165.00	946.51	.00	.00	.02	26.43	6.21	218.00
10845.000	14.00	0.00	0.00	940.30	235.00	946.92	.00	.00	.01	36.42	6.62	218.00
10845.000	14.00	0.00	0.00	940.30	450.00	947.84	.00	.00	.01	65.85	7.54	218.00
10846.000	1.00	0.00	0.00	940.30	75.00	945.71	.13	.00	.00	75.00	5.41	5.00
10846.000	1.00	0.00	0.00	940.30	165.00	946.51	.00	.00	.00	38.18	6.21	218.00
10846.000	1.00	0.00	0.00	940.30	235.00	946.92	.00	.00	.00	52.77	6.62	218.00
10846.000	1.00	0.00	0.00	940.30	450.00	947.84	.01	.00	.00	95.85	7.54	218.00
10888.000	42.00	948.60	943.70	940.70	75.00	947.16	.09	1.41	0.00	75.00	6.46	4.80
10888.000	42.00	948.60	943.70	940.70	165.00	949.05	.01	2.55	0.00	60.86	8.35	213.99
10888.000	42.00	948.60	943.70	940.70	235.00	949.20	.03	2.30	0.00	83.95	8.50	270.87
10888.000	42.00	948.60	943.70	940.70	450.00	949.45	.07	1.68	0.00	151.18	8.75	366.85
10889.000	1.00	0.00	0.00	940.70	75.00	947.16	.09	.00	.00	75.00	6.46	4.80
10889.000	1.00	0.00	0.00	940.70	165.00	949.06	.01	.00	.00	43.77	8.36	213.15
10889.000	1.00	0.00	0.00	940.70	235.00	949.22	.01	.00	.00	59.91	8.52	274.53
10889.000	1.00	0.00	0.00	940.70	450.00	949.50	.03	.00	.01	105.19	8.80	389.53

SUMMARY OF ERRORS

CAUTION SECNO= 385.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 385.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 391.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 2236.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 2236.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

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 CAUTION  SECNO= 2530.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 2530.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO= 2530.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO= 2530.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 2530.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO= 2530.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL

 CAUTION  SECNO= 3230.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 3230.000  PROFILE= 2  MINIMUM SPECIFIC ENERGY

 CAUTION  SECNO= 5122.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 5122.000  PROFILE= 4  MINIMUM SPECIFIC ENERGY

 CAUTION  SECNO= 6272.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 6272.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO= 6272.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO= 6272.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 6272.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO= 6272.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO= 6272.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 6272.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO= 6272.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
 CAUTION  SECNO= 6272.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 6272.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
 CAUTION  SECNO= 6272.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

 NOTE     SECNO= 6301.000  PROFILE= 1  WSEL BASED ON X5 CARD

 CAUTION  SECNO= 8636.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
 CAUTION  SECNO= 8636.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
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**** 7000 SCOPE 2.1 LVL  221  06/01/78  07.42.50  09/02/78      78245

SYS DEVICES 819/ 4/PF FLS=200K FLL=764K MXS=160K MXL=453K MXB=453B

HH.MM.SS. CPU SECOND ORIGIN
      07.40.44.MFA. JO    LV461 NOSBS B+N LYNRELEASE447 02/04/78
07.42.54 00000.011 MFZ.     -WBLJO10,T20,STMFZ.   W. BLOOMFIELD TWP. FIS
07.42.55 00000.027 USR.      CHARGE.810-0037-45-78-5810,JANDA,001,D,JANDA.
07.42.56 00000.063 JOB.     -ATTACH,LGO,HEC2NZ6V2,ID=HEC.
07.42.56 00000.068 MFZ.       PF254 - CYCLE    1 ATTACHED FROM SN=SYSTEM
07.42.56 00000.068 LOD.     -LGO(PL=999999).
07.42.58 00000.896 MFZ.       LD610 - FLS REQUIRED TO LOAD - 0027777 OU.COG
07.42.58 00000.900 MFZ.       LD603 - EXECUTION INITIATED OS.EXP
07.42.58 00000.900 USR.     FORTRAN LIBRARY 439          08/20/78
07.43.04 00003.548 USR.       STOP
07.63.04 00003.549 USR.         2.646 CP SECONDS EXECUTION TIME
07.43.04 00003.553 MFZ.       RM770 - MAXIMUM ACTIVE FILES                  7
07.43.04 00003.553 MFZ.       RM771 - OPEN/CLOSE CALLS                     30
07.43.04 00003.553 MFZ.       RM772 - DATA TRANSFER CALLS               7,034
07.43.04 00003.553 MFZ.       RM773 - CONTROL/POSITIONING CALLS            66
07.43.04 00003.554 MFZ.       RM774 - BM DATA TRANSFER CALLS              584
07.43.04 00003.554 MFZ.       RM775 - BM CONTROL/POSITIONING CALLS         69
07.43.04 00003.554 MFZ.       RM776 - QUEUE MANAGER CALLS                 119
07.43.04 00003.554 MFZ.       RM777 - RECALL CALLS                         81
07.43.04 00003.554 MFZ.       BWMSG - NUMBER OF TAPES MOUNTED
07.43.04 00003.555 MFZ.       SRU                 3.835  SEC
07.43.04 00003.555 MFZ.       SCM                63.347  KWS
07.43.04 00003.555 MFZ.       I/O                 0.097  MW
07.43.04 00003.556 MFZ.       RMS                 0.129  MWS
07.43.04 00003.556 MFZ.       USER                2.074  SEC
07.43.04 00003.556 MFZ.       JOB                 3.558  SEC
07.43.04 00003.556 MFZ.       SC050 - 000000 SC/LC SWAPS
07.43.04 00003.556 MFZ.     WBLJO8H   WBLJO8H
07.43.04.EJ  END OF JOB
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1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: PEBBLE CREEK

4) DOCUMENT TYPE: 100 YR NATURAL



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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR - 01,02
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1      5850-10, FIS - WEST BLOOMFIELD TWP,  PM # RICHARD ZANOTTI
T2      10-YEAR FLOOD
T3      PEBBLE CREEK

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.       2.        0.        0.  0.000000      0.00       0.0       0.   890.156     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    39.000    40.000    41.000    42.000    43.000     1.000    10.000    11.000    12.000

    14.000     8.000     4.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .055      .055      .040      .300      .500      0.000      0.000      0.000      0.000      0.000
QT     4.000   150.000   315.000   425.000   830.000      0.000      0.000      0.000      0.000      0.000
ET     0.000     6.100     8.100     8.100     8.100   303.000    315.000    220.000    335.000      0.000

        U/S FACE OF 14 MILE ROAD,  CORPORATE BOUNDARY                    SEC. A

X1     0.000    13.000   300.000   318.000     0.000     0.000      0.000      0.000      0.000      0.000
GR   890.900     0.000   890.700   285.000   890.000   300.000    886.800    307.000    886.700    310.000
GR   886.800   313.000   889.400   318.000   890.900   325.000    892.000    375.000    894.000    440.000
GR   896.000   500.000   898.000   550.000   900.000   650.000      0.000      0.000      0.000      0.000

        10) U/S FROM U/S FACE OF 14 MILE ROAD, VS>94                     SEC. B

X1    10.000     0.000     0.000     0.000    10.000    10.000     10.000      0.000      0.000      0.000
X3     0.000     0.000     0.000   210.000     0.000   345.000      0.000      0.000      0.000      0.000
NC      .065      .055      .037     0.000     0.000     0.000      0.000      0.000      0.000      0.000

        95) U/S FROM U/S FACE OF 14 MILE ROAD,VS>95                      SEC. C

X1    95.000    12.000   150.000   168.000   125.000    75.000     85.000      0.000      0.000      0.000
X3     0.000     0.000     0.000    90.000     0.000   220.000      0.000      0.000      0.000      0.000
GR   892.500     0.000   892.000   135.000   890.000   150.000    886.800    157.000    886.700    160.000
GR   886.800   163.000   889.400   168.000   890.000   222.000    892.000    248.000    894.000    263.000
GR   896.000   280.000   898.000   320.000     0.000     0.000      0.000      0.000      0.000      0.000

X1   165.000    15.000   175.000   189.500   100.000    55.000     70.000      0.000      0.000      0.000
X3    10.000     0.000     0.000   100.000     0.000   220.000      0.000    891.000    891.000      0.000
GR   893.000     0.000   892.000    99.000   891.200   150.000    887.800    175.000    887.900    182.100
GR   891.400   182.100   891.400   182.400   887.900   182.400    888.000    189.500    888.000    189.500
GR   892.000   217.000   894.000   280.000   896.000   315.000    898.000    353.000    900.000    398.000
SB     0.000     1.790     3.040     0.000    14.200     0.000     42.600      0.000    887.800    887.800
NC      .035      .035      .037     0.000     0.000     0.000      0.000      0.000      0.000      0.000
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U/S FACE OF BRIDGE WAY CULVERT, BS>96 SEC. D

X1	191.000	0.000	0.000	0.000	26.000	26.000	26.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	100.000	0.000	220.000	0.000	891.400	891.400	0.000
BT	9.000	100.000	892.000	0.000	175.000	391.400	0.000	175.000	891.400	890.800
BT	182.100	891.400	890.900	182.400	891.400	590.900	189.500	891.400	891.000	189.500
BT	891.400	0.000	217.000	892.000	0.000	220.000	892.060	0.000	0.000	0.000
NC	.050	.050	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	384.000	14.000	25.000	55.000	193.000	193.000	193.000	0.000	0.000	0.000
GR	894.700	0.000	893.200	25.000	892.400	25.000	891.200	31.000	889.900	37.000
GR	889.700	38.000	889.400	38.500	889.300	40.500	889.300	42.500	890.200	43.000
GR	890.800	49.000	891.300	55.000	893.200	55.000	896.000	85.000	0.000	0.000
X1	385.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	8.000	0.000	894.700	0.000	25.000	893.200	892.400	31.000	894.600	893.800
BT	37.000	895.500	894.700	43.000	895.600	894.800	49.000	894.800	894.000	55.000
BT	893.200	892.400	85.000	896.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>97 SEC. E

X1	391.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X1	392.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

60) D/S FROM D/S FACE OF PEBBLE PT CULVERT, VS>98 SEC. F

X1	785.000	10.000	29.000	46.000	393.000	393.000	393.000	0.000	0.000	0.000
GR	898.000	0.000	896.000	10.000	894.200	20.000	892.800	29.000	890.600	34.000
GR	890.500	37.000	890.700	39.000	893.600	46.000	894.000	50.000	950.000	50.000
X1	845.000	14.000	115.000	127.300	60.000	60.000	60.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	80.000	0.000	145.000	0.000	894.500	894.500	0.000
GR	898.000	0.000	896.200	90.000	892.000	115.000	892.000	115.000	890.900	121.000
GR	894.800	121.000	894.800	121.300	890.600	121.300	891.300	127.300	891.300	127.300
GR	895.900	140.000	896.000	168.000	898.000	230.000	900.000	310.000	0.000	0.000
NC	.070	.070	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	1.740	3.020	0.000	42.000	0.000	48.000	0.000	890.600	890.600

U/S FACE OF PEBBLE PT CULVERT, BS>99 SEC. G

X1	871.000	0.000	0.000	0.000	26.000	26.000	26.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	80.000	0.000	145.000	0.000	895.400	895.400	0.000
BT	6.000	80.000	896.400	0.000	90.000	896.200	0.000	115.000	895.400	894.600
BT	127.300	895.400	894.600	140.000	895.900	0.000	145.000	895.920	0.000	0.000
NC	.050	.060	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

454) U/S FROM U/S FACE OF PEBBLE PT, VS>100 SEC. H

X1	1325.000	7.000	0.000	70.000	454.000	454.000	454.000	0.000	0.000	0.000
GR	915.000	0.000	898.500	0.000	893.800	50.000	893.500	52.000	893.600	55.000
GR	899.500	70.000	915.000	70.000	0.000	0.000	0.000	0.000	0.000	0.000

924) U/S FROM U/S FACE OF PEBBLE PT, VS>101 SEC. I

X1	1795.000	9.000	24.000	32.000	470.000	470.000	470.000	0.000	0.000	0.000
GR	915.000	0.000	899.900	0.000	895.700	24.000	895.400	25.000	895.200	27.000
GR	895.900	31.000	896.700	32.000	900.700	70.000	915.000	70.000	0.000	0.000
X1	2235.000	10.000	66.000	96.000	440.000	440.000	440.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	55.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	905.300	0.000	903.300	66.000	902.600	66.000	900.100	72.000	899.100	78.000
GR	899.500	84.000	901.200	90.000	902.800	96.000	903.500	96.000	904.700	141.000
X1	2236.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	55.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	8.000	0.000	905.300	0.000	66.000	903.300	902.600	72.000	904.800	904.100
BT	78.000	905.400	904.700	84.000	905.400	904.700	90.000	904.800	904.100	96.000
BT	903.500	902.800	141.000	904.700	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>102 SEC. J

X1	2242.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	55.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2243.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	55.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.050	.050	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2420.000	11.000	100.000	114.400	177.000	177.000	177.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	85.000	0.000	131.000	0.000	903.000	903.000	0.000
GR	904.100	0.000	903.000	85.000	899.900	100.000	900.000	107.000	903.800	107.000
GR	903.900	107.400	900.000	107.400	900.000	114.400	903.000	131.000	903.600	200.000
GR	906.000	310.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.060	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	1.710	2.850	0.000	14.000	0.000	42.000	0.000	899.900	899.900

U/S FACE OF BRIDGE WAY CULVERT, BS>103 SEC. K

X1	2450.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	903.000	903.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	85.000	0.000	131.000	0.000	903.600	903.600	0.000
BT	6.000	85.000	903.850	0.000	100.000	903.800	902.900	107.000	903.800	903.000
BT	107.400	903.900	903.000	114.400	903.900	903.000	131.000	903.840	0.000	0.000
NC	.090	.100	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

80) U/S FROM U/S FACE OF BRIDGE WAY CULVERT, VS>104 SEC. L

X1	2530.000	9.000	17.000	34.000	60.000	125.000	80.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	85.000	0.000	0.000	0.000	0.000
GR	907.000	0.000	906.500	17.000	902.200	27.000	901.200	28.000	901.200	29.000
GR	901.400	31.000	902.600	34.000	904.800	97.000	906.000	200.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	2830.000	11.000	305.000	320.000	380.000	280.000	300.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	220.000	0.000	470.000	0.000	0.000	0.000	0.000

GR	902.900	315.000	903.100	318.000	905.000	320.000	906.000	430.000	908.000	470.000
GR	910.000	540.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.100	.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	3030.000	12.000	445.000	460.000	250.000	125.000	200.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	50.000	906.000	125.000	906.000	380.000	905.800	445.000
GR	904.900	449.000	904.000	455.000	904.200	458.000	905.800	460.000	906.000	470.000
GR	908.000	515.000	910.000	600.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	3085.000	0.000	0.000	0.000	65.000	35.000	55.000	0.000	.300	0.000
X3	0.000	0.000	0.000	320.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	3130.000	12.000	170.000	185.000	65.000	30.000	45.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	47.000	906.000	80.000	905.900	170.000	905.300	174.000
GR	904.550	180.000	904.700	183.000	906.500	185.000	908.000	240.000	910.000	290.000
GR	912.000	460.000	914.000	510.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	3180.000	10.000	155.000	170.000	65.000	35.000	50.000	0.000	0.000	0.000
GR	910.000	0.000	900.000	32.000	906.500	155.000	905.600	159.000	904.800	165.000
GR	905.000	168.000	905.900	170.000	906.000	175.000	908.000	195.000	910.000	260.000

850) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>105 SEC. M

X1	3230.000	15.000	485.000	500.000	65.000	35.000	50.000	0.000	0.000	0.000
GR	918.000	0.000	916.000	150.000	912.000	280.000	910.000	315.000	908.000	364.000
GR	907.600	485.000	905.900	489.000	905.100	495.000	905.300	498.000	907.100	500.000
GR	908.000	530.000	910.000	577.000	910.000	650.000	912.000	740.000	914.000	788.000
NC	.085	.075	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	3530.000	13.000	420.000	435.000	260.000	390.000	300.000	0.000	0.000	0.000
GR	916.000	0.000	914.000	45.000	912.000	95.000	910.000	325.000	908.500	420.000
GR	907.300	424.000	906.500	430.000	906.700	433.000	908.500	435.000	910.000	475.000
GR	912.000	570.000	914.000	660.000	916.000	725.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	3795.000	14.000	383.000	398.000	150.000	265.000	265.000	0.000	0.000	0.000
GR	916.000	0.000	914.000	65.000	912.000	125.000	910.000	345.000	909.500	383.000
GR	908.500	387.000	907.700	393.000	907.900	396.000	909.500	398.000	910.000	405.000
GR	912.000	495.000	912.000	560.000	914.000	670.000	916.000	825.000	0.000	0.000
NC	.075	.075	.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000

50) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>106 SEC. N

X1	4030.000	14.000	590.000	606.000	230.000	230.000	235.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	420.000	0.000	655.000	0.000	0.000	0.000	0.000
GR	915.800	0.000	916.000	227.000	914.000	275.000	912.000	360.000	911.700	590.000
GR	909.300	595.000	908.700	599.000	909.500	602.000	911.700	606.000	912.000	610.000

QT	4.000	120.000	260.000	370.000	705.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	6.100	8.100	8.100	8.100	594.000	602.000	440.000	640.000	0.000
X1	4080.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	-1.000	0.000
NC	.080	.080	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	6.100	8.100	8.100	8.100	594.000	602.000	440.000	640.000	0.000
X1	4081.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SB	0.000	2.730	3.020	0.000	6.110	0.000	33.000	0.000	907.700	907.700

U/S FACE OF FARMINGTON ROAD CULVERT, BS>107 SEC. 0

X1	4131.000	20.000	570.000	577.700	50.000	50.000	50.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	913.000	913.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	440.000	0.000	640.000	0.000	913.000	913.000	0.000
BT	13.000	440.000	913.500	0.000	470.000	913.400	0.000	570.000	913.300	909.500
BT	570.300	913.300	910.800	571.100	913.000	912.000	572.300	913.300	912.800	573.500
BT	913.300	913.100	574.300	913.300	913.100	575.500	913.300	912.800	576.700	913.300
BT	912.000	577.400	913.300	910.800	577.700	913.300	909.500	640.000	913.160	0.000
GR	918.000	0.000	916.000	205.000	914.000	340.000	913.400	470.000	913.300	520.000
GR	909.500	570.000	908.600	570.300	908.100	571.100	907.800	572.300	907.700	573.500
GR	907.700	574.300	907.800	575.500	908.100	576.700	908.600	577.400	909.500	577.700
GR	913.200	620.000	913.100	670.000	914.000	995.000	916.000	1110.000	918.000	1385.000
NC	.085	.090	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	4132.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	440.000	0.000	640.000	0.000	913.000	913.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	4442.000	12.000	410.000	434.000	300.000	360.000	310.000	0.000	0.000	0.000
GR	918.000	0.000	916.000	220.000	914.000	375.000	912.900	410.000	910.300	422.000
GR	909.800	426.000	910.100	428.000	912.900	434.000	914.000	520.000	916.000	560.000
GR	918.000	620.000	920.000	780.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.085	.085	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	4772.000	14.000	588.000	612.000	300.000	330.000	330.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	530.000	0.000	730.000	0.000	0.000	0.000	0.000
GR	920.000	0.000	918.000	202.000	916.000	340.000	914.000	385.000	913.500	470.000
GR	914.000	540.000	914.900	588.000	912.300	600.000	911.800	604.000	912.100	607.000
GR	914.900	612.000	916.000	775.000	918.000	870.000	920.000	980.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	5122.000	17.000	370.000	394.000	300.000	350.000	350.000	0.000	0.000	0.000
GR	922.000	0.000	920.000	45.000	918.000	170.000	920.000	270.000	921.400	300.000
GR	920.000	335.000	918.000	350.000	917.000	370.000	914.400	382.000	913.900	386.000
GR	914.200	389.000	917.000	394.000	918.000	415.000	918.000	490.000	917.900	540.000
GR	918.000	590.000	920.000	620.000	0.000	0.000	0.000	0.000	0.000	0.000

1280) U/S FROM U/S FACE OF FARMINGTON ROAD, VS>108 SEC. P

X1	5412.000	13.000	595.000	619.000	200.000	400.000	290.000	0.000	0.000	0.000
GR	924.000	0.000	922.000	320.000	922.000	555.000	920.000	570.000	919.000	595.000
GR	916.200	607.000	915.700	611.000	916.000	614.000	919.500	619.000	920.000	682.000

X1	5837.000	0.000	0.000	0.000	500.000	350.000	425.000	0.000	2.050	0.000
NC	.075	.075	.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000

25) D/S FROM D/S FACE OF PRIVATE DRIVEWAY BRIDGE, BS>109 SEC. Q

X1	6262.000	16.000	500.000	618.000	500.000	350.000	425.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	340.000	0.000	620.000	0.000	0.000	0.000	0.000
GR	932.000	0.000	930.000	55.000	928.000	140.000	926.000	360.000	925.200	450.000
GR	924.300	500.000	921.900	508.000	920.800	514.000	921.100	521.000	920.200	550.000
GR	919.800	560.000	920.700	610.000	924.200	618.000	926.000	660.000	928.000	775.000
GR	930.000	910.000	8.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6272.000	14.000	482.000	498.000	10.000	10.000	10.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	340.000	0.000	610.000	0.000	0.000	0.000	0.000
GR	932.000	0.000	930.000	68.000	928.000	255.000	926.000	458.000	925.600	472.000
GR	924.800	482.000	922.700	486.000	922.000	490.000	922.000	492.000	924.800	498.000
GR	924.900	510.000	926.000	578.000	928.000	775.000	930.000	900.000	0.000	0.000

X1	6287.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	340.000	0.000	600.000	0.000	925.000	925.000	0.000
NC	.042	.042	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6288.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	340.000	0.000	600.000	0.000	925.000	925.000	0.000
BT	8.000	340.000	927.160	0.000	458.000	926.000	0.000	482.000	925.300	0.000
BT	482.000	925.300	924.800	498.000	925.300	924.800	498.000	925.300	0.000	578.000
BT	926.000	0.000	600.000	926.220	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE OF PRIVATE DRIVEWAY BRIDGE, BS>110 SEC. R

X1	6300.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	340.000	0.000	600.000	0.000	925.300	925.300	0.000
NC	.070	.090	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	6301.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	340.000	0.000	600.000	0.000	925.300	925.300	0.000
X5	4.000	925.120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.075	.075	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	6601.000	19.000	543.000	557.000	250.000	350.000	300.000	0.000	0.000	0.000
GR	940.000	0.000	938.000	65.000	936.000	140.000	934.000	230.000	932.000	290.000
GR	930.000	380.000	928.000	460.000	926.300	543.000	924.800	546.000	924.200	550.000
GR	925.000	556.000	926.200	557.000	928.000	600.000	930.000	625.000	932.000	645.000
GR	934.000	705.000	936.000	750.000	938.000	800.000	940.000	830.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	6901.000	16.000	440.000	454.000	300.000	300.000	300.000	0.000	0.000	0.000
GR	940.000	0.000	938.000	55.000	936.000	195.000	934.000	265.000	932.000	310.000
GR	930.000	375.000	928.500	440.000	927.000	443.000	926.400	447.000	927.200	453.000
GR	928.400	454.000	930.000	510.000	932.000	525.000	934.000	550.000	936.000	590.000
GR	937.400	625.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

X1	7261.000	14.000	310.000	324.000	360.000	360.000	360.000	0.000	0.000	0.000
GR	940.000	0.000	938.000	90.000	936.000	120.000	934.000	155.000	932.000	190.000
GR	931.100	310.000	929.600	313.000	929.000	317.000	929.800	323.000	931.000	324.000
GR	932.000	340.000	934.000	368.000	936.000	390.000	938.000	400.000	0.000	0.000

1260) U/S FROM U/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>111 SEC. S

X1	7561.000	15.000	400.000	414.000	200.000	300.000	300.000	0.000	0.000	0.000
GR	942.000	0.000	940.000	220.000	938.000	268.000	936.000	302.000	934.000	360.000
GR	933.300	400.000	931.800	403.000	931.200	407.000	932.000	413.000	933.200	414.000
GR	936.000	460.000	936.000	492.000	938.000	520.000	940.000	548.000	942.000	558.000
NC	.080	.065	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000

365) D/S FROM D/S FACE OF NASHWAY DR. CULVERT, VS>112 SEC. T

X1	8636.000	9.000	200.000	213.000	1075.000	1075.000	1075.000	0.000	0.000	0.000
GR	944.000	0.000	942.000	170.000	941.800	200.000	941.100	203.000	940.200	208.000
GR	940.600	212.000	941.600	213.000	942.000	283.000	946.000	310.000	0.000	0.000
NC	.060	.070	.060	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	9000.000	21.000	432.000	439.000	364.000	364.000	366.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	396.000	0.000	531.000	0.000	0.000	0.000	0.000
GR	948.500	0.000	948.000	117.000	946.000	275.000	944.300	432.000	942.200	432.000
GR	941.300	432.000	941.300	432.500	941.300	433.500	941.300	434.500	941.300	435.000
GR	942.200	435.000	942.000	436.000	941.300	436.000	941.300	436.500	941.300	437.500
GR	941.300	438.500	941.300	439.000	942.000	439.000	944.300	439.000	944.000	522.000
GR	945.100	612.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.040	.040	.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	9001.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	396.000	0.000	531.000	0.000	0.000	0.000	0.000
BT	15.000	0.000	948.500	0.000	117.000	948.000	0.000	275.000	946.000	0.000
BT	432.000	944.300	942.200	432.500	944.300	942.900	433.500	944.300	943.200	436.500
BT	944.300	942.900	435.000	944.300	942.200	436.000	944.300	942.000	436.500	946.300
BT	942.700	437.500	944.300	943.000	438.500	944.300	942.700	439.000	944.300	942.000
BT	522.000	944.000	0.000	612.000	945.100	0.000	0.000	0.000	0.000	0.000

U/S FACE OF NASHWAY DR. CULVERT, BS>113 SEC. U

BT AND GR STATIONS HAVE BEEN SKEWED BY 0.90

X1	9038.000	0.000	0.000	0.000	37.000	37.000	37.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	396.000	0.000	531.000	0.000	0.000	0.000	0.000
NC	.090	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	9039.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	396.000	0.000	531.000	0.000	0.000	0.000	0.000
NC	.085	.085	.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000

77) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>114 SEC. V

X1	9116.000	7.000	60.000	77.000	77.000	77.000	77.000	0.000	0.000	0.000
GR	946.900	0.000	942.800	60.000	941.800	68.000	941.700	71.000	942.100	76.000
GR	943.700	77.000	946.300	169.000	0.000	0.000	0.000	0.000	0.000	0.000

NC	.070	.080	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

427) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>115 SEC. W

X1	9466.000	8.000	63.000	79.000	350.000	350.000	350.000	0.000	0.000	0.000
GR	946.900	0.000	944.000	63.000	942.900	72.000	942.500	73.000	942.900	77.000
GR	944.200	79.000	946.000	150.000	948.000	190.000	0.000	0.000	0.000	0.000
NC	.070	.095	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1032) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>116 SEC. X

X1	10071.000	11.000	60.000	77.000	605.000	605.000	605.000	0.000	0.000	0.000
GR	949.700	0.000	947.100	60.000	943.600	66.000	942.400	70.000	943.400	75.000
GR	945.000	77.000	944.000	150.000	944.000	320.000	946.000	350.000	948.000	650.000
GR	950.000	705.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.100	.100	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

15)D/S FROM D/S FACE OF WEST MAPLE ROAD CULVERT, VS>117 SEC. Y

X1	10831.000	18.000	610.000	621.000	760.000	760.000	760.000	0.000	0.000	0.000
GR	960.000	0.000	958.000	40.000	956.000	80.000	950.000	105.000	952.000	133.000
GR	950.000	170.000	948.000	220.000	948.000	510.000	946.000	540.000	944.500	610.000
GR	944.000	612.000	943.900	615.000	944.600	619.000	945.700	621.000	946.000	680.000
GR	948.000	765.000	950.000	870.000	952.000	950.000	0.000	0.000	0.000	0.000
NC	.095	.095	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	6.100	8.100	8.100	8.100	614.000	619.000	512.000	730.000	0.000

X1	10845.000	0.000	0.000	0.000	14.000	14.000	14.000	0.000	-3.600	0.000
NC	.000	.080	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ET	0.000	6.100	8.100	8.100	8.100	614.000	619.000	512.000	730.000	0.000

X1	10846.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SB	0.000	2.300	3.020	0.000	3.800	0.000	11.400	0.000	940.700	940.300

U/S FACE OF WEST MAPLE ROAD CULVERT, BS>118 SEC. Z

X1	10888.000	17.000	655.000	659.800	42.000	42.000	42.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	943.700	948.600	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.600	948.600	0.000
BT	13.000	0.000	958.000	0.000	70.000	956.000	0.000	147.000	954.000	0.000
BT	212.000	952.000	0.000	310.000	950.000	0.000	655.000	948.600	942.200	655.900
BT	948.600	943.200	657.400	948.600	943.700	658.900	948.600	943.200	659.800	948.600
BT	942.200	894.000	950.000	0.000	1020.000	952.000	0.000	1315.000	954.000	0.000
GR	958.000	0.000	956.000	70.000	954.000	147.000	952.000	212.000	950.000	310.000
GR	948.700	610.000	942.200	655.000	941.200	655.000	940.700	655.900	940.700	657.400
GR	940.700	658.900	941.200	659.800	942.200	659.800	948.800	700.000	950.000	894.000
GR	952.000	1020.000	954.000	1315.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.070	.070	.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	10889.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	948.600	948.600	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
*****************************************************

T1      5850-10, FIS - WEST BLOOMFIELD TWP,  PM # RICHARD ZANOTTI
T2      100-YEAR FLOOD
T3      PEBBLE CREEK

J1  ICHECK    INO      NINV     IDIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      -1.       4.       0.       0.  0.000000     0.00      0.0       0.   893.250    0.000

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBN      CHNIM    ITRACE

     3.000    0.000   -1.000    0.000    0.000    0.000    0.000    0.000    0.000    0.000
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*PROF 3

CCHV=    .300 CEHV=    .500
*SECNO .000
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
  SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=     220.0     335.0 TYPE=     1 TARGET=     115.000
        U/S FACE OF 14 MILE ROAD, CORPORATE BOUNDARY                          SEC. A
     0.00      6.55    893.25     0.00    890.16    893.29      .04      0.00      0.00    890.00
      425.      189.      197.      39.      208.      99.      44.       0.        0.    889.40
     0.00       .91      2.00      .88      .055      .040     .055    0.000    886.70    220.00
 .000329        0.        0.        0.         0         0        0     0.00    115.00    335.00

*SECNO 10.000
3470 ENCROACHMENT STATIONS=     210.0     345.0 TYPE=     1 TARGET=     135.000
     10) U/S FROM U/S FACE OF 14 MILE ROAD, VS>94                             SEC. B
    10.00      6.56    893.26     0.00    890.34    893.29      .03       .00       .00    890.00
      425.      194.      181.      50.      233.      99.      64.       0.        0.    889.40
      .00       .83      1.83      .78      .055      .040     .055     .036    886.70    210.00
 .000276        10.       10.       10.         0         0        0     0.00    135.00    345.00

*SECNO 95.000
3470 ENCROACHMENT STATIONS=      90.0     220.0 TYPE=     1 TARGET=     130.000
     95) U/S FROM U/S FACE OF 14 MILE ROAD, VS>95                             SEC. C
    95.00      6.58    893.28     0.00    890.57    893.32      .03       .03       .00    890.00
      425.       45.      194.     186.       89.      99.     187.        1.        0.    889.40
      .02       .50      1.95      .99      .065      .037     .055     .034    886.70     90.00
 .000266       125.       85.       75.         0         0        0     0.00    130.00    220.00

*SECNO 165.000
3470 ENCROACHMENT STATIONS=     100.0     220.0 TYPE=     1 TARGET=     120.000
    165.00      5.51    893.31     0.00    890.60    893.34      .03       .02       .00    887.80
      425.      164.      149.     113.      181.      77.      95.        2.        1.    888.00
      .04       .91      1.92      1.19      .065      .037     .055     .034    887.80    100.00
 .000418       100.       70.       55.         0         0        0     0.00    120.00    220.00

SPECIAL BRIDGE

SB   XK        XKOR      COFQ      RDLEN     BHC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      1.79      3.04      0.00      14.20     0.00      42.60     0.00      887.00    887.50

*SECNO 191.000
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
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Continued from City of Farmington Hills Flood Insurance Study

① Encroachments are due to "Buildings"

② Major portion of flow is weir flow

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HB	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
896.08	893.34	0.00	350.	79.	43.	45.	891.00	891.40

3470 ENCROACHMENT STATIONS= 100.0 220.0 TYPE= 1 TARGET= 120.000

U/S FACE OF BRIDGE WAY CULVERT, BS>96 SEC. D

191.00	5.59	893.39	0.00	890.71	893.41	.02	.07	0.00	887.80
425.	200.	110.	115.	187.	79.	97.	2.	1.	888.00
.04	1.07	1.40	1.18	.035	.032	.035	.034	887.80	100.00
.000163	26.	26.	26.	2	0	7	0.00	120.00	220.00

*SECNO 384.000

384.00	3.95	893.25	0.00	891.56	893.72	.47	.09	.22	893.20
425.	0.	425.	0.	0.	78.	0.	3.	1.	893.20
.05	.02	5.48	.02	.050	.032	.050	.033	889.30	24.08
.004581	193.	193.	193.	2	0	0	0.00	31.52	55.59

*SECNO 385.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 894.80

385.00	3.92	893.22	0.00	891.57	893.77	.55	.01	.04	893.20
425.	0.	425.	0.	0.	72.	0.	3.	1.	893.20
.05	.03	5.93	.03	.050	.032	.050	.033	889.30	24.66
.008936	1.	1.	1.	2	0	0	-4.80	30.56	55.22

Small private walkway bridge - low flow only -

*SECNO 391.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 893.20 MAX ELLC= 894.80

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>97 SEC. E

391.00	4.03	893.33	0.00	891.81	893.83	.50	.05	.01	893.20
425.	0.	425.	0.	0.	75.	0.	3.	1.	893.20
.05	.43	5.66	.03	.050	.032	.050	.033	889.30	22.76
.007648	6.	6.	6.	2	0	0	-4.80	33.68	56.44

*SECNO 392.000

392.00	4.17	893.47	0.00	891.82	893.87	.40	.00	.03	893.20
425.	0.	425.	0.	1.	84.	0.	3.	1.	893.20
.05	.46	5.05	.46	.050	.032	.050	.033	889.30	20.46
.003494	1.	1.	1.	2	0	0	0.00	37.46	57.92

*SECNO 785.000

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

60) D/S FROM D/S FACE OF PEBBLE PT CULVERT, VS>98 SEC. F

785.00	4.40	894.90	0.00	893.62	895.55	.64	1.56	.12	892.80
425.	33.	384.	8.	14.	57.	4.	4.	1.	893.60
.07	2.34	6.74	1.86	.050	.032	.050	.032	890.50	16.08
.004542	393.	393.	393.	3	0	0	0.00	33.92	50.00

*SECNO 845.000

3470 ENCROACHMENT STATIONS= 80.0 145.0 TYPE= 1 TARGET= 65.000

845.00	5.02	895.62	0.00	893.84	895.89	.27	.22	.11	892.00
425.	96.	260.	69.	39.	53.	26.	4.	1.	891.30
.07	2.45	4.89	2.67	.050	.032	.050	.032	890.60	93.45
.003147	60.	60.	60.	3	0	0	0.00	45.78	139.23

① Twin - wood box culvert

② major flow is pressure flow.

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.74	3.02	0.00	12.00	0.00	48.00	0.00	890.60	890.60

③ "n" has been adjusted to show better flow continuity.

*SECNO 871.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
897.74	895.89	0.00	142.	283.	48.	48.	896.60	895.40

3670 ENCROACHMENT STATIONS= 80.0 145.0 TYPE= 1 TARGET= 65.000

U/S FACE OF PEBBLE PT CULVERT, BS>99 SEC. G

871.00	5.76	896.36	0.00	894.04	896.56	.20	.68	0.00	892.00
425.	92.	269.	64.	57.	62.	37.	4.	1.	891.30
.08	1.60	4.31	1.71	.070	.032	.070	.032	890.60	81.71
.001983	26.	26.	26.	2	0	3	0.00	63.29	145.00

*SECNO 1325.000

454) U/S FROM U/S FACE OF PEBBLE PT, VS>100 SEC. H

1325.00	3.94	897.44	0.00	896.05	897.68	.24	1.10	.02	915.00
425.	0.	425.	0.	0.	109.	0.	5.	2.	915.00
.11	0.00	3.91	0.00	.050	.033	.060	.032	893.50	11.26
.003011	454.	454.	454.	2	0	0	0.00	53.51	64.77

*SECNO 1795.000

924) U/S FROM U/S FACE OF PEBBLE PT, VS>101 SEC. I

1795.00	3.98	899.18	0.00	897.92	899.81	.63	1.93	.20	895.70
425.	114.	234.	77.	35.	29.	29.	6.	3.	896.70
.13	3.28	8.13	2.63	.050	.032	.050	.032	895.20	4.10
.005927	470.	470.	470.	2	0	0	0.00	51.48	55.58

*SECNO 2235.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
									LEFT RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XWR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2235.00	3.33	902.43	0.00	901.12	903.27	.85	3.36	.11	903.30
425.	0.	425.	0.	0.	58.	0.	7.	3.	903.50
.15	0.00	7.38	0.00	.050	.032	.050	.032	899.10	66.41
.010205	440.	440.	440.	3	0	0	0.00	28.20	94.61

*SECNO 2236.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

2236.00	3.34	902.44	0.00	901.21	903.28	.84	.01	.00	903.30
425.	0.	425.	0.	0.	58.	0.	7.	3.	903.50
.15	0.00	7.36	0.00	.050	.032	.050	.032	899.10	66.40
.010126	1.	1.	1.	0	0	0	0.00	28.23	94.63

Small private walkway bridge
= low flow only =

*SECNO 2242.000

3370 NORMAL BRIDGE, NRD= 8 MIN ELTRD= 903.30 MAX ELLC= 904.70

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

U/S FACE OF PRIVATE WALKWAY BRIDGE, BS>102 SEC. J

2242.00	3.68	902.78	0.00	901.41	903.40	.62	.05	.07	903.30
425.	0.	425.	0.	0.	67.	0.	7.	3.	903.50
.15	0.00	6.31	0.00	.050	.032	.050	.032	899.10	66.00
.006597	6.	6.	6.	5	0	0	-.55	29.94	95.94

*SECNO 2243.000

3470 ENCROACHMENT STATIONS= 55.0 141.0 TYPE= 1 TARGET= -55.000

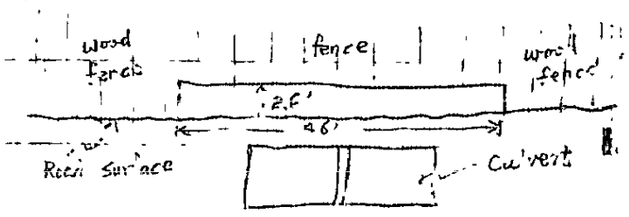
2243.00	3.74	902.84	0.00	901.42	903.42	.58	.01	.01	903.30
425.	0.	425.	0.	0.	70.	0.	7.	3.	903.50
.15	0.00	6.10	0.00	.050	.032	.050	.032	899.10	66.00
.005972	1.	1.	1.	2	0	0	0.00	30.00	96.00

*SECNO 2420.000

3470 ENCROACHMENT STATIONS= 85.0 131.0 TYPE= 1 TARGET= 46.000

2420.00	4.07	903.97	0.00	902.38	904.15	.19	.62	.12	899.90
425.	94.	230.	101.	38.	56.	41.	7.	3.	900.00
.16	2.49	4.12	2.47	.050	.032	.050	.032	899.90	85.00
.002292	177.	177.	177.	1	0	0	0.00	46.00	131.00

① There is a wood fence exactly above the culvert.



SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.71	2.85	0.00	14.00	0.00	42.00	0.00	899.90	899.90

*SECNO 2450.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
									LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	M3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
906.69	904.15	0.00	163.	263.	42.	43.	903.00	903.60

3470 ENCROACHMENT STATIONS= 85.0 131.0 TYPE= 1 TARGET= 46.000

U/S FACE OF BRIDGE WAY CULVERT, BS>103 SEC. K

2450.00	4.99	904.89	0.00	902.55	905.01	.12	.85	0.00	899.90
425.	89.	231.	105.	52.	69.	56.	7.	3.	900.00
.17	1.73	3.34	1.86	.060	.032	.060	.032	899.90	85.00
.001130	30.	30.	30.	2	0	3	0.00	46.00	131.00

*SECNO 2530.000

3470 ENCROACHMENT STATIONS= .0 85.0 TYPE= 1 TARGET= 84.999

80) U/S FROM U/S FACE OF BRIDGE WAY CULVERT, VS>104 SEC. L

2530.00	3.76	904.96	0.00	903.81	905.47	.51	.27	.20	906.50
425.	0.	236.	189.	0.	32.	75.	8.	3.	902.60
.17	0.00	7.36	2.52	.090	.045	.100	.032	901.20	20.58
.017447	60.	80.	125.	2	0	0	0.00	64.42	85.00

*SECNO 2830.000

3470 ENCROACHMENT STATIONS= 220.0 470.0 TYPE= 1 TARGET= 250.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

2830.00	4.00	906.90	0.00	905.95	906.96	.06	1.36	.13	905.00
425.	141.	153.	131.	140.	49.	162.	9.	4.	905.00
.22	1.01	3.11	.81	.090	.045	.100	.034	902.90	220.00
.001981	380.	300.	280.	3	0	0	0.00	228.02	448.02

*SECNO 3030.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3030.00	3.44	907.44	0.00	906.57	907.54	.10	.56	.02	905.80
425.	228.	160.	37.	187.	41.	39.	11.	5.	905.80
.25	1.22	3.87	.95	.100	.046	.100	.034	904.00	320.00
.003973	250.	200.	125.	3	0	0	0.00	182.52	502.52

*SECNO 3085.000

3470 ENCROACHMENT STATIONS= 320.0 600.0 TYPE= 1 TARGET= -320.000

3085.00	3.35	907.68	0.00	906.83	907.80	.11	.25	.01	906.10
425.	226.	163.	36.	179.	40.	36.	11.	6.	906.10
.25	1.26	6.05	.99	.100	.046	.100	.034	904.30	320.00
.004475	15	55	35	3	0	0	0.00	181.17	501.13

① Between Road surface and wire fence, a opening 46' x 2.6' was built. Therefore,

(a) Section has been encroached such that topwidth = 46'

(b) This opening is allowed for weir flow.

② For 100-year flow, only 1.29 ft (depth) of weir flow is created. Since this depth is less than 2.6', this weir flow is correct.

*SECNO 3130.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3130.00	3.38	907.93	0.00	907.08	908.01	.08	.20	.01	905.90
425.	256.	144.	25.	209.	42.	38.	12.	6.	906.50
.26	1.22	3.43	.66	.100	.046	.100	.035	904.55	48.10
.003059	65.	45.	30.	2	0	0	0.00	189.44	237.55

*SECNO 3180.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3180.00	3.29	908.09	0.00	907.19	908.40	.31	.27	.12	906.50
425.	130.	237.	58.	103.	40.	33.	12.	6.	905.90
.27	1.26	5.89	1.78	.100	.046	.100	.035	904.80	30.62
.009174	65.	50.	35.	2	0	0	0.00	167.19	197.81

*SECNO 3230.000

850) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>105 SEC. N

3230.00	3.48	908.58	0.00	907.65	908.94	.36	.52	.02	907.60
425.	125.	250.	51.	99.	41.	35.	12.	6.	907.10
.27	1.26	6.14	1.45	.100	.046	.100	.035	905.10	349.78
.010482	65.	50.	35.	3	0	0	0.00	193.86	543.64

*SECNO 3530.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3530.00	4.02	910.52	0.00	909.66	910.65	.14	1.65	.07	908.50
425.	150.	204.	71.	136.	50.	57.	14.	8.	908.50
.30	1.10	4.10	1.25	.085	.045	.075	.036	906.50	265.60
.003383	260.	300.	390.	3	0	0	0.00	233.94	699.54

*SECNO 3795.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

3795.00	3.64	911.34	0.00	910.46	911.47	.14	.82	.00	909.50
425.	177.	190.	58.	159.	45.	52.	15.	9.	909.50
.33	1.11	4.24	1.13	.085	.045	.075	.037	907.70	197.56
.004102	150.	265.	265.	3	0	0	0.00	267.75	485.32

*SECNO 4030.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 420.0 655.0 TYPE= 1 TARGET= 235.000

50) D/S FROM D/S FACE OF FARMINGTON ROAD, VS>106 SEC. N

4030.00	3.84	912.54	0.00	911.80	912.79	.26	1.26	.06	911.70
425.	166.	229.	30.	122.	42.	26.	16.	10.	911.70
.34	1.37	5.43	1.13	.075	.043	.075	.037	908.70	420.00
.007478	230.	235.	230.	1	0	0	0.00	235.00	655.00

*SECNO 4080.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4080.00	5.21	912.91	0.00	912.32	912.93	.02	.06	.07	910.70
370.	216.	113.	41.	317.	64.	66.	16.	10.	910.70
.36	.68	1.75	.63	.075	.043	.075	.037	907.70	440.00
.000446	50.	50.	50.	2	0	0	0.00	200.00	640.00

*SECNO 4081.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4081.00	5.20	912.90	0.00	912.32	912.94	.03	.00	.01	910.70
370.	193.	140.	37.	317.	64.	66.	16.	10.	910.70
.36	.61	2.17	.56	.080	.033	.080	.037	907.70	440.00
.000403	1.	1.	1.	0	0	0	0.00	200.00	640.00

① This bridge has been encroached because of high ground at u/s of the bridge. (please see 2-foot contour map)

SPECIAL-BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.73	3.02	0.00	6.11	0.00	33.00	0.00	907.70	907.70

② Free-fall weir flow.

*SECNO 4131.000
PRESSURE AND WEIR FLOW

③ 'a' has been adjusted to show better flow continuity.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
918.23	914.41	0.00	217.	154.	33.	32.	913.00	913.00

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

U/S FACE OF FARMINGTON ROAD CULVERT, BS>107 SEC. 0

4131.00	6.04	913.74	0.00	912.43	913.83	.09	.89	0.00	909.50
370.	115.	157.	98.	144.	44.	112.	17.	11.	909.50
.36	.80	3.56	.88	.080	.033	.080	.037	907.70	440.00
.000798	50.	50.	50.	2	0	5	0.00	200.00	640.00

*SECNO 4132.000

3470 ENCROACHMENT STATIONS= 440.0 640.0 TYPE= 1 TARGET= 200.000

4132.00	6.07	913.77	0.00	912.49	913.83	.07	.00	.01	909.50
370.	127.	141.	102.	148.	44.	114.	17.	11.	909.50
.37	.86	3.20	.89	.085	.042	.090	.037	907.70	440.00
.001035	1.	1.	1.	2	0	0	0.00	200.00	640.00

*SECNO 4442.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV LEFT/RIGHT

TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4442.00	4.43	914.23	0.00	913.27	914.63	.20	.53	.07	912.90
370.	23.	295.	52.	29.	73.	68.	18.	12.	912.90
.39	.78	4.03	.77	.085	.042	.090	.037	909.80	357.21
.003086	300.	310.	360.	2	0	0	0.00	167.38	524.59

*SECNO 4772.000

3470 ENCROACHMENT STATIONS= 530.0 730.0 TYPE= 1 TARGET= 200.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

4772.00	3.69	915.49	0.00	914.25	915.74	.25	1.29	.02	914.90
370.	89.	266.	15.	65.	57.	26.	20.	13.	914.90
.42	1.36	4.67	.56	.085	.040	.085	.037	911.80	530.00
.005260	300.	330.	330.	2	0	0	0.00	170.02	700.02

*SECNO 5122.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

5122.00	3.75	917.65	0.00	916.59	918.24	.59	2.32	.17	917.00
370.	3.	363.	4.	4.	59.	4.	20.	14.	917.00
.43	.79	6.21	.79	.085	.040	.085	.038	913.90	356.95
.009009	300.	350.	350.	2	0	0	0.00	50.75	407.70

*SECNO 5412.000

1280) U/S FROM U/S FACE OF FARMINGTON ROAD, VS>108 SEC. P

5412.00	4.21	919.91	919.03	918.32	920.34	.43	2.06	.05	919.00
370.	8.	357.	5.	10.	67.	11.	21.	15.	919.50
.45	.79	5.35	.46	.085	.040	.085	.038	915.70	572.13
.005754	200.	290.	400.	4	9	0	0.00	99.15	671.28

*SECNO 5837.000

5837.00	4.40	922.15	0.00	920.64	922.49	.34	2.12	.03	921.05
370.	12.	345.	12.	15.	71.	22.	22.	16.	921.55
.47	.82	4.87	.57	.085	.040	.085	.038	917.75	569.29
.004374	500.	425.	350.	2	0	0	0.00	115.00	684.29

*SECNO 6262.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 340.0 620.0 TYPE= 1 TARGET= 230.000

25) D/S FROM D/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>109 SEC. Q

6262.00	3.10	922.90	0.00	921.42	922.93	.03	.34	.09	924.30
370.	0	370.	0	0	263	0.	34	17	924.30

```
     .56      0.00      1.41      0.00      .075      .034      .075      .038    919.80    504.64
 .000329      500.      425.      350.         3         0         0      0.00    110.41    515.05
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① Station [illegible] is [illegible] as following

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*SECNO 6272.000

3301 HV CHANGED MORE THAN HVINS

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      340.0      610.0  TYPE=      1  TARGET=      270.000
  6272.00      3.85    925.85    925.85    924.12    926.49       .65       .01       .31    924.80
     370.        9.      313.       48.        8.       45.       40.       24.       17.    924.80
      .56      1.13      7.00      1.22      .075      .034      .075      .038    922.00    463.35
 .007162       10.       10.       10.        20         8         0      0.00    105.20    568.55

*SECNO 6287.000

3470 ENCROACHMENT STATIONS=      340.0      600.0  TYPE=      1  TARGET=      260.000
  6287.00      4.45    926.45    925.83    924.75    926.68       .22       .06       .13    924.80
     370.       25.      250.       96.       33.       55.       96.       24.       17.    924.80
      .56       .76      4.58      1.00      .075      .034      .075      .038    922.00    411.36
 .002355       15.       15.       15.        17         5         0      0.00    188.64    600.00

*SECNO 6288.000

3370 NORMAL BRIDGE,NRD=  8 MIN ELTRD=  925.30 MAX ELLC=  924.80

3470 ENCROACHMENT STATIONS=      340.0      600.0  TYPE=      1  TARGET=      260.000
  6288.00      4.64    926.64      0.00    924.76    926.72       .08       .00       .04    924.80
     370.       63.      146.      162.       45.       49.       91.       24.       17.    924.80
      .56      1.40      2.94      1.78      .042      .032      .042      .038    922.00    392.74
 .002744        1.        1.        1.         3         0         0    -33.70    207.26    600.00

*SECNO 6300.000

3370 NORMAL BRIDGE,NRD=  8 MIN ELTRD=  925.30 MAX ELLC=  924.80

3470 ENCROACHMENT STATIONS=      340.0      600.0  TYPE=      1  TARGET=      260.000

          U/S FACE OF PRIVATE DRIVEWAY BRIDGE.  BS>110                          SEC. R

  6300.00      4.68    926.68      0.00    924.86    926.76       .07       .03       .00    924.80
     370.       65.      142.      164.       48.       50.       94.       24.       17.    924.80
      .56      1.35      2.83      1.73      .042      .032      .042      .038    922.00    389.46
 .002509       12.       12.       12.         0         0         0    -33.70    210.54    600.00

*SECNO 6301.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA     LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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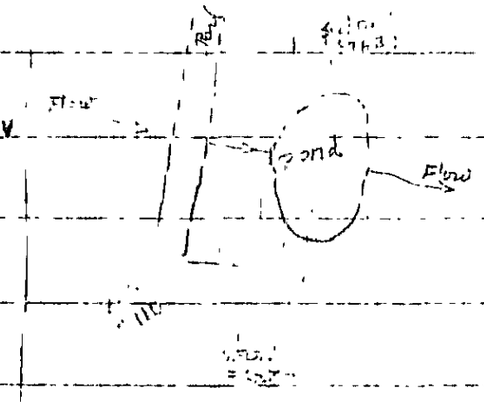

② Section 6272 is a repeated section of Section 110 without BT card.

③ The road elevation and ground elevation (both sides of the road) are almost same. This is the reason why we can repeat section #110 (6288) at 15' [illegible] (section 6270). This is also the reason why we used "Normal Bridge Routine" to model section #110 (because this is overland flow, is not a [illegible] flow)

④ Encroachments are due to "expansion" [illegible].

⑤ The small culvert under the bridge was not taken into consideration. This is because (a) completely submergence, (b) culvert is just an isolated culvert, there is nothing around this culvert (please see attached picture)

⑥ [illegible] flood is pressure flow — use [illegible] calculation —

3470 ENCROACHMENT STATIONS= 360.0 600.0 TYPE= 1 TARGET= 260.000

6301.00	4.65	926.65	0.00	925.12	926.80	.14	.00	.04	926.80
370.	41.	223.	106.	68.	58.	115.	24.	17.	924.00
.56	.85	3.87	.92	.070	.042	.090	.038	922.00	391.94
.002383	1.	1.	1.	2	0	0	0.00	208.06	600.00

*SECNO 6601.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

6601.00	3.54	927.74	0.00	926.73	928.17	.43	1.23	.14	926.30
370.	73.	254.	43.	50.	40.	28.	25.	18.	926.20
.58	1.46	6.28	1.52	.075	.042	.075	.038	924.20	472.96
.008415	250.	300.	350.	3	0	0	0.00	120.70	593.66

*SECNO 6901.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

6901.00	3.65	930.05	0.00	928.90	930.37	.31	2.17	.04	928.50
370.	70.	236.	67.	52.	42.	47.	26.	19.	928.40
.60	1.35	5.56	1.40	.075	.042	.075	.038	926.60	373.48
.006269	300.	300.	300.	3	0	0	0.00	136.87	510.35

*SECNO 7261.000

MANUFACTURED SECTION FROM 2-FT CONTOUR MAP

7261.00	3.40	932.40	0.00	931.52	932.65	.25	2.26	.02	931.10
370.	145.	203.	22.	104.	39.	16.	27.	20.	931.00
.63	1.40	5.27	1.40	.075	.042	.075	.038	929.00	182.97
.006298	360.	360.	360.	3	0	0	0.00	162.65	345.62

*SECNO 7561.000

1260) U/S FROM U/S FACE OF PRIVATE DRIVEWAY BRIDGE, VS>111 SEC. S

7561.00	3.26	934.46	0.00	933.67	934.90	.44	2.16	.09	933.30
370.	59.	238.	73.	36.	37.	41.	28.	21.	933.20
.64	1.66	6.69	1.77	.075	.042	.075	.038	931.20	346.59
.010242	200.	300.	300.	2	0	0	0.00	120.80	467.60

*SECNO 8636.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

365) D/S FROM D/S FACE OF NASHWAY DR. CULVERT, VS>112 SEC. T

8636.00	2.69	942.89	0.00	942.21	943.12	.23	8.16	.06	941.80
370.	70.	154.	146.	63.	27.	82.	32.	25.	941.60
.73	1.10	5.65	1.80	.080	.032	.065	.030	940.20	96.44
.005849	1075.	1075.	1075.	5	0	0	0.00	200.56	295.00

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*SECNO 9000.000
3280 CROSS SECTION    9000.00 EXTENDED        .18 FEET

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000
  9000.00      3.98    945.28      0.00    944.56    945.42       .14      2.28       .03    944.30
     370.       48.      124.      197.       28.       27.      105.       33.       26.    944.30
      .77      1.71      4.59      1.88      .060      .040      .070      .038    941.30    396.00
  .006703      364.      364.      364.         3         0         0      0.00    135.00    531.00

*SECNO 9001.000
3280 CROSS SECTION    9001.00 EXTENDED        .26 FEET

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  944.00 MAX ELLC=  943.20

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000
  9001.00      4.06    945.36      0.00    944.70    945.44       .09       .00       .02    944.30
     370.       59.       43.      268.       31.       16.      112.       33.       26.    944.30
      .77      1.89      2.65      2.39      .040      .023      .040      .038    941.30    396.00
  .003235        1.        1.        1.         2         0         0    -11.30    135.00    531.00

*SECNO 9038.000
3280 CROSS SECTION    9038.00 EXTENDED        .38 FEET

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD=  944.00 MAX ELLC=  943.20

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000

          U/S FACE OF NASHWAY DR. CULVERT,  BS>113                          SEC. U

          BT AND GR STATIONS HAVE BEEN SKEWED BY 0.90

  9038.00      4.18    945.48      0.00    944.84    945.55       .07       .10       .00    944.30
     370.       62.       40.      267.       35.       17.      123.       33.       26.    944.30
      .78      1.76      2.34      2.17      .040      .023      .040      .038    941.30    396.00
  .002357       37.       37.       37.         2         0         0    -11.30    135.00    531.00

*SECNO 9039.000
3280 CROSS SECTION    9039.00 EXTENDED        .36 FEET

3470 ENCROACHMENT STATIONS=      396.0      531.0  TYPE=      1  TARGET=      135.000
  9039.00      4.16    945.46      0.00    944.82    945.58       .12       .00       .03    944.30
     370.       46.      123.      201.       35.       28.      121.       33.       26.    944.30
      .78      1.34      4.33      1.66      .090      .045      .090      .038    941.30    396.00
  .007133        1.        1.        1.         2         0         0      0.00    135.00    531.00

*SECNO 9116.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        FL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA      LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST
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① Completely submerged
- use normal bridge [illegible] -

② stations have been skewed by 2.90 except three stations for the [illegible] itself.

77) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>114 SEC. V

9116.00	4.04	945.74	0.00	944.97	945.90	.16	.30	.02	942.80
370.	72.	233.	65.	63.	60.	74.	33.	26.	943.70
.78	1.13	3.91	.89	.085	.043	.085	.038	941.70	16.91
.002494	77.	77.	77.	2	0	0	0.00	132.43	149.34

*SECNO 9466.000

427) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>115 SEC. W

9466.00	3.95	946.45	0.00	945.30	946.50	.05	.56	.03	944.00
235.	49.	119.	67.	65.	52.	98.	35.	28.	944.20
.85	.74	2.31	.69	.070	.042	.080	.038	942.50	9.75
.000939	350.	350.	350.	3	0	0	0.00	149.27	159.02

*SECNO 10071.000

1032) U/S FROM U/S FACE OF NASHWAY DR. CULVERT, VS>116 SEC. X

10071.00	4.26	946.66	0.00	945.47	946.66	.00	.15	.01	947.10
235.	0.	33.	202.	0.	46.	692.	42.	31.	945.00
1.33	0.00	.71	.29	.070	.042	.095	.038	942.60	60.76
.000113	605.	605.	605.	3	0	0	0.00	387.97	448.72

*SECNO 10831.000

15) D/S FROM D/S FACE OF WEST MAPLE ROAD CULVERT, VS>117 SEC. Y

10831.00	2.96	946.86	0.00	945.64	946.91	.05	.23	.02	944.50
235.	140.	78.	48.	119.	28.	76.	50.	36.	945.70
1.47	.92	2.78	.63	.100	.045	.100	.039	943.90	527.05
.002161	760.	760.	760.	2	0	0	0.00	189.66	716.70

*SECNO 10845.000

3470 ENCROACHMENT STATIONS=			512.0	730.0	TYPE=	1	TARGET=	218.000	
10845.00	6.62	946.92	0.00	945.70	946.92	.00	.00	.01	940.90
235.	103.	36.	95.	470.	68.	473.	50.	36.	942.10
1.48	.22	.53	.20	.095	.045	.095	.039	940.30	512.00
.000024	14.	14.	14.	2	0	0	0.00	218.00	730.00

*SECNO 10846.000

SECNO	DEPTH	CNSEL	CRINS	HSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=			512.0	730.0	TYPE=	1	TARGET=	218.000	
10846.00	6.62	946.92	0.00	945.71	946.93	.00	.00	.00	940.90
235.	95.	53.	88.	470.	68.	473.	50.	36.	942.10
1.48	.20	.77	.19	.080	.024	.080	.039	940.30	512.00
.000014	1.	1.	1.	0	0	0	0.00	218.00	730.00

*SPECIAL BRIDGE

① Major portion of the flow is over flow

② Free-fall weir flow

③ d/s of the bridge was extended becomes section 10831

④ Since this is a free-fall weir flow the top widths of u/s section and d/s sections are not same.

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.30	3.02	0.00	3.80	0.00	11.40	0.00	940.70	940.30

*SECNO 10888.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
962.10	948.20	0.00	145.	92.	11.	11.	943.70	948.60

U/S FACE OF WEST MAPLE ROAD CULVERT, BS>118 SEC. 2

10888.00	8.50	949.20	0.00	947.16	949.23	.03	2.30	0.00	942.20
235.	81.	84.	70.	198.	40.	162.	51.	37.	942.20
1.50	.41	2.08	.43	.080	.026	.080	.039	940.70	494.14
.000110	42.	42.	42.	2	0	9	0.00	270.87	765.00

*SECNO 10889.000

10889.00	8.52	949.22	0.00	947.16	949.23	.01	.00	.00	942.20
235.	94.	60.	81.	199.	40.	163.	51.	37.	942.20
1.50	.47	1.48	.50	.070	.034	.070	.039	940.70	491.98
.000112	1.	1.	1.	1	0	0	0.00	274.53	766.51

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: WALNUT LAKE OUTLET

4) DOCUMENT TYPE: 10YR-500YR SUMMARY

00BREAK00

WBLNJODF	JANDA			05/08/79	09.42.02	Z600	JO		

W. BLOOMFIELD TWP. #15
WALNUT LAKE - OUTLET
J & A FILE No. 5850-10

REVISED STARTING WSEL
U/S OF SHIPSON LAKE
10-50-100-500 YR. FLOODS

```
**** 7000 SCOPE 2.1 LVL  221  12/14/78  20.52.16  05/08/79      79128

SYS DEVICES 819/ 4/PF FLS=200K FLL=764K MXS=163K MXL=453K MXB=453B

HH.MM.SS CPU SECOND ORIGIN
         09.39.20.MFA. JO    LV461 NOSBE B+V LYNRELEASE447 R.3 07.13
09.42.00 00000.006 MFZ.      -WBLJ010,T20,STMF7.    WB. BLOOMFIELD TNR. FIS
09.42.00 00000.022 USR.       CHARGE.810-0037-45-78-5810,JANDA,001,D,JANDA.
09.42.02 00000.058 JOB.      -ATTACH,LGO,HEC2N76V2,ID=HEC.
09.42.02 00000.063 MFZ.        PF254 - CYCLE    2 ATTACHED FROM SN=SYSTEM
09.42.02 00000.064 LOD.      -LGO(PL=9999999.
09.42.06 00000.085 USR.        FORTRAN LIBRARY 439          08/20/78
09.42.11 00000.845 USR.           STOP
09.42.11 00000.845 USR.             .759 CP SECONDS EXECUTION TIME
09.42.11 00000.849 MFZ.          RM770 = MAXIMUM ACTIVE FILES                  7
09.42.11 00000.850 MFZ.          RM771 = OPEN/CLOSE CALLS                     28
09.42.11 00000.850 MFZ.          RM772 = DATA TRANSFER CALLS                2,300
09.42.11 00000.850 MFZ.          RM773 = CONTROL/POSITIONING CALLS             66
09.42.11 00000.850 MFZ.          RM774 = BM DATA TRANSFER CALLS               353
09.42.11 00000.850 MFZ.          RM775 = BM CONTROL/POSITIONING CALLS          56
09.42.11 00000.851 MFZ.          RM776 = QUEUE MANAGER CALLS                   68
09.42.11 00000.851 MFZ.          RM777 = RECALL CALLS                          59
09.42.11 00000.851 MFZ.          SWMSG = NUMBER OF TAPES MOUNTED
09.42.11 00000.852 MFZ.          SRU                    1.045  SEC
09.42.11 00000.852 MFZ.          SCM                   22.146  KWS
09.42.11 00000.852 MFZ.          I/O                    0.037  MW
09.42.11 00000.852 MFZ.          RMS                    0.021  MWS
09.42.11 00000.852 MFZ.          USER                   0.534  SEC
09.42.11 00000.853 MFZ.          JOB                    0.854  SEC
09.42.11 00000.853 MFZ.          SCMD = 000045 SCM/LC SWAPS
09.42.11 00000.853 MFZ.       WBLJODF    WBLJODF
09.42.11 EJ   END OF JOB
WBLJODF  JANDA                 05/08/79  09.42.02  7600    JO
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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
**************************************************

T1              W. BLOOMFIELD TWP. FIS
T2                 100 YEAR FLOOD
T3                 WALNUT LAKE-OUTLET

J1  ICHECK    INO       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ
        0.        4.        0.        0.  0.000000      0.00       0.0        0.   879.390     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IBW       CHNIM     ITRACE
    3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
```

2600 (outlet Simpson)

*PROF 3

CCHV= .300 CEHV= .500

*SECNO 4380.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

Simpson Lake

VALLEY SECTION #64 SECT.J

4380.00	2.69	879.39	0.00	879.39	879.43	.04	0.00	0.00	879.80
32.	0.	32.	0.	0.	20.	0.	0.	0.	880.20
0.00	0.00	1.57	0.00	.040	.045	.040	0.000	876.70	170.93
.001414	0.	0.	0.	0	0	0	0.00	13.01	183.94

outlet @ XSEC 2600

inlet @ XSEC 4380

large reservoir @ a constant elevation at the inlet and outlet.

*SECNO 4499.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 881.30 ELREA= 881.30

4499.00	2.25	879.65	0.00	0.00	879.80	.15	.32	.05	881.30
32.	0.	32.	0.	0.	10.	0.	0.	0.	881.30
.01	0.00	3.09	0.00	.040	.045	.040	.045	877.40	230.00
.006783	119.	119.	119.	2	0	0	0.00	4.80	234.80

*SECNO 4500.000

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 880.00 MAX ELLC= 880.40

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 881.30 ELREA= 881.30

D/S FACE PRIVATE BRIDGE

4500.00	2.25	879.65	0.00	0.00	879.82	.17	.01	.01	881.30
32.	0.	32.	0.	0.	10.	0.	0.	0.	881.30
.01	0.00	3.30	0.00	.040	.033	.040	.044	877.40	230.00
.005199	1.	1.	1.	0	0	0	-.68	4.80	234.80

*SECNO 4520.000

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 880.00 MAX ELLC= 880.40

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 881.30 ELREA= 881.30

U/S FACE PRIVATE BRIDGE B.S. #65 SECT.K

4520.00	2.36	879.76	0.00	0.00	879.92	.15	.10	.00	881.30
32.	0.	32.	0.	0.	10.	0.	0.	0.	881.30
.01	0.00	3.16	0.00	.040	.033	.040	.042	877.40	230.00
.004635	20.	20.	20.	0	0	0	-.78	4.80	234.80

*SECNO 4521.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT

```
 TIME      VLOB      VCH       VROB      XNL       XLCH      XNR       WTN       ELMIN      SSTA
 SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      881.30 ELREA=      881.30

 4521.00     2.40   879.80     0.00      0.00   879.93      .13       .00       .01   881.30
     32.       0.      32.       0.        0.      11.       0.        0.        0.   881.30
     .01     0.00     2.89     0.00      .060     .042     .060      .042   877.40   230.00
 .004947       1.       1.       1.         2        0        0      0.00      4.80   234.80

*SECNO 4700.000

3470 ENCROACHMENT STATIONS=     144.0     167.0  TYPE=     1  TARGET=      25.000

                    VALLEY SECTION #89                          SECT.L

 4700.00     2.23   880.33     0.00      0.00   880.36      .03       .41      .03100000.00
     32.       0.      32.       0.        0.      23.       0.        0.        0. 100000.00
     .05     0.00     1.37     0.00      .060     .042     .060      .042   878.10   144.00
 .001261      179.     179.     179.         2        0        0      0.00     18.21   162.21

*SECNO 4720.000

3470 ENCROACHMENT STATIONS=     149.0     162.0  TYPE=     1  TARGET=      13.000
 4720.00     1.91   880.31     0.00      0.00   880.51      .20       .06      .09100000.00
     32.       0.      32.       0.        0.       9.       0.        0.        0. 100000.00
     .05     0.00     3.62     0.00      .060     .042     .060      .042   878.40   149.00
 .016734      20.      20.      20.         2        0        0      0.00     10.82   159.82

*SECNO 4740.000

3470 ENCROACHMENT STATIONS=     143.0     146.0  TYPE=     1  TARGET=       3.000

              D/S FACE MIDDLEBELT ROAD BRIDGE

 4740.00     1.69   880.39     0.00      0.00   881.07      .67       .32      .23100000.00
     32.       0.      32.       0.        0.       5.       0.        0.        0. 100000.00
     .05     0.00     6.58     0.00      .020     .024     .020      .041   873.70   143.00
 .015468      20.      20.      20.         2        0        0      0.00      3.00   146.00

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     0.00      3.37      3.02      0.00      2.40      0.00      7.10      0.00    878.70    879.00

*SECNO 4800.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=     0.000  EGLWC=   881.916  ELLC=   881.950  PCWSE=   880.394  ELTRD=   889.900

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD=  889.90 MAX ELLC=  881.95

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      889.90 ELREA=      889.90

              U/S FACE MIDDLEBELT ROAD BRIDGE  B.S. #90        SECT.M
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4800.00	2.57	881.57	0.00	0.00	881.81	.03	.00	.07	881.00
32.	0.	32.	0.	0.	0.	0.	0.	0.	881.00
.05	0.00	5.36	0.00	.020	.024	.020	.038	879.00	170.00
.008700	60.	60.	60.	4	0	0	-.34	3.00	173.00

*SECNO 4920.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

D/S FACE PRIVATE BRIDGE

4920.00	2.67	882.07	0.00	0.00	882.10	.03	.16	.13	882.20
32.	0.	32.	0.	0.	24.	0.	0.	0.	882.20
.08	0.00	1.36	0.00	.065	.035	.065	.037	879.40	70.00
.000514	120.	120.	120.	3	0	0	0.00	10.00	80.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.10	2.90	0.00	9.00	0.00	18.80	0.00	879.40	879.40

*SECNO 4928.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	OPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
882.17	882.10	0.00	0.	32.	19.	19.	881.50	882.20

U/S FACE PRIVATE BRIDGE B.S. #91 SECT.4

4928.00	2.74	882.14	0.00	0.00	882.17	.03	.07	0.00	882.20
32.	0.	32.	0.	0.	24.	0.	0.	0.	882.20
.03	0.00	1.32	0.00	.065	.035	.065	.037	879.40	70.00
.000474	8.	8.	8.	2	0	0	0.00	10.30	80.00

*SECNO 5219.000

5219.00	2.09	882.39	0.00	0.00	882.56	.17	.32	.07	884.70
32.	0.	32.	0.	0.	10.	0.	0.	0.	884.70
.10	0.00	3.34	0.00	.065	.035	.065	.037	880.30	145.00
.005062	291.	291.	291.	2	0	0	0.00	4.80	149.80

*SECNO 5220.000

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 884.00 MAX ELLC= 883.30

D/S FACE PRIVATE BRIDGE

5220.00	2.08	882.38	0.00	0.00	882.58	.19	.01	.01	884.70
32.	0.	32.	0.	0.	9.	0.	0.	0.	884.70
.10	0.00	3.53	0.00	.020	.035	.020	.036	880.30	145.00
.007008	1.	1.	1.	0	0	0	-.53	4.80	149.80

*SECNO 5242.000

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 884.00 MAX ELLC= 883.30

U/S FACE PRIVATE BRIDGE B.S. #92 SECT.O

5242.00	2.26	882.56	0.00	0.00	882.73	.17	.14	.01	884.70
32.	0.	32.	0.	0.	10.	0.	0.	0.	884.70
.11	0.00	3.30	0.00	.020	.035	.020	.036	880.30	145.00
.005840	22.	22.	22.	2	0	0	-.68	4.80	149.80

*SECNO 5243.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
O	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	UTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
5243.00	2.30	882.60	0.00	0.00	882.74	.14	.01	.01	884.70
32.	0.	32.	0.	0.	11.	0.	0.	0.	884.70
.11	0.00	3.02	0.00	.030	.048	.080	.036	880.30	145.00
.007289	1.	1.	1.	2	0	0	0.00	4.80	149.80

*SECNO 5320.000

VALLEY SECTION #93 SECT.P

5320.00	3.17	882.87	0.00	0.00	882.89	.02	.11	.04	884.70
32.	0.	32.	0.	0.	29.	0.	0.	0.	884.60
.13	0.00	1.11	0.00	.030	.048	.080	.037	879.70	112.03
.000617	77.	77.	77.	2	0	0	0.00	14.92	126.95

*SECNO 5410.000

D/S FACE PRIVATE BRIDGE

5410.00	3.02	882.92	0.00	0.00	882.95	.02	.05	.00	883.20
32.	0.	32.	0.	0.	26.	0.	0.	0.	883.20
.15	0.00	1.25	0.00	.030	.040	.050	.037	879.90	60.00
.000546	90.	90.	90.	2	0	0	0.00	9.00	69.00

SPECIAL BRIDGE

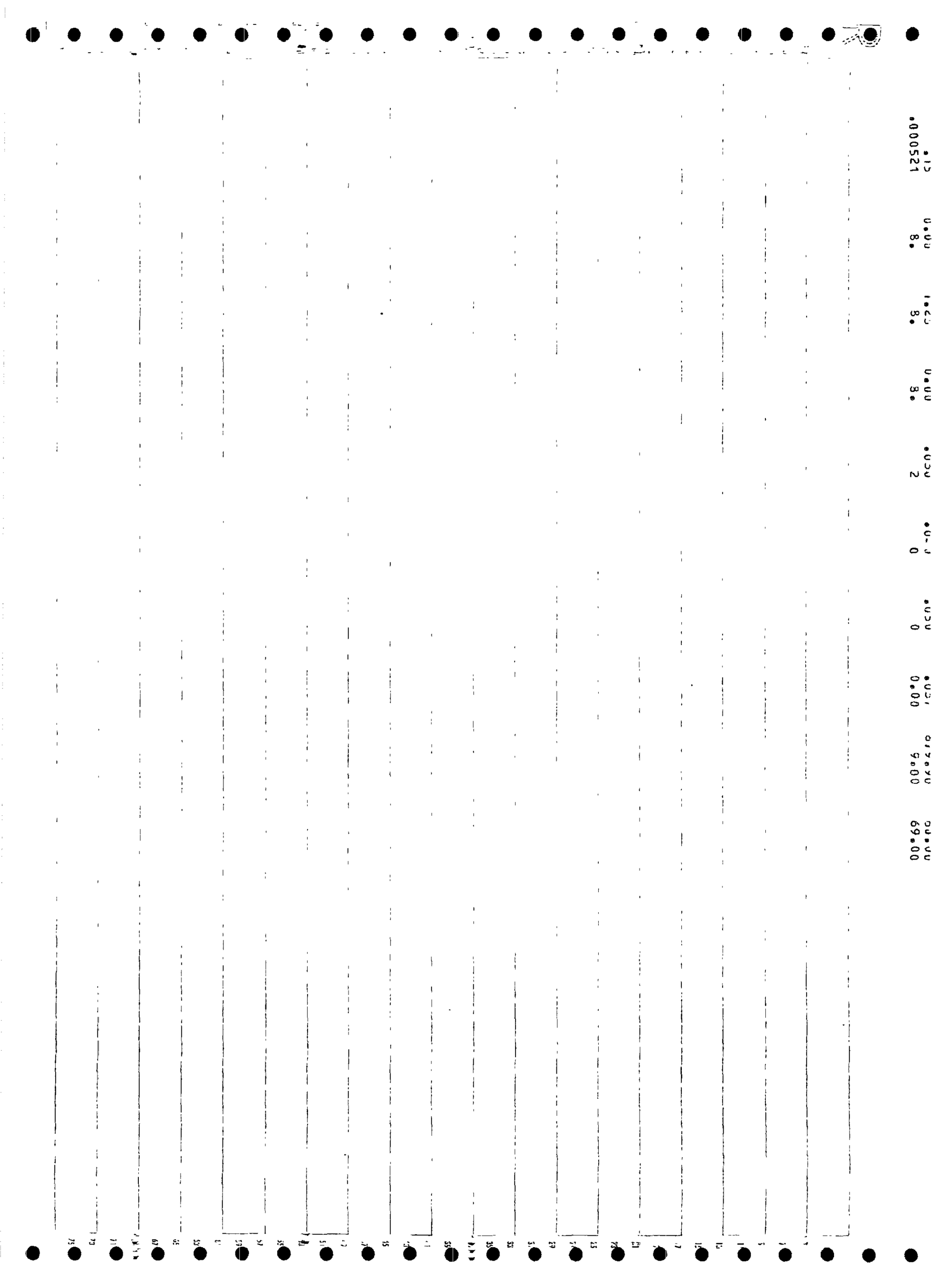
SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.10	2.90	0.00	8.60	0.00	21.60	0.00	879.90	879.90

*SECNO 5418.000
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QFR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
882.99	882.95	0.00	0.	32.	22.	22.	882.40	883.20

U/S FACE PRIVATE BRIDGE B.S. #94 SECT.O

5418.00	3.07	882.97	0.00	0.00	882.99	.02	.05	0.00	883.20
32.	0.	32.	0.	0.	26.	0.	0.	0.	883.20



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**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

WALNUT LAKE-OUTL

SUMMARY PRINTOUT

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
	4380.000	0.00	0.00	0.00	876.70	19.00	878.56	878.61	10.75	1.86	10.04	172.82	182.86
	4380.000	0.00	0.00	0.00	876.70	30.00	879.16	879.21	17.42	2.46	12.19	171.45	183.64
	4380.000	0.00	0.00	0.00	876.70	32.00	879.39	879.43	20.32	2.69	13.01	170.93	183.94
	4380.000	0.00	0.00	0.00	876.70	39.00	879.35	879.38	26.80	3.15	19.54	165.00	184.54
	4499.000	119.00	0.00	0.00	877.40	19.00	879.02	879.12	7.30	1.62	4.80	230.00	234.80
	4499.000	119.00	0.00	0.00	877.40	30.00	879.50	879.65	9.64	2.10	4.80	230.00	234.80
	4499.000	119.00	0.00	0.00	877.40	32.00	879.65	879.80	10.36	2.25	4.80	230.00	234.80
	4499.000	119.00	0.00	0.00	877.40	39.00	880.03	880.19	12.18	2.63	4.80	230.00	234.80
	4500.000	1.00	880.00	880.40	877.40	19.00	879.02	879.13	7.22	1.62	4.80	230.00	234.80
	4500.000	1.00	880.00	880.40	877.40	30.00	879.50	879.67	9.12	2.10	4.80	230.00	234.80
	4500.000	1.00	880.00	880.40	877.40	32.00	879.65	879.82	9.70	2.25	4.80	230.00	234.80
	4500.000	1.00	880.00	880.40	877.40	39.00	880.02	880.22	10.84	2.62	4.80	230.00	234.80
	4520.000	20.00	880.00	880.40	877.40	19.00	879.11	879.21	7.59	1.71	4.80	230.00	234.80
	4520.000	20.00	880.00	880.40	877.40	30.00	879.62	879.77	9.58	2.22	4.80	230.00	234.80
	4520.000	20.00	880.00	880.40	877.40	32.00	879.76	879.92	10.13	2.36	4.80	230.00	234.80
	4520.000	20.00	880.00	880.40	877.40	39.00	880.18	880.37	11.07	2.78	4.80	230.00	234.80
	4521.000	1.00	0.00	0.00	877.40	19.00	879.12	879.21	7.77	1.72	4.80	230.00	234.80
	4521.000	1.00	0.00	0.00	877.40	30.00	879.65	879.78	10.37	2.25	4.80	230.00	234.80
	4521.000	1.00	0.00	0.00	877.40	32.00	879.80	879.93	11.08	2.40	4.80	230.00	234.80
	4521.000	1.00	0.00	0.00	877.40	39.00	880.26	880.40	13.30	2.86	4.80	230.00	234.80
	4700.000	179.00	0.00	0.00	878.10	19.00	879.70	879.73	13.45	1.60	13.69	144.00	157.69
	4700.000	179.00	0.00	0.00	878.10	30.00	880.21	880.24	21.45	2.11	17.40	144.00	161.40
	4700.000	179.00	0.00	0.00	878.10	32.00	880.33	880.36	23.35	2.23	18.21	144.00	162.21
	4700.000	179.00	0.00	0.00	878.10	39.00	880.71	880.74	31.06	2.61	21.19	144.00	165.19
*	4720.000	20.00	0.00	0.00	878.40	19.00	879.81	880.11	4.31	1.41	7.47	149.00	156.47
	4720.000	20.00	0.00	0.00	878.40	30.00	880.18	880.42	7.53	1.78	9.87	149.00	158.87
	4720.000	20.00	0.00	0.00	878.40	32.00	880.31	880.51	8.85	1.91	10.82	149.00	159.82
	4720.000	20.00	0.00	0.00	878.40	39.00	880.70	880.83	13.65	2.30	13.00	149.00	162.00
	4740.000	20.00	0.00	0.00	878.70	19.00	880.12	880.46	4.04	1.42	3.00	143.00	146.00
	4740.000	20.00	0.00	0.00	878.70	30.00	880.35	880.97	4.72	1.65	3.00	143.00	146.00
	4740.000	20.00	0.00	0.00	878.70	32.00	880.39	881.07	4.87	1.69	3.00	143.00	146.00
	4740.000	20.00	0.00	0.00	878.70	39.00	880.59	881.38	5.46	1.89	3.00	143.00	146.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
4800.000	60.00	889.90	881.95	879.00	19.00	880.63	880.99	3.94	1.63	3.00	170.00	173.00
4800.000	60.00	889.90	881.95	879.00	30.00	881.27	881.70	5.73	2.27	3.00	170.00	173.00
4800.000	60.00	889.90	881.95	879.00	32.00	881.37	881.81	5.97	2.37	3.00	170.00	173.00
4800.000	60.00	889.90	881.55	879.00	39.00	881.67	882.19	6.74	2.67	3.00	170.00	173.00
4920.000	120.00	0.00	0.00	879.40	19.00	881.26	881.28	15.46	1.86	10.00	70.00	80.00
4920.000	120.00	0.00	0.00	879.40	30.00	881.95	881.98	22.34	2.55	10.00	70.00	80.00
4920.000	120.00	0.00	0.00	879.40	32.00	882.07	882.10	23.61	2.67	10.00	70.00	80.00
4920.000	120.00	0.00	0.00	879.40	39.00	882.45	882.48	33.37	3.05	35.38	67.87	104.25
4928.000	8.00	882.20	881.50	879.40	19.00	881.26	881.28	15.46	1.86	10.00	70.00	80.00
4928.000	8.00	882.20	881.50	879.40	30.00	882.01	882.04	22.99	2.61	10.00	70.00	80.00
4928.000	8.00	882.20	881.50	879.40	32.00	882.14	882.17	24.29	2.74	10.00	70.00	80.00
4928.000	8.00	882.20	881.50	879.40	39.00	882.49	882.51	34.50	3.09	37.15	67.62	104.76
5219.000	291.00	0.00	0.00	880.30	19.00	881.62	881.78	5.92	1.32	4.80	145.00	149.80
5219.000	291.00	0.00	0.00	880.30	30.00	882.27	882.44	9.01	1.97	4.80	145.00	149.80
5219.000	291.00	0.00	0.00	880.30	32.00	882.39	882.56	9.58	2.09	4.80	145.00	149.80
5219.000	291.00	0.00	0.00	880.30	39.00	882.70	882.89	11.08	2.40	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	19.00	881.63	881.79	5.92	1.33	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	30.00	882.27	882.46	8.59	1.97	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	32.00	882.38	882.58	9.05	2.08	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	39.00	882.69	882.92	10.26	2.39	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	19.00	881.82	881.94	6.83	1.52	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	30.00	882.44	882.61	9.25	2.14	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	32.00	882.56	882.73	9.71	2.26	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	39.00	882.90	883.10	10.80	2.60	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	19.00	881.82	881.94	6.85	1.52	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	30.00	882.48	882.62	10.01	2.18	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	32.00	882.60	882.74	10.59	2.30	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	39.00	882.97	883.12	12.37	2.67	4.80	145.00	149.80
5320.000	77.00	0.00	0.00	879.70	19.00	882.10	882.12	18.04	2.40	12.59	112.89	125.58
5320.000	77.00	0.00	0.00	879.70	30.00	882.75	882.77	26.97	3.05	14.58	112.16	126.74
5320.000	77.00	0.00	0.00	879.70	32.00	882.87	882.89	28.72	3.17	14.92	112.03	126.95
5320.000	77.00	0.00	0.00	879.70	39.00	883.25	883.27	34.53	3.55	16.00	111.61	127.61
5410.000	90.00	0.00	0.00	879.90	19.00	882.16	882.17	18.67	2.26	9.00	60.00	69.00
5410.000	90.00	0.00	0.00	879.90	30.00	882.81	882.83	24.49	2.91	9.00	60.00	69.00
5410.000	90.00	0.00	0.00	879.90	32.00	882.92	882.95	25.55	3.02	9.00	60.00	69.00
5410.000	90.00	0.00	0.00	879.90	39.00	883.30	883.32	30.05	3.40	33.80	40.35	74.15
5418.000	8.00	883.20	882.40	879.90	19.00	882.16	882.18	18.67	2.26	9.00	60.00	69.00
5418.000	8.00	883.20	882.40	879.90	30.00	882.85	882.87	24.86	2.95	9.00	60.00	69.00
5418.000	8.00	883.20	882.40	879.90	32.00	882.97	882.99	25.98	3.07	9.00	60.00	69.00
5418.000	8.00	883.20	882.40	879.90	39.00	883.35	883.38	32.11	3.45	38.84	38.37	77.21

SUMMARY OF ERRORS

CAUTION SECNO= 4720.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4720.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 4720.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: WALNUT LAKE OUTLET

4) DOCUMENT TYPE: 100YR ENCROACHED

00BREAK00

W. BLOOMFIELD TWP. FIS
J&A FILE NO. 5850-10
FRANKLIN BRANCH -
ROUGE RIVER
4 FLOW HEC-2
"EXROACHED FLOODWAY"
"FINAL MODEL"

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**** 7000 SCOPE 2.1 LVL  221  09/21/78  22.46.56  10/11/78      78284

SYS DEVICES 819/ 4/PF FLS=200K FLL=764K MXS=160K MXL=453K MXB=453B

HH.MM.SS CPU SECOND ORIGIN
         13.54.28.MFA. JO    LV461 NOS3E E+4 LYARELEASE447 02/04/78
13.57.12 00000.025 MFZ.     -WBLJ010,T20,STMFZ.   W. BLOOMFIELD THP. FIS
13.57.13 00000.039 USR.      CHARGE,810-0037-45-78-5810,JANDA,001,3,JANDA.
13.57.13 00000.075 JOB.     -ATTACH,LGO,HEC2N76V2,ID=HEC.
13.57.13 00000.080 MFZ.        PF254 - CYCLE    1 ATTACHED FROM SN=SYSTEM
13.57.13 00000.081 LOC.     -LGO(PL=999999).
13.57.43 00000.907 MFZ.        LD610 - FLS REQUIRED TO LOAD - 0027777 OU.COS
13.57.43 00000.911 MFZ.        LD603 - EXECUTION INITIATED OS.EXP
13.57.43 00000.912 USR.       FORTRAN LIBRARY 439          08/20/78
13.58.38 00010.474 USR.          STOP
13.58.38 00010.474 USR.           9.561 CP SECONDS EXECUTION TIME
13.58.39 00010.478 MFZ.        RM770 - MAXIMUM ACTIVE FILES                    7
13.58.39 00010.478 MFZ.        RM771 - OPEN/CLOSE CALLS                       32
13.58.39 00010.479 MFZ.        RM772 - DATA TRANSFER CALLS                26,598
13.58.39 00010.479 MFZ.        RM773 - CONTROL/POSITIONING CALLS              72
13.58.39 00010.479 MFZ.        RM774 - 3M DATA TRANSFER CALLS              1,439
13.58.39 00010.479 MFZ.        RM775 - 3M CONTROL/POSITIONING CALLS           77
13.58.39 00010.479 MFZ.        RM776 - QUEUE MANAGER CALLS                   275
13.58.39 00010.480 MFZ.        RM777 - RECALL CALLS                          143
13.58.39 00010.480 MFZ.        BWMSG - NUMBER OF TAPES MOUNTED
13.58.39 00010.480 MFZ.        SRU                  11.819  SEC
13.58.39 00010.480 MFZ.        SCM                 275.831  KWS
13.58.39 00010.481 MFZ.        I/O                   0.459  MW
13.58.39 00010.481 MFZ.        RMS                   1.169  MWS
13.58.39 00010.481 MFZ.        USER                  7.466  SEC
13.58.39 00010.481 MFZ.        JOB                  10.463  SEC
13.58.39 00010.482 MFZ.        SC050 - 000207 SC/LC SWAPS
13.58.39 00010.482 MFZ.     WBLJONJ   WBLJONJ
13.58.39.EJ  END OF JOB
WBLJCNJ  JANDA                10/11/78  13.57.13  7600    JO
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PROGRAM WILL BE ENTERED AT MAIN (355) SCM LENGTH 54711 LCM LENGTH 0

BLOCK	ADDRESS	LENGTH
/CONTRL/	100	17
MAIN	117	253
/DOUBLE/	372	10
/NAMES/	402	202
HZMAIN	604	15337
ADDPTS	16143	321
BLFLO	16464	1021
BLOCK	17505	261
BWFIR	17766	1427
CARD	21415	2463
CHIMP	24100	1650
DC	25750	706
DONE	26656	60
FLDHAZ	26736	2220
FLDDIS	31156	455
HLXDAT.	31631	0
NEAR	31631	16
PRIAH	31647	251
PROF	32120	1142
SCALE	33262	236
SLARA	33520	243
SUMPO	33763	2744
XSEC	36727	1256
YCRIT	40205	122
MAPIT	40327	50
OVAR	40377	24
SAVEIT	40423	24
/STP.END/	40447	1
/FCL.C./	40450	23
/Q8.IO./	40473	140
OBNTRY=	40633	1
COMIO=	40634	44
ENDFIL=	40700	45
EOF	40745	20
FECMSK=	40765	41
FLTIN=	41026	156
FLTOUT=	41204	315
FMTAP=	41521	372
FORSYS=	42113	561
FORUTL=	42674	16
GETFIT=	42712	43
INCOM=	42755	256
/IO.BUF./	43233	227
INPB=	43462	324
INPC=	44006	173
KODER=	44201	467
KRAKER=	44670	454
OUTB=	45344	246
/HEADING/	45612	16
/LIN.CNT/	45630	1
OUTC=	45631	1054
OUTCOM=	46705	204

REWIND=	47111	36
GOTOER=	47147	14
ALOG	47163	77
EXP	47262	102
ITOJ*	47364	52
SQRT	47436	46
SYSAID=	47504	1
SYS=1ST	47505	62
XTOY*	47567	55
//	47644	15045

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1                W. BLOOMFIELD TWP. FIS  5250-10
T2                  10 YEAR FLOOD
T3                    FRANKLIN BRANCH OF THE ROUGE RIVER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.  0.000000      0.00       0.0        0.   797.590     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IDW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    39.000    40.000    41.000    42.000    43.000     1.000     3.000    25.000     8.000

     4.000    53.000    54.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      .050      .090      .040      .300      .500      0.000     0.000     0.000     0.000     0.000
QT     4.000   745.000  1140.000  1310.000  1805.000     0.000     0.000     0.000     0.000     0.000

                    VALLEY SECTION #16                        SECT.A

X1     0.000    17.000   378.000   416.000     0.000     0.000     0.000     0.000     0.000     0.000
GR   820.000     0.000   810.000    52.000   808.000    67.000   806.000    90.000   804.000   350.000
GR   802.000   360.000   800.000   370.000   798.000   374.000   796.000   378.000   793.100   392.000
GR   792.900   401.000   793.100   408.000   795.400   416.000   800.000   450.000   810.000   472.000
GR   820.000   500.000   830.000   536.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      .070      .065      .040     0.000     0.000     0.000     0.000     0.000     0.000     0.000

                    VALLEY SECTION #17                        SECT.B

X1   520.000    22.000   146.000   169.000   520.000   520.000   520.000     0.000     0.000     0.000
GR   830.000     0.000   820.000    35.000   810.000    60.000   808.000    70.000   806.000    78.000
GR   804.000    87.000   802.000    93.000   800.000   122.000   798.000   140.000   797.300   146.000
GR   794.300   150.000   793.700   158.000   794.200   163.000   798.200   169.000   800.000   192.000
GR   802.000   209.000   804.000   219.000   806.000   230.000   808.000   238.000   810.000   247.000
GR   820.000   257.000   830.000   273.000     0.000     0.000     0.000     0.000     0.000     0.000

X1  1325.000    17.000   200.000   223.000   805.000   805.000   805.000     0.000     0.000     0.000
GR   830.000     0.000   820.000    30.000   810.000    70.000   808.000   100.000   806.000   115.000
GR   804.000   135.000   802.000   155.000   799.100   200.000   796.100   204.000   795.500   212.000
GR   796.000   217.000   800.000   223.000   810.000   233.000   820.000   243.000   830.000   263.000
GR   840.000   275.000   850.000   310.000     0.000     0.000     0.000     0.000     0.000     0.000
NC      .030      .060      .042     0.000     0.000     0.000     0.000     0.000     0.000     0.000

                    VALLEY SECTION #18                        SECT.C
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X1	27.0.000	16.000	80.000	99.000	1465.000	1465.000	146..000	0.000	0.000	0.000
GR	810.000	0.000	808.000	27.000	806.000	58.000	804.000	72.000	802.800	90.000
GR	799.400	35.000	798.900	69.000	799.300	94.000	801.000	99.000	802.000	155.000
GR	804.000	210.000	806.000	248.000	808.000	252.000	810.000	270.000	820.000	308.000
GR	830.000	330.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3310.000	20.000	230.000	253.000	520.000	700.000	520.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	115.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	810.000	0.000	808.000	10.000	806.000	20.000	806.000	55.000	808.000	50.000
GR	808.000	115.000	806.000	140.000	804.000	225.000	802.000	230.000	800.500	235.000
GR	800.800	241.000	800.800	247.000	802.000	253.000	802.000	260.000	804.000	285.000
GR	804.000	325.000	804.000	425.000	806.000	440.000	808.000	450.000	810.000	470.000
X1	3370.000	90.000	250.000	273.000	60.000	60.000	60.000	0.000	0.000	0.000
GR	810.200	0.000	809.000	8.600	807.700	17.200	807.100	25.800	807.000	34.400
GR	807.500	43.100	808.200	51.700	808.300	60.300	808.100	68.900	807.300	77.500
GR	807.500	86.200	807.400	94.800	807.400	103.400	807.400	112.000	807.400	120.600
GR	807.200	129.300	806.700	137.900	806.200	146.500	805.900	155.100	805.700	164.700
GR	805.600	172.400	805.500	181.000	805.300	189.600	805.200	198.200	805.000	206.800
GR	804.900	215.500	804.700	224.100	804.600	232.700	804.500	241.300	802.900	250.000
GR	802.600	250.700	802.200	251.500	801.900	252.300	801.500	253.000	801.200	253.800
GR	800.800	254.600	800.700	255.300	800.700	256.100	800.700	256.900	800.800	257.600
GR	800.600	258.400	800.800	259.200	800.900	259.900	800.900	260.700	800.900	261.500
GR	800.900	262.200	800.900	263.000	800.900	263.700	800.900	264.500	800.900	265.300
GR	800.900	266.000	800.900	266.800	801.100	267.600	801.200	268.300	801.400	269.100
GR	801.500	269.900	801.700	270.600	801.900	271.400	802.000	272.200	802.200	273.000
GR	802.400	279.000	803.000	285.100	803.600	291.100	804.300	297.200	804.600	303.300
GR	804.800	309.300	805.000	315.400	805.000	321.500	805.100	327.500	805.200	333.500
GR	805.300	339.700	805.300	345.700	805.400	351.300	805.600	357.600	806.200	365.900
GR	806.700	370.000	807.200	376.100	807.800	382.100	808.100	388.200	808.300	394.300
GR	808.500	400.300	808.700	406.400	809.000	412.500	809.200	418.500	810.300	424.600
GR	811.300	430.700	812.600	436.700	813.400	442.800	814.200	448.900	815.000	455.000
NC	.080	.070	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3430.000	90.000	270.000	293.000	60.000	60.000	60.000	0.000	0.000	0.000
GR	810.500	0.000	809.600	9.300	808.700	18.600	808.200	27.900	808.100	37.200
GR	808.400	46.500	808.800	55.800	808.700	65.100	808.200	74.400	807.600	83.700
GR	807.100	93.100	806.900	102.400	806.900	111.700	806.900	121.000	806.900	130.300
GR	806.800	139.600	806.400	148.900	806.100	158.200	805.900	167.500	805.800	176.800
GR	805.700	186.200	805.600	195.500	805.500	204.800	805.400	214.100	805.300	223.400
GR	805.200	232.700	805.100	242.000	805.000	251.300	804.900	260.600	803.900	270.300
GR	803.400	280.700	802.900	281.500	802.400	282.300	802.000	283.000	801.500	283.900
GR	801.000	284.600	800.900	285.300	800.800	286.100	800.800	286.900	800.900	287.600
GR	801.000	288.400	801.000	289.200	801.000	289.900	801.100	290.700	801.100	291.500
GR	801.100	292.200	801.100	293.000	801.100	293.700	801.100	294.500	801.100	295.300
GR	801.100	296.000	801.100	296.800	801.200	297.600	801.400	298.300	801.500	299.100
GR	801.700	299.900	801.900	300.600	802.100	301.400	802.200	302.200	802.400	303.000
GR	802.800	307.900	803.500	312.700	804.100	317.600	804.800	322.500	805.300	327.400
GR	805.700	332.300	806.000	337.200	806.100	342.100	806.300	347.000	806.400	351.900
GR	806.600	356.800	806.700	361.700	806.900	366.600	807.300	371.500	808.400	376.400
GR	809.500	381.300	810.500	386.200	811.600	391.100	812.200	396.000	812.700	400.900
GR	813.100	405.800	813.500	410.700	814.000	415.600	814.500	420.500	815.600	425.400
GR	816.300	430.300	817.500	435.200	818.400	440.100	819.200	445.000	820.000	449.900
X1	3490.000	90.000	290.000	313.000	60.000	60.000	60.000	0.000	0.000	0.000
GR	810.700	0.000	810.200	10.000	809.700	20.000	809.400	29.900	809.200	39.900
GR	809.300	49.900	809.400	59.900	809.100	69.900	808.800	79.900	807.500	89.900
GR	806.700	99.900	806.400	109.900	806.400	119.900	806.400	129.900	806.400	139.900
GR	806.300	149.900	806.200	159.900	806.000	169.900	805.900	179.900	805.800	189.900
GR	805.800	199.900	805.700	209.900	805.700	219.900	805.600	229.900	805.500	239.900
GR	805.500	249.900	805.400	259.900	805.400	269.900	805.300	279.900	804.800	290.000
GR	804.200	290.700	803.700	291.500	803.000	292.300	802.500	295.000	801.90	293.800

GR	801.300	2.4.600	801.000	2 .. .300	801.000	29..100	801.10	2..6.900	801.100	29..000
GR	801.100	298.400	801.200	299.200	801.200	299.900	801.300	300.700	801.300	301.500
GR	801.300	302.200	801.300	303.000	801.300	303.700	801.300	304.500	801.300	305.300
GR	801.300	306.000	801.300	306.800	801.400	307.500	801.600	308.300	801.800	309.100
GR	801.900	309.900	802.100	310.500	802.300	311.400	802.500	312.200	802.600	313.000
GR	803.200	316.700	803.900	320.400	804.700	324.100	805.400	327.900	806.000	331.600
GR	806.600	335.300	807.000	339.100	807.200	342.800	807.500	34..500	807.700	350.300
GR	807.900	354.000	808.100	357.700	808.300	361.500	809.000	365.700	810.600	368.900
GR	812.200	372.700	813.200	376.400	815.400	380.100	816.400	383.900	817.000	387.600
GR	817.700	391.300	818.300	395.100	819.000	398.800	819.700	402.500	820.500	406.300
GR	821.400	410.000	822.400	413.700	823.300	417.500	824.100	421.200	825.000	425.000

VALLEY SECTION #19 SECT.3

X1	3550.000	13.000	310.000	350.000	60.000	60.000	60.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	160.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	811.000	0.000	810.000	70.000	808.000	90.000	806.000	110.000	805.800	310.000
GR	801.200	315.000	801.500	321.000	801.500	327.000	802.900	334.000	806.000	350.000
GR	810.000	368.000	820.000	380.000	830.000	410.000	0.000	0.000	0.000	0.000
MC	.080	.080	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	3885.000	10.000	340.000	363.000	335.000	335.000	335.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	160.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	811.000	0.000	810.000	90.000	808.000	190.000	806.000	340.000	802.800	345.000
GR	803.200	351.000	803.200	357.000	804.600	363.000	810.000	380.000	812.000	400.000
X1	4310.000	11.000	190.000	213.000	425.000	425.000	425.000	0.000	0.000	0.000
GR	814.000	0.000	812.000	30.000	810.000	80.000	808.000	190.000	804.900	195.000
GR	805.200	201.000	805.200	207.000	806.800	211.000	808.000	250.000	810.000	280.000
GR	820.000	305.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	4630.000	10.000	155.000	178.000	320.000	320.000	320.000	0.000	0.000	0.000
GR	813.000	0.000	812.000	20.000	810.000	155.000	806.400	150.000	806.700	163.000
GR	806.700	172.000	808.400	178.000	810.000	192.000	820.000	220.000	830.000	255.000
DT	4.000	380.000	570.000	660.000	695.000	0.000	0.000	0.000	0.000	0.000
X1	5200.000	18.000	330.000	353.000	570.000	570.000	570.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	364.000	0.000	0.000	0.000	0.000
GR	821.000	0.000	820.000	30.000	812.000	50.000	812.000	150.000	814.000	165.000
GR	816.000	260.000	816.000	300.000	814.000	320.000	812.000	350.000	809.200	335.000
GR	809.500	341.000	809.500	347.000	810.900	353.000	812.000	370.000	814.000	420.000
GR	816.000	445.000	818.000	460.000	820.000	500.000	0.000	0.000	0.000	0.000
X1	5225.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.100	0.000
X3	0.000	0.000	0.000	326.000	0.000	357.000	0.000	0.000	0.000	0.000
X1	5238.000	0.000	0.000	0.000	13.000	13.000	13.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	329.000	0.000	354.000	0.000	0.000	0.000	0.000
MC	.025	.025	.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE TEN HILL DRIVE CULVERT

X1	5250.000	25.000	190.000	209.000	12.000	12.000	12.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	815.500	815.500	0.000
GR	822.000	0.000	820.000	35.000	818.100	90.000	819.000	180.000	811.000	190.000
GR	810.000	191.000	809.500	192.000	809.500	193.000	810.000	194.000	811.000	195.000
GR	810.900	197.000	809.900	198.000	809.400	199.000	809.400	200.000	809.900	201.000
GR	810.900	202.000	810.900	204.000	809.9..	205.000	809.400	20..000	809.400	207.000

GR	809.000	208.000	810.900	20 .000	818.000	219.000	81..200	313.000	820.000	471.000
SB	0.000	1.390	2.840	0.000	11.500	0.000	58.900	0.000	809.400	809.400

U/S FACE TEN HILL DRIVE CULVERT B.S. #20 SECT.E

X1	5278.000	0.000	0.000	0.000	26.000	26.000	26.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	813.000	818.000	0.000
BT	29.000	0.000	322.000	0.000	35.000	820.000	0.000	90.000	818.100	0.000
BT	190.000	818.000	811.000	190.000	818.000	813.000	191.000	818.000	814.000	192.000
BT	818.000	814.500	193.000	818.000	814.500	194.000	818.000	814.000	195.000	818.000
BT	813.000	195.000	818.000	811.000	197.000	818.000	810.900	197.000	818.000	812.900
BT	198.000	818.000	813.900	199.000	818.000	814.400	200.000	816.000	814.400	201.000
BT	818.000	813.900	202.000	818.000	812.900	202.000	818.000	810.900	204.000	818.000
BT	810.900	204.000	818.000	812.900	205.000	818.000	813.900	206.000	818.000	814.400
BT	207.000	818.000	814.400	208.000	818.000	813.900	209.000	818.000	812.900	209.000
BT	818.000	810.900	313.000	818.200	0.000	471.000	820.000	0.000	0.000	0.000
NC	.070	.070	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #21 SECT.F

X1	5300.000	19.000	190.000	208.000	22.000	22.000	22.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	166.000	0.000	231.000	0.000	0.000	0.000	0.000
GR	830.000	0.000	826.000	6.000	826.000	10.000	824.000	21.000	822.000	32.000
GR	820.000	45.000	818.000	58.000	816.000	62.000	816.000	130.000	815.600	190.000
GR	811.000	194.000	810.300	199.000	810.700	205.000	813.000	200.000	814.000	230.000
GR	816.000	248.000	818.000	292.000	820.000	396.000	822.000	450.000	0.000	0.000
X1	6170.000	13.000	250.000	268.000	870.000	870.000	870.000	0.000	0.000	0.000
GR	830.000	0.000	828.000	10.000	826.000	18.000	824.000	22.000	822.000	32.000
GR	820.000	59.000	818.000	250.000	815.400	254.000	814.700	259.000	815.100	265.000
GR	817.400	268.000	820.000	288.000	830.000	330.000	0.000	0.000	0.000	0.000
X1	6669.000	19.000	160.000	170.500	499.000	499.000	499.000	0.000	0.000	0.000
GR	840.000	0.000	838.000	16.000	828.000	25.000	826.000	23.000	824.000	35.000
GR	821.900	148.000	821.400	160.000	817.800	160.000	817.400	165.000	817.200	170.500
GR	821.100	170.500	821.400	185.000	822.000	230.000	824.000	237.000	826.000	243.000
GR	828.000	251.000	830.000	260.000	838.000	300.000	840.000	306.000	0.000	0.000
NC	.070	.070	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	6670.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	15.000	0.000	840.000	0.000	18.000	850.000	0.000	26.000	828.000	0.000
BT	35.000	824.000	0.000	146.000	821.900	0.000	160.000	821.400	820.100	170.500
BT	821.100	819.200	185.000	821.400	0.000	230.000	822.000	0.000	237.000	824.000
BT	0.000	243.000	826.000	0.000	251.000	826.000	0.000	260.000	830.000	0.000
BT	300.000	838.000	0.000	306.000	340.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PRIVATE BRIDGE B.S. #22 SECT.G

X1	6680.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.100	.080	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	6681.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

VALLEY SECTION #23 SECT.G

X1	6700.000	20.000	165.000	195.000	19.000	19.000	19.000	0.000	0.000	0.000
GR	840.000	0.000	830.000	20.000	823.000	29.000	826.000	30.000	824.000	40.000
GR	822.500	165.000	816.000	174.000	817.200	182.000	817.900	187.000	821.600	195.000
GR	822.000	205.000	824.000	220.000	826.000	234.000	825.000	245.000	830.000	254.000
GR	832.000	267.000	834.000	280.000	836.000	290.000	838.000	300.000	840.000	306.000
NC	.080	.065	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	6736.000	0.000	0.000	0.000	36.000	36.000	36.000	0.000	0.000	0.000
SB	0.000	1.000	3.440	0.000	.010	0.000	.010	0.000	817.200	817.200

PRIVATE DAM DAM SECTION #23-A SECT.I

X1	6737.000	15.000	144.500	155.500	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	12.000	0.000	830.000	0.000	10.000	526.000	0.000	20.000	826.400	0.000
BT	144.500	826.400	0.000	144.600	824.500	0.000	154.700	824.500	0.000	154.600
BT	325.100	0.000	155.400	825.100	0.000	155.500	826.400	0.000	220.000	826.400
BT	0.000	240.000	826.000	0.000	250.000	830.000	0.000	0.000	0.000	0.000
GR	830.000	0.000	828.000	10.000	826.400	20.000	824.000	50.000	820.000	100.000
GR	817.200	144.500	817.200	144.600	817.200	154.700	817.200	154.600	817.200	155.400
GR	817.200	155.500	820.000	160.000	826.400	220.000	823.000	240.000	830.000	250.000
NC	.090	.070	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #24 SECT.J

X1	6990.000	25.000	66.000	207.000	253.000	253.000	253.000	0.000	0.000	0.000
GR	840.000	0.000	836.000	10.000	834.000	17.000	852.000	25.000	850.000	30.000
GR	829.400	56.000	826.700	66.000	822.400	70.000	822.200	90.000	821.600	110.000
GR	824.400	139.000	827.800	156.000	824.700	170.000	822.200	180.000	824.500	200.000
GR	827.200	207.000	828.000	215.000	830.000	230.000	832.000	236.000	834.000	250.000
GR	836.000	260.000	838.000	269.000	840.000	279.000	842.000	290.000	844.000	300.000
X1	7100.000	0.000	0.000	0.000	110.000	110.000	110.000	0.000	-.200	0.000
X3	0.000	0.000	0.000	70.000	0.000	153.000	0.000	0.000	0.000	0.000
X1	7140.000	0.000	0.000	0.000	40.000	40.000	40.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	80.000	0.000	143.000	0.000	0.000	0.000	0.000
X1	7180.000	0.000	0.000	0.000	40.000	40.000	40.000	0.000	-.100	0.000
X3	0.000	0.000	0.000	90.000	0.000	133.000	0.000	0.000	0.000	0.000
NC	.080	.050	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	7195.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	94.000	0.000	130.000	0.000	0.000	0.000	0.000
X1	7210.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	98.000	0.000	126.000	0.000	0.000	0.000	0.000
NC	.080	.050	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	7259.000	21.000	150.000	175.000	49.000	49.000	49.000	0.000	0.000	0.000
GR	850.000	0.000	843.000	10.000	846.000	16.000	844.000	27.000	840.000	41.000
GR	838.000	55.000	836.000	80.000	832.000	110.000	830.000	131.000	826.000	145.000
GR	827.500	150.000	821.300	160.000	821.400	164.500	821.300	169.000	828.000	175.000
GR	829.000	185.000	830.000	190.000	832.000	200.000	834.000	215.000	836.000	240.000
GR	838.000	260.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	7260.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SB	0.000	1.800	2.340	0.000	9.000	0.000	39.600	0.000	821.200	821.200

U/S FACE PRIVATE BRIDGE B.S. #25 SECT.K

X1	7269.000	21.000	150.000	175.000	9.000	9.000	9.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RT	20.000	0.000	350.000	0.000	10.000	846.000	0.000	16.000	846.000	0.000
DT	27.000	844.000	0.000	41.000	840.000	0.000	55.000	838.000	0.000	50.000
BT	836.000	0.000	110.000	832.000	0.000	131.000	850.000	0.000	145.000	828.000
BT	0.000	160.000	826.900	821.200	160.000	826.900	825.600	169.000	826.900	825.600
BT	169.000	826.900	821.200	185.000	829.000	0.000	190.000	830.000	0.000	200.000
BT	832.000	0.000	215.000	834.000	0.000	240.000	836.000	0.000	260.000	838.000
RT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	850.000	0.000	848.000	10.000	846.000	16.000	844.000	27.000	840.000	41.000
GR	838.000	55.000	836.000	80.000	832.000	110.000	830.000	131.000	828.000	145.000
GR	827.500	150.000	821.200	160.000	821.300	164.500	821.200	169.000	828.000	175.000
GR	829.000	185.000	830.000	190.000	832.000	200.000	834.000	215.000	836.000	240.000
GR	838.000	260.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	7270.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.080	.080	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #26 SECT.L

X1	7300.000	16.000	155.000	172.000	30.000	30.000	30.000	0.000	0.000	0.000
GR	850.000	0.000	848.000	10.000	846.000	16.000	844.000	27.000	840.000	41.000
GR	836.000	81.000	834.000	90.000	832.000	97.000	830.000	108.000	828.000	155.000
GR	826.300	155.000	823.600	158.000	822.000	165.000	823.900	170.000	825.900	172.000
GR	830.000	180.000	840.000	205.000	844.000	240.000	0.000	0.000	0.000	0.000
NC	.040	.080	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #27 SECT.M

X1	8260.000	16.000	150.000	176.000	900.000	600.000	960.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	325.000	0.000	0.000	0.000	0.000
GR	842.000	0.000	840.000	30.000	838.000	61.000	836.000	75.000	838.000	105.000
GR	834.000	129.000	832.000	139.000	830.300	150.000	826.700	152.000	825.200	159.000
GR	825.900	166.000	828.900	176.000	828.900	190.000	830.000	365.000	840.000	390.000
GR	850.000	415.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	8680.000	12.000	90.000	104.000	275.000	300.000	420.000	0.000	0.000	0.000
GR	840.000	0.000	830.000	40.000	830.000	90.000	827.700	94.000	827.400	98.000
GR	827.400	101.000	829.800	104.000	832.000	220.000	834.000	260.000	838.000	270.000
GR	838.000	280.000	840.000	300.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.100	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #28 SECT.N

X1	9060.000	15.000	61.000	75.000	225.000	300.000	380.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	200.000	0.000	0.000	0.000	0.000
GR	850.000	0.000	840.000	28.000	836.000	39.000	836.000	41.000	842.000	61.000
GR	829.700	65.000	829.400	69.000	829.400	72.000	831.800	75.000	832.000	135.000
GR	834.000	292.000	836.000	307.000	838.000	320.000	340.000	338.000	842.000	310.000

X1	10060.000	13.000	125.000	139.000	1000.000	1000.000	1000.000	0.000	0.000	0.000

GR	876.000	0.000	870.000	50.000	860.000	75.000	850.000	100.00	840.000	110.000
GR	837.000	125.000	834.700	129.000	834.400	133.000	834.400	136.000	836.800	139.000
GR	838.000	190.000	840.000	275.000	850.000	345.000	0.000	0.000	0.000	0.000
X1	10700.000	10.000	40.000	54.000	600.000	350.000	640.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	125.000	0.000	0.000	0.000	0.000
GR	850.000	0.000	840.000	30.000	840.000	40.000	837.900	44.000	837.600	48.000
GR	837.600	51.000	840.000	54.000	840.000	90.000	842.000	190.000	850.000	230.000
X1	10780.000	0.000	0.000	0.000	80.000	80.000	80.000	0.000	.400	0.000
X3	0.000	0.000	0.000	0.000	0.000	105.000	0.000	0.000	0.000	0.000
X1	10660.000	0.000	0.000	0.000	80.000	80.000	80.000	0.000	.400	0.000
X3	0.000	0.000	0.000	0.000	0.000	93.000	0.000	0.000	0.000	0.000
X1	10890.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	.200	0.000
X3	0.000	0.000	0.000	0.000	0.000	75.000	0.000	0.000	0.000	0.000
X1	10920.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	.100	0.000
X3	0.000	0.000	0.000	27.000	0.000	65.000	0.000	0.000	0.000	0.000
NC	.060	.080	.043	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10930.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.100	0.000
X3	0.000	0.000	0.000	29.000	0.000	65.000	0.000	0.000	0.000	0.000
X1	10940.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	31.000	0.000	62.000	0.000	0.000	0.000	0.000
X1	10944.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	.100	0.000
X3	0.000	0.000	0.000	32.000	0.000	61.000	0.000	0.000	0.000	0.000
X1	10947.000	0.000	0.000	0.000	3.000	3.000	3.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	33.000	0.000	60.000	0.000	0.000	0.000	0.000

VALLEY SECTION #29 SECT.3

X1	10950.000	12.000	40.000	59.000	3.000	3.000	3.000	0.000	0.000	0.000
GR	855.000	0.000	854.000	12.000	852.000	20.000	850.000	30.000	841.100	40.000
GR	839.300	45.000	838.900	48.000	839.400	51.000	842.000	59.000	850.000	94.000
GR	860.000	108.000	870.000	120.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10954.000	0.000	0.000	0.000	2.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	36.000	0.000	64.000	0.000	0.000	0.000	0.000
X1	10958.000	0.000	0.000	0.000	2.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	36.000	0.000	64.000	0.000	0.000	0.000	0.000
X1	10962.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	36.000	0.000	64.000	0.000	0.000	0.000	0.000
X1	10975.000	0.000	0.000	0.000	9.000	13.000	13.000	0.000	.100	0.000
X3	0.000	0.000	0.000	39.000	0.000	61.000	0.000	0.000	0.000	0.000

X1	10987.000	0.000	0.000	0.000	8.000	12.000	12.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	42.000	0.000	58.000	0.000	0.000	0.000	0.000
X1	10991.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	43.000	0.000	57.000	0.000	0.000	0.000	0.000
X1	10993.000	0.000	0.000	0.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	43.000	0.000	56.000	0.000	0.000	0.000	0.000
X1	10995.000	0.000	0.000	0.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	44.000	0.000	56.000	0.000	0.000	0.000	0.000
X1	10999.000	9.000	267.000	277.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	849.500	849.500	0.000
GR	858.900	0.000	856.500	67.000	855.200	167.000	856.000	262.000	839.000	267.000
GR	839.900	272.000	840.800	277.000	856.200	282.000	858.900	339.000	0.000	0.000
NC	.020	.020	.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WEST MAPLE ROAD

X1	11000.000	9.000	267.000	277.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	6.000	0.000	858.900	0.000	67.000	856.500	0.000	167.000	855.200	0.000
BT	267.000	856.000	849.500	277.000	856.000	849.500	339.000	858.900	0.000	0.000
GR	858.900	0.000	856.500	67.000	855.200	167.000	856.000	267.000	849.000	267.000
GR	839.900	272.000	840.800	277.000	856.000	277.000	856.900	339.000	0.000	0.000

U/S FACE WEST MAPLE ROAD B.S. #30 SECT.P

X1	11055.000	0.000	0.000	0.000	55.000	55.000	55.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.070	.090	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	11056.000	9.000	267.000	277.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	849.500	849.500	0.000
GR	858.900	0.000	856.500	67.000	855.200	167.000	856.000	262.000	839.000	267.000
GR	839.900	272.000	840.800	277.000	856.200	282.000	858.900	339.000	0.000	0.000
X1	11053.000	15.000	220.000	236.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	220.000	0.000	254.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	850.000	40.000	848.000	200.000	846.000	210.000	844.000	215.000
GR	842.500	220.000	839.700	224.000	839.000	227.000	839.600	231.000	842.200	234.000
GR	844.000	290.000	846.000	305.000	848.000	312.000	850.000	330.000	860.000	375.000
X1	11060.000	0.000	0.000	0.000	2.000	2.000	2.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	218.000	0.000	256.000	0.000	0.000	0.000	0.000
X1	11200.000	15.000	220.000	234.000	145.000	123.000	140.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	100.000	0.000	370.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	850.000	40.000	848.000	200.000	846.000	210.000	844.000	215.000
GR	842.500	220.000	840.700	224.000	840.000	227.000	840.600	231.000	842.200	234.000
GR	844.000	290.000	846.000	305.000	848.000	312.000	850.000	330.000	860.000	375.000

VALLEY SECTIO #31 SECT.Q

X1	11425.000	19.000	90.000	104.000	125.000	225.000	225.000	0.000	0.000	0.000
GR	862.000	0.000	860.000	25.000	858.000	55.000	856.000	60.000	854.000	63.000
GR	852.000	66.000	850.000	70.000	846.100	75.000	844.000	90.000	842.200	94.000
GR	841.500	97.000	842.100	101.000	843.700	104.000	844.000	150.000	846.000	203.000
GR	848.000	231.000	850.000	253.000	860.000	291.000	862.000	310.000	0.000	0.000
NC	.070	.065	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #32 SECT.R

X1	12220.000	20.000	139.000	156.000	575.000	500.000	795.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	270.000	0.000	0.000	0.000	0.000
GR	864.000	0.000	860.000	15.000	854.000	37.000	852.000	50.000	850.000	58.000
GR	848.000	60.000	846.000	89.000	845.600	139.000	843.700	145.000	843.000	147.000
GR	844.100	151.000	845.600	156.000	846.000	326.000	848.000	840.000	850.000	873.000
GR	852.000	510.000	854.000	571.000	856.000	630.000	858.000	859.000	860.000	879.000
X1	12920.000	20.000	585.000	602.000	600.000	350.000	700.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	930.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	50.000	858.000	72.000	856.000	850.000	854.000	855.000
GR	852.000	190.000	850.000	225.000	848.000	485.000	847.200	585.000	845.300	889.000
GR	844.600	593.000	845.700	597.000	847.200	602.000	848.000	1002.000	848.800	1022.000
GR	848.000	1062.000	847.000	1212.000	848.000	1287.000	850.000	1317.000	860.000	1457.000
NC	.085	.090	.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	13160.000	23.000	550.000	567.000	245.000	190.000	240.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	410.000	0.000	740.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	20.000	856.000	160.000	854.000	180.000	852.000	240.000
GR	850.000	270.000	848.000	550.000	845.800	554.000	845.100	553.000	846.200	562.000
GR	848.000	567.000	849.000	975.000	850.000	990.000	850.000	920.000	849.000	935.000
GR	848.000	1090.000	848.000	1110.000	850.000	1165.000	852.000	1225.000	854.000	1260.000
GR	856.000	1295.000	850.000	1335.000	860.000	1370.000	0.000	0.000	0.000	0.000
X1	13193.000	0.000	0.000	0.000	35.000	30.000	55.000	0.000	.100	0.000
X3	0.000	0.000	0.000	410.000	0.000	740.000	0.000	0.000	0.000	0.000
X1	13209.000	0.000	0.000	0.000	17.000	15.000	15.000	0.000	.100	0.000
X3	0.000	0.000	0.000	410.000	0.000	740.000	0.000	0.000	0.000	0.000
X1	13225.000	23.000	550.000	567.000	18.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	420.000	0.000	700.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	30.000	858.000	130.000	856.000	180.000	854.000	210.000
GR	852.000	245.000	850.000	265.000	848.000	550.000	846.000	554.000	845.300	558.000
GR	846.400	562.000	848.000	567.000	849.000	800.000	850.000	830.000	850.000	880.000
GR	849.000	900.000	849.000	1070.000	850.000	1100.000	852.000	1150.000	854.000	1210.000
GR	856.000	1260.000	858.000	1285.000	860.000	1335.000	0.000	0.000	0.000	0.000
X1	13250.000	15.000	560.000	579.000	26.000	23.000	25.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	720.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.200	40.000	858.000	115.000	850.600	270.000	849.600	311.000
GR	848.200	560.000	845.900	563.000	845.400	569.000	848.200	579.000	849.100	805.000
GR	850.000	832.000	850.000	883.000	849.100	911.000	849.100	1086.000	860.000	1340.000
X1	13275.000	18.000	570.000	588.000	26.000	23.000	25.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	720.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	859.000	40.000	858.000	119.000	856.700	158.000	852.000	255.000
GR	850.900	283.000	850.000	316.000	849.400	491.000	849.000	570.000	846.200	573.000
GR	845.400	579.000	848.900	588.000	849.100	816.000	850.000	850.000	850.000	890.000

G.	.4 .600	919.000	84 . 00	10 o.000	859.500	1350.000	0.000	0.000	0.000	0.000
X1	13300.000	21.000	580.000	597.000	28.000	24.000	25.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	475.000	0.000	740.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	125.000	856.000	140.000	854.000	200.000	852.000	270.000
GR	850.000	315.000	850.000	350.000	850.000	500.000	849.200	580.000	846.200	894.000
GR	845.500	588.000	846.600	592.000	849.200	597.000	850.000	850.000	850.000	900.000
GR	850.000	1100.000	852.000	1135.000	854.000	1200.000	856.000	1250.000	858.000	1275.000
GR	860.000	1360.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	13350.000	19.000	500.000	517.000	50.000	45.000	50.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	400.000	0.000	700.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	40.000	856.000	90.000	854.000	110.000	852.000	175.000
GR	850.000	475.000	850.000	500.000	846.300	504.000	845.600	508.000	846.700	512.000
GR	849.400	517.000	850.000	750.000	850.000	840.000	850.000	1000.000	852.000	1060.000
GR	854.000	1075.000	850.000	1125.000	858.000	1175.000	860.000	1200.000	0.000	0.000
X1	13530.000	20.000	620.000	638.000	205.000	185.000	180.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	360.000	0.000	830.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	90.000	858.000	120.000	856.000	170.000	854.000	200.000
GR	852.000	220.000	850.300	620.000	846.700	626.000	846.000	629.000	847.200	634.000
GR	850.400	638.000	851.000	880.000	852.000	900.000	852.000	940.000	852.000	1040.000
GR	854.000	1110.000	856.000	1150.000	858.000	1180.000	860.000	1200.000	870.000	1300.000

VALLEY SECTION 233 SECT.S

X1	13885.000	16.000	530.000	548.000	250.000	270.000	255.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	700.000	0.000	0.000	0.000	0.000
CR	870.000	0.000	860.000	90.000	858.000	115.000	856.000	140.000	854.000	175.000
GR	852.000	260.000	850.400	530.000	847.300	536.000	846.800	539.000	847.800	544.000
GR	850.500	548.000	852.000	618.000	852.000	998.000	854.000	1018.000	856.000	1088.000
GR	850.000	1118.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	14199.000	25.000	280.000	284.200	314.000	314.000	314.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	30.000	856.000	69.000	854.000	101.000	852.000	190.000
GR	852.000	270.000	851.500	280.000	849.500	280.000	848.900	280.300	848.300	281.100
GR	848.500	281.700	848.500	282.500	848.600	283.100	848.900	283.900	849.500	284.200
GR	851.900	284.200	852.200	290.000	852.000	380.000	854.000	505.000	854.000	630.000
GR	856.000	650.000	858.000	662.000	860.000	675.000	864.000	691.000	870.000	712.000
NC	.080	.080	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	14200.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	25.000	0.000	860.000	0.000	30.000	853.000	0.000	69.000	856.000	0.000
BT	101.000	854.000	0.000	190.000	852.000	0.000	270.000	852.000	0.000	270.000
BT	853.000	0.000	280.000	353.000	849.500	280.300	353.000	850.200	281.100	853.000
BT	850.900	281.700	853.000	851.100	282.500	853.000	851.100	283.100	853.000	850.900
BT	283.900	853.000	850.200	284.200	853.000	847.500	290.000	353.000	0.000	290.000
BT	852.200	0.000	380.000	852.600	0.000	505.000	854.000	0.000	850.000	854.000
BT	0.000	650.000	856.000	0.000	662.000	852.000	0.000	575.000	860.000	0.000
BT	691.000	864.000	0.000	712.000	870.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. #34 SECT.T

X1	14215.000	26.000	280.000	284.200	15.000	15.000	15.000	0.000	0.000	0.000
BT	25.000	0.000	860.000	0.000	30.000	858.000	0.000	69.000	856.000	0.000
BT	101.000	854.000	0.000	190.000	852.000	0.000	270.000	852.000	0.000	270.000
BT	853.000	0.000	280.000	353.000	850.400	280.300	353.000	851.100	281.100	853.000

BT	851.000	281.700	853.000	852.000	2 2.500	853.000	8 2.000	2o3.100	853.000	851.000
BT	283.900	853.000	851.100	284.200	853.000	850.400	290.000	853.000	0.000	290.000
BT	852.200	0.000	380.000	852.600	0.000	505.000	854.000	0.000	630.000	854.000
BT	0.000	650.000	856.000	0.000	662.000	858.000	0.000	675.000	860.000	0.000
BT	691.000	864.000	0.000	712.000	870.000	0.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	858.000	30.000	856.000	69.000	854.000	101.000	852.000	190.000
GR	852.000	270.000	851.500	280.000	850.400	280.000	849.800	280.000	849.700	280.300
GR	849.500	281.100	849.500	281.700	849.500	282.500	849.500	283.100	849.800	283.900
GR	850.400	284.200	851.900	284.200	852.200	290.000	852.600	380.000	854.000	505.000
GR	854.000	630.000	856.000	650.000	858.000	662.000	860.000	675.000	864.000	891.000
GR	870.000	712.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.075	.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION 435 SECT.U

X1	14740.000	18.000	230.000	243.000	525.000	525.000	525.000	0.000	0.000	0.000
GR	868.000	0.000	266.000	23.000	864.000	41.000	862.000	59.000	860.000	78.000
GR	858.000	100.000	856.000	131.000	854.000	170.000	852.300	230.000	850.600	283.000
GR	851.100	236.000	851.800	239.000	852.900	243.000	854.000	305.000	856.000	360.000
GR	858.000	370.000	860.000	385.000	870.000	420.000	0.000	0.000	0.000	0.000
X1	15225.000	13.000	470.000	483.000	485.000	485.000	485.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	60.000	858.000	105.000	856.000	155.000	854.800	470.000
GR	853.100	473.000	853.600	476.000	854.300	479.000	855.400	483.000	856.000	503.000
GR	858.000	518.000	860.000	533.000	870.000	583.000	0.000	0.000	0.000	0.000
X1	15550.000	13.000	270.000	283.000	475.000	225.000	325.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	140.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	70.000	858.000	80.000	856.000	170.000	856.000	280.000
GR	856.000	270.000	854.700	273.000	855.200	276.000	855.900	279.000	857.000	283.000
GR	858.000	340.000	860.000	390.000	870.000	410.000	0.000	0.000	0.000	0.000
X1	15864.000	11.000	370.000	390.000	110.000	200.000	314.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	864.000	50.000	862.000	70.000	860.000	100.000	858.000	150.000
GR	858.000	370.000	856.300	375.000	856.300	385.000	858.000	390.000	860.000	435.000
GR	870.000	470.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15879.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
X3	0.000	0.000	0.000	170.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15894.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	170.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15904.000	22.000	380.000	404.000	10.000	10.000	10.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	260.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	876.000	0.000	874.000	20.000	872.000	35.000	870.000	45.000	868.000	60.000
GR	866.000	71.000	864.000	85.000	862.000	200.000	860.000	223.000	860.000	330.000
GR	859.000	330.000	858.900	382.000	856.500	384.000	856.600	388.000	856.800	394.000
GR	857.800	402.000	859.800	404.000	860.000	463.000	862.000	469.000	866.000	482.000
GR	870.000	502.000	880.000	520.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.050	.045	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	15905.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	000	2[illegible].000	0.000	0.000	0.000	0.000	0.000	0.000

BT	18.000	0.000	876.000	0.000	20.000	874.000	0.000	35.000	872.000	0.000
BT	45.000	870.000	0.000	60.000	868.000	0.000	71.000	866.000	0.000	85.000
BT	864.000	0.000	200.000	862.000	0.000	228.000	860.000	0.000	360.000	860.000
BT	859.000	388.000	860.300	359.300	394.000	860.600	859.300	404.000	859.800	858.000
BT	463.000	860.000	0.000	469.000	862.000	0.000	464.000	866.000	0.000	502.000
BT	870.000	0.000	520.000	880.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. #36 SECT.V

X1	15909.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	260.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	15910.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	260.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16079.000	27.000	250.000	268.000	169.000	169.000	169.000	0.000	0.000	0.000
GR	876.000	0.000	874.000	12.000	872.000	25.000	270.000	40.000	868.000	50.000
GR	866.000	58.000	864.000	70.000	862.000	60.000	860.000	155.000	860.000	245.000
GR	860.000	250.000	863.100	250.000	860.100	250.000	860.100	253.000	857.200	255.000
GR	857.400	259.000	857.400	264.000	858.400	268.000	861.200	268.000	859.400	268.000
GR	859.500	273.000	862.000	350.000	864.000	370.000	866.000	371.000	868.000	374.000
CR	870.000	390.000	880.000	426.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.065	.075	.030	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	16080.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	19.000	0.000	876.000	0.000	12.000	874.000	0.000	25.000	872.000	0.000
BT	40.000	870.000	0.000	50.000	868.000	0.000	58.000	866.000	0.000	70.000
BT	864.000	0.000	60.000	862.000	0.000	155.000	860.000	0.000	245.000	860.000
BT	0.000	250.000	863.100	362.300	268.000	861.200	860.400	273.000	859.500	0.000
BT	350.000	862.000	0.000	370.000	864.000	0.000	371.000	866.000	0.000	374.000
BT	868.000	0.000	390.000	870.000	0.000	425.000	880.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. #37 SECT.W

X1	16084.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.055	.055	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16085.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	16275.000	12.000	60.000	80.000	150.000	100.000	190.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	182.000	0.000	0.000	0.000	0.000
GR	870.000	0.000	860.000	40.000	860.000	60.000	259.000	66.000	858.400	70.000
GR	853.900	74.000	860.000	80.000	862.000	195.000	864.000	220.000	866.000	230.000
CR	868.000	240.000	870.000	250.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16301.000	9.000	82.000	102.000	26.000	0.000	26.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	182.000	0.000	0.000	0.000	0.000
GR	871.800	0.000	864.200	30.000	860.800	54.000	860.600	82.000	858.600	91.000
GR	860.500	102.000	863.000	208.000	866.100	244.000	871.600	272.000	0.000	0.000
X1	16327.000	12.000	152.000	172.000	26.000	9.000	26.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	99.000	0.000	225.000	0.000	0.000	0.000	0.000
GR	876.800	0.000	871.800	29.000	86 .100	5 .000	862.200	109.00	862.000	152.000

	GR	859.800	160.000	868.700	162.000	859.500	161.000	864.000	172.000	853.000	238.000
	GR	866.000	281.000	876.500	339.000	0.000	0.000	0.000	0.000	0.000	0.000
	X1	16353.000	10.000	130.000	150.000	25.000	8.000	26.000	0.000	0.000	0.000
	X3	0.000	0.000	0.000	84.000	0.000	197.000	0.000	0.000	0.000	0.000
	GR	875.000	0.000	864.500	45.000	862.000	88.000	861.600	150.000	856.900	140.000
	GR	859.200	144.000	861.700	150.000	862.600	219.000	865.100	260.000	875.000	315.000
	X1	16379.000	9.000	109.000	127.000	26.000	8.000	26.000	0.000	0.000	0.000
	X3	0.000	0.000	0.000	68.000	0.000	168.000	0.000	0.000	0.000	0.000
	GR	873.000	0.000	864.900	38.000	861.200	69.000	860.900	104.000	859.100	115.000
	GR	860.900	127.000	862.100	200.000	864.000	240.000	873.000	291.000	0.000	0.000
	X1	16405.000	13.000	176.000	196.000	26.000	9.000	26.000	0.000	0.000	0.000
	X3	0.000	0.000	0.000	144.000	0.000	231.000	0.000	0.000	0.000	0.000
	GR	878.300	0.000	873.000	30.000	864.100	55.000	863.000	119.000	862.800	178.000
	GR	859.900	182.000	859.200	188.000	859.900	191.000	862.800	195.000	863.600	262.000
	GR	867.000	305.000	872.500	323.000	878.100	859.000	0.000	0.000	0.000	0.000
	X1	16418.000	0.000	0.000	0.000	13.000	4.000	13.000	0.000	.100	0.000
	X3	0.000	0.000	0.000	148.000	0.000	228.000	0.000	0.000	0.000	0.000

VALLEY SECTION 838 SECT.X

X1	16430.000	21.000	200.000	220.000	12.000	4.000	12.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	173.000	0.000	247.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	878.000	15.000	874.000	35.000	872.000	39.000	870.000	49.000
GR	862.000	53.000	866.000	65.000	864.000	71.000	863.800	200.000	860.000	206.000
GR	859.400	210.000	859.900	214.000	863.300	220.000	864.000	285.000	868.000	325.000
GR	870.000	333.000	872.000	340.000	874.000	365.000	876.000	361.000	870.000	371.000
GR	880.000	378.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	16443.000	0.000	0.000	0.000	13.000	13.000	13.000	0.000	-.200	0.000
X3	0.000	0.000	0.000	177.000	0.000	244.000	0.000	0.000	0.000	0.000
X1	16455.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	-.200	0.000
X3	0.000	0.000	0.000	180.000	0.000	241.000	0.000	0.000	0.000	0.000
NC	.070	.070	.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE MIDDLEBELT ROAD

X1	16420.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	-.300	0.000
X3	0.000	0.000	0.000	186.000	0.000	234.000	0.000	0.000	0.000	0.000
SB	0.000	1.760	3.020	0.000	8.000	0.000	44.000	0.000	858.700	858.700

U/S FACE MIDDLEBELT ROAD D.S. 839 SECT.Y

X1	16532.000	15.000	300.000	350.000	52.000	52.000	52.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	14.000	0.000	880.000	0.000	70.000	678.000	0.000	180.000	876.000	0.000
BT	218.000	874.000	0.000	253.000	872.000	0.000	325.000	870.800	858.800	325.000
BT	870.800	864.100	333.000	870.800	864.100	333.000	870.200	858.700	360.000	872.000
BT	0.000	415.000	874.000	0.000	456.000	876.000	0.000	495.000	878.000	0.000
BT	525.000	880.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	878.000	70.000	876.000	180.000	874.000	218.000	872.000	253.000
GR	871.200	300.000	858.800	325.000	858.700	329.000	858.700	333.000	871.600	350.000
GR	872.000	360.000	871.000	415.000	876.000	456.000	878.000	495.000	880.000	525.000

NC	.030	.015	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #40 SECT.Z

X1	17510.000	15.000	100.000	118.000	500.000	750.000	978.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	70.000	0.000	350.000	0.000	0.000	0.000	0.000
GR	860.000	0.000	870.000	0.000	868.000	25.000	866.000	70.000	864.200	100.000
GR	863.200	105.000	862.800	108.000	863.300	112.000	865.200	118.000	866.000	580.000
GR	868.000	400.000	870.000	430.000	872.000	450.000	876.000	470.000	880.000	883.000
NC	.080	.080	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #41 SECT.AA

X1	17990.000	15.000	240.000	254.000	300.000	250.000	480.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	185.000	0.000	340.000	0.000	0.000	0.000	0.000
GR	872.000	0.000	872.000	55.000	870.000	150.000	868.000	165.000	866.900	240.000
GR	864.900	244.000	864.300	247.000	865.000	250.000	866.600	254.000	868.000	525.000
GR	870.000	361.000	872.000	421.000	876.000	480.000	876.000	503.000	250.000	519.000
NC	.090	.030	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #42 SECT.AB

X1	18400.000	17.000	100.000	112.000	58.000	310.000	410.000	0.000	0.000	0.000
GR	890.000	0.000	886.000	5.000	892.000	18.000	860.000	22.000	870.000	45.000
GR	868.400	100.000	866.400	103.000	866.300	107.000	866.600	110.000	868.000	112.000
GR	870.000	152.000	872.000	161.000	874.000	179.000	880.000	212.000	882.000	226.000
GR	884.000	236.000	886.000	252.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	18510.000	0.000	0.000	0.000	110.000	110.000	110.000	0.000	.500	0.000
NC	.075	.085	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OT	6.000	240.000	300.000	430.000	600.000	0.000	0.000	0.000	0.000	0.000

X1	18650.000	9.000	150.000	190.000	150.000	120.000	140.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	870.000	10.000	870.400	120.000	870.000	180.000	868.100	142.000
GR	867.500	185.000	867.700	190.000	870.000	200.000	900.000	250.000	0.000	0.000

VALLEY SECTION #43 SECT.AC

X1	18750.000	19.000	211.000	222.000	120.000	80.000	100.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	20.000	886.000	30.000	884.000	45.000	882.000	52.000
GR	880.000	65.000	877.700	72.000	873.400	87.000	872.400	127.000	872.300	172.000
GR	870.700	211.000	868.600	213.000	868.000	210.000	868.200	221.000	869.500	222.000
GR	870.700	232.000	880.000	260.000	882.000	275.000	884.000	290.000	0.000	0.000

X1	18950.000	16.000	160.000	171.000	150.000	200.000	200.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	45.000	878.000	60.000	876.000	70.000	874.000	80.000
GR	872.000	150.000	871.600	160.000	870.100	162.000	869.500	165.000	869.700	170.000
GR	871.300	171.000	874.000	210.000	876.000	220.000	873.000	225.000	880.000	235.000
GR	890.000	280.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.075	.080	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	19110.000	15.000	115.000	126.000	180.000	85.000	160.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	50.000	878.000	80.000	876.000	70.000	874.000	90.000
GR	873.000	115.000	871.300	117.000	870.700	120.000	870.900	125.000	873.000	126.000
GR	874.000	220.000	876.000	240.000	878.000	255.000	880.000	275.000	880.000	510.000
NC	.035	.035	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECT. #44 SECT.AL

X1	19250.000	22.000	104.000	116.000	140.000	140.000	140.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	9.000	886.000	11.000	884.000	20.000	882.000	25.000
GR	880.000	33.000	878.000	40.000	876.000	55.000	874.000	79.000	872.900	104.000
GR	872.400	107.000	871.700	111.000	872.300	114.000	873.300	116.000	874.000	140.000
GR	876.000	210.000	878.000	225.000	880.000	240.000	882.000	255.000	884.000	262.000
GR	888.000	294.000	890.000	304.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19265.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
X1	19280.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
X1	19295.000	0.000	0.000	0.000	15.000	15.000	15.000	0.000	.100	0.000
NC	.075	.080	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19299.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
SB	0.000	1.000	3.490	0.000	.010	0.000	.010	875.000	872.000	0.000

PRIVATE DAM DAM SECTION #45 SECT.AE

X1	19300.000	12.000	70.000	80.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	11.000	0.000	890.000	0.000	40.000	880.300	0.000	60.000	880.300	0.000
BT	70.000	880.300	0.000	70.100	878.400	0.000	79.900	878.400	0.100	80.000
BT	580.400	0.000	90.000	880.400	0.000	110.000	880.400	0.000	215.000	882.000
BT	0.000	270.000	890.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	880.300	60.000	875.000	60.000	875.000	70.000	875.000	70.100
GR	875.000	79.900	875.000	80.000	875.000	90.000	875.000	110.000	875.000	175.000
GR	882.000	215.000	890.000	270.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.045	.065	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19440.000	8.000	90.000	330.000	160.000	60.000	140.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	70.000	879.000	90.000	875.700	91.000	875.700	329.000
GR	879.000	330.000	880.000	340.000	890.000	375.000	0.000	0.000	0.000	0.000
X1	19600.000	6.000	85.000	200.000	170.000	100.000	160.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	50.000	878.000	85.000	876.400	86.000	876.400	199.000
GR	878.000	200.000	880.000	210.000	890.000	250.000	0.000	0.000	0.000	0.000
X1	19690.000	6.000	35.000	200.000	100.000	70.000	90.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	80.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	35.000	876.900	36.000	876.900	199.000	880.000	200.000
GR	890.000	250.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19770.000	13.000	101.000	107.000	72.000	85.000	80.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	43.000	888.000	50.000	884.000	61.000	880.000	75.000
GR	879.000	101.000	877.200	104.000	878.800	107.000	880.000	123.000	880.000	150.000
GR	884.000	170.000	884.000	195.000	890.000	201.000	0.000	0.000	0.000	0.000
X1	19850.000	14.000	100.000	107.000	72.000	85.000	80.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	48.000	886.000	50.000	884.000	61.000	880.000	75.000
GR	879.800	100.000	879.000	101.000	877.600	104.000	878.800	107.000	880.000	123.000
GR	880.000	135.000	884.000	170.000	884.000	195.000	890.000	201.000	0.000	0.000

VALLEY SECTION #46 SECT.AF

X1	19930.000	15.000	100.000	108.000	71.000	85.000	20.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	48.000	888.000	50.000	884.000	61.000	880.000	75.000
GR	880.400	100.000	879.000	101.000	878.000	104.000	878.800	107.000	880.400	108.000
GR	880.000	123.000	882.000	150.000	884.000	170.000	884.000	195.000	890.000	201.000
NC	.035	.040	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #47 SECT.AG

X1	20015.000	20.000	175.000	183.000	885.000	885.000	885.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	12.000	896.000	25.000	894.000	46.000	892.000	30.000
GR	890.000	100.000	886.000	121.000	886.000	135.000	883.900	175.000	882.700	177.000
GR	881.900	179.000	882.100	181.000	885.500	183.000	886.000	193.000	888.000	202.000
GR	890.000	208.000	894.000	238.000	896.000	247.000	898.000	253.000	900.000	260.000

VALLEY SECTION #48 SECT.AH

X1	21730.000	14.000	138.000	159.000	915.000	915.000	915.000	0.000	0.000	0.000
GR	898.000	0.000	896.000	12.000	894.000	35.000	890.000	90.000	887.000	136.000
GR	886.000	143.000	885.700	148.000	885.900	156.000	887.400	159.000	890.000	245.000
GR	892.000	251.000	896.000	291.000	896.000	500.000	900.000	600.000	0.000	0.000
NC	.070	.070	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	21880.000	16.000	190.000	211.000	160.000	130.000	150.000	0.000	0.000	0.000
GR	896.000	0.000	894.000	50.000	892.000	80.000	890.000	115.000	887.000	190.000
GR	886.600	145.000	886.300	200.000	885.500	208.000	886.200	211.000	890.000	245.000
GR	892.000	330.000	894.000	380.000	896.000	420.000	896.000	490.000	893.000	845.000
GR	890.000	705.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.085	.085	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	22050.000	17.000	130.000	151.000	170.000	130.000	170.000	0.000	0.000	0.000
GR	896.000	0.000	894.000	20.000	892.000	40.000	890.000	55.000	888.500	130.000
GR	887.200	135.000	886.900	140.000	887.100	146.000	888.900	151.000	890.000	135.000
GR	892.000	275.000	894.000	290.000	896.000	310.000	898.000	365.000	893.000	820.000
GR	898.000	500.000	900.000	620.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.060	.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SCHOOL ACCESS ROAD CULVERT

X1	22175.000	0.000	0.000	0.000	125.000	125.000	125.000	0.000	.200	0.000
X3	0.000	0.000	0.000	59.000	0.000	198.000	0.000	0.000	0.000	0.000
SD	0.000	2.170	2.450	0.000	4.000	0.000	12.570	0.000	887.800	887.800

U/S FACE SCHOOL ACCESS ROAD CULVERT D.S. #49 SECT.AI

X1	22191.000	17.000	205.000	209.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	890.900	892.000	0.000	0.000	0.000	0.000	0.000
BT	18.000	0.000	399.000	0.000	70.000	398.000	0.000	95.000	396.000	0.000
BT	150.000	894.000	0.000	195.000	892.000	0.000	205.000	892.300	885.800	205.000
BT	892.300	890.300	206.500	892.300	891.500	207.500	892.300	891.800	209.000	892.300
BT	890.300	209.000	892.300	888.300	239.000	892.200	0.000	230.000	892.000	0.000
BT	304.000	894.000	0.000	350.000	896.000	0.000	370.000	898.000	0.000	468.000
BT	900.000	0.000	520.000	902.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	899.000	0.000	898.000	70.000	896.000	95.000	894.000	150.000	890.000	175.000
GR	889.200	195.000	888.300	205.000	887.300	206.500	887.500	207.500	888.800	209.000
GR	890.000	239.000	892.000	280.000	894.000	304.000	896.000	350.000	898.000	370.000
GR	900.000	466.000	902.000	520.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.055	.070	.0 0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #50 SECT.AJ

X1	22250.000	21.000	140.000	169.000	59.000	59.000	59.000	0.000	0.000	0.000
GR	902.000	0.000	900.000	30.000	898.000	45.000	896.000	55.000	894.000	75.000
GR	892.000	100.000	890.000	115.000	891.300	140.000	887.600	148.000	886.800	154.000
GR	886.300	159.000	887.700	165.000	889.700	169.000	890.000	195.000	892.000	249.000
GR	894.000	280.000	896.000	320.000	898.000	338.000	900.000	400.000	902.000	425.000
GR	904.000	445.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	22474.000	21.000	200.000	204.000	224.000	224.000	224.000	0.000	0.000	0.000
GR	904.000	0.000	902.000	21.000	900.000	31.000	898.000	50.000	896.000	65.000
GR	894.000	103.000	892.000	169.000	892.100	183.000	890.200	200.000	888.700	200.000
GR	887.700	201.500	887.700	202.500	888.700	204.000	890.200	204.000	892.100	217.000
GR	894.000	231.000	896.000	260.000	896.000	280.000	900.000	311.000	902.000	352.000
GR	904.000	373.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SCHOOL ACCESS CULVERT #2

X1	22475.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SB	0.000	2.410	3.020	0.000	3.140	0.000	12.570	0.000	888.200	887.700

U/S FACE SCHOOL ACCESS CULVERT #2 D.S. #51 SECT.AK

X1	22491.000	21.000	200.000	204.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	892.200	892.400	0.000	0.000	0.000	0.000	0.000
3T	17.000	0.000	904.000	0.000	21.000	902.000	0.000	31.000	900.000	0.000
2T	50.000	898.000	0.000	65.000	896.000	0.000	103.000	894.000	0.000	169.000
1T	892.000	0.000	200.000	892.400	890.700	201.500	892.400	892.200	202.500	352.400
0T	892.200	204.000	892.400	890.700	231.000	894.000	0.000	280.000	896.000	0.000
3T	280.000	898.000	0.000	311.000	900.000	0.000	352.000	902.000	0.000	373.000
3T	904.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	904.000	0.000	902.000	21.000	900.000	31.000	898.000	50.000	896.000	65.000
GR	894.000	103.000	892.000	169.000	892.000	175.000	890.700	200.000	888.200	200.000
GR	888.200	201.500	887.700	202.500	889.200	204.000	890.700	207.000	892.900	229.000
GR	894.000	231.000	896.000	260.000	898.000	280.000	900.000	311.000	902.000	352.000
GR	904.000	373.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.045	.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	22492.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

VALLEY SECTION #52 SECT.AL

X1	23210.000	14.000	76.000	92.000	718.000	718.000	718.000	0.000	0.000	0.000
GR	898.000	0.000	896.000	25.000	894.000	52.000	892.000	69.000	893.200	76.000
GR	892.000	81.000	890.600	84.000	891.100	88.000	892.400	92.000	892.000	100.000
GR	894.000	140.000	896.000	200.000	898.000	245.000	896.000	280.000	0.000	0.000
NC	.042	.045	.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #53 SECT.AM

X1	23390.000	13.000	175.000	192.000	180.000	180.000	180.000	0.000	0.000	0.000
GR	899.000	0.000	898.000	71.000	896.000	91.000	894.000	170.000	894.800	175.000
GR	891.400	182.000	891.400	185.000	891.200	188.000	893.000	192.000	894.000	250.000
GR	896.000	298.000	898.000	320.000	898.000	350.000	0.000	0.000	0.000	0.000
NC	.085	.085	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALNUT LAKE ROAD CULVERT

X1	23460.000	0.000	0.000	0.000	70.000	70.000	70.000	0.000	-.100	0.000
S3	0.000	2.600	3.020	0.000	4.300	0.000	14.300	0.000	891.400	891.100

U/S FACE WALNUT LAKE ROAD CULVERT B.S. 854 SECT.AK

X1	23527.000	18.000	740.000	747.900	67.000	67.000	67.000	.690	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	.690	0.000
X3	0.000	0.000	0.000	575.000	0.000	900.000	0.000	0.000	0.000	0.000
BT	11.000	575.000	899.500	0.000	740.000	898.900	892.600	740.600	896.900	893.400
BT	741.600	898.900	894.200	742.800	898.900	894.600	744.100	898.900	894.700	745.100
BT	898.900	894.600	746.300	898.900	894.200	747.300	898.900	895.400	747.900	893.900
BT	892.600	900.000	899.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	902.000	0.000	901.000	250.000	900.000	433.000	899.200	650.000	893.500	700.000
GR	892.600	740.000	891.800	740.600	891.600	741.600	891.400	742.200	891.400	744.100
GR	891.400	745.100	891.600	746.300	891.800	747.300	892.600	747.900	893.500	795.000
GR	899.200	835.000	900.000	1080.000	902.000	1185.000	0.000	0.000	0.000	0.000
NC	.030	.030	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	23839.000	14.000	265.000	302.000	350.000	300.000	312.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	70.000	898.000	180.300	896.000	260.000	895.100	235.000
GR	894.400	235.000	892.800	288.000	892.100	294.000	893.000	298.000	894.400	302.000
GR	895.100	302.000	896.000	400.000	896.500	415.000	910.000	415.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	23840.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000
BT	7.000	95.000	895.000	0.000	180.000	893.000	0.000	260.000	896.000	0.000
BT	285.000	895.100	894.500	302.000	895.100	894.500	400.000	896.000	0.000	415.000
BT	896.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. 866-A SECT.AO

X1	23843.000	0.000	0.000	0.000	3.000	3.000	3.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000

X1	23844.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	230.000	0.000	320.000	0.000	0.000	0.000	0.000

X1	24009.000	15.000	350.000	365.500	150.000	175.000	165.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
GR	906.000	0.000	902.000	70.000	900.000	120.000	896.000	220.000	896.000	290.000
GR	896.100	350.000	894.400	350.000	893.100	354.000	892.000	358.000	892.700	362.000
GR	894.600	365.500	895.500	365.500	896.000	390.000	896.000	422.000	910.000	422.000

D/S FACE WALKWAY BRIDGE

X1	24010.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
BT	7.000	180.000	898.800	0.000	220.000	898.000	0.000	290.000	896.000	0.000
BT	350.000	896.100	895.600	365.500	895.500	895.000	390.000	896.000	0.000	422.000
BT	898.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. 466 SECT.AP

X1	24014.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
X1	24015.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	320.000	0.000	400.000	0.000	0.000	0.000	0.000
X1	24064.000	18.000	320.000	332.500	49.000	49.000	49.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
GR	908.000	0.000	906.000	28.000	904.000	41.000	902.000	64.000	900.000	150.000
GR	898.000	175.000	896.000	259.000	894.000	300.000	895.800	320.000	894.000	320.000
GR	892.900	322.000	891.800	326.000	892.300	329.000	894.800	332.500	895.800	332.500
GR	896.000	350.000	896.000	376.000	910.000	376.000	0.000	0.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	24065.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
BT	12.000	0.000	908.000	0.000	26.000	906.000	0.000	41.000	904.000	0.000
BT	64.000	902.000	0.000	150.000	900.000	0.000	175.000	898.000	0.000	259.000
BT	896.000	0.000	300.000	894.000	0.000	320.000	895.800	895.000	332.500	895.800
BT	895.000	350.000	896.000	0.000	376.000	296.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. 857 SECT.AC

X1	24070.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
X1	24071.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	280.000	0.000	356.000	0.000	0.000	0.000	0.000
X1	24179.000	14.000	270.000	284.000	150.000	100.000	100.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	20.000	896.000	81.000	894.000	265.000	894.800	269.500
GR	895.200	270.000	892.900	270.000	891.700	277.000	893.000	282.000	894.300	284.000
GR	896.300	284.000	896.000	309.000	896.000	320.000	910.000	330.000	0.000	0.000

D/S FACE WALKWAY BRIDGE

X1	24180.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
BT	7.000	145.000	895.300	0.000	265.000	394.000	0.000	269.500	894.800	0.000
BT	270.000	895.200	894.000	284.000	896.300	895.100	300.000	896.000	0.000	330.000
BT	896.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALKWAY BRIDGE B.S. 868 SECT.AR

X1	24185.000	0.000	0.000	0.000	5.000	5.000	5.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
X1	24186.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	235.000	0.000	330.000	0.000	0.000	0.000	0.000
NC	.020	.020	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	24330.000	16.000	440.000	445.000	225.000	153.000	155.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	893.000	180.000	896.300	440.000	893.500	440.000	891.500	440.000
GR	890.500	441.000	890.000	442.000	890.000	443.000	890.500	444.000	891.500	445.000
GR	893.500	445.000	896.300	445.000	896.500	545.000	897.100	545.000	896.000	870.000
GR	900.000	1092.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE DOHERTY ROAD BRIDGE

X1	24340.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
BT	9.000	330.000	897.000	0.000	440.000	896.300	893.500	441.000	896.300	894.500
BT	442.000	896.300	895.000	443.000	896.300	895.000	444.000	896.300	894.500	445.000
BT	896.300	893.500	545.000	896.500	0.000	550.000	896.500	0.000	0.000	0.000

U/S FACE DOHERTY ROAD BRIDGE B.S. #69 SECT.AS

X1	24350.000	18.000	440.000	445.000	40.000	40.000	40.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
BT	9.000	330.000	897.000	0.000	440.000	896.300	894.000	441.000	896.300	895.000
BT	442.000	896.300	895.500	443.000	896.300	895.500	444.000	896.300	895.000	445.000
BT	896.300	894.000	545.000	896.500	0.000	550.000	896.500	0.000	0.000	0.000
GR	900.000	0.000	898.000	180.000	897.000	330.000	896.300	440.000	894.000	840.000
GR	892.000	440.000	891.000	441.000	890.500	442.000	890.500	445.000	891.000	844.000
GR	892.000	445.000	894.000	445.000	896.300	445.000	896.500	545.000	896.500	550.000
GR	897.100	645.000	896.000	870.000	900.000	1092.000	0.000	0.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	24361.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	375.000	0.000	475.000	0.000	0.000	0.000	0.000
NC	.060	.050	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #70 SECT.AT

X1	24455.000	14.000	438.000	453.000	74.000	74.000	74.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	300.000	0.000	300.000	0.000	0.000	0.000	0.000
GR	898.000	0.000	898.000	140.000	896.000	340.000	894.000	403.000	894.200	438.000
GR	893.500	440.000	892.500	445.000	893.600	450.000	894.100	453.000	894.000	465.000
GR	896.000	740.000	898.000	765.000	900.000	900.000	902.000	920.000	0.000	0.000
NC	.080	.080	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	25350.000	12.000	125.000	139.000	800.000	900.000	895.000	0.000	0.000	0.000
GR	904.000	0.000	902.000	20.000	900.000	35.000	898.000	60.000	897.100	125.000
GR	895.400	127.000	895.400	132.000	896.100	137.000	897.100	139.000	898.000	190.000
GR	900.000	210.000	901.000	235.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #71 SECT.AU

X1	25700.000	10.000	460.000	474.000	550.000	300.000	550.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	200.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	898.000	60.000	896.200	460.000	896.500	462.000	896.500	467.000
GR	897.200	472.000	898.200	474.000	898.000	655.000	900.000	700.000	901.000	540.000

X1	25749.000	19.000	580.000	608.000	49.000	49.000	49.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	70.000	906.000	110.000	904.000	170.000	902.000	240.000
GR	900.000	380.000	899.200	430.000	900.000	580.000	898.800	580.000	897.500	587.000
GR	896.900	592.000	896.700	595.000	898.400	597.000	896.400	602.000	899.500	608.000
GR	899.700	708.000	899.300	808.000	900.000	920.000	900.700	1125.000	0.000	0.000

NC	.030	.030	.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SIDEWALK BRIDGE

X1	25750.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	500.000	0.000	0.000	0.000	0.000
BT	17.000	0.000	910.000	0.000	70.000	908.000	0.000	110.000	908.000	0.000
BT	170.000	904.000	0.000	240.000	902.000	0.000	580.000	900.000	0.000	680.000
BT	899.200	0.000	580.000	900.000	899.000	587.000	899.900	898.900	592.000	899.800
BT	898.800	595.000	699.800	898.800	597.000	899.600	896.800	908.000	999.600	898.800
BT	708.000	899.200	0.000	808.000	899.300	0.000	920.000	900.000	0.000	1125.000
BT	900.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE SIDEWALK BRIDGE B.S. 472 SECT.AV

X1	25759.000	0.000	0.000	0.000	9.000	9.000	9.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
X1	25760.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	900.000	0.000	0.000	0.000	0.000
NC	.035	.035	.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE ORCHARD LAKE ROAD BRIDGE

X1	25780.000	10.000	460.000	474.000	20.000	20.000	20.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	220.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	900.000	0.000	892.000	60.000	893.200	460.000	896.000	462.000	896.000	467.000
GR	897.200	472.000	899.200	474.000	898.000	855.000	900.000	700.000	901.000	870.000
SB	0.000	1.950	3.020	0.000	6.200	0.000	19.250	0.000	896.000	896.000

U/S FACE ORCHARD LAKE ROAD BRIDGE C.L. 475 SECT.AV

X1	25822.000	17.000	615.000	621.000	42.000	42.000	42.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	899.100	902.500	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	430.000	0.000	940.000	0.000	902.500	902.500	0.000
BT	7.000	430.000	902.500	0.000	465.000	902.000	0.000	615.000	902.500	899.100
BT	615.000	902.500	696.500	621.000	902.500	899.100	621.000	902.500	896.000	940.000
BT	902.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	85.000	906.000	140.000	904.000	320.000	902.500	430.000
GR	902.000	465.000	902.500	590.000	896.500	615.000	396.100	617.000	896.000	621.000
GR	902.500	646.000	902.300	940.000	902.000	1350.000	904.000	1410.000	906.000	1462.000
GR	906.000	1523.000	910.000	1560.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.065	.070	.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #74 SECT.AX

X1	26700.000	15.000	330.000	342.000	750.000	950.000	878.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	160.000	0.000	430.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	20.000	906.000	50.000	904.000	70.000	902.000	105.000
GR	901.300	330.000	900.400	332.000	900.000	336.000	899.700	339.000	901.200	342.000
GR	902.000	475.000	904.000	480.000	906.000	495.000	908.000	505.000	909.200	525.000
X1	26900.000	16.000	290.000	302.000	160.000	220.000	200.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	135.000	0.000	442.000	0.000	0.000	0.000	0.000
GR	910.000	0.000	908.000	25.000	906.000	60.000	904.000	80.000	902.000	190.000
GR	902.000	290.000	901.200	292.000	900.800	296.000	900.500	299.000	902.000	302.000
GR	902.000	450.000	902.000	575.000	904.000	615.000	906.000	650.000	908.000	665.000
GR	910.000	685.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	27000.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.300	0.000
X3	0.000	0.000	0.000	122.000	0.000	379.000	0.000	0.000	0.200	0.000
X1	27050.000	0.000	0.000	0.000	50.000	50.000	50.000	0.000	.200	0.000
X3	0.000	0.000	0.000	134.000	0.000	365.000	0.000	0.000	0.000	0.000
X1	27075.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.100	0.000
X3	0.000	0.000	0.000	186.000	0.000	405.000	0.000	0.000	0.000	0.000
X1	27080.000	14.000	260.000	272.000	13.000	13.000	13.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	160.000	0.000	372.000	0.000	0.000	0.000	0.000
GR	915.000	0.000	905.200	79.000	904.800	90.000	903.000	171.000	902.200	260.000
GR	901.500	262.000	901.200	269.000	902.300	272.000	903.000	305.000	903.000	390.000
GR	905.800	460.000	906.500	502.000	907.900	531.000	914.000	600.000	0.000	0.000
X1	27250.000	16.000	215.000	227.000	162.000	162.000	162.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	343.000	0.000	0.000	0.000	0.000
GR	920.000	0.000	910.000	70.000	908.000	100.000	906.000	150.000	904.000	210.000
GR	903.300	215.000	902.500	217.000	902.100	221.000	901.800	224.000	903.300	237.000
GR	904.000	240.000	906.000	350.000	908.000	400.000	910.000	450.000	912.000	495.000
GR	920.000	550.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	27410.000	20.000	260.000	272.000	225.000	75.000	160.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	224.000	0.000	328.000	0.000	0.000	0.000	0.000
GR	920.000	0.000	916.000	10.000	916.000	20.000	914.000	50.000	912.000	80.000
GR	910.000	70.000	908.000	100.000	906.000	250.000	903.900	260.000	903.100	262.000
GR	902.700	266.000	902.400	269.000	903.900	272.000	906.000	325.000	908.000	465.000
GR	910.000	465.000	912.000	550.000	914.000	560.000	916.000	575.000	917.000	600.000
X1	27440.000	0.000	0.000	0.000	40.000	20.000	30.000	0.000	.100	0.000
X3	0.000	0.000	0.000	222.000	0.000	311.000	0.000	0.000	0.000	0.000
X1	27470.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	.100	0.000
X3	0.000	0.000	0.000	229.000	0.000	303.000	0.000	0.000	0.000	0.000
X1	27500.000	0.000	0.000	0.000	30.000	30.000	30.000	0.000	.200	0.000
X3	0.000	0.000	0.000	228.000	0.000	287.000	0.000	0.000	0.000	0.000
NC	.030	.030	.018	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	27510.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	231.000	0.000	285.000	0.000	0.000	0.000	0.000
SB	0.000	1.700	2.960	0.000	5.400	0.000	13.500	0.000	902.200	902.500

U/S FACE PRIVATE BRIDGE B.S. 875 SECTION

X1	27532.000	19.000	330.000	334.000	22.000	22.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	906.800	909.900	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	305.000	0.000	359.000	0.000	909.900	909.900	0.000
BT	12.000	305.000	909.900	0.000	330.000	909.900	902.800	330.000	909.900	905.800
BT	330.400	909.900	906.200	331.000	909.900	906.600	331.800	909.900	906.800	332.200
BT	909.900	906.800	333.000	909.900	906.600	333.600	909.900	906.200	334.000	909.900
BT	905.800	331.000	909.900	902.800	359.000	910.000	0.000	0.000	0.000	0.000

GR	,16.000	0.000	914.000	100.000	91_.000	130.000	,10.000	200.000	90_.900	290.000
CR	902.800	330.000	902.800	330.400	902.800	331.000	902.800	331.800	902.800	332.200
GR	902.800	333.000	902.800	333.600	902.800	334.000	910.000	359.000	910.000	360.000
GR	912.000	400.000	912.000	540.000	914.000	561.000	916.000	605.000	0.000	0.000
MC	.030	.042	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #76 SECT.AZ

X1	27590.000	9.000	9.000	19.000	58.000	53.000	52.000	0.000	0.000	0.000
GR	920.000	0.000	908.200	0.000	906.300	9.000	905.400	10.000	904.700	13.000
GR	905.500	15.000	907.100	19.000	909.100	25.000	920.000	25.000	0.000	0.000
NC	.040	.040	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE GREEN ROAD CULVERT

X1	27640.000	16.000	270.000	276.000	50.000	50.000	50.000	0.000	0.000	0.000
GR	914.000	0.000	912.800	70.000	911.800	170.000	912.300	250.000	916.800	270.000
GR	905.200	270.000	904.300	271.000	903.800	272.000	903.800	274.000	904.300	275.000
GR	905.800	275.000	906.800	276.000	912.800	296.000	914.000	355.000	916.000	444.000
GR	916.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SB	0.000	3.080	3.020	0.000	4.700	0.000	28.300	0.000	906.700	906.700

U/S FACE GREEN ROAD CULVERT B.S. #77 SECT.5A

X1	27732.000	16.000	270.000	276.000	92.000	92.000	92.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	910.700	912.000	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	200.000	0.000	0.000	0.000	912.000	912.000	0.000
BT	10.000	200.000	912.000	0.000	270.000	912.400	907.700	271.000	912.400	910.200
BT	272.000	912.400	910.700	274.000	912.400	910.700	275.000	912.400	910.200	275.000
BT	912.400	907.700	355.000	914.000	0.000	444.000	916.000	0.000	650.000	916.000
DT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	914.000	0.000	912.800	70.000	911.800	170.000	912.300	250.000	907.700	270.000
GR	906.700	270.000	905.200	271.000	904.700	272.000	904.700	274.000	905.200	275.000
GR	906.700	276.000	907.700	276.000	912.800	296.000	914.000	355.000	916.000	444.000
GR	916.000	650.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.033	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	68.000	87.000	123.000	164.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #78 SECT.3B

X1	28110.000	7.000	12.000	27.000	378.000	373.000	378.000	0.000	0.000	0.000
GR	914.700	0.000	907.800	12.000	907.000	14.000	907.400	16.000	911.600	27.000
GR	912.500	34.000	920.000	34.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28135.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.800	0.000
X3	0.000	0.000	0.000	10.000	0.000	25.000	0.000	0.000	0.000	0.000
X1	28147.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.400	0.000
X3	0.000	0.000	0.000	13.000	0.000	26.000	0.000	0.000	0.000	0.000
X1	28159.000	15.000	200.000	206.000	12.000	12.000	12.000	0.000	0.000	0.000
GR	926.000	0.000	922.000	57.000	920.000	120.000	918.700	200.000	911.600	200.000
GR	910.600	200.000	909.100	201.000	908.600	202.000	908.600	204.000	909.100	205.000
CR	910.600	206.000	911.500	206.000	918.700	206.000	916.000	250.000	916.000	395.000
NC	.020	.020	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE DOMINION DRIVE CULVERT

X1	28160.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	11.000	0.000	924.000	0.000	57.000	922.000	0.000	120.000	920.000	0.000
BT	200.000	918.700	911.600	201.000	918.700	914.100	202.000	918.700	914.600	204.000
BT	918.700	914.600	205.000	918.700	914.100	206.000	918.700	911.600	250.000	918.000
ST	0.000	395.000	916.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE DOMINION DRIVE CULVERT B.S. #79 SECT.BC

X1	28275.000	15.000	200.000	206.000	115.000	115.000	115.000	0.000	0.000	0.000
BT	11.000	0.000	924.000	0.000	57.000	922.000	0.000	120.000	920.000	0.000
BT	200.000	918.700	912.700	201.000	918.700	915.200	202.000	918.700	915.700	204.000
RT	918.700	915.700	205.000	918.700	915.200	206.000	918.700	912.700	850.000	918.000
RT	0.000	395.000	916.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	924.000	0.000	922.000	57.000	920.000	120.000	918.700	200.000	912.700	200.000
GR	911.700	200.000	910.200	201.000	909.700	202.000	909.700	204.000	910.200	205.000
GR	911.700	206.000	912.700	206.000	918.700	204.000	918.000	250.000	916.000	395.000
NC	.030	.040	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	28276.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.030	.040	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #80 SECT.BC

X1	28310.000	7.000	27.000	70.000	34.000	34.000	34.000	0.000	0.000	0.000
GR	920.400	0.000	916.400	27.000	909.900	58.000	909.900	41.000	910.300	43.000
GR	911.500	52.000	918.600	70.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.033	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	28396.000	7.000	35.000	70.000	50.000	110.000	46.000	0.000	0.000	0.000
GR	920.800	0.000	916.000	35.000	910.400	65.000	910.900	55.000	917.800	70.000
GR	918.500	86.000	921.000	98.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	28482.000	8.000	42.000	71.000	66.000	86.000	66.000	0.000	0.000	0.000
GR	921.000	0.000	915.300	42.000	911.000	50.000	912.000	56.000	917.000	71.000
GR	918.100	100.000	919.100	104.000	923.200	124.000	0.000	0.000	0.000	0.000

X1	28525.000	7.000	50.000	72.000	43.000	43.000	43.000	0.000	0.000	0.000
GR	921.500	0.000	915.000	50.000	911.300	55.000	916.500	72.000	913.000	112.000
GR	919.400	121.000	925.000	144.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	28568.000	6.000	51.000	71.000	43.000	43.000	43.000	0.000	0.000	0.000
GR	921.500	0.000	915.000	51.000	911.500	58.000	916.200	71.000	916.000	119.000
GR	925.900	150.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.040	.038	.036	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #81 SECT.BC

X1	28655.000	13.000	60.000	74.000	100.000	60.000	87.000	0.000	0.000	0.000
GR	922.000	0.000	920.000	15.000	918.000	35.000	916.000	50.000	914.100	50.000
GR	912.200	61.000	912.100	63.000	912.900	65.000	913.500	74.000	915.500	100.000
GR	918.000	131.000	920.000	145.000	928.000	175.000	0.000	0.000	0.000	0.000

X1	28665.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	43.000	0.000	92.000	0.000	0.000	0.000	0.000

X1	28675.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.300	0.000

X3	0.00	0.0 0	0.000	4..000	0.000	89.000	0.000	0.0 0	0.000	0.00
X1	28685.000	0.000	0.000	0.000	10.000	10.000	10.000	0.300	.200	0.000
X3	0.000	0.000	0.000	43.000	0.000	87.000	0.000	0.000	0.000	0.000
X1	28695.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	50.000	0.000	84.000	0.000	0.000	0.000	0.000
X1	28705.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.300	0.000
X3	0.000	0.000	0.000	53.000	0.000	82.000	0.000	0.000	0.000	0.000
X1	28715.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	.200	0.000
X3	0.000	0.000	0.000	55.000	0.000	79.000	0.000	0.000	0.000	0.000
X1	28727.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.300	0.000
X3	0.000	0.000	0.000	58.000	0.000	76.000	0.000	0.000	0.000	0.000
X1	28739.000	22.000	90.000	114.000	12.000	12.000	12.000	0.000	0.000	0.000
GR	926.000	0.000	924.000	9.000	922.000	20.000	920.000	55.000	918.000	55.000
GR	918.200	90.000	917.200	90.000	916.300	94.000	915.300	96.000	914.300	98.000
GR	914.100	100.000	914.400	102.000	917.300	105.000	917.400	106.000	917.900	114.000
GR	918.700	114.000	921.500	156.000	922.000	165.000	924.000	182.000	926.000	190.000
GR	926.000	200.000	930.000	215.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.045	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PRIVATE BRIDGE

X1	28740.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	16.000	0.000	926.000	0.000	9.000	924.000	0.000	20.000	922.000	0.000
BT	35.000	920.000	0.000	55.000	918.000	0.000	90.000	918.200	917.400	96.000
BT	919.900	919.100	102.000	920.600	919.800	102.000	920.200	919.400	114.000	918.700
BT	917.900	156.000	921.500	0.000	165.000	922.000	0.000	182.000	924.000	0.000
BT	190.000	926.000	0.000	200.000	928.000	0.000	215.000	930.000	0.000	0.000

U/S FACE PRIVATE BRIDGE B.S. #82 SECT.OF

X1	28746.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.037	.037	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	28747.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	28847.000	13.000	60.000	74.000	100.000	100.000	100.000	0.000	2.300	0.000
GR	922.000	0.000	920.000	15.000	918.000	35.000	916.000	50.000	914.100	60.000
GR	912.200	61.000	912.100	63.000	912.900	65.000	915.500	74.000	918.500	100.000
GR	918.000	131.000	920.000	145.000	928.000	175.000	0.000	0.000	0.000	0.000
X1	28947.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.300	0.000
X1	29047.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.700	0.000
X1	29083.000	0.000	0.000	0.000	36.000	36.000	36.000	0.000	.300	0.000

X1	29119.000	0.000	0.000	0.000	36.000	36.000	36.000	0.000	.200	0.000
X1	29131.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.100	0.000
X3	0.000	0.000	0.000	58.000	0.000	76.000	0.000	0.000	0.000	0.000
X1	29143.000	0.000	0.000	0.000	12.000	12.000	12.000	0.000	.100	0.000
X3	0.000	0.000	0.000	60.000	0.000	72.000	0.000	0.000	0.000	0.000
X1	29149.000	0.000	0.000	0.000	6.000	6.000	6.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	61.500	0.000	70.000	0.000	0.000	0.000	0.000
DT	4.000	29.000	38.000	51.000	67.000	0.000	0.000	0.000	0.000	0.000
X1	29154.000	19.000	265.000	271.000	5.000	5.000	5.000	0.000	0.000	0.000
GR	938.000	0.000	936.000	50.000	934.000	105.000	932.000	145.000	930.000	200.000
GR	928.800	265.000	920.300	265.000	919.300	265.000	917.800	256.000	917.300	267.000
GR	917.300	269.000	917.800	270.000	919.300	271.000	920.300	271.000	928.800	271.000
GR	930.000	410.000	932.000	498.000	934.000	550.000	936.000	582.000	0.000	0.000
NC	.020	.020	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

C/S FACE HARDWOODS DRIVE CULVERT

X1	29155.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	15.000	0.000	938.000	0.000	50.000	936.000	0.000	105.000	934.000	0.000
DT	145.000	932.000	0.000	200.000	930.000	0.000	265.000	928.800	920.300	266.000
BT	928.800	922.800	267.000	928.800	923.300	269.000	922.800	923.300	270.000	928.800
BT	922.800	271.000	928.800	920.300	410.000	930.000	0.000	498.000	932.000	0.000
DT	550.000	934.000	0.000	582.000	936.000	0.000	0.000	0.000	0.000	0.000

U/S FACE HARDWOODS DRIVE CULVERT B.S. #03 SECT.BG

X1	29281.000	19.000	265.000	271.000	126.000	126.000	126.000	0.000	0.000	0.000
BT	15.000	0.000	938.000	0.000	50.000	936.000	0.000	105.000	934.000	0.000
DT	145.000	932.000	0.000	200.000	930.000	0.000	265.000	928.800	921.100	266.000
BT	928.800	923.600	267.000	928.800	924.100	269.000	928.800	924.100	270.000	928.800
BT	923.600	271.000	928.800	921.100	410.000	930.000	0.000	498.000	932.000	0.000
BT	550.000	934.000	0.000	582.000	936.000	0.000	0.000	0.000	0.000	0.000
GR	938.000	0.000	936.000	50.000	934.000	105.000	932.000	145.000	930.000	200.000
GR	928.800	265.000	921.100	265.000	920.100	265.000	918.800	266.000	918.100	267.000
GR	918.100	269.000	913.600	270.000	920.100	271.000	921.100	271.000	928.800	271.000
GR	930.000	410.000	932.000	498.000	934.000	550.000	936.000	582.000	0.000	0.000
NC	.055	.070	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	29282.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.055	.070	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #84 SECT.BH

X1	29300.000	6.000	0.000	50.000	16.000	18.000	18.000	0.000	0.000	0.000
GR	929.600	0.000	928.600	8.000	919.100	24.000	918.500	27.000	919.300	50.000
GR	929.500	50.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	29392.000	0.000	0.000	0.000	92.000	92.000	92.000	0.000	.500	0.000
X1	29484.000	0.000	0.000	0.000	92.000	92.000	92.000	0.000	.500	0.000

X1	29578.000	0.000	0.000	0.000	92.000	92.000	92.000	0.000	.600	0.000
X1	29669.000	17.000	33.000	35.000	93.000	93.000	93.000	0.000	0.000	0.000
GR	935.000	0.000	925.100	0.000	923.500	25.000	922.200	33.000	921.000	33.000
GR	920.600	34.000	921.000	35.000	922.200	35.000	923.300	43.000	924.000	60.000
CR	926.000	80.000	928.000	95.000	950.000	200.000	932.000	225.000	934.000	250.000
GR	936.000	265.000	937.700	300.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.055	.070	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	29670.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
SB	0.000	2.210	2.900	0.000	1.570	0.000	3.140	0.000	920.600	920.600

U/S FACE PRIVATE BRIDGE B.S. #05 SECT.BI

X1	29689.000	17.000	33.000	35.000	19.000	19.000	19.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	922.600	923.000	0.000	0.000	0.000	0.000	0.000
DT	12.000	0.000	925.100	0.000	33.000	923.000	922.200	34.000	923.000	922.600
BT	35.000	923.000	922.200	60.000	924.000	0.000	80.000	926.000	0.000	95.000
BT	928.000	0.000	200.000	930.000	0.000	225.000	932.000	0.000	250.000	934.000
BT	0.000	265.000	936.000	0.000	300.000	937.700	0.000	0.000	0.000	0.000
GR	935.000	0.000	925.100	0.000	924.000	19.000	922.200	33.000	921.000	33.000
GR	920.600	34.000	921.000	35.000	922.200	35.000	923.600	50.000	924.000	60.000
GR	926.000	80.000	928.000	95.000	950.000	200.000	932.000	225.000	936.000	250.000
GR	936.000	265.000	937.700	300.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.038	.038	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	29690.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
DT	4.000	9.000	15.000	17.000	21.000	0.000	0.000	0.000	0.000	0.000
NC	.035	.035	.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	29860.000	0.000	0.000	0.000	170.000	170.000	170.000	0.000	.500	0.000
X3	0.000	0.000	0.000	22.000	0.000	47.000	0.000	0.000	0.000	0.000
SB	0.000	1.760	2.990	0.000	1.570	0.000	3.140	0.000	921.100	921.100

U/S FACE PRIVATE BRIDGE B.S. #06 SECT.BJ

X1	29876.000	14.000	65.000	67.000	16.000	16.000	16.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	923.100	924.800	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	86.000	0.000	924.800	924.800	0.000
BT	6.000	0.000	924.000	0.000	56.000	926.000	0.000	65.000	924.900	922.700
BT	66.000	924.900	923.100	67.000	924.900	922.700	100.000	924.800	0.000	0.000
GR	928.000	0.000	926.000	56.000	925.500	60.000	922.700	65.000	923.500	65.000
GR	921.100	66.000	921.500	67.000	922.700	67.000	924.900	72.000	924.500	215.000
GR	924.800	415.000	926.000	515.000	926.000	545.000	930.000	505.000	0.000	0.000
NC	.045	.045	.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE LOCKHART DRIVE CULVERT

X1	29920.000	20.000	230.000	233.000	44.000	44.000	44.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	925.500	925.500	0.000
GR	934.000	0.000	932.000	30.000	930.000	65.000	928.000	160.000	926.700	210.000
GR	923.000	230.000	922.600	230.300	922.500	230.700	922.400	231.300	922.400	231.500
GR	922.400	231.700	922.500	232.300	922.600	232.700	926.000	233.000	926.600	253.000
GR	928.000	320.000	930.000	375.000	932.000	405.000	934.000	430.000	936.000	460.000

SB	0.000	3.300	2.900	0.000	2.200	0.000	3.[illegible]0	0.000	22.400	22.400

U/S FACE LOCKHART DRIVE CULVERT B.S. #87 SECT.BX

X1	29944.000	0.000	0.000	0.000	24.000	24.000	24.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	924.200	926.200	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	220.000	0.000	0.000	0.000	926.200	926.200	0.000
BT	15.000	220.000	926.500	0.000	220.000	926.200	926.000	230.300	926.200	923.600
BT	230.700	926.200	924.000	231.300	926.200	924.200	231.500	926.200	924.200	231.700
BT	926.200	924.200	232.300	926.200	924.000	232.700	926.200	923.600	233.000	926.200
BT	923.000	320.000	928.000	0.000	375.000	930.000	0.000	405.000	932.000	0.000
BT	430.000	934.000	0.000	460.000	936.000	0.000	0.000	0.000	0.000	0.000
NC	.038	.032	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #88 SECT.BL

X1	29970.000	14.000	200.000	220.000	26.000	23.000	25.000	0.000	0.000	0.000
GR	934.000	0.000	932.000	33.000	930.000	120.000	928.000	165.000	925.000	200.000
GR	922.800	212.000	922.100	215.000	922.700	210.000	925.900	220.000	926.500	233.000
GR	928.000	338.000	930.000	350.000	932.000	374.000	934.000	398.000	0.000	0.000

X1	30250.000	0.000	0.000	0.000	280.000	230.000	2[illegible]0.000	0.000	1.[illegible]00	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**************************************************
  REC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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T1            W.BLOOMFIELD TWP. FIS
T2             100 YEAR FLOOD
T3              FRANKLIN BRANCH OF THE ROUGE RIVER

J1   ICHECK     INQ       NINV      ISIR      STRT      METRIC    HVINS     C         WSEL      FQ

        0.        4.        0.        0.  0.000000      0.00      0.0       0.   799.720     0.000

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IN        CHNIM     ITRACE

       3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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#PROF 3

CCHV=    .300 CEHV=    .500
*SECNO .000
   SECNO     DEPTH     CWSEL     CRWS      WSELK     EG        HV        HL        OLOSS    BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

                              VALLEY SECTION #16                              SECT.A

      0.00      6.82    799.72      0.00    795.72    800.13      .41       0.00      0.00    796.00
    1310.       29.     1196.       84.      14.       224.      69.        0.        0.      795.40
      0.00      2.13      5.35      1.22     .050      .040      .090      0.000    792.98    370.56
  .001993        0.        0.        0.        0         0         0       0.00     77.37    447.93

*SECNO 520.000

                              VALLEY SECTION #17                              SECT.B

    520.00      7.31    801.01      0.00      0.00    801.73      .73       1.44      .16     797.30
    1310.       146.    1061.       103.      64.       141.      48.        3.        1.      798.20
      .02       2.29      7.52      2.14     .070      .060      .065      .040    793.70    107.40
  .004141       520.      520.      520.        2         0         0       0.00     95.16    200.56

*SECNO 1325.000
    1325.00     3.25    803.75      0.00      0.00    804.10      .44       2.36      .09     799.10
    1310.       323.    978.        9.       159.      162.       7.        9.        3.      800.00
      .07       2.03      6.01      1.29     .070      .040      .065      .040    795.50    137.54
  .002187       805.      805.      805.        2         0         0       0.00     69.21    226.75

*SECNO 2790.000

                              VALLEY SECTION #18                              SECT.C

    2790.00     7.22    806.12      0.00      0.00    806.21      .09       1.92      .10     802.80
    1310.       86.     397.      826.       38.       118.      473.       25.       7.      801.00
      .25       2.30      3.37      1.75     .030      .042      .060      .041    798.90     56.16
  .000873      1465.     1465.     1465.        4         0         0       0.00    192.08    246.24

*SECNO 3310.000
   SECNO     DEPTH     CWSEL     CRWS      WSELK     EG        HV        HL        OLOSS    BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=     115.0     470.0  TYPE=     1  TARGET=    -115.000
    3310.00     5.93    806.43      0.00      0.00    806.50      .07       .29       .01     802.00
    1310.       272.    385.        653.      140.      125.      479.       29.       9.      802.00
      .29       1.95      3.09      1.36     .030      .042      .060      .044    800.50    134.65
  .000820       520.      520.      200.        2         0         0       0.00    307.52    442.15

*SECNO 3370.000
    3370.00     5.73    806.43      0.00      0.00    806.64      .21       .07       .07     802.90
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1310.	412.	467.	331.	136.	120.	168.	30.	10.	802.20
.30	3.02	4.75	1.97	.030	.042	.060	.043	800.70	142.48
.002071	60.	60.	60.	2	0	0	0.00	224.27	366.75

*SECNO 3430.000

3430.00	5.66	806.48	0.00	0.00	807.03	.55	.21	.17	803.90
1310.	229.	825.	255.	126.	115.	77.	31.	10.	802.40
.30	1.82	7.20	3.32	.080	.050	.070	.044	800.80	147.12
.007298	60.	60.	60.	2	0	0	0.00	196.65	343.77

*SECNO 3490.000

3490.00	6.05	807.05	0.00	0.00	807.44	.40	.37	.05	804.80
1310.	369.	771.	170.	227.	121.	55.	31.	10.	802.60
.30	1.63	6.34	3.10	.080	.050	.070	.044	801.00	95.48
.005362	60.	60.	60.	3	0	0	0.00	244.30	340.09

*SECNO 3550.000

3470 ENCROACHMENT STATIONS= 160.0 410.0 TYPE= 1 TARGET= -160.000

VALLEY SECTION #19 SECT.D

3550.00	6.27	807.47	0.00	0.00	807.79	.32	.32	.02	805.60
1310.	447.	863.	0.	240.	154.	0.	32.	10.	803.00
.31	1.86	5.43	0.00	.080	.050	.070	.044	801.20	160.00
.005470	60.	60.	60.	2	0	0	0.00	188.24	348.24

*SECNO 3885.000

SECNO	DEPTH	CWSEL	CRI.S	WSELK	EC	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	ANL	XLCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 160.0 400.0 TYPE= 1 TARGET= -160.000

3885.00	6.15	808.95	0.00	0.00	809.27	.32	1.48	.00	806.00
1310.	527.	726.	54.	312.	123.	30.	35.	12.	804.60
.33	1.69	5.91	1.82	.080	.045	.080	.044	802.80	160.00
.003640	335.	335.	335.	2	0	0	0.00	216.69	376.69

*SECNO 4310.000

4310.00	5.69	810.59	0.00	0.00	810.88	.29	1.60	.01	805.00
1310.	273.	560.	372.	179.	114.	166.	40.	14.	804.80
.36	1.55	5.60	2.24	.080	.045	.080	.044	804.90	65.51
.003902	425.	425.	425.	2	0	0	0.00	216.16	281.47

*SECNO 4630.000

4630.00	5.69	812.09	0.00	0.00	812.32	.73	1.72	.22	810.00
1310.	257.	908.	145.	145.	112.	47.	42.	16.	808.40
.38	1.74	6.09	3.10	.080	.045	.080	.044	806.40	18.15
.007832	320.	320.	320.	2	0	0	0.00	179.71	197.86

*SECNO 5200.000

3470 ENCROACHMENT STATIONS= 320.0 364.0 TYPE= 1 TARGET= 44.000

5200.00	6.05	815.25	0.00	0.00	815.52	.27	2.57	.14	812.00
660.	30.	553.	77.	23.	124.	44.	46.	17.	810.90
.42	1.32	5.48	1.75	.080	.045	.080	.044	809.20	320.00

.002057	570.	570.	570.	2	0	0	0.00	44.00	364.00

*SECNO 5225.000

3470 ENCROACHMENT STATIONS= 326.0 357.0 TYPE= 1 TARGET= 31.000

5225.00	5.96	815.26	0.00	0.00	815.64	.38	.06	.06	812.10
560.	15.	619.	26.	11.	121.	17.	46.	17.	811.00
.42	1.39	5.10	1.57	.080	.045	.080	.044	809.30	326.00
.002735	25.	25.	25.	2	0	0	0.00	31.00	357.00

*SECNO 5238.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
W	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	JTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	COPAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 329.0 354.0 TYPE= 1 TARGET= 25.000

5238.00	5.96	815.26	0.00	0.00	815.71	.45	.04	.03	812.10
660.	3.	654.	4.	3.	121.	4.	46.	17.	811.00
.42	.86	5.38	.89	.080	.045	.080	.044	809.30	329.00
.003042	13.	13.	13.	2	0	0	0.00	25.00	354.00

*SECNO 5250.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 815.50 ELREA= 815.50

D/S FACE TEN HILL DRIVE CULVERT

5250.00	5.73	815.13	0.00	0.00	815.88	.75	.02	.15	811.00
660.	0.	660.	0.	0.	95.	0.	46.	17.	810.90
.42	0.00	6.96	0.00	.025	.013	.025	.044	809.30	190.00
.001263	12.	12.	12.	2	0	0	0.00	19.00	209.00

SPECIAL BRIDGE

SR	XK	XKOR	CQFQ	HCLEA	BWC	BWP	BAREA	SP	ELCHU	ELCHD
	0.00	1.39	2.84	0.00	11.50	0.00	58.90	0.00	809.40	809.40

*SECNO 5278.000
PRESSURE FLOW

EGPRS	EGLWC	AS	QWEIR	QBR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
817.84	815.08	0.00	0.	660.	59.	59.	814.50	813.00

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 813.00 ELREA= 813.00

U/S FACE TEN HILL DRIVE CULVERT B.S. #20 SECT.E

5278.00	6.09	817.49	0.00	0.00	817.84	.35	1.96	0.00	811.00
660.	0.	660.	0.	0.	140.	0.	46.	17.	810.90
.42	0.00	4.72	0.00	.025	.018	.025	.044	809.40	190.00
.000390	28.	28.	28.	2	0	0	0.00	19.00	209.00

*SECNO 5300.000

3470 ENCROACHMENT STATIONS= 168.0 231.0 TYPE= 1 TARGET= 53.000

VALLEY SECTION #21 SECT.F

5300.00	7.46	817.76	0.00	0.00	817.91	.15	.01	.06	815.60
660.	45.	424.	191.	41.	115.	97.	46.	17.	813.00
.42	1.10	3.70	1.96	.070	.045	.070	.044	810.30	168.00
.001301	22.	22.	22.	2	0	0	0.00	53.00	231.00

*SECNO 6170.000

6170.00	4.99	819.69	0.00	0.00	820.05	.37	2.04	.11	813.00
660.	189.	437.	34.	136.	76.	23.	51.	20.	817.40
.48	1.39	5.89	1.70	.070	.045	.070	.044	816.70	88.90
.005397	870.	870.	870.	4	0	0	0.00	196.69	285.59

*SECNO 6669.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	ARCO	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTR	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST
6669.00	5.77	822.97	0.00	0.00	823.39	.42	3.31	.03	821.40
660.	76.	382.	202.	47.	58.	86.	53.	22.	821.10
.51	1.64	6.58	2.41	.070	.045	.070	.044	817.20	90.38
.008350	499.	499.	499.	3	0	0	0.00	143.01	233.40

*SECNO 6670.000

3370 NORMAL BRIDGE,NRC= 15 MIN ELTRD= 821.10 MAX ELLC= 820.10

D/S FACE PRIVATE BRIDGE

6670.00	5.77	822.97	0.00	0.00	823.41	.45	.01	.01	821.40
660.	94.	320.	246.	47.	44.	84.	53.	22.	821.10
.51	1.99	7.19	2.93	.070	.025	.070	.044	817.20	90.32
.012285	1.	1.	1.	0	0	0	-13.55	143.41	233.42

*SECNO 6680.000

3370 NORMAL BRIDGE,NRC= 15 MIN ELTRD= 821.10 MAX ELLC= 820.10

U/S FACE PRIVATE BRIDGE B.S. #22 SECT.G

6680.00	6.11	823.31	0.00	0.00	823.56	.25	.09	.06	821.40
660.	124.	272.	265.	73.	48.	105.	53.	22.	821.10
.51	1.69	5.66	2.51	.070	.025	.070	.044	817.20	72.14
.006897	10.	10.	10.	4	0	0	-13.65	152.45	234.58

*SECNO 6681.000

6681.00	5.95	823.15	0.00	0.00	823.74	.59	.01	.17	821.40
660.	54.	446.	160.	60.	60.	95.	53.	22.	821.10
.51	.91	7.44	1.60	.100	.030	.080	.044	817.20	80.71
.004545	1.	1.	1.	2	0	0	0.00	153.31	234.03

*SECNO 6700.000

VALLEY SECTION #23 SECT.G

6700.00	6.37	823.57	0.00	0.00	823.67	.30	.04	.09	822.50
660.	16.	622.	22.	48.	133.	27.	53.	22.	821.60
.51	.34	4.49	.79	.100	.030	.080	.044	817.20	75.39
.001166	19.	19.	19.	2	0	0	0.00	141.43	215.52

*SECNO 6736.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	KV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IOC	ICONT	CORAR	TOPWID	ENDST
6736.00	6.47	823.67	0.00	0.00	823.92	.26	.05	.01	822.50
660.	28.	600.	32.	57.	141.	29.	54.	22.	821.60
.51	.48	4.25	1.09	.040	.035	.065	.044	817.20	57.21
.001376	36.	36.	36.	0	0	0	0.00	150.35	217.55

SPECIAL BRIDGE

SS	XX	XKOR	COEQ	RDLEN	SWC	SWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.00	3.44	0.00	.01	0.00	.01	0.00	817.20	817.20

*SECNO 6757.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	WS	QWEIR	QBR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
********	823.72	0.00	660.	0.	0.	-0.	0.00	824.50

PRIVATE DAM DAM SECTION #23-A SECT.I

6737.00	10.01	827.21	0.00	0.00	827.22	.01	3.29	0.00	817.20
660.	313.	147.	200.	707.	110.	376.	54.	22.	817.20
.51	.44	1.34	.53	.080	.035	.065	.044	817.20	14.88
.000046	1.	1.	1.	0	0	10	0.00	215.35	230.23

*SECNO 6990.000

3265 DIVIDED FLOW

VALLEY SECTION #24 SECT.J

6990.00	5.62	827.22	0.00	0.00	827.25	.05	.02	.01	826.70
660.	0.	660.	0.	0.	497.	0.	59.	23.	327.20
.56	.08	1.33	.00	.090	.030	.070	.043	821.60	54.06
.000132	253.	253.	253.	2	0	0	0.00	157.56	207.19

*SECNO 7100.000

3470 ENCROACHMENT STATIONS= 70.0 153.0 TYPE= 1 TARGET= 85.000

7100.00	5.82	827.22	0.00	0.00	827.28	.05	.02	.01100000.00	
660.	0.	660.	0.	0.	364.	0.	60.	23. 100000.00	
.58	0.00	1.81	0.00	.090	.03	.070	.043	821.20	70.00

.000103	110.	110.	110.	0	0	0	0.00	83.00	153.00

*SECNO 7140.000

3470 ENCROACHMENT STATIONS=			80.0	143.0	TYPE=	1	TARGET=	63.000	
7140.00	5.82	827.22	0.00	0.00	827.30	.07	.01	.01100000.00	
660.	0.	660.	0.	0.	301.	0.	60.	23.	100000.00
.59	0.00	2.19	0.00	.090	.030	.070	.043	821.40	80.00
.000282	40.	40.	40.	0	0	0	0.00	63.00	143.00

*SECNO 7180.000

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XPR	WT	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=			90.0	133.0	TYPE=	1	TARGET=	45.000	
7180.00	5.91	827.21	0.00	0.00	827.34	.14	.01	.03100000.00	
660.	0.	660.	0.	0.	222.	0.	60.	23.	100000.00
.59	0.00	2.97	0.00	.090	.030	.070	.043	821.30	90.00
.000519	40.	40.	40.	2	0	0	0.00	43.00	133.00

*SECNO 7195.000

3470 ENCROACHMENT STATIONS=			94.0	130.0	TYPE=	1	TARGET=	36.000	
7195.00	5.89	827.19	0.00	0.00	827.38	.19	.01	.03100000.00	
660.	0.	660.	0.	0.	189.	0.	60.	23.	100000.00
.59	0.00	3.49	0.00	.080	.030	.050	.043	821.30	94.00
.000765	15.	15.	15.	2	0	0	0.00	36.00	130.00

*SECNO 7210.000

3470 ENCROACHMENT STATIONS=			98.0	126.0	TYPE=	1	TARGET=	28.000	
7210.00	5.85	827.15	0.00	0.00	827.45	.30	.01	.06100000.00	
660.	0.	660.	0.	0.	149.	0.	60.	23.	100000.00
.59	0.00	4.42	0.00	.080	.030	.050	.043	821.30	98.00
.001282	15.	15.	15.	2	0	0	0.00	28.00	126.00

*SECNO 7259.000

7259.00	5.71	827.01	0.00	0.00	827.81	.80	.12	.25	827.50
660.	0.	660.	0.	0.	92.	0.	60.	23.	828.00
.59	0.00	7.18	0.00	.080	.035	.050	.043	821.30	150.78
.005719	49.	49.	49.	2	0	0	0.00	23.34	174.12

*SECNO 7260.000

D/S FACE PRIVATE BRIDGE

7260.00	5.72	827.02	0.00	0.00	827.82	.80	.01	.00	827.50
660.	0.	660.	0.	0.	92.	0.	60.	23.	828.00
.59	0.00	7.17	0.00	.080	.035	.050	.043	821.30	150.78
.005710	1.	1.	1.	0	0	0	0.00	23.34	174.12

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BLC	B P	BAREA	SS	ELCHU	ELCHD

0.00	1.0	2.4	0.00	9.00	0.00	39.60	0.00	821.20	821.2

*SECNO 7269.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

PSPRS	PCLWC	d3	QWEIR	CPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
834.79	827.72	0.00	301.	362.	40.	40.	825.60	826.90

U/S FACE PRIVATE BRIDGE B.S. #25 SECT.K

7269.00	7.84	829.04	0.00	0.00	829.35	.31	1.33	0.00	827.50
660.	7.	649.	4.	10.	144.	5.	60.	23.	826.00
.59	.68	4.52	.73	.080	.035	.050	.043	821.20	137.70
.001394	9.	9.	9.	2	0	4	0.00	47.51	185.21

*SECNO 7270.000

7270.00	7.84	829.04	0.00	0.00	829.35	.31	.00	.00	827.50
660.	7.	649.	4.	10.	144.	5.	60.	23.	828.00
.59	.68	4.51	.74	.080	.035	.050	.043	821.20	137.69
.001392	1.	1.	1.	0	0	0	0.00	47.53	185.22

*SECNO 7300.000

VALLEY SECTION #26 SECT.L

7300.00	6.99	828.99	0.00	0.00	829.53	.54	.06	.11	826.30
660.	65.	583.	13.	44.	94.	9.	61.	23.	825.90
.60	1.49	6.23	1.35	.080	.040	.080	.043	822.00	121.59
.003438	30.	30.	30.	2	0	0	0.00	56.44	176.04

*SECNO 8260.000

3470 ENCROACHMENT STATIONS= .0 325.0 TYPE= 1 TARGET= 324.999

VALLEY SECTION #27 SECT.M

8260.00	6.01	831.21	0.00	0.00	831.30	.09	1.64	.13	830.30
660.	2.	377.	281.	3.	120.	287.	65.	25.	826.90
.71	.75	3.14	.98	.040	.042	.080	.043	825.20	144.12
.001173	900.	960.	600.	2	0	0	0.00	180.88	325.00

*SECNO 8680.000

8680.00	4.41	831.81	0.00	0.00	832.00	.19	.65	.05	830.00
660.	305.	239.	116.	97.	52.	106.	68.	27.	829.80
.76	3.14	4.63	1.09	.040	.042	.080	.044	827.40	32.76
.003410	275.	420.	300.	2	0	0	0.00	177.20	209.96

*SECNO 9060.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA

SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 200.0 TYPE= 1 TARGET= 199.999

VALLEY SECTION #28 SECT.N

9060.00	4.04	833.44	0.00	0.00	833.83	.39	1.73	.10	832.00
660.	10.	323.	326.	5.	47.	174.	70.	23.	831.80
.76	1.98	6.93	1.88	.060	.045	.100	.044	829.40	55.78
.010127	225.	380.	300.	3	0	0	0.00	146.22	200.00

*SECNO 10060.000

10060.00	5.39	839.79	0.00	0.00	840.07	.28	0.20	.03	837.00
660.	25.	366.	269.	13.	55.	189.	75.	31.	836.30
.83	1.94	5.59	1.42	.060	.045	.100	.044	834.40	115.71
.004188	1000.	1000.	1000.	4	0	0	0.00	150.19	265.91

*SECNO 10700.000

3470 ENCROACHMENT STATIONS= .0 123.0 TYPE= 1 TARGET= 122.999

10700.00	4.66	842.26	0.00	0.00	842.54	.28	2.46	.00	840.00
660.	85.	318.	257.	30.	56.	145.	71.	32.	840.00
.87	2.82	5.71	1.77	.060	.045	.100	.045	837.60	22.22
.005386	600.	640.	350.	3	0	0	0.00	99.78	123.00

*SECNO 10760.000

3470 ENCROACHMENT STATIONS= .0 103.0 TYPE= 1 TARGET= 102.999

10760.00	4.68	842.68	0.00	0.00	843.04	.36	.47	.04	840.40
660.	94.	347.	218.	31.	56.	110.	79.	32.	840.40
.87	3.07	6.21	1.96	.060	.045	.100	.045	836.00	23.15
.006304	80.	80.	80.	2	0	0	0.00	79.85	103.00

*SECNO 10860.000

3470 ENCROACHMENT STATIONS= .0 83.0 TYPE= 1 TARGET= 82.999

10860.00	4.77	843.17	0.00	0.00	843.67	.50	.56	.07	840.80
660.	111.	393.	151.	32.	57.	88.	79.	33.	840.60
.88	3.47	6.98	2.20	.060	.045	.100	.045	836.40	22.92
.007770	80.	80.	80.	1	0	0	0.00	60.03	83.00

*SECNO 10890.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	STW	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 75.0 TYPE= 1 TARGET= 74.999

10890.00	4.76	843.36	0.00	0.00	843.97	.61	.25	.05	841.00
660.	119.	426.	115.	32.	57.	50.	79.	33.	841.00
.88	3.71	7.44	2.31	.060	.045	.100	.045	838.60	22.88
.008799	30.	30.	30.	1	0	0	0.00	52.12	75.00

*SECNO 10920.000

347 ENCROACHMENT STATIONS= 27.0 68.0 TYPE= 1 TARGET= 1.000

10920.00	4.89	843.[illegible]	0.00	0.00	844.28	.6[illegible]	.27	.04	841.10
660.	125.	454.	61.	31.	59.	35.	79.	33.	841.10
.82	4.04	7.71	2.32	.060	.045	.100	.045	836.70	27.00
.009096	30.	30.	30.	2	0	0	0.00	41.00	66.00

*SECNO 10930.000

3470 ENCROACHMENT STATIONS= 29.0 55.0 TYPE= 1 TARGET= 36.000

10930.00	4.63	843.63	0.00	0.00	844.43	.80	.09	.05	841.20
660.	110.	473.	76.	27.	58.	27.	79.	33.	841.20
.88	4.15	8.16	2.86	.060	.043	.060	.045	832.60	29.00
.009479	10.	10.	10.	2	0	0	0.00	36.70	65.00

*SECNO 10940.000

3470 ENCROACHMENT STATIONS= 31.0 62.0 TYPE= 1 TARGET= 31.000

10940.00	4.84	843.64	0.00	0.00	844.63	.99	.10	.09	841.20
660.	88.	514.	58.	22.	58.	20.	79.	33.	841.20
.88	4.03	8.84	2.97	.060	.043	.080	.045	836.80	31.00
.011097	10.	10.	10.	2	0	0	0.00	31.00	62.00

*SECNO 10944.000

3470 ENCROACHMENT STATIONS= 32.0 61.0 TYPE= 1 TARGET= 29.000

10944.00	4.69	843.59	0.00	0.00	844.77	1.17	.05	.09	841.30
660.	77.	533.	50.	18.	56.	16.	79.	33.	841.30
.88	4.22	9.49	3.10	.060	.043	.080	.045	834.90	32.00
.013411	4.	4.	4.	2	0	0	0.00	29.00	61.00

*SECNO 10947.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	XV	XL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 33.0 60.0 TYPE= 1 TARGET= 27.000

10947.00	4.66	843.56	0.00	0.00	844.67	1.28	.04	.06	841.30
660.	69.	549.	43.	16.	56.	14.	79.	33.	841.30
.88	4.27	9.82	3.12	.060	.043	.080	.045	834.90	33.00
.014425	3.	3.	3.	2	0	0	0.00	27.00	60.00

*SECNO 10950.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	XV	XL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

VALLEY SECTION 029 SECT.0

10950.00	4.66	843.56	843.56	0.00	843.12	1.55	.05	.13	841.10
660.	11.	646.	3.	3.	64.	2.	79.	33.	842.60
.83	3.15	10.10	1.51	.060	.043	.080	.045	838.90	37.23
.018106	3.	3.	3.	2	5	0	0.00	26.35	65.56

*SECND 10954.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 36.0 64.0 TYPE= 1 TARGET= 28.000
10954.00 5.52 844.42 0.00 0.00 845.35 .93 .05 .19 841.10
660. 16. 633. 11. 6. 80. 6. 79. 33. 842.60
.88 2.59 7.90 1.79 .060 .043 .080 .045 838.90 36.28
.008219 2. 4. 4. 6 0 0 0.00 27.72 64.00

*SECND 10958.000

3470 ENCROACHMENT STATIONS= 36.0 64.0 TYPE= 1 TARGET= 28.000
10958.00 5.61 844.51 0.00 0.00 845.39 .88 .03 .01 841.10
660. 17. 631. 12. 7. 82. 7. 79. 33. 842.60
.88 2.53 7.70 1.78 .060 .043 .080 .045 838.90 36.17
.007574 2. 4. 4. 2 0 0 0.00 27.85 64.00

*SECND 10962.000

3470 ENCROACHMENT STATIONS= 36.0 64.0 TYPE= 1 TARGET= 28.000
10962.00 5.63 844.58 0.00 0.00 845.43 .85 .03 .01 841.10
660. 17. 630. 13. 7. 85. 7. 79. 33. 842.50
.88 2.49 7.56 1.78 .060 .043 .080 .045 838.90 36.09
.007144 4. 4. 4. 2 0 0 0.00 27.91 64.00

*SECND 10975.000

SECNO	DEPTH	CNSEL	CRIWS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	KTK	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	COTAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 39.0 61.0 TYPE= 1 TARGET= 22.000
10975.00 5.63 844.63 0.00 0.00 845.58 .95 .10 .05 841.20
660. 6. 649. 6. 3. 82. 3. 79. 33. 842.70
.88 1.85 7.88 1.61 .060 .043 .080 .045 839.00 39.00
.007888 9. 13. 13. 2 0 0 0.00 22.00 61.00

*SECND 10987.000

3470 ENCROACHMENT STATIONS= 42.0 58.0 TYPE= 1 TARGET= 16.000
10987.00 5.58 844.58 0.00 0.00 845.89 1.31 .13 .15100000.00
660. 0. 660. 0. 0. 72. 0. 79. 33. 100000.00
.88 0.00 9.19 0.00 .060 .043 .080 .045 839.00 42.00
.015672 8. 12. 12. 2 0 0 0.00 16.00 58.00

*SECND 10991.000

3470 ENCROACHMENT STATIONS= 43.0 57.0 TYPE= 1 TARGET= 14.000
10991.00 5.47 844.47 0.00 0.00 846.15 1.68 .07 .18100000.00
660. 0. 660. 0. 0. 64. 0. 79. 33. 100000.00
.88 0.00 10.39 0.00 .060 .063 .080 .045 839.00 43.00
.021435 4. 4. 4. 2 0 0 0.00 14.00 57.00

*SECND 10993.000

3.7 ENCROACHMENT STATIONS= 43.0 56.0 TYPE= 1 TARGET= 13.00

10[illegible]3.00	5.41	844.41	0.00	0.00	846.2	1.88	.05	.1[illegible]100000.00	
650.	0.	660.	0.	0.	60.	0.	79.	33. 100000.00	
.88	0.00	11.00	0.00	.060	.043	.080	.044	839.00	43.00
.024630	2.	2.	2.	2	0	0	0.00	13.00	50.00

*SECNO 10995.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 44.0 56.0 TYPE= 1 TARGET= 12.000

10995.00	5.29	844.29	844.29	0.00	846.61	2.32	.06	.22100000.00	
660.	0.	660.	0.	0.	54.	0.	79.	33. 100000.00	
.88	0.00	12.22	0.00	.060	.043	.080	.044	839.00	44.00
.032879	2.	2.	2.	2	5	0	0.00	12.00	56.00

*SECNO 10999.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 849.50 ELREA= 869.50

10999.00	6.03	845.03	845.03	0.00	847.60	2.37	.10	.13	859.00
660.	0.	660.	0.	0.	51.	0.	79.	33.	840.00
.88	0.00	12.87	0.00	.060	.043	.080	.044	839.00	267.00
.020561	4.	4.	4.	20	8	0	0.00	10.00	277.00

*SECNO 11000.000

3301 HV CHANGED MORE THAN HVINS

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 855.20 MAX ELLC= 849.50

D/S FACE WEST MAPLE ROAD

11000.00	7.05	846.05	0.00	0.00	847.84	1.79	.01	.24	856.00
660.	0.	660.	0.	0.	61.	0.	79.	33.	856.00
.88	0.00	10.74	0.00	.020	.018	.020	.044	839.00	267.00
.004418	1.	1.	1.	9	0	0	0.00	10.00	277.00

*SECNO 11055.000

3370 NORMAL BRIDGE,NRD= 6 MIN ELTRD= 855.20 MAX ELLC= 849.50

U/S FACE WEST MAPLE ROAD B.S. 830 SECT.P

11055.00	7.68	846.68	0.00	0.0	848.15	1.77	.21	.10	856.00

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     660.       0.      660.       0.       0.      68.       0.      79.      33.    836.00
      .88     0.00      9.73     0.00     .020     .013     .020     .044   839.00   267.00
  .003424      55.       55.      55.        2        0        0     0.00    10.00   277.00

*SECNO 11056.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA=      849.50 ELREA=      843.50

 11056.00     7.69   846.69     0.00     0.00   848.16     1.47      .01      .00   839.00
     660.       0.      660.       0.       0.      68.       0.      79.      33.    840.80
      .88     0.00      9.73     0.00     .070     .045     .090     .044   839.00   267.00
  .010082       1.        1.       1.        0        0        0     0.00    10.00   277.00

*SECNO 11058.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=      220.0      234.0  TYPE=      1  TARGET=      14.000
 11058.00     8.85   847.85     0.00     0.00   848.44      .58      .01      .27   842.50
     660.       0.      660.       0.       0.     108.       0.      79.      33. 100000.00
      .88     0.00      6.14     0.00     .070     .045     .090     .044   839.00   220.00
  .005488       2.        2.       2.        3        0        0     0.00    14.00   234.00

*SECNO 11060.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

3470 ENCROACHMENT STATIONS=      218.0      236.0  TYPE=      1  TARGET=      18.000
 11060.00     8.97   847.97     0.00     0.00   848.47      .50      .01      .02   842.50
     660.      14.      634.      12.      10.     109.      11.      79.      33.    842.20
      .88     1.35      5.81     1.05     .070     .045     .090     .044   839.00   218.00
  .002385       2.        2.       2.        2        0        0     0.00    18.00   236.00

*SECNO 11200.000

3470 ENCROACHMENT STATIONS=      100.0      370.0  TYPE=      1  TARGET=     270.000
 11200.00     8.67   848.67     0.00     0.00   848.71      .04      .10      .14   842.50
     660.      61.      251.     347.      80.     109.     381.      80.      33.    842.20
      .91      .77      2.32      .91     .070     .045     .090     .044   840.00   146.49
  .000349     145.      140.     125.        2        0        0     0.00   171.53   318.02

*SECNO 11425.000

                    VALLEY SECTION #31                          SECT.C

 11425.00     7.26   848.76     0.00     0.00   848.79      .03      .08      .00   844.00
     660.      49.      195.     416.      52.      89.     488.      83.      34.    843.70
      .96      .95      2.20      .85     .070     .045     .090     .044   841.50    72.54
  .000411     125.      225.     225.        2        0        0     0.00   166.85   239.39

*SECNO 12220.000

3470 ENCROACHMENT STATIONS=         .0      270.0  TYPE=      1  TARGET=     269.999

                    VALLEY SECTION #3[illegible]                          SECT.R
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12220.00	6.03	849.03	0.00	0.00	849.05	.02	.25	.00	845.60
660.	199.	161.	300.	221.	83.	375.	91.	35.	845.60
1.11	.90	1.94	.80	.070	.045	.035	.045	843.00	58.97
.000443	575.	795.	500.	2	0	0	0.00	211.02	270.00

*SECNO 12920.000

3470 ENCROACHMENT STATIONS= .0 930.0 TYPE= 1 TARGET= 929.999

12920.00	4.70	849.30	0.00	0.00	849.31	.01	.26	.00	847.20
660.	173.	113.	373.	279.	60.	580.	100.	41.	847.20
1.27	.62	1.88	.64	.070	.045	.035	.046	844.60	516.51
.000638	600.	700.	350.	2	0	0	0.00	613.49	930.00

*SECNO 13160.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	CLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	VTH	CLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CURAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 410.0 740.0 TYPE= 1 TARGET= 330.000

13160.00	4.43	849.53	0.00	0.00	849.65	.12	.28	.05	848.00
660.	163.	234.	263.	144.	55.	216.	103.	43.	848.00
1.29	1.13	4.29	1.21	.085	.046	.090	.046	845.10	410.00
.004048	245.	240.	190.	2	0	0	0.00	330.00	740.00

*SECNO 13193.000

3470 ENCROACHMENT STATIONS= 410.0 740.0 TYPE= 1 TARGET= 330.000

13193.00	4.47	849.67	0.00	0.00	849.77	.11	.13	.00	848.10
660.	166.	230.	264.	149.	55.	221.	103.	43.	848.10
1.30	1.12	4.16	1.19	.085	.046	.090	.046	845.20	410.00
.003788	35.	33.	30.	2	0	0	0.00	330.00	740.00

*SECNO 13209.000

3470 ENCROACHMENT STATIONS= 410.0 740.0 TYPE= 1 TARGET= 330.000

13209.00	4.42	849.72	0.00	0.00	849.34	.12	.06	.00	848.20
660.	163.	234.	263.	144.	54.	216.	103.	43.	848.20
1.30	1.13	4.30	1.22	.085	.046	.090	.046	845.30	410.00
.004071	17.	16.	15.	0	0	0	0.00	330.00	740.00

*SECNO 13225.000

3470 ENCROACHMENT STATIONS= 420.0 700.0 TYPE= 1 TARGET= 280.000

13225.00	4.52	849.82	0.00	0.00	849.90	.09	.05	.01	848.00
660.	205.	215.	241.	177.	57.	204.	104.	43.	848.00
1.30	1.16	3.77	1.18	.085	.046	.050	.045	845.30	420.00
.002925	16.	16.	15.	2	0	0	0.00	280.00	700.00

*SECNO 13250.000

3470 ENCROACHMENT STATIONS= 400.0 720.0 TYPE= 1 TARGET= 320.000

13250.00	4.49	849.89	0.00	0.00	849.97	.09	.07	.00	848.20
660.	209.	237.	214.	199.	65.	200.	104.	44.	848.20
1.31	1.05	3.65	1.07	.085	.046	.090	.046	845.40	400.00
.002684	26.	25.	23.	1	0	0	0.00	320.00	720.00

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*SECNO 13275.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        SL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     400.0     720.0  TYPE=     1  TARGET=     320.000
 13275.00      4.59    849.99    849.99      0.00    850.54      .36       .11       .14    849.00
     660.      126.      365.      169.      101.       58.      116.      104.       44.    848.90
    1.31      1.24      6.32      1.45      .055      .046      .090      .046    845.40    400.00
 .009192       26.       25.       23.        20         5         0      0.00    320.00    720.00

*SECNO 13300.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        SL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     475.0     740.0  TYPE=     1  TARGET=     265.000
 13300.00      4.83    850.33    850.33      0.00    850.75      .42       .24       .03    849.20
     660.       87.      385.      137.       66.       56.      126.      104.       44.    849.20
    1.31      1.32      6.69      1.49      .085      .046      .090      .046    845.50    475.00
 .009665       28.       25.       24.          3         9         0      0.00    265.00    740.00

*SECNO 13350.000

3470 ENCROACHMENT STATIONS=     400.0     700.0  TYPE=     1  TARGET=     300.000
 13350.00      5.35    850.95      0.00      0.00    851.10      .15       .28       .08    850.00
     660.       71.      292.      297.       77.       65.      243.      105.       44.    849.40
    1.31       .92      4.48      1.23      .085      .046      .090      .046    845.60    400.00
 .003812       50.       50.       45.         2         0         0      0.00    300.00    700.00

*SECNO 13530.000

3470 ENCROACHMENT STATIONS=     360.0     830.0  TYPE=     1  TARGET=     470.000
 13530.00      5.63    851.63      0.00      0.00    851.77      .14       .67       .00    850.30
     660.      173.      307.      181.      282.       71.      190.      106.       46.    850.40
    1.34       .85      4.32       .95      .085      .046      .090      .046    846.00    360.00
 .003368      205.      180.      185.         2         0         0      0.00    470.00    830.00

*SECNO 13885.000

3470 ENCROACHMENT STATIONS=     375.0     700.0  TYPE=     1  TARGET=     325.000

                        VALLEY SECTION #33                          SECT.S

 13885.00      5.68    852.48      0.00      0.00    852.58      .10       .80       .01    850.40
     660.      279.      287.       94.      251.       77.      125.      109.       48.    850.50
    1.37      1.11      3.72       .75      .085      .046      .090      .046    846.80    375.00
 .002141      250.      355.      270.         2         0         0      0.00    325.00    700.00
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*SECNO 141.9.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST

 14199.00      5.10    853.60      0.00      0.00    853.68       .07      1.08       .01    851.50
   660.         355.      90.       216.      204.      21.       162.      112.       51.     851.90
     1.42       1.74     4.36      1.33      .085      .046      .090      .046    848.50    116.70
  .006401       314.      314.      314.         2         0         0      0.00    350.53    469.32

*SECNO 14200.000

3370 NORMAL BRIDGE,NRD= 25 MIN ELTRD=  852.00 MAX ELLC=  851.10

                D/S FACE WALKWAY BRIDGE

 14200.00      5.11    853.61      0.00      0.00    853.69       .07       .01       .00    851.50
   660.         447.      36.       177.      197.      11.       121.      112.       51.     851.90
     1.42       2.27     3.34      1.46      .080      .033      .060      .046    848.50    118.50
  .010260         1.        1.        1.         0         0         0    -58.74    351.39    469.89

*SECNO 14215.000

3370 NORMAL BRIDGE,NRD= 25 MIN ELTRD=  852.00 MAX ELLC=  852.00

                U/S FACE WALKWAY BRIDGE  D.S. #34                  SECT.T

 14215.00      4.26    853.76      0.00      0.00    853.81       .05       .12       .01    851.50
   660.         429.      34.       196.      223.      11.       151.      112.       51.     851.90
     1.42       1.93     2.98      1.50      .080      .035      .060      .046    849.50    111.63
  .006640         15.       15.       15.         2         0         0    -54.96    372.01    485.07

*SECNO 14740.000

                        VALLEY SECTION #35                         SECT.U

 14740.00      4.90    855.50      0.00      0.00    855.57       .07      1.75       .01    852.30
   660.         295.     161.       204.      163.      51.       155.      117.       58.     852.90
     1.49       1.81     3.18      1.29      .060      .050      .075      .046    850.60    160.76
  .001991         525.      525.      525.         5         0         0      0.00    205.42    366.21

*SECNO 15225.000

3470 ENCROACHMENT STATIONS=     200.0     583.0  TYPE=     1  TARGET=     -200.000
 15225.00      3.54    855.64      0.00      0.00    856.68       .05      1.11       .01    854.80
   660.         549.      91.       19.       356.      33.       20.       121.       57.     855.40
     1.57       1.54     2.76      .94       .060      .050      .075      .046    853.10    200.00
  .002653         485.      485.      485.         3         0         0      0.00    307.80    507.60

*SECNO 15550.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST
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3470 ENCROACHMENT STATIONS=      140.0      410.0  TYPE=      1  TARGET=     -140.000
 15550.00      3.27    857.97      0.00      0.00    858.05      .08      1.35      .02    856.00
     660.      550.       91.      19.      246.       30.      27.      125.       50.    857.00
     1.63      2.23      3.00      .72      .060      .050     .075      .046    854.79    140.00
  .003486      475.      325.     225.         3         0        0      0.00    198.32    338.32

*SECNO 15864.000

3470 ENCROACHMENT STATIONS=      170.0      470.0  TYPE=      1  TARGET=     -170.000
 15864.00      2.56    858.86      0.00      0.00    859.07      .21       .96       .06    858.00
     660.      423.      227.      10.      173.       43.       9.      126.       60.    858.00
     1.64      2.45      5.30      1.24      .060      .050     .075      .047    856.50    170.00
  .011977      110.      314.     260.         2         0        0      0.00    239.42    409.42

*SECNO 15879.000

3470 ENCROACHMENT STATIONS=      170.0      470.0  TYPE=      1  TARGET=     -170.000
 15879.00      2.69    859.09      0.00      0.00    859.24      .15       .15       .02    858.10
     660.      441.      207.      12.      198.       45.      11.      126.       61.    858.10
     1.64      2.22      4.56      1.12      .060      .050     .075      .047    856.40    170.00
  .008186       15.       15.      15.         2         0        0      0.00    242.33    412.33

*SECNO 15894.000

3470 ENCROACHMENT STATIONS=      170.0      470.0  TYPE=      1  TARGET=     -170.000
 15894.00      2.84    859.24      0.00      0.00    859.33      .11       .10       .01    858.10
     660.      456.      189.      15.      227.       43.      15.      126.       61.    858.10
     1.64      2.01      3.92      1.01      .060      .050     .075      .047    856.40    170.00
  .005582       15.       15.      15.         0         0        0      0.00    245.57    415.57

*SECNO 15904.000
   SECNO     DEPTH     CWSEL     CRWS      WSELK     EG        HV        HL        OLOSS   BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLAIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3695 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=      260.0      520.0  TYPE=      1  TARGET=     -260.000
 15904.00      4.02    860.52    860.52      0.00    861.01      .49       .08       .19    860.00
     660.      108.      495.      57.       62.       77.      37.      126.       61.    859.00
     1.64      1.73      6.44      1.55      .060      .050     .075      .047    856.50    260.00
  .011668       10.       10.      10.         20        15        0      0.00    204.56    464.56

*SECNO 15905.000
   SECNO     DEPTH     CWSEL     CRWS      WSELK     EG        HV        HL        OLOSS   BANK ELEV
   0         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       FLAIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD=  859.80 MAX ELLC=  859.30


3470 ENCROACHMENT STATIONS=      260.0      520.0  TYPE=      1  TARGET=     -260.000

                  D/S FACE  ALONG BRIDGE
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15905.00	4.49	860.99	860.65	0.00	861.13	.14	.01	.11	860.00
660.	251.	245.	164.	120.	63.	66.	126.	51.	859.80
1.64	2.10	3.69	2.47	.050	.025	.045	.047	856.50	260.00
.005035	1.	1.	1.	15	10	0	-25.40	206.00	466.00

*SECNO 15909.000

3370 NORMAL BRIDGE,NRD= 18 MIN ELTRD= 859.80 MAX ELLC= 859.30

3470 ENCROACHMENT STATIONS= 260.0 520.0 TYPE= 1 TARGET= -260.000

U/S FACE WALKWAY BRIDGE B.S. 436 SECT.V

15909.00	4.52	861.02	0.00	0.00	861.15	.13	.02	.00	860.00
660.	254.	241.	165.	123.	64.	68.	126.	61.	859.80
1.65	2.06	3.79	2.43	.050	.025	.045	.047	856.50	260.00
.004716	4.	4.	4.	0	0	0	-25.40	206.00	466.00

*SECNO 15910.000

3470 ENCROACHMENT STATIONS= 260.0 520.0 TYPE= 1 TARGET= -260.000

15910.00	4.45	860.45	0.00	0.00	861.23	.29	.00	.08	860.00
660.	128.	447.	84.	114.	87.	63.	126.	61.	859.80
1.65	1.13	5.14	1.34	.050	.025	.045	.047	856.50	260.00
.001573	1.	1.	1.	2	0	0	0.00	205.84	465.84

*SECNO 16079.000

16079.00	4.21	861.41	0.00	0.00	861.58	.17	.31	.03	860.00
660.	271.	282.	107.	171.	60.	66.	127.	62.	859.40
1.66	1.59	4.71	1.63	.050	.025	.065	.046	857.20	102.26
.002168	169.	169.	169.	2	0	0	0.00	229.45	331.71

*SECNO 16080.000

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD= 859.50 MAX ELLC= 862.30

D/S FACE WALKWAY BRIDGE

16080.00	4.28	861.48	0.00	0.00	861.59	.12	.00	.02	860.00
660.	338.	225.	97.	181.	56.	68.	127.	62.	859.40
1.66	1.86	4.01	1.42	.065	.030	.075	.046	857.20	99.55
.004757	1.	1.	1.	2	0	0	-7.13	234.36	333.94

*SECNO 16084.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 19 MIN ELTRD= 859.50 MAX ELLC= 862.30

U/S FACE WALKWAY BRIDGE B.S. #37 SECT.W

16084.00	4.30	861.50	0.00	0.00	861.61	.11	.02	.00	860.00
660	339.	223.	96.	183.	56.	69.	127.	62.	859.40

```
     1.66      1.65      3.17      1.41      .065      .030      .075      .046    857.20     99.08
  .004651        4.        4.        4.         0         0         0     -7.25    235.25    334.33

*SECNO 16085.000
 16085.00      4.35    861.55      0.00      0.00    861.63       .08       .00       .01    860.00
     660.      343.      195.      122.      193.       63.       75.      127.       62.    859.40
     1.66      1.78      3.12      1.62      .055      .045      .055      .046    857.20     96.82
  .002947        1.        1.        1.         2         0         0      0.00    239.36    336.18

*SECNO 16275.000

3470 ENCROACHMENT STATIONS=        .0      182.0  TYPE=      1  TARGET=      181.999
 16275.00      3.66    862.06      0.00      0.00    862.25       .19       .56       .06    860.00
     660.      141.      270.      249.       50.       58.      119.      128.       62.    860.00
     1.67      2.85      4.65      2.09      .055      .045      .055      .046    858.40     31.78
  .004879      150.      190.      100.         2         0         0      0.00    150.22    182.00

*SECNO 16301.000

3470 ENCROACHMENT STATIONS=        .0      182.0  TYPE=      1  TARGET=      181.999
 16301.00      3.46    862.06      0.00      0.00    862.56       .51       .16       .16    860.60
     660.      164.      355.      141.       44.       50.       52.      128.       62.    860.50
     1.68      3.75      7.15      2.73      .055      .045      .055      .046    858.60     45.11
  .014255       26.       26.        8.         2         0         0      0.00    123.00    168.11

*SECNO 16327.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MININUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=       99.0      225.0  TYPE=      1  TARGET=      126.000
 16327.00      4.44    863.14    863.14      0.00    863.66       .52       .29       .01    862.00
     660.      147.      424.       90.       52.       61.       39.      128.       62.    862.00
     1.68      2.81      6.94      2.30      .055      .045      .055      .046    858.70     99.00
  .010999       26.       26.        9.        20        13         0      0.00    126.00    225.00

*SECNO 16353.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

3470 ENCROACHMENT STATIONS=       84.0      197.0  TYPE=      1  TARGET=      113.000
 16353.00      4.81    863.71      0.00      0.00    863.88       .17       .12       .10    861.80
     660.      183.      305.      171.       82.       72.       80.      128.       62.    861.70
     1.68      2.23      4.25      2.14      .055      .045      .055      .047    858.90     84.00
  .003199       26.       26.        8.         3         0         0      0.00    113.00    197.00

*SECNO 16379.000

3470 ENCROACHMENT STATIONS=       68.0      168.0  TYPE=      1  TARGET=      100.000
 16379.00      4.76    863.84      0.00      0.00    863.95       .09       .04       .02    860.90
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660.	237.	216.	207.	115.	6.*	107.	129.	62.	860.90
1.66	2.07	3.12	1.93	.055	.045	.055	.047	859.10	86.00
.001518	26.	26.	8.	0	0	0	0.00	100.00	156.00

*SECNO 16405.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 144.0 231.0 TYPE= 1 TARGET= 37.000

16405.00	4.72	863.92	863.92	0.00	864.58	.56	.07	.26	862.30
660.	106.	470.	94.	36.	62.	32.	129.	62.	862.60
1.60	2.93	7.52	2.65	.055	.045	.055	.047	859.20	144.00
.011250	26.	26.	9.	20	6	0	0.00	37.00	231.00

*SECNO 16418.000

3470 ENCROACHMENT STATIONS= 148.0 223.0 TYPE= 1 TARGET= 80.000

16418.00	4.74	864.04	0.00	0.00	864.74	.70	.14	.02	862.90
660.	97.	480.	83.	32.	63.	30.	129.	62.	862.90
1.68	3.00	7.66	2.75	.055	.045	.055	.047	359.30	148.00
.011603	13.	13.	4.	0	0	0	0.00	80.00	221.00

*SECNO 16430.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 173.0 247.0 TYPE= 1 TARGET= 74.000

VALLEY SECTION #38 SECT.X

16430.00	4.85	864.25	864.25	0.00	865.07	.82	.14	.06	863.30
660.	64.	540.	56.	24.	68.	22.	129.	62.	863.30
1.68	2.73	7.93	2.58	.055	.045	.055	.047	859.40	175.00
.012638	12.	12.	4.	3	3	0	0.00	74.00	247.00

*SECNO 16443.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 177.0 244.0 TYPE= 1 TARGET= 67.000

16443.00	5.77	864.97	0.00	0.00	865.30	.33	.09	.15	863.10
660.	102.	458.	100.	41.	76.	32.	129.	62.	863.10

1.60	2.45	5.31	2.40	.055	.04[illegible]	.055	.047	859.20	177.00
.004119	13.	13.	13.	4	0	0	0.00	67.00	244.00

*SECNO 16455.000

3470 ENCROACHMENT STATIONS= 180.0 241.0 TYPE= 1 TARGET= 61.000

16455.00	6.06	865.06	0.00	0.00	865.36	.29	.04	.01	862.90
660.	101.	458.	102.	42.	92.	43.	129.	62.	862.90
1.62	2.39	4.95	2.36	.055	.045	.055	.047	859.00	180.00
.003274	12.	12.	12.	0	0	0	0.00	61.00	241.00

*SECNO 16480.000

3470 ENCROACHMENT STATIONS= 186.0 234.0 TYPE= 1 TARGET= 48.000

D/S FACE MIDDLEBELT ROAD

16480.00	6.27	864.97	0.00	0.00	865.52	.54	.04	.13	862.60
660.	31.	599.	30.	33.	97.	32.	129.	63.	862.60
1.69	.94	6.20	.93	.070	.018	.070	.046	858.70	186.00
.000777	25.	25.	25.	2	0	0	0.00	48.00	234.00

SPECIAL BRIDGE

S3 XK	XKOR	COFO	RDLEN	SUC	SWP	DAREA	SS	ELCHU	ELCHD
0.00	1.76	3.02	0.00	9.00	0.00	44.00	0.00	858.70	864.70

*SECNO 16532.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HS	QWEIR	QPR	QAREA	TRAPEZOID AREA	ELLC	ELTRD
871.12	865.49	0.00	2.	651.	44.	43.	864.10	870.60

U/S FACE MIDDLEBELT ROAD B.S. #39 SECT.Y

16532.00	12.20	870.90	0.00	0.00	870.95	.06	5.44	0.00	871.20
660.	0.	660.	0.	0.	343.	0.	129.	63.	871.60
1.69	0.00	1.92	0.00	.070	.018	.070	.046	858.70	300.60
.000048	52.	52.	52.	2	0	0	0.00	48.49	349.08

*SECNO 17510.000

3470 ENCROACHMENT STATIONS= 70.0 350.0 TYPE= 1 TARGET= 280.000

VALLEY SECTION #40 SECT.Z

17510.00	3.21	871.01	0.00	0.00	871.01	.00	.03	.02	864.20
660.	144.	91.	425.	177.	133.	1265.	145.	65.	865.20
2.13	.81	.68	.34	.030	.045	.075	.047	862.80	70.00
.000031	500.	978.	750.	2	0	0	0.00	280.00	350.00

*RECNO 17990.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 185.0 340.0 TYPE= 1 TARGET= 155.000

VALLEY SECTION #41 SECT.AA

17990.00	6.72	871.02	0.00	0.00	871.05	.03	.02	.01	868.90
660.	193.	177.	290.	204.	80.	305.	153.	97.	868.60
2.25	.95	2.23	.95	.080	.045	.080	.047	864.30	185.00
.000486	300.	480.	250.	0	0	0	0.00	155.00	340.00

*SECNO 18400.000

VALLEY SECTION #42 SECT.A3

18400.00	4.83	871.18	0.00	0.00	871.36	.18	.24	.07	868.40
660.	126.	208.	326.	110.	53.	90.	156.	68.	868.00
2.27	1.14	3.96	3.61	.090	.042	.030	.047	856.30	42.29
.001959	38.	410.	310.	2	0	0	0.00	115.01	157.30

*SECNO 18510.000

18510.00	4.61	871.41	0.00	0.00	871.64	.24	.26	.03	868.90
660.	119.	227.	314.	95.	49.	73.	156.	68.	868.50
2.28	1.26	4.59	4.02	.090	.042	.030	.047	866.20	42.91
.002864	110.	110.	110.	2	0	0	0.00	113.18	156.09

*SECNO 18650.000

3470 ENCROACHMENT STATIONS= 150.0 250.0 TYPE= 1 TARGET= -150.000

18650.00	4.36	871.86	0.00	0.00	872.18	.32	.49	.04	870.00
430.	110.	228.	92.	53.	39.	39.	157.	68.	867.70
2.29	2.09	5.83	2.36	.075	.045	.085	.047	867.50	150.00
.005614	150.	140.	140.	2	0	0	0.00	39.31	209.31

*SECNO 18750.000

VALLEY SECTION #43 SECT.AC

18750.00	4.43	872.43	871.97	0.00	872.94	.51	.67	.10	870.70
430.	62.	293.	74.	40.	45.	29.	157.	66.	869.30
2.29	1.56	6.77	2.58	.075	.045	.085	.047	868.00	125.76
.007983	120.	100.	80.	4	9	0	0.00	111.45	257.21

*SECNO 18950.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	UTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
18950.00	4.42	873.92	0.00	0.00	874.16	.24	1.14	.02	871.60
430.	132.	227.	71.	86.	43.	49.	154.	69.	871.30
2.31	1.55	5.21	1.43	.075	.045	.085	.047	869.50	82.89
.004703	150.	200.	200.	2	0	0	0.00	125.91	208.81

*SECNO 19110.000

19110.00	3.96	874.66	0.00	0.00	874.91	.25	.75	.01	873.00
430.	50.	209.	171.	31.	38.	111.	158.	69.	873.00
2.32	1.60	5.5[illegible]	1.[illegible]4	.075	.042	.080	.047	870.70	83.45

.005139	180.	160.	85.	2	0	0	0.00	143.09	226.5

*SECNO 19250.000

VALLEY SECT. #44 SECT.A

19250.00	3.60	875.30	0.00	0.00	875.42	.12	.46	.04	872.80
430.	154.	122.	154.	53.	36.	69.	159.	70.	873.30
2.33	2.89	3.39	2.24	.035	.042	.035	.047	871.70	69.92
.002217	140.	140.	140.	2	0	0	0.00	115.43	185.38

*SECNO 19265.000

19265.00	3.53	875.33	0.00	0.00	875.46	.14	.04	.01	872.90
430.	154.	126.	150.	51.	35.	64.	159.	70.	873.40
2.33	3.03	3.50	2.35	.035	.042	.035	.047	871.80	70.42
.002548	15.	15.	15.	2	0	0	0.00	112.46	182.90

*SECNO 19280.000

19280.00	3.46	875.36	0.00	0.00	875.51	.15	.04	.01	873.00
430.	154.	129.	147.	49.	34.	60.	159.	70.	873.50
2.33	3.16	3.76	2.45	.035	.042	.035	.047	871.90	70.87
.002899	15.	15.	15.	0	0	0	0.00	109.77	130.65

*SECNO 19295.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST
19295.00	3.40	875.40	0.00	0.00	875.57	.17	.05	.01	873.10
430.	154.	133.	143.	47.	34.	56.	159.	70.	873.60
2.34	3.30	3.95	2.56	.035	.042	.035	.047	872.00	71.30
.003291	15.	15.	15.	0	0	0	0.00	107.20	173.50

*SECNO 19299.000

19299.00	3.22	875.22	875.20	0.00	875.79	.57	.02	.20	873.10
430.	102.	246.	52.	41.	32.	46.	159.	70.	873.60
2.34	2.43	7.30	1.00	.075	.035	.080	.047	872.00	72.52
.009704	4.	4.	4.	4	17	0	0.00	99.00	172.40

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	BOLEN	BNC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.00	3.49	0.00	.01	0.00	.01	875.00	872.00	0.00

*SECNO 19300.000

3301 HV CHANGED MORE THAN HVINS

PRESSURE AND WEIR FLOW

ESPRS	EGLWC	HS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
*********	881.61	0.00	430.	0.	0.665535991.		0.00	873.40

PRIVATE DA DAM SECTION #45 SECT.AE

19300.00	6.29	881.29	0.00	0.00	881.30	.01	5.51	0.00	875.00
430.	55.	66.	308.	138.	63.	712.	159.	70.	875.00
2.34	.40	1.05	.43	.075	.035	.060	.047	875.00	35.39
.000053	1.	1.	1.	0	0	11	0.00	175.09	210.98

*SECNO 19440.000

19440.00	5.60	881.30	0.00	0.00	881.30	.00	.00	.00	879.00
430.	5.	423.	2.	42.	1340.	21.	162.	70.	879.00
2.44	.12	.32	.09	.045	.040	.065	.047	875.70	60.91
.000007	160.	140.	60.	2	0	0	0.00	263.63	344.54

*SECNO 19600.000

19600.00	4.90	881.30	0.00	0.00	881.30	.01	.00	.00	878.00
430.	31.	392.	6.	85.	562.	26.	166.	71.	878.00
2.50	.37	.70	.24	.045	.040	.065	.047	876.40	43.49
.000043	180.	160.	100.	0	0	0	0.00	171.72	215.21

*SECNO 19690.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	JTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IBC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 80.0 250.0 TYPE= 1 TARGET= -30.000

19690.00	4.40	881.30	0.00	0.00	881.31	.01	.00	.00100000.00	
430.	0.	425.	1.	0.	524.	4.	167.	71.	880.00
2.53	0.00	.82	.14	.045	.040	.065	.047	876.90	80.00
.000072	100.	90.	70.	0	0	0	0.00	125.50	206.50

*SECNO 19770.000

19770.00	4.00	881.20	0.00	0.00	881.45	.24	.02	.12	879.00
430.	171.	110.	149.	47.	19.	65.	168.	72.	878.30
2.54	3.65	5.80	2.30	.045	.040	.065	.047	877.20	70.79
.006344	72.	80.	85.	2	0	0	0.00	85.24	156.02

*SECNO 19830.000

19850.00	4.09	881.69	0.00	0.00	881.83	.20	.42	.01	879.80
430.	155.	117.	158.	49.	23.	69.	168.	72.	878.80
2.55	3.14	5.13	2.29	.045	.040	.065	.047	877.60	69.13
.004560	72.	80.	85.	2	0	0	0.00	80.55	149.68

*SECNO 19930.000

VALLEY SECTION #46 SECT.AF

19930.00	4.05	882.05	0.00	0.00	882.27	.22	.37	.01	880.40
430.	181.	134.	115.	54.	26.	56.	168.	72.	880.40
2.55	3.37	5.08	2.06	.045	.040	.065	.047	878.00	67.83
.005044	71.	80.	85.	2	0	0	0.00	82.67	150.50

*SECNO 20315.000

VALLEY SECTION #47 SECT.AG

20815.00	.13	886.53	0.00	0.00	886.83	.30	4.52	.04	883.40

	430.	26.	14.	1.	64.	29.	8.	171.	73.	8.5.50
	2.61	4.09	5.08	2.17	.035	.042	.040	.047	*81.90	131.30
	.005173	885.	885.	885.	4	0	0	0.00	64.08	195.38

*SECNO 21730.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTA	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION #48 SECT.AH

21730.00	3.70	889.40	0.00	0.00	889.52	.11	2.63	.06	887.00
430.	95.	230.	106.	46.	69.	66.	174.	75.	887.40
2.71	2.05	3.31	1.59	.035	.042	.040	.047	885.70	99.54
.001831	915.	915.	915.	4	0	0	0.00	125.75	225.27

*SECNO 21880.000

21880.00	3.43	889.73	0.00	0.00	890.02	.28	.41	.03	887.90
430.	91.	312.	27.	64.	63.	22.	174.	76.	888.20
2.72	1.43	4.96	1.22	.070	.042	.070	.047	886.50	124.03
.004714	160.	150.	150.	2	0	0	0.00	115.96	239.99

*SECNO 22050.000

22050.00	3.45	890.35	0.00	0.00	890.69	.34	.64	.03	888.50
430.	66.	331.	12.	83.	63.	16.	175.	76.	888.90
2.73	1.04	5.27	.75	.085	.032	.085	.046	888.90	52.37
.003117	170.	170.	160.	2	0	0	0.00	131.92	194.29

*SECNO 22175.000

3470 ENCROACHMENT STATIONS= 59.0 196.0 TYPE= 1 TARGET= 139.000

D/S FACE SCHOOL ACCESS ROAD CULVERT

22175.00	3.67	890.77	0.00	0.00	890.99	.21	.26	.06	888.70
430.	114.	296.	20.	97.	66.	25.	175.	77.	889.10
2.74	1.17	4.39	.81	.060	.025	.060	.046	887.10	59.00
.001500	125.	125.	125.	2	0	0	0.00	137.59	196.59

SPECIAL BRIDGE

SB XK	XKOR	COFC	RDLEN	BWC	BWP	BAREA	BS	ELCHU	ELCHD
0.00	2.17	2.95	0.00	4.00	0.00	12.57	0.00	887.80	887.80

*SECNO 22191.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
930.21	891.67	0.00	325.	107.	13.	12.	890.90	892.00

U/S FACE SCHOOL ACCESS ROAD CULVERT B.S. #49 SECT.AI

22191.00	5.38	893.18	0.00	0.00	893.21	.03	.22	0.00	888.80

430.	15 /.	57.	215.	145.	..0.	211.	175.	77.	..3..30
2.74	1.09	2.84	1.02	.060	.028	.060	.046	887.80	155.14
.000405	16.	16.	16.	2	0	9	0.00	158.99	294.13

*SECNO 22250.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	AV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION #50 SECT.AJ

22250.00	6.90	893.20	0.00	0.00	893.23	.02	.02	.00	891.30
430.	69.	239.	121.	106.	155.	218.	176.	77.	889.70
2.76	.65	1.55	.56	.055	.040	.070	.046	886.30	34.94
.000200	59.	59.	59.	2	0	0	0.00	102.73	267.67

*SECNO 22474.000

22474.00	5.51	893.21	0.00	0.00	893.49	.20	.13	.13	890.20
430.	211.	132.	87.	73.	21.	31.	177.	78.	890.20
2.77	2.87	6.43	2.79	.055	.040	.070	.046	887.70	129.14
.007976	224.	224.	224.	2	0	0	0.00	96.02	225.16

*SECNO 22475.000

U/S FACE SCHOOL ACCESS CULVERT #2

22475.00	5.52	893.22	0.00	0.00	893.50	.28	.01	.00	890.20
430.	211.	132.	87.	74.	21.	31.	177.	78.	890.20
2.77	2.86	6.42	2.78	.055	.040	.070	.046	887.70	129.03
.007928	1.	1.	1.	0	0	0	0.00	96.16	225.19

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.41	3.02	0.00	5.14	0.00	12.57	0.00	888.20	887.70

*SECNO 22491.000
PRESSURE AND WEIR FLOW

FGPRS	FGLWC	WS	OVEIR	OPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
937.01	894.00	0.00	382.	49.	13.	13.	892.20	892.40

U/S FACE SCHOOL ACCESS CULVERT #2 B.S. #51 SECT.AK

22491.00	5.43	893.63	0.00	0.00	893.78	.15	.28	0.00	890.70
430.	248.	101.	80.	111.	20.	41.	175.	78.	889.20
2.77	2.23	5.01	1.98	.055	.040	.070	.046	888.20	115.00
.003679	16.	16.	16.	2	0	9	0.00	112.18	227.19

*SECNO 22492.000

22492.00	5.51	893.71	0.00	0.00	893.80	.09	.00	.02	890.70
430.	279.	63.	88.	117.	21.	42.	176.	78.	889.20
2.77	2.37	3.07	2.07	.035	.044	.075	.076	888.20	112.58

.001634	1.	1.	1.	2	0		0.00	115.12	227.6

*SECNO 23210.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	FR	INV	HL	OLOSS	BANK ELEV
Q	OLOB	QCH	QROB	ALOB	ACH	AROD	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	ICC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION #52 SECT.AL

23210.00	4.11	894.71	0.00	0.00	894.78	.06	.97	.01	893.20
430.	165.	111.	155.	79.	43.	97.	181.	50.	892.40
2.80	2.08	2.30	1.60	.035	.044	.045	.046	890.60	29.49
.001126	718.	718.	718.	3	0	0	0.00	152.02	161.51

*SECNO 23390.000

VALLEY SECTION #53 SECT.AM

23390.00	3.80	895.00	0.00	0.00	895.13	.13	.32	.03	894.80
430.	26.	171.	232.	25.	47.	99.	182.	20.	893.00
2.89	1.14	3.66	2.34	.048	.044	.045	.046	891.20	130.34
.003318	180.	180.	180.	2	0	0	0.00	143.75	274.10

*SECNO 23460.000

D/S FACE WALNUT LAKE ROAD CULVERT

23460.00	3.98	895.08	0.00	0.00	895.43	.35	.19	.11	894.70
430.	19.	287.	124.	32.	50.	115.	182.	81.	892.90
2.90	.60	5.75	1.03	.085	.024	.065	.046	891.10	123.22
.002238	70.	70.	70.	2	0	0	0.00	155.21	273.42

SPECIAL BRIDGE

SD	XK	XKCR	COFD	RDLEN	RWC	BKP	BAREA	SS	ELC-U	ELCHD
	0.00	2.60	3.02	0.00	4.30	0.00	14.30	0.00	891.40	891.10

*SECNO 23527.000
PRESSURE AND WEIR FLOW

ZGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
931.59	895.76	0.00	277.	154.	14.	14.	894.70	898.90

3470 ENCROACHMENT STATIONS= 396.8 621.0 TYPE= 1 TARGET= 325.000

U/S FACE WALNUT LAKE ROAD CULVERT B.S. #54 SECT.AN

23527.00	8.32	899.72	0.00	0.00	899.74	.02	4.31	0.00	892.60
430.	161.	97.	172.	320.	44.	329.	183.	81.	892.60
2.92	.50	2.21	.52	.085	.024	.065	.046	891.40	396.75
.000100	67.	67.	67.	2	0	8	0.00	224.25	621.00

*SECNO 23839. 00

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3470 ENCROACHMENT STATIONS=      230.0      320.0  TYPE=      1  TARGET=       90.000
 23839.00      7.65    899.75      0.00      0.00    899.77       .02       .02       .00    895.10
    430.       184.      173.       74.      206.      115.       82.      187.       82.     895.10
     3.00       .69      1.50       .90      .030      .025      .030      .046    892.10    230.00
 .000058       350.      312.      300.         2         0         0      0.00     90.00    320.00

*SECNO 23840.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   0          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.10 MAX ELLC=  894.50


3470 ENCROACHMENT STATIONS=      230.0      320.0  TYPE=      1  TARGET=       90.000

                D/S FACE WALKWAY BRIDGE

 23840.00      7.65    899.75      0.00      0.00    899.77       .02       .00       .00    895.10
    430.       238.       97.       95.      206.      105.       82.      187.       82.     895.10
     3.00      1.15       .92      1.16      .030      .025      .030      .046    892.10    230.00
 .000098         1.        1.        1.         0         0         0    -10.20     90.00    320.00

*SECNO 23843.000

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.10 MAX ELLC=  894.50


3470 ENCROACHMENT STATIONS=      230.0      320.0  TYPE=      1  TARGET=       90.000

                U/S FACE WALKWAY BRIDGE  B.S. 966-A                SECT.AD

 23843.00      7.65    899.75      0.00      0.00    899.77       .02       .00       .00    895.10
    430.       238.       97.       95.      206.      105.       82.      187.       82.     895.10
     3.00      1.15       .92      1.16      .030      .025      .030      .046    892.10    230.00
 .000097         3.        3.        3.         0         0         0    -10.20     90.00    320.00

*SECNO 23844.000

3470 ENCROACHMENT STATIONS=      230.0      320.0  TYPE=      1  TARGET=       90.000
 23844.00      7.65    899.75      0.00      0.00    899.77       .02       .00       .00    895.10
    430.       184.      173.       74.      206.      115.       82.      187.       82.     895.10
     3.00       .69      1.50       .90      .030      .025      .030      .046    892.10    230.00
 .000058         1.        1.        1.         0         0         0      0.00     90.00    320.00

*SECNO 24009.000

3470 ENCROACHMENT STATIONS=      320.0      400.0  TYPE=      1  TARGET=       80.000
 24009.00      7.76    899.76      0.00      0.00    899.78       .05       .01       .00    896.10
    430.       111.      176.      143.      111.      104.      133.      188.       82.     895.50
     3.03      1.00      1.70      1.08      .030      .025      .030      .045    892.00    320.00
 .000084       150.      165.      175.         0         0         0      0.00     80.00    400.00

*SECNO 24010.000

3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.50 MAX ELLC=  895.60
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3470 ENCROACHMENT STATIONS=     320.0     400.0  TYPE=     1  TARGET=      80.000

                D/S FACE WALKWAY BRIDGE

 24010.00      7.76   899.76      0.00      0.00   899.78      .03       .00       .00   895.10
    430.      143.      104.      183.      110.      96.      133.      186.       82.   895.50
     3.03      1.29      1.09      1.38      .030      .025      .030      .045   892.00   320.00
  .000140        1.        1.        1.         0         0         0     -7.75    80.00   400.00

*SECNO 24014.000
   SECNO     DEPTH     QWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROF      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3370 NORMAL BRIDGE,NRD=  7 MIN ELTRD=  895.50 MAX ELLC=  895.60

3470 ENCROACHMENT STATIONS=     320.0     400.0  TYPE=     1  TARGET=      80.000

                U/S FACE WALKWAY BRIDGE  B.S. 466                  SECT.AP

 24014.00      7.76   899.76      0.00      0.00   899.75      .03       .00       .00   896.10
    430.      143.      104.      183.      111.      96.      133.      188.       82.   895.50
     3.03      1.29      1.08      1.38      .030      .025      .030      .045   892.00   320.00
  .000139        4.        4.        4.         0         0         0     -7.75    80.00   400.00

*SECNO 24015.000

3470 ENCROACHMENT STATIONS=     320.0     400.0  TYPE=     1  TARGET=      80.000
 24015.00      7.76   899.76      0.00      0.00   899.79      .03       .00       .00   896.10
    430.      111.      176.      123.      111.      104.      133.      188.       82.   895.50
     3.06      1.00      1.70      1.08      .030      .025      .030      .045   892.00   320.00
  .000084        1.        1.        1.         0         0         0      0.00    80.00   400.00

*SECNO 24064.000

3470 ENCROACHMENT STATIONS=     280.0     356.0  TYPE=     1  TARGET=      76.000
 24064.00      7.97   899.77      0.00      0.00   899.79      .02       .00       .00   895.80
    430.      222.      126.       82.      203.       87.       90.      189.       82.   895.80
     3.05      1.09      1.45       .91      .030      .025      .030      .045   891.80   280.00
  .000065       49.       49.       49.         0         0         0      0.00    76.00   356.00

*SECNO 24065.000

3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD=  894.00 MAX ELLC=  895.00

3470 ENCROACHMENT STATIONS=     280.0     356.0  TYPE=     1  TARGET=      76.000

                D/S FACE WALKWAY BRIDGE

 24065.00      7.97   899.77      0.00      0.00   899.79      .02       .00       .00   895.80
    430.      265.       67.       98.      203.       77.       90.      189.       82.   895.80
     3.05      1.30       .86      1.09      .030      .025      .030      .045   891.80   280.00
  .000092        1.        1.        1.         0         0         0    -10.00    76.00   356.00

*SECNO 24070.000
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3370 NORMAL BRIDGE,NRD= 12 MIN ELTRD= 894.00 MAX ELLC= 895.00

3470 ENCROACHMENT STATIONS= 280.0 356.0 TYPE= 1 TARGET= 76.000

U/S FACE WALKWAY BRIDGE B.S. #67 SECT.AQ

24070.00	7.97	899.77	0.00	0.00	899.79	.02	.00	.00	895.80
430.	265.	67.	98.	203.	77.	90.	189.	82.	895.80
3.05	1.30	.86	1.09	.030	.025	.030	.045	891.80	280.00
.000092	5.	5.	5.	0	0	0	-10.00	76.00	356.00

*SECNO 24071.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	ES	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	CHDST

3470 ENCROACHMENT STATIONS= 280.0 356.0 TYPE= 1 TARGET= 76.000

24071.00	7.97	899.77	0.00	0.00	899.79	.02	.00	.00	895.80
430.	222.	126.	82.	203.	87.	90.	189.	82.	895.80
3.05	1.09	1.45	.91	.030	.025	.030	.045	891.80	280.00
.000065	1.	1.	1.	0	0	0	0.00	76.00	356.00

*SECNO 24179.000

3470 ENCROACHMENT STATIONS= 235.0 330.0 TYPE= 1 TARGET= 95.000

24179.00	8.09	899.79	0.00	0.00	899.80	.01	.01	.00	895.20
430.	181.	122.	126.	195.	102.	170.	190.	83.	896.30
3.09	.93	1.20	.74	.030	.025	.030	.045	891.70	235.00
.000043	150.	108.	100.	0	0	0	0.00	95.00	330.00

*SECNO 24180.000

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 894.00 MAX ELLC= 895.10

3470 ENCROACHMENT STATIONS= 235.0 330.0 TYPE= 1 TARGET= 95.000

D/S FACE WALKWAY BRIDGE

24180.00	8.09	899.79	0.00	0.00	899.80	.02	.00	.00	895.20
430.	220.	60.	150.	195.	85.	168.	190.	83.	896.30
3.09	1.13	.70	.89	.030	.025	.030	.045	891.70	235.00
.000064	1.	1.	1.	0	0	0	-16.90	95.00	330.00

*SECNO 24185.000

3370 NORMAL BRIDGE,NRD= 7 MIN ELTRD= 894.00 MAX ELLC= 895.10

3470 ENCROACHMENT STATIONS= 235.0 330.0 TYPE= 1 TARGET= 95.000

U/S FACE WALKWAY BRIDGE B.S. #68 SECT.AR

24185.00	8.09	899.79	0.00	0.00	899.80	.02	.00	.00	895.20
430.	220.	60.	150.	195.	85.	168.	190.	83.	896.30
3.09	1.13	.70	.89	.030	.025	.030	.045	891.70	235.00
.000064	5.	5.	5.	0	0	0	-16.90	95.00	330.00

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*SECNO 24186.000

3470 ENCROACHMENT STATIONS=      235.0      330.0  TYPE=      1  TARGET=      95.000
 24186.00      8.09    899.79      0.00      0.00    899.80       .01       .00       .00    895.20
      430.      181.      122.      126.      195.      102.      170.      190.       83.    896.30
     3.09       .95      1.20       .74      .030      .025      .030      .045    891.70    235.00
  .000043       1.        1.        1.         0         0         0      0.00     95.00    330.00

*SECNO 24339.000
   SECNO     DEPTH     CHSEL     CRIMS     WSELK      FO        HV        HL       OLOSS   BANK ELEV
   0         OLOB      OCH       OROC      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       CLMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      375.0      475.0  TYPE=      1  TARGET=     100.000
 24339.00      9.79    899.79      0.00      0.00    899.82       .02       .01       .00    896.30
      430.      267.       34.      129.      214.       46.      104.      192.       83.    896.30
     3.13      1.25       .73      1.24      .020      .033      .020      .045    890.00    375.00
  .000062       225.      153.      153.         0         0         0      0.00    100.00    475.00

*SECNO 24340.000

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  896.30 MAX ELLC=  895.00


3470 ENCROACHMENT STATIONS=      375.0      475.0  TYPE=      1  TARGET=     100.000

                D/S FACE DOHERTY ROAD BRIDGE
 24340.00      9.79    899.79      0.00      0.00    899.82       .03       .00       .00    896.30
      430.      278.       18.      135.      213.       37.      104.      192.       83.    896.30
     3.13      1.30       .47      1.29      .020      .033      .020      .045    890.00    375.00
  .000067         1.        1.        1.         0         0         0     -6.00    100.00    475.00

*SECNO 24380.000

3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  896.30 MAX ELLC=  895.50


3470 ENCROACHMENT STATIONS=      375.0      475.0  TYPE=      1  TARGET=     100.000

                U/S FACE DOHERTY ROAD BRIDGE  B.S. #69            SECT.AS
 24380.00      9.30    899.80      0.00      0.00    899.82       .03       .00       .00    896.30
      430.      278.       18.      134.      214.       37.      104.      192.       83.    896.30
     3.14      1.30       .49      1.29      .020      .033      .020      .045    890.50    375.00
  .000066       40.       40.       40.         0         0         0     -6.50    100.00    475.00

*SECNO 24381.000

3470 ENCROACHMENT STATIONS=      375.0      475.0  TYPE=      1  TARGET=     100.000
 24381.00      9.30    899.80      0.00      0.00    899.32       .02       .00       .00    896.30
      430.      234.       60.      136.      214.       44.      104.      192.       83.    896.30
     3.14      1.10      1.36      1.31      .060      .047      .050      .045    890.50    375.00
  .000426         1.        1.        1.         0         0         0      0.00    100.00    475.00

*SECNO 24415.000
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3470 ENCROACHMENT STATIONS= 300.0 500.0 TYPE= 1 TARGET= 200.000

VALLEY SECTION #70 SECT.AT

24455.00	7.33	899.83	0.00	0.00	899.83	.00	.01	.01	894.20
430.	245.	57.	128.	649.	98.	269.	193.	83.	894.10
3.19	.38	.59	.48	.060	.047	.050	.045	892.50	300.00
.000029	74.	74.	74.	1	0	0	0.00	200.00	500.00

*SECNO 25350.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	ARCH	VOL	TWA	LEFT/RIGHT
TYPE	VLOB	VCH	VROB	XNL	XNCH	XAR	WTN	CLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
25350.00	4.49	899.89	0.00	0.00	899.92	.04	.07	.02	897.10
430.	165.	135.	130.	174.	57.	137.	207.	87.	897.10
3.36	.95	2.38	.95	.080	.047	.080	.045	895.40	36.43
.000948	800.	395.	900.	2	0	0	0.00	172.42	209.85

*SECNO 25700.000

3470 ENCROACHMENT STATIONS= 200.0 840.0 TYPE= 1 TARGET= -200.000

VALLEY SECTION #71 SECT.AU

25700.00	3.60	900.10	0.00	0.00	900.10	.00	.17	.01	898.20
430.	217.	43.	170.	508.	44.	410.	213.	90.	896.20
3.60	.43	.97	.42	.080	.047	.080	.045	896.50	200.00
.000218	550.	350.	300.	1	0	0	0.00	512.50	712.50

*SECNO 25749.000

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.995

25749.00	3.39	900.09	0.00	0.00	900.16	.07	.03	.03	900.00
430.	68.	186.	176.	99.	62.	200.	216.	91.	899.60
3.61	.69	2.99	.88	.080	.047	.080	.045	896.70	373.50
.003552	49.	49.	49.	2	0	0	0.00	526.50	900.00

*SECNO 25750.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 899.20 MAX ELLC= 899.00

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.999

D/S FACE SIDEWALK BRIDGE

25750.00	3.45	900.15	0.00	0.00	900.17	.02	.00	.01	900.00
430.	115.	33.	282.	111.	36.	217.	214.	91.	899.60
3.61	1.04	.92	1.30	.030	.028	.030	.045	896.70	369.42
.000982	1.	1.	1.	2	0	0	-28.00	530.58	900.00

*SECNO 25759.000

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 899.20 MAX ELLC= 899.00

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.999

U/S FACE SIDEWALK BRIDGE B.S. #72 SECT.AV

25759.00	3.46	900.16	0.00	0.00	900.18	.02	.01	.00	900.00
430.	116.	33.	201.	114.	36.	221.	214.	91.	899.80
3.61	1.02	.90	1.27	.030	.028	.030	.045	896.70	368.30
.000917	9.	9.	9.	1	0	0	-28.00	531.62	900.00

*SECNO 25760.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	CLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	COFAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= .0 900.0 TYPE= 1 TARGET= 899.599

25760.00	3.46	900.16	0.00	0.00	900.19	.03	.00	.00	900.00
430.	68.	126.	214.	113.	64.	220.	214.	91.	899.60
3.61	.78	2.00	.97	.030	.028	.030	.045	896.70	368.69
.000540	1.	1.	1.	0	0	0	0.00	531.31	900.00

*SECNO 25780.000

3470 ENCROACHMENT STATIONS= 220.0 840.0 TYPE= 1 TARGET= -220.000

D/S FACE ORCHARD LAKE ROAD BRIDGE

25780.00	4.19	900.19	0.00	0.00	900.15	.00	.00	.01	896.20
430.	204.	50.	176.	490.	50.	432.	214.	91.	898.20
3.62	.42	1.00	.41	.035	.020	.035	.045	896.00	220.00
.000038	20.	20.	20.	1	0	0	0.00	505.45	725.45

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	SWC	SWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.95	3.02	0.00	6.20	0.00	19.25	0.00	896.00	896.00

*SECNO 25822.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
915.30	900.99	0.00	258.	173.	19.	19.	899.10	902.50

3470 ENCROACHMENT STATIONS= 430.0 940.0 TYPE= 1 TARGET= 510.000

U/S FACE ORCHARD LAKE ROAD BRIDGE B.S. #72 SECT.AW

25822.00	6.52	902.52	0.00	0.00	902.65	.13	2.43	0.00	896.50
430.	127.	168.	135.	119.	38.	117.	215.	92.	896.00
3.63	1.07	4.39	1.16	.035	.020	.035	.045	896.00	430.00
.000297	42.	42.	42.	2	0	7	0.00	510.00	940.00

*SECNO 26700.000

3470 ENCROACHMENT STATIONS= 160.0 430.0 TYPE= 1 TARGET= 270.000

26700.00	3.38	903.08	0.00	0.00	903.10	.02	.42	.03	901.30
430.	239.	63.	127.	257.	33.	142.	222.	100.	901.20
3.85	.93	1.89	.90	.065	.047	.070	.045	899.70	180.00
.000969	750.	873.	950.	2	0	0	0.00	270.00	430.00

*SECNO 26900.000

3470 ENCROACHMENT STATIONS=			135.0	442.0	TYPE=	1	TARGET=	307.000	
26900.00	2.82	903.32	0.00	0.00	903.34	.02	.24	.00	902.00
430.	183.	57.	190.	177.	27.	185.	224.	101.	902.00
3.90	1.04	2.13	1.03	.065	.047	.070	.045	900.50	135.00
.001640	180.	200.	220.	2	0	0	0.00	307.00	442.00

*SECNO 27000.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=			122.0	379.0	TYPE=	1	TARGET=	257.000	
27000.00	2.73	903.53	0.00	0.00	903.59	.05	.22	.01	902.30
430.	224.	76.	131.	165.	26.	95.	224.	102.	902.30
3.91	1.36	2.92	1.38	.065	.047	.070	.045	900.80	122.27
.003253	100.	100.	100.	2	0	0	0.00	256.73	379.00

*SECNO 27050.000

3470 ENCROACHMENT STATIONS=			134.0	366.0	TYPE=	1	TARGET=	232.000	
27050.00	2.70	903.70	0.00	0.00	903.76	.06	.18	.00	902.50
430.	236.	80.	113.	159.	26.	77.	225.	102.	902.50
3.92	1.48	3.15	1.47	.065	.047	.070	.045	901.00	134.00
.003847	50.	50.	50.	2	0	0	0.00	232.00	366.00

*SECNO 27075.000

3470 ENCROACHMENT STATIONS=			186.0	405.0	TYPE=	1	TARGET=	219.000	
27075.00	2.70	903.80	0.00	0.00	903.85	.05	.09	.00	902.60
430.	185.	75.	170.	124.	25.	123.	225.	102.	902.60
3.93	1.49	2.96	1.38	.065	.047	.070	.045	901.10	186.00
.003415	25.	25.	25.	0	0	0	0.00	219.00	405.00

*SECNO 27088.000

3470 ENCROACHMENT STATIONS=			160.0	372.0	TYPE=	1	TARGET=	212.000	
27088.00	2.64	903.84	0.00	0.00	903.91	.07	.05	.01	902.20
430.	201.	98.	131.	119.	23.	96.	225.	102.	902.30
3.93	1.68	3.53	1.36	.065	.047	.070	.045	901.20	160.00
.004214	13.	13.	13.	0	0	0	0.00	212.00	372.00

*SECNO 27250.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINI U. SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= .0 343.0 TYPE= 1 TARGET= 362.999

27250.00	3.34	905.14	905.14	0.00	905.65	.49	1.15	.21	903.30
430.	63.	241.	126.	27.	33.	55.	226.	103.	903.30
3.94	2.35	7.26	2.30	.065	.047	.070	.045	901.80	175.87
.014413	162.	162.	162.	4	11	0	0.00	126.70	302.57

*SECNO 27410.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	EL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	STA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 224.0 328.0 TYPE= 1 TARGET= 104.000

27410.00	4.16	906.56	0.00	0.00	906.78	.22	1.05	.03	903.90
430.	43.	214.	173.	26.	43.	87.	226.	103.	903.90
3.95	1.64	4.97	1.99	.065	.047	.070	.045	902.40	224.00
.006776	225.	160.	75.	3	0	0	0.00	104.00	328.00

*SECNO 27440.000

3470 ENCROACHMENT STATIONS= 222.0 311.0 TYPE= 1 TARGET= 89.000

27440.00	4.18	906.60	0.00	0.00	906.92	.23	.13	.01	904.00
430.	45.	218.	157.	27.	43.	75.	226.	103.	904.00
3.95	1.65	5.04	2.24	.065	.047	.070	.045	902.50	222.00
.004870	40.	30.	20.	3	0	0	0.00	89.00	311.00

*SECNO 27470.000

3470 ENCROACHMENT STATIONS= 229.0 303.0 TYPE= 1 TARGET= 74.000

27470.00	4.22	906.82	0.00	0.00	907.07	.25	.15	.01	904.10
430.	48.	225.	157.	27.	44.	65.	226.	103.	904.10
3.95	1.77	5.15	2.39	.065	.047	.070	.045	902.60	229.00
.004995	30.	30.	30.	0	0	0	0.00	74.00	303.00

*SECNO 27500.000

3470 ENCROACHMENT STATIONS= 228.0 287.0 TYPE= 1 TARGET= 59.000

27500.00	4.11	906.91	0.00	0.00	907.36	.45	.19	.10	904.30
430.	51.	272.	107.	24.	42.	35.	226.	103.	904.30
3.95	2.16	6.42	3.07	.065	.047	.070	.045	902.60	228.00
.008113	30.	30.	30.	2	0	0	0.00	59.00	287.00

*SECNO 27510.000

3470 ENCROACHMENT STATIONS= 231.0 285.0 TYPE= 1 TARGET= 54.000

D/S FACE PRIVATE BRIDGE

27510.00	4.08	906.88	0.00	0.00	907.44	.56	.03	.06	904.30
430.	44.	295.	90.	22.	42.	30.	226.	103.	904.30
3.95	1.99	7.02	2.99	.030	.018	.030	.045	902.00	231.00
.001437	10.	10.	10.	2	0	0	0.00	54.00	285.00

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.70	2.96	0.00	3.40	0.00	13.60	0.00	902.80	902.80

*SECNO 27532.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK FLOW
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	FLLC	ELTRD
933.27	917.64	0.00	255.	176.	14.	14.	906.80	909.90

3470 ENCROACHMENT STATIONS= 305.0 359.0 TYPE= 1 TARGET= 54.000

U/S FACE PRIVATE BRIDGE B.S. #75 SECT.AY

27532.00	8.44	911.24	0.00	0.00	911.29	.05	3.64	0.00	902.80
430.	197.	97.	136.	156.	34.	121.	226.	103.	902.80
3.96	1.26	2.68	1.12	.030	.018	.030	.045	902.80	305.00
.000071	22.	22.	22.	2	0	6	0.00	54.00	359.00

*SECNO 27590.000

VALLEY SECTION #76 SECT.AZ

27590.00	6.44	911.14	0.00	0.00	911.41	.27	.01	.11	906.80
430.	138.	247.	45.	34.	55.	16.	227.	103.	907.10
3.96	4.10	4.50	2.49	.030	.040	.042	.045	904.70	0.00
.001745	58.	58.	58.	2	0	0	0.00	25.00	25.00

*SECNO 27640.000

D/S FACE GREEN ROAD CULVERT

27640.00	7.41	911.21	0.00	0.00	911.54	.33	.10	.03	906.80
430.	102.	235.	93.	35.	41.	32.	227.	103.	906.80
3.96	2.88	5.68	2.87	.040	.032	.040	.045	905.80	253.97
.002201	50.	50.	50.	2	0	0	0.00	36.72	290.69

SPECIAL BRIDGE

SS	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	3.05	3.02	0.00	4.70	0.00	28.30	0.00	904.70	904.70

*SECNO 27732.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	FLLC	ELTRD
922.[illegible]	912.[illegible]	0.00	[illegible]9.	182.	28.	28	910.70	912.00

3470 ENCROACHMENT STATIONS= 200.0 650.0 TYPE= 1 TARGET= -200.000

U/S FACE GREEN ROAD CULVERT B.S. #77 SECT.3A

27732.00	8.40	913.10	0.00	0.00	913.19	.09	1.55	0.00	907.70
430.	165.	159.	106.	110.	47.	59.	227.	103.	907.70
3.98	1.50	3.36	1.80	.040	.032	.040	.045	904.70	200.00
.000644	92.	92.	92.	2	0	7	0.00	110.58	510.58

*SECNO 28110.000

VALLEY SECTION #78 SECT.B3

28110.00	6.33	913.33	0.00	0.00	913.36	.03	.15	.02	907.80
123.	24.	94.	5.	27.	66.	9.	229.	104.	911.60
4.06	.90	1.42	.58	.035	.032	.033	.045	907.00	2.33
.000139	378.	378.	378.	2	0	0	0.00	31.62	34.00

*SECNO 28135.000

SECNO	DEPTH	CWSEL	CRITWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	CLP IN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 10.0 20.0 TYPE= 1 TARGET= 19.000

28135.00	5.52	913.32	0.00	0.00	913.38	.06	.01	.02	903.00
123.	9.	113.	1.	8.	54.	2.	229.	104.	912.40
4.06	1.07	2.09	.63	.035	.032	.033	.045	907.80	10.00
.000393	25.	25.	25.	2	0	0	0.00	19.00	29.00

*SECNO 28147.000

3470 ENCROACHMENT STATIONS= 13.0 26.0 TYPE= 1 TARGET= 13.000

28147.00	5.10	913.30	0.00	0.00	913.43	.13	.01	.03	100000.00
123.	0.	123.	0.	0.	43.	0.	229.	104.	100000.00
4.06	0.00	2.89	0.00	.035	.032	.033	.045	908.20	15.00
.001359	12.	12.	12.	2	0	0	0.00	13.00	26.00

*SECNO 28159.000

28159.00	4.59	913.19	0.00	0.00	913.59	.59	.03	.13	918.70
123.	0.	123.	0.	0.	25.	0.	229.	104.	918.70
4.06	0.00	5.01	0.00	.035	.032	.033	.045	908.60	200.00
.004991	12.	12.	12.	2	0	0	0.00	6.00	206.00

*SECNO 28160.000

3370 NORMAL BRIDGE.NRD= 11 MIN ELTRD= 916.00 MAX ELLC= 914.60

D/S FACE DOMINION DRIVE CULVERT

28160.00	4.57	913.17	0.00	0.00	913.62	.45	.01	.03	918.70
123.	0.	123.	0.	0.	23.	0.	229.	104.	918.70
4.06	0.00	5.38	0.00	.020	.033	.020	.045	909.60	200.00
.007423	1.	1.	1.	2	0	0	-1.57	6.00	206.00

*SECNO 28275.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD= 916.00 MAX ELLC= 915.70

U/S FACE DOMINION DRIVE CULVERT P.S. #79 SECT.8C

28275.00	4.35	914.05	0.00	0.00	914.55	.50	.91	.02	918.70
123.	0.	123.	0.	0.	22.	0.	229.	104.	918.70
4.07	0.00	5.65	0.00	.020	.033	.020	.045	909.70	200.00
.008372	115.	115.	115.	2	0	0	-1.35	6.00	206.00

*SECNO 28276.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
O	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
28276.00	4.46	914.16	0.00	0.00	914.55	.41	.01	.02	918.70
123.	0.	123.	0.	0.	24.	0.	229.	104.	918.70
4.07	0.00	5.17	0.00	.030	.033	.040	.045	909.70	200.00
.005749	1.	1.	1.	2	0	0	0.00	6.00	206.00

*SECNO 28310.000

VALLEY SECTION #80 SECT.9D

28310.00	4.79	914.69	0.00	0.00	914.72	.03	.02	.12	916.40
123.	0.	123.	0.	0.	90.	0.	229.	104.	913.60
4.08	0.00	1.37	0.00	.030	.033	.040	.045	909.90	29.90
.000235	34.	34.	34.	2	0	0	0.00	30.19	60.08

*SECNO 28396.000

28396.00	4.31	914.71	0.00	0.00	914.75	.04	.03	.01	916.00
123.	0.	123.	0.	0.	73.	0.	229.	104.	917.00
4.09	0.00	1.69	0.00	.035	.033	.033	.045	910.40	37.31
.000391	60.	86.	110.	2	0	0	0.00	25.97	63.28

*SECNO 28482.000

28482.00	3.74	914.74	0.00	0.00	914.83	.09	.05	.02	915.30
123.	0.	123.	0.	0.	51.	0.	229.	104.	917.00
4.10	0.00	2.42	0.00	.035	.033	.033	.045	911.00	45.05
.001078	86.	86.	86.	0	0	0	0.00	22.64	65.70

*SECNO 28525.000

28525.00	3.41	914.71	0.00	0.00	915.03	.33	.09	.12	915.00
123.	0.	123.	0.	0.	27.	0.	229.	104.	916.50
4.10	0.00	4.58	0.00	.035	.033	.033	.045	911.30	50.39
.005797	43.	43.	43.	2	0	0	0.00	15.75	66.15

*SECNO 28568.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
O	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	MTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
2857[illegible]8.00	3.50	915.00	0.00	0.00	915.27	.28	.22	.02	915.00

123.	0.	123.	0.	0.	-9.	0.	22.	104.	16.10
4.11	0.00	4.21	0.00	.035	.033	.033	.045	911.50	51.00
.004639	43.	43.	43.	2	0	0	0.00	18.68	67.68

*SECNO 28655.000

VALLEY SECTION #S1 SECT.8F

28655.00	3.34	915.44	0.00	0.00	915.72	.28	.45	.00	914.10
123.	10.	113.	0.	5.	26.	0.	229.	104.	915.50
4.11	2.11	4.38	0.00	.040	.036	.038	.045	912.10	52.98
.005658	100.	87.	60.	1	0	0	0.00	20.80	73.77

*SECNO 28665.000

3470 ENCROACHMENT STATIONS=		43.0	92.0	TYPE=	1	TARGET=		69.000	
28665.00	3.17	915.47	0.00	0.00	915.82	.35	.05	.03	914.30
123.	8.	115.	0.	4.	24.	0.	229.	104.	915.70
4.11	2.22	4.86	0.00	.040	.036	.038	.045	912.30	53.83
.007460	10.	10.	10.	2	0	0	0.00	19.38	73.21

*SECNO 28675.000

3470 ENCROACHMENT STATIONS=		45.0	89.0	TYPE=	1	TARGET=		44.000	
28675.00	2.88	915.48	0.00	0.00	916.01	.53	.10	.09	914.00
123.	5.	118.	0.	2.	20.	0.	229.	104.	916.00
4.11	2.39	5.93	0.00	.040	.036	.038	.045	912.60	55.38
.012666	10.	10.	10.	2	0	0	0.00	16.81	72.19

*SECNO 28685.000

3470 ENCROACHMENT STATIONS=		68.0	87.0	TYPE=	1	TARGET=		39.000	
28685.00	2.77	915.57	915.51	0.00	916.19	.61	.14	.04	914.00
123.	4.	119.	3.	2.	19.	0.	229.	104.	916.20
4.11	2.42	6.37	1.00	.040	.036	.039	.045	912.60	55.91
.015300	10.	10.	10.	0	11	0	0.00	15.96	71.85

*SECNO 28695.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=		50.0	84.0	TYPE=	1	TARGET=		34.000	
28695.00	2.72	915.72	915.72	0.00	916.39	.67	.16	.03	915.00
123.	3.	120.	0.	1.	16.	0.	229.	104.	916.40
4.11	2.43	6.65	0.00	.040	.036	.038	.045	913.00	55.22
.017163	10.	10.	10.	0	8	0	0.00	15.42	71.64

*SECNO 28705.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 53.0 82.0 TYPE= 1 TARGET= 29.000

28705.00	2.71	916.01	916.01	0.00	916.69	.68	.17	.00	915.30
123.	3.	120.	0.	1.	18.	0.	229.	104.	916.70
4.11	2.43	6.67	0.00	.040	.036	.038	.045	913.30	56.25
.017352	10.	10.	10.	2	5	0	0.00	15.37	71.62

*SECNO 28715.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 55.0 79.0 TYPE= 1 TARGET= 24.000

28715.00	2.71	916.21	916.21	0.00	916.89	.68	.17	.00	915.50
123.	3.	120.	0.	1.	18.	0.	229.	104.	916.90
4.11	2.43	6.68	0.00	.040	.036	.038	.045	913.50	56.26
.017386	10.	10.	10.	0	5	0	0.00	15.36	71.62

*SECNO 28727.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

7165 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 56.0 76.0 TYPE= 1 TARGET= 15.000

28727.00	2.68	916.48	916.48	0.00	917.19	.72	.22	.02	915.80
123.	3.	120.	0.	1.	18.	0.	229.	104.	917.20
4.11	2.83	6.86	0.00	.040	.036	.038	.045	913.80	58.00
.018645	12.	12.	12.	2	5	0	0.00	13.50	71.50

*SECNO 28739.000

28739.00	2.84	916.94	0.00	0.00	917.43	.50	.17	.07	918.20
123.	0.	123.	0.	0.	22.	0.	229.	104.	918.70
4.12	0.00	5.65	0.00	.040	.036	.038	.045	914.10	91.13
.011547	12.	12.	12.	5	0	0	0.00	13.51	104.63

*SECNO 28740.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 918.00 MAX ELLC= 919.80

3/3 FACE PRIVATE BRIDGE

28740.00	2.85	916.95	0.00	0.00	917.44	.49	.01	.00	918.20
123.	0.	123.	0.	0.	22.	0.	229.	104.	918.70

4.12	.00	5.63	0.00	.35	.025	.045	.045	914.10	91.10
.005521	1.	1.	1.	0	0	0	0.00	13.54	104.64

*SECNO 28746.000

3370 NORMAL BRIDGE,NRB= 16 MIN FLTRD= 918.00 MAX ELLC= 919.80

U/S FACE PRIVATE BRIDGE B.S. #92 SECT.EF

28746.00	2.96	917.06	0.00	0.00	917.49	.43	.03	.02	918.20
123.	0.	123.	0.	0.	23.	0.	229.	104.	918.70
4.12	0.00	5.27	0.00	.035	.025	.045	.045	914.10	90.61
.004668	6.	6.	6.	2	0	0	0.00	14.14	104.75

*SECNO 28747.000

28747.00	2.97	917.07	0.00	0.00	917.50	.43	.01	.00	918.20
123.	0.	123.	0.	0.	23.	0.	229.	104.	918.70
4.12	0.00	5.26	0.00	.037	.035	.037	.045	914.10	90.60
.009101	1.	1.	1.	0	0	0	0.00	14.16	104.76

*SECNO 28847.000

28847.00	3.02	917.98	0.00	0.00	918.37	.39	.37	.01	916.90
123.	7.	116.	0.	3.	22.	0.	229.	104.	918.30
4.12	2.39	5.15	0.00	.037	.035	.037	.045	914.90	54.31
.008231	100.	100.	100.	3	0	0	0.00	18.58	72.09

*SECNO 28947.000

28947.00	3.10	918.80	0.00	0.00	919.18	.38	.01	.00	917.70
123.	8.	115.	0.	3.	23.	0.	229.	104.	919.10
4.13	2.37	5.07	0.00	.037	.035	.037	.045	915.70	54.19
.007893	100.	100.	100.	2	0	0	0.00	18.79	72.98

*SECNO 29047.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	NL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

29047.00	3.19	919.59	0.00	0.00	919.92	.33	.72	.01	918.40
123.	9.	114.	0.	4.	24.	0.	229.	104.	919.80
4.13	2.31	4.76	0.00	.037	.035	.037	.045	916.40	55.69
.006675	100.	100.	100.	1	0	0	0.00	19.62	73.31

*SECNO 29083.000

29083.00	3.13	919.83	0.00	0.00	920.20	.37	.26	.02	918.70
123.	8.	115.	0.	3.	23.	0.	229.	104.	920.10
4.13	2.36	4.99	0.00	.037	.035	.037	.044	916.70	54.06
.007563	36.	36.	36.	2	0	0	0.00	19.00	73.06

*SECNO 29119.000

29119.00	3.25	920.15	0.00	0.00	920.46	.31	.25	.02	918.90
123.	9.	114.	0.	4.	25.	0.	229.	104.	920.30
4.14	2.27	4.62	0.00	.037	.035	.037	.044	916.90	56.44
.006160	36.	36.	36.	2	0	0	0.00	20.03	73.47

*SECNO 29131.000

3470 ENCROACHMENT STATIONS= 58.0 76.0 TYPE= 1 TARGET= 18.000

29131.00	3.20	920.20	0.00	0.00	920.56	.36	.08	.02	919.00
123.	5.	118.	0.	2.	24.	0.	229.	104.	920.40
4.14	2.68	4.90	0.00	.037	.035	.037	.044	917.00	58.00
.007066	12.	12.	12.	2	0	0	0.00	15.31	73.31

*SECNO 29143.000

3470 ENCROACHMENT STATIONS= 60.0 72.0 TYPE= 1 TARGET= 12.000

29143.00	3.16	920.26	0.00	0.00	920.69	.43	.09	.04	919.10
123.	0.	123.	0.	0.	23.	0.	229.	104.	100000.00
4.14	0.00	5.29	0.00	.037	.035	.037	.044	917.10	60.00
.008782	12.	12.	12.	2	0	0	0.00	12.00	72.00

*SECNO 29149.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	OLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	FLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CCRAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 61.5 70.0 TYPE= 1 TARGET= 8.500

29149.00	3.07	920.17	0.00	0.00	920.92	.76	.07	.16100000.00	
123.	0.	123.	0.	0.	18.	0.	229.	104.	100000.00
4.14	0.00	6.97	0.00	.037	.035	.037	.044	917.10	61.50
.017379	6.	6.	6.	2	0	0	0.00	8.50	70.00

*SECNO 29154.000

3301 HV CHANGED MORE THAN HVINS

29154.00	3.75	921.05	0.00	0.00	921.15	.11	.03	.19	928.80
51.	0.	51.	0.	0.	19.	0.	229.	104.	928.80
4.14	0.00	2.62	0.00	.037	.035	.037	.044	917.30	265.00
.001849	5.	5.	5.	3	0	0	0.00	6.00	271.00

*SECNO 29155.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD= 928.80 MAX ELLC= 923.30

D/S FACE HARDWOODS DRIVE CULVERT

29155.00	3.74	921.04	0.00	0.00	921.16	.11	.00	.00	928.80
51.	0.	51.	0.	0.	19.	0.	229.	104.	923.60
4.14	0.00	2.72	0.00	.020	.033	.020	.044	917.30	265.00
.002090	1.	1.	1.	1	0	0	-.75	6.00	271.00

*SECNO 29281.000

3370 NORMAL BRIDGE,NRD= 15 MIN ELTRD= 928.80 MAX ELLC= 926.10

U/S FACE HARDWOODS DRIVE CULVERT B.S. #33 SECT.80

29281.00	3.24	921.34	0.00	0.00	921.49	.15	.31	.02	923.80
51.	0.	51.	0.	0.	16.	0.	229.	104.	928.80
4.15	0.00	3.15	0.00	.020	.033	.020	.044	918.10	265.00
.003035	12.	126.	12.	2	0	0	-.24	6.00	271.00

*SECNO 29282.000

29282.00	3.25	921.35	0.00	0.00	921.50	.15	.00	.00	928.80
51.	0.	51.	0.	0.	15.	0.	229.	104.	928.60
4.15	0.00	3.10	0.00	.055	.042	.070	.044	918.10	265.00
.004128	1.	1.	1.	0	0	0	0.00	6.00	271.00

*SECNO 29300.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION #84 SECT.BH

29300.00	3.01	921.51	0.00	0.00	921.57	.06	.05	.03	928.60
51.	0.	51.	0.	0.	26.	0.	229.	105.	929.50
4.15	0.00	1.99	0.00	.055	.045	.070	.044	918.50	19.94
.001891	18.	18.	18.	2	0	0	0.00	14.40	34.34

*SECNO 29392.000

29392.00	2.72	921.72	0.00	0.00	921.80	.09	.22	.01	929.10
51.	0.	51.	0.	0.	22.	0.	230.	105.	930.00
4.16	0.00	2.37	0.00	.055	.045	.070	.044	919.00	20.44
.003031	92.	92.	92.	2	0	0	0.00	13.32	33.76

*SECNO 29484.000

29484.00	2.53	922.03	0.00	0.00	922.14	.11	.33	.01	929.60
51.	0.	51.	0.	0.	19.	0.	230.	105.	930.50
4.17	0.00	2.66	0.00	.055	.045	.070	.044	919.50	20.75
.004187	92.	92.	92.	2	0	0	0.00	12.64	33.39

*SECNO 29576.000

29576.00	2.36	922.46	0.00	0.00	922.60	.14	.45	.01	930.20
51.	0.	51.	0.	0.	17.	0.	230.	105.	931.10
4.18	0.00	2.99	0.00	.055	.045	.070	.044	920.10	21.03
.005711	92.	92.	92.	2	0	0	0.00	12.03	33.06

*SECNO 29669.000

29669.00	2.74	923.34	0.00	0.00	923.66	.32	.97	.09	922.20
51.	12.	28.	11.	4.	5.	5.	230.	105.	922.20
4.19	2.69	5.58	2.32	.055	.045	.070	.044	920.60	25.98
.024693	93.	93.	93.	4	0	0	0.00	18.01	43.99

*SECNO 29670.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

D/S FACE PRIVATE BRIDGE

29670.00	2.96	923.56	0.00	0.00	923.72	.17	.02	.05	922.20
51.	14.	23.	14.	6.	6.	7.	230.	105.	922.20
4.19	2.39	4.73	1.90	.055	.05	.070	.044	920.60	24.73

.012667	1.	1.	1.	4	0	0	0.00	25.34	49.37

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	2.21	2.90	0.00	1.57	0.00	3.14	0.00	920.60	920.60

*SECNO 29689.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
932.61	923.72	0.00	41.	10.	3.	3.	922.60	923.00

U/S FACE PRIVATE BRIDGE B.S. #65 SECT.DI

29689.00	3.29	923.89	0.00	0.00	923.94	.05	.22	0.00	922.20
51.	17.	15.	19.	12.	6.	16.	230.	105.	922.20
4.19	1.43	2.41	1.19	.055	.045	.070	.044	920.60	18.09
.003531	19.	19.	19.	2	0	8	0.00	30.44	57.33

*SECNO 29690.000

29690.00	3.31	923.91	0.00	0.00	923.94	.03	.00	.00	922.20
51.	17.	10.	24.	12.	6.	16.	230.	105.	922.20
4.19	1.40	1.63	1.49	.038	.045	.038	.044	920.60	18.82
.001609	1.	1.	1.	0	0	0	0.00	36.70	57.53

*SECNO 29860.000

3670 ENCROACHMENT STATIONS= 22.0 47.0 TYPE= 1 TARGET= 25.000

D/S FACE PRIVATE BRIDGE

29860.00	2.95	924.05	0.00	0.00	924.09	.02	.13	.00	922.70
17.	4.	9.	5.	8.	6.	10.	230.	105.	922.70
4.24	.46	1.58	.50	.035	.015	.035	.044	921.10	22.00
.000197	170.	170.	170.	2	0	0	0.00	25.00	47.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	0.00	1.76	2.89	0.00	1.57	0.00	3.14	0.00	921.10	921.10

*SECNO 29876.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
924.85	924.20	0.00	0.	17.	3.	3.	923.10	924.80

3470 ENCROACHMENT STATIONS= .0 86.0 TYPE= 1 TARGET= 85.999

U/S FACE PRIVATE BRIDGE B.S. #80 SECT.BJ

29376.00	3.71	924.81	0.00	0.00	24.34	.03	.77	0.00	22.70
17.	2.	12.	3.	4.	7.	5.	230.	105.	922.70
4.24	.53	1.73	.54	.035	.015	.035	.044	921.10	61.23
.000172	16.	16.	16.	2	0	4	0.00	16.56	71.79

*SECNO 29920.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	AL	CLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	ANR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CCRAR	TOPWID	ENDST

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 925.50 ELREA= 925.50

D/S FACE LOCKHART DRIVE CULVERT

29920.00	2.39	924.79	0.00	0.00	924.89	.10	.02	.03	923.00
17.	0.	17.	0.	0.	7.	0.	230.	105.	923.00
4.24	0.00	2.51	0.00	.045	.029	.045	.044	922.40	230.00
.001675	44.	44.	44.	2	0	0	0.00	3.00	233.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	DSC	BWP	AREA	SS	ELCHU	ELCHD
	0.00	3.30	2.90	0.00	2.20	0.00	3.90	0.00	922.40	922.40

*SECNO 29944.000
PRESSURE FLOW

EGPRS	EGLOC	HB	QWEIR	OPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
925.77	924.89	0.00	0.	17.	6.	4.	924.20	926.20

3670 ENCROACHMENT STATIONS= 220.0 460.0 TYPE= 1 TARGET= -220.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 926.20 ELREA= 926.20

U/S FACE LOCKHART DRIVE CULVERT B.S. #67 SECT.BK

29944.00	3.32	925.72	0.00	0.00	925.77	.05	.08	0.00	923.00
17.	0.	17.	0.	0.	10.	0.	230.	105.	923.00
4.25	0.00	1.78	0.00	.045	.025	.045	.044	922.40	230.00
.000663	24.	24.	24.	2	0	0	0.00	3.00	233.00

*SECNO 29970.000

VALLEY SECTION #86 SECT.BL

29970.00	3.68	925.78	0.00	0.00	925.79	.00	.00	.01	920.00
17.	0.	17.	0.	0.	33.	0.	230.	105.	925.90
4.26	0.00	.51	0.00	.038	.042	.032	.044	922.10	205.12
.000086	26.	26.	26.	2	0	0	0.00	14.81	219.93

*SECNO 30250.000

30250.00	1.93	925.83	0.00	.00	925.86	.03	.06	.01	919.80

17.	0.	17.	0.	0.	1..	0.	230.	105.	927.70
4.32	0.00	1.42	0.00	.038	.042	.032	.044	923.90	209.16
.001416	280.	280.	280.	2	0	0	0.30	9.67	218.83

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HEC2 RELEASE DATED NOV 76 UPDATED AUG1977
ERROR CORR - 01,02
MODIFICATION - 50,51,52,53
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

FRANKLIN BR

SUMMARY PRINTOUT

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
0.000	0.00	0.00	0.00	792.90	745.00	797.59	797.98	152.97	4.69	57.37	374.82	432.19
0.000	0.00	0.00	0.00	792.90	1140.00	799.04	799.46	256.03	6.14	70.98	371.92	442.90
0.000	0.00	0.00	0.00	792.90	1310.00	799.72	800.13	306.47	6.82	77.37	370.56	447.93
0.000	0.00	0.00	0.00	792.90	1805.00	802.80	803.04	550.72	9.90	100.16	356.00	456.16
520.000	520.00	0.00	0.00	793.70	745.00	799.48	800.11	137.10	5.78	56.64	126.69	185.34
520.000	520.00	0.00	0.00	793.70	1140.00	800.54	801.20	211.59	6.84	82.36	114.21	196.57
520.000	520.00	0.00	0.00	793.70	1310.00	801.01	801.73	252.32	7.31	93.16	107.40	200.56
520.000	520.00	0.00	0.00	793.70	1805.00	803.29	803.65	514.91	9.59	126.32	89.13	215.45
1325.000	805.00	0.00	0.00	795.50	745.00	802.26	802.59	207.82	6.76	72.79	152.46	225.25
1325.000	805.00	0.00	0.00	795.50	1140.00	803.38	803.78	296.36	7.88	85.19	141.19	226.38
1325.000	805.00	0.00	0.00	795.50	1310.00	803.75	804.18	320.70	8.25	89.21	137.54	226.75
1325.000	805.00	0.00	0.00	795.50	1805.00	804.76	805.26	625.17	9.26	100.60	127.36	227.76
2790.000	1465.00	0.00	0.00	798.90	745.00	804.72	804.80	382.97	5.82	156.62	66.99	223.61
2790.000	1465.00	0.00	0.00	798.90	1140.00	805.74	805.83	557.24	6.84	183.28	59.81	243.09
2790.000	1465.00	0.00	0.00	798.90	1310.00	806.12	806.21	628.15	7.22	192.08	56.16	248.24
2790.000	1465.00	0.00	0.00	798.90	1805.00	807.09	807.19	821.04	8.19	200.92	61.25	250.16
3310.000	520.00	0.00	0.00	800.50	745.00	805.17	805.26	330.66	4.67	258.50	175.27	433.78
3310.000	520.00	0.00	0.00	800.50	1140.00	806.03	806.16	436.20	5.53	301.37	139.02	440.39
3310.000	520.00	0.00	0.00	800.50	1310.00	806.43	806.50	745.20	5.93	307.52	134.63	442.15
3310.000	520.00	0.00	0.00	800.50	1805.00	807.35	807.41	1034.16	6.85	323.66	123.10	446.76
3370.000	60.00	0.00	0.00	800.70	745.00	805.19	805.55	133.61	4.49	134.68	198.50	333.18
3370.000	60.00	0.00	0.00	800.70	1140.00	806.03	806.53	547.52	5.33	312.90	149.83	362.74
3370.000	60.00	0.00	0.00	800.70	1310.00	806.43	806.84	424.13	5.73	224.27	142.48	366.75
3370.000	60.00	0.00	0.00	800.70	1805.00	807.35	807.51	647.18	6.65	273.55	22.17	377.63
3430.000	60.00	0.00	0.00	800.80	745.00	805.43	805.99	153.36	4.63	108.12	210.92	319.04
3430.000	60.00	0.00	0.00	800.80	1140.00	806.16	806.76	258.86	5.36	177.25	156.33	353.58
3430.000	60.00	0.00	0.00	800.80	1310.00	806.48	807.05	317.95	5.68	196.45	147.12	343.77
3430.000	60.00	0.00	0.00	800.80	1805.00	807.37	807.78	552.80	6.57	273.90	87.93	361.83
3490.000	60.00	0.00	0.00	801.00	745.00	805.93	806.47	165.73	4.93	152.81	178.27	331.08
3490.000	60.00	0.00	0.00	801.00	1140.00	806.79	807.21	339.23	5.79	233.31	98.79	332.10
3490.000	60.00	0.00	0.00	801.00	1310.00	807.05	807.44	402.99	6.05	244.60	95.48	340.09
3490.000	60.00	0.00	0.00	801.00	1805.00	807.70	808.06	566.12	6.70	263.03	87.35	350.38

SECNO	XLCH	ELTRO	ELLC	ELMIN	O	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
3550.000	60.00	0.00	0.00	801.20	745.00	806.61	806.92	236.31	5.41	185.35	160.00	345.35
3550.000	60.00	0.00	0.00	801.20	1140.00	807.27	807.58	361.40	6.07	187.58	160.00	347.58
3550.000	60.00	0.00	0.00	801.20	1310.00	807.47	807.79	398.41	6.27	188.24	160.00	348.24
3550.000	60.00	0.00	0.00	801.20	1805.00	808.02	808.37	501.76	6.82	190.16	160.00	350.16
3885.000	335.00	0.00	0.00	802.80	745.00	808.08	808.38	282.15	5.28	187.30	188.62	375.92
3885.000	335.00	0.00	0.00	802.80	1140.00	808.71	809.03	414.22	5.91	215.95	160.00	375.95
3885.000	335.00	0.00	0.00	802.80	1310.00	808.95	809.27	464.78	6.15	216.69	160.00	376.69
3885.000	335.00	0.00	0.00	802.80	1805.00	809.55	809.89	596.36	6.75	218.59	160.00	378.59
4310.000	425.00	0.00	0.00	804.90	745.00	809.69	809.96	277.92	4.79	178.34	97.02	275.36
4310.000	425.00	0.00	0.00	804.90	1140.00	810.35	810.64	407.97	5.45	209.60	71.27	280.87
4310.000	425.00	0.00	0.00	804.90	1310.00	810.59	810.88	458.74	5.69	216.16	65.31	281.47
4310.000	425.00	0.00	0.00	804.90	1805.00	811.19	811.50	594.38	6.29	232.78	50.20	282.98
4630.000	320.00	0.00	0.00	806.40	745.00	811.18	811.79	185.12	4.78	120.02	75.29	195.31
4630.000	320.00	0.00	0.00	806.40	1140.00	811.86	812.57	265.66	5.46	167.69	29.52	197.21
4630.000	320.00	0.00	0.00	806.40	1310.00	812.09	812.82	306.52	5.69	179.71	18.15	197.86
4630.000	320.00	0.00	0.00	806.40	1805.00	812.67	813.41	415.16	6.27	193.00	6.49	199.49
5200.000	570.00	0.00	0.00	809.20	380.00	814.03	814.20	156.03	4.83	44.00	320.00	364.00
5200.000	570.00	0.00	0.00	809.20	570.00	814.95	815.16	176.46	5.75	44.00	320.00	364.00
5200.000	570.00	0.00	0.00	809.20	660.00	815.25	815.52	190.04	6.05	44.00	320.00	364.00
5200.000	570.00	0.00	0.00	809.20	895.00	815.92	816.30	219.98	6.73	44.00	320.00	364.00
5225.000	25.00	0.00	0.00	809.30	380.00	814.05	814.27	111.49	4.75	31.00	326.00	357.00
5225.000	25.00	0.00	0.00	809.30	570.00	814.95	815.28	139.47	5.65	31.00	326.00	357.00
5225.000	25.00	0.00	0.00	809.30	660.00	815.26	815.54	148.35	5.96	31.00	326.00	357.00
5225.000	25.00	0.00	0.00	809.30	895.00	815.91	816.46	169.05	6.61	31.00	326.00	357.00
5238.000	13.00	0.00	0.00	809.30	380.00	814.07	814.31	98.97	4.77	25.00	329.00	354.00
5238.000	13.00	0.00	0.00	809.30	570.00	814.96	815.34	121.22	5.81	25.00	329.00	354.00
5238.000	13.00	0.00	0.00	809.30	660.00	815.26	815.71	128.70	5.96	25.00	329.00	354.00
5238.000	13.00	0.00	0.00	809.30	895.00	815.90	816.56	144.79	6.60	25.00	329.00	354.00
5250.000	12.00	0.00	0.00	809.40	380.00	814.00	814.42	73.27	4.60	19.00	190.00	209.00
5250.000	12.00	0.00	0.00	809.40	570.00	814.85	815.43	89.55	5.45	19.00	190.00	209.00
5250.000	12.00	0.00	0.00	809.40	660.00	815.13	815.88	94.79	5.73	19.00	190.00	209.00
5250.000	12.00	0.00	0.00	809.40	895.00	815.88	816.63	143.37	6.48	32.97	183.03	216.01
5278.000	28.00	818.00	814.50	809.40	380.00	813.93	814.57	59.30	4.53	19.00	190.00	209.00
5278.000	28.00	818.00	814.50	809.40	570.00	816.53	816.88	121.48	7.13	19.00	190.00	209.00
5278.000	28.00	818.00	814.50	809.40	660.00	817.49	817.84	139.71	8.09	19.00	190.00	209.00
5278.000	28.00	818.00	814.50	809.40	895.00	818.28	818.57	270.00	8.88	235.68	84.68	320.36
5300.000	22.00	0.00	0.00	810.30	380.00	813.91	814.83	55.64	3.61	36.49	191.47	227.96
5300.000	22.00	0.00	0.00	810.30	570.00	816.72	816.93	137.64	6.42	63.00	138.00	201.00
5300.000	22.00	0.00	0.00	810.30	660.00	817.76	817.91	252.73	7.46	63.00	138.00	201.00
5300.000	22.00	0.00	0.00	810.30	895.00	818.40	818.61	293.01	8.10	63.00	168.00	231.00
6170.000	870.00	0.00	0.00	814.70	380.00	819.46	819.64	168.67	4.76	173.57	110.30	283.87
6170.000	870.00	0.00	0.00	814.70	570.00	819.47	819.66	139.24	4.77	173.90	109.99	283.89
6170.000	870.00	0.00	0.00	814.70	660.00	819.69	820.05	230.16	6.99	196.69	88.90	285.59
6170.000	870.00	0.00	0.00	814.70	895.00	820.35	820.57	377.30	5.65	234.97	54.49	289.46

	SECNO	XLCH	ELTRD	ELLC	ZLMIN	Q	CHSEL	CC	AREA	DEPTH	TOPWID	SSTA	ENDST
*	6669.000	499.00	0.00	0.00	817.20	380.00	822.04	822.70	80.03	4.84	69.54	140.59	230.13
	6669.000	499.00	0.00	0.00	817.20	570.00	822.80	823.21	106.32	5.60	133.62	99.02	232.64
	6669.000	499.00	0.00	0.00	817.20	660.00	822.97	823.39	168.52	5.77	143.01	90.38	233.40
	6669.000	499.00	0.00	0.00	817.20	895.00	823.11	823.73	208.31	5.91	150.73	83.14	233.87
*	6670.000	1.00	821.10	820.10	817.20	380.00	822.33	822.88	94.89	5.13	106.23	124.92	231.15
	6670.000	1.00	821.10	820.10	817.20	570.00	822.77	823.26	147.29	5.57	131.50	101.20	232.69
	6670.000	1.00	821.10	820.10	817.20	660.00	822.97	823.41	175.55	5.77	143.41	90.02	233.42
	6670.000	1.00	821.10	820.10	817.20	895.00	823.11	823.76	195.05	5.91	151.19	82.71	233.90
	6680.000	10.00	821.10	820.10	817.20	380.00	822.90	823.07	164.84	5.70	138.94	94.21	233.15
	6680.000	10.00	821.10	820.10	817.20	570.00	823.20	823.43	208.66	6.00	155.97	78.22	234.19
	6680.000	10.00	821.10	820.10	817.20	660.00	823.31	823.56	226.66	6.11	162.45	72.14	234.58
	6680.000	10.00	821.10	820.10	817.20	895.00	823.73	823.91	300.45	6.53	186.07	49.39	235.06
	6681.000	1.00	0.00	0.00	817.20	380.00	822.84	823.13	170.56	5.64	135.63	97.32	232.95
	6681.000	1.00	0.00	0.00	817.20	570.00	823.08	823.56	205.90	5.88	149.50	84.29	233.79
	6681.000	1.00	0.00	0.00	817.20	660.00	823.15	823.74	215.15	5.95	153.31	80.71	234.03
	6681.000	1.00	0.00	0.00	817.20	895.00	823.51	824.21	275.47	6.31	174.41	60.91	235.32
	6700.000	19.00	0.00	0.00	817.20	380.00	823.06	823.20	152.52	5.46	94.56	119.38	212.95
	6700.000	19.00	0.00	0.00	817.20	570.00	823.42	823.87	193.25	6.22	127.62	88.05	215.66
	6700.000	19.00	0.00	0.00	817.20	660.00	823.57	823.87	213.70	6.37	141.43	75.39	216.82
	6700.000	19.00	0.00	0.00	817.20	895.00	823.90	824.34	266.22	6.70	171.88	47.45	219.33
	6736.000	36.00	0.00	0.00	817.20	380.00	823.09	823.22	136.93	5.85	90.47	114.80	213.27
	6736.000	36.00	0.00	0.00	817.20	570.00	823.50	823.71	204.02	6.30	135.06	91.23	216.29
	6736.000	36.00	0.00	0.00	817.20	660.00	823.67	823.92	228.03	6.47	150.35	67.21	217.55
	6736.000	36.00	0.00	0.00	817.20	895.00	824.09	824.55	298.06	6.89	181.12	39.53	220.66
	6737.000	1.00	824.50	0.00	817.20	380.00	826.91	826.91	1128.38	9.71	209.66	16.78	226.44
	6737.000	1.00	824.50	0.00	817.20	570.00	827.12	827.13	1173.97	9.92	213.65	15.45	229.10
	6737.000	1.00	824.50	0.00	817.20	660.00	827.21	827.22	1193.44	10.01	215.35	14.88	230.23
	6737.000	1.00	824.50	0.00	817.20	895.00	827.43	827.44	1240.51	10.23	219.41	13.53	232.94
	6990.000	253.00	0.00	0.00	821.60	380.00	826.92	826.93	456.11	5.32	132.64	65.20	206.26
	6990.000	253.00	0.00	0.00	821.60	570.00	827.13	827.15	484.73	5.53	136.01	64.41	206.81
	6990.000	253.00	0.00	0.00	821.60	660.00	827.22	827.25	497.13	5.62	137.58	64.08	207.19
	6990.000	253.00	0.00	0.00	821.60	895.00	827.44	827.49	526.47	5.84	142.77	63.25	209.43
	7100.000	110.00	0.00	0.00	821.40	380.00	826.92	826.94	338.71	5.52	82.60	70.00	152.60
	7100.000	110.00	0.00	0.00	821.40	570.00	827.13	827.17	356.69	5.73	83.00	70.00	153.00
	7100.000	110.00	0.00	0.00	821.40	660.00	827.22	827.28	364.30	5.82	83.00	70.00	153.00
	7100.000	110.00	0.00	0.00	821.40	895.00	827.45	827.53	383.40	6.05	83.00	70.00	153.00
	7140.000	40.00	0.00	0.00	821.40	380.00	826.92	826.95	281.93	5.52	63.00	80.00	143.00
	7140.000	40.00	0.00	0.00	821.40	570.00	827.13	827.19	295.64	5.73	63.00	80.00	143.00
	7140.000	40.00	0.00	0.00	821.40	660.00	827.22	827.30	301.49	5.82	63.00	80.00	143.00
	7140.000	40.00	0.00	0.00	821.40	895.00	827.44	827.57	315.42	6.04	63.00	80.00	143.00
	7180.000	40.00	0.00	0.00	821.30	380.00	826.91	826.93	210.20	5.61	43.00	90.00	133.00
	7180.000	40.00	0.00	0.00	821.30	570.00	827.12	827.23	219.15	5.82	43.00	90.00	133.00
	7180.000	40.00	0.00	0.00	821.30	660.00	827.21	827.34	222.44	5.91	43.00	90.00	133.00
	7180.000	40.00	0.00	0.00	821.30	895.00	827.42	827.65	231.42	6.12	43.00	90.00	133.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
7195.000	15.00	0.00	0.00	821.30	380.00	826.91	826.98	178.99	5.61	36.00	94.00	130.00
7195.000	15.00	0.00	0.00	821.30	570.00	827.11	827.25	186.22	5.81	36.00	94.00	130.00
7195.000	15.00	0.00	0.00	821.30	660.00	827.19	827.36	188.66	5.89	36.00	94.00	130.00
7195.000	15.00	0.00	0.00	821.30	895.00	827.38	827.71	195.89	6.08	36.00	94.00	130.00
7210.000	15.00	0.00	0.00	821.30	380.00	826.89	827.00	142.31	5.59	28.00	98.00	126.00
7210.000	15.00	0.00	0.00	821.30	570.00	827.07	827.31	147.16	5.77	28.00	98.00	126.00
7210.000	15.00	0.00	0.00	821.30	660.00	827.15	827.45	149.18	5.85	28.00	98.00	126.00
7210.000	15.00	0.00	0.00	821.30	895.00	827.31	827.93	153.68	6.01	28.00	98.00	126.00
7259.000	49.00	0.00	0.00	821.30	380.00	826.85	827.14	88.05	5.55	22.91	151.05	173.97
7259.000	49.00	0.00	0.00	821.30	570.00	826.98	827.58	91.06	5.68	23.24	150.84	174.08
7259.000	49.00	0.00	0.00	821.30	660.00	827.01	827.81	91.96	5.71	23.34	150.78	174.12
7259.000	49.00	0.00	0.00	821.30	895.00	827.05	828.49	92.90	5.75	23.44	150.72	174.15
7260.000	1.00	0.00	0.00	821.30	380.00	826.85	827.14	88.06	5.55	22.92	151.05	173.97
7260.000	1.00	0.00	0.00	821.30	570.00	826.98	827.59	91.11	5.68	23.25	150.84	174.09
7260.000	1.00	0.00	0.00	821.30	660.00	827.02	827.82	92.02	5.72	23.34	150.78	174.12
7260.000	1.00	0.00	0.00	821.30	895.00	827.06	828.50	92.86	5.76	23.44	150.72	174.15
7269.000	9.00	826.90	825.60	821.20	380.00	826.15	828.30	123.59	6.95	32.55	143.95	176.50
7269.000	9.00	826.90	825.60	821.20	570.00	828.80	829.06	148.36	7.60	43.62	139.39	183.01
7269.000	9.00	826.90	825.60	821.20	660.00	829.04	829.35	159.40	7.84	47.51	137.70	185.21
7269.000	9.00	826.90	825.60	821.20	895.00	829.55	830.01	185.16	8.35	53.62	134.14	187.76
7270.000	1.00	0.00	0.00	821.20	380.00	826.15	828.30	123.64	6.95	32.57	143.94	176.51
7270.000	1.00	0.00	0.00	821.20	570.00	828.80	829.06	148.47	7.60	43.65	139.38	183.03
7270.000	1.00	0.00	0.00	821.20	660.00	829.04	829.35	159.49	7.84	47.53	137.69	185.22
7270.000	1.00	0.00	0.00	821.20	895.00	829.55	830.01	185.22	8.35	53.63	134.13	187.76
7300.000	30.00	0.00	0.00	822.00	380.00	828.11	828.42	102.73	6.11	42.84	133.48	176.32
7300.000	30.00	0.00	0.00	822.00	570.00	828.75	829.22	133.44	6.75	52.76	124.81	177.57
7300.000	30.00	0.00	0.00	822.00	660.00	828.99	829.53	146.44	6.99	56.44	121.59	178.04
7300.000	30.00	0.00	0.00	822.00	895.00	829.49	830.23	176.66	7.49	64.19	114.83	179.01
8260.000	960.00	0.00	0.00	825.20	380.00	830.13	830.27	220.41	4.95	174.91	150.09	325.00
8260.000	960.00	0.00	0.00	825.20	570.00	830.90	831.00	353.80	5.70	170.88	146.12	325.00
8260.000	960.00	0.00	0.00	825.20	660.00	831.21	831.30	409.44	6.01	180.88	144.12	325.00
8260.000	960.00	0.00	0.00	825.20	895.00	831.92	832.01	540.90	6.72	185.53	139.47	325.00
8680.000	420.00	0.00	0.00	827.40	380.00	831.07	831.29	140.03	3.67	135.38	35.71	171.09
8680.000	420.00	0.00	0.00	827.40	570.00	831.58	831.78	215.39	4.13	163.95	33.70	197.64
8680.000	420.00	0.00	0.00	827.40	660.00	831.81	832.00	255.24	4.41	177.20	32.76	209.96
8680.000	420.00	0.00	0.00	827.40	895.00	832.40	832.56	350.01	5.00	197.46	30.42	227.89
9060.000	380.00	0.00	0.00	829.40	380.00	832.99	833.26	161.04	3.59	144.00	56.00	200.00
9060.000	380.00	0.00	0.00	829.40	570.00	833.52	833.68	207.21	3.92	145.59	54.41	200.00
9060.000	380.00	0.00	0.00	829.40	660.00	833.44	833.63	225.52	4.04	146.22	53.78	200.00
9060.000	380.00	0.00	0.00	829.40	895.00	833.71	834.20	264.37	4.31	147.54	52.46	200.00
10060.000	1000.00	0.00	0.00	834.40	380.00	836.87	839.15	149.00	4.47	104.01	118.76	226.79
10060.000	1000.00	0.00	0.00	834.40	570.00	839.53	839.81	230.40	5.13	130.31	116.58	254.88
10060.000	1000.00	0.00	0.00	834.40	660.00	839.79	840.07	267.82	5.39	150.19	115.71	265.91
10060.000	1000.00	0.00	0.00	834.40	895.00	840.37	840.64	359.54	5.97	163.08	114.46	277.54

	SECNO	XLCH	ELTRO	ELLC	ELMIN	C	CWSEL	FS	AREA	DEPTH	TOPWID	SSTA	ENDST
	10700.000	640.00	0.00	0.00	837.60	380.00	841.54	841.75	160.18	3.94	97.63	25.37	123.00
	10700.000	640.00	0.00	0.00	837.60	570.00	842.05	842.31	210.14	4.45	99.13	23.85	123.00
	10700.000	640.00	0.00	0.00	837.60	660.00	842.26	842.54	230.86	4.66	99.78	23.22	123.00
	10700.000	640.00	0.00	0.00	837.60	895.00	842.73	843.07	278.67	5.13	101.20	21.80	123.00
	10780.000	80.00	0.00	0.00	838.00	380.00	841.93	842.20	137.31	3.93	77.58	25.42	103.00
	10780.000	80.00	0.00	0.00	838.00	570.00	842.47	842.79	179.67	4.47	79.20	23.80	103.00
	10780.000	80.00	0.00	0.00	838.00	660.00	842.68	843.04	196.90	4.68	79.85	23.15	103.00
	10780.000	80.00	0.00	0.00	838.00	895.00	843.19	843.62	237.28	5.19	81.36	21.64	103.00
	10860.000	80.00	0.00	0.00	838.40	380.00	842.38	842.73	111.54	3.93	57.74	25.26	83.00
	10860.000	80.00	0.00	0.00	838.40	570.00	842.94	843.40	143.74	4.54	59.39	23.61	83.00
	10860.000	80.00	0.00	0.00	838.40	660.00	843.17	843.67	157.46	4.77	60.08	22.92	83.00
	10860.000	80.00	0.00	0.00	838.40	895.00	843.69	844.32	189.55	5.29	61.66	21.34	83.00
	10890.000	30.00	0.00	0.00	838.60	380.00	842.56	842.90	98.09	3.96	49.69	25.31	75.00
	10890.000	30.00	0.00	0.00	838.60	570.00	843.13	843.68	127.35	4.53	51.43	23.57	75.00
	10890.000	30.00	0.00	0.00	838.60	660.00	843.36	843.97	139.21	4.76	52.12	22.88	75.00
	10890.000	30.00	0.00	0.00	838.60	895.00	843.89	844.66	166.02	5.29	53.68	21.32	75.00
	10920.000	30.00	0.00	0.00	838.70	380.00	842.77	843.21	91.04	4.07	41.00	27.00	68.00
	10920.000	30.00	0.00	0.00	838.70	570.00	843.36	843.96	115.34	4.66	41.00	27.00	68.00
	10920.000	30.00	0.00	0.00	838.70	660.00	843.59	844.26	124.61	4.89	41.00	27.00	68.00
	10920.000	30.00	0.00	0.00	838.70	895.00	844.12	845.04	148.42	5.42	41.00	27.00	68.00
	10930.000	10.00	0.00	0.00	838.80	380.00	842.82	843.32	42.05	4.02	36.00	29.00	65.00
	10930.000	10.00	0.00	0.00	838.80	570.00	843.40	844.10	102.87	4.60	36.00	29.00	65.00
	10930.000	10.00	0.00	0.00	838.80	660.00	843.63	844.43	111.31	4.83	36.00	29.00	65.00
	10930.000	10.00	0.00	0.00	838.80	895.00	844.15	845.22	130.17	5.35	36.00	29.00	65.00
	10940.000	10.00	0.00	0.00	838.80	380.00	842.86	843.43	75.47	4.06	31.00	31.00	62.00
	10940.000	10.00	0.00	0.00	838.80	570.00	843.42	844.17	92.73	4.63	31.00	31.00	62.00
	10940.000	10.00	0.00	0.00	838.80	660.00	843.64	844.43	99.57	4.84	31.00	31.00	62.00
	10940.000	10.00	0.00	0.00	838.80	895.00	844.12	845.50	114.43	5.32	31.00	31.00	62.00
	10944.000	4.00	0.00	0.00	838.90	380.00	842.85	843.51	60.38	3.95	29.00	32.00	61.00
	10944.000	4.00	0.00	0.00	838.90	570.00	843.39	844.39	84.48	4.49	29.00	32.00	61.00
	10944.000	4.00	0.00	0.00	838.90	660.00	843.59	844.77	90.56	4.69	29.00	32.00	61.00
	10944.000	4.00	0.00	0.00	838.90	895.00	844.03	845.78	103.35	5.13	29.00	32.00	61.00
	10947.000	3.00	0.00	0.00	838.90	380.00	842.86	843.56	66.33	3.96	27.00	33.00	60.00
	10947.000	3.00	0.00	0.00	838.90	570.00	843.38	844.47	80.17	4.48	27.00	33.00	60.00
	10947.000	3.00	0.00	0.00	838.90	660.00	843.58	844.87	85.57	4.68	27.00	33.00	60.00
	10947.000	3.00	0.00	0.00	838.90	895.00	843.96	845.86	96.53	5.06	27.00	33.00	60.00
	10950.000	3.00	0.00	0.00	838.90	380.00	842.80	843.69	51.16	3.90	21.85	38.09	59.94
	10950.000	3.00	0.00	0.00	838.90	570.00	843.26	844.60	61.95	4.36	24.58	37.57	62.14
*	10950.000	3.00	0.00	0.00	838.90	660.00	843.56	845.12	65.59	4.66	26.33	37.23	63.56
*	10950.000	3.00	0.00	0.00	838.90	895.00	844.33	846.12	91.44	5.43	30.81	36.37	67.18
	10954.000	4.00	0.00	0.00	838.90	380.00	843.04	843.78	50.32	4.14	23.19	37.83	61.03
	10954.000	4.00	0.00	0.00	838.90	570.00	844.03	844.89	82.12	5.13	27.29	36.71	64.00
	10954.000	4.00	0.00	0.00	838.90	660.00	844.42	845.35	92.65	5.52	27.72	36.28	64.00
	10954.000	4.00	0.00	0.00	838.90	895.00	845.19	846.35	114.31	6.29	28.00	36.00	64.00

	SECNO	XLCN	ELTRD	ELLC	ELMIN	O	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
	10958.000	4.00	0.00	0.00	838.90	380.00	843.13	843.85	59.93	4.28	24.09	37.66	61.75
	10958.000	4.00	0.00	0.00	838.90	570.00	844.12	844.94	84.69	5.22	27.40	36.60	64.00
	10958.000	4.00	0.00	0.00	838.90	660.00	844.51	845.39	95.39	5.61	27.83	36.17	64.00
	10958.000	4.00	0.00	0.00	838.90	895.00	845.28	846.40	117.04	6.38	28.00	36.00	64.00
	10962.000	4.00	0.00	0.00	838.90	380.00	843.26	843.89	61.89	4.36	24.56	37.57	62.13
	10962.000	4.00	0.00	0.00	838.90	570.00	844.20	844.98	86.77	5.30	27.48	36.52	64.00
	10962.000	4.00	0.00	0.00	838.90	660.00	844.58	845.43	97.39	5.68	27.91	36.09	64.00
	10962.000	4.00	0.00	0.00	838.90	895.00	845.36	846.47	119.29	6.46	28.00	36.00	64.00
	10975.000	13.00	0.00	0.00	839.00	380.00	843.36	844.01	60.87	4.36	22.00	39.00	61.00
	10975.000	13.00	0.00	0.00	839.00	570.00	844.26	845.11	80.70	5.25	22.00	39.00	61.00
	10975.000	13.00	0.00	0.00	839.00	660.00	844.68	845.58	88.74	5.63	22.00	39.00	61.00
	10975.000	13.00	0.00	0.00	839.00	895.00	845.57	846.64	105.07	6.57	22.00	39.00	61.00
	10987.000	12.00	0.00	0.00	839.00	380.00	843.41	844.20	53.06	4.41	16.00	42.00	58.00
	10987.000	12.00	0.00	0.00	839.00	570.00	844.24	845.39	66.41	5.24	16.00	42.00	58.00
	10987.000	12.00	0.00	0.00	839.00	660.00	844.58	845.89	71.78	5.58	16.00	42.00	58.00
	10987.000	12.00	0.00	0.00	839.00	895.00	845.24	847.07	82.35	6.24	16.00	42.00	58.00
	10991.000	4.00	0.00	0.00	839.00	380.00	843.38	844.34	46.25	4.38	14.00	43.00	57.00
	10991.000	4.00	0.00	0.00	839.00	570.00	844.16	845.60	59.20	5.16	14.00	43.00	57.00
	10991.000	4.00	0.00	0.00	839.00	660.00	844.47	846.15	63.51	5.47	14.00	43.00	57.00
	10991.000	4.00	0.00	0.00	839.00	895.00	845.03	847.47	71.30	6.03	14.00	43.00	57.00
	10993.000	2.00	0.00	0.00	839.00	380.00	843.38	844.41	46.50	4.38	13.00	43.00	56.00
	10993.000	2.00	0.00	0.00	839.00	570.00	844.13	845.72	56.27	5.13	13.00	43.00	56.00
	10993.000	2.00	0.00	0.00	839.00	660.00	844.41	846.29	60.02	5.41	13.00	43.00	56.00
*	10993.000	2.00	0.00	0.00	839.00	895.00	845.07	847.72	68.46	6.07	13.00	43.00	56.00
	10995.000	2.00	0.00	0.00	839.00	380.00	843.39	844.56	42.20	4.39	12.00	44.00	56.00
	10995.000	2.00	0.00	0.00	839.00	570.00	843.94	845.97	50.35	4.91	12.00	44.00	56.00
*	10995.000	2.00	0.00	0.00	839.00	660.00	844.29	846.61	54.00	5.29	12.00	44.00	56.00
*	10995.000	2.00	0.00	0.00	839.00	895.00	845.53	848.14	66.50	6.03	12.00	44.00	56.00
*	10999.000	4.00	0.00	0.00	839.00	380.00	843.43	845.23	35.32	4.43	10.00	267.00	277.00
*	10999.000	4.00	0.00	0.00	839.00	570.00	844.54	846.38	46.42	5.54	10.00	267.00	277.00
*	10999.000	4.00	0.00	0.00	839.00	660.00	845.03	847.60	51.26	6.03	10.00	267.00	277.00
*	10999.000	4.00	0.00	0.00	839.00	895.00	846.19	849.33	62.79	7.18	10.00	267.00	277.00
	11000.000	1.00	855.20	849.50	839.00	380.00	844.19	845.41	62.92	5.19	10.00	267.00	277.00
	11000.000	1.00	855.20	849.50	839.00	570.00	845.51	847.11	56.05	6.51	10.00	267.00	277.00
	11000.000	1.00	855.20	849.50	839.00	660.00	846.05	847.86	61.46	7.05	10.00	267.00	277.00
	11000.000	1.00	855.20	849.50	839.00	895.00	847.46	849.64	75.65	8.46	10.00	267.00	277.00
	11055.000	55.00	855.20	849.50	839.00	380.00	844.68	845.66	47.88	5.68	10.00	267.00	277.00
	11055.000	55.00	855.20	849.50	839.00	570.00	846.08	847.40	61.79	7.08	10.00	267.00	277.00
	11055.000	55.00	855.20	849.50	839.00	660.00	846.68	848.15	67.83	7.68	10.00	267.00	277.00
	11055.000	55.00	855.20	849.50	839.00	895.00	848.15	849.97	82.45	9.15	10.00	267.00	277.00
	11056.000	1.00	0.00	0.00	839.00	380.00	844.69	845.67	47.88	5.69	10.00	267.00	277.00
	11056.000	1.00	0.00	0.00	839.00	570.00	846.09	847.41	61.82	7.09	10.00	267.00	277.00
	11056.000	1.00	0.00	0.00	839.00	660.00	846.69	848.16	67.86	7.69	10.00	267.00	277.00
	11056.000	1.00	0.00	0.00	839.00	895.00	848.15	849.93	82.49	9.15	10.00	267.00	277.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CUSEL	TG	AREA	DEPTH	TOPWID	SSTA	ENDST
11058.000	2.00	0.00	0.00	839.00	380.00	845.44	845.85	73.76	6.44	14.00	220.00	234.00
11058.000	2.00	0.00	0.00	839.00	570.00	847.12	847.60	97.34	8.12	14.00	220.00	234.00
11058.000	2.00	0.00	0.00	839.00	660.00	847.85	848.44	107.57	8.85	14.00	220.00	234.00
11058.000	2.00	0.00	0.00	839.00	895.00	849.62	850.33	132.31	10.62	14.00	220.00	234.00
11060.000	2.00	0.00	0.00	839.00	380.00	845.51	845.87	86.33	6.51	18.00	218.00	236.00
11060.000	2.00	0.00	0.00	839.00	570.00	847.23	847.68	117.63	8.23	18.00	218.00	236.00
11060.000	2.00	0.00	0.00	839.00	660.00	847.97	848.47	130.96	8.97	18.00	218.00	236.00
11060.000	2.00	0.00	0.00	839.00	895.00	849.75	850.37	163.15	10.75	18.00	218.00	236.00
11200.000	140.00	0.00	0.00	840.00	380.00	846.08	846.15	275.55	6.08	95.72	209.58	305.30
11200.000	140.00	0.00	0.00	840.00	570.00	847.68	847.95	461.09	7.88	110.99	200.59	311.59
11200.000	140.00	0.00	0.00	840.00	660.00	848.67	848.71	569.12	8.67	171.53	146.49	318.02
11200.000	140.00	0.00	0.00	840.00	895.00	850.55	850.61	936.57	10.58	232.62	100.00	332.62
11425.000	225.00	0.00	0.00	841.50	380.00	846.32	846.39	260.07	4.82	134.07	77.56	211.63
11425.000	225.00	0.00	0.00	841.50	570.00	848.00	848.04	504.96	8.50	153.88	74.11	230.99
11425.000	225.00	0.00	0.00	841.50	660.00	848.76	848.79	628.58	7.26	166.85	72.54	239.39
11425.000	225.00	0.00	0.00	841.50	895.00	850.63	850.65	961.50	9.13	186.65	68.74	255.39
12220.000	795.00	0.00	0.00	843.00	380.00	847.29	847.34	313.05	4.24	195.75	70.25	270.00
12220.000	795.00	0.00	0.00	843.00	570.00	848.38	848.41	542.49	5.30	210.38	59.62	270.00
12220.000	795.00	0.00	0.00	843.00	660.00	849.03	849.05	678.82	6.03	211.02	58.97	270.00
12220.000	795.00	0.00	0.00	843.00	895.00	850.76	850.78	1047.14	7.76	215.06	54.96	270.00
12920.000	700.00	0.00	0.00	844.60	380.00	846.28	846.34	300.52	3.08	482.39	447.61	930.00
12920.000	700.00	0.00	0.00	844.60	570.00	848.63	848.66	645.56	4.23	552.49	377.51	930.00
12920.000	700.00	0.00	0.00	844.60	660.00	849.30	849.31	719.10	4.70	613.49	316.51	930.00
12920.000	700.00	0.00	0.00	844.60	895.00	850.86	850.86	1992.65	6.26	719.97	210.03	930.00
13160.000	240.00	0.00	0.00	845.10	380.00	849.02	849.17	248.51	3.92	330.00	410.00	740.00
13160.000	240.00	0.00	0.00	845.10	570.00	849.27	849.44	330.10	4.17	330.00	410.00	740.00
13160.000	240.00	0.00	0.00	845.10	660.00	849.53	849.65	415.14	4.43	330.00	410.00	740.00
13160.000	240.00	0.00	0.00	845.10	895.00	850.90	850.93	668.56	5.80	330.00	410.00	740.00
13193.000	33.00	0.00	0.00	845.20	380.00	849.21	849.33	278.13	4.01	330.00	410.00	740.00
13193.000	33.00	0.00	0.00	845.20	570.00	849.48	849.60	368.23	4.28	330.00	410.00	740.00
13193.000	33.00	0.00	0.00	845.20	660.00	849.67	849.77	425.08	4.47	330.00	410.00	740.00
13193.000	33.00	0.00	0.00	845.20	895.00	850.92	850.96	840.23	5.72	330.00	410.00	740.00
13209.000	16.00	0.00	0.00	845.30	380.00	849.27	849.40	265.43	3.97	330.00	410.00	740.00
13209.000	16.00	0.00	0.00	845.30	570.00	849.55	849.68	357.41	4.25	330.00	410.00	740.00
13209.000	16.00	0.00	0.00	845.30	660.00	849.72	849.84	414.29	4.42	330.00	410.00	740.00
13209.000	16.00	0.00	0.00	845.30	895.00	850.96	850.97	813.71	5.56	330.00	410.00	740.00
13225.000	16.00	0.00	0.00	845.30	380.00	849.40	849.47	321.40	4.10	280.00	420.00	700.00
13225.000	16.00	0.00	0.00	845.30	570.00	849.67	849.75	395.27	4.37	280.00	420.00	700.00
13225.000	16.00	0.00	0.00	845.30	660.00	849.82	849.90	437.81	4.52	280.00	420.00	700.00
13225.000	16.00	0.00	0.00	845.30	895.00	850.95	850.99	755.94	5.65	280.00	420.00	700.00
13250.000	25.00	0.00	0.00	845.40	380.00	849.45	849.53	322.67	4.05	320.00	400.00	720.00
13250.000	25.00	0.00	0.00	845.40	570.00	849.73	849.82	411.95	4.33	320.00	400.00	720.00
13250.000	25.00	0.00	0.00	845.40	660.00	849.89	849.97	464.13	4.49	320.00	400.00	720.00
13250.000	25.00	0.00	0.00	845.40	895.00	850.98	851.02	810.23	5.58	320.00	400.00	720.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	O	CJSEL	E6	AREA	DEPTH	TOPWID	SSTA	ENDST
*	13275.000	25.00	0.00	0.00	845.40	380.00	849.59	849.98	151.33	4.19	284.67	435.33	720.00
*	13275.000	25.00	0.00	0.00	845.40	570.00	849.88	850.24	242.36	4.48	320.00	400.00	720.00
*	13275.000	25.00	0.00	0.00	845.40	660.00	849.99	850.34	275.34	4.59	320.00	400.00	720.00
	13275.000	25.00	0.00	0.00	845.40	895.00	850.99	851.03	599.53	5.59	320.00	400.00	720.00
*	13300.000	25.00	0.00	0.00	845.50	380.00	849.92	850.33	144.71	4.42	232.09	507.91	740.00
*	13300.000	25.00	0.00	0.00	845.50	570.00	850.23	850.53	224.20	4.73	265.00	475.00	740.00
*	13300.000	25.00	0.00	0.00	845.50	660.00	850.33	850.75	249.73	4.83	265.00	475.00	740.00
	13300.000	25.00	0.00	0.00	845.50	895.00	851.02	851.20	435.18	5.52	265.00	475.00	740.00
	13350.000	50.00	0.00	0.00	845.60	380.00	850.52	850.66	252.44	4.92	300.00	400.00	700.00
	13350.000	50.00	0.00	0.00	845.60	570.00	850.82	850.97	346.88	5.22	300.00	400.00	700.00
	13350.000	50.00	0.00	0.00	845.60	660.00	850.95	851.10	385.17	5.35	300.00	400.00	700.00
	13350.000	50.00	0.00	0.00	845.60	895.00	851.26	851.42	475.10	5.66	300.00	400.00	700.00
	13530.000	180.00	0.00	0.00	846.00	380.00	851.15	851.34	245.07	5.15	409.61	420.39	830.00
	13530.000	180.00	0.00	0.00	846.00	570.00	851.49	851.65	397.27	5.49	470.00	360.00	830.00
	13530.000	180.00	0.00	0.00	846.00	660.00	851.63	851.77	462.94	5.63	470.00	360.00	830.00
	13530.000	180.00	0.00	0.00	846.00	895.00	851.96	852.07	618.99	5.96	470.00	360.00	830.00
	13885.000	355.00	0.00	0.00	846.80	380.00	852.04	852.12	312.06	5.24	325.00	375.00	700.00
	13885.000	355.00	0.00	0.00	846.80	570.00	852.37	852.46	416.12	5.57	325.00	375.00	700.00
	13885.000	355.00	0.00	0.00	846.80	660.00	852.48	852.58	453.92	5.68	325.00	375.00	700.00
	13885.000	355.00	0.00	0.00	846.80	895.00	852.76	852.88	543.05	5.96	325.00	375.00	700.00
	14199.000	314.00	0.00	0.00	848.50	380.00	853.04	853.16	210.54	4.54	275.66	143.69	419.35
	14199.000	314.00	0.00	0.00	848.50	570.00	853.44	853.52	330.97	4.94	328.96	125.96	454.92
	14199.000	314.00	0.00	0.00	848.50	660.00	853.60	853.68	385.76	5.10	350.53	118.78	469.32
	14199.000	314.00	0.00	0.00	848.50	895.00	853.96	854.02	518.69	5.46	395.05	102.98	501.05
	14200.000	1.00	852.00	851.10	848.50	380.00	853.05	853.18	152.82	4.55	276.16	143.52	419.68
	14200.000	1.00	852.00	851.10	848.50	570.00	853.45	853.58	274.71	4.95	329.97	125.62	455.59
	14200.000	1.00	852.00	851.10	848.50	660.00	853.61	853.69	329.26	5.11	351.39	118.50	469.89
	14200.000	1.00	852.00	851.10	848.50	895.00	853.96	854.03	461.90	5.46	398.70	102.76	501.47
	14215.000	15.00	852.00	852.00	849.50	380.00	853.34	853.39	241.10	3.84	316.04	130.26	446.30
	14215.000	15.00	852.00	852.00	849.50	570.00	853.63	853.68	336.94	4.13	354.30	117.53	471.83
	14215.000	15.00	852.00	852.00	849.50	660.00	853.76	853.81	385.11	4.26	372.04	111.63	483.67
	14215.000	15.00	852.00	852.00	849.50	895.00	854.06	854.13	514.74	4.56	530.61	99.28	630.70
	14740.000	525.00	0.00	0.00	850.60	380.00	854.94	854.99	265.42	4.34	179.52	151.53	331.05
	14740.000	525.00	0.00	0.00	850.60	570.00	855.35	855.41	339.64	4.75	198.00	143.86	341.86
	14740.000	525.00	0.00	0.00	850.60	660.00	855.50	855.57	371.49	4.90	205.42	140.78	346.21
	14740.000	525.00	0.00	0.00	850.60	895.00	855.86	855.92	448.24	5.24	221.87	133.96	355.83
	15225.000	485.00	0.00	0.00	853.10	380.00	856.12	856.16	253.87	3.02	303.94	200.00	503.94
	15225.000	485.00	0.00	0.00	853.10	570.00	856.49	856.53	366.01	3.39	306.69	200.00	506.69
	15225.000	485.00	0.00	0.00	853.10	660.00	856.64	856.68	411.26	3.54	307.80	200.00	507.80
	15225.000	485.00	0.00	0.00	853.10	895.00	856.99	857.04	519.58	3.89	310.42	200.00	510.42
	15550.000	325.00	0.00	0.00	854.70	380.00	857.55	857.60	225.56	2.85	174.56	140.00	314.56
	15550.000	325.00	0.00	0.00	854.70	570.00	857.84	857.92	278.50	3.14	191.07	140.00	331.07
	15550.000	325.00	0.00	0.00	854.70	660.00	857.97	858.05	303.27	3.27	198.32	140.00	338.32
	15550.000	325.00	0.00	0.00	854.70	895.00	858.26	858.37	363.97	3.56	206.74	140.00	346.74

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	FC	AREA	DEPTH	TOPWID	SSTA	ENDST
*	15864.000	314.00	0.00	0.00	856.30	380.00	859.50	858.74	139.16	2.29	231.33	170.00	401.33
	15864.000	314.00	0.00	0.00	856.30	570.00	858.75	858.97	194.06	2.45	236.61	170.00	406.61
	15864.000	314.00	0.00	0.00	856.30	660.00	858.86	859.07	223.79	2.55	239.42	170.00	409.42
	15864.000	314.00	0.00	0.00	856.30	895.00	859.14	859.35	291.39	2.64	245.69	170.00	415.69
	15879.000	15.00	0.00	0.00	856.40	380.00	858.81	859.02	188.47	2.41	236.00	170.00	406.08
	15879.000	15.00	0.00	0.00	856.40	570.00	859.01	859.15	234.41	2.61	240.42	170.00	410.42
	15879.000	15.00	0.00	0.00	856.40	660.00	859.09	859.24	254.29	2.69	242.33	170.00	412.33
	15879.000	15.00	0.00	0.00	856.40	895.00	859.32	859.49	310.27	2.92	247.42	170.00	417.42
	15894.000	15.00	0.00	0.00	856.40	380.00	858.93	859.01	215.89	2.53	230.60	170.00	400.68
	15894.000	15.00	0.00	0.00	856.40	570.00	859.16	859.25	272.00	2.76	243.91	170.00	413.91
	15894.000	15.00	0.00	0.00	856.40	660.00	859.24	859.35	290.02	2.84	245.57	170.00	415.57
	15894.000	15.00	0.00	0.00	856.40	895.00	859.47	859.61	346.49	3.07	250.69	170.00	420.69
*	15904.000	10.00	0.00	0.00	856.50	380.00	859.27	860.29	46.99	2.77	23.47	380.00	403.47
*	15904.000	10.00	0.00	0.00	856.50	570.00	860.43	860.89	157.41	3.93	204.28	260.00	464.28
*	15904.000	10.00	0.00	0.00	856.50	660.00	860.52	861.01	175.33	4.02	204.56	260.00	464.56
*	15904.000	10.00	0.00	0.00	856.50	895.00	860.80	861.22	232.64	4.30	205.39	260.00	465.39
	15905.000	1.00	859.80	859.30	856.50	380.00	859.21	860.40	43.28	2.71	23.40	380.00	403.40
	15905.000	1.00	859.80	859.30	856.50	570.00	860.86	861.00	221.76	4.36	205.60	260.00	465.60
	15905.000	1.00	859.80	859.30	856.50	660.00	860.99	861.13	249.17	4.49	206.00	260.00	466.00
	15905.000	1.00	859.80	859.30	856.50	895.00	861.22	861.39	294.61	4.72	206.66	260.00	466.66
	15909.000	4.00	859.80	859.30	856.50	380.00	859.37	860.50	44.57	2.87	23.57	380.00	403.57
	15909.000	4.00	859.80	859.30	856.50	570.00	860.89	861.02	227.12	4.39	205.08	260.00	465.08
	15909.000	4.00	859.80	859.30	856.50	660.00	861.02	861.15	254.92	4.52	206.08	260.00	466.08
	15909.000	4.00	859.80	859.30	856.50	895.00	861.25	861.41	301.33	4.75	206.76	260.00	466.76
	15910.000	1.00	0.00	0.00	856.50	380.00	860.62	860.79	195.67	4.12	204.65	260.00	464.85
	15910.000	1.00	0.00	0.00	856.50	570.00	860.83	861.09	238.94	4.32	205.48	260.00	465.48
	15910.000	1.00	0.00	0.00	856.50	660.00	860.95	861.23	263.65	4.45	205.84	260.00	465.84
	15910.000	1.00	0.00	0.00	856.50	895.00	861.14	861.52	304.05	4.64	206.44	260.00	466.44
	16079.000	169.00	0.00	0.00	857.20	380.00	860.85	861.03	180.61	3.65	192.00	142.82	314.83
	16079.000	169.00	0.00	0.00	857.20	570.00	861.24	861.41	259.68	4.04	218.27	108.40	326.67
	16079.000	169.00	0.00	0.00	857.20	660.00	861.41	861.58	296.36	4.21	229.45	102.26	331.71
	16079.000	169.00	0.00	0.00	857.20	895.00	861.77	861.94	383.03	4.57	253.95	88.81	342.76
	16080.000	1.00	859.50	862.30	857.20	380.00	860.86	861.04	177.15	3.66	191.47	123.12	314.59
	16080.000	1.00	859.50	862.30	857.20	570.00	861.29	861.43	265.20	4.09	221.76	106.49	328.24
	16080.000	1.00	859.50	862.30	857.20	660.00	861.48	861.59	305.96	4.28	234.39	99.55	333.94
	16080.000	1.00	859.50	862.30	857.20	895.00	861.86	861.97	398.30	4.66	260.73	85.09	345.82
	16084.000	4.00	859.50	862.30	857.20	380.00	860.91	861.06	187.30	3.71	195.41	120.95	316.36
	16084.000	4.00	859.50	862.30	857.20	570.00	861.32	861.45	268.04	4.12	222.65	106.00	328.65
	16084.000	4.00	859.50	862.30	857.20	660.00	861.50	861.61	300.32	4.30	235.25	99.08	334.33
	16084.000	4.00	859.50	862.30	857.20	895.00	861.88	861.99	402.01	4.68	261.60	84.61	346.21
	16085.000	1.00	0.00	0.00	857.20	380.00	861.02	861.09	213.47	3.92	205.29	116.63	319.92
	16085.000	1.00	0.00	0.00	857.20	570.00	861.35	861.47	293.29	4.19	228.54	102.76	331.30
	16085.000	1.00	0.00	0.00	857.20	660.00	861.55	861.65	330.36	4.35	239.36	96.82	336.18
	16085.000	1.00	0.00	0.00	857.20	895.00	861.91	861.99	421.02	4.71	263.97	83.31	347.28

	SECNO	XLCH	ELTRD	ELLC	ELMIN	C	CWSEL	ES	AREA	DEPTH	TOPWID	SSTA	ENDST
	16275.000	190.00	0.00	0.00	858.40	360.00	861.56	861.71	154.54	3.16	136.12	33.75	169.87
	16275.000	190.00	0.00	0.00	858.40	570.00	861.91	862.09	205.25	3.51	149.65	32.35	182.00
	16275.000	190.00	0.00	0.00	858.40	660.00	862.06	862.25	226.70	3.66	150.22	31.78	182.00
	16275.000	190.00	0.00	0.00	858.40	895.00	862.39	862.60	270.59	3.99	151.54	30.46	182.00
	16301.000	26.00	0.00	0.00	858.60	380.00	861.58	862.01	91.98	2.98	99.45	68.47	167.93
	16301.000	26.00	0.00	0.00	858.60	570.00	861.92	862.41	128.34	3.32	116.35	46.06	162.41
	16301.000	26.00	0.00	0.00	858.60	660.00	862.06	862.56	144.92	3.46	123.00	45.11	168.11
	16301.000	26.00	0.00	0.00	858.60	895.00	862.38	862.93	186.66	3.78	130.77	42.86	181.63
*	16327.000	26.00	0.00	0.00	858.70	380.00	862.64	863.14	90.91	3.54	115.46	99.00	214.48
*	16327.000	26.00	0.00	0.00	858.70	570.00	863.02	863.51	138.04	4.32	126.00	99.00	225.00
*	16327.000	26.00	0.00	0.00	858.70	660.00	863.14	863.66	152.18	4.44	126.00	99.00	225.00
*	16327.000	26.00	0.00	0.00	858.70	895.00	863.33	864.00	176.44	4.63	126.00	99.00	225.00
	16353.000	26.00	0.00	0.00	858.90	380.00	863.25	863.55	182.43	4.35	113.00	84.00	197.00
	16353.000	26.00	0.00	0.00	858.90	570.00	863.57	863.72	218.80	4.67	113.00	84.00	197.00
	16353.000	26.00	0.00	0.00	858.90	660.00	863.71	863.88	234.37	4.81	113.00	84.00	197.00
	16353.000	26.00	0.00	0.00	858.90	895.00	864.06	864.23	273.77	5.16	113.00	84.00	197.00
	16379.000	26.00	0.00	0.00	859.10	380.00	863.35	863.40	241.47	4.25	100.00	68.00	168.00
	16379.000	26.00	0.00	0.00	859.10	570.00	863.71	863.78	278.74	4.61	100.00	68.00	168.00
	16379.000	26.00	0.00	0.00	859.10	660.00	863.86	863.95	291.41	4.76	100.00	68.00	168.00
	16379.000	26.00	0.00	0.00	859.10	895.00	864.23	864.36	329.71	5.15	100.00	68.00	168.00
*	16405.000	26.00	0.00	0.00	859.20	380.00	863.37	863.92	92.35	4.17	87.00	144.00	231.00
*	16405.000	26.00	0.00	0.00	859.20	570.00	863.77	864.39	117.62	4.57	87.00	144.00	231.00
*	16405.000	26.00	0.00	0.00	859.20	660.00	863.92	864.58	130.35	4.72	87.00	144.00	231.00
*	16405.000	26.00	0.00	0.00	859.20	895.00	864.26	865.02	160.54	5.06	87.00	144.00	231.00
	16418.000	13.00	0.00	0.00	859.30	330.00	863.63	864.07	92.00	4.33	80.00	148.00	228.00
	16418.000	13.00	0.00	0.00	859.30	570.00	863.89	864.54	113.04	4.59	80.00	148.00	228.00
	16418.000	13.00	0.00	0.00	859.30	660.00	864.04	864.74	125.19	4.74	80.00	148.00	228.00
	16418.000	13.00	0.00	0.00	859.30	895.00	864.38	865.19	153.46	5.08	80.00	148.00	228.00
	16430.000	12.00	0.00	0.00	859.40	380.00	863.63	864.28	67.54	4.23	74.00	173.00	247.00
*	16430.000	12.00	0.00	0.00	859.40	570.00	864.08	864.85	101.14	4.68	74.00	173.00	247.00
*	16430.000	12.00	0.00	0.00	859.40	660.00	864.25	865.07	113.40	4.85	74.00	173.00	247.00
*	16430.000	12.00	0.00	0.00	859.40	895.00	864.62	865.57	140.71	5.22	74.00	173.00	247.00
	16443.000	13.00	0.00	0.00	859.20	380.00	864.26	864.48	122.22	5.06	67.00	177.00	244.00
	16443.000	13.00	0.00	0.00	859.20	570.00	864.78	865.07	156.85	5.58	67.00	177.00	244.00
	16443.000	13.00	0.00	0.00	859.20	660.00	864.97	865.30	169.58	5.77	67.00	177.00	244.00
	16443.000	13.00	0.00	0.00	859.20	895.00	865.39	865.83	197.96	6.19	67.00	177.00	244.00
	16455.000	12.00	0.00	0.00	859.00	380.00	864.35	864.53	133.97	5.35	61.00	180.00	241.00
	16455.000	12.00	0.00	0.00	859.00	570.00	864.87	865.12	165.99	5.87	61.00	180.00	241.00
	16455.000	12.00	0.00	0.00	859.00	660.00	865.06	865.36	177.88	6.06	61.00	180.00	241.00
	16455.000	12.00	0.00	0.00	859.00	895.00	865.50	865.89	204.45	6.50	61.00	180.00	241.00
	16480.000	25.00	0.00	0.00	858.70	380.00	864.33	864.59	130.77	5.63	48.00	186.00	234.00
	16480.000	25.00	0.00	0.00	858.70	570.00	864.81	865.25	153.46	6.11	48.00	186.00	234.00
	16480.000	25.00	0.00	0.00	858.70	660.00	864.97	865.52	161.46	6.27	48.00	186.00	234.00
	16480.000	25.00	0.00	0.00	858.70	895.00	865.32	866.16	178.11	6.62	48.00	186.00	234.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
16532.000	52.00	870.80	864.10	858.70	380.00	866.28	866.37	154.67	7.58	35.07	309.92	342.99
16532.000	52.00	870.80	864.10	858.70	570.00	869.32	869.39	270.83	10.62	45.22	301.78	347.00
16532.000	52.00	870.80	864.10	858.70	660.00	870.90	870.96	343.24	12.20	45.49	300.60	349.08
16532.000	52.00	870.80	864.10	858.70	895.00	872.01	872.09	419.38	13.31	107.39	252.65	360.24
17510.000	978.00	0.00	0.00	862.80	380.00	866.60	866.64	340.71	3.80	280.00	70.00	350.00
17510.000	978.00	0.00	0.00	862.80	570.00	869.46	869.47	1142.37	6.66	280.00	70.00	350.00
17510.000	978.00	0.00	0.00	862.80	660.00	871.01	871.01	1574.63	8.21	280.00	70.00	350.00
17510.000	978.00	0.00	0.00	862.80	895.00	872.14	872.14	1891.89	9.34	280.00	70.00	350.00
17990.000	480.00	0.00	0.00	864.30	380.00	866.04	866.45	131.28	3.74	141.16	185.00	326.16
17990.000	480.00	0.00	0.00	864.30	570.00	869.46	869.56	351.43	5.16	155.00	185.00	340.00
17990.000	480.00	0.00	0.00	864.30	660.00	871.02	871.05	589.32	6.72	155.00	185.00	340.00
17990.000	480.00	0.00	0.00	864.30	895.00	872.15	872.16	765.18	7.85	155.00	185.00	340.00
18400.000	410.00	0.00	0.00	866.30	380.00	870.13	870.25	137.24	3.83	107.94	44.68	152.62
18400.000	410.00	0.00	0.00	866.30	570.00	870.22	870.65	146.04	3.92	108.49	44.50	152.99
18400.000	410.00	0.00	0.00	866.30	660.00	871.18	871.36	253.28	4.88	115.01	42.29	157.30
18400.000	410.00	0.00	0.00	866.30	895.00	872.25	872.40	360.97	5.95	123.46	39.82	163.28
18510.000	110.00	0.00	0.00	866.80	380.00	870.56	870.81	128.37	3.76	107.39	44.67	152.26
18510.000	110.00	0.00	0.00	866.80	570.00	870.99	871.28	176.92	4.19	110.41	43.85	154.25
18510.000	110.00	0.00	0.00	866.80	660.00	871.41	871.64	222.52	4.61	113.18	42.91	156.09
18510.000	110.00	0.00	0.00	866.80	895.00	872.37	872.56	334.68	5.57	119.73	40.69	160.42
18650.000	140.00	0.00	0.00	867.50	240.00	871.20	871.41	92.13	3.70	56.02	150.00	206.02
18650.000	140.00	0.00	0.00	867.50	380.00	871.62	871.74	116.11	4.12	58.06	150.00	208.06
18650.000	140.00	0.00	0.00	867.50	430.00	871.86	872.12	130.77	4.36	59.31	150.00	209.31
18650.000	140.00	0.00	0.00	867.50	600.00	872.62	872.94	176.97	5.12	63.08	150.00	213.08
18750.000	100.00	0.00	0.00	868.00	240.00	871.65	872.05	63.08	3.65	66.74	158.09	224.83
18750.000	100.00	0.00	0.00	868.00	380.00	872.22	872.74	94.37	4.22	62.65	173.92	236.58
18750.000	100.00	0.00	0.00	868.00	430.00	872.48	872.94	112.07	4.48	111.45	125.76	237.21
18750.000	100.00	0.00	0.00	868.00	600.00	873.13	873.47	200.25	5.13	141.44	97.87	239.31
18950.000	200.00	0.00	0.00	869.50	240.00	873.08	873.36	89.96	3.58	84.25	112.38	196.64
18950.000	200.00	0.00	0.00	869.50	380.00	873.75	873.99	158.33	4.25	117.74	88.68	206.42
18950.000	200.00	0.00	0.00	869.50	430.00	873.92	874.19	178.47	4.42	125.91	82.89	208.81
18950.000	200.00	0.00	0.00	869.50	600.00	874.23	874.52	219.26	4.73	132.50	78.85	211.15
19110.000	160.00	0.00	0.00	870.70	240.00	874.04	874.38	94.70	3.34	130.68	89.65	220.34
19110.000	160.00	0.00	0.00	870.70	380.00	874.51	874.77	159.53	3.81	140.25	84.87	225.13
19110.000	160.00	0.00	0.00	870.70	430.00	874.66	874.91	179.63	3.96	143.09	83.45	226.55
19110.000	160.00	0.00	0.00	870.70	600.00	875.07	875.30	240.76	4.37	151.40	79.30	230.70
19250.000	140.00	0.00	0.00	871.70	240.00	874.84	874.92	109.34	3.14	95.05	73.16	168.21
19250.000	140.00	0.00	0.00	871.70	380.00	875.18	875.30	144.85	3.48	110.49	70.75	181.24
19250.000	140.00	0.00	0.00	871.70	430.00	875.30	875.42	158.19	3.60	115.46	69.92	185.38
19250.000	140.00	0.00	0.00	871.70	600.00	875.65	875.80	201.15	3.95	130.15	67.48	197.62
19265.000	15.00	0.00	0.00	871.80	240.00	874.36	874.96	102.34	3.06	92.94	73.68	166.62
19265.000	15.00	0.00	0.00	871.80	380.00	875.21	875.34	137.06	3.41	107.50	71.25	178.75
19265.000	15.00	0.00	0.00	871.80	430.00	875.33	875.46	150.11	3.53	112.48	70.42	182.90
19265.000	15.00	0.00	0.00	871.80	600.00	875.68	875.84	192.13	3.88	127.20	67.97	195.17

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CHSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
19280.000	15.00	0.00	0.00	871.90	240.00	874.89	875.00	95.96	2.99	90.01	74.16	164.16
19280.000	15.00	0.00	0.00	871.90	380.00	875.24	875.39	130.22	3.34	104.79	71.70	176.49
19280.000	15.00	0.00	0.00	871.90	430.00	875.36	875.51	144.96	3.46	109.77	70.87	180.65
19280.000	15.00	0.00	0.00	871.90	600.00	875.71	875.89	184.13	3.81	124.54	68.41	192.95
19295.000	15.00	0.00	0.00	872.00	240.00	874.92	875.05	90.18	2.92	87.27	74.62	161.90
19295.000	15.00	0.00	0.00	872.00	380.00	875.28	875.44	123.38	3.28	102.21	72.13	174.34
19295.000	15.00	0.00	0.00	872.00	430.00	875.40	875.57	136.30	3.40	107.20	71.30	178.50
19295.000	15.00	0.00	0.00	872.00	600.00	875.75	875.94	176.50	3.75	121.93	68.84	190.78
19299.000	4.00	0.00	0.00	872.00	240.00	874.82	875.19	81.62	2.82	93.05	75.32	168.38
19299.000	4.00	0.00	0.00	872.00	380.00	875.11	875.65	108.11	3.11	95.52	73.25	168.76
19299.000	4.00	0.00	0.00	872.00	430.00	875.22	875.79	118.27	3.22	99.68	72.52	172.40
19299.000	4.00	0.00	0.00	872.00	600.00	875.54	876.20	152.11	3.54	113.22	70.30	183.52
19300.000	1.00	878.40	0.00	875.00	240.00	880.90	880.91	844.57	5.90	171.24	37.50	208.74
19300.000	1.00	878.40	0.00	875.00	380.00	881.20	881.21	896.87	6.20	174.22	36.26	210.47
19300.000	1.00	878.40	0.00	875.00	430.00	881.29	881.30	912.43	6.29	175.09	35.89	210.98
19300.000	1.00	878.40	0.00	875.00	600.00	881.56	881.57	960.33	6.56	177.76	34.77	212.53
19440.000	140.00	0.00	0.00	875.70	240.00	880.91	880.91	1292.52	5.21	271.51	63.66	343.17
19440.000	140.00	0.00	0.00	875.70	380.00	881.21	881.21	1377.79	5.51	282.69	61.54	344.23
19440.000	140.00	0.00	0.00	875.70	430.00	881.30	881.30	1403.09	5.60	283.53	60.91	344.44
19440.000	140.00	0.00	0.00	875.70	600.00	881.57	881.57	1480.72	5.87	286.49	59.01	345.50
19600.000	160.00	0.00	0.00	876.40	240.00	880.91	880.91	604.28	4.51	161.17	45.46	213.63
19600.000	160.00	0.00	0.00	876.40	380.00	881.21	881.21	658.03	4.81	170.91	43.94	214.85
19600.000	160.00	0.00	0.00	876.40	430.00	881.30	881.30	673.47	4.90	171.72	43.49	215.21
19600.000	160.00	0.00	0.00	876.40	600.00	881.57	881.58	721.08	5.17	176.20	42.11	216.31
19690.000	90.00	0.00	0.00	876.90	240.00	880.91	880.91	481.28	4.01	124.53	80.00	204.53
19690.000	90.00	0.00	0.00	876.90	380.00	881.21	881.22	519.37	4.31	125.05	80.00	206.05
19690.000	90.00	0.00	0.00	876.90	430.00	881.30	881.31	530.69	4.40	126.50	80.00	206.50
19690.000	90.00	0.00	0.00	876.90	600.00	881.57	881.59	565.44	4.67	127.07	80.00	207.07
19770.000	80.00	0.00	0.00	877.20	240.00	880.85	880.99	100.99	3.65	82.21	72.03	154.24
19770.000	80.00	0.00	0.00	877.20	380.00	881.12	881.34	124.03	3.92	84.56	71.06	155.62
19770.000	80.00	0.00	0.00	877.20	430.00	881.20	881.45	130.78	4.00	85.24	70.79	156.02
19770.000	80.00	0.00	0.00	877.20	600.00	881.44	881.72	151.53	4.24	87.28	69.54	157.22
19850.000	80.00	0.00	0.00	877.60	240.00	881.17	881.30	101.06	3.57	74.21	70.94	145.15
19850.000	80.00	0.00	0.00	877.60	380.00	881.56	881.74	132.02	3.96	79.16	69.53	148.68
19850.000	80.00	0.00	0.00	877.60	430.00	881.69	881.88	141.10	4.09	80.55	69.13	149.68
19850.000	80.00	0.00	0.00	877.60	600.00	882.05	882.30	172.62	4.45	85.21	67.80	153.01
19930.000	80.00	0.00	0.00	878.00	240.00	881.48	881.64	91.36	3.48	73.09	69.85	142.94
19930.000	80.00	0.00	0.00	878.00	380.00	881.91	882.12	124.91	3.91	80.52	68.31	148.82
19930.000	80.00	0.00	0.00	878.00	430.00	882.05	882.27	136.10	4.05	82.67	67.83	150.50
19930.000	80.00	0.00	0.00	878.00	600.00	882.45	882.71	169.20	4.45	87.91	66.47	154.38
20815.000	885.00	0.00	0.00	881.90	240.00	885.93	886.17	65.48	4.03	55.08	136.42	191.51
20815.000	885.00	0.00	0.00	881.90	380.00	886.39	886.67	95.38	4.49	62.52	132.25	194.77
20815.000	885.00	0.00	0.00	881.90	430.00	886.53	886.83	101.95	4.63	64.08	131.30	195.38
20815.000	885.00	0.00	0.00	881.90	600.00	886.94	887.30	129.73	5.04	69.68	128.38	197.26

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
21730.000	915.00	0.00	0.00	885.70	240.00	888.78	888.88	112.57	3.08	94.84	109.61	204.45
21730.000	915.00	0.00	0.00	885.70	380.00	889.26	889.37	164.10	3.56	110.54	101.89	220.43
21730.000	915.00	0.00	0.00	885.70	430.00	889.40	889.52	181.97	3.70	125.73	99.54	225.27
21730.000	915.00	0.00	0.00	885.70	600.00	889.82	889.95	239.83	4.12	146.58	92.74	239.33
21880.000	150.00	0.00	0.00	886.30	240.00	889.12	889.33	87.41	2.82	83.18	145.12	228.31
21880.000	150.00	0.00	0.00	886.30	380.00	889.59	889.86	133.06	3.29	108.43	128.88	237.31
21880.000	150.00	0.00	0.00	886.30	430.00	889.73	890.02	149.01	3.43	115.96	124.03	239.99
21880.000	150.00	0.00	0.00	886.30	600.00	890.14	890.45	201.16	3.84	139.80	112.46	705.00
22050.000	170.00	0.00	0.00	886.90	240.00	889.69	889.96	86.64	2.79	90.75	70.35	161.09
22050.000	170.00	0.00	0.00	886.90	380.00	890.20	890.53	143.03	3.30	122.67	53.48	176.15
22050.000	170.00	0.00	0.00	886.90	430.00	890.35	890.69	161.88	3.45	131.92	52.37	184.29
22050.000	170.00	0.00	0.00	886.90	600.00	890.77	891.15	222.14	3.87	157.91	49.25	207.16
22175.000	125.00	0.00	0.00	887.10	240.00	890.05	890.25	103.63	2.95	100.70	62.41	163.11
22175.000	125.00	0.00	0.00	887.10	380.00	890.62	890.82	168.40	3.52	128.99	59.00	187.99
22175.000	125.00	0.00	0.00	887.10	430.00	890.77	890.99	189.25	3.67	137.59	59.00	196.59
22175.000	125.00	0.00	0.00	887.10	600.00	891.22	891.46	251.79	4.12	139.00	59.00	198.00
22191.000	16.00	892.00	890.90	887.80	240.00	892.73	892.75	316.77	4.93	151.01	157.87	288.88
22191.000	16.00	892.00	890.90	887.80	380.00	893.07	893.10	361.64	5.27	137.12	155.78	292.90
22191.000	16.00	892.00	890.90	887.80	430.00	893.18	893.21	375.31	5.38	138.99	155.14	294.13
22191.000	16.00	892.00	890.90	887.80	600.00	893.47	893.52	417.41	5.67	144.35	153.31	297.65
22250.000	59.00	0.00	0.00	886.30	240.00	892.75	892.78	347.21	6.45	169.68	90.88	260.56
22250.000	59.00	0.00	0.00	886.30	380.00	893.10	893.12	458.30	6.80	179.75	86.27	266.02
22250.000	59.00	0.00	0.00	886.30	430.00	893.20	893.23	478.10	6.90	182.73	84.94	267.67
22250.000	59.00	0.00	0.00	886.30	600.00	893.51	893.55	535.62	7.21	191.34	81.10	272.44
22474.000	224.00	0.00	0.00	887.70	240.00	892.71	892.94	82.21	5.01	75.79	145.68	221.47
22474.000	224.00	0.00	0.00	887.70	380.00	893.09	893.36	114.05	5.39	91.20	133.09	224.28
22474.000	224.00	0.00	0.00	887.70	430.00	893.21	893.49	125.27	5.51	96.02	129.14	225.16
22474.000	224.00	0.00	0.00	887.70	600.00	893.56	893.87	161.50	5.85	110.31	117.46	227.77
22475.000	1.00	0.00	0.00	887.70	240.00	892.71	892.94	82.39	5.01	75.88	145.60	221.49
22475.000	1.00	0.00	0.00	887.70	380.00	893.10	893.37	114.37	5.40	91.33	132.98	224.31
22475.000	1.00	0.00	0.00	887.70	430.00	893.22	893.50	125.61	5.52	96.16	129.03	225.19
22475.000	1.00	0.00	0.00	887.70	600.00	893.57	893.88	162.25	5.87	110.48	117.32	227.80
22491.000	16.00	892.40	892.20	888.20	240.00	893.19	893.28	125.93	4.99	94.36	129.75	224.11
22491.000	16.00	892.40	892.20	888.20	380.00	893.53	893.67	160.62	5.33	108.03	118.44	226.47
22491.000	16.00	892.40	892.20	888.20	430.00	893.63	893.78	172.09	5.43	112.18	115.00	227.19
22491.000	16.00	892.40	892.20	888.20	600.00	893.93	894.12	207.52	5.73	124.61	105.11	229.72
22492.000	1.00	0.00	0.00	888.20	240.00	893.24	893.29	130.73	5.04	96.37	128.09	224.46
22492.000	1.00	0.00	0.00	888.20	380.00	893.60	893.68	168.12	5.40	110.76	116.18	226.94
22492.000	1.00	0.00	0.00	888.20	430.00	893.71	893.80	180.45	5.51	115.12	112.58	227.69
22492.000	1.00	0.00	0.00	888.20	600.00	894.02	894.14	218.79	5.82	128.03	102.53	231.36
23210.000	718.00	0.00	0.00	890.60	240.00	894.10	894.14	148.48	3.50	111.23	31.66	142.90
23210.000	718.00	0.00	0.00	890.60	380.00	894.57	894.63	205.44	3.97	127.24	29.99	157.23
23210.000	718.00	0.00	0.00	890.60	430.00	894.71	894.78	223.97	4.11	132.02	29.49	161.51
23210.000	718.00	0.00	0.00	890.60	600.00	895.13	895.20	281.77	4.53	145.96	28.03	173.99

SECNO	XLCH	ELTRO	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
23390.000	180.00	0.00	0.00	891.20	240.00	894.41	894.54	95.31	3.21	102.96	153.71	259.90
23390.000	180.00	0.00	0.00	891.20	380.00	894.87	895.00	149.95	3.67	135.02	135.77	270.79
23390.000	180.00	0.00	0.00	891.20	430.00	895.00	895.13	169.12	3.80	143.75	130.34	274.10
23390.000	180.00	0.00	0.00	891.20	600.00	895.41	895.54	231.63	4.21	169.13	114.56	283.69
23460.000	70.00	0.00	0.00	891.10	240.00	894.54	894.78	120.62	3.44	119.01	144.88	265.26
23460.000	70.00	0.00	0.00	891.10	380.00	894.96	895.28	177.12	3.86	147.24	128.17	275.41
23460.000	70.00	0.00	0.00	891.10	430.00	895.08	895.43	196.08	3.98	155.21	123.22	278.42
23460.000	70.00	0.00	0.00	891.10	600.00	895.45	895.88	258.40	4.36	178.89	108.48	287.38
23527.000	67.00	898.90	894.70	891.40	240.00	899.41	899.42	626.09	8.01	214.11	406.89	621.00
23527.000	67.00	898.90	894.70	891.40	380.00	899.66	899.68	680.72	8.26	224.25	396.75	621.00
23527.000	67.00	898.90	894.70	891.40	430.00	899.72	899.74	692.99	8.32	224.25	396.75	621.00
23527.000	67.00	898.90	894.70	891.40	600.00	899.92	899.95	737.24	8.52	224.25	396.75	621.00
23839.000	312.00	0.00	0.00	892.10	240.00	899.42	899.43	374.34	7.32	90.00	230.00	320.00
23839.000	312.00	0.00	0.00	892.10	380.00	899.68	899.70	397.19	7.58	90.00	230.00	320.00
23839.000	312.00	0.00	0.00	892.10	430.00	899.75	899.77	403.24	7.65	90.00	230.00	320.00
23839.000	312.00	0.00	0.00	892.10	600.00	899.96	900.00	422.39	7.86	90.00	230.00	320.00
23840.000	1.00	895.10	894.50	892.10	240.00	899.43	899.43	344.17	7.33	90.00	230.00	320.00
23840.000	1.00	895.10	894.50	892.10	380.00	899.68	899.70	367.05	7.58	90.00	230.00	320.00
23840.000	1.00	895.10	894.50	892.10	430.00	899.75	899.77	393.11	7.65	90.00	230.00	320.00
23840.000	1.00	895.10	894.50	892.10	600.00	899.96	900.00	412.35	7.86	90.00	230.00	320.00
23843.000	3.00	895.10	894.50	892.10	240.00	899.43	899.43	344.29	7.33	90.00	230.00	320.00
23843.000	3.00	895.10	894.50	892.10	380.00	899.68	899.70	367.30	7.58	90.00	230.00	320.00
23843.000	3.00	895.10	894.50	892.10	430.00	899.75	899.77	393.41	7.65	90.00	230.00	320.00
23843.000	3.00	895.10	894.50	892.10	600.00	899.97	900.00	412.84	7.87	90.00	230.00	320.00
23844.000	1.00	0.00	0.00	892.10	240.00	899.42	899.43	374.49	7.32	90.00	230.00	320.00
23844.000	1.00	0.00	0.00	892.10	380.00	899.68	899.70	397.31	7.58	90.00	230.00	320.00
23844.000	1.00	0.00	0.00	892.10	430.00	899.75	899.77	403.63	7.65	90.00	230.00	320.00
23844.000	1.00	0.00	0.00	892.10	600.00	899.96	900.00	423.06	7.86	90.00	230.00	320.00
24009.000	165.00	0.00	0.00	892.00	240.00	899.43	899.44	320.77	7.43	80.00	320.00	400.00
24009.000	165.00	0.00	0.00	892.00	380.00	899.69	899.71	341.62	7.69	80.00	320.00	400.00
24009.000	165.00	0.00	0.00	892.00	430.00	899.76	899.78	347.22	7.76	80.00	320.00	400.00
24009.000	165.00	0.00	0.00	892.00	600.00	899.98	900.03	365.13	7.98	80.00	320.00	400.00
24010.000	1.00	895.50	895.60	892.00	240.00	899.43	899.44	312.87	7.43	80.00	320.00	400.00
24010.000	1.00	895.50	895.60	892.00	380.00	899.69	899.71	333.55	7.69	80.00	320.00	400.00
24010.000	1.00	895.50	895.60	892.00	430.00	899.76	899.78	339.09	7.76	80.00	320.00	400.00
24010.000	1.00	895.50	895.60	892.00	600.00	899.98	900.03	356.73	7.98	80.00	320.00	400.00
24014.000	4.00	895.50	895.60	892.00	240.00	899.43	899.44	313.00	7.43	80.00	320.00	400.00
24014.000	4.00	895.50	895.60	892.00	380.00	899.69	899.71	333.82	7.69	80.00	320.00	400.00
24014.000	4.00	895.50	895.60	892.00	430.00	899.76	899.79	339.40	7.76	80.00	320.00	400.00
24014.000	4.00	895.50	895.60	892.00	600.00	899.98	900.03	357.23	7.98	80.00	320.00	400.00
24015.000	1.00	0.00	0.00	892.00	240.00	899.43	899.44	320.76	7.43	80.00	320.00	400.00
24015.000	1.00	0.00	0.00	892.00	380.00	899.69	899.71	341.59	7.69	80.00	320.00	400.00
24015.000	1.00	0.00	0.00	892.00	430.00	899.76	899.79	347.18	7.76	80.00	320.00	400.00
24015.000	1.00	0.00	0.00	892.00	600.00	899.98	900.03	365.02	7.98	80.00	320.00	400.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
24064.000	49.00	0.00	0.00	891.80	240.00	899.43	899.44	354.91	7.63	76.00	280.00	356.00
24064.000	49.00	0.00	0.00	891.80	380.00	899.70	899.72	374.82	7.90	76.00	280.00	356.00
24064.000	49.00	0.00	0.00	891.80	430.00	899.77	899.79	380.19	7.97	76.00	280.00	356.00
24064.000	49.00	0.00	0.00	891.80	600.00	900.00	900.04	397.79	8.20	76.00	280.00	356.00
24065.000	1.00	894.00	895.00	891.80	240.00	899.43	899.44	345.12	7.63	76.00	280.00	356.00
24065.000	1.00	894.00	895.00	891.80	380.00	899.70	899.72	365.26	7.90	76.00	280.00	356.00
24065.000	1.00	894.00	895.00	891.80	430.00	899.77	899.79	370.72	7.97	76.00	280.00	356.00
24065.000	1.00	894.00	895.00	891.80	600.00	900.00	900.04	388.24	8.20	76.00	280.00	356.00
24070.000	5.00	894.00	895.00	891.80	240.00	899.43	899.44	345.12	7.63	76.00	280.00	356.00
24070.000	5.00	894.00	895.00	891.80	380.00	899.70	899.72	365.26	7.90	76.00	280.00	356.00
24070.000	5.00	894.00	895.00	891.80	430.00	899.77	899.79	370.72	7.97	76.00	280.00	356.00
24070.000	5.00	894.00	895.00	891.80	600.00	900.00	900.04	388.24	8.20	76.00	280.00	356.00
24071.000	1.00	0.00	0.00	891.80	240.00	899.43	899.44	355.13	7.63	76.00	280.00	356.00
24071.000	1.00	0.00	0.00	891.80	380.00	899.70	899.72	375.27	7.90	76.00	280.00	356.00
24071.000	1.00	0.00	0.00	891.80	430.00	899.77	899.79	380.74	7.97	76.00	280.00	356.00
24071.000	1.00	0.00	0.00	891.80	600.00	900.00	900.04	398.26	8.20	76.00	280.00	356.00
24179.000	108.00	0.00	0.00	891.70	240.00	899.44	899.45	434.55	7.74	95.00	235.00	330.00
24179.000	108.00	0.00	0.00	891.70	380.00	899.71	899.72	460.15	8.01	95.00	235.00	330.00
24179.000	108.00	0.00	0.00	891.70	430.00	899.79	899.80	467.16	8.09	95.00	235.00	330.00
24179.000	108.00	0.00	0.00	891.70	600.00	900.03	900.06	490.31	8.33	95.00	235.00	330.00
24180.000	1.00	894.00	895.10	891.70	240.00	899.44	899.45	415.05	7.74	95.00	235.00	330.00
24180.000	1.00	894.00	895.10	891.70	380.00	899.71	899.73	441.73	8.01	95.00	235.00	330.00
24180.000	1.00	894.00	895.10	891.70	430.00	899.79	899.80	448.87	8.09	95.00	235.00	330.00
24180.000	1.00	894.00	895.10	891.70	600.00	900.03	900.06	471.98	8.33	95.00	235.00	330.00
24185.000	5.00	894.00	895.10	891.70	240.00	899.44	899.45	415.06	7.74	95.00	235.00	330.00
24185.000	5.00	894.00	895.10	891.70	380.00	899.71	899.73	441.72	8.01	95.00	235.00	330.00
24185.000	5.00	894.00	895.10	891.70	430.00	899.79	899.80	448.85	8.09	95.00	235.00	330.00
24185.000	5.00	894.00	895.10	891.70	600.00	900.03	900.06	471.95	8.33	95.00	235.00	330.00
24186.000	1.00	0.00	0.00	891.70	240.00	899.44	899.45	434.75	7.74	95.00	235.00	330.00
24186.000	1.00	0.00	0.00	891.70	380.00	899.71	899.73	460.63	8.01	95.00	235.00	330.00
24186.000	1.00	0.00	0.00	891.70	430.00	899.79	899.80	467.75	8.09	95.00	235.00	330.00
24186.000	1.00	0.00	0.00	891.70	600.00	900.03	900.06	490.88	8.33	95.00	235.00	330.00
24339.000	153.00	0.00	0.00	890.00	240.00	899.44	899.45	328.75	9.44	100.00	375.00	475.00
24339.000	153.00	0.00	0.00	890.00	380.00	899.72	899.74	356.44	9.72	100.00	375.00	475.00
24339.000	153.00	0.00	0.00	890.00	430.00	899.79	899.82	364.14	9.79	100.00	375.00	475.00
24339.000	153.00	0.00	0.00	890.00	600.00	900.04	900.08	389.18	10.04	100.00	375.00	475.00
24340.000	1.00	896.30	895.00	890.00	240.00	899.44	899.45	316.81	9.44	100.00	375.00	475.00
24340.000	1.00	896.30	895.00	890.00	380.00	899.72	899.74	347.13	9.72	100.00	375.00	475.00
24340.000	1.00	896.30	895.00	890.00	430.00	899.79	899.82	356.76	9.79	100.00	375.00	475.00
24340.000	1.00	896.30	895.00	890.00	600.00	900.04	900.08	379.51	10.04	100.00	375.00	475.00
24380.000	40.00	896.30	895.50	890.50	240.00	899.44	899.45	320.04	8.94	100.00	375.00	475.00
24380.000	40.00	896.30	895.50	890.50	380.00	899.72	899.74	347.62	9.22	100.00	375.00	475.00
24380.000	40.00	896.30	895.50	890.50	430.00	899.80	899.82	355.27	9.30	100.00	375.00	475.00
24380.000	40.00	896.30	895.50	890.50	600.00	900.04	900.09	380.09	9.54	100.00	375.00	475.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
24381.000	1.00	0.00	0.00	890.50	240.00	899.45	899.45	326.56	9.95	100.00	375.00	475.00
24381.000	1.00	0.00	0.00	890.50	380.00	899.72	899.74	354.15	9.22	100.00	375.00	475.00
24381.000	1.00	0.00	0.00	890.50	430.00	899.80	899.82	361.80	9.30	100.00	375.00	475.00
24381.000	1.00	0.00	0.00	890.50	600.00	900.05	900.09	346.65	9.55	100.00	375.00	475.00
24455.000	74.00	0.00	0.00	892.50	240.00	899.46	899.46	941.59	6.96	200.00	300.00	500.00
24455.000	74.00	0.00	0.00	892.50	380.00	899.75	899.75	998.54	7.25	200.00	300.00	500.00
24455.000	74.00	0.00	0.00	892.50	430.00	899.83	899.83	1015.83	7.33	200.00	300.00	500.00
24455.000	74.00	0.00	0.00	892.50	600.00	900.10	900.11	1071.45	7.60	200.00	300.00	500.00
25350.000	895.00	0.00	0.00	895.40	240.00	899.48	899.50	299.52	4.08	163.26	41.52	204.78
25350.000	895.00	0.00	0.00	895.40	380.00	899.79	899.82	351.99	4.39	170.34	37.59	207.93
25350.000	895.00	0.00	0.00	895.40	430.00	899.89	899.92	367.85	4.49	172.42	36.43	208.85
25350.000	895.00	0.00	0.00	895.40	600.00	900.19	900.25	422.11	4.79	181.27	33.55	214.82
25700.000	350.00	0.00	0.00	896.50	240.00	899.61	899.62	725.35	3.11	491.30	200.00	691.30
25700.000	350.00	0.00	0.00	896.50	380.00	899.99	899.99	905.02	3.49	499.46	200.00	699.46
25700.000	350.00	0.00	0.00	896.50	430.00	900.10	900.10	962.13	3.60	512.50	200.00	712.50
25700.000	350.00	0.00	0.00	896.50	600.00	900.45	900.46	1157.24	3.95	563.28	200.00	763.28
25749.000	49.00	0.00	0.00	896.70	240.00	899.53	899.77	106.73	2.83	331.37	458.45	845.16
25749.000	49.00	0.00	0.00	896.70	380.00	899.97	900.06	293.51	3.27	515.16	384.41	900.00
25749.000	49.00	0.00	0.00	896.70	430.00	900.09	900.16	361.21	3.39	526.50	373.50	900.00
25749.000	49.00	0.00	0.00	896.70	600.00	900.46	900.50	559.36	3.76	552.22	347.78	900.00
25750.000	1.00	899.20	899.00	896.70	240.00	899.81	899.84	190.09	3.11	460.49	404.24	864.97
25750.000	1.00	899.20	899.00	896.70	380.00	900.05	900.08	312.30	3.35	523.72	376.28	900.00
25750.000	1.00	899.20	899.00	896.70	430.00	900.13	900.17	364.00	3.45	530.58	369.42	900.00
25750.000	1.00	899.20	899.00	896.70	600.00	900.49	900.51	546.62	3.79	554.15	345.85	900.00
25759.000	9.00	899.20	899.00	896.70	240.00	899.83	899.86	202.65	3.13	471.60	400.85	893.31
25759.000	9.00	899.20	899.00	896.70	380.00	900.06	900.09	321.67	3.36	525.01	374.99	900.00
25759.000	9.00	899.20	899.00	896.70	430.00	900.16	900.18	371.50	3.46	531.62	368.38	900.00
25759.000	9.00	899.20	899.00	896.70	600.00	900.49	900.51	553.27	3.79	554.99	345.01	900.00
25760.000	1.00	0.00	0.00	896.70	240.00	899.83	899.86	230.35	3.13	472.37	400.62	893.61
25760.000	1.00	0.00	0.00	896.70	380.00	900.06	900.09	347.15	3.36	524.63	375.37	900.00
25760.000	1.00	0.00	0.00	896.70	430.00	900.16	900.19	397.30	3.46	531.31	368.69	900.00
25760.000	1.00	0.00	0.00	896.70	600.00	900.49	900.51	577.74	3.79	554.54	345.46	900.00
25780.000	20.00	0.00	0.00	896.00	240.00	899.87	899.87	816.68	3.87	476.90	220.00	696.90
25780.000	20.00	0.00	0.00	896.00	380.00	900.10	900.10	926.00	4.10	492.47	220.00	712.47
25780.000	20.00	0.00	0.00	896.00	430.00	900.19	900.19	972.20	4.19	505.45	220.00	725.45
25780.000	20.00	0.00	0.00	896.00	600.00	900.51	900.52	1144.40	4.51	551.07	220.00	771.07
25822.000	42.00	902.50	899.10	896.00	240.00	902.39	902.44	216.80	6.39	313.22	437.65	940.00
25822.000	42.00	902.50	899.10	896.00	380.00	902.50	902.60	263.28	6.50	507.99	430.00	940.00
25822.000	42.00	902.50	899.10	896.00	430.00	902.52	902.65	273.00	6.52	510.00	430.00	940.00
25822.000	42.00	902.50	899.10	896.00	600.00	902.53	902.77	270.47	6.53	510.00	430.00	940.00
26700.000	878.00	0.00	0.00	899.70	240.00	902.64	902.65	313.71	2.94	270.00	160.00	430.00
26700.000	878.00	0.00	0.00	899.70	380.00	902.97	902.99	403.51	3.27	270.00	160.00	430.00
26700.000	878.00	0.00	0.00	899.70	430.00	903.08	903.10	431.97	3.38	270.00	160.00	430.00
26700.000	878.00	0.00	0.00	899.70	600.00	903.44	903.46	529.66	3.74	270.00	160.00	430.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	FC	AREA	DEPTH	TOPWID	SSTA	ENDST
	26900.000	200.00	0.00	0.00	900.50	240.00	902.87	902.89	252.08	2.37	300.02	141.98	442.00
	26900.000	200.00	0.00	0.00	900.50	380.00	903.21	903.23	355.37	2.71	307.00	135.00	442.00
	26900.000	200.00	0.00	0.00	900.50	430.00	903.32	903.34	388.36	2.82	307.00	135.00	442.00
	26900.000	200.00	0.00	0.00	900.50	600.00	903.67	903.69	495.64	3.17	307.00	135.00	442.00
	27000.000	100.00	0.00	0.00	900.80	240.00	903.12	903.16	165.14	2.32	234.23	144.77	379.00
	27000.000	100.00	0.00	0.00	900.80	380.00	903.43	903.48	260.15	2.63	251.23	127.77	379.00
	27000.000	100.00	0.00	0.00	900.80	430.00	903.53	903.58	285.55	2.73	256.73	122.27	379.00
	27000.000	100.00	0.00	0.00	900.80	600.00	903.85	903.91	368.67	3.05	257.00	122.00	379.00
	27050.000	50.00	0.00	0.00	901.00	240.00	903.31	903.36	172.30	2.31	220.70	145.30	366.00
	27050.000	50.00	0.00	0.00	901.00	380.00	903.61	903.66	239.71	2.61	232.00	134.00	366.00
	27050.000	50.00	0.00	0.00	901.00	430.00	903.70	903.76	261.79	2.70	232.00	134.00	366.00
	27050.000	50.00	0.00	0.00	901.00	600.00	904.01	904.07	332.41	3.01	232.00	134.00	366.00
	27075.000	25.00	0.00	0.00	901.10	240.00	903.42	903.48	188.32	2.32	219.00	186.00	405.00
	27075.000	25.00	0.00	0.00	901.10	380.00	903.71	903.76	251.72	2.61	219.00	186.00	405.00
	27075.000	25.00	0.00	0.00	901.10	430.00	903.80	903.85	272.06	2.70	219.00	186.00	405.00
	27075.000	25.00	0.00	0.00	901.10	600.00	904.10	904.16	336.64	3.00	219.00	186.00	405.00
	27088.000	13.00	0.00	0.00	901.20	240.00	903.46	903.52	161.42	2.26	212.00	160.00	372.00
	27088.000	13.00	0.00	0.00	901.20	380.00	903.75	903.82	222.04	2.55	212.00	160.00	372.00
	27088.000	13.00	0.00	0.00	901.20	430.00	903.84	903.91	243.63	2.64	212.00	160.00	372.00
	27088.000	13.00	0.00	0.00	901.20	600.00	904.13	904.22	305.64	2.93	212.00	160.00	372.00
*	27250.000	162.00	0.00	0.00	901.80	240.00	904.55	905.11	83.15	2.15	85.14	190.54	275.68
*	27250.000	162.00	0.00	0.00	901.80	380.00	905.03	905.52	102.23	3.23	117.87	178.99	296.86
*	27250.000	162.00	0.00	0.00	901.80	430.00	905.14	905.63	114.94	3.34	126.70	175.87	302.57
*	27250.000	162.00	0.00	0.00	901.80	600.00	905.42	905.95	154.09	3.62	150.70	167.40	318.10
	27410.000	160.00	0.00	0.00	902.40	240.00	906.00	906.17	102.41	3.60	74.98	250.01	324.99
	27410.000	160.00	0.00	0.00	902.40	380.00	906.43	906.64	143.00	4.03	104.00	224.00	328.00
	27410.000	160.00	0.00	0.00	902.40	430.00	906.56	906.78	156.13	4.16	104.00	224.00	328.00
	27410.000	160.00	0.00	0.00	902.40	600.00	906.93	907.19	194.40	4.53	104.00	224.00	328.00
	27440.000	30.00	0.00	0.00	902.50	240.00	906.12	906.28	100.06	3.62	62.81	248.19	311.00
	27440.000	30.00	0.00	0.00	902.50	380.00	906.55	906.77	133.24	4.05	89.00	222.00	311.00
	27440.000	30.00	0.00	0.00	902.50	430.00	906.68	906.92	145.24	4.18	89.00	222.00	311.00
	27440.000	30.00	0.00	0.00	902.50	600.00	907.06	907.35	178.64	4.56	89.00	222.00	311.00
	27470.000	30.00	0.00	0.00	902.60	240.00	906.23	906.39	94.07	3.63	55.77	247.23	303.00
	27470.000	30.00	0.00	0.00	902.60	380.00	906.69	906.92	126.33	4.09	74.00	229.00	303.00
	27470.000	30.00	0.00	0.00	902.60	430.00	906.82	907.07	136.31	4.22	74.00	229.00	303.00
	27470.000	30.00	0.00	0.00	902.60	600.00	907.21	907.54	165.53	4.61	74.00	229.00	303.00
	27500.000	30.00	0.00	0.00	902.80	240.00	906.31	906.58	70.66	3.51	36.59	250.41	287.00
	27500.000	30.00	0.00	0.00	902.80	380.00	906.78	907.10	92.81	3.98	59.00	228.00	287.00
	27500.000	30.00	0.00	0.00	902.80	430.00	906.91	907.36	100.76	4.11	59.00	228.00	287.00
	27500.000	30.00	0.00	0.00	902.80	600.00	907.31	907.89	124.08	4.51	59.00	228.00	287.00
	27510.000	10.00	0.00	0.00	902.80	240.00	906.31	906.62	67.64	3.51	34.57	250.43	285.00
	27510.000	10.00	0.00	0.00	902.80	380.00	906.76	907.36	87.63	3.96	54.00	231.00	285.00
	27510.000	10.00	0.00	0.00	902.80	430.00	906.88	907.46	94.51	4.08	54.00	231.00	285.00
	27510.000	10.00	0.00	0.00	902.80	600.00	907.25	908.02	114.30	4.45	54.00	231.00	285.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
27532.000	22.00	909.90	906.80	902.80	240.00	910.47	910.49	269.49	7.67	54.00	305.00	359.00
27532.000	22.00	909.90	906.80	902.80	380.00	911.07	911.11	300.94	8.27	54.00	305.00	359.00
27532.000	22.00	909.90	906.80	902.80	430.00	911.24	911.29	310.35	8.44	54.00	305.00	359.00
27532.000	22.00	909.90	906.80	902.80	600.00	911.77	911.84	338.82	8.97	54.00	305.00	359.00
27590.000	58.00	0.00	0.00	904.70	240.00	910.43	910.55	88.96	5.73	25.00	0.00	25.00
27590.000	58.00	0.00	0.00	904.70	380.00	910.98	911.21	102.77	6.28	25.00	0.00	25.00
27590.000	58.00	0.00	0.00	904.70	430.00	911.14	911.41	106.72	6.44	25.00	0.00	25.00
27590.000	58.00	0.00	0.00	904.70	600.00	911.61	912.04	118.41	6.91	25.00	0.00	25.00
27640.000	50.00	0.00	0.00	903.80	240.00	910.45	910.63	83.41	6.65	31.46	256.72	288.18
27640.000	50.00	0.00	0.00	903.80	380.00	911.04	911.33	102.65	7.24	35.47	254.63	290.09
27640.000	50.00	0.00	0.00	903.80	430.00	911.21	911.54	109.13	7.41	36.72	253.97	290.69
27640.000	50.00	0.00	0.00	903.80	600.00	911.73	912.18	129.22	7.93	40.35	252.08	292.43
27732.000	92.00	912.00	910.70	904.70	240.00	912.53	912.59	159.64	7.83	94.95	200.00	294.95
27732.000	92.00	912.00	910.70	904.70	380.00	912.98	913.06	203.17	8.28	104.70	200.00	304.70
27732.000	92.00	912.00	910.70	904.70	430.00	913.10	913.19	216.03	8.40	110.58	200.00	310.58
27732.000	92.00	912.00	910.70	904.70	600.00	913.42	913.55	254.78	8.72	126.64	200.00	326.64
28110.000	378.00	0.00	0.00	907.00	68.00	912.67	912.69	81.45	5.67	30.48	3.52	34.00
28110.000	378.00	0.00	0.00	907.00	87.00	913.19	913.20	97.35	6.19	31.37	2.63	34.00
28110.000	378.00	0.00	0.00	907.00	123.00	913.33	913.36	101.93	6.33	31.62	2.38	34.00
28110.000	378.00	0.00	0.00	907.00	164.00	913.74	913.78	114.96	6.74	32.33	1.67	34.00
28135.000	25.00	0.00	0.00	907.80	68.00	912.67	912.70	51.71	4.87	19.00	10.00	29.00
28135.000	25.00	0.00	0.00	907.80	87.00	913.18	913.22	61.49	5.38	19.00	10.00	29.00
28135.000	25.00	0.00	0.00	907.80	123.00	913.32	913.36	65.99	5.52	19.00	10.00	29.00
28135.000	25.00	0.00	0.00	907.80	164.00	913.72	913.81	71.59	5.92	19.00	10.00	29.00
28147.000	12.00	0.00	0.00	908.20	68.00	912.66	912.72	36.35	4.46	13.00	13.00	26.00
28147.000	12.00	0.00	0.00	908.20	87.00	913.17	913.24	41.00	4.97	13.00	13.00	26.00
28147.000	12.00	0.00	0.00	908.20	123.00	913.30	913.40	42.55	5.10	13.00	13.00	26.00
28147.000	12.00	0.00	0.00	908.20	164.00	913.69	913.87	47.61	5.49	13.00	13.00	26.00
28159.000	12.00	0.00	0.00	908.60	68.00	912.62	912.70	21.14	4.02	6.00	200.00	206.00
28159.000	12.00	0.00	0.00	908.60	87.00	913.12	913.32	24.11	4.52	6.00	200.00	206.00
28159.000	12.00	0.00	0.00	908.60	123.00	913.19	913.58	24.57	4.59	6.00	200.00	206.00
28159.000	12.00	0.00	0.00	908.60	164.00	913.52	914.11	26.51	4.92	6.00	200.00	206.00
28160.000	1.00	916.00	914.60	908.60	68.00	912.62	912.79	20.12	4.02	6.00	200.00	206.00
28160.000	1.00	916.00	914.60	908.60	87.00	913.11	913.34	22.57	4.51	6.00	200.00	206.00
28160.000	1.00	916.00	914.60	908.60	123.00	913.17	913.62	22.85	4.57	6.00	200.00	206.00
28160.000	1.00	916.00	914.60	908.60	164.00	913.47	914.18	24.36	4.87	6.00	200.00	206.00
28275.000	115.00	916.00	915.70	909.70	68.00	913.02	913.28	16.62	3.82	6.00	200.00	206.00
28275.000	115.00	916.00	915.70	909.70	87.00	913.59	913.90	19.46	3.59	6.00	200.00	206.00
28275.000	115.00	916.00	915.70	909.70	123.00	914.05	914.55	21.76	4.35	6.00	200.00	206.00
28275.000	115.00	916.00	915.70	909.70	164.00	914.78	915.43	25.36	5.08	6.00	200.00	206.00
28276.000	1.00	0.00	0.00	909.70	68.00	913.04	913.29	17.02	5.34	6.00	200.00	206.00
28276.000	1.00	0.00	0.00	909.70	87.00	913.64	913.92	20.65	5.96	6.00	200.00	206.00
28276.000	1.00	0.00	0.00	909.70	123.00	914.16	914.58	23.79	6.46	6.00	200.00	206.00
28276.000	1.00	0.00	0.00	909.70	164.00	914.97	915.43	28.61	5.27	6.00	200.00	206.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	SS	AREA	DEPTH	TOPWID	SSTA	ENDST
	28310.000	34.00	0.00	0.00	909.90	68.00	913.36	913.39	53.56	3.46	24.57	32.14	56.72
	28310.000	34.00	0.00	0.00	909.90	87.00	913.99	914.01	69.87	4.09	27.23	31.08	58.31
	28310.000	34.00	0.00	0.00	909.90	123.00	914.69	914.72	89.94	4.79	30.19	29.90	60.08
	28310.000	34.00	0.00	0.00	909.90	164.00	915.61	915.64	119.56	5.71	34.09	28.34	62.42
	28396.000	86.00	0.00	0.00	910.40	68.00	913.39	913.43	42.05	2.99	20.74	39.67	60.41
	28396.000	86.00	0.00	0.00	910.40	87.00	914.01	914.05	55.73	3.61	23.20	38.55	61.76
	28396.000	86.00	0.00	0.00	910.40	123.00	914.71	914.75	72.68	4.31	25.97	37.31	63.28
	28396.000	86.00	0.00	0.00	910.40	164.00	915.62	915.67	98.37	5.22	29.60	35.67	65.27
	28482.000	86.00	0.00	0.00	911.00	68.00	913.43	913.55	24.77	2.43	17.16	45.48	62.64
	28482.000	86.00	0.00	0.00	911.00	87.00	914.04	914.13	35.98	3.04	19.72	44.35	64.07
	28482.000	86.00	0.00	0.00	911.00	123.00	914.74	914.83	50.73	3.74	22.64	43.05	65.70
	28482.000	86.00	0.00	0.00	911.00	164.00	915.64	915.72	73.45	4.64	26.37	39.46	67.83
	28525.000	43.00	0.00	0.00	911.30	68.00	913.51	914.07	11.67	2.21	10.21	52.02	62.22
	28525.000	43.00	0.00	0.00	911.30	87.00	914.01	914.42	16.98	2.71	12.53	51.34	63.86
	28525.000	43.00	0.00	0.00	911.30	123.00	914.71	915.03	26.85	3.41	15.75	50.39	66.15
	28525.000	43.00	0.00	0.00	911.30	164.00	915.63	915.85	44.46	4.33	23.95	45.19	69.14
	28568.000	43.00	0.00	0.00	911.50	68.00	914.33	914.52	19.03	2.83	13.47	52.35	65.82
	28568.000	43.00	0.00	0.00	911.50	87.00	914.51	914.76	21.61	3.01	14.35	51.98	66.33
	28568.000	43.00	0.00	0.00	911.50	123.00	915.00	915.27	29.19	3.50	16.68	51.00	67.68
	28568.000	43.00	0.00	0.00	911.50	164.00	915.74	915.96	44.45	4.24	24.56	45.19	69.73
	28655.000	87.00	0.00	0.00	912.10	68.00	914.76	914.99	16.32	2.53	14.82	56.58	71.40
	28655.000	87.00	0.00	0.00	912.10	87.00	915.00	915.26	22.26	2.78	16.98	55.28	72.26
	28655.000	87.00	0.00	0.00	912.10	123.00	915.44	915.72	30.53	3.34	20.80	52.98	73.77
	28655.000	87.00	0.00	0.00	912.10	164.00	916.01	916.24	46.71	3.91	37.19	49.96	87.15
	28665.000	10.00	0.00	0.00	912.30	68.00	914.80	915.08	16.28	2.50	13.56	57.34	70.90
	28665.000	10.00	0.00	0.00	912.30	87.00	915.04	915.36	19.82	2.74	15.67	56.07	71.74
	28665.000	10.00	0.00	0.00	912.30	123.00	915.47	915.82	27.29	3.17	19.38	53.83	73.21
	28665.000	10.00	0.00	0.00	912.30	164.00	916.01	916.32	40.10	3.71	31.21	50.98	82.18
	28675.000	10.00	0.00	0.00	912.60	68.00	914.83	915.27	12.83	2.23	11.13	58.81	69.94
	28675.000	10.00	0.00	0.00	912.60	87.00	915.05	915.56	15.59	2.45	13.11	57.61	70.72
	28675.000	10.00	0.00	0.00	912.60	123.00	915.46	916.01	21.94	2.86	16.81	55.38	72.19
	28675.000	10.00	0.00	0.00	912.60	164.00	916.01	916.46	32.08	3.41	21.63	52.59	74.21
	28685.000	10.00	0.00	0.00	912.80	68.00	914.95	915.46	11.96	2.15	10.42	59.24	69.66
	28685.000	10.00	0.00	0.00	912.80	87.00	915.18	915.75	14.48	2.38	12.35	58.07	70.42
	28685.000	10.00	0.00	0.00	912.80	123.00	915.57	916.19	20.30	2.77	15.94	55.91	71.85
	28685.000	10.00	0.00	0.00	912.80	164.00	916.06	916.60	29.22	3.26	20.24	53.31	73.55
	28695.000	10.00	0.00	0.00	913.00	68.00	915.12	915.65	11.64	2.12	10.15	59.40	69.55
	28695.000	10.00	0.00	0.00	913.00	87.00	915.34	915.95	14.12	2.34	12.09	58.23	70.32
*	28695.000	10.00	0.00	0.00	913.00	123.00	915.72	916.39	19.37	2.72	15.42	56.22	71.64
	28695.000	10.00	0.00	0.00	913.00	164.00	916.13	916.79	26.40	3.13	19.02	54.05	73.07
*	28705.000	10.00	0.00	0.00	913.30	68.00	915.34	915.96	10.95	2.04	9.53	59.77	69.30
*	28705.000	10.00	0.00	0.00	913.30	87.00	915.60	916.24	13.71	2.30	11.79	58.41	70.20
*	28705.000	10.00	0.00	0.00	913.30	123.00	916.01	916.69	19.26	2.71	15.37	56.25	71.62
*	28705.000	10.00	0.00	0.00	913.30	164.00	916.37	917.06	25.35	3.07	18.50	54.36	72.86

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	ES	AREA	DEPTH	TOPWID	SSTA	ENDST
	28715.000	10.00	0.00	0.00	913.50	68.00	915.75	916.17	13.18	2.25	11.59	58.65	70.04
	28715.000	10.00	0.00	0.00	913.50	87.00	915.82	916.45	13.86	2.32	11.91	58.34	70.25
*	28715.000	10.00	0.00	0.00	913.50	123.00	916.21	916.89	19.26	2.71	15.36	56.26	71.62
*	28715.000	10.00	0.00	0.00	913.50	164.00	916.57	917.26	25.21	3.07	17.84	55.00	72.84
	28727.000	12.00	0.00	0.00	913.80	68.00	915.87	916.44	11.24	2.07	9.79	59.61	69.41
*	28727.000	12.00	0.00	0.00	913.80	87.00	916.12	916.74	13.87	2.32	11.91	58.34	70.25
*	28727.000	12.00	0.00	0.00	913.80	123.00	916.48	917.19	18.51	2.68	13.50	58.00	71.50
*	28727.000	12.00	0.00	0.00	913.80	164.00	916.79	917.52	22.97	2.99	14.60	58.00	72.60
	28739.000	12.00	0.00	0.00	914.10	68.00	916.33	916.67	14.43	2.23	10.11	93.88	103.99
	28739.000	12.00	0.00	0.00	914.10	87.00	916.57	916.98	17.09	2.47	11.45	92.79	104.25
	28739.000	12.00	0.00	0.00	914.10	123.00	916.94	917.43	21.75	2.84	13.51	91.13	104.63
	28739.000	12.00	0.00	0.00	914.10	164.00	917.27	917.87	26.43	3.17	14.97	90.00	104.97
	28740.000	1.00	918.00	919.80	914.10	68.00	916.34	916.68	14.59	2.24	10.19	93.81	104.01
	28740.000	1.00	918.00	919.80	914.10	87.00	916.59	916.99	17.28	2.49	11.55	92.71	104.26
	28740.000	1.00	918.00	919.80	914.10	123.00	916.95	917.44	21.83	2.85	13.54	91.10	104.64
	28740.000	1.00	918.00	919.80	914.10	164.00	917.30	917.88	26.70	3.20	14.99	90.00	104.99
	28746.000	6.00	918.00	919.80	914.10	68.00	916.39	916.71	15.03	2.29	10.43	93.62	104.05
	28746.000	6.00	918.00	919.80	914.10	87.00	916.66	917.03	18.20	2.56	12.03	92.33	104.35
	28746.000	6.00	918.00	919.80	914.10	123.00	917.06	917.49	23.35	2.96	14.14	90.61	104.75
	28746.000	6.00	918.00	919.80	914.10	164.00	917.45	917.94	29.14	3.35	16.02	90.00	106.82
	28747.000	1.00	0.00	0.00	914.10	68.00	916.41	916.72	15.17	2.31	10.50	93.56	104.07
	28747.000	1.00	0.00	0.00	914.10	87.00	916.65	917.03	18.35	2.58	12.03	92.31	104.36
	28747.000	1.00	0.00	0.00	914.10	123.00	917.07	917.50	23.40	2.97	14.18	90.60	104.76
	28747.000	1.00	0.00	0.00	914.10	164.00	917.47	917.95	29.45	3.37	17.02	90.00	107.02
	28847.000	100.00	0.00	0.00	914.90	68.00	917.28	917.62	14.61	2.38	12.44	58.02	70.46
	28847.000	100.00	0.00	0.00	914.90	87.00	917.55	917.92	18.32	2.65	14.32	56.58	71.40
	28847.000	100.00	0.00	0.00	914.90	123.00	917.98	918.37	25.55	3.08	16.58	54.31	72.89
	28847.000	100.00	0.00	0.00	914.90	164.00	918.40	918.80	34.11	3.50	24.34	52.12	76.50
	28947.000	100.00	0.00	0.00	915.70	68.00	918.22	918.50	16.45	2.52	13.67	57.27	70.95
	28947.000	100.00	0.00	0.00	915.70	87.00	918.45	918.77	19.93	2.75	15.74	56.03	71.77
	28947.000	100.00	0.00	0.00	915.70	123.00	918.80	919.13	25.97	3.10	18.79	54.19	72.98
	28947.000	100.00	0.00	0.00	915.70	164.00	919.13	919.56	32.59	3.43	22.33	52.47	74.80
	29047.000	100.00	0.00	0.00	916.40	68.00	918.95	919.21	16.90	2.55	13.95	57.10	71.04
	29047.000	100.00	0.00	0.00	916.40	87.00	919.20	919.50	20.71	2.80	16.16	55.77	71.93
	29047.000	100.00	0.00	0.00	916.40	123.00	919.59	919.92	27.60	3.19	19.62	53.69	73.31
	29047.000	100.00	0.00	0.00	916.40	164.00	919.92	920.31	34.77	3.52	25.21	51.98	77.20
	29083.000	36.00	0.00	0.00	916.70	68.00	919.20	919.48	16.30	2.50	13.57	57.33	70.91
	29083.000	36.00	0.00	0.00	916.70	87.00	919.45	919.77	19.96	2.75	15.75	56.02	71.77
	29083.000	36.00	0.00	0.00	916.70	123.00	919.83	920.20	26.42	3.13	19.00	54.06	73.06
	29083.000	36.00	0.00	0.00	916.70	164.00	920.16	920.58	33.30	3.46	23.32	52.30	75.62
	29119.000	36.00	0.00	0.00	916.90	68.00	919.50	919.74	17.54	2.60	14.35	56.86	71.22
	29119.000	36.00	0.00	0.00	916.90	87.00	919.75	920.02	21.51	2.85	16.59	55.52	72.10
	29119.000	36.00	0.00	0.00	916.90	123.00	920.15	920.46	28.73	3.25	20.03	53.44	73.47
	29119.000	36.00	0.00	0.00	916.90	164.00	920.46	920.84	36.26	3.58	27.00	51.68	78.68

SECNO	XLCH	ELTRC	ELLC	ELMIN	D	CWSEL	EC	AREA	DEPTH	TOPWID	SSTA	ENDST
29131.000	12.00	0.00	0.00	917.00	68.00	919.57	919.82	17.19	2.57	13.16	58.00	71.16
29131.000	12.00	0.00	0.00	917.00	87.00	919.82	920.11	20.58	2.82	14.02	58.00	72.02
29131.000	12.00	0.00	0.00	917.00	123.00	920.20	920.56	26.04	3.20	15.31	58.00	73.31
29131.000	12.00	0.00	0.00	917.00	164.00	920.51	920.97	31.13	3.51	16.00	58.00	76.00
29143.000	12.00	0.00	0.00	917.10	68.00	919.64	919.92	16.05	2.54	11.04	60.00	71.04
29143.000	12.00	0.00	0.00	917.10	87.00	919.89	920.22	18.95	2.79	11.92	60.00	71.92
29143.000	12.00	0.00	0.00	917.10	125.00	920.26	920.69	23.28	3.16	12.00	60.00	72.00
29143.000	12.00	0.00	0.00	917.10	164.00	920.55	921.13	26.82	3.45	12.00	60.00	72.00
29149.000	6.00	0.00	0.00	917.10	68.00	919.63	920.05	13.02	2.53	8.50	61.50	70.00
29149.000	6.00	0.00	0.00	917.10	87.00	919.95	920.38	14.94	2.75	8.50	61.50	70.00
29149.000	6.00	0.00	0.00	917.10	123.00	920.17	920.92	17.64	3.07	8.50	61.50	70.00
29149.000	6.00	0.00	0.00	917.10	164.00	920.38	921.48	19.51	3.28	8.50	61.50	70.00
29154.000	5.00	0.00	0.00	917.30	29.00	920.12	920.18	13.94	2.82	6.00	265.00	271.00
29154.000	5.00	0.00	0.00	917.30	38.00	920.45	920.54	15.91	3.15	6.00	265.00	271.00
29154.000	5.00	0.00	0.00	917.30	51.00	921.05	921.15	19.47	3.75	6.00	265.00	271.00
29154.000	5.00	0.00	0.00	917.30	67.00	921.68	921.81	23.29	4.38	6.00	265.00	271.00
29155.000	1.00	928.80	923.30	917.30	29.00	920.12	920.18	13.94	2.82	6.00	265.00	271.00
29155.000	1.00	928.80	923.30	917.30	38.00	920.45	920.54	15.80	3.15	6.00	265.00	271.00
29155.000	1.00	928.80	923.30	917.30	51.00	921.04	921.16	18.75	3.74	6.00	265.00	271.00
29155.000	1.00	928.80	923.30	917.30	67.00	921.68	921.82	21.94	4.38	6.00	265.00	271.00
29281.000	126.00	928.80	924.10	918.10	29.00	920.32	920.44	10.33	2.22	6.00	265.00	271.00
29281.000	126.00	928.80	924.10	918.10	38.00	920.71	920.85	12.45	2.61	6.00	265.00	271.00
29281.000	126.00	928.80	924.10	918.10	51.00	921.34	921.49	16.19	3.24	6.00	265.00	271.00
29281.000	126.00	928.80	924.10	918.10	67.00	922.01	922.19	19.53	3.91	6.00	265.00	271.00
29282.000	1.00	0.00	0.00	918.10	29.00	920.33	920.45	10.35	2.23	6.00	265.00	271.00
29282.000	1.00	0.00	0.00	918.10	38.00	920.71	920.85	12.57	2.61	6.00	265.00	271.00
29282.000	1.00	0.00	0.00	918.10	51.00	921.35	921.50	16.45	3.25	6.00	265.00	271.00
29282.000	1.00	0.00	0.00	918.10	67.00	922.04	922.20	20.63	3.94	6.00	265.00	271.00
29300.000	18.00	0.00	0.00	918.50	29.00	920.46	920.54	12.51	1.96	10.56	21.71	32.27
29300.000	18.00	0.00	0.00	918.50	38.00	920.86	920.94	17.09	2.36	12.03	21.03	33.06
29300.000	18.00	0.00	0.00	918.50	51.00	921.51	921.57	25.66	3.01	14.40	19.94	34.34
29300.000	18.00	0.00	0.00	918.50	67.00	922.22	922.27	36.91	3.72	16.99	18.74	35.73
29392.000	92.00	0.00	0.00	919.00	29.00	920.89	920.98	11.72	1.89	10.28	21.84	32.12
29392.000	92.00	0.00	0.00	919.00	38.00	921.19	921.29	15.11	2.19	11.42	21.32	32.73
29392.000	92.00	0.00	0.00	919.00	51.00	921.72	921.80	21.56	2.72	13.32	20.44	33.76
29392.000	92.00	0.00	0.00	919.00	67.00	922.35	922.43	30.79	3.35	15.64	19.36	35.01
29484.000	92.00	0.00	0.00	919.50	29.00	921.37	921.47	11.51	1.87	10.24	21.86	32.10
29484.000	92.00	0.00	0.00	919.50	38.00	921.63	921.74	16.34	2.13	11.17	21.43	32.60
29484.000	92.00	0.00	0.00	919.50	51.00	922.03	922.14	19.14	2.53	12.64	20.75	33.39
29484.000	92.00	0.00	0.00	919.50	67.00	922.56	922.66	26.40	3.06	14.58	19.85	34.44
29576.000	92.00	0.00	0.00	920.10	29.00	921.90	922.01	10.89	1.80	9.98	21.98	31.96
29576.000	92.00	0.00	0.00	920.10	38.00	922.14	922.26	13.55	2.04	10.34	21.56	32.42
29576.000	92.00	0.00	0.00	920.10	51.00	922.46	922.60	17.08	2.36	12.03	21.03	33.06
29576.000	92.00	0.00	0.00	920.10	67.00	922.89	923.02	22.49	2.79	13.57	20.32	33.89

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	SS	AREA	DEPTH	TOPWID	SSTA	ENDST
*	29669.000	93.00	0.00	0.00	920.60	29.00	922.90	923.26	7.53	2.30	11.45	28.67	40.12
	29669.000	93.00	0.00	0.00	920.60	38.00	923.10	923.45	9.88	2.50	13.93	27.53	41.46
	29669.000	93.00	0.00	0.00	920.60	51.00	923.34	923.66	13.83	2.74	18.01	25.98	43.99
	29669.000	93.00	0.00	0.00	920.60	67.00	923.61	923.86	19.57	3.01	26.85	23.44	50.29
	29670.000	1.00	0.00	0.00	920.60	29.00	923.15	923.33	10.77	2.55	14.76	27.15	41.91
	29670.000	1.00	0.00	0.00	920.60	38.00	923.36	923.53	14.16	2.76	18.55	25.87	44.42
	29670.000	1.00	0.00	0.00	920.60	51.00	923.56	923.72	18.59	2.96	25.34	24.03	49.37
	29670.000	1.00	0.00	0.00	920.60	67.00	923.71	923.90	22.41	3.11	30.78	21.90	52.68
	29689.000	19.00	923.00	922.60	920.60	29.00	923.62	923.65	24.82	3.02	29.30	21.17	50.48
	29689.000	19.00	923.00	922.60	920.60	38.00	923.75	923.79	29.02	3.15	33.75	20.06	53.81
	29689.000	19.00	923.00	922.60	920.60	51.00	923.89	923.94	34.10	3.29	38.44	18.89	57.33
	29689.000	19.00	923.00	922.60	920.60	67.00	924.02	924.08	39.61	3.42	42.57	17.65	60.22
	29690.000	1.00	0.00	0.00	920.60	29.00	923.63	923.65	25.06	3.03	29.57	21.11	50.68
	29690.000	1.00	0.00	0.00	920.60	38.00	923.77	923.79	29.29	3.17	34.01	20.00	54.01
	29690.000	1.00	0.00	0.00	920.60	51.00	923.91	923.94	34.41	3.31	38.70	18.82	57.53
	29690.000	1.00	0.00	0.00	920.60	67.00	924.04	924.06	39.69	3.46	42.80	17.50	60.31
	29860.000	170.00	0.00	0.00	921.10	9.00	923.74	923.75	15.10	2.64	21.74	24.36	46.10
	29860.000	170.00	0.00	0.00	921.10	15.00	923.89	923.91	18.59	2.79	23.90	23.10	47.00
	29860.000	170.00	0.00	0.00	921.10	17.00	924.05	924.08	22.64	2.95	25.00	22.00	47.00
	29860.000	170.00	0.00	0.00	921.10	21.00	924.21	924.24	26.61	3.11	25.00	22.00	47.00
	29876.000	16.00	924.80	923.10	921.10	9.00	923.91	923.96	5.23	2.81	2.00	65.00	67.00
	29876.000	16.00	924.80	923.10	921.10	15.00	924.42	924.51	6.24	3.32	2.00	65.00	67.00
	29876.000	16.00	924.80	923.10	921.10	17.00	924.81	924.84	16.05	5.71	10.56	61.23	71.79
	29876.000	16.00	924.80	923.10	921.10	21.00	925.93	926.98	13.16	3.83	24.99	61.01	86.00
	29920.000	44.00	0.00	0.00	922.40	9.00	923.93	924.00	4.15	1.53	3.00	230.00	233.00
	29920.000	44.00	0.00	0.00	922.40	15.00	924.46	924.56	5.72	2.06	3.00	230.00	233.00
	29920.000	44.00	0.00	0.00	922.40	17.00	924.79	924.89	6.76	2.39	3.00	230.00	233.00
	29920.000	44.00	0.00	0.00	922.40	21.00	924.91	925.05	7.12	2.51	3.00	230.00	233.00
	29944.000	24.00	926.20	924.20	922.40	9.00	923.98	924.06	3.91	1.58	3.00	230.00	233.00
	29944.000	24.00	926.20	924.20	922.40	15.00	925.16	925.21	7.85	2.76	3.00	230.00	233.00
	29944.000	24.00	926.20	924.20	922.40	17.00	925.72	925.77	9.54	3.32	3.00	230.00	233.00
	29944.000	24.00	926.20	924.20	922.40	21.00	926.30	926.30	65.24	3.90	31.35	220.00	251.35
	29970.000	26.00	0.00	0.00	922.10	9.00	924.10	924.11	12.58	2.00	9.87	209.01	218.87
	29970.000	26.00	0.00	0.00	922.10	15.00	925.23	925.24	25.67	3.13	13.20	206.39	219.58
	29970.000	26.00	0.00	0.00	922.10	17.00	925.78	925.79	33.38	3.68	14.81	205.12	219.93
	29970.000	26.00	0.00	0.00	922.10	21.00	926.30	926.30	43.03	4.20	24.66	203.93	228.59
*	30250.000	280.00	0.00	0.00	923.90	9.00	924.63	924.84	2.45	.73	6.16	211.92	218.08
	30250.000	280.00	0.00	0.00	923.90	15.00	925.31	925.33	7.32	1.41	8.15	210.36	218.51
	30250.000	280.00	0.00	0.00	923.90	17.00	925.83	925.86	11.94	1.95	9.67	209.16	218.83
	30250.000	280.00	0.00	0.00	923.90	21.00	926.33	926.36	17.17	2.63	11.15	208.00	219.15

SUMMARY OF ERRORS

CAUTION SECNO= 8669.000 PROFILE= 1 CRITICAL DEPTH ASSUMED

00BREAK00

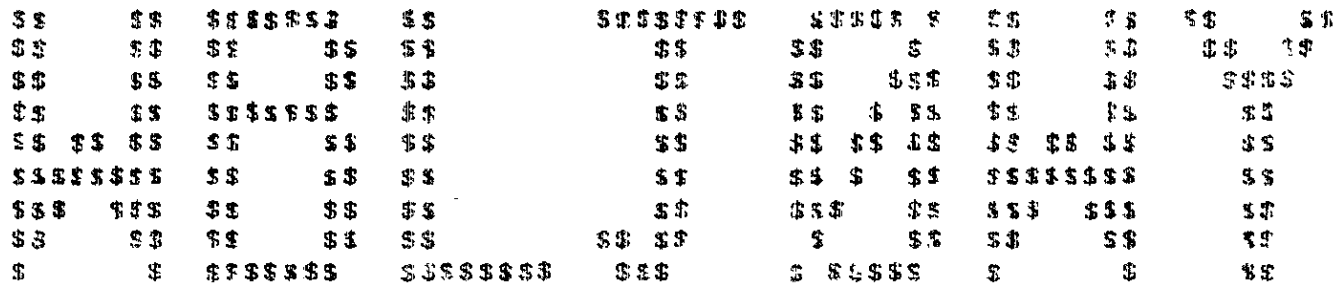
1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP.

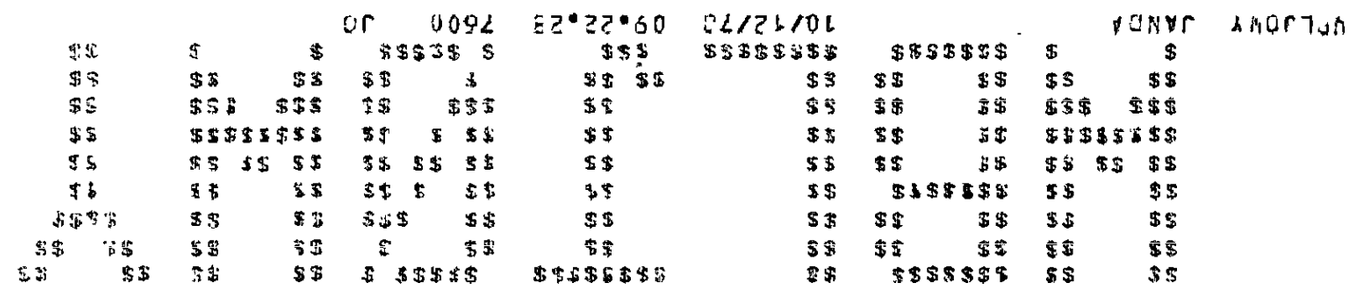
3) WATERCOURSE: WALNUT LAKE OUTLET

4) DOCUMENT TYPE: 100YR NATURAL

00BREAK00



W. BLOOMFIELD TWP. F15
_1&A FILE NO. 5850-10
WALNUT LAKE - OUTLET
4 FLOW HEC-2
"NATURAL FLOODWAY"
"FINAL MODEL"


VPLJOWY JANDA
10/12/73 09.22.23 7600 JO

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**** 7000 SCOPE 2.1 LVL  221  09/21/78  22.46.56  10/12/78      78285

SYS DEVICES 819/ 4/PF FLS=200K FLL=764K MXS=160K MXL=453K MXB=453B

HH.MM.SS CPU SECOND ORIGIN
          09.17.45.MFA. JO    LV461 NOSBE B+W LYNRELEASE447 02/04/78
09.22.27 00000.009 MFZ.      -WBLJO10,T20,STMFZ.   W. BLOOMFIELD TWP. FIS
09.22.27 00000.025 USR.       CHARGE.810-0037-45-78-5810,JANDA,001,D,JANDA.
09.22.28 00000.061 JOB.      -ATTACH,LGO,HEC2N76V2,ID=HEC.
09.22.28 00000.066 MFZ.         PF254 - CYCLE    1 ATTACHED FROM SN=SYSTEM
09.22.28 00000.067 LOD.      -LGO(PL=999999).
09.22.30 00000.892 MFZ.         LD610 - FLS REQUIRED TO LOAD - 0027777 OU.COC
09.22.30 00000.895 MFZ.         LD603 - EXECUTION INITIATED OS.EXP
09.22.30 00000.896 USR.        FORTRAN LIBRARY 439          08/20/78
09.22.36 00003.304 USR.           STOP
09.22.36 00003.304 USR.            2.407 CP SECONDS EXECUTION TIME
09.22.36 00003.309 MFZ.         RM770 - MAXIMUM ACTIVE FILES                  7
09.22.36 00003.309 MFZ.         RM771 - OPEN/CLOSE CALLS                     50
09.22.36 00003.309 MFZ.         RM772 - DATA TRANSFER CALLS               6,902
09.22.36 00003.309 MFZ.         RM773 - CONTROL/POSITIONING CALLS            66
09.22.36 00003.310 MFZ.         RM774 - BM DATA TRANSFER CALLS              500
09.22.36 00003.310 MFZ.         RM775 - BM CONTROL/POSITIONING CALLS         63
09.22.36 00003.310 MFZ.         RM776 - QUEUE MANAGER CALLS                 113
09.22.36 00003.310 MFZ.         RM777 - RECALL CALLS                         77
09.22.36 00003.310 MFZ.         BWMSC - NUMBER OF TAPES MOUNTED
09.22.36 00003.311 MFZ.         SRU                  3.592  SEC
09.22.36 00003.311 MFZ.         SCM                 76.648  KWS
09.22.36 00003.311 MFZ.         I/O                  0.099  MW
09.22.36 00003.311 MFZ.         RMS                  0.117  MWS
09.22.36 00003.312 MFZ.         USER                 1.636  SEC
09.22.36 00003.312 MFZ.         JOB                  3.314  SEC
09.22.36 00003.312 MFZ.         SC050 - 000150 SC/LC SWAPS
09.22.36 00003.312 MFZ.       WBLJOWY   WBLJOWY
09.22.36.FJ  END OF JOB
WBLJOWY  JANDA                10/12/78  09.22.28  7600   JO
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S C O P E 2 L O A D M A P LOADER VERSION 1.0 10/12/78 09.22.30 PAGE 1

PROGRAM WILL BE ENTERED AT MAIN (355) SCM LENGTH 54711 LCM LENGTH 0

BLOCK	ADDRESS	LENGTH
/CONTRL/	100	17
MAIN	117	253
/DOUBLE/	372	10
/NAMES/	402	202
H2MAIN	604	15337
ADDPTS	16143	321
BLFLO	16464	1021
BLOCK	17505	261
BWEIR	17766	1427
CARD	21415	2463
CHIMP	24100	1650
DC	25750	706
DONE	26656	60
FLDHAZ	26736	2220
FLODIS	31156	453
BLKDAT.	31631	0
NEAR	31631	16
PRIAH	31647	251
PROF	32120	1142
SCALE	33262	236
SLARA	33520	243
SUMPO	33763	2744
XSEC	36727	1256
YCRIT	40205	122
MAPIT	40327	50
OVAR	40377	24
SAVEIT	40423	24
/STP.END/	40447	1
/FCL.C./	40450	23
/Q8.IO./	40473	140
Q8NTRY=	40633	1
COMIO=	40634	44
ENDFIL=	40700	45
EOF	40745	20
FECMSK=	40765	41
FLTIN=	41026	156
FLTOUT=	41204	315
FMTAP=	41521	372
FORSYS=	42113	561
FORUTL=	42674	16
GETFIT=	42712	43
INCOM=	42755	256
/IO.BUF./	43233	227
INPB=	43462	324
INPC=	44006	173
KODER=	44201	467
KRAKER=	44670	454
OUTB=	45344	246
/HEADING/	45612	16
/LIN.CNT/	45630	1
OUTC=	45631	1054
OUTCOM=	46705	204

REWIND=	47111	56
GOTOER=	47147	14
ALOG	47163	77
EXP	47262	102
ITOJ*	47364	52
SQRT	47436	46
SYSAID=	47504	1
SYS=1ST	47505	62
XTOY*	47567	55
//	47644	15045

```
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1                W. BLOOMFIELD TWP. FIS  5850-10
T2          10 YEAR FLOOD
T3                WALNUT LAKE-OUTLET

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.  0.000000      0.00       0.0        0.   864.350     0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLOC     IBW       CHNIM     ITRACE

     1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    39.000    40.000    41.000    42.000    43.000     1.000     3.000    25.000     8.000

     4.000    53.000    54.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC       .070      .070      .013      .300      .500     0.000     0.000     0.000     0.000     0.000
OT      4.000   380.000   570.000   660.000   695.000     0.000     0.000     0.000     0.000     0.000

X1  16480.000    21.000   200.000   220.000     0.000     0.000     0.000     0.000     -.700     0.000
X3      0.000     0.000     0.000   186.000     0.000   254.000     0.000     0.000     0.000     0.000
GR    880.000     0.000   878.000    15.000   874.000    35.000   872.000    39.000   870.000    49.000
GR    868.000    58.000   866.000    65.000   864.000    71.000   863.300   200.000   860.000   206.000
GR    859.400   210.000   859.900   214.000   863.300   220.000   864.000   285.000   863.000   325.000
GR    870.000   333.000   872.000   340.000   874.000   345.000   876.000   361.000   878.000   371.000
GR    880.000   378.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
SB      0.000     1.760     3.020     0.000     8.000     0.000    44.000     0.000   858.700   858.700

X1  16532.000    15.000   300.000   350.000    52.000    52.000    52.000     0.000     0.000     0.000
X2      0.000     0.000     1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
BT     14.000     0.000   880.000     0.000    70.000   878.000     0.000   180.000   876.000     0.000
BT    218.000   874.000     0.000   253.000   872.000     0.000   325.000   870.800   858.300   325.000
BT    870.800   864.100   333.000   870.800   864.100   333.000   870.800   858.700   360.000   872.000
BT      0.000   415.000   874.000     0.000   456.000   876.000     0.000   495.000   878.000     0.000
BT    525.000   880.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    880.000     0.000   878.000    70.000   876.000   180.000   874.000   218.000   872.000   253.000
GR    871.200   300.000   858.800   325.000   858.700   329.000   858.700   333.000   871.600   350.000
GR    872.000   360.000   874.000   415.000   876.000   456.000   878.000   495.000   880.000   325.000
NC       .030      .075      .045     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1  17510.000    15.000   100.000   118.000   500.000   750.000   978.000     0.000     0.000     0.000
GR    880.000     0.000   870.000     0.000   868.000    25.000   866.000    70.000   864.200   100.000
GR    863.200   105.000   862.800   108.000   863.300   112.000   865.200   118.000   866.000   380.000
GR    868.000   400.000   870.000   430.000   872.000   450.000   876.000   470.000   880.000   483.000
NC       .080      .080      .045     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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.1	17.0.000	15.000	240.000	254.0 0	300.000	250.000	480.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	872.000	0.000	872.000	55.000	870.000	150.000	868.000	165.000	866.900	240.000
GR	864.900	244.000	864.300	247.000	865.000	250.000	866.600	254.000	868.000	325.000
GR	870.000	381.000	872.000	421.000	876.000	480.000	878.000	503.000	890.000	510.000
NC	.090	.030	.042	0.000	0.000	1.000	0.000	0.000	0.000	0.000
X1	18400.000	17.000	100.000	112.000	350.000	310.000	410.000	0.000	0.000	0.000
GR	890.000	0.000	886.000	5.000	882.000	18.000	880.000	22.000	870.000	45.000
GR	868.400	100.000	866.400	103.000	856.300	107.000	866.600	110.000	868.000	112.000
GR	870.000	152.000	872.000	161.000	874.000	179.000	880.000	212.000	882.000	226.000
GR	884.000	236.000	886.000	252.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	18510.000	0.000	0.000	0.000	110.000	110.000	110.000	0.000	.500	0.000
NC	.075	.085	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	240.000	300.000	430.000	600.000	0.000	0.000	0.000	0.000	0.000
X1	18650.000	9.000	160.000	190.000	150.000	120.000	140.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	150.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	870.000	10.000	870.400	120.000	870.000	160.000	868.100	192.000
GR	867.500	185.000	867.700	190.000	870.000	200.000	880.000	250.000	0.000	0.000
X1	18750.000	19.000	211.000	222.000	120.000	80.000	100.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	20.000	886.000	30.000	884.000	45.000	882.000	52.000
GR	880.000	65.000	877.700	72.000	873.400	87.000	872.400	127.000	872.300	172.000
GR	870.700	211.000	868.600	213.000	868.000	215.000	868.200	221.000	869.300	222.000
GR	870.700	232.000	880.000	260.000	882.000	275.000	884.000	290.000	0.000	0.000
NC	.090	.030	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	380.000	570.000	660.000	795.000	0.000	0.000	0.000	0.000	0.000
X1	18400.000	17.000	100.000	112.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	886.000	5.000	882.000	18.000	880.000	22.000	870.000	45.000
GR	868.400	100.000	866.400	103.000	856.300	107.000	866.600	110.000	868.000	112.000
GR	870.000	152.000	872.000	161.000	874.000	179.000	880.000	212.000	882.000	226.000
GR	884.000	236.000	886.000	252.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.080	.075	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000
QT	4.000	51.000	66.000	71.000	90.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION # 55 SECT. A

X1	430.000	16.000	70.000	83.000	430.000	430.000	430.000	0.000	0.000	0.000
GR	888.000	0.000	886.000	10.000	884.000	17.000	882.000	21.000	880.000	30.000
GR	876.000	40.000	869.500	70.000	869.200	73.000	869.200	80.000	869.500	85.000
GR	872.000	170.000	874.000	175.000	876.000	190.000	882.000	201.000	884.000	215.000
GR	886.000	235.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	500.000	0.000	0.000	0.000	50.000	90.000	70.000	0.000	.400	0.000
X1	650.000	0.000	0.000	0.000	50.000	150.000	150.000	0.000	.300	0.000
X1	800.000	0.000	0.000	0.000	175.000	100.000	150.000	0.000	.000	0.000
X1	900.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	137.000	0.000	0.000	0.000	0.000

X1	1015.000	0.00	0.000	0.000	115.000	115.000	115.000	0.000	.000	0.000
X3	0.000	0.000	0.000	0.000	0.000	109.000	0.000	0.000	0.000	0.000
X1	1115.000	0.000	0.000	0.000	100.000	100.000	100.000	0.000	.500	0.000
X3	0.000	0.000	0.000	70.000	0.000	85.000	0.000	0.000	0.000	0.000
X1	1119.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	.100	0.000
X3	0.000	0.000	0.000	71.000	0.000	82.000	0.000	0.000	0.000	0.000
X1	1124.000	13.000	175.000	183.000	5.000	5.000	5.000	0.000	0.000	0.000
GR	882.000	0.000	880.000	75.000	878.000	155.000	878.900	175.000	873.100	175.000
GR	873.200	179.000	873.000	183.000	878.900	183.000	878.000	305.000	850.000	312.000
GR	886.000	342.000	886.000	355.000	890.000	390.000	0.000	0.000	0.000	0.000
NC	.025	.025	.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE SPRING ROAD BRIDGE

X1	1125.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	10.000	0.000	882.000	0.000	75.000	880.000	0.000	155.000	878.000	0.000
BT	175.000	878.900	877.300	183.000	873.900	877.300	305.000	878.000	0.000	312.000
BT	860.000	0.000	342.000	384.000	0.000	355.000	386.000	0.000	390.000	390.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE SPRING ROAD BRIDGE B.S. #56 SECT.B

X1	1147.000	0.000	0.000	0.000	22.000	22.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.070	.070	.038	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	1148.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	1169.000	17.000	110.000	170.000	21.000	21.000	21.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	116.000	0.000	165.000	0.000	0.000	0.000	0.000
GR	882.000	0.000	880.000	105.000	876.500	110.000	873.000	115.000	873.000	136.500
GR	873.000	136.510	873.000	142.000	873.000	142.010	873.000	146.000	873.000	146.010
GR	873.000	147.490	873.000	147.500	872.000	162.000	878.000	170.000	874.000	250.000
CR	878.000	295.000	890.000	410.000	0.000	0.000	0.000	0.000	0.000	0.000
SS	0.000	1.000	3.510	0.000	.010	0.000	.010	0.000	873.000	873.000

DAM SECTION #57 SECT.C

X1	1170.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	873.000	874.900	0.000	0.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	116.000	900.000	168.000	900.000	0.000	0.000	0.000
BT	10.000	116.000	876.000	0.000	136.500	876.000	0.000	136.510	875.200	0.000
BT	142.000	875.200	0.000	142.010	874.900	0.000	146.000	874.900	0.000	146.010
BT	875.200	0.000	147.490	875.200	0.000	147.500	876.000	0.000	168.000	876.000
BT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.070	.070	.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	1300.000	9.000	90.000	200.000	150.000	100.000	130.000	0.100	0.000	0.000
X3	0.000	0.000	0.000	106.000	0.000	134.000	0.000	0.000	0.000	0.000
GR	880.000	0.000	876.000	50.000	876.000	90.000	873.400	91.000	873.400	109.000
GR	875.000	200.000	876.000	235.000	875.000	285.000	580.000	300.000	0.000	0.000
X1	1395.000	8.000	75.000	120.000	95.000	95.000	95.000	0.000	0.000	0.000

	.5	0.00	0.000	.000	85.000	0.000	115.000	0.00	0.000	0.00	0.000
	GR	880.000	0.000	878.000	30.000	875.000	75.000	875.000	78.000	873.800	119.000
	GR	876.000	120.000	878.000	150.000	880.000	220.000	0.000	0.000	0.000	0.000
	X1	1415.000	11.000	89.000	107.000	20.000	20.000	20.000	0.000	0.000	0.000
	GR	882.000	0.000	880.000	55.000	878.000	71.000	878.100	89.000	876.000	99.000
	GR	874.400	93.000	873.800	95.000	874.100	97.000	875.500	99.000	877.700	107.000
	GR	877.500	137.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	X1	1434.000	11.000	89.000	99.000	19.000	19.000	19.000	0.000	0.000	0.000
	GR	882.000	0.000	880.000	55.000	878.000	71.000	878.100	89.000	876.000	99.000
	GR	874.400	93.000	873.900	95.000	874.100	97.000	875.500	99.000	877.800	99.000
	GR	877.500	137.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE DRIVEWAY BRIDGE

	X1	1435.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
	LT	9.000	0.000	882.000	0.000	55.000	880.000	0.000	71.000	878.000	0.000
	BT	89.000	878.100	876.000	89.000	878.100	877.100	99.000	877.800	876.300	99.000
	BT	877.800	875.500	137.000	877.500	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PRIVATE DRIVEWAY BRIDGE B.S. #58 SECT.D

	X1	1445.000	0.000	0.000	0.000	10.000	10.000	10.000	0.000	0.000	0.000
	X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
	X1	1440.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
	NC	.065	.055	.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #59 SECT.E

	X1	1560.000	16.000	90.000	127.000	114.000	114.000	114.000	0.000	0.000	0.000
	X3	0.000	0.000	0.000	98.000	0.000	120.000	0.000	0.000	0.000	0.000
	GR	890.000	0.000	888.000	20.000	884.000	50.000	880.000	70.000	878.000	80.000
	GR	878.100	90.000	874.300	100.000	873.500	112.000	875.500	125.000	875.900	127.000
	GR	878.000	138.000	880.000	146.000	880.000	190.000	882.000	205.000	884.000	213.000
	GR	885.000	235.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	X1	1585.000	0.000	0.000	0.000	25.000	25.000	25.000	0.000	.600	0.000
	X3	0.000	0.000	0.000	105.000	0.000	114.000	0.000	0.000	0.000	0.000
	X1	1594.000	0.000	0.000	0.000	9.000	9.000	9.000	0.000	.300	0.000
	X3	0.000	0.000	0.000	108.000	0.000	112.000	0.000	0.000	0.000	0.000
	NC	.020	.020	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE WALNUT LAKE ROAD CULVERT

	X1	1595.000	17.000	200.000	204.000	1.000	1.000	1.000	0.000	0.000	0.000
	LT	13.000	0.000	894.000	0.000	27.000	892.000	0.000	50.000	890.000	0.000
	BT	105.000	888.000	0.000	185.000	884.000	0.000	200.000	884.600	876.900	201.500
	BT	884.600	878.400	202.500	884.600	878.400	204.000	884.600	876.900	883.000	884.000
	BT	0.000	500.000	886.000	0.000	552.000	882.000	0.000	885.000	890.000	0.000
	GR	894.000	0.000	892.000	27.000	890.000	60.000	888.000	105.000	884.000	185.000
	GR	884.600	200.000	876.900	200.000	875.400	200.000	874.400	201.500	874.400	202.500
	GR	875.400	204.000	876.900	204.000	884.000	204.000	884.000	383.000	886.000	500.000
	GR	888.000	553.000	890.000	665.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE WALNUT LAKE CULVERT B.S. #00 SECT.F

X1	1660.000	17.000	200.000	204.000	55.000	65.000	65.000	0.000	0.000	0.000
ST	13.000	0.000	894.000	0.000	27.000	892.000	0.000	60.000	890.000	0.000
ST	105.000	838.000	0.000	185.000	884.000	0.000	200.000	884.600	877.300	201.500
ST	884.600	879.300	202.500	884.600	879.300	204.000	884.600	877.800	385.000	384.000
ST	0.000	500.000	886.000	0.000	553.000	886.000	0.000	665.000	890.000	0.000
GR	894.000	0.000	892.000	27.000	890.000	60.000	884.000	105.000	884.000	185.000
GR	884.600	200.000	877.800	200.000	876.300	200.000	875.300	201.500	375.300	202.500
GR	876.300	204.000	877.800	204.000	884.600	204.000	884.000	383.000	886.000	500.000
GR	883.000	553.000	890.000	665.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.030	.045	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	1661.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X1	1662.000	12.000	49.000	66.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	54.000	0.000	62.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	880.000	0.000	878.000	0.000	875.000	50.000	876.300	49.000
GR	875.300	59.000	876.400	64.000	875.500	65.000	873.000	108.000	880.000	120.000
GR	884.000	140.000	890.000	140.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	1666.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	50.000	0.000	66.000	0.000	0.000	0.000	0.000
X1	1670.000	0.000	0.000	0.000	4.000	4.000	4.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	46.000	0.000	70.000	0.000	0.000	0.000	0.000
X1	1680.000	0.000	0.000	0.000	10.100	10.000	10.000	0.000	-.100	0.000
X3	0.000	0.000	0.000	36.000	0.000	80.000	0.000	0.000	0.000	0.000
X1	1770.000	0.000	0.000	0.000	90.000	90.000	90.000	0.000	-.500	0.000

VALLEY SECTION #61 SECT.G

X1	1865.000	11.000	49.000	66.000	95.000	95.000	95.000	0.000	0.000	0.000
GR	890.000	0.000	878.000	0.000	878.000	30.000	875.700	49.000	874.500	59.000
GR	875.800	64.000	876.900	66.000	875.000	108.000	880.000	120.000	884.000	140.000
GR	890.000	140.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	2600.000	20.000	140.000	158.000	700.000	770.000	735.000	0.000	0.000	0.000
GR	890.000	0.000	838.000	20.000	884.000	50.000	884.000	60.000	812.000	72.000
GR	880.000	90.000	878.000	125.000	875.400	130.000	874.300	135.000	875.500	159.000
GR	876.600	140.000	878.000	150.000	880.000	150.000	880.000	205.000	880.000	220.000
GR	882.000	230.000	884.000	240.000	886.000	255.000	884.000	300.000	890.000	310.000
OT	4.000	19.000	30.000	32.000	39.000	0.000	0.000	0.000	0.000	0.000
X1	3344.000	18.000	175.000	185.100	744.000	744.000	744.000	0.000	0.000	0.000
GR	886.000	0.000	866.000	54.000	884.000	98.000	882.000	147.000	881.800	175.000
GR	877.200	175.000	875.200	176.000	874.200	178.000	874.000	180.000	874.200	182.000
GR	875.200	184.000	877.200	185.100	881.800	185.100	882.000	248.000	884.000	250.000
GR	886.000	271.000	886.000	290.000	890.000	303.000	0.000	0.000	0.000	0.000
NC	.080	.080	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	3345.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
BT	16.000	0.000	888.000	0.000	54.000	886.000	0.000	98.000	384.000	0.000
ST	147.000	882.000	0.000	175.000	381.600	877.200	175.000	881.600	879.200	176.000
BT	881.600	880.200	130.000	881.600	580.400	142.000	881.600	880.200	184.000	881.600
ST	879.200	185.100	881.600	877.200	248.000	832.000	0.000	260.000	884.000	0.000
BT	271.000	886.000	0.000	290.000	388.000	0.000	303.000	890.000	0.000	0.000

U/S FACE PRIVATE BRIDGE B.S. #62 SECT.H

X1	3365.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X1	3366.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
NC	.080	.080	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #63 SECT.I

X1	3440.000	14.000	150.000	208.000	74.000	74.000	74.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	15.000	886.000	32.000	882.000	85.000	860.000	124.000
GR	878.400	180.000	874.600	189.000	874.900	155.000	875.400	202.000	880.400	200.000
GR	882.000	225.000	886.000	255.000	888.000	275.000	890.000	280.000	0.000	0.000
VC	.040	.040	.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #64 SECT.J

X1	4380.000	15.000	170.000	185.000	940.000	940.000	940.000	0.000	0.000	0.000
GR	892.000	0.000	888.000	20.000	886.000	46.000	884.000	80.000	872.000	83.000
GR	880.000	150.000	879.800	170.000	877.600	175.000	876.700	179.000	877.900	182.000
GR	880.200	185.000	880.000	190.000	882.000	245.000	884.000	275.000	885.200	910.000
X1	4499.000	20.000	230.000	234.000	119.000	119.000	119.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	892.000	0.000	890.000	20.000	888.000	20.000	886.000	49.000	884.000	63.000
GR	882.000	100.000	881.300	230.000	878.900	230.000	877.900	230.000	877.400	230.000
GR	877.400	232.400	877.400	233.900	877.900	234.600	878.900	234.800	881.300	234.800
GR	880.000	265.000	880.000	720.000	882.000	305.000	884.000	340.000	886.000	870.000
NC	.040	.040	.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	4500.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	16.000	0.000	892.000	0.000	20.000	390.000	0.000	23.000	858.000	0.000
ST	49.000	886.000	0.000	63.000	884.000	0.000	100.000	882.000	0.000	220.000
BT	881.300	878.900	230.900	881.300	879.900	222.400	881.300	880.400	233.900	881.300
BT	879.900	234.800	881.300	878.900	265.000	880.000	0.000	720.000	880.000	0.000
BT	805.000	882.000	0.000	840.000	884.000	0.000	870.000	836.000	0.000	0.000

U/S FACE PRIVATE BRIDGE U.S. 865 SECT.K

X1	4520.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.060	.060	.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	4521.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

VALLEY SECTION #89 SECT.L

X1	4700.000	15.000	135.000	175.000	179.000	179.000	179.000	0.000	0.000	0.000
X3	0.000	0.000	0.000	144.000	0.000	167.000	0.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	19.000	886.000	30.000	889.000	47.000	882.000	121.000
GR	881.300	135.000	878.400	142.000	878.100	145.000	878.200	148.000	879.900	159.000
GR	882.000	175.000	884.000	210.000	886.000	240.000	882.000	367.000	890.000	390.000
X1	4720.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	.300	0.000
X3	0.000	0.000	0.000	149.000	0.000	162.000	0.000	0.000	0.000	0.000
NC	.020	.020	.024	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE MIDDLEBELT ROAD BRIDGE

X1	4740.000	0.000	0.000	0.000	20.000	20.000	20.000	0.000	.300	0.000
X3	0.000	0.000	0.000	143.000	0.000	146.000	0.000	0.000	0.000	0.000
SB	0.000	3.370	3.020	0.000	2.400	0.000	7.100	0.000	878.700	879.000

U/S FACE MIDDLEBELT ROAD BRIDGE D.S. #90 SECT.M

X1	4800.000	18.000	170.000	173.000	60.000	60.000	30.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	881.950	889.900	0.000	0.000	0.000	0.000	0.000
X3	10.000	0.000	0.000	0.000	0.000	0.000	0.000	886.500	889.900	0.000
BT	14.000	0.000	890.000	0.000	21.000	896.000	0.000	60.000	894.000	0.000
BT	108.000	892.000	0.000	150.000	890.000	0.000	170.000	889.900	891.000	170.500
BT	889.900	881.700	171.500	889.900	882.000	172.500	889.900	881.700	173.000	889.900
BT	881.000	270.000	890.000	0.000	411.000	892.000	0.000	497.000	894.000	0.000
BT	591.000	896.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GR	896.000	0.000	896.000	21.000	894.000	60.000	892.000	103.000	890.000	150.000
GR	890.000	150.100	881.000	170.000	880.000	170.000	879.300	170.500	879.000	171.500
GR	879.500	172.500	880.000	173.000	881.000	173.000	889.900	193.000	890.000	270.000
GR	892.000	411.000	894.000	497.000	896.000	891.000	0.000	0.000	0.000	0.000
NC	.065	.085	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	4920.000	14.000	70.000	80.000	120.000	120.000	120.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	20.000	886.000	40.000	884.000	53.000	882.200	70.000
GR	880.200	70.000	879.400	74.000	879.400	80.000	882.200	80.000	882.200	100.000
GR	884.000	130.000	886.000	145.000	886.000	155.000	890.000	165.000	0.000	0.000
SB	0.000	2.100	2.900	0.000	9.000	0.000	18.200	0.000	879.400	879.600

U/S FACE PRIVATE BRIDGE D.S. #91 SECT.N

X1	4928.000	0.000	0.000	0.000	8.000	8.000	8.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	11.000	0.000	890.000	0.000	20.000	880.000	0.000	40.000	886.000	0.000
BT	55.000	884.000	0.000	70.000	882.200	881.500	80.000	882.200	881.500	100.000
BT	882.200	0.000	130.000	884.000	0.000	145.000	886.000	0.000	155.000	886.000
BT	0.000	155.000	890.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	5219.000	18.000	145.000	149.800	291.000	291.000	291.000	0.000	0.000	0.000
GR	890.000	0.000	883.000	20.000	886.000	37.000	884.000	55.000	884.500	95.000
GR	884.700	145.000	881.900	145.000	880.500	145.000	880.300	145.900	880.300	147.400
GR	880.300	148.900	880.800	149.800	881.800	149.800	884.700	149.800	885.900	200.000
GR	886.000	245.000	888.000	275.000	290.000	290.000	0.000	0.000	0.000	0.000
NC	.020	.020	.035	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	5220.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000
RT	14.000	0.000	890.000	0.000	20.000	888.000	0.000	37.000	506.000	0.000
BT	55.000	884.000	0.000	95.000	834.500	0.000	145.000	884.700	881.800	145.900
RT	884.700	862.800	147.400	884.700	863.300	148.900	884.700	862.800	149.300	884.700
RT	881.800	200.000	885.900	0.000	245.000	886.000	0.000	275.000	888.000	0.000
RT	290.000	890.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

U/S FACE PRIVATE BRIDGE B.S. #92 SECT.0

X1	5242.000	0.000	0.000	0.000	22.000	22.000	22.000	0.000	0.000	0.000
X2	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
NC	.030	.080	.048	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	5243.000	0.000	0.000	0.000	1.000	1.000	1.000	0.000	0.000	0.000

VALLEY SECTION #93 SECT.+

X1	5320.000	11.000	110.000	130.000	77.000	77.000	77.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	65.000	867.200	65.000	884.700	110.000	881.100	114.000
GR	879.700	120.000	881.200	124.000	884.600	130.000	886.000	160.000	888.000	165.000
GR	890.000	175.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NC	.030	.050	.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D/S FACE PRIVATE BRIDGE

X1	5410.000	15.000	60.000	69.000	90.000	90.000	90.000	0.000	0.000	0.000
GR	890.000	0.000	888.000	10.000	886.000	20.000	884.000	60.000	883.300	69.000
GR	883.200	60.000	890.200	60.000	880.100	65.000	879.900	69.000	883.200	69.000
GR	883.800	102.000	886.200	111.000	895.000	111.000	0.000	0.000	0.000	0.000
SD	0.000	2.100	2.900	0.000	8.600	0.000	21.600	0.000	879.900	879.900

U/S FACE PRIVATE BRIDGE B.S. #94 SECT.0

X1	5418.000	0.000	0.000	0.000	8.000	8.000	8.000	0.000	0.000	0.000
X2	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BT	9.000	0.000	890.300	0.000	10.000	888.000	0.000	20.000	886.000	0.000
BT	30.000	884.000	0.000	39.000	883.200	0.000	40.000	883.200	882.400	49.000
RT	883.200	882.400	102.000	883.800	0.000	111.000	886.200	0.000	0.000	0.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED  AUG1977
  ERROR CORR -  01,02
  MODIFICATION -  50,51,52,53
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T1              W. BLOOMFIELD TWP. FIS
T2                 100 YEAR FLOOD
T3                 WALNUT LAKE-OUTLET

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    MVINS     Q         WSEL      FQ

      0.        4.        0.        0.  0.000000      0.00       0.0       0.   684.970    0.000

J2  NPROF      IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IDW       CHNIM     ITRACE

     3.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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*PROF 3

CCHV= .300 CEHV= .500
*SECNO 16480.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3470 ENCROACHMENT STATIONS=		156.0	234.0	TYPE=	1	TARGET=		48.000	
16480.00	6.27	864.97	0.00	864.97	865.51	.54	0.00	0.00	862.60
660.	31.	599.	30.	33.	97.	32.	0.	0.	862.60
0.00	.94	6.21	.93	.070	.018	.070	0.000	858.70	186.00
.000779	0.	0.	0.	0	0	0	0.00	48.00	234.00

SPECIAL BRIDGE

SP	XK	XKOR	COFQ	ROLEN	BWC	BWP	BAREA	SS	ELCHO	ELCHD
	0.00	1.76	3.02	0.00	0.00	0.00	44.00	0.00	858.70	858.70

*SECNO 16532.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HS	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
871.12	865.69	0.00	2.	631.	44.	43.	864.10	870.80
16532.00	12.20	870.90	0.00	0.00	870.98	.08	5.54	0.30	871.20
660.	0.	660.	0.	0.	343.	0.	0.	0.	871.60
.01	0.00	1.92	0.00	.070	.018	.070	.016	858.70	300.30
.000048	52.	52.	52.	2	0	0	0.00	48.48	349.06

*SECNO 17510.000

17510.00	8.20	871.00	0.00	0.00	871.00	.00	.02	.02	864.20
660.	222.	66.	372.	407.	133.	1558.	21.	4.	865.20
.64	.54	.50	.24	.030	.035	.075	.051	862.80	0.00
.000016	500.	978.	750.	2	0	0	0.00	439.95	439.95

*SECNO 17990.000

3470 ENCROACHMENT STATIONS=		150.0	519.0	TYPE=	1	TARGET=	-150.000		
17990.00	6.70	871.00	0.00	0.00	871.02	.02	.01	.01	866.90
660.	230.	149.	281.	297.	80.	386.	31.	0.	866.60
.72	.77	1.87	.73	.080	.045	.080	.056	864.30	150.00
.000345	300.	480.	250.	0	0	0	0.00	251.13	401.13

*SECNO 18400.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
18400.00	4.66	871.16	0.00	0.00	871.35	.18	.25	.08	868.40

[illegible]	120.	20.	325.	110.	52.	90.	36.	8.	868.00
.75	1.15	3.99	3.63	.090	.042	.030	.054	866.30	42.32
.001998	380.	410.	310.	2	0	0	0.00	114.91	157.24

*SECNO 18510.000

18510.00	4.60	871.40	0.00	0.00	871.64	.24	.26	.03	869.90
660.	119.	228.	314.	94.	49.	78.	35.	8.	864.50
.76	1.26	4.62	4.03	.090	.042	.030	.053	866.80	42.93
.002908	110.	110.	110.	2	0	0	0.00	113.11	156.04

*SECNO 18650.000

3470 ENCROACHMENT STATIONS= 150.0 250.0 TYPE= 1 TARGET= -150.000

18650.00	4.36	871.86	0.00	0.00	872.17	.32	.50	.04	870.00
430.	110.	228.	92.	53.	39.	39.	36.	8.	867.70
.77	2.09	5.84	2.36	.075	.045	.065	.053	867.50	150.00
.005639	150.	140.	120.	2	0	0	0.00	59.25	209.29

*SECNO 18750.000

18750.00	4.43	872.43	871.97	0.00	872.94	.51	.67	.10	870.70
430.	62.	293.	74.	40.	43.	29.	36.	9.	869.30
.77	1.56	6.78	2.58	.075	.045	.065	.052	866.00	125.82
.009000	120.	100.	80.	4	9	0	0.00	111.38	257.21

*SECNO -18400.000
START TRIB COMP
-18400.000 18400.000 871.163

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	GLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
-18400.00	4.56	871.16	0.00	0.00	871.35	.18	0.00	0.00	869.40
660.	126.	205.	325.	110.	52.	90.	36.	9.	864.00
.77	1.15	3.99	3.63	.090	.042	.030	.052	866.30	42.32
.001999	0.	0.	0.	0	0	0	0.00	114.91	157.24

*SECNO 430.000

SECNO	DEPTH	CWSEL	CRITS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	GLOB	OCH	OROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

VALLEY SECTION # 55 SECT. A

430.00	2.79	871.99	0.00	0.00	871.99	.01	.60	.05	869.50
71.	3.	32.	36.	11.	35.	108.	38.	10.	869.50
.98	.30	.92	.33	.080	.045	.075	.051	869.20	51.22
.000211	430.	430.	430.	2	0	0	0.00	108.37	169.56

*SECNO 500.000

500.00	2.41	872.01	0.00	0.00	872.02	.01	.02	.00	869.90
71.	3.	35.	33.	8.	30.	77.	34.	10.	869.90
1.00	.39	1.16	.42	.080	.045	.075	.050	869.60	62.56
.000429	50.	70.	90.	2	0	0	0.00	93.79	156.36

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*_FC.0 650.000
   650.00      1.71    872.11      0.00      0.00    872.16      .04       .12       .02    870.70
      71.         2.        43.       25.        4.       21.       35.       39.       10.     870.70
    1.03        .67      2.10       .73      .080      .045      .075      .050    870.40      .5.02
  .002183        50.       150.      150.         2         0         0      0.00     67.13    132.14


*SECNO 800.000
   800.00      1.35    872.55      0.00      0.00    872.66       .11       .47       .03    871.50
      71.         2.        49.       20.        2.       16.       19.       39.       10.     871.50
    1.04        .96      3.06      1.05      .080      .045      .075      .050    371.20     66.27
  .006529        175.      150.      100.         2         0         0      0.00     53.47    119.74


*SECNO 900.000

3470 ENCROACHMENT STATIONS=          .0      137.0  TYPE=      1  TARGET=      136.999
   900.00      1.38    873.18      0.00      0.00    873.28       .10       .62       .00    872.10
      71.         2.        44.       21.        2.       16.       21.       39.       10.     872.10
    1.06        .92      2.94      1.01      .080      .045      .075      .050    871.80     66.16
  .005839        100.      100.      100.         1         0         0      0.00     54.72    120.88


*SECNO 1015.000
   SECNO      DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   0          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELPIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3470 ENCROACHMENT STATIONS=          .0      109.0  TYPE=      1  TARGET=      108.999
  1015.00      1.42    873.82      0.00      0.00    873.91       .09       .62       .00    872.70
      71.         2.        47.       22.        2.       17.       19.       39.       11.     872.70
    1.07        .87      2.79      1.15      .080      .045      .075      .050    872.40     63.05
  .005062        115.      115.      115.         2         0         0      0.00     62.95    109.00


*SECNO 1115.000

3470 ENCROACHMENT STATIONS=         70.0       83.0  TYPE=      1  TARGET=       13.000
  1115.00      1.56    874.46      0.00      0.00    874.68       .23       .71       .07    873.20
      71.         0.        71.        0.        0.       19.        0.       39.       11.  100000.00
    1.08        0.00      3.62      0.00      .080      .045      .075      .050    872.90     70.00
  .010604        100.      100.      100.         2         0         0      0.00     13.00     83.00


*SECNO 1119.000

3470 ENCROACHMENT STATIONS=         71.0       82.0  TYPE=      1  TARGET=       11.000
  1119.00      1.45    874.45      0.00      0.00    874.60       .36       .06       .07100000.00
      71.         0.        71.        0.        0.       15.        0.       39.       11.  100000.00
    1.08        0.00      4.80      0.00      .080      .045      .075      .050    873.00     71.00
  .018548          4.        4.        4.         2         0         0      0.00     11.00     82.00


*SECNO 1124.000
   SECNO      DEPTH     CWSEL     CRITS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   0          QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME       VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELPIN       SSTA
   SLOPE      XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
  1124.00      1.47    874.47    874.47      0.00    875.15       .67       .13       .16    878.90
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71.	0.	71.	0.	0.	11.	0.	39.	11.	873.70
1.08	0.00	6.59	0.00	.080	.045	.075	.050	873.00	175.00
.040209	5.	5.	5.	2	5	0	0.00	8.00	183.00

*SECNO 1125.000

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD= 878.00 MAX ELLC= 877.30

D/S FACE SPRING ROAD BRIDGE

1125.00	1.77	874.77	0.00	0.00	875.23	.45	.01	.07	878.90
71.	0.	71.	0.	0.	13.	0.	39.	11.	873.90
1.00	0.00	5.40	0.00	.025	.025	.025	.050	873.00	175.00
.006856	1.	1.	1.	5	0	0	0.00	8.00	163.00

*SECNO 1147.000

SECNO	DEPTH	CHSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	VTX	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOSR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 10 MIN ELTRD= 878.00 MAX ELLC= 877.30

U/S FACE SPRING ROAD BRIDGE B.S. #56 SECT.B

1147.00	2.05	875.05	0.00	0.00	875.38	.33	.12	.04	878.90
71.	0.	71.	0.	0.	16.	0.	39.	11.	873.90
1.08	0.00	4.58	0.00	.025	.025	.025	.049	873.00	175.00
.004235	22.	22.	22.	2	0	0	0.00	8.00	183.00

*SECNO 1148.000

1148.00	2.05	875.05	0.00	0.00	875.39	.33	.01	.00	878.90
71.	0.	71.	0.	0.	15.	0.	39.	11.	873.90
1.08	0.00	4.58	0.00	.070	.030	.070	.049	873.00	175.00
.009810	1.	1.	1.	0	0	0	0.00	8.00	183.00

*SECNO 1169.000

3470 ENCROACHMENT STATIONS= 116.0 168.0 TYPE= 1 TARGET= 52.000

1169.00	2.48	875.48	0.00	0.00	875.49	.01	.01	.10100000.00	
71.	0.	71.	0.	0.	122.	0.	39.	11.	100000.00
1.09	0.00	.53	0.00	.070	.038	.070	.049	875.00	116.00
.000077	21.	21.	21.	2	0	0	0.00	52.00	136.00

SPECIAL BRIDGE

SP	XK	XKOR	COFQ	RDLEN	BWC	BWF	BAREA	CD	ELCHU	ELCHD
	0.00	1.00	3.51	0.00	.01	0.00	.01	0.00	873.00	873.00

*SECNO 1170.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	HE	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
783639.46	875.49	0.00	71.	0.	0.	0.	873.00	874.90

3470 ENCROACHMENT STATIONS= 116.0 168.0 TYPE= 1 TARGET= 52.000
ELENCL= 900.00 ELENCR= 900.00

DAM SECTION #57 SECT.C

1170.00	3.28	876.28	0.00	0.00	876.28	.00	.79	0.00	900.00
71.	0.	71.	0.	0.	164.	0.	39.	11.	900.00
1.09	0.00	.43	0.00	.070	.038	.070	.049	873.00	116.00
.000030	1.	1.	1.	0	0	11	0.00	52.00	168.00

*SECNO 1300.000

3470 ENCROACHMENT STATIONS= 106.0 184.0 TYPE= 1 TARGET= 73.000

1300.00	2.88	876.28	0.00	0.00	876.28	.00	.00	.00100000.00	
71.	0.	71.	0.	0.	225.	0.	40.	11.	100000.00
1.20	0.00	.32	0.00	.070	.032	.070	.048	873.40	106.00
.000012	150.	130.	100.	0	0	0	0.00	78.00	184.00

*SECNO 1395.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	KV	ML	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	SLMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 83.0 113.0 TYPE= 1 TARGET= 30.000

1395.00	2.48	876.28	0.00	0.00	876.29	.01	.00	.01100000.00	
71.	0.	71.	0.	0.	75.	0.	40.	11.	100000.00
1.23	0.00	.95	0.00	.070	.032	.070	.048	873.80	83.00
.000154	95.	95.	95.	0	0	0	0.00	30.00	113.00

*SECNO 1415.000

1415.00	2.34	876.14	0.00	0.00	876.45	.32	.01	.15	876.10
71.	0.	71.	0.	0.	16.	0.	40.	11.	877.70
1.23	0.00	4.53	0.00	.070	.032	.070	.048	873.80	88.41
.006115	20.	20.	20.	2	0	0	0.00	12.91	101.32

*SECNO 1434.000

1434.00	2.39	876.29	0.00	0.00	876.59	.30	.13	.01	876.10
71.	0.	71.	0.	0.	16.	0.	40.	11.	877.80
1.23	0.00	4.41	0.00	.070	.032	.070	.048	873.90	89.00
.005999	19.	19.	19.	2	0	0	0.00	10.00	99.00

*SECNO 1435.000

3370 NORMAL BRIDGE,NRD= 8 MIN ELTRD= 877.50 MAX ELLC= 877.10

D/S FACE PRIVATE DRIVEWAY BRIDGE

1435.00	2.40	876.30	0.00	0.00	876.60	.30	.01	.00	876.10
71.	0.	71.	0.	0.	16.	0.	40.	11.	877.80
1.23	0.00	4.36	0.00	.070	.032	.070	.048	873.90	89.00
.005828	1.	1.	1.	0	0	0	0.00	10.00	99.00

*SECNO 1445.000

3370 NORMAL BRIDGE,NRD= 2 MIN ELTRD= 877.50 MAX ELLC= 877.10

U/S FACE PRIVATE DRIVEWAY BRIDGE B.S. 650 SECT.D

1445.00	2.50	876.40	0.00	0.00	876.66	.26	.05	.01	876.10
71.	0.	71.	0.	0.	17.	0.	40.	11.	877.80
1.24	0.00	4.10	0.00	.070	.032	.070	.048	873.90	89.00
.004843	10.	10.	10.	2	0	0	0.00	10.00	99.00

*SECNO 1446.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1446.00	2.51	876.41	0.00	0.00	876.67	.26	.00	.00	873.10
71.	0.	71.	0.	0.	17.	0.	40.	11.	877.80
1.24	0.00	4.09	0.00	.070	.032	.070	.048	873.90	89.00
.004802	1.	1.	1.	0	0	0	0.00	10.00	99.00

*SECNO 1560.000

3470 ENCROACHMENT STATIONS= 98.0 120.0 TYPE= 1 TARGET= 22.000

VALLEY SECTION B59 SECT.E

1560.00	3.34	876.84	0.00	0.00	876.86	.02	.12	.07100000.00	
71.	0.	71.	0.	0.	61.	0.	40.	11.	100000.00
1.26	0.00	1.16	0.00	.065	.048	.055	.048	873.50	98.00
.000448	114.	114.	114.	2	0	0	0.00	22.00	120.00

*SECNO 1585.000

3470 ENCROACHMENT STATIONS= 105.0 114.0 TYPE= 1 TARGET= 9.000

1585.00	2.70	876.80	0.00	0.00	876.95	.16	.03	.07100000.00	
71.	0.	71.	0.	0.	22.	0.	40.	11.	100000.00
1.27	0.00	3.18	0.00	.065	.048	.055	.048	874.10	105.00
.005472	25.	25.	25.	2	0	0	0.00	9.00	114.00

*SECNO 1594.000

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

changed by 3 ft in 9 ft ⇒ slope of 3.3%
.033

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 108.0 112.0 TYP = 1 TARGET= 4.000

1594.00	2.26	876.66	876.66	0.00	877.74	1.08	.12	.46100000.00	
71.	0.	71.	0.	0.	9.	0.	40.	11.	100000.00
1.27	0.00	8.33	0.00	.065	.048	.055	.048	874.40	105.00
.069658	9.	9.	9.	20	15	0	0.00	4.00	112.00

```
*SECNO 1595.000
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  884.00 MAX ELLC=  878.40

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

                D/S FACE WALNUT LAKE ROAD CULVERT

 1595.00      2.45    876.85    876.85      0.00    877.99      1.13       .03       .03    884.60
    71.         0.       71.        0.        0.        8.        0.       40.       11.    384.60
    1.27      0.00      8.54      0.00      .020      .024      .020      .046    874.40    200.00
 .016595        1.        1.        1.        20        17         0      0.00      4.00    204.00
```

d_c for 48 cmP @ 71cfs = 2.6ft
[illegible] = 874.4 ⇒ d_c = 877

```
*SECNO 1660.000
  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  884.00 MAX ELLC=  879.30

                U/S FACE WALNUT LAKE CULVERT  B.S. #60              SECT.F

 1660.00      2.95    878.25      0.00      0.00    879.09       .35      1.02       .09    884.60
    71.         0.       71.        0.        0.       10.        0.       40.       11.    384.60
    1.27      0.00      7.38      0.00      .020      .024      .020      .047    875.30    200.00
 .014958       65.       65.       65.         3         0         0      -.67      4.00    204.00

*SECNO 1661.000
 1661.00      3.34    878.64      0.00      0.00    879.20       .56       .02       .09    884.60
    71.         0.       71.        0.        0.       12.        0.       40.       11.    384.60
    1.27      0.00      5.98      0.00      .030      .042      .045      .047    875.30    200.00
 .020592        1.        1.        1.         4         0         0      0.00      4.00    204.00

*SECNO 1662.000

3470 ENCROACHMENT STATIONS=       54.0       62.0  TYPE=      1  TARGET=        8.000
 1662.00      3.95    879.25      0.00      0.00    879.34       .09       .00      .14100000.00
    71.         0.       71.        0.        0.       29.        0.       40.       11. 100000.00
    1.27      0.00      2.41      0.00      .030      .042      .045      .047    875.30     54.00
 .001867        1.        1.        1.         2         0         0      0.00      8.00     62.00

*SECNO 1666.000

3470 ENCROACHMENT STATIONS=       50.0       66.0  TYPE=      1  TARGET=       16.000
 1666.00      4.04    879.34      0.00      0.00    879.37       .02       .00      .02100000.00
    71.         0.       71.        0.        0.       57.        0.       40.       11. 100000.00
    1.27      0.00      1.26      0.00      .030      .042      .045      .047    875.30     50.00
 .000387        4.        4.        4.         2         0         0      0.00     16.00     66.00
```

[illegible]
Smith's

[illegible] comp indicate
[illegible] = 879.13 [illegible]

*SECNO 1670.000

3470 ENCROACHMENT STATIONS=			46.0	70.0	TYPE=	1	TARGET=	24.000	
1670.00	4.06	879.36	0.00	0.00	879.37	.01	.30	.00	876.30
71.	7.	56.	9.	9.	60.	15.	40.	11.	875.50
1.27	.75	.93	.59	.030	.042	.045	.047	875.30	46.00
.000132	4.	4.	4.	1	0	0	0.00	24.00	70.00

*SECNO 1680.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IFC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS=			36.0	80.0	TYPE=	1	TARGET=	44.000	
1680.00	4.17	879.37	0.00	0.00	879.37	.00	.00	.00	876.20
71.	18.	32.	21.	34.	62.	50.	40.	11.	875.40
1.28	.53	.52	.42	.030	.042	.045	.047	875.20	36.00
.000040	10.	10.	10.	0	0	0	0.00	44.00	80.00

*SECNO 1770.000

1770.00	4.48	879.38	0.00	0.00	879.38	.00	.00	.00	875.90
71.	26.	18.	29.	103.	67.	137.	41.	11.	875.10
1.39	.25	.27	.20	.030	.042	.045	.047	874.90	0.00
.000009	90.	90.	90.	0	0	0	0.00	118.67	118.67

*SECNO 1865.000

VALLEY SECTION #61 SECT.C

1865.00	4.48	879.38	0.00	0.00	879.38	.00	.00	.00	875.70
71.	28.	25.	18.	89.	70.	87.	41.	11.	876.90
1.47	.31	.36	.20	.030	.042	.045	.047	874.50	0.00
.000017	95.	95.	95.	0	0	0	0.00	116.27	116.27

*SECNO 2600.000

2600.00	5.09	879.39	0.00	0.00	879.40	.01	.02	.00	876.60
71.	61.	10.	0.	74.	25.	0.	44.	13.	880.00
1.73	.63	.39	0.00	.030	.042	.045	.046	876.30	100.75
.000067	700.	735.	770.	0	0	0	0.00	54.79	155.54

*SECNO 3344.000

3344.00	5.65	879.45	0.00	0.00	879.46	.01	.06	.00	881.60
32.	0.	32.	0.	0.	47.	0.	45.	13.	881.60
2.03	0.00	.68	0.00	.030	.042	.045	.046	874.00	175.00
.000098	744.	744.	744.	2	0	0	0.00	10.10	185.10

*SECNO 3345.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
0	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IFC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 16 MIN ELTRD= 881.60 MAX ELLC= 880.40

****
HEC2 RELEASE DATED NOV 76 UPDATED AUG1977
ERROR CORR - 01,02
MODIFICATION - 50,51,52,53
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

WALNUT LAKE-OUTL

SUMMARY PRINTOUT

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
16480.000	0.00	0.00	0.00	858.70	330.00	864.33	864.59	130.55	5.63	46.00	186.00	234.00
16480.000	0.00	0.00	0.00	858.70	570.00	864.81	865.25	153.59	6.11	48.00	186.00	234.00
16480.000	0.00	0.00	0.00	858.70	660.00	864.97	865.51	161.27	6.27	48.00	186.00	234.00
16480.000	0.00	0.00	0.00	858.70	895.00	865.32	866.17	178.07	6.62	48.00	186.00	234.00
16532.000	52.00	870.80	864.10	858.70	330.00	866.27	866.37	154.52	7.57	33.05	309.93	342.98
16532.000	52.00	870.80	864.10	858.70	570.00	869.33	869.40	270.97	10.63	43.23	303.77	347.01
16532.000	52.00	870.80	864.10	858.70	660.00	870.90	870.96	343.17	12.20	48.48	300.60	349.08
16532.000	52.00	870.80	864.10	858.70	895.00	872.01	872.09	419.40	13.31	107.40	252.84	360.24
17510.000	978.00	0.00	0.00	862.80	330.00	866.50	866.84	365.20	3.80	329.38	56.59	385.96
17510.000	978.00	0.00	0.00	862.80	570.00	869.45	869.46	1434.18	6.65	415.00	6.82	421.82
17510.000	978.00	0.00	0.00	862.80	660.00	871.00	871.00	2097.51	8.20	439.95	0.00	439.95
17510.000	978.00	0.00	0.00	862.80	895.00	872.13	872.13	2602.33	9.33	450.64	0.00	450.64
17990.000	480.00	0.00	0.00	864.30	330.00	868.08	868.44	188.44	3.78	162.21	164.53	326.75
17990.000	480.00	0.00	0.00	864.30	570.00	869.46	869.53	401.43	5.16	212.10	153.99	366.09
17990.000	480.00	0.00	0.00	864.30	660.00	871.00	871.02	761.98	6.70	251.13	150.00	401.13
17990.000	480.00	0.00	0.00	864.30	895.00	872.13	872.15	1059.60	7.83	273.07	150.00	423.07
18400.000	410.00	0.00	0.00	866.30	330.00	870.22	870.41	145.93	3.92	108.48	44.50	152.98
18400.000	410.00	0.00	0.00	866.30	570.00	870.29	870.64	153.45	3.99	108.95	44.34	153.29
18400.000	410.00	0.00	0.00	866.30	660.00	871.16	871.35	251.57	4.86	114.91	42.32	157.24
18400.000	410.00	0.00	0.00	866.30	895.00	872.23	872.37	377.73	5.93	123.17	39.68	163.04
18510.000	110.00	0.00	0.00	866.80	330.00	870.58	870.82	131.45	3.78	107.57	44.81	152.38
18510.000	110.00	0.00	0.00	866.80	570.00	870.97	871.27	173.70	4.17	110.21	43.91	154.12
18510.000	110.00	0.00	0.00	866.80	660.00	871.40	871.66	221.36	4.60	113.11	42.93	156.04
18510.000	110.00	0.00	0.00	866.80	895.00	872.35	872.54	331.92	5.55	119.57	40.75	160.32
18650.000	140.00	0.00	0.00	867.50	240.00	871.19	871.40	92.33	3.69	55.98	150.00	205.98
18650.000	140.00	0.00	0.00	867.50	380.00	871.62	871.94	116.72	4.12	58.11	150.00	208.11
18650.000	140.00	0.00	0.00	867.50	430.00	871.86	872.17	130.55	4.36	59.29	150.00	209.29
18650.000	140.00	0.00	0.00	867.50	600.00	872.60	872.92	175.83	5.10	62.99	150.00	212.99
18750.000	100.00	0.00	0.00	868.00	240.00	871.64	872.04	83.21	3.64	46.81	188.03	234.84
18750.000	100.00	0.00	0.00	868.00	380.00	872.22	872.74	94.72	4.22	62.59	173.98	236.57
18750.000	100.00	0.00	0.00	868.00	430.00	872.43	872.94	111.91	4.43	111.58	125.62	237.21
18750.000	100.00	0.00	0.00	868.00	600.00	873.12	873.48	198.98	5.12	141.05	98.23	239.28

SECNO	XLCH	ELTRD	ELLC	ELMIN	J	CWSEL	SC	AREA	DEPTH	TOPWID	SSTA	ENDST
-18400.000	1.00	0.00	0.00	866.30	380.00	870.22	870.41	145.64	3.92	103.46	44.50	152.97
-18400.000	1.00	0.00	0.00	866.30	570.00	870.29	870.66	153.83	3.99	108.98	44.33	153.31
-18400.000	1.00	0.00	0.00	866.30	660.00	871.16	871.35	251.55	4.86	114.91	42.32	157.24
-18400.000	1.00	0.00	0.00	866.30	895.00	872.23	872.37	377.73	5.93	123.17	39.88	163.04
430.000	430.00	0.00	0.00	869.20	51.00	871.36	871.36	92.28	2.16	84.09	63.45	147.54
430.000	430.00	0.00	0.00	869.20	66.00	871.97	871.98	151.09	2.77	107.61	61.29	168.89
430.000	430.00	0.00	0.00	869.20	71.00	871.99	871.99	153.23	2.79	108.37	61.22	169.58
430.000	430.00	0.00	0.00	869.20	80.00	872.72	872.73	234.37	3.52	112.47	58.62	171.09
500.000	70.00	0.00	0.00	869.60	51.00	871.39	871.41	64.41	1.79	70.24	64.73	134.97
500.000	70.00	0.00	0.00	869.60	66.00	871.99	872.00	112.90	2.39	93.01	62.63	155.64
500.000	70.00	0.00	0.00	869.60	71.00	872.01	872.02	114.81	2.41	93.79	62.56	156.36
500.000	70.00	0.00	0.00	869.60	80.00	872.73	872.74	190.89	3.13	110.49	60.01	170.50
650.000	150.00	0.00	0.00	870.40	51.00	871.63	871.71	31.07	1.23	48.77	66.71	115.47
650.000	150.00	0.00	0.00	870.40	66.00	872.08	872.12	56.83	1.69	65.98	65.12	131.10
650.000	150.00	0.00	0.00	870.40	71.00	872.11	872.16	58.83	1.71	67.13	65.02	132.14
650.000	150.00	0.00	0.00	870.40	80.00	872.76	872.78	109.79	2.36	91.72	62.75	154.47
800.000	150.00	0.00	0.00	871.20	51.00	872.40	872.40	29.51	1.20	47.37	66.64	114.20
800.000	150.00	0.00	0.00	871.20	66.00	872.51	872.61	34.97	1.31	51.74	66.43	118.17
800.000	150.00	0.00	0.00	871.20	71.00	872.55	872.66	37.33	1.35	53.47	66.27	119.74
800.000	150.00	0.00	0.00	871.20	80.00	872.89	872.95	57.49	1.69	66.36	65.09	131.45
900.000	100.00	0.00	0.00	871.80	51.00	873.00	873.08	29.52	1.20	47.53	66.62	114.35
900.000	100.00	0.00	0.00	871.80	66.00	873.14	873.24	36.72	1.34	53.02	66.31	119.34
900.000	100.00	0.00	0.00	871.80	71.00	873.18	873.28	39.11	1.38	54.72	66.15	120.86
900.000	100.00	0.00	0.00	871.80	80.00	873.27	873.37	43.66	1.47	57.61	65.87	123.66
1015.000	115.00	0.00	0.00	872.40	51.00	873.66	873.71	30.60	1.24	42.31	66.69	109.00
1015.000	115.00	0.00	0.00	872.40	66.00	873.78	873.83	36.35	1.36	42.81	66.19	109.00
1015.000	115.00	0.00	0.00	872.40	71.00	873.82	873.91	38.41	1.42	42.95	66.05	109.00
1015.000	115.00	0.00	0.00	872.40	80.00	873.90	873.99	41.39	1.50	43.22	65.78	109.00
1115.000	100.00	0.00	0.00	872.90	51.00	874.24	874.41	15.81	1.34	13.00	70.00	83.00
1115.000	100.00	0.00	0.00	872.90	66.00	874.61	874.62	17.95	1.51	13.00	70.00	83.00
1115.000	100.00	0.00	0.00	872.90	71.00	874.66	874.68	18.60	1.56	13.00	70.00	83.00
1115.000	100.00	0.00	0.00	872.90	80.00	874.74	874.80	19.69	1.64	13.00	70.00	83.00
1119.000	4.00	0.00	0.00	873.00	51.00	874.24	874.50	12.56	1.24	11.00	71.00	82.00
1119.000	4.00	0.00	0.00	873.00	66.00	874.40	874.73	14.29	1.40	11.00	71.00	82.00
1119.000	4.00	0.00	0.00	873.00	71.00	874.45	874.80	14.81	1.45	11.00	71.00	82.00
1119.000	4.00	0.00	0.00	873.00	80.00	874.53	874.93	15.66	1.53	11.00	71.00	82.00
1124.000	5.00	0.00	0.00	873.00	51.00	874.23	874.75	8.36	1.23	8.00	175.00	183.00
* 1124.000	5.00	0.00	0.00	873.00	66.00	874.40	875.05	10.24	1.40	8.00	175.00	183.00
* 1124.000	5.00	0.00	0.00	873.00	71.00	874.47	875.15	10.77	1.47	8.00	175.00	183.00
* 1124.000	5.00	0.00	0.00	873.00	80.00	874.58	875.31	11.62	1.58	8.00	175.00	183.00
1125.000	1.00	878.00	877.30	873.00	51.00	874.42	874.80	10.53	1.42	8.00	175.00	183.00
1125.000	1.00	878.00	877.30	873.00	66.00	874.70	875.13	12.55	1.70	8.00	175.00	183.00
1125.000	1.00	878.00	877.30	873.00	71.00	874.77	875.23	13.15	1.77	8.00	175.00	183.00
1125.000	1.00	878.00	877.30	873.00	80.00	874.90	875.40	14.15	1.90	8.00	175.00	183.00

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
1147.000	22.00	878.00	877.30	873.00	51.00	874.70	874.95	12.66	1.70	8.00	175.00	183.00
1147.000	22.00	878.00	877.30	873.00	66.00	874.97	875.28	14.85	1.97	8.00	175.00	183.00
1147.000	22.00	878.00	877.30	873.00	71.00	875.06	875.36	15.50	2.06	8.00	175.00	183.00
1147.000	22.00	878.00	877.30	873.00	80.00	875.20	875.56	16.68	2.20	8.00	175.00	183.00
1148.000	1.00	0.00	0.00	873.00	51.00	874.71	874.96	12.66	1.71	8.00	175.00	183.00
1148.000	1.00	0.00	0.00	873.00	66.00	874.98	875.29	14.83	1.98	8.00	175.00	183.00
1148.000	1.00	0.00	0.00	873.00	71.00	875.06	875.39	15.49	2.06	8.00	175.00	183.00
1148.000	1.00	0.00	0.00	873.00	80.00	875.21	875.57	16.68	2.21	8.00	175.00	183.00
1169.000	21.00	0.00	0.00	873.00	51.00	875.03	875.04	99.13	2.03	51.43	116.00	167.43
1169.000	21.00	0.00	0.00	873.00	66.00	875.38	875.38	118.90	2.38	52.00	116.00	168.00
1169.000	21.00	0.00	0.00	873.00	71.00	875.46	875.49	122.42	2.46	52.00	116.00	168.00
1169.000	21.00	0.00	0.00	873.00	80.00	875.67	875.68	132.22	2.67	52.00	116.00	168.00
1170.000	1.00	874.90	873.00	873.00	51.00	876.15	876.15	157.18	3.15	52.00	116.00	168.00
1170.000	1.00	874.90	873.00	873.00	66.00	876.25	876.25	162.23	3.25	52.00	116.00	168.00
1170.000	1.00	874.90	873.00	873.00	71.00	876.28	876.28	163.83	3.28	52.00	116.00	168.00
1170.000	1.00	874.90	873.00	873.00	80.00	876.33	876.34	166.79	3.33	52.00	116.00	168.00
1300.000	130.00	0.00	0.00	873.40	51.00	876.15	876.15	215.03	2.75	78.00	106.00	184.00
1300.000	130.00	0.00	0.00	873.40	66.00	876.25	876.25	222.58	2.85	78.00	106.00	184.00
1300.000	130.00	0.00	0.00	873.40	71.00	876.28	876.28	224.96	2.88	78.00	106.00	184.00
1300.000	130.00	0.00	0.00	873.40	80.00	876.34	876.34	229.38	2.94	78.00	106.00	184.00
1395.000	95.00	0.00	0.00	873.80	51.00	876.15	876.16	70.63	2.35	30.00	83.00	113.00
1395.000	95.00	0.00	0.00	873.80	66.00	876.25	876.25	73.57	2.45	30.00	83.00	113.00
1395.000	95.00	0.00	0.00	873.80	71.00	876.28	876.29	74.51	2.48	30.00	83.00	113.00
1395.000	95.00	0.00	0.00	873.80	80.00	876.33	876.35	76.23	2.53	30.00	83.00	113.00
1415.000	20.00	0.00	0.00	873.80	51.00	876.07	876.25	14.79	2.27	12.37	88.70	101.07
1415.000	20.00	0.00	0.00	873.80	66.00	876.12	876.40	15.47	2.32	12.79	88.47	101.27
1415.000	20.00	0.00	0.00	873.80	71.00	876.14	876.45	15.66	2.34	12.91	88.41	101.32
1415.000	20.00	0.00	0.00	873.80	80.00	876.16	876.55	16.01	2.36	13.13	88.29	101.42
1434.000	19.00	0.00	0.00	873.90	51.00	876.15	876.34	14.82	2.25	10.00	89.00	99.00
1434.000	19.00	0.00	0.00	873.90	66.00	876.25	876.53	15.76	2.35	10.00	89.00	99.00
1434.000	19.00	0.00	0.00	873.90	71.00	876.29	876.59	16.11	2.39	10.00	89.00	99.00
1434.000	19.00	0.00	0.00	873.90	80.00	876.36	876.71	16.81	2.46	10.00	89.00	99.00
1435.000	1.00	877.50	877.10	873.90	51.00	876.16	876.34	14.87	2.26	10.00	89.00	99.00
1435.000	1.00	877.50	877.10	873.90	66.00	876.27	876.53	15.91	2.37	10.00	89.00	99.00
1435.000	1.00	877.50	877.10	873.90	71.00	876.30	876.60	16.27	2.40	10.00	89.00	99.00
1435.000	1.00	877.50	877.10	873.90	80.00	876.38	876.72	16.98	2.48	10.00	89.00	99.00
1445.000	10.00	877.50	877.10	873.90	51.00	876.21	876.38	15.33	2.31	10.00	89.00	99.00
1445.000	10.00	877.50	877.10	873.90	66.00	876.35	876.59	16.63	2.45	10.00	89.00	99.00
1445.000	10.00	877.50	877.10	873.90	71.00	876.40	876.66	17.32	2.50	10.00	89.00	99.00
1445.000	10.00	877.50	877.10	873.90	80.00	876.49	876.79	18.25	2.59	10.00	89.00	99.00
1446.000	1.00	0.00	0.00	873.90	51.00	876.22	876.39	15.43	2.32	10.00	89.00	99.00
1446.000	1.00	0.00	0.00	873.90	66.00	876.36	876.60	16.36	2.46	10.00	89.00	99.00
1446.000	1.00	0.00	0.00	873.90	71.00	876.41	876.67	17.37	2.51	10.00	89.00	99.00
1446.000	1.00	0.00	0.00	873.90	80.00	876.50	876.80	18.30	2.60	10.00	89.00	99.00

	SECNO	XLCH	ELTRD	ELLC	ELMIN	C	CHSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
	1560.000	114.00	0.00	0.00	873.50	51.00	876.51	876.52	54.10	3.01	22.00	98.00	120.00
	1560.000	114.00	0.00	0.00	873.50	66.00	876.76	876.78	59.55	3.26	22.00	98.00	120.00
	1560.000	114.00	0.00	0.00	873.50	71.00	876.84	876.86	61.36	3.34	22.00	98.00	120.00
	1560.000	114.00	0.00	0.00	873.50	80.00	876.99	877.01	64.61	3.49	22.00	98.00	120.00
	1585.000	25.00	0.00	0.00	874.10	51.00	876.48	876.59	19.51	2.38	9.00	105.00	114.00
	1585.000	25.00	0.00	0.00	874.10	66.00	876.72	876.86	21.63	2.62	9.00	105.00	114.00
	1585.000	25.00	0.00	0.00	874.10	71.00	876.80	876.95	22.34	2.70	9.00	105.00	114.00
	1585.000	25.00	0.00	0.00	874.10	80.00	876.94	877.12	23.61	2.84	9.00	105.00	114.00
*	1594.000	9.00	0.00	0.00	874.40	51.00	876.24	877.11	6.83	1.84	4.00	108.00	112.00
*	1594.000	9.00	0.00	0.00	874.40	66.00	876.56	877.59	8.11	2.16	4.00	108.00	112.00
*	1594.000	9.00	0.00	0.00	874.40	71.00	876.66	877.74	8.52	2.26	4.00	108.00	112.00
*	1594.000	9.00	0.00	0.00	874.40	80.00	876.84	878.01	9.24	2.44	4.00	108.00	112.00
*	1595.000	1.00	884.00	878.40	874.40	51.00	876.49	877.35	6.86	2.09	4.00	200.00	204.00
*	1595.000	1.00	884.00	878.40	874.40	66.00	876.82	877.83	8.17	2.42	4.00	200.00	204.00
*	1595.000	1.00	884.00	878.40	874.40	71.00	876.85	877.99	8.32	2.45	4.00	200.00	204.00
*	1595.000	1.00	884.00	878.40	874.40	80.00	876.89	878.23	8.44	2.49	4.00	200.00	204.00
	1660.000	65.00	884.00	879.30	875.30	51.00	877.44	878.25	7.07	2.14	4.00	200.00	204.00
	1660.000	65.00	884.00	879.30	875.30	66.00	878.03	878.86	9.06	2.73	4.00	200.00	204.00
	1660.000	65.00	884.00	879.30	875.30	71.00	878.25	879.09	9.62	2.95	4.00	200.00	204.00
	1660.000	65.00	884.00	879.30	875.30	80.00	878.69	879.56	10.73	3.39	4.00	200.00	204.00
	1661.000	1.00	0.00	0.00	875.30	51.00	877.73	878.33	8.22	2.43	4.00	200.00	204.00
	1661.000	1.00	0.00	0.00	875.30	66.00	878.36	878.95	10.73	3.04	4.00	200.00	204.00
	1661.000	1.00	0.00	0.00	875.30	71.00	878.58	879.20	11.53	3.24	4.00	200.00	204.00
	1661.000	1.00	0.00	0.00	875.30	80.00	879.17	879.81	13.96	3.87	4.00	200.00	204.00
	1662.000	1.00	0.00	0.00	875.30	51.00	878.41	878.49	22.65	3.11	8.00	54.00	62.00
	1662.000	1.00	0.00	0.00	875.30	66.00	879.01	879.10	27.53	3.71	8.00	54.00	62.00
	1662.000	1.00	0.00	0.00	875.30	71.00	879.25	879.34	29.44	3.95	8.00	54.00	62.00
	1662.000	1.00	0.00	0.00	875.30	80.00	879.72	879.81	33.14	4.42	8.00	54.00	62.00
	1666.000	4.00	0.00	0.00	875.30	51.00	878.49	878.51	42.79	3.19	16.00	50.00	66.00
	1666.000	4.00	0.00	0.00	875.30	66.00	879.10	879.12	52.08	3.80	16.00	50.00	66.00
	1666.000	4.00	0.00	0.00	875.30	71.00	879.34	879.37	56.56	4.04	16.00	50.00	66.00
	1666.000	4.00	0.00	0.00	875.30	80.00	879.81	879.83	64.01	4.51	16.00	50.00	66.00
	1670.000	4.00	0.00	0.00	875.30	51.00	878.51	878.52	63.08	3.21	24.00	46.00	70.00
	1670.000	4.00	0.00	0.00	875.30	66.00	879.12	879.13	77.71	3.82	24.00	46.00	70.00
	1670.000	4.00	0.00	0.00	875.30	71.00	879.36	879.37	83.52	4.06	24.00	46.00	70.00
	1670.000	4.00	0.00	0.00	875.30	80.00	879.82	879.84	94.69	4.52	24.00	46.00	70.00
	1680.000	10.00	0.00	0.00	875.20	51.00	878.52	878.52	107.36	3.32	44.00	36.00	80.00
	1680.000	10.00	0.00	0.00	875.20	66.00	879.13	879.13	134.19	3.93	44.00	36.00	80.00
	1680.000	10.00	0.00	0.00	875.20	71.00	879.37	879.37	144.84	4.17	44.00	36.00	80.00
	1680.000	10.00	0.00	0.00	875.20	80.00	879.84	879.84	165.30	4.64	44.00	36.00	80.00
	1770.000	90.00	0.00	0.00	874.90	51.00	878.52	878.52	206.38	3.62	113.56	0.00	113.56
	1770.000	90.00	0.00	0.00	874.90	66.00	879.13	879.13	278.45	4.23	117.22	0.00	117.22
	1770.000	90.00	0.00	0.00	874.90	71.00	879.38	879.38	306.95	4.48	118.67	0.00	118.67
	1770.000	90.00	0.00	0.00	874.90	80.00	879.84	879.84	362.54	4.94	121.21	0.00	121.21

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
1865.000	95.00	0.00	0.00	874.50	51.00	878.52	878.53	149.05	4.02	111.15	0.00	111.15
1865.000	95.00	0.00	0.00	874.50	66.00	879.13	879.14	218.02	4.63	114.81	0.00	114.81
1865.000	95.00	0.00	0.00	874.50	71.00	879.38	879.38	245.96	4.88	116.27	0.00	116.27
1865.000	95.00	0.00	0.00	874.50	80.00	879.84	879.84	300.62	5.34	119.05	0.00	119.05
2600.000	735.00	0.00	0.00	874.30	51.00	878.56	878.57	60.65	4.26	36.83	115.37	152.20
2600.000	735.00	0.00	0.00	874.30	66.00	879.16	879.17	86.40	4.86	49.63	104.95	154.58
2600.000	735.00	0.00	0.00	874.30	71.00	879.39	879.40	98.93	5.09	54.79	100.75	155.54
2600.000	735.00	0.00	0.00	874.30	80.00	879.85	879.86	126.55	5.55	64.72	92.67	157.39
3344.000	744.00	0.00	0.00	874.00	19.00	878.63	878.64	38.96	4.63	10.10	175.00	185.10
3344.000	744.00	0.00	0.00	874.00	30.00	879.22	879.23	64.92	5.22	10.10	175.00	185.10
3344.000	744.00	0.00	0.00	874.00	32.00	879.45	879.46	47.25	5.45	10.10	175.00	185.10
3344.000	744.00	0.00	0.00	874.00	39.00	879.90	879.91	51.78	5.90	10.10	175.00	185.10
3345.000	1.00	881.60	880.40	874.00	19.00	878.63	878.64	37.43	4.63	10.10	175.00	185.10
3345.000	1.00	881.60	880.40	874.00	30.00	879.22	879.23	42.73	5.22	10.10	175.00	185.10
3345.000	1.00	881.60	880.40	874.00	32.00	879.45	879.46	44.11	5.45	10.10	175.00	185.10
3345.000	1.00	881.60	880.40	874.00	39.00	879.90	879.91	46.79	5.90	10.10	175.00	185.10
3365.000	20.00	881.60	880.40	874.00	19.00	878.63	878.64	37.47	4.63	10.10	175.00	185.10
3365.000	20.00	881.60	880.40	874.00	30.00	879.23	879.23	42.75	5.23	10.10	175.00	185.10
3365.000	20.00	881.60	880.40	874.00	32.00	879.46	879.46	44.13	5.46	10.10	175.00	185.10
3365.000	20.00	881.60	880.40	874.00	39.00	879.90	879.91	46.81	5.90	10.10	175.00	185.10
3366.000	1.00	0.00	0.00	874.00	19.00	878.63	878.64	38.58	4.63	10.10	175.00	185.10
3366.000	1.00	0.00	0.00	874.00	30.00	879.23	879.23	44.95	5.23	10.10	175.00	185.10
3366.000	1.00	0.00	0.00	874.00	32.00	879.46	879.46	47.28	5.46	10.10	175.00	185.10
3366.000	1.00	0.00	0.00	874.00	39.00	879.91	879.91	51.80	5.91	10.10	175.00	185.10
3440.000	74.00	0.00	0.00	874.60	19.00	878.64	878.64	74.31	4.04	34.26	171.63	205.89
3440.000	74.00	0.00	0.00	874.60	30.00	879.24	879.24	101.22	4.64	55.80	150.73	206.60
3440.000	74.00	0.00	0.00	874.60	32.00	879.47	879.47	115.04	4.87	64.23	142.65	206.88
3440.000	74.00	0.00	0.00	874.60	39.00	879.92	879.92	147.77	5.32	80.57	126.85	207.42
4380.000	940.00	0.00	0.00	876.70	19.00	878.67	878.71	11.97	1.97	10.47	172.55	183.02
4380.000	940.00	0.00	0.00	876.70	30.00	879.28	879.32	19.06	2.58	12.66	171.16	183.82
4380.000	940.00	0.00	0.00	876.70	32.00	879.51	879.54	22.03	2.81	13.47	170.64	184.11
4380.000	940.00	0.00	0.00	876.70	39.00	879.96	879.99	29.50	3.26	30.46	154.22	184.68
4499.000	119.00	0.00	0.00	877.40	19.00	879.04	879.14	7.44	1.64	4.80	230.00	234.80
4499.000	119.00	0.00	0.00	877.40	30.00	879.56	879.70	9.91	2.16	4.80	230.00	234.80
4499.000	119.00	0.00	0.00	877.40	32.00	879.72	879.86	10.70	2.32	4.80	230.00	234.80
4499.000	119.00	0.00	0.00	877.40	39.00	880.11	880.26	12.34	2.71	4.80	230.00	234.80
4500.000	1.00	880.00	880.40	877.40	19.00	879.04	879.15	7.31	1.64	4.80	230.00	234.80
4500.000	1.00	880.00	880.40	877.40	30.00	879.56	879.72	9.33	2.16	4.80	230.00	234.80
4500.000	1.00	880.00	880.40	877.40	32.00	879.72	879.88	9.97	2.32	4.80	230.00	234.80
4500.000	1.00	880.00	880.40	877.40	39.00	880.09	880.29	10.93	2.69	4.80	230.00	234.80
4520.000	20.00	880.00	880.40	877.40	19.00	879.13	879.22	7.65	1.73	4.80	230.00	234.80
4520.000	20.00	880.00	880.40	877.40	30.00	879.67	879.81	9.76	2.27	4.80	230.00	234.80
4520.000	20.00	880.00	880.40	877.40	32.00	879.82	879.97	10.37	2.42	4.80	230.00	234.80
4520.000	20.00	880.00	880.40	877.40	39.00	880.25	880.44	11.16	2.85	4.80	230.00	234.80

SECNO	XLCH	ELTRO	FLLC	ELMIN	O	CHSEL	EC	AREA	DEPTH	TOPWID	SSTA	ENDST
4521.000	1.00	0.00	0.00	877.40	19.00	879.14	879.23	7.86	1.74	4.80	230.00	234.80
4521.000	1.00	0.00	0.00	877.40	30.00	879.70	879.83	10.60	2.30	4.80	230.00	234.80
4521.000	1.00	0.00	0.00	877.40	32.00	879.86	879.96	11.36	2.46	4.80	230.00	234.80
4521.000	1.00	0.00	0.00	877.40	39.00	880.34	880.46	13.85	2.94	4.80	230.00	234.80
4700.000	179.00	0.00	0.00	878.10	19.00	879.71	879.74	13.53	1.61	13.73	144.00	157.73
4700.000	179.00	0.00	0.00	878.10	30.00	880.24	880.27	21.71	2.14	17.51	144.00	161.51
4700.000	179.00	0.00	0.00	878.10	32.00	880.36	880.39	23.50	2.26	18.44	144.00	162.44
4700.000	179.00	0.00	0.00	878.10	39.00	880.76	880.76	32.00	2.66	21.53	144.00	165.53
4720.000	20.00	0.00	0.00	878.40	19.00	879.81	880.11	4.31	1.41	7.47	149.00	156.47
4720.000	20.00	0.00	0.00	878.40	30.00	880.21	880.44	7.81	1.81	10.06	149.00	159.06
4720.000	20.00	0.00	0.00	878.40	32.00	880.36	880.53	9.18	1.94	11.05	149.00	160.05
4720.000	20.00	0.00	0.00	878.40	39.00	880.75	880.86	14.23	2.35	13.00	149.00	162.00
4740.000	20.00	0.00	0.00	878.70	19.00	880.12	880.42	4.04	1.42	3.00	143.00	146.00
4740.000	20.00	0.00	0.00	878.70	30.00	880.35	880.97	4.74	1.65	3.00	143.00	146.00
4740.000	20.00	0.00	0.00	878.70	32.00	880.40	881.07	4.90	1.70	3.00	143.00	146.00
4740.000	20.00	0.00	0.00	878.70	39.00	880.62	881.38	5.56	1.92	3.00	143.00	146.00
4800.000	60.00	889.90	881.95	879.00	19.00	880.63	880.99	3.94	1.63	3.00	170.00	173.00
4800.000	60.00	889.90	881.95	879.00	30.00	881.27	881.70	5.72	2.27	3.00	170.00	173.00
4800.000	60.00	889.90	881.95	879.00	32.00	881.36	881.81	5.96	2.36	3.00	170.00	173.00
4800.000	60.00	889.90	881.95	879.00	39.00	881.76	882.20	7.33	2.76	3.00	170.00	173.00
4920.000	120.00	0.00	0.00	879.40	19.00	881.26	881.28	15.46	1.86	10.00	70.00	80.00
4920.000	120.00	0.00	0.00	879.40	30.00	881.95	881.98	22.35	2.55	10.00	70.00	80.00
4920.000	120.00	0.00	0.00	879.40	32.00	882.07	882.10	23.59	2.67	10.00	70.00	80.00
4920.000	120.00	0.00	0.00	879.40	39.00	882.43	882.46	32.47	3.03	35.76	68.08	103.84
4928.000	8.00	882.20	881.50	879.40	19.00	881.26	881.28	15.46	1.86	10.00	70.00	80.00
4928.000	8.00	882.20	881.50	879.40	30.00	882.01	882.03	22.97	2.61	10.00	70.00	80.00
4928.000	8.00	882.20	881.50	879.40	32.00	882.16	882.16	24.20	2.74	10.00	70.00	80.00
4928.000	8.00	882.20	881.50	879.40	39.00	882.46	882.49	33.62	3.03	36.00	67.30	104.40
5219.000	291.00	0.00	0.00	880.30	19.00	881.62	881.78	5.92	1.32	4.80	145.00	149.80
5219.000	291.00	0.00	0.00	880.30	30.00	882.27	882.46	9.00	1.97	4.80	145.00	149.80
5219.000	291.00	0.00	0.00	880.30	32.00	882.35	882.56	9.57	2.09	4.80	145.00	149.80
5219.000	291.00	0.00	0.00	880.30	39.00	882.69	882.88	11.02	2.39	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	19.00	881.63	881.79	5.92	1.33	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	30.00	882.27	882.46	8.59	1.97	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	32.00	882.38	882.58	9.05	2.08	4.80	145.00	149.80
5220.000	1.00	884.00	883.30	880.30	39.00	882.68	882.91	10.20	2.38	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	19.00	881.82	881.94	6.85	1.52	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	30.00	882.44	882.60	9.25	2.14	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	32.00	882.56	882.73	9.70	2.26	4.80	145.00	149.80
5242.000	22.00	884.00	883.30	880.30	39.00	882.89	883.09	10.79	2.59	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	19.00	881.82	881.94	6.85	1.52	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	30.00	882.48	882.62	10.01	2.18	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	32.00	882.60	882.74	10.56	2.30	4.80	145.00	149.80
5243.000	1.00	0.00	0.00	880.30	39.00	882.96	883.12	12.32	2.66	4.80	145.00	149.80

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	EG	AREA	DEPTH	TOPWID	SSTA	ENDST
5320.000	77.00	0.00	0.00	879.70	19.00	882.10	882.12	18.04	2.40	12.69	112.89	125.58
5320.000	77.00	0.00	0.00	879.70	30.00	882.75	882.77	26.97	3.05	14.58	112.16	126.74
5320.000	77.00	0.00	0.00	879.70	32.00	882.87	882.89	28.71	3.17	14.91	112.03	126.95
5320.000	77.00	0.00	0.00	879.70	39.00	883.24	883.26	34.40	3.54	15.96	111.62	127.60
5410.000	90.00	0.00	0.00	879.90	19.00	882.16	882.17	18.67	2.26	9.00	60.00	69.00
5410.000	90.00	0.00	0.00	879.90	30.00	882.81	882.83	24.49	2.91	9.00	60.00	69.00
5410.000	90.00	0.00	0.00	879.90	32.00	882.92	882.95	25.54	3.02	9.00	60.00	69.00
5410.000	90.00	0.00	0.00	879.90	39.00	883.29	883.32	29.80	3.39	31.79	41.94	73.73
5418.000	8.00	883.20	882.40	879.90	19.00	882.16	882.18	18.67	2.26	9.00	60.00	69.00
5418.000	8.00	883.20	882.40	879.90	30.00	882.85	882.87	24.86	2.95	9.00	60.00	69.00
5418.000	8.00	883.20	882.40	879.90	32.00	882.97	882.99	25.90	3.07	9.00	60.00	69.00
5418.000	8.00	883.20	882.40	879.90	39.00	883.34	883.37	31.86	3.44	38.41	38.45	76.86

SUMMARY OF ERRORS

CAUTION SECNO=17990.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=17990.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=17990.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 1124.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1124.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1124.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1124.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1124.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1124.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

CAUTION SECNO= 1594.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1594.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1594.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1594.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1594.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1594.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1594.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1594.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1594.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1594.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1594.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 1595.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1595.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1595.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1595.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1595.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1595.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1595.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1595.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1595.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 1595.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 1595.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 1595.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO= 4720.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 4720.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 4720.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BLOOMFIELD TWP

3) WATERCOURSE: WALNUT LAKE OUTLET → FRANKLIN BRANCH - ROUGE RIVER

4) DOCUMENT TYPE: REPORT

00BREAK00

W. BLOOMFIELD TWP. FIS
HYDRAULIC ANALYSIS
FRANKLIN BRANCH-ROUGE RIVER
WALNUT LAKE-OUTLET

J&A FILE NO. 5850-10-1

Johnson & Anderson, Inc.
Consulting Engineers
2300 Dixie Highway, P. O. Box 1166
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HYDRAULIC ANALYSIS

Introduction

The streams being studied are the Franklin Branch of the Rouge River and the Walnut Lake-Outlet in West Bloomfield Township, Oakland County, Michigan. The study limits of the Franklin Branch are from the City of Farmington Hills-West Bloomfield Township boundary upstream to Morris Lake. The study limits of the Walnut Lake-Outlet are from its confluence with the Franklin Branch, approximately 2018 feet upstream of Middlebelt Road, to Walnut Lake. Cross section overbank information used in this study was obtained from 1977 2' contour maps obtained from West Bloomfield Township. Valley section channel information and bridge details were field surveyed in April, 1978. The flows in the Franklin Branch and Walnut Lake-Outlet were determined by a combination of HEC-2 and the TR-20 hydrology program (Reference 2). Lake elevations were calculated by TR-20 and matched with elevations obtained on the Franklin Branch and Walnut Lake-Outlet by HEC-2. The project manager for this analysis was Dick Zanotti.

Method of Analysis

Water-surface profiles were computed through use of the Corps of Engineers HEC-2 step-backwater computer program (Reference 1). Bridges that were under low flow conditions for all four flows or bridges that were completely submerged for the 100-year flow were coded according to the "normal bridge" routine requirements. For those bridges that experienced pressure or weir flow for any of the four flows, the "special bridge" routine or hand calculations were used to determine the upstream water-surface elevation. The hydraulic model was developed for the 100-year flow. Valley sections upstream and downstream of bridges were

located where full cross section flow would be developed out of the influence of the bridge constriction. The criteria for placement of these sections was outlined on pages 18-21 of the HEC Training Document No. 6, Application of the HEC-2 Bridge Routines (Reference 3). Accordingly, the downstream section was placed at a distance of about four times the average length of the side constriction caused by the bridge abutment. The upstream section was placed at a distance about equal to the bridge constriction. If additional sections were found necessary within this distance or if the actual field-surveyed cross section fell within this distance, the intermediate sections were encroached as appropriate.

Synthetic Cross Sections

Synthetic cross sections utilized in the hydraulic analysis were developed in three ways. The three methods used were direct manufacturing (in conjunction with 2' contour maps obtained from West Bloomfield Township), repetition of a field-surveyed cross section with appropriate invert adjustment, or interpolating between two field-surveyed cross sections using the Johnson & Anderson, Inc., AVSEC computer program. The AVSEC program develops an average cross section by averaging the overbanks and channel of the two known cross sections. All cross sections and their origins are listed in the SECNO Table (Appendix A).

Starting Point

Profile computations for the Franklin Branch of the Rouge River were begun by the slope-area method approximately 5800 feet and six field-surveyed cross sections downstream (east) of the southern border of West Bloomfield Township. The convergence of different 100-year starting elevations was tested. The test used starting water surfaces 0.5' apart, starting from 768.0 to 770.0. All profiles

converged at the section at the township line. The summary printout of the 100-year convergence run has been included with this submittal. Because the peak time of the Franklin Branch and Walnut Lake Outlet hydrographs are similar, profile computations for the Walnut Lake Outlet were begun at the corresponding Franklin Branch flood elevations. This was done by starting the tributary calculations for the Walnut Lake Outlet at Section 18400 of the Franklin Branch.

Variables and Coefficients

The basis for Manning's "n" value selection came from field inspection and comparison with the photographs and descriptions found on pages 101 to 123 in Open-Channel Hydraulics (Reference 4) by Ven Te Chow, as well as with photographs taken of the Franklin Branch and Walnut Lake Outlet by survey crews in March, 1978.

The contraction and expansion coefficients used in this study were .3 and .5, respectively. References used in the selection of these values were the HEC-2 Users Manual, Exhibit 2, page 2,(Reference 1) and Open-Channel Hydraulics, Ven Te Chow (Reference 4), pages 311 and 468.

The inlet loss coefficients and outlet loss coefficients used in this study were taken from Hydraulic Charts for the Selection of Highway Culverts (Reference 5). The weir discharge coefficients were taken from charts of the U. S. Geological Survey (Reference 6) and the Bureau of Public Roads (Reference 7). Calculation of these values are included in the Appendix.

Discussion

There are several small dams along the Franklin Branch of the Rouge River and the Walnut Lake Outlet. For those dams whose crest elevations are much higher than

the minimum ground elevations on the upstream side, the "special bridge" routine was used to determine the headwater elevations. Weirs were defined by use of the stations and road elevations on BT cards. On the SB card, some arbitrarily small values for BWC and BAREA were given.

REFERENCES

1. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Users Manual, Oct. 1973.

2. Soil Conservation Service, National Engineering Handbook, Section 4, Hydrology, SCS U.S. Department of Agriculture, Aug. 1972.

3. U.S. Army Corps of Engineers, Hydrologic Engineering Center, Application of the HEC-2 Bridge Routines, Training Document No. 6, June, 1974.

4. Chow, Ven Te, Open-Channel Hydraulics, McGraw-Hill, 1959, pp. 101-123.

5. Herr, Lester A., Hydraulic Charts for the Selection of Highway Culverts, Hydraulic Engineering Circular No. 5, Bureau of Public Roads, U.S. Department of Commerce, Dec. 1965.

6. U.S. Geological Survey, Measurements of Peak Discharge at Dams by Indirect Methods, Book 3, Chapter A-5, 1976.

7. Bureau of Public Roads, Hydraulics of Bridge Waterways, 1970.

APPENDIX A

Cross Section Locations

Franklin Branch - Rouge River

Cross Section	SECNO	Location & Origin
A	0	At corporate boundary, field valley section 16
B	520	520' u/s of corporate boundary, field valley section 17
	1325	1325' u/s of corporate boundary, manufactured from 2' contour map
C	2790	Wallbrook Drive extended, 2790' u/s of corporate boundary, field valley section 18
	3310	520' u/s of Section C, manufactured from 2' contour map
	3370	580' u/s of Section C, manufactured from AVSEC Program
	3430	102' d/s of Section D, manufactured from AVSEC Program
	3490	60' d/s of Section D, manufactured from AVSEC Program
	3550	3550' u/s of corporate boundary, Broomfield Drive extended, field valley section 19
	3885	335' u/s of Section D, manufactured from 2' contour map
	4310	940' d/s of Ten Hill Drive, manufactured from 2' contour map
	4630	620' d/s of Ten Hill Drive, manufactured from 2' contour map
	5200	50' d/s of Ten Hill Drive, manufactured from 2' contour map
	5225	25' d/s of Ten Hill Drive, SECNO 5200 repeated
	5238	13' d/s of Ten Hill Drive, SECNO 5200 repeated
	5250	d/s face Ten Hill Drive Culvert, field bridge section 20
E	5278	u/s face Ten Hill Drive Culvert, field bridge section 20
F	5300	22' u/s of Ten Hill Drive, field valley section 21
	6170	892' u/s of Ten Hill Drive, manufactured from 2' contour map
	6669	1' d/s of private bridge, bridge section G repeated
	6670	d/s face private bridge, field bridge section 22
G	6680	u/s face private bridge, field bridge section 22
	6681	1' u/s of private bridge, bridge section G repeated

Cross Section	SECNO	Location & Origin
H	6700	20' u/s of private bridge, field valley section 23
	6736	1' d/s of private dam, Section H repeated
I	6737	Private dam, field sam section 23-A
J	6990	253' u/s of private dam, field valley section 24
	7100	160' d/s of private birdge, Section J repeated
	7140	120' d/s of private bridge, Section J repeated
	7180	80' d/s of private bridge, Section J repeated
	7195	65' d/s of private bridge, Section J repeated
	7210	50' d/s of private bridge, Section J repeated
	7220	40' d/s of private bridge, manufactured from 2' contour map
	7259	1' d/s of private bridge, bridge section K repeated
	7260	d/s face private bridge, field bridge section 25
K	7269	u/s face private birdge, field bridge section 25
	7270	1' u/s of private bridge, bridge section K repeated
L	7300	31' u/s of private bridge, field valley section 26
M	8260	2740' d/s of West Maple Road, field valley section 27
	8680	2320' d/s of West Maple Road, Section M repeated
N	9060	1940' d/s of West Maple Road, field valley section 28
	10060	940' d/s of West Maple Road, manufactured from 2' contour map
	10700	300' d/s of West Maple Road, manufactured from 2' contour map
	10780	220' d/s of West Maple Road, SECNO 10700 repeated
	10860	140' d/s of West Maple Road, SECNO 10700 repeated
	10890	110' d/s of West Maple Road, SECNO 10700 repeated
	10920	80' d/s of West Maple Road, SECNO 10700 repeated
	10930	70' d/s of West Maple Road, SECNO 10700 repeated
	10940	60' d/s of West Maple Road, SECNO 10700 repeated

Cross Section	SECNO	Location & Origin
	10944	56' d/s of West Maple Road, SECNO 10700 repeated
	10947	53' d/s of West Maple Road, SECNO 10700 repeated
O	10950	50' d/s of West Maple Road, field valley section 29
	10954	46' d/s of West Maple Road, Section O repeated
	10958	42' d/s of West Maple Road, Section O repeated
	10962	38' d/s of West Maple Road, Section O repeated
	10975	25' d/s of West Maple Road, Section O repeated
	10987	13' d/s of West Maple Road, Section O repeated
	10991	9' d/s of West Maple Road, Section O repeated
	10993	7' d/s of West Maple Road, Section O repeated
	10995	5' d/s of West Maple Road, Section O repeated
	10999	1' d/s of West Maple Road, Section P repeated
	11000	d/s face West Maple Road, field bridge section 30
P	11055	u/s face West Maple Road, field bridge section 30
	11056	1' u/s West Maple Road, bridge section P repeated
	11058	3' u/s of West Maple Road, manufactured from 2' contour map
	11060	5' u/s of West Maple Road, manufactured from 2' contour map
	11200	145' u/s of West Maple Road, manufactured from 2' contour map
Q	11425	370' u/s of West Maple Road, field valley section 31
R	12220	1165' u/s of West Maple Road, field valley section 32
	12920	1865' u/s of West Maple Road, manufactured from 2' contour map
	13160	2105' u/s of West Maple Road, manufactured from 2' contour map
	13193	2138' u/s of West Maple Road, manufactured from 2' contour map
	13209	2154' u/s of West Maple Road, manufactured from 2' contour map
	13225	2170' u/s of West Maple Road, manufactured from 2' contour map
	13250	2195' u/s of West Maple Road, manufactured from 2' contour map

Cross Section	SECNO	Location & Origin
	13275	2220' u/s of West Maple Road, manufactured from 2' contour map
	13300	2245' u/s of West Maple Road, manufactured from 2' contour map
	13350	2295' u/s of West Maple Road, manufactured from 2' contour map
	13530	2950' d/s of Middlebelt Road, manufactured from 2' contour map
S	13885	2595' d/s of Middlebelt Road, field valley section 33
	14199	1' d/s of walkway bridge, bridge section T repeated
	14200	d/s face of walkway bridge, bridge section T repeated
T	14215	u/s face walkway bridge, field bridge section 34
	14216	1' u/s of walkway bridge, bridge section T repeated
U	14740	1740' d/s of Middlebelt Road, field valley section 35
	15225	1255' d/s of Middlebelt Road, manufactured from 2' contour map
	15550	930' d/s of Middlebelt Road, manufactured from 2' contour map
	15864	616' d/s of Middlebelt Road, manufactured from 2' contour map
	15879	26' d/s of walkway bridge, SECNO 15864 repeated
	15894	11' d/s of walkway bridge, SECNO 15864 repeated
	15904	1' d/s of walkway bridge, bridge section V repeated
	15905	d/s face walkway bridge, bridge section V repeated
V	15909	u/s face walkway bridge, field bridge section 36
	15910	1' u/s of walkway bridge, bridge section V repeated
	16079	1' d/s of walkway bridge, bridge section W repeated
	16080	d/s face walkway bridge, 400' d/s of Middlebelt Road, bridge section W repeated
W	16084	u/s face walkway bridge, field bridge section 37
	16085	1' u/s of walkway bridge, bridge section W repeated
	16275	205' d/s of Middlebelt Road, manufactured from 2' contour map
	16301	179' d/s of Middlebelt Road, manufactured from 2' contour map
	16327	153' d/s of Middlebelt Road, manufactured from 2' contour map

Cross Section	SECNO	Location & Origin
	16353	127' d/s of Middlebelt Road, manufactured from 2' contour map
	16379	101' d/s of Middlebelt Road, manufactured from 2' contour map
	16405	75' d/s of Middlebelt Road, manufactured from 2' contour map
	16418	62' d/s of Middlebelt Road, manufactured from 2' contour map
X	16430	50' d/s of Middlebelt Road, field valley section 38
	16443	37' d/s of Middlebelt Road, Section X repeated
	16455	25' d/s of Middlebelt Road, Section X repeated
	16480	d/s face Middlebelt Road, bridge section Y repeated
Y	16532	u/s face Middlebelt Road, field bridge section 39
Z	17510	978' u/s of Middlebelt Road, field valley section 40
AA	17990	1458' u/s of Middlebelt Road, field valley section 41
AB	18400	150' d/s of confluence with Walnut Lake-Outlet, field valley section 42
	18510	40' d/s of confluence with Walnut Lake-Outlet, manufactured from 2' contour map
	18650	100' u/s of confluence with Walnut Lake-Outlet, manufactured from 2' contour map
AC	18750	200' u/s of confluence with Walnut Lake-Outlet, field valley section 43
	18950	400' u/s of confluence with Walnut Lake-Outlet, manufactured from 2' contour map
	19110	190' d/s of private dam, manufactured from 2' contour map
AD	19250	50' d/s of private dam, field valley section 44
	19265	35' d/s of private dam, valley section AD repeated
	19280	20' d/s of private dam, valley section AD repeated
	19295	5' d/s of private dam, valley section AD repeated
	19299	1' d/s of private dam, valley section AD repeated
AE	19300	Private dam, field sam Section 45
	19440	140' u/s of private dam, manufactured from 2' contour map

Cross Section	SECNO	Location & Origin
	19600	300' u/s of private dam, manufactured from 2' contour map
	19690	390' u/s of private dam, manufactured from 2' contour map
	19770	470' u/s of private dam, manufactured from 2' contour map
	19850	550' u/s of private dam, manufactured from 2' contour map
AF	19930	At Swan Lake Road extended, field valley section 46
AG	20815	2645' d/s of Walnut Lake Road, field valley section 47
AH	21730	1730' d/s of Walnut Lake Road, field valley section 48
	21880	1580' d/s of Walnut Lake Road, manufactured from 2' contour map
	22050	1410' d/s of Walnut Lake Road, manufactured from 2' contour map
	22175	d/s face school access culvert #1, bridge section AI repeated
AI	22191	u/s face school access culvert #1, field bridge section 49
AJ	22250	59' u/s of school access culvert #1, field valley section 50
	22474	1' d/s of school access culvert #2, bridge section AK repeated
	22475	d/s face, school access culvert #2, bridge section AK repeated
AK	22491	u/s face school access culvert #2, field bridge section 51
	22492	1' u/s of school access culvert #2, bridge section AK repeated
AL	23210	250' d/s of Walnut Lake Road, field valley section 52
AM	23390	70' d/s of Walnut Lake Road, field valley section 53
	23460	d/s face Walnut Lake Road, bridge section AN repeated
AN	23527	u/s face Walnut Lake Road, field bridge section 54
	23839	1' d/s of walkway bridge, bridge section AO repeated
	23840	d/s face walkway bridge, bridge section AO repeated
AO	23843	u/s face walkway bridge, field bridge section 66-A
	23844	1' u/s of walkway bridge, bridge section AO repeated
	24009	1' d/s of walkway bridge, bridge section AD repeated
	24010	d/s face walkway bridge, bridge section AP repeated

Cross Section	SECNO	Location & Origin
AP	24014	u/s face walkway bridge, field bridge section 66
	24015	1' u/s of walkway bridge, bridge section AP repeated
	24064	1' d/s of walkway bridge, bridge section AQ repeated
	24065	d/s face walkway bridge, bridge section AQ repeated
AQ	24070	u/s face walkway bridge, field bridge section 67
	24071	1' u/s of walkway bridge, bridge section AQ repeated
	24179	1' d/s of walkway bridge, bridge section AR repeated
	24180	d/s face walkway bridge, 160' d/s of Doherty Road, bridge section AR repeated
AR	24185	u/s face walkway bridge, field bridge section 68
	24186	1' u/s of walkway bridge, bridge section AR repeated
	24339	1' d/s of Doherty Road, bridge section AS repeated
	24340	d/s face Doherty Road Bridge, bridge section AS repeated
AS	24380	u/s face Doherty Road Bridge, field bridge section 69
	24381	1' u/s of Doherty Road, bridge section AS repeated
AT	24455	75' u/s of Doherty Road, field valley section 70
AU	25700	80' d/s of Orchard Lake Road, field valley section 71
	25749	1' d/s of sidewalk bridge, bridge section AV repeated
	25750	d/s face sidewalk bridge, bridge section AV repeated
AV	25759	u/s face sidewalk bridge, field bridge section 72
	25760	1' u/s of sidewalk bridge, bridge section AV repeated
	25780	d/s face Orchard Lake Road, bridge section AW repeated
AW	25822	u/s face Orchard Lake Road, field bridge section 73
AX	26700	878' u/s of Orchard Lake Road, field valley section 74
	26900	740' d/s of Green Road, manufactured from 2' contour map
	27000	640' d/s of Green Road, manufactured from 2' contour map
	27050	590' d/s of Green Road, manufactured from 2' contour map

Cross Section	SECNO	Location & Origin
	27075	565' d/s of Green Road, manufactured from 2' contour map
	27088	552' d/s of Green Road, manufactured from 2' contour map
	27094	546' d/s of Green Road, manufactured from 2' contour map
	27100	540' d/s of Green Road, manufactured from 2' contour map
	27250	390' d/s of Green Road, manufactured from 2' contour map
	27410	100' d/s of private bridge, 230' d/s of Green Road, manufactured from 2' contour map
	27440	70' d/s of private bridge, manufactured from 2' contour map
	27470	40' d/s of private bridge, manufactured from 2' contour map
	27500	10' d/s of private bridge, manufactured from 2' contour map
	27510	d/s face private bridge, bridge section AY repeated
AY	27532	u/s face private bridge, field bridge section 75
AZ	27590	50' d/s of Green Road, field valley section 76
	27640	d/s face Green Road Bridge, bridge section BA repeated
BA	27732	u/s face Green Road Bridge, field bridge section 77
BB	28110	50' d/s of Old Dominion Drive, field valley section 78
	28135	25' d/s of Old Dominion Drive, Section BB repeated
	28147	13' d/s of Old Dominion Drive, Section BB repeated
	28159	1' d/s of Old Dominion Drive, bridge section repeated
	28160	d/s face Old Dominion Drive Bridge, bridge section BC repeated
BC	28275	u/s face Old Dominion Drive Bridge, field bridge section 79
	28276	1' u/s of Old Dominion Drive, bridge section BC repeated
BD	28310	35' u/s of Old Dominion Drive, field valley section 80
	28396	121' u/s of Old Dominion Drive, manufactured from 2' contour map
	28482	207' u/s of Old Dominion Drive, manufactured from 2' contour map

Cross Section	SECNO	Location & Origin
	28525	250' u/s of Old Dominion Drive, manufactured from 2' contour map
	28568	293' u/s of Old Dominion Drive, manufactured from 2' contour map
BE	28655	380' u/s of Old Dominion Drive, field valley section 81
	28665	75' d/s of private bridge, Section BE repeated
	28675	65' d/s of private bridge, Section BE repeated
	28685	55' d/s of private bridge, Section BE repeated
	28695	45' d/s of private bridge, Section BE repeated
	28705	35' d/s of private bridge, Section BE repeated
	28715	25' d/s of private bridge, Section BE repeated
	28727	13' d/s of private bridge, Section BE repeated
	28739	1' d/s of private bridge, bridge section BF repeated
	28740	d/s face private bridge, bridge section BF repeated
BF	28746	u/s face private bridge, field bridge section 82
	28747	1' u/s of private bridge, bridge section BF repeated
	28847	308' d/s of Hardwoods Drive, Section BE repeated
	28947	208' d/s of Hardwoods Drive, Section BE repeated
	29047	108' d/s of Hardwoods Drive, Section BE repeated
	29083	72' d/s of Hardwoods Drive, Section BE repeated
	29119	36' d/s of Hardwoods Drive, Section BE repeated
	29131	24' d/s of Hardwoods Drive, Section BE repeated
	29143	12' d/s of Hardwoods Drive, Section BE repeated
	29149	6' d/s of Hardwoods Drive, Section BE repeated
	29154	1' d/s of Hardwoods Drive, bridge section BG repeated
	29155	d/s face Hardwoods Drive Culvert, bridge section BG repeated
BG	29281	u/s face Hardwoods Drive Culvert, field bridge section 83

Cross Section	SECNO	Location & Origin
	28525	250' u/s of Old Dominion Drive, manufactured from 2' contour map
	28568	293' u/s of Old Dominion Drive, manufactured from 2' contour map
BE	28655	380' u/s of Old Dominion Drive, field valley section 81
	28665	75' d/s of private bridge, Section BE repeated
	28675	65' d/s of private bridge, Section BE repeated
	28685	55' d/s of private bridge, Section BE repeated
	28695	45' d/s of private bridge, Section BE repeated
	28705	35' d/s of private bridge, Section BE repeated
	28715	25' d/s of private bridge, Section BE repeated
	28727	13' d/s of private bridge, Section BE repeated
	28739	1' d/s of private bridge, bridge section BF repeated
	28740	d/s face private bridge, bridge section BF repeated
BF	28746	u/s face private bridge, field bridge section 82
	28747	1' u/s of private bridge, bridge section BF repeated
	28847	308' d/s of Hardwoods Drive, Section BE repeated
	28947	208' d/s of Hardwoods Drive, Section BE repeated
	29047	108' d/s of Hardwoods Drive, Section BE repeated
	29083	72' d/s of Hardwoods Drive, Section BE repeated
	29119	36' d/s of Hardwoods Drive, Section BE repeated
	29131	24' d/s of Hardwoods Drive, Section BE repeated
	29143	12' d/s of Hardwoods Drive, Section BE repeated
	29149	6' d/s of Hardwoods Drive, Section BE repeated
	29154	1' d/s of Hardwoods Drive, bridge section BG repeated
	29155	d/s face Hardwoods Drive Culvert, bridge section BG repeated
BG	29281	u/s face Hardwoods Drive Culvert, field bridge section 83

Cross Section	SECNO	Location & Origin
	29282	1' u/s of Hardwoods Drive, bridge section BG repeated
BH	29300	19' u/s of Hardwoods Drive, field valley section 84
	29669	1' d/s of private bridge, bridge section BI repeated
	29670	d/s face private bridge, bridge section BI repeated
BI	29689	u/s face private bridge, field bridge section 85
	29690	1' u/s of private bridge, bridge section BI repeated
	29860	d/s face private bridge, bridge section BJ repeated
BJ	29876	u/s face private bridge, field bridge section 86
	29920	d/s face Lockhart Drive Culvert, bridge section BK repeated
BK	29944	u/s face Lockhart Drive Culvert, field bridge section 87
BL	29970	26' u/s of Lockhart Drive, field valley section 88

Cross Section Locations

Walnut Lake - Outlet

Cross Section	SECNO	Location & Origin
A	430	430' u/s of confluence with Franklin Branch, Rouge River, field valley section 55
	500	500' u/s of confluence with Franklin Branch, Rouge River, manufactured from 2' contour map
	650	650' u/s of confluence with Franklin Branch, Rouge River, manufactured from 2' contour map
	800	325' d/s of Spring Road, manufactured from 2' contour map
	900	225' d/s of Spring Road, manufactured from 2' contour map
	1015	110' d/s of Spring Road, manufactured from 2' contour map
	1115	10' d/s of Spring Road, manufactured from 2' contour map
	1119	6' d/s of Spring Road, manufactured from 2' contour map
	1124	1' d/s of Spring Road, bridge section B repeated
	1125	d/s face Spring Road Bridge, bridge section B repeated
B	1147	u/s face Spring Road Bridge, field bridge section 56
	1148	1' u/s of Spring Road, bridge section B repeated
	1169	1' d/s of private dam, Section C repeated
C	1170	Private dam, field dam section 57
	1300	130' u/s of private dam, manufactured from 2' contour map
	1395	40' d/s of private bridge, manufactured from 2' contour map
	1415	20' d/s of private bridge, manufactured from 2' contour map
	1434	1' d/s of private bridge, bridge section D repeated
	1435	d/s face private bridge, bridge section D repeated
D	1445	u/s face private bridge, field bridge section 58
	1446	1' u/s of private bridge, bridge section D repeated
E	1560	115' u/s of private bridge, 35' d/s of Walnut Lake Road, field valley section 59

Cross Section	SECNO	Location & Origin
	1585	10' d/s of Walnut Lake Road, Section E repeated
	1591	4' d/s of Walnut Lake Road, Section E repeated — not in run
	1594	1' d/s of Walnut Lake Road, bridge section F repeated
	1595	d/s face Walnut Lake Road, bridge section F repeated
F	1660	u/s face Walnut Lake Road, field bridge section 60
	1661	1' u/s of Walnut Lake Road, bridge section F repeated
	1670	10' u/s of Walnut Lake Road, Section G repeated
	1680	20' u/s of Walnut Lake Road, Section G repeated
	1770	110' u/s of Walnut Lake Road, Section G repeated
G	1865	205' u/s of Walnut Lake Road, field valley section 61
	2600	940' u/s of Walnut Lake Road, manufactured from 2' contour map
	3344	1' d/s of private bridge, bridge section H repeated
	3345	d/s face private bridge, bridge section H repeated
H	3365	u/s face private bridge, field bridge section 62
	3366	1' u/s of private bridge, bridge section H repeated
I	3440	75' u/s of private bridge, field valley section 63
J	4380	360' d/s of Middlebelt Road, field valley section 64
	4499	1' d/s of private bridge, bridge section K repeated
	4500	d/s face private bridge, bridge section K repeated
K	4520	u/s face private bridge, field bridge section 65
	4521	1' u/s of private bridge, bridge section K repeated
L	4700	40' d/s of Middlebelt Road, field valley section 89
	4720	20' d/s of Middlebelt Road, Section L repeated
	4740	d/s face Middlebelt Road, bridge section M repeated
M	4800	u/s face Middlebelt Road, field bridge section 90
	4920	d/s face private bridge, bridge section N repeated

Cross Section	SECNO	Location & Origin
N	4928	u/s face private bridge, field bridge section 91
	5219	1' d/s of private bridge, bridge section O repeated
	5220	d/s face private bridge, bridge section O repeated
O	5242	u/s face private bridge, field bridge section 92
	5243	1' u/s of private bridge, bridge section O repeated
P	5320	78' u/s of private bridge, field valley section 93
	5410	d/s face private bridge, bridge section Q repeated
Q	5418	u/s face private bridge, field bridge section 94

APPENDIX B

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY BSM DATE 4-10-78 JOB DESCRIPTION W BLOOMFIELD TWP FIS SHEET ____ OF ____
SUBJECT BRIDGE SECTION #20 TEN HILL DRIVE JOB NO. 5850-10

TEN HILL DRIVE

3-5' DIA. CONCRETE CULVERTS

A = 58.9 SQ FT. ENTRANCE DESIGN: HEADWALL

L = 28' P = 47.1

R = A/P = 58.9/47.1 = 1.25

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.2

$$K_F = \frac{29.1\,(n^2)L}{R^{4/3}} = \frac{29.1\,(.018)^2\,28}{(1.25)^{4/3}}$$

$$= \frac{.26}{1.35} = 0.19$$

XKOR = 1.39

"C" = 2.84 (GRAVEL ROAD)

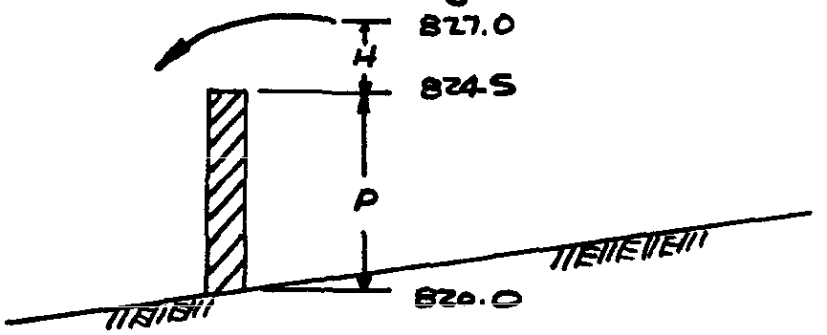
JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RSM DATE 6-1-78 JOB DESCRIPTION [illegible] BLOOMFIELD TWP FIS SHEET ____ OF ____
SUBJECT FRANKLIN BRANCH - DAM #2E-A JOB NO. 5850-10

PRIVATE DAM #1

P.-5-7 KING & BRATER - HANDBOOK OF HYDRAULICS

$$C = 3.33\left(1 + 0.259\frac{H^2}{d^2}\right) \qquad d = P + H$$



$P = 4.5$
$H = 2.5$
$d = 7.0$

$$C = 3.33\left(1 + .259\frac{(2.5)^2}{(7)^2}\right)$$

$$C = 3.33\,(1.033)$$

$$\text{"}C\text{"} = 3.44$$

BRIDGE SECTION 25

9' x 4.4' BOX CULVERT

A = 39.6 SQ FT.

L = 9' P = 26.8

$R = A/P = 39.6/26.8 = 1.5$

ΣK_{OR} = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.7

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.025)^2\, 9}{(1.5)^{4/3}}$$

$$= \frac{0.16}{1.72} = 0.10$$

$\Sigma K_{OR} = 1.80$

"C" = 2.84 (GRAVEL ROAD)

MIDDLEBELT ROAD

8'X5.5' BOX CULVERT

A = 44 SQ. FT.

L = 52' P = 27'

R = A/P = 1.63

ΣK_{OR} = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5 (HEADWALL)

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1(.018)^2 52}{1.63} = 0.26$$

ΣK_{OR} = 1.76

"C" = 3.02 (PAVED ROAD)

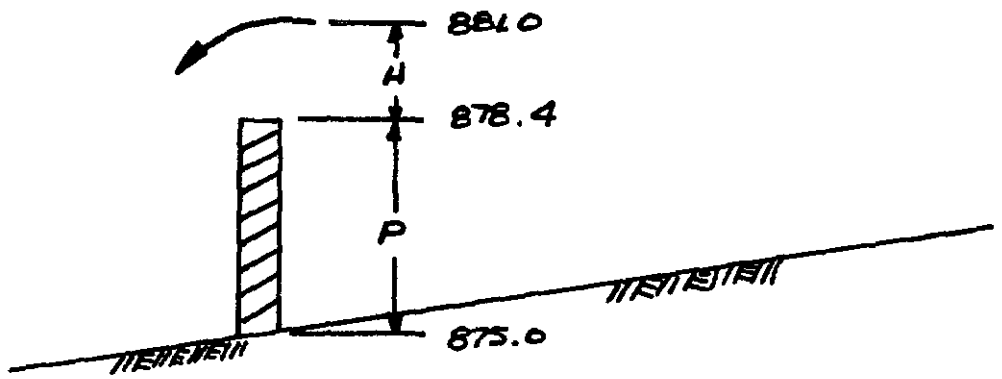
JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RSH DATE 7-24-78 JOB DESCRIPTION W. Bloomfield Twp. FIS SHEET ____ OF ____
SUBJECT Franklin Branch Dam #45 JOB NO. 58[illegible]-10

PRIVATE DAM #2

P. 5-7 KING & BRATER - HANDBOOK OF HYDRAULICS

$$C = 3.33\left(1 + .259\frac{H^2}{d^2}\right) \qquad d = P + H$$



$P = 3.4$
$H = 2.6$
$d = 6.0$

$$C = 3.33\left(1 + 0.259\frac{(2.6)^2}{(6.0)^2}\right)$$

$$C = 3.33\ (1.05)$$

"C" = 3.49

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RCM DATE _____ JOB DESCRIPTION W. BLOOMFIELD TWP FIS SHEET ____ OF ____
SUBJECT FRANKLIN BRANCH BRIDGE SECTION #49 JOB NO. [illegible]

SCHOOL ACCESS CULVERT

4' DIA. CMP

$A = 12.57\ Ft^2$

$P = 12.57'$

$R = A/P = 1.0$

$n = 0.024$

$L = 16'$

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.9 (PROJECTING)

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.024)^2\, 16}{1}$$

$$= 0.27$$

XKOR = 2.17

"C" = 2.95

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RSJ DATE _____ JOB DESCRIPTION W. BLOOMFIELD TWP FIS _____ SHEET _____ OF _____
SUBJECT BRANCH SECTION #54 _____ JOB NO. 5852-10

WALNUT LAKE ROAD

65" x 40" CMP

AREA = 14.3 FT²

P = 14.14 FT

R = A/P = 1.01

L = 67'

n = 0.024

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5 (END SECTION CONFORMING TO FILL SLOPE)

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1(.024)^2 67}{1.01^{4/3}} = \frac{1.12}{1.01}$$

$$= 1.1$$

XKOR = 2.6

"C" = 3.02 (PAVED ROAD)

SKEW FACTOR = $\frac{46}{67} = 0.69$

ORCHARD LAKE ROAD

7' x 2.75' CONCRETE BOX (APPROXIMATE DIMENSIONS)

"n" = 0.018

L = 42' ENTRANCE CONDITION: HEADWALL

$A = 19.25\ ft^2$ P = 21'

R = A/P = 0.92

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1 (.018)^2 42}{(.92)^{4/3}} = \frac{0.40}{0.89}$$

$$= 0.45$$

XKOR = 1.95

"C" = 3.02 (PAVED ROAD)

PRIVATE BRIDGE - D/S OF GREEN ROAD

CONCRETE BOX - ARCH

$A = 13.6\ ft^2$ $P = 13.14'$

$R = A/P = 1.04$

$L = 22$

$n = .018$

ENTRANCE CONDITION: CONCRETE WINGWALLS

ΣKQR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1 (.018)^2 22}{(1.04)^{4/3}} = \frac{0.21}{1.05}$$

$$= 0.2$$

$\Sigma KQR = 1.70$

"C" = 2.96

GREEN ROAD CULVERT

6' DIA. CMP

$L = 92'$

$n = 0.032$

ENTRANCE CONDITION: END SECTION CONFORMING TO FILL SLOPE

$A = 28.3\ Ft^2 \quad P = 18.8'$

$R = 1.51$

ΣK_{OR} = EXIT LOSS + ENTRANCE LOSS + K_F

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.032)^2\, 92}{(1.51)^{4/3}}$$

$$= \frac{2.74}{1.73} = 1.58$$

$\Sigma K_{OR} = 3.08$

"C" = 3.02 (PAVED ROAD)

PENATE BRIDGE

2' DIA. VITRIFIED PIPE

$A = 3.14$ FT^2 $P = 6.28$ FT

$R = A/P = 0.5$ $L = 19'$ "n" $= 0.015$

ENTRANCE CONDITION: PROJECTING FROM FILL

ΣK_{OR} = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.9

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1(.015)^2 19}{(.5)^{4/3}}$$

$$= \frac{.124}{.397} = 0.31$$

$\Sigma K_{OR} = 2.21$

"C" = 2.90

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY [illegible] DATE [illegible] JOB DESCRIPTION W. [illegible] TWP F.S SHEET ____ OF ____
SUBJECT [illegible] JOB NO. [illegible]

PRIVATE CULVERT

24" DIA. VIT. PIPE

$A = 3.14\ Ft^2 \quad P = 6.28\ Ft$

$R = A/P = 0.5$

$n = 0.015$

$L = 16'$

ENTRANCE CONDITION: PROJECTING FROM FILL

XKOR = EXIT LOSS + ENTRANCE LOSS + KF

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1(.015)^2 16}{(.5)^{4/3}} = \frac{.105}{.40}$$

$$= .26$$

XKOR = 1.76

"C" = 2.89

LOCKHART DRIVE CULVERT

36" x 22" CMP (.2' SILT)

A = 3.9 FT^2 P = 7.5 FT

R = A/P = 0.52 ENTRANCE CONDITION : PROJECTING

"n" = 0.029

L = 24'

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.9

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.029)^2\,24}{(0.52)^{4/3}} = 1.4$$

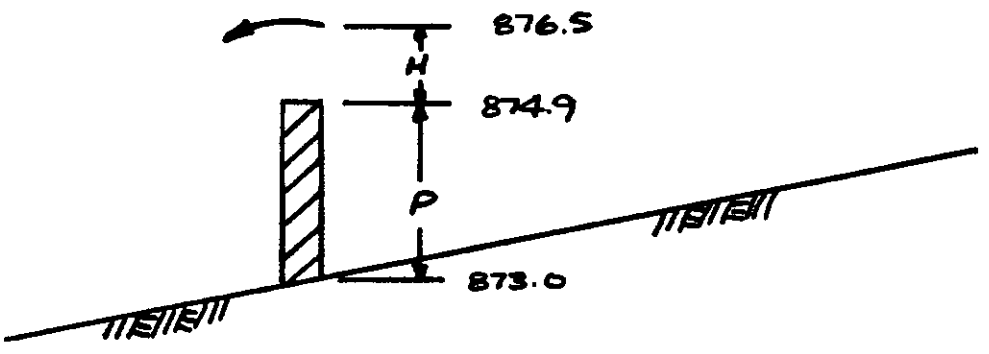
XKOR = 3.3

"c" = 2.90

PRIVATE DAM #3

P.S-7 KING & BRATER - HANDBOOK OF HYDRAULICS

$$C = 3.33\left(1 + .259\frac{H^2}{d^2}\right) \qquad d = P + H$$



P = 1.9
H = 1.6
d = 3.5

$$C = 3.33\left(1 + 0.259\left(\frac{1.6^2}{(3.5)^2}\right)\right)$$

"C" = 3.51

WALNUT LAKE ROAD CULVERT

4' DIA. CMP

$A = 12.57$ FT^2 $P = 12.57'$

$R = A/P = 1.0$

$L = 65'$

$n = 0.024$

ENTRANCE CONDITION: END SECTION CONFORM TO FILL.

$\Sigma K_0 R$ = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.5

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.1\,(.024)^2 65}{1}$$

$$= \frac{1.09}{1} = 1.09$$

$\Sigma K_0 R = 2.59$

"C" = 3.02 (PAVED BAD)

MIDDLEBELT ROAD

3' DIA. CMP

$L = 60'$

$n = 0.024$

AREA = 7.1 SQ FT. $P = 9.4$ FT

$R = A/P = 0.75$

ENTRANCE CONDITION: PROJECTING FROM FILL

ΣK_{OR} = EXIT LOSS + ENTRANCE LOSS + K_F

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.9

$$K_F = \frac{29.1 n^2 L}{R^{4/3}} = \frac{29.1 (.024)^2 60}{(.75)^{4/3}} = \frac{1.0}{.68}$$

$$= 1.47$$

$\Sigma K_{OR} = 3.37$

"C" = 3.02 (PAVED ROAD)

PRIVATE BRIDGE

10' WOODEN DECK

$A = 18.8\ FT^2 \quad P = 24\ FT$

$R = A/P = 0.78$

$L = 8'$

$n = 0.035$

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.7

$$K_F = \frac{29.1\, n^2 L}{R^{4/3}} = \frac{29.(.035)^2 8}{.78^{4/3}}$$

$$= \frac{0.29}{0.72} = 0.40$$

XKOR = 2.10

"C" = 2.90

PRIVATE BRIDGE

9' X 2.4' WOODEN DECK

AREA = 21.6 Ft^2 P = 22.8 Ft

R = A/P = 0.95

n = .04

L = 8'

XKOR = EXIT LOSS + ENTRANCE LOSS + FRICTION LOSS

ASSUME:

EXIT LOSS = 1.0

ENTRANCE LOSS = 0.7

$$K_F = \frac{29.1(n^2)L}{R^{4/3}} = \frac{29.1(.04)^2 8}{.95^{4/3}}$$

$$= \frac{0.37}{.93} = 0.40$$

XKOR = 2.10

"C" = 3.02 (PAVED ROAD)

FRANKLIN BRANCH
ROUGE RIVER

BRIDGE INFORMATION

Johnson & Anderson, Inc.
Consulting Engineers
P. O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

HYDRAULIC STRUCTURAL DATA

B.S. # 20

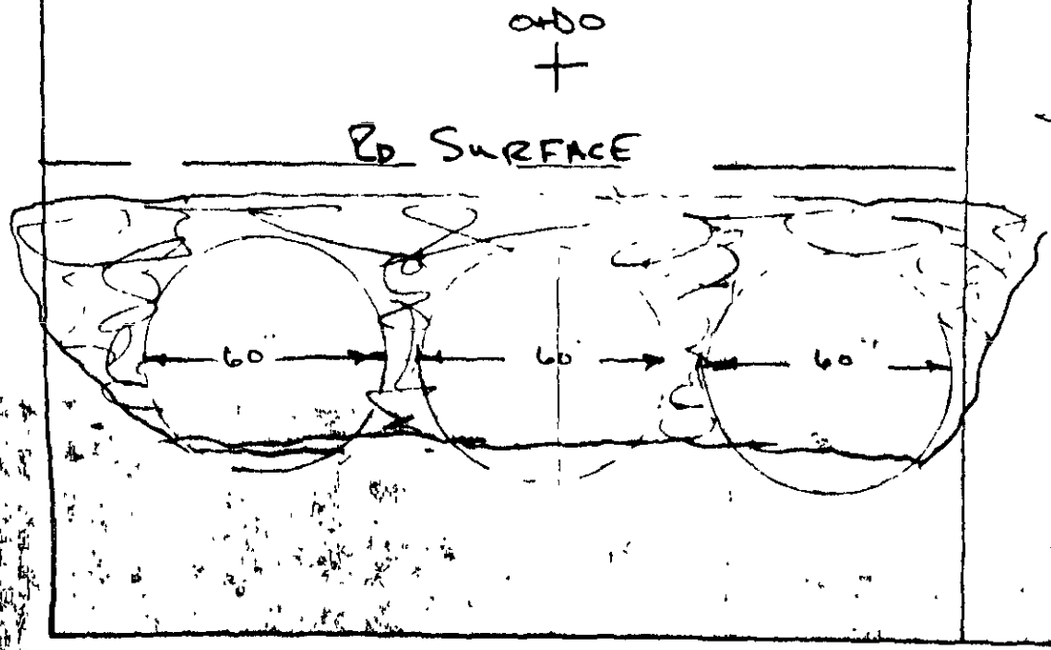
Code No. 3850-18

Job Name: W. BLOOMFIELD F.I.S.		By: R.M
Date: 2-23-78	Feature: 3- 60" CONC. CULVERTS	Water Course: ROUGE RIVER
Remarks: ℄ IS CENTER OF CENTER PIPE		
		Photos 17-18-19-20-21-22

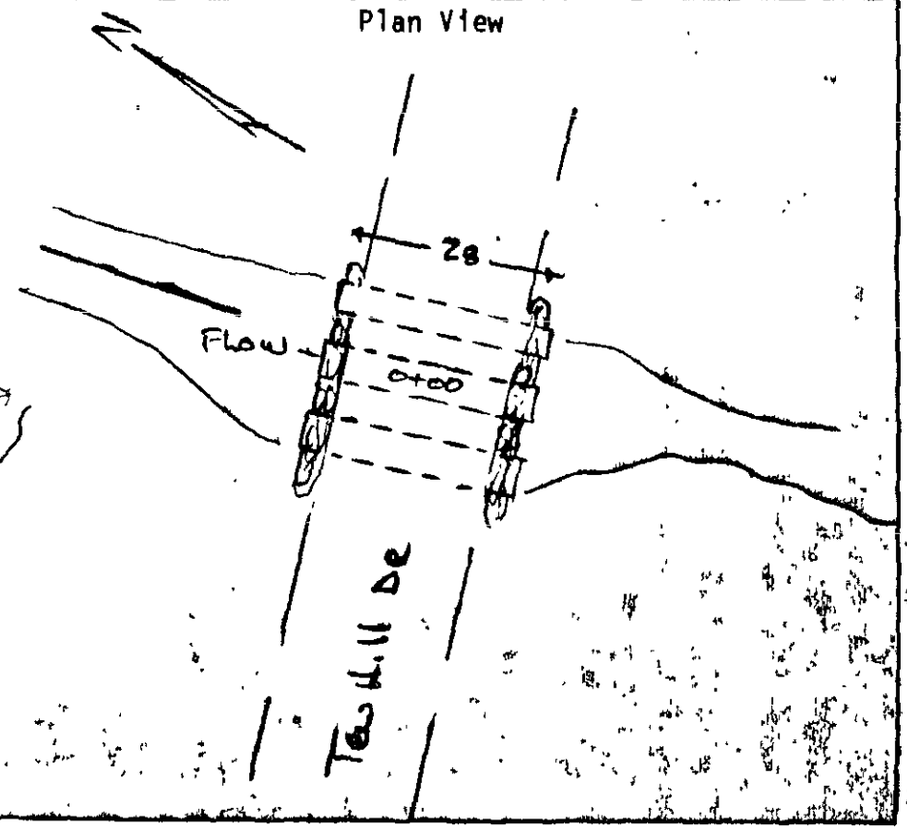
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 810.6	Length: 28'	Width of Deck: 19'	Skew: —

FIELD SKETCH

Profile View



Plan View



+	W.	-	ELEV	R
	821.26			
		2.01	819.25	T.P. #13
3.85	823.10			
		4.12	818.98	T.P. #14
8.08	827.06			
		5.13	821.93	T.P. #15
5.53	821.53			
				T.P. #16
5.12	827.06			

Pg 9

B.S. ℄ 22 (F)

USF	DSF		
26	27	28	29
D	U	R	L

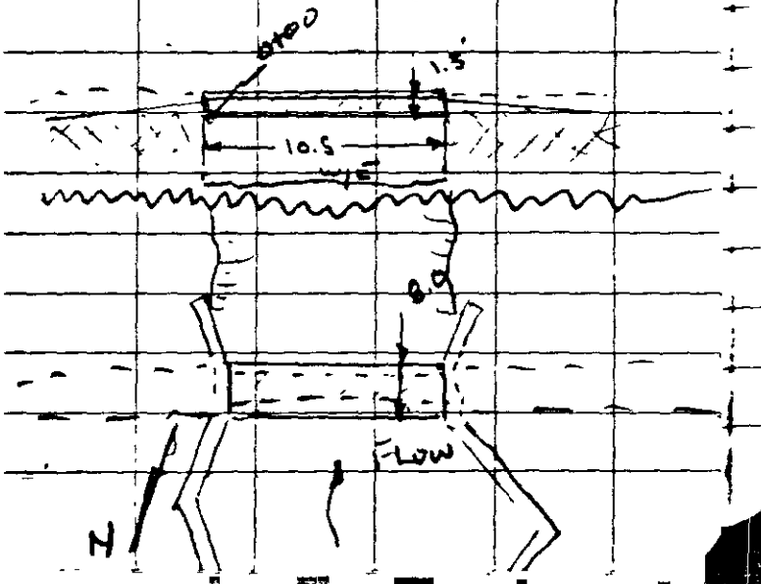
829.92

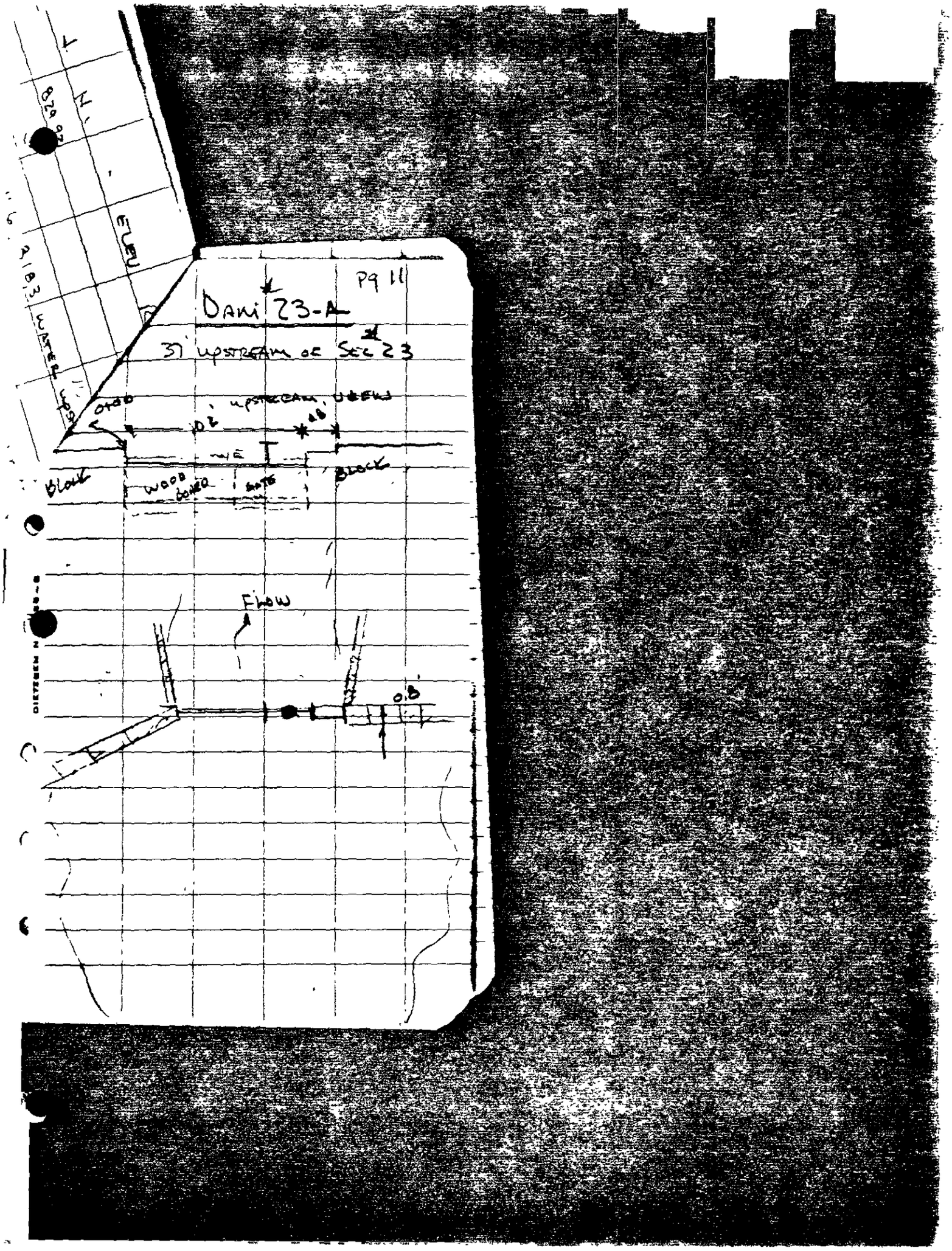
CHANNEL BOTTOM

0'	5.25	10.5
12.1	12.5	12.7
817.8	817.4	817.2

TOP OF DECK PROFILE

0	10	25 L	12 L
8.5	8.8	8.5	8.0
821.4	821.1	821.4	821.9




Pg 11
Dani 23-A
37' upstream of Sec 23
Block
Block
Flow
0.8'

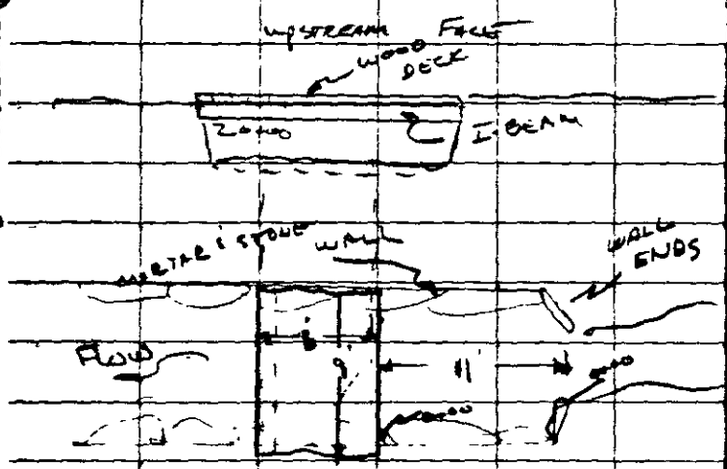
B.S. ≠ 25 1R 3U
2L 4D
5 DSF
6 USF

PG 14

833.98

CHANNEL BOTTOM

0	4 SR	9 R
11.8	11.7	11.8
822.2	822.3	822.2

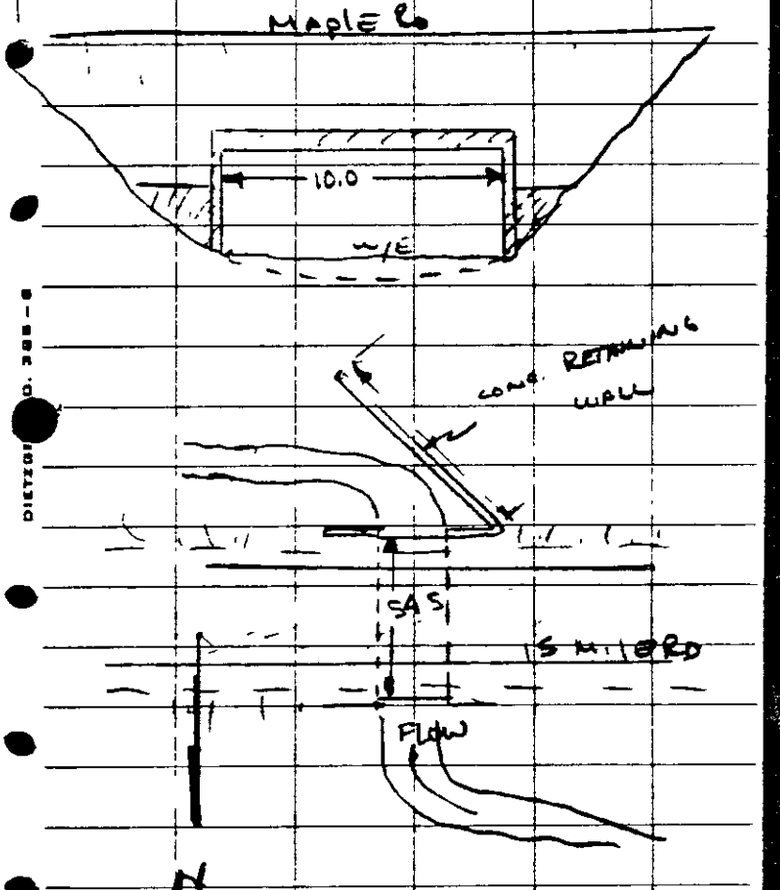


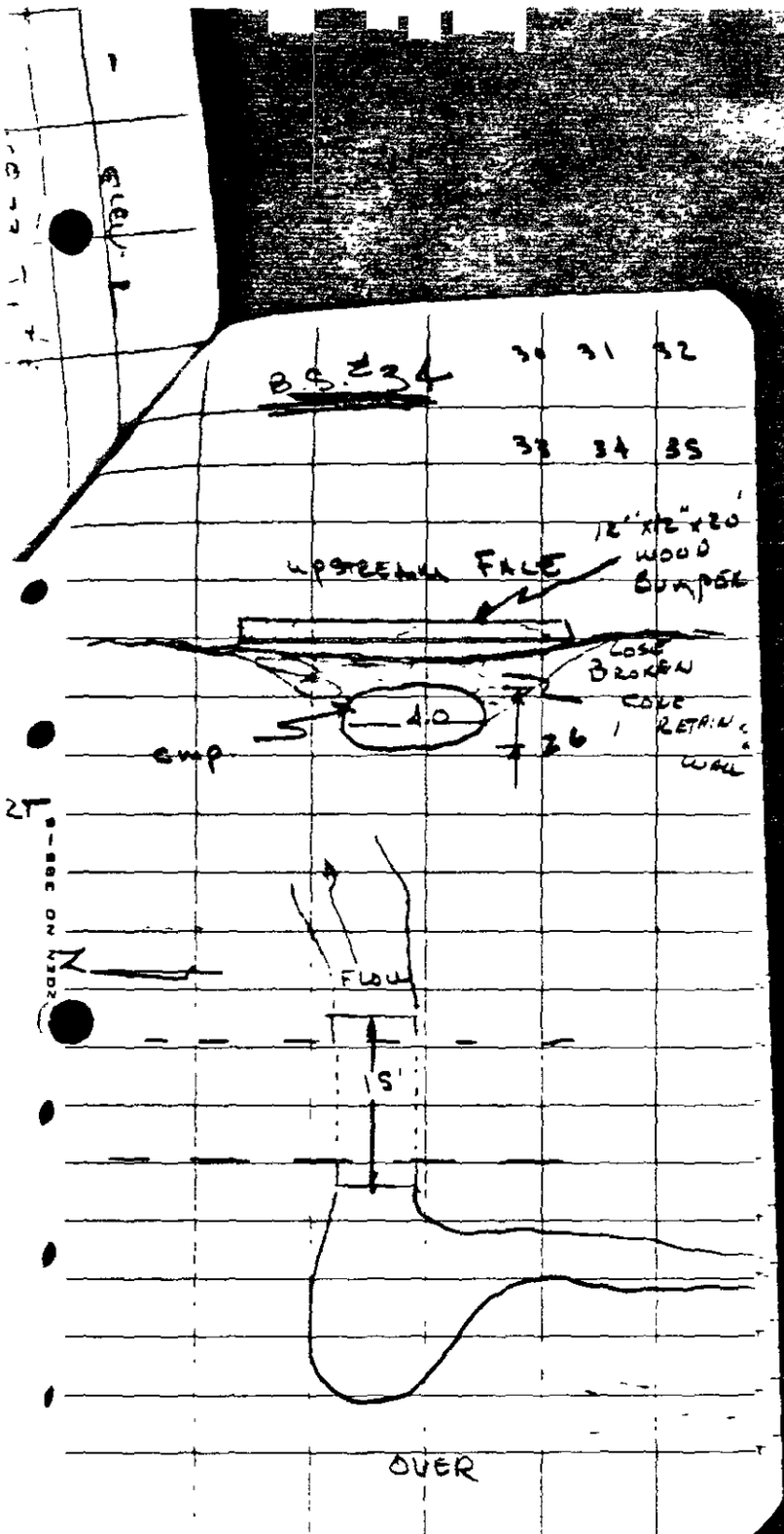
OVER

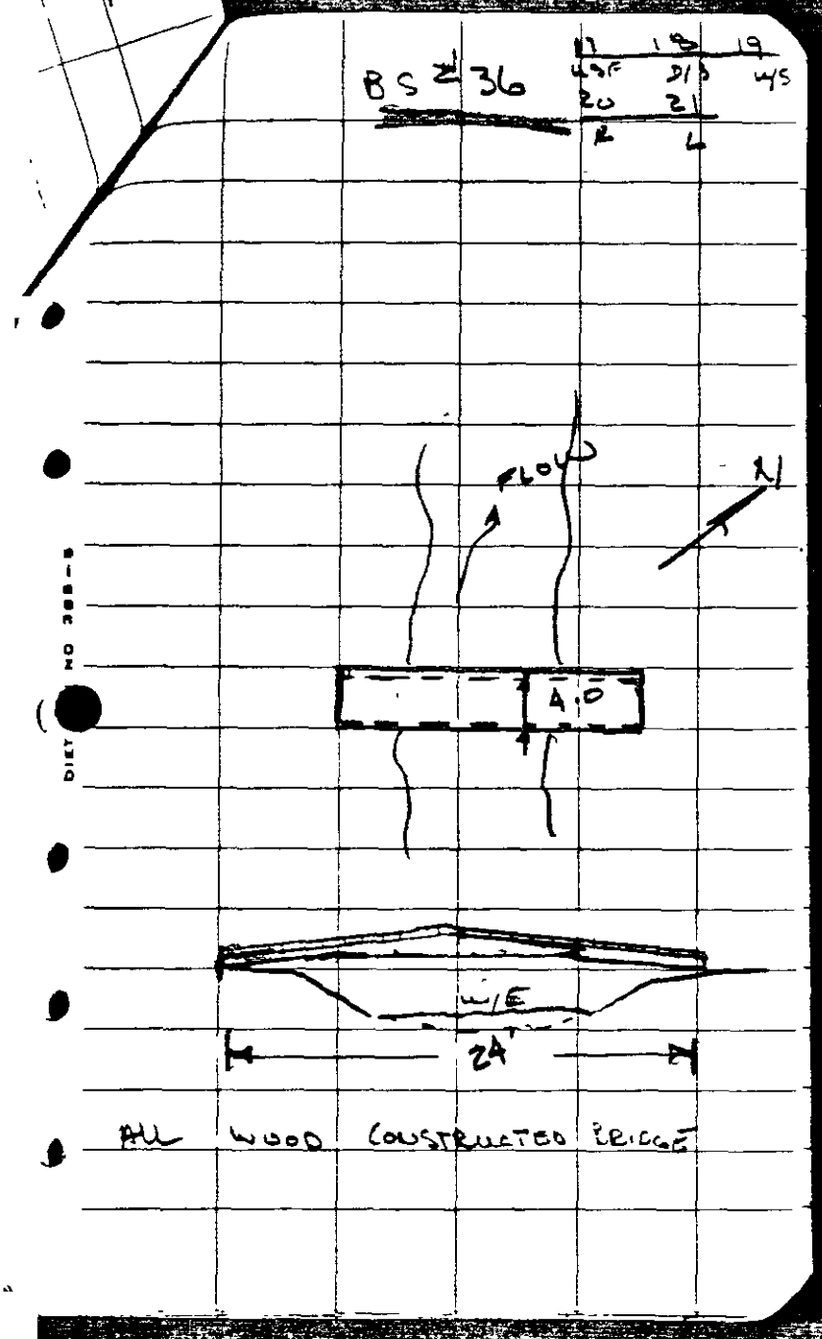
859.48

B.S. #30

CONC. BOX CULVERT



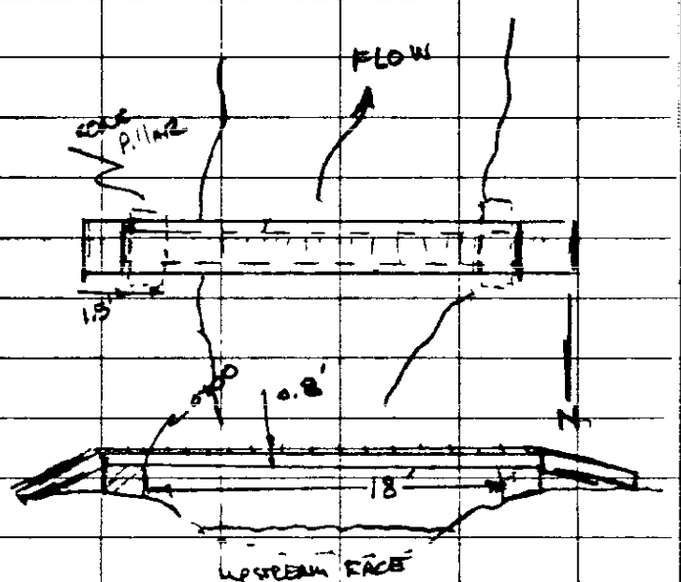

B.S. #34
30 31 32
33 34 35
12"x12"x20' WOOD BUMPER
UPSTREAM FACE
LOSE BROKEN CONC RETAIN WALL
4.0
26
CMP
FLOW
15'
OVER



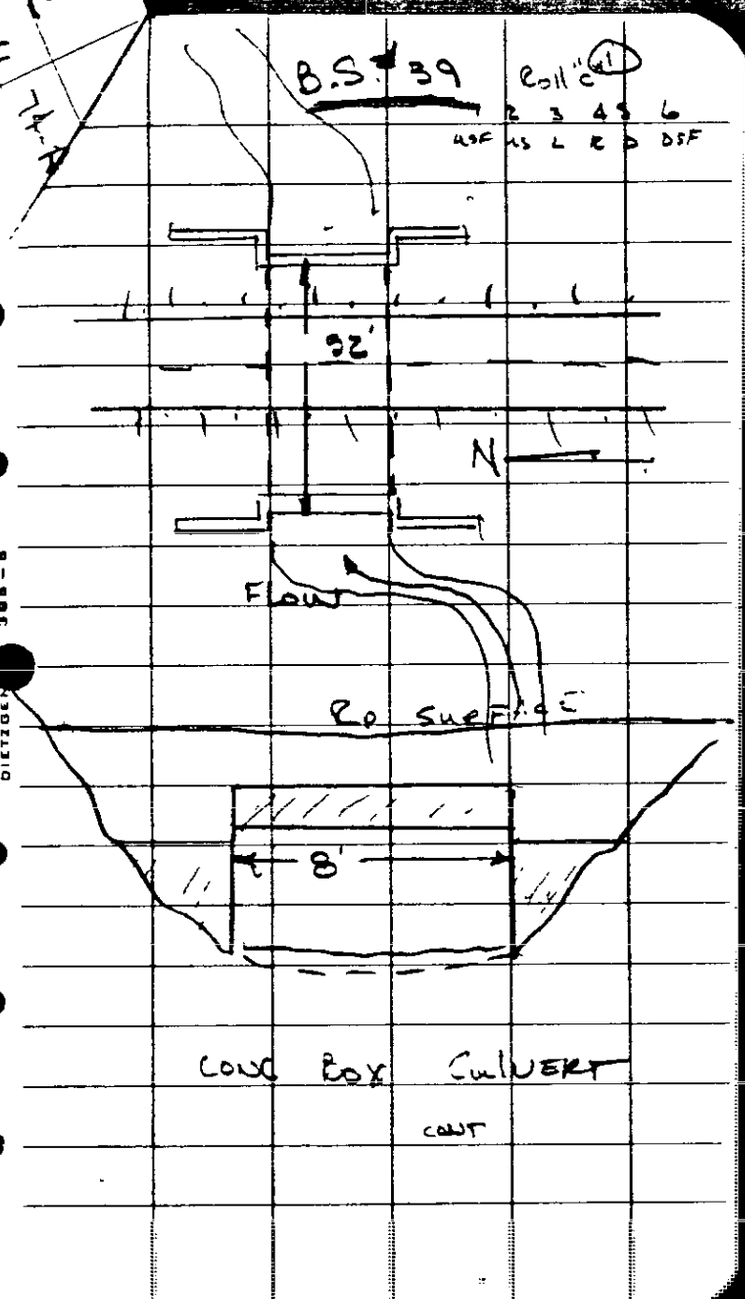
ALL WOOD CONSTRUCTED BRIDGE

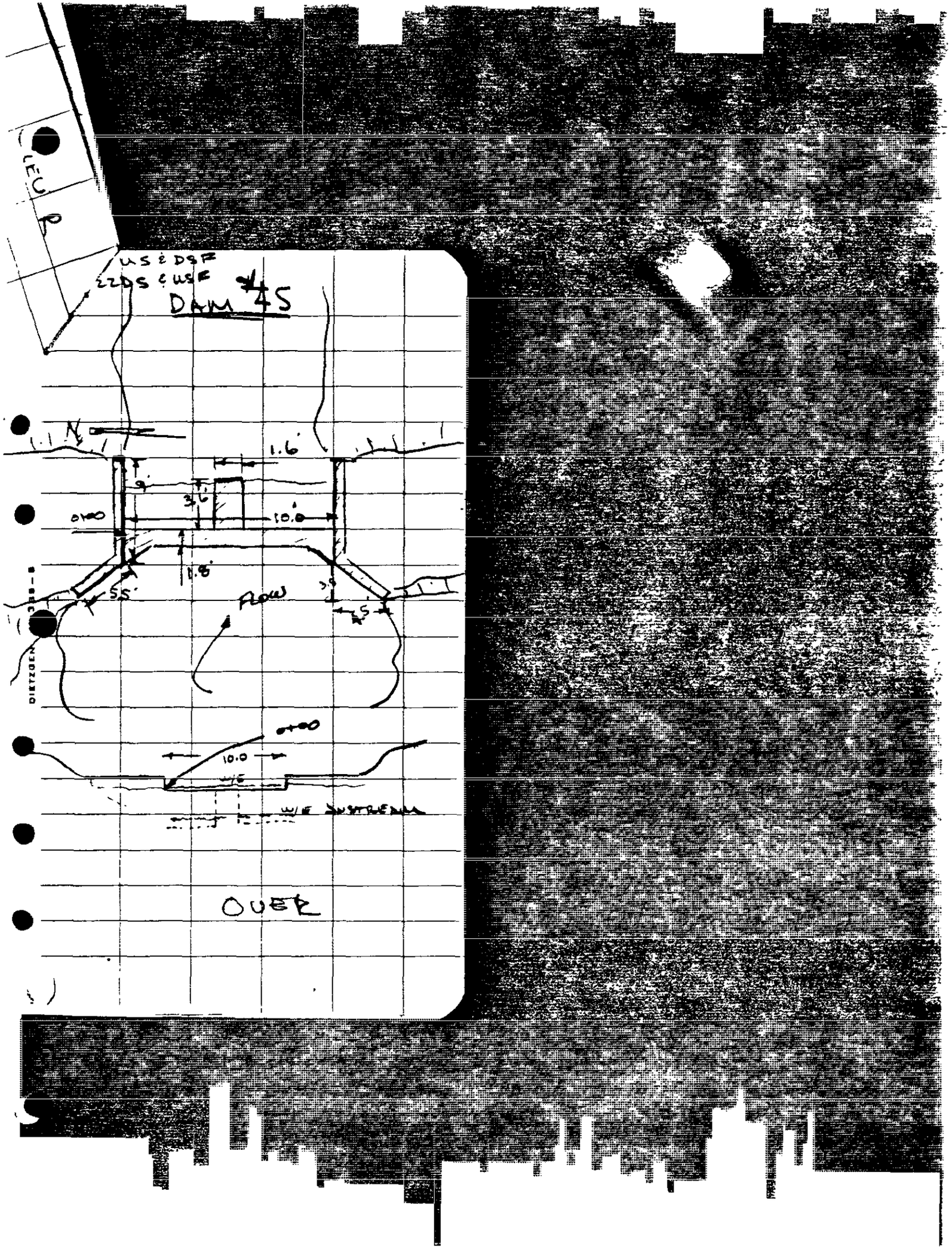
BS # 37

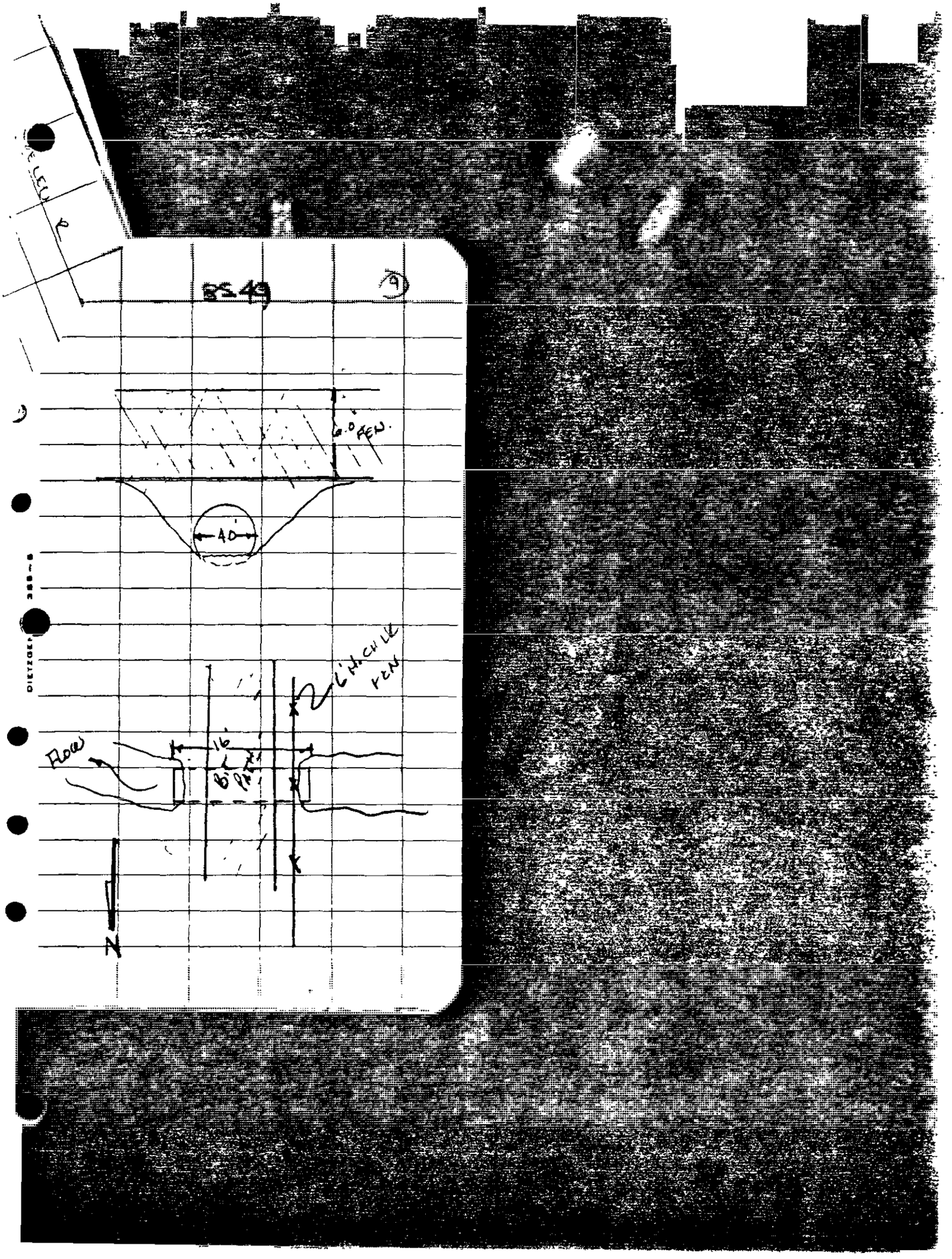
11	12	13
USF	DSF	U/S
14	15	16
D/S	E	L



WOOD PLANK ON 0.5' IRON BEAM


B.S. #39
Roll "C" #1
2 3 4 5 6
USF US L R D DSF
32'
N
FLOW
RD SURFACE
8'
CONC BOX CULVERT
CONT


DAM #5
1.6'
3.6'
10.0'
1.8'
5.5'
FLOW
10.0
OVER



BS49
9
6.0 FEN.
40'
6' HACHUR FEN
16'
FLOW
N

17

(6)

B.S. #51

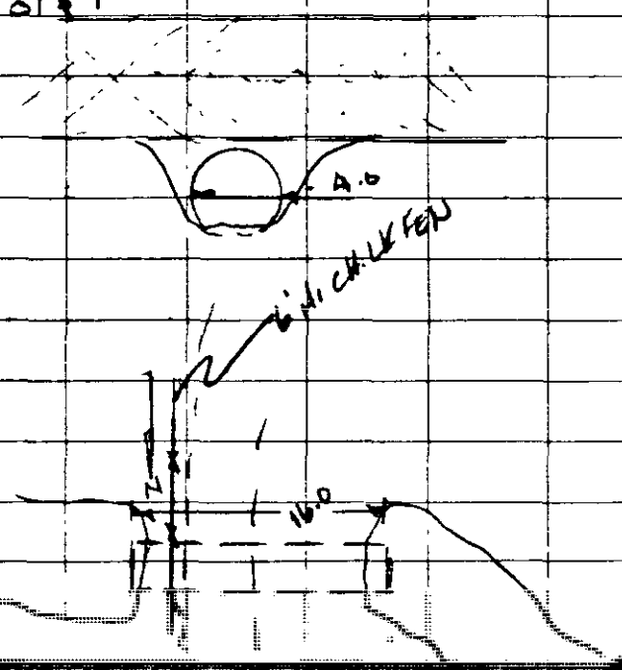
$\boxed{\frac{899}{900}\ 41}$

PATH PROFILE

-75'6

4.7

4



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HYDRAULIC STRUCTURAL DATA

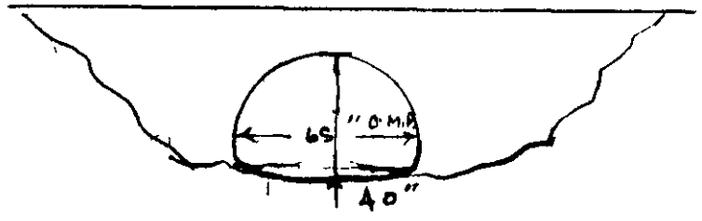
BS #54

Code No. 5950-10

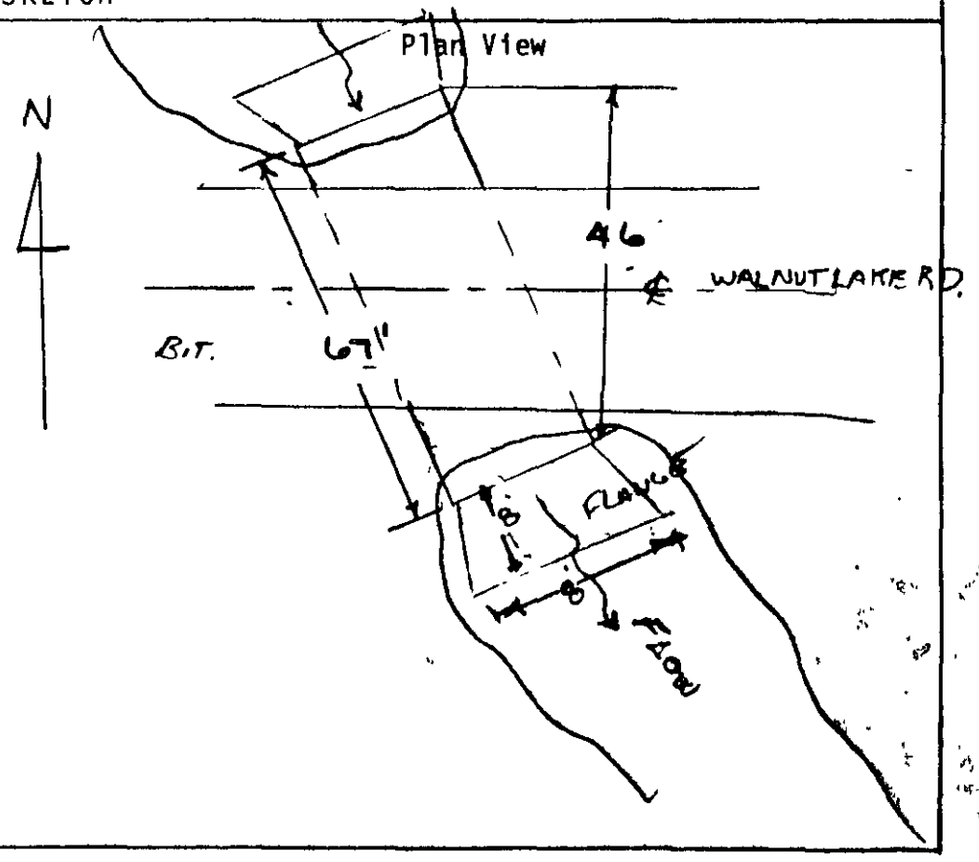
Job Name: WEST BLOOMFIELD F.I.S.			By: RON MOSES
Date: 3-13-78	Feature: 65" x 40" multi-plate culvert		Water Course: ROUGE RIVER
Remarks: PIPE LOOKS FAIRLY CLEAN ALSO HAS FLAIRED ENDS ' LONG ' WIDE			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area:
Water Elevation: 893.3	Length: 67'	Width of Deck: 65"	Skew:

FIELD SKETCH

Profile View



Plan View



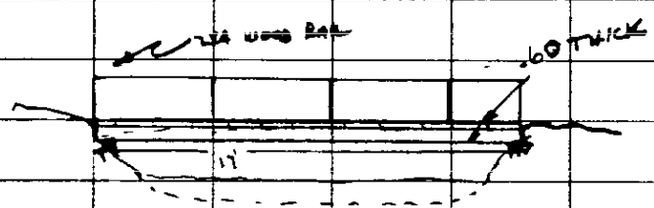
4 U
5 L
6 R

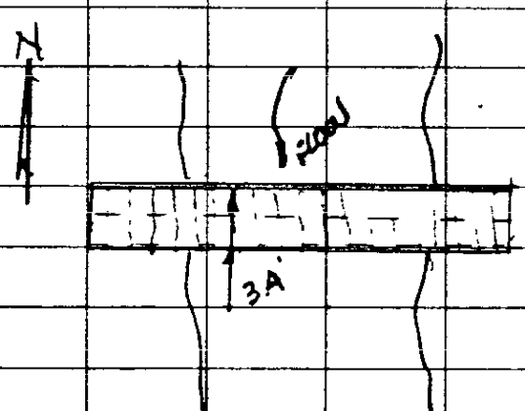
BS. 66-A

(1)

Top of Hyd. of Sec #54

WOOD CONSTRUCTED FOOT BRIDGE

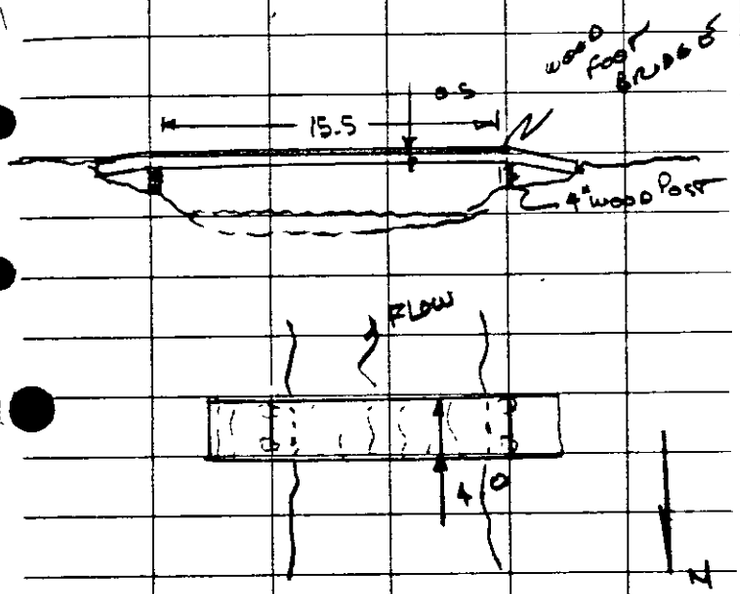




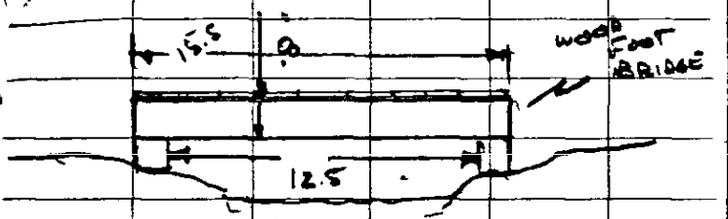
10 L
11 L

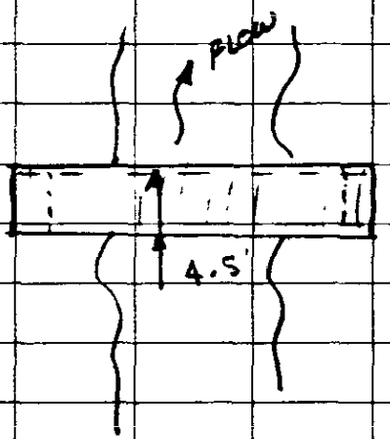
B.S. 66

(3)



B.S. #67





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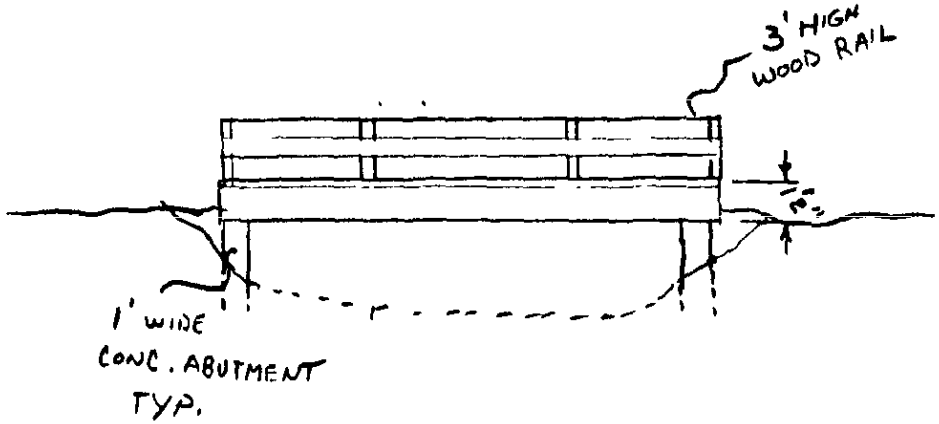
HYDRAULIC STRUCTURAL DATA
B.S. # 68

Code No. 5850-10

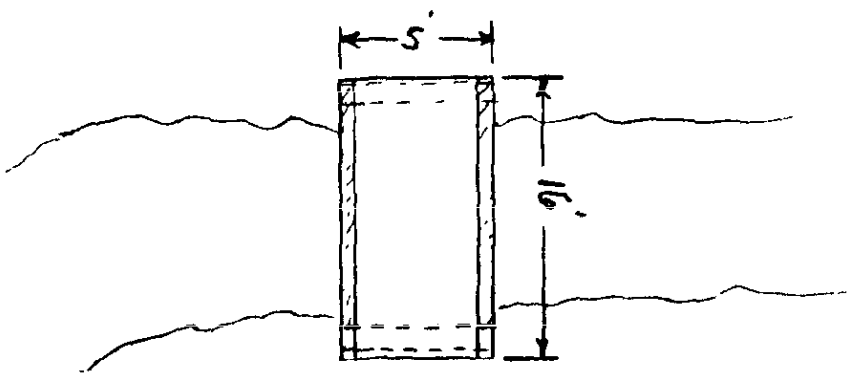
Job Name: WEST BLOOMFIELD F.I.S.			By: R. MOSES
Date: 3-20-78	Feature: WOOD FOOT BRIDGE		Water Course: ROUGE RIVER
Remarks:			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 893.3	Length: 16'	Width of Deck: 5'	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

B.S 69

Code No. 5850-10

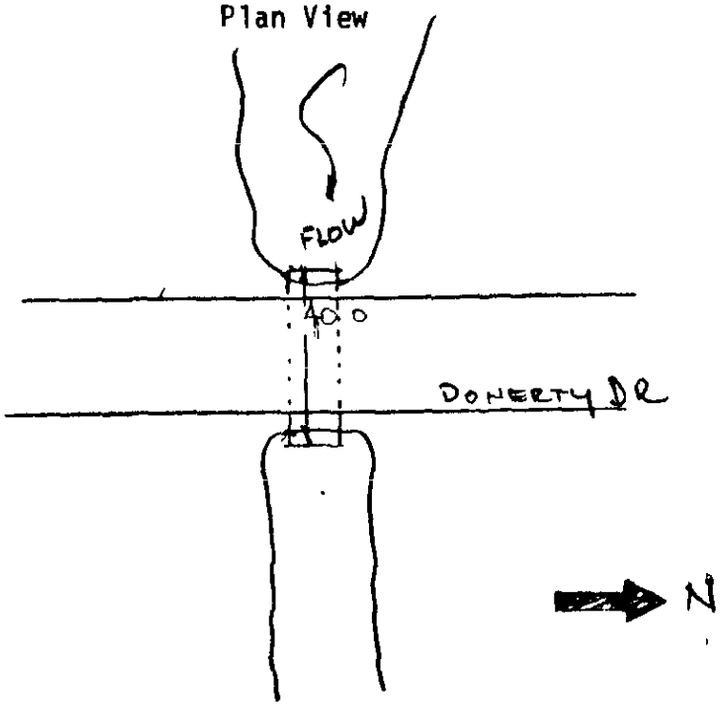
Job Name: WEST BROOMFIELD F.I.S.			By: R. MOSES
Date: 3-20-78	Feature: 60" CMP		Water Course: ROUGE RIVER
Remarks: UPSTREAM & DNSTREAM OF BRIDGE. CHANNEL HAS DEBRIS & BRUSH IN IT.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 893.4	Length: 40	Width of Deck: 5'	Skew: —

FIELD SKETCH

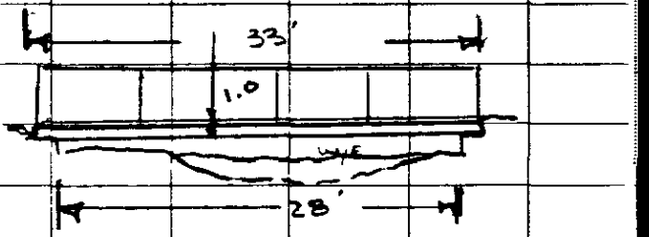
Profile View

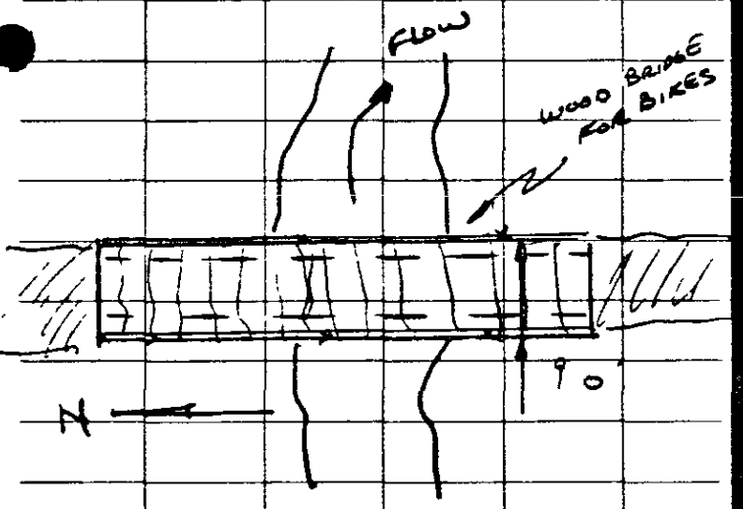


Plan View



DSF 8 D/S
L 9 U/S
TR 10 USF B.S. 72 (2)





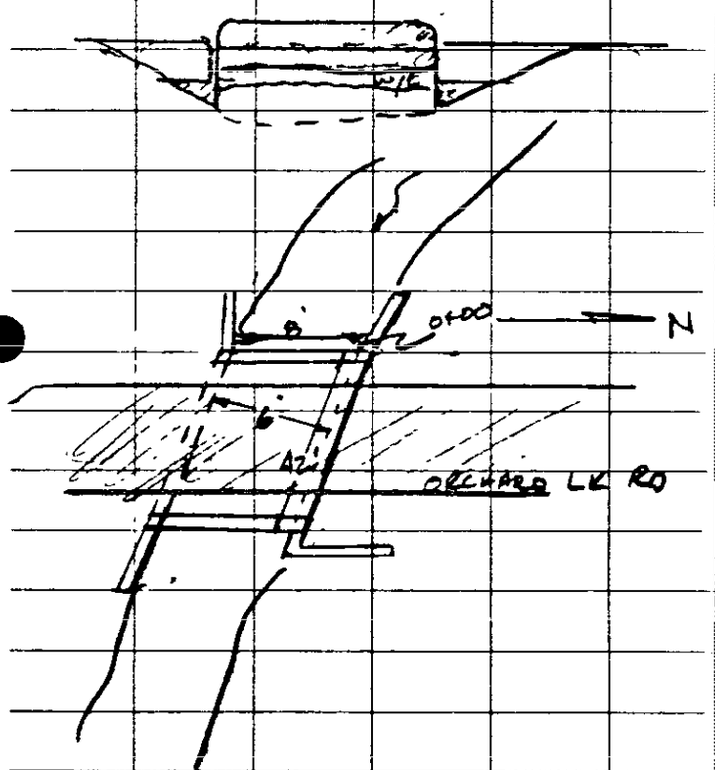
R
DSF
D

L
U
DSF

BS. 73

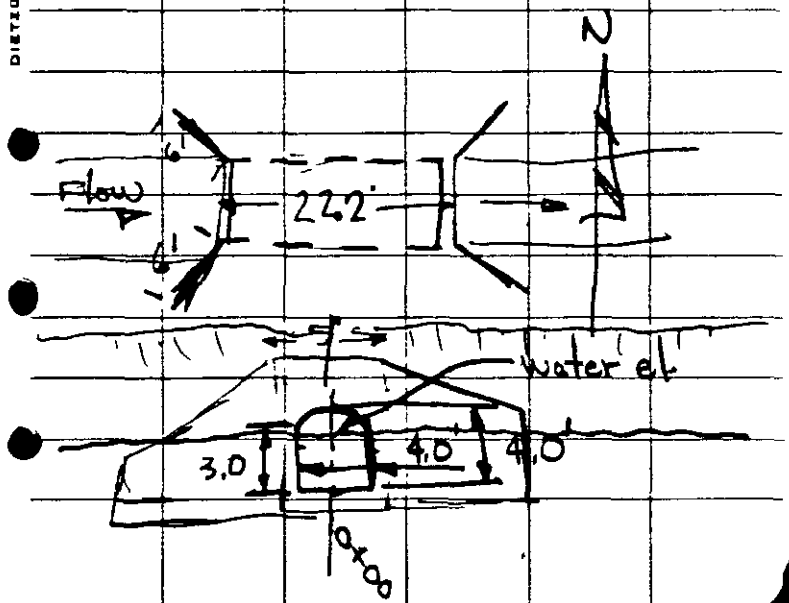
(4)

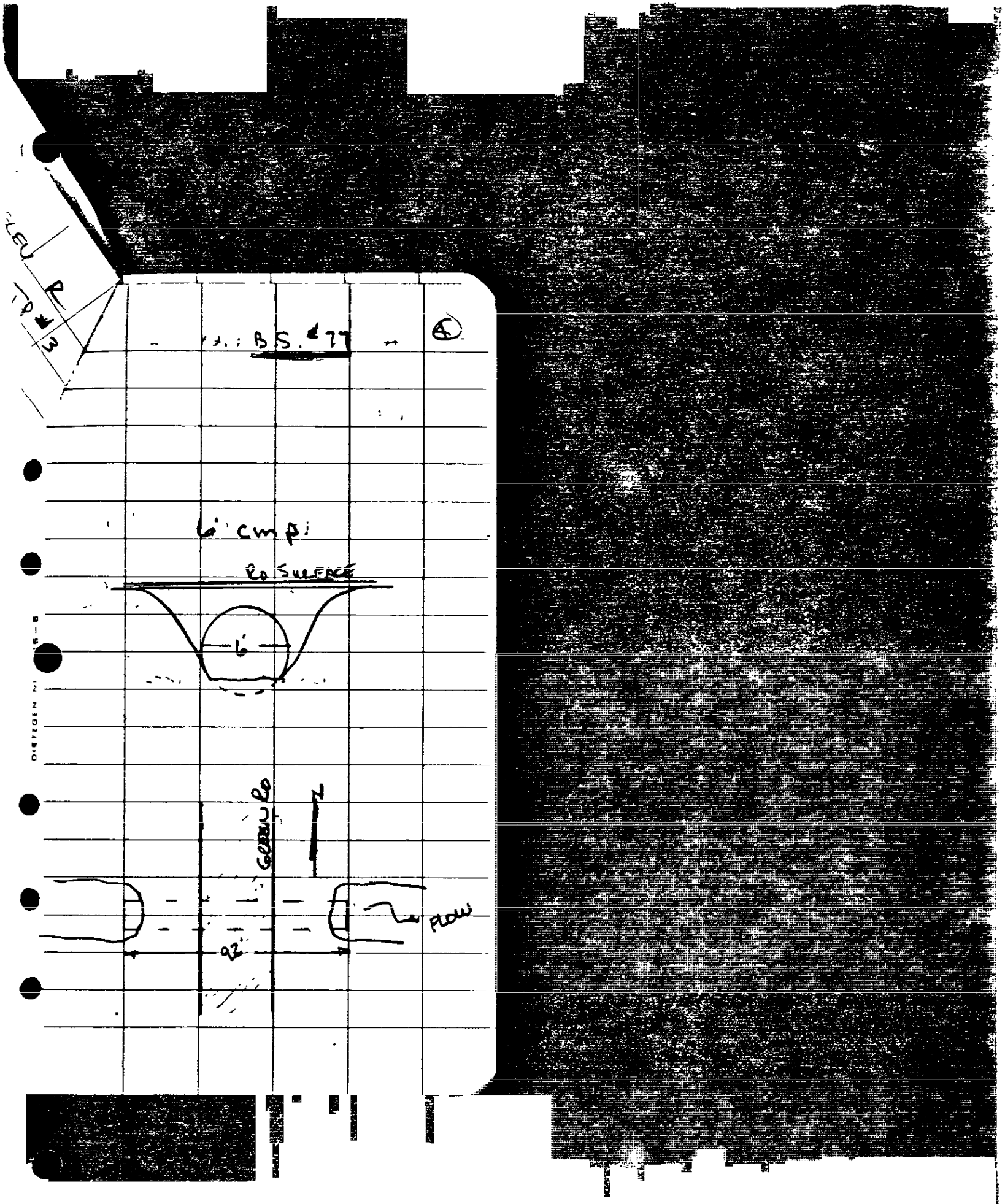
CONCRETE Box Culvert



BS #75 ①

Chis "□" S end. W. abut. of Bridge over Rouge River on Orchard Lk. Rd.

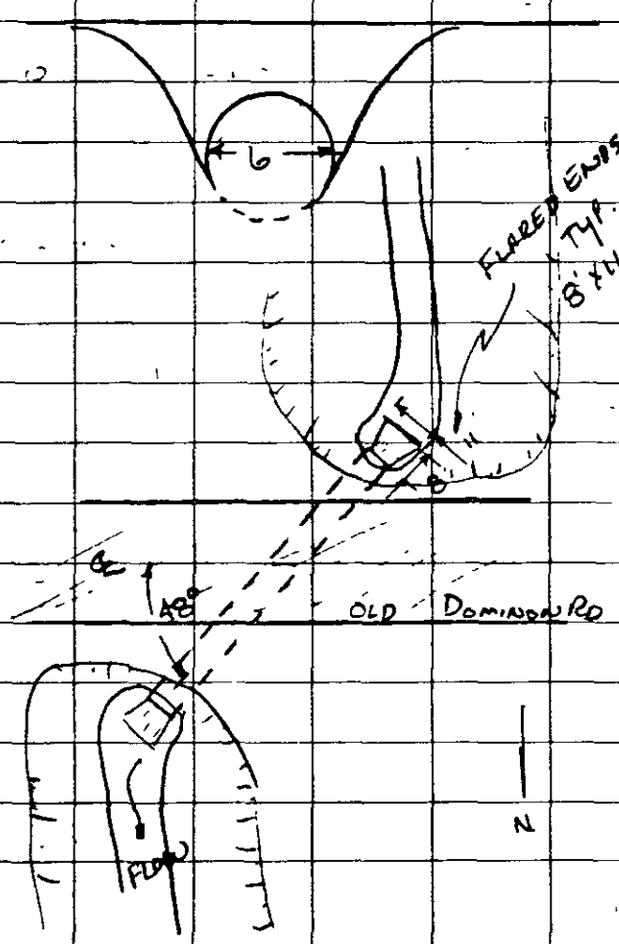




B.S. #77
6' cmp
Ro SURFACE
6'
GREEN Ro
FLOW
92'

BS #79 (7)

6' CMP w/ FLARED ENDS



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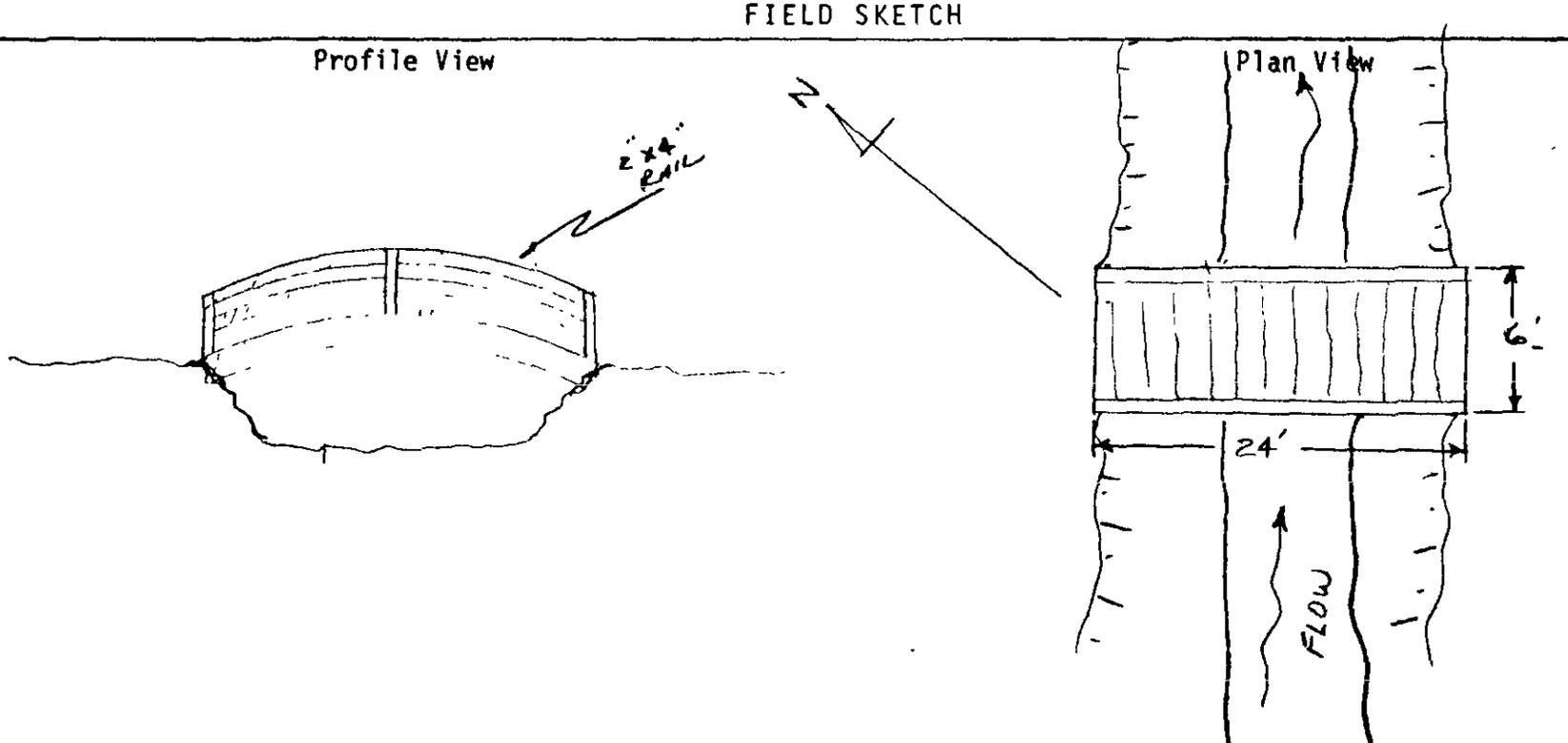
HYDRAULIC STRUCTURAL DATA

BS # 82

Code No. 5850-10

Job Name: WEST BLOOMFIELD F.I.S.			By: DAVE NETT
Date: 3-23-78	Feature: WOOD ARCH FOOTBRIDGE		Water Course: ROUGE RIVER
Remarks: FOOT BRIDGE IS BETWEEN OLD DOMINON DR & OAKYARD DR.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 915.0	Length: 24'	Width of Deck: 6'	Skew: —

FIELD SKETCH



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HYDRAULIC STRUCTURAL DATA

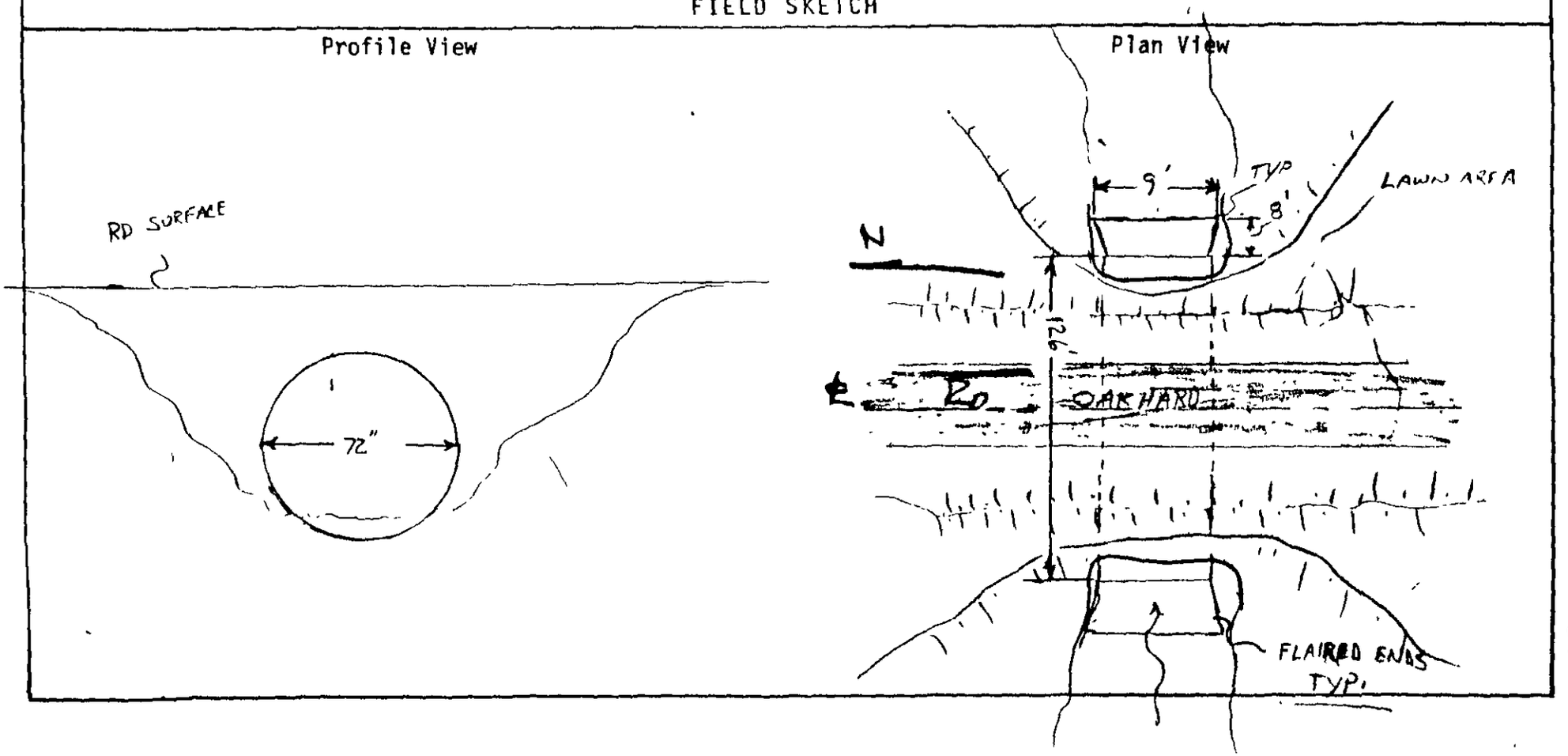
B.S.# 83

Code No. 5850-10

Job Name: WEST BLOOMFIELD F.I.S.		By: D NETT
Date: 3-23-78	Feature: 6' DIA CMP CULVERT UNDER RD.	Water Course: ROUGE RIVER
Remarks: CULVERT UNDER OAKHARD ST. & ROUGE RIVER		

Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 919.3	Length: 126'	Width of Deck: 6'	Skew: —

FIELD SKETCH



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HYDRAULIC STRUCTURAL DATA

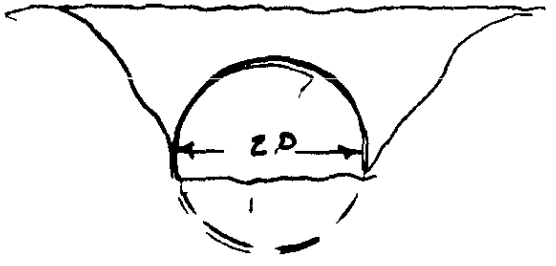
B.S #85

Code No. 5850-10

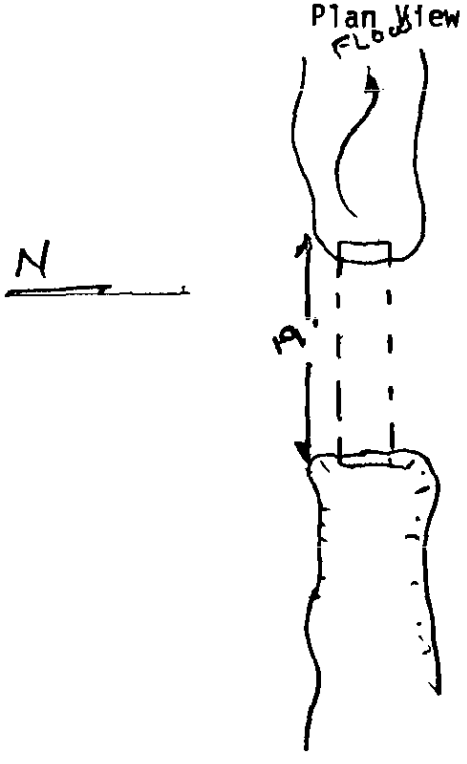
Job Name: WEST BLOOMFIELD			By: R. MOSES
Date: 3-23-78	Feature: 24" U/S.		Water Course: Rouge River
Remarks: CULVERT IS FOR FOOT PATH ACROSS RIVER			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 922.5	Length: 19	Width of Deck: 2.0'	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

B.S. #8

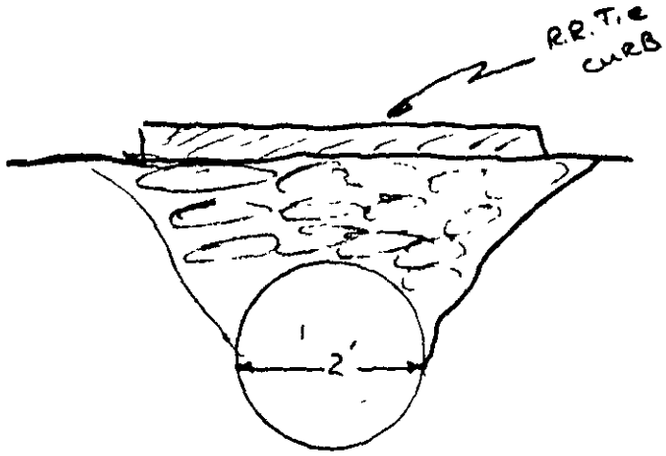
Code No. 5850-10

Job Name: WEST BLOOMFIELD H.I.S.		By: R. MOSES
Date: 3-23-78	Feature: 2' DIA. VIT. DR. CULV.	Water Course: ROUGE RIVER
Remarks: CULVERT IS FOR A GRAVEL DR-WAY		

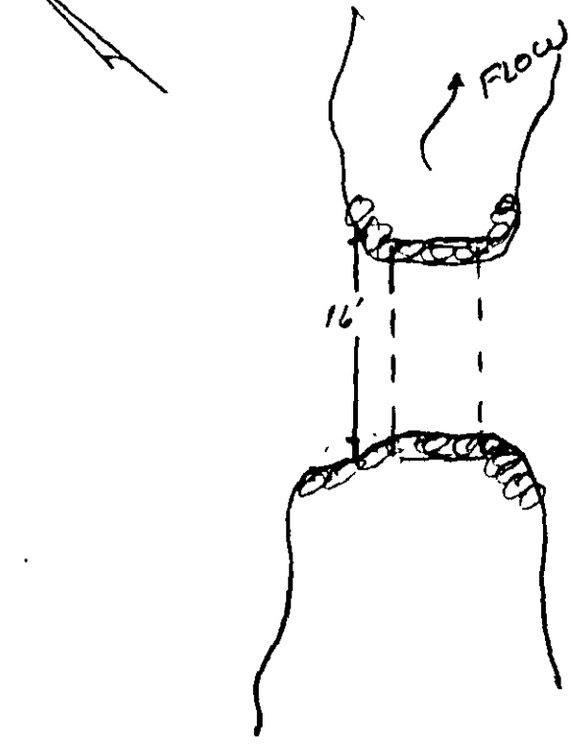
Width of Piers: —	Pier Shape: =	No. of Piers: —	Area: —
Water Elevation: 923.3	Length: 16'	Width of Deck: 2'	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

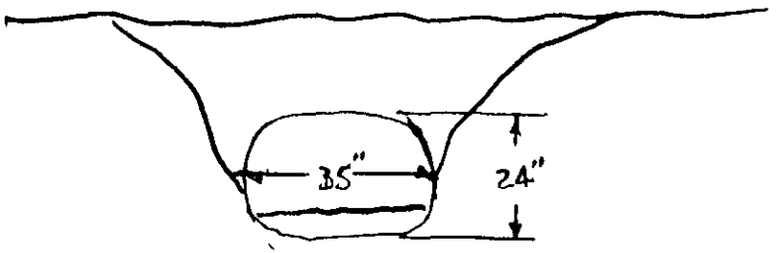
B.S. #87

Code No. 5850-10

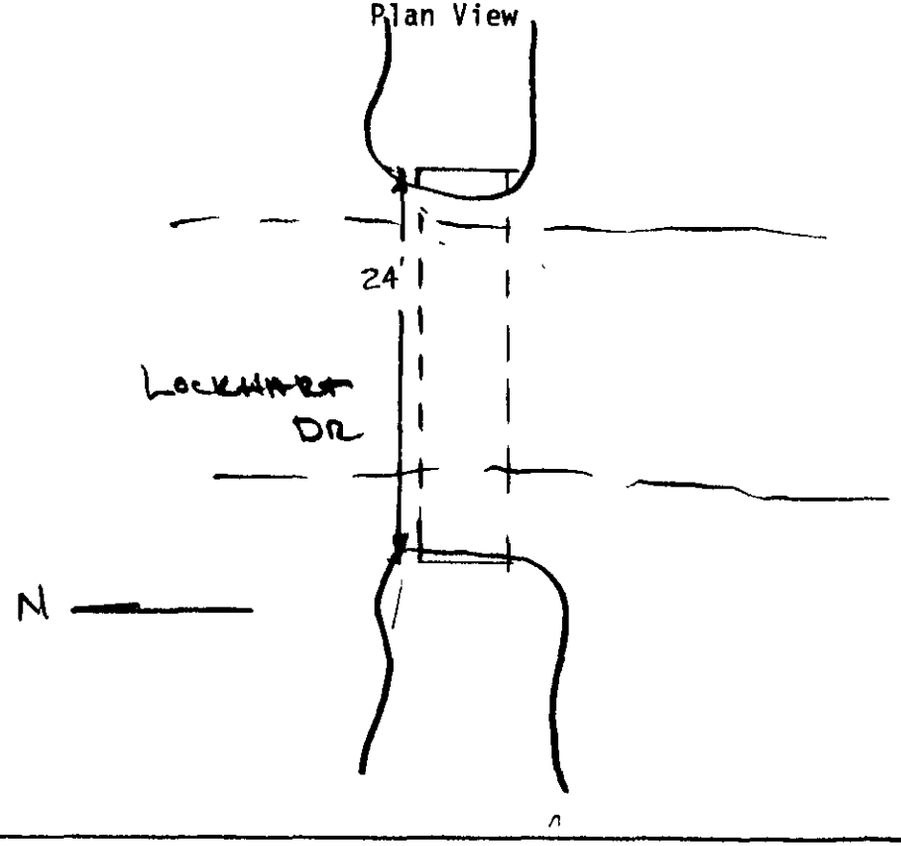
Job Name: WEST BLOOMFIELD Twp.			By: R. MOSES
Date: 3-23-78	Feature: 35" x 24" C.M.P.		Water Course: Rouge River
Remarks: Culvert is under LOCKHART DR.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 923.7	Length: 24'	Width of Deck: 35"	Skew: —

FIELD SKETCH

Profile View



Plan View



WALNUT LAKE-
OUTLET

BRIDGE INFORMATION

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HYDRAULIC STRUCTURAL DATA

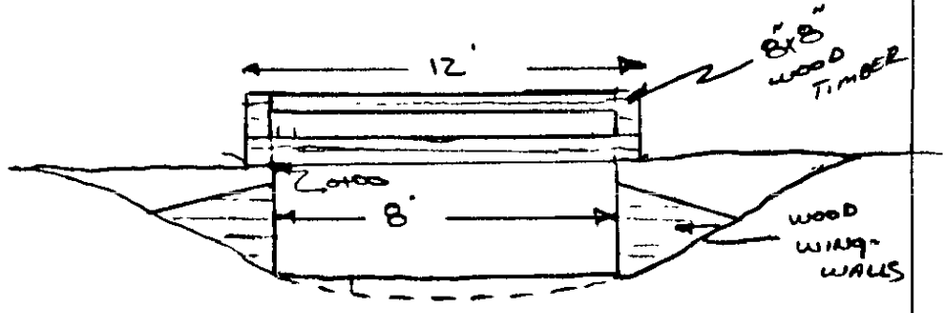
B.S. #56

Code No. 5850-10

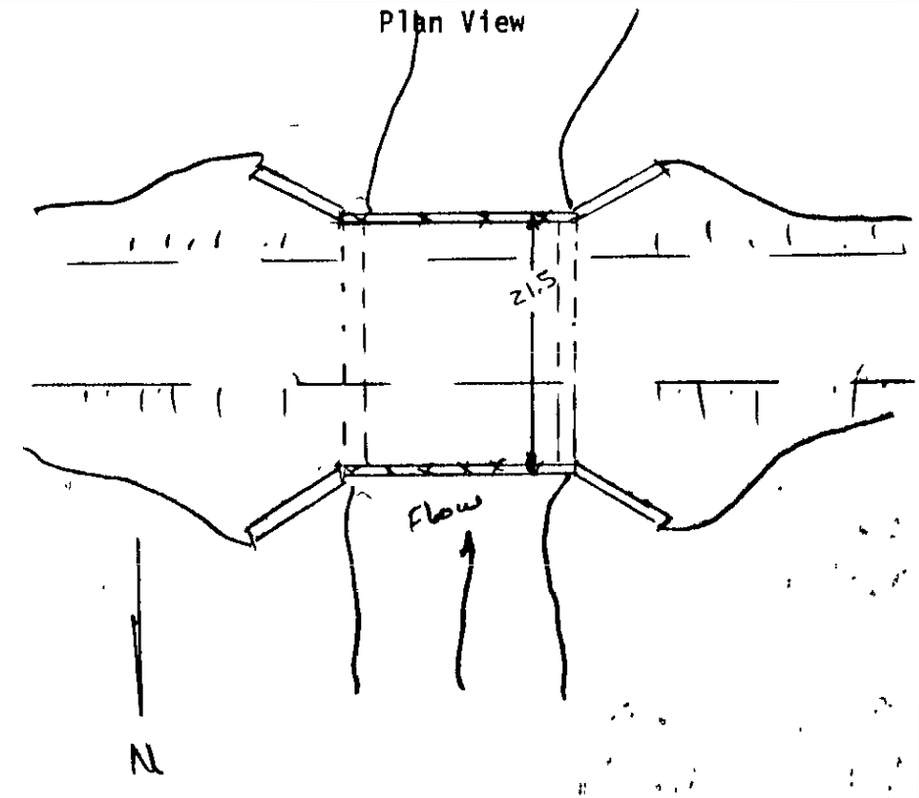
Job Name: W. BLOOMFIELD TWP.			By: R. MOSES
Date: 3-8-78	Feature: WOOD BRIDGE		Water Course: WALNUT LK OUTLET
Remarks: BRIDGE IS ON SPRING RD.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation:	Length: 8'	Width of Deck: 21.5	Skew: ←

FIELD SKETCH

Profile View



Plan View



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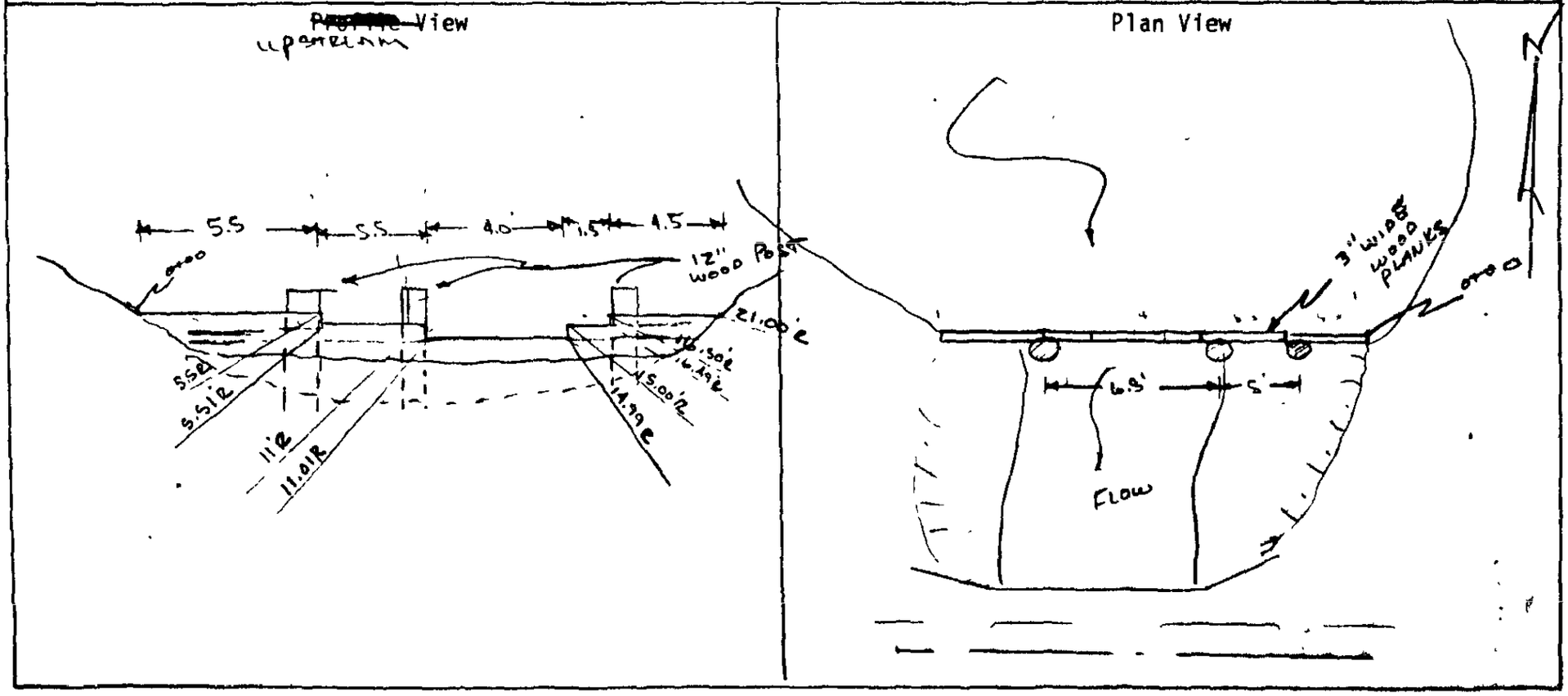
HYDRAULIC STRUCTURAL DATA

DAM 57

Code No. 5650-10

Job Name: W. BLOOMFIELD TWP			By: R. MOSES
Date: 3-7-78	Feature: WOOD DAM		Water Course: WALNUT OUTLET
Remarks: DAM HAS ALOT OF BRUSH & DEAD FALL ON UPSTREAM SIDE FROM BOTTOM TO WATER ELEV.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: SEE NOTES	Length: 21.00	Width of Deck: 3"	Skew: —

FIELD SKETCH



Johnson & Anderson, Inc.
Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

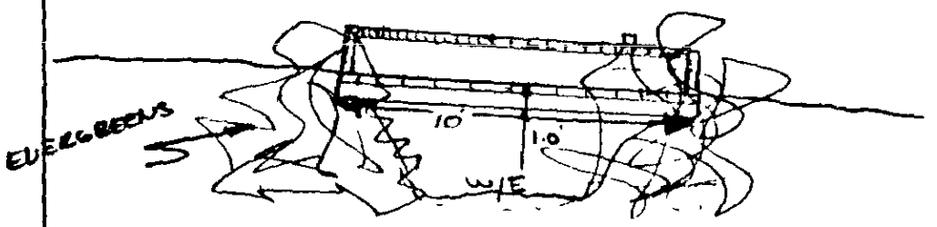
HYDRAULIC STRUCTURAL DATA
B.S. #58

Code No. 585000

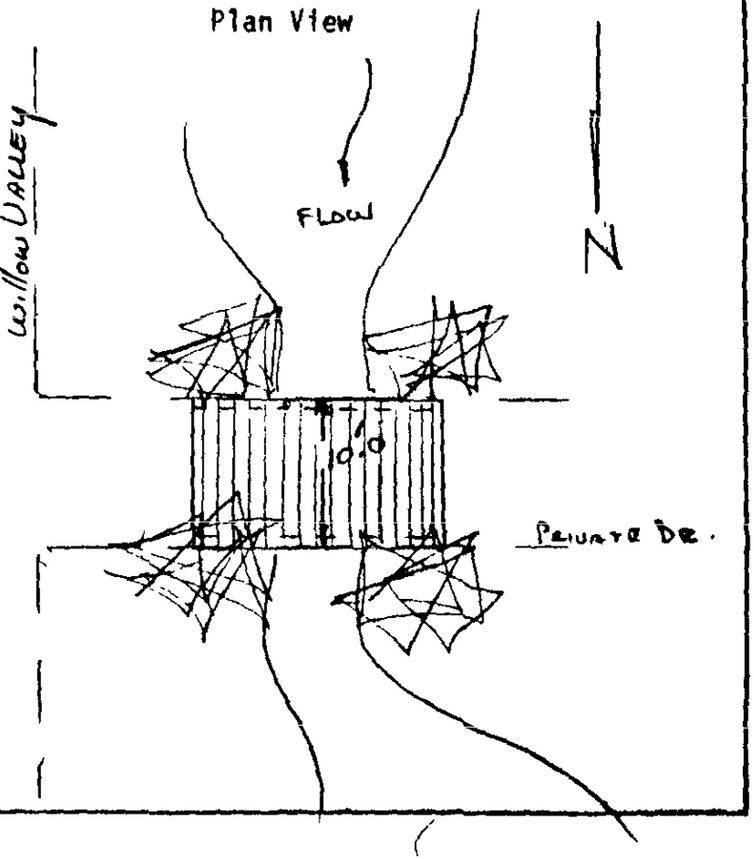
Job Name: W. Bloomfield F.I.S.			By: R. Moses
Date: 3-7-78	Feature: Wood Bridge		Water Course: Walnut Lk. Outlet
Remarks: Bridge is on Willow Valley on Private Dr-way To Home			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 874.8	Length: 10'	Width of Deck: 10'	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

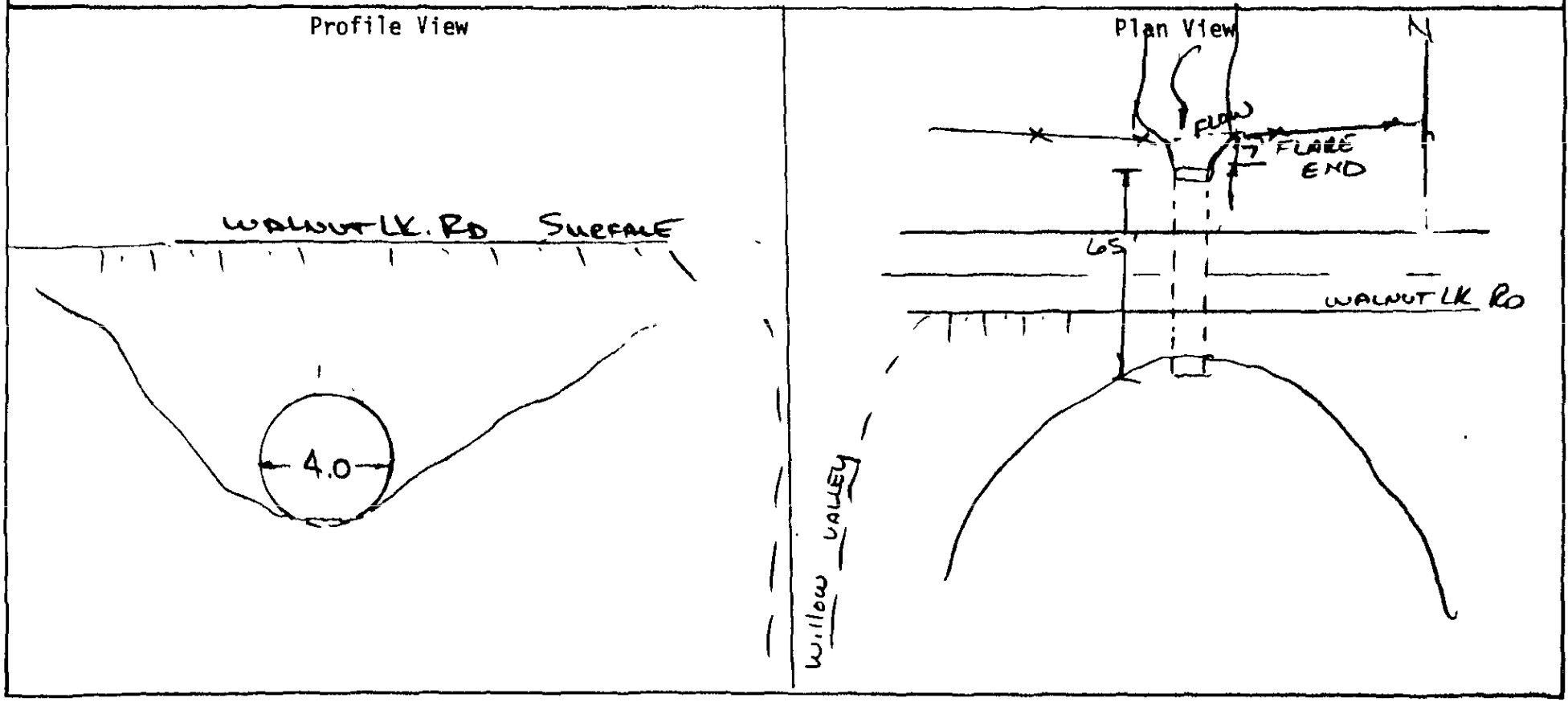
B.S. #60

Code No. 5880-10

Job Name: W. BLOOMFIELD WALNUT LK. OUTLET		By: R. MORRIS
Date: 3-7-78	Feature: 48" CMP X - CULVERT	Water Course: WALNUT LK OUTLET
Remarks: CULVERT IS ON WALNUT LK. RD. SEEMS TO BE FREE OF OBSTRUCTIONS.		

Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 875.8	Length: 65'	Width of Deck: 40	Skew: —

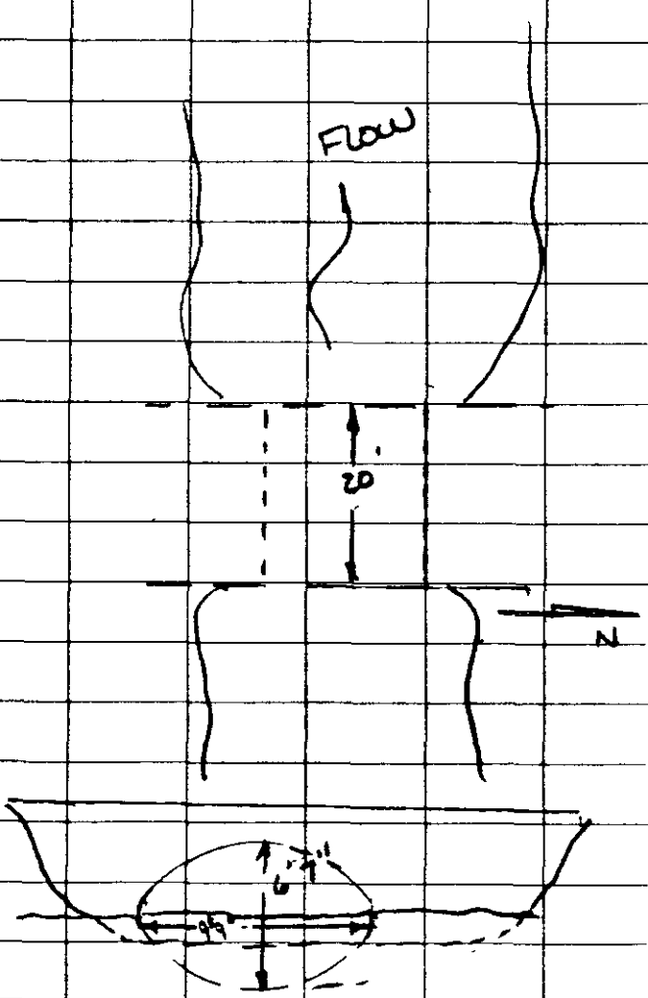
FIELD SKETCH



FL-FV. STA R

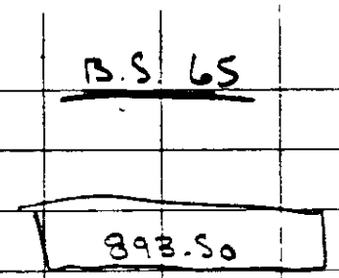
B.S. #62

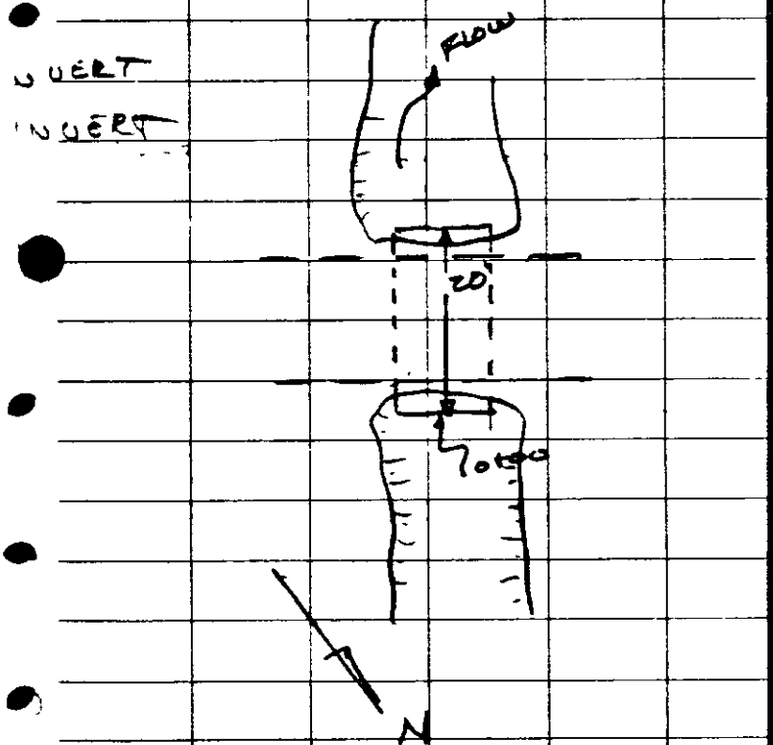
4



DIETZGEN NO

B.S. 65 ⑤





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Consulting Engineers
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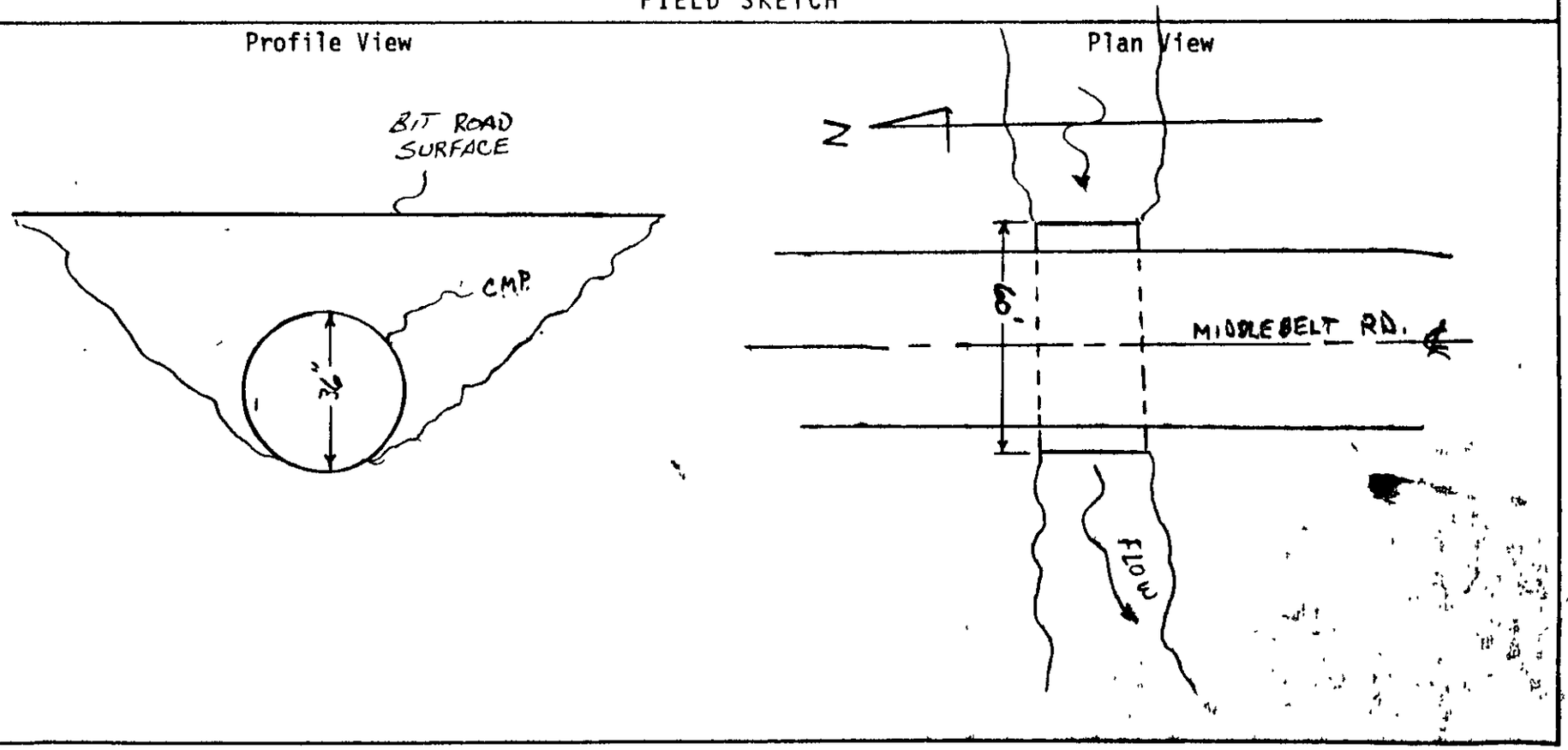
HYDRAULIC STRUCTURAL DATA

B5 90

Code No. 5850-10

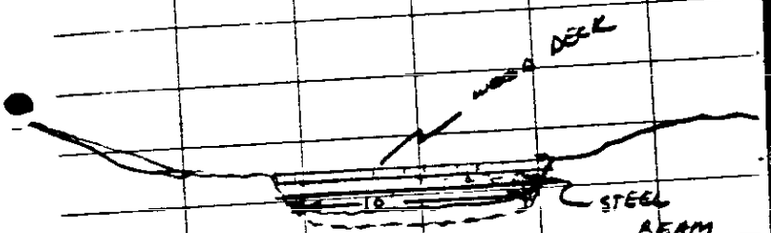
Job Name: WEST BLOOMFIELD F.I.S.			By: R MOSES
Date: 3-17-78	Feature: 36" CMP		Water Course: WALNUT LK. OUTLET
Remarks: UPSTREAM END HAS QUITE A BIT OF BRUSH & DEBRIS IN CHANNEL BOTTOM RESTRICTING FLOW			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 881.0	Length: 60'	Width of Deck: 36"	Skew: —

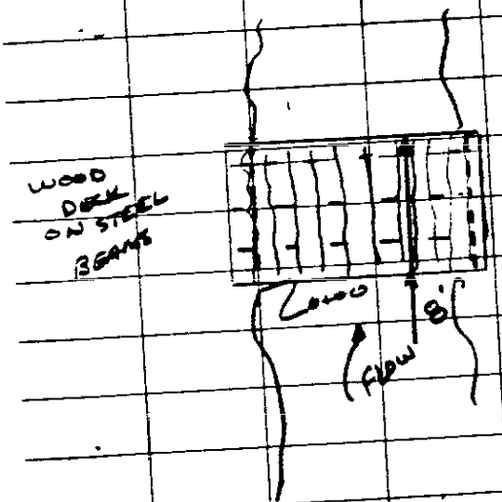
FIELD SKETCH

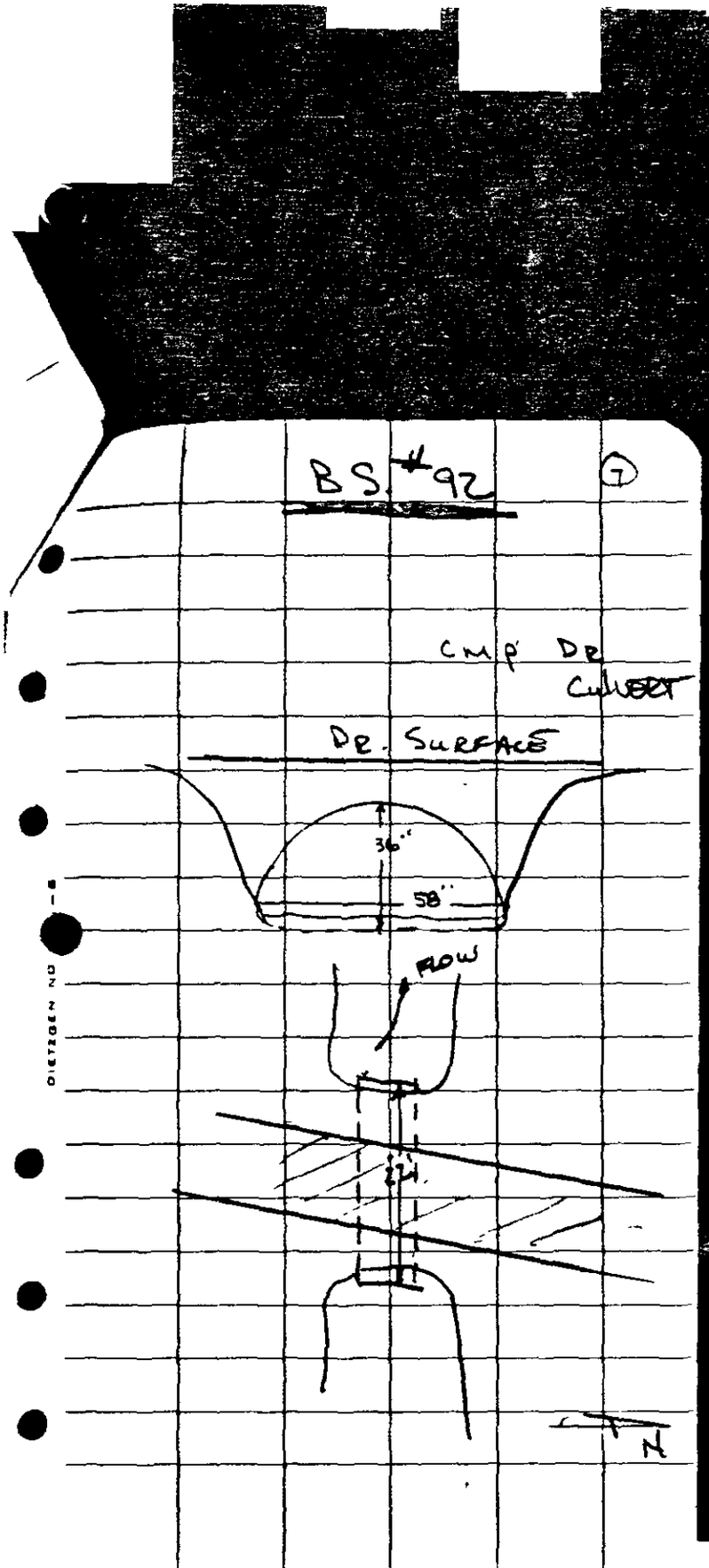


10 x 8

BS #91 (6)

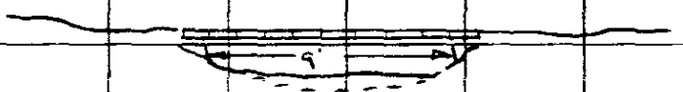


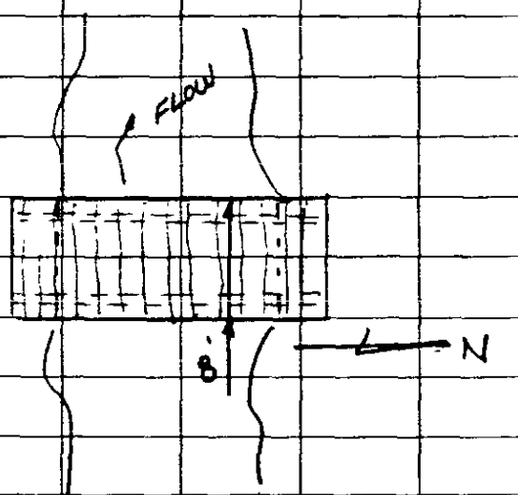



BS. #92
CMP DR CULVERT
DR. SURFACE
36"
58"
FLOW
N

B.S #94

10





APPENDIX D

****
HEC2 RELEASE DATED NOV 75 UPDATED AUG 1977
ERROR CORR - 01.02
MODIFICATION - 50.51.52.53
****

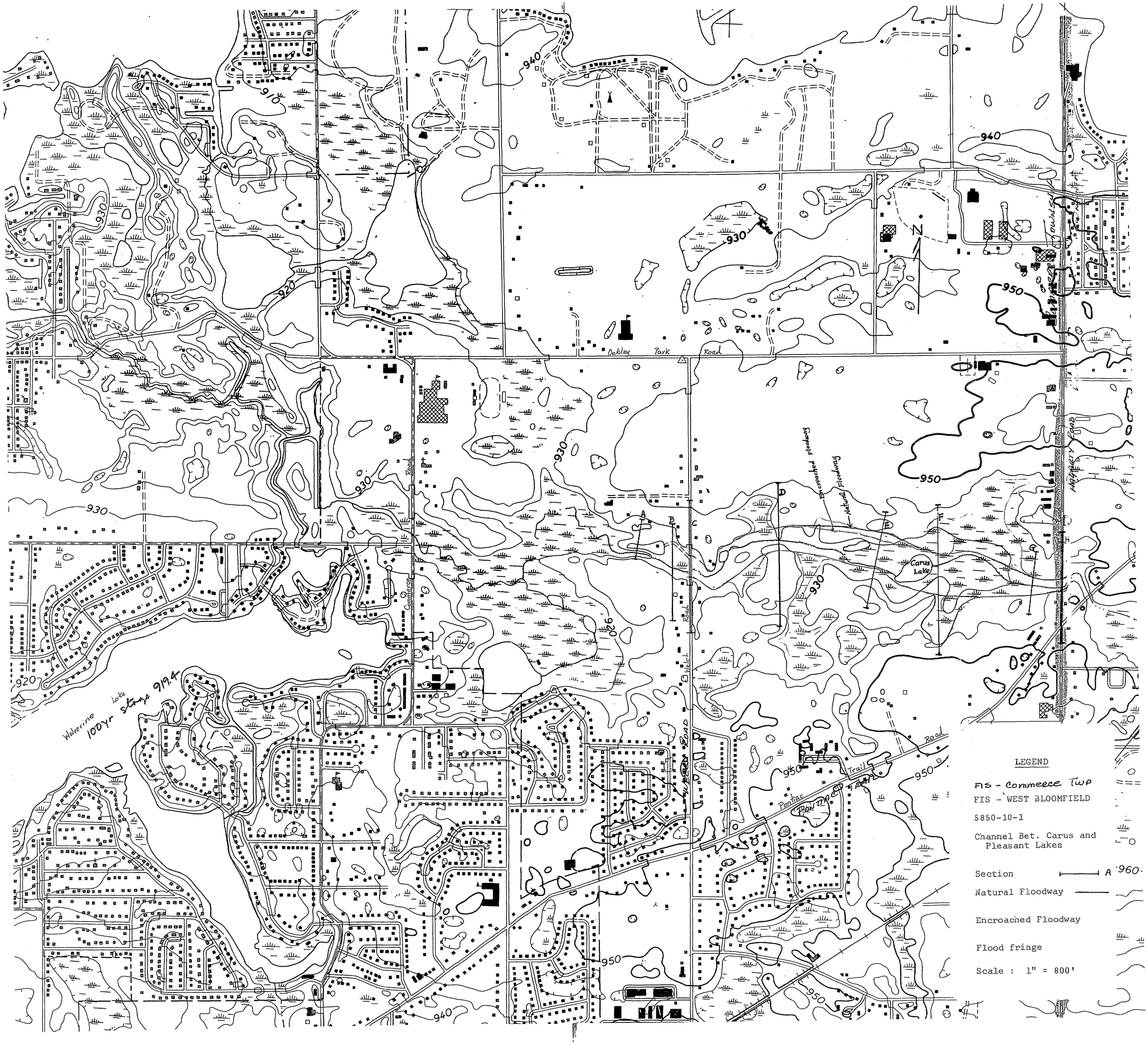
NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMA

FRANKLIN BRANCH CULVERT ROAD
100 YEAR

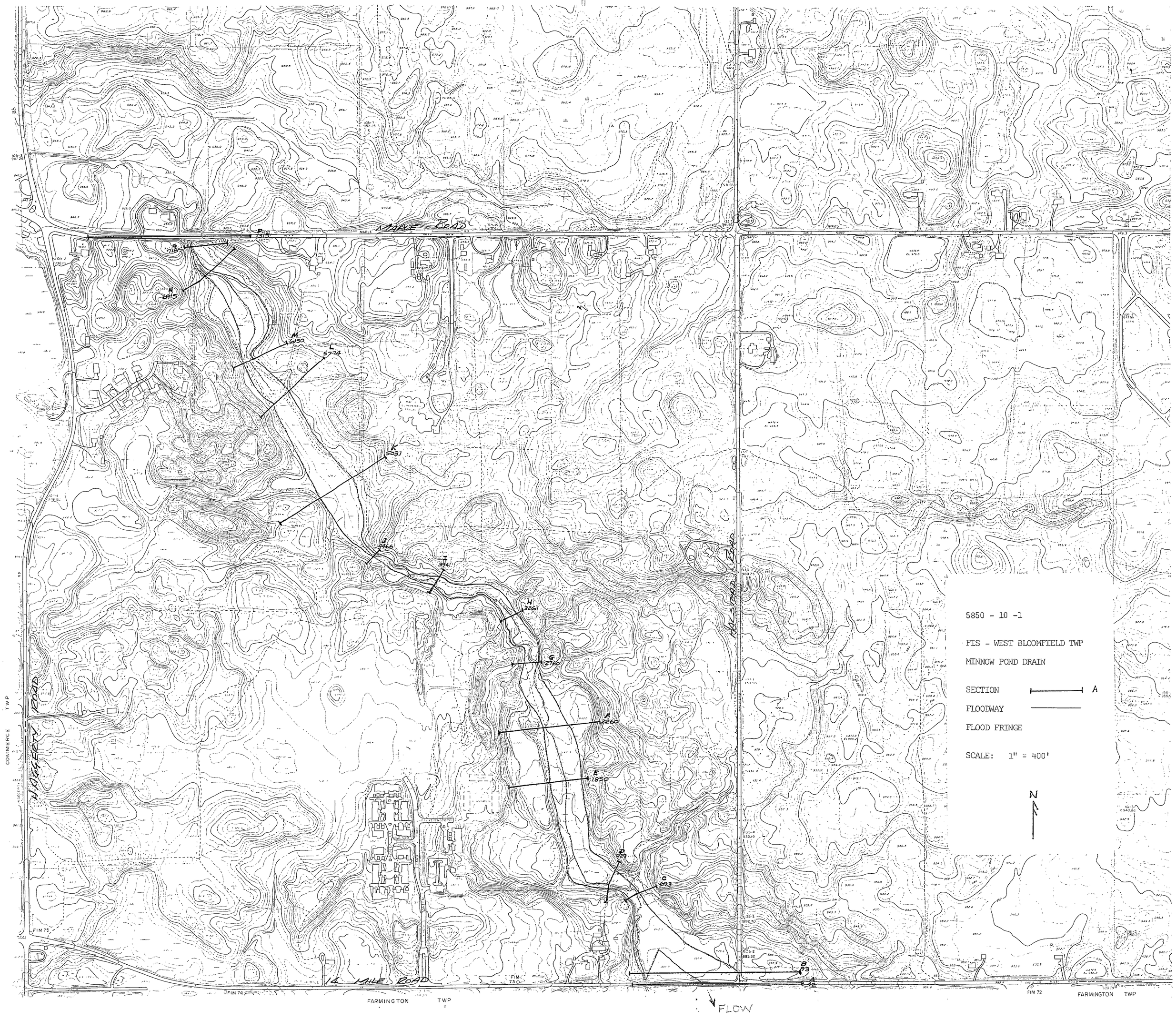
SUMMARY PRINTOUT TABLE 150

SECNO	XLCH	ELTRD	FLLC	ELMIN		CWSEL	C
1046.000	0.00	0.00	0.00	760.90	1310.00	768.00	
1046.000	0.00	0.00	0.00	760.90	1310.00	768.50	
1046.000	0.00	0.00	0.00	760.90	1310.00	769.00	
1046.000	0.00	0.00	0.00	760.90	1310.00	769.50	
1046.000	0.00	0.00	0.00	760.90	1310.00	770.00	
1158.000	112.00	0.00	0.00	761.50	1310.00	769.99	
1158.000	112.00	0.00	0.00	761.50	1310.00	769.93	
1158.000	112.00	0.00	0.00	761.50	1310.00	770.01	
1158.000	112.00	0.00	0.00	761.50	1310.00	770.21	
1158.000	112.00	0.00	0.00	761.50	1310.00	770.53	
1271.000	113.00	0.00	0.00	762.10	1310.00	770.77	
1271.000	113.00	0.00	0.00	762.10	1310.00	770.74	
1271.000	113.00	0.00	0.00	762.10	1310.00	770.78	
1271.000	113.00	0.00	0.00	762.10	1310.00	770.88	
1271.000	113.00	0.00	0.00	762.10	1310.00	771.08	
1496.000	225.00	0.00	0.00	763.30	1310.00	772.11	
1496.000	225.00	0.00	0.00	763.30	1310.00	772.11	
1496.000	225.00	0.00	0.00	763.30	1310.00	772.12	
1496.000	225.00	0.00	0.00	763.30	1310.00	772.15	
1496.000	225.00	0.00	0.00	763.30	1310.00	772.22	
1946.000	450.00	0.00	0.00	765.80	1310.00	774.45	
1946.000	450.00	0.00	0.00	765.80	1310.00	774.45	
1946.000	450.00	0.00	0.00	765.80	1310.00	774.44	
1946.000	450.00	0.00	0.00	765.80	1310.00	774.46	
1946.000	450.00	0.00	0.00	765.80	1310.00	774.48	
2396.000	450.00	0.00	0.00	768.20	1310.00	776.82	
2396.000	450.00	0.00	0.00	768.20	1310.00	776.82	
2396.000	450.00	0.00	0.00	768.20	1310.00	776.81	
2396.000	450.00	0.00	0.00	768.20	1310.00	776.82	
2396.000	450.00	0.00	0.00	768.20	1310.00	776.82	

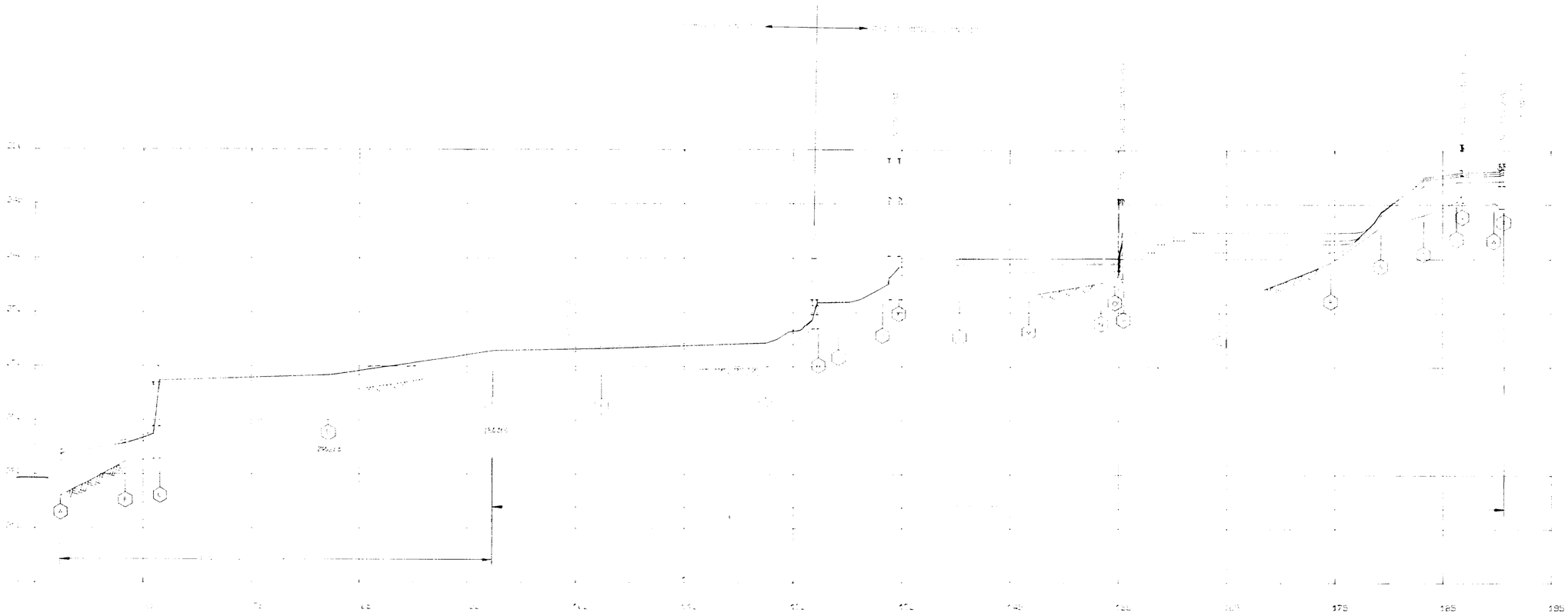
SECND	XLCH	ELTRD	ELLC	[illegible]		CWSEL
2846.000	450.00	0.00	[illegible]	[illegible]	[illegible]	779.09
2846.000	450.00	0.00	0.00	770.60	1310.00	779.09
2846.000	450.00	0.00	0.00	770.60	1310.00	779.09
2846.000	450.00	0.00	0.00	770.60	1310.00	779.09
2846.000	450.00	0.00	0.00	770.60	1310.00	779.09
4446.000	1600.00	0.00	0.00	782.30	1310.00	788.25
4446.000	1600.00	0.00	0.00	782.30	1310.00	788.25
4446.000	1600.00	0.00	0.00	782.30	1310.00	788.25
4446.000	1600.00	0.00	0.00	782.30	1310.00	788.25
4446.000	1600.00	0.00	0.00	782.30	1310.00	788.25
5945.000	1499.00	0.00	0.00	788.10	1310.00	796.79
5945.000	1499.00	0.00	0.00	788.10	1310.00	796.79
5945.000	1499.00	0.00	0.00	788.10	1310.00	796.79
5945.000	1499.00	0.00	0.00	788.10	1310.00	796.79
5945.000	1499.00	0.00	0.00	788.10	1310.00	796.78
5946.000	1.00	820.70	798.40	788.10	1310.00	796.62
5946.000	1.00	820.70	798.40	788.10	1310.00	796.62
5946.000	1.00	820.70	798.40	788.10	1310.00	796.62
5946.000	1.00	820.70	798.40	788.10	1310.00	796.62
5946.000	1.00	820.70	798.40	788.10	1310.00	796.62
6050.000	104.00	820.70	798.90	788.80	1310.00	797.69
6050.000	104.00	820.70	798.90	788.80	1310.00	797.69
6050.000	104.00	820.70	798.90	788.80	1310.00	797.69
6050.000	104.00	820.70	798.90	788.80	1310.00	797.69
6050.000	104.00	820.70	798.90	788.80	1310.00	797.69
6051.000	1.00	0.00	0.00	788.80	1310.00	798.27
6051.000	1.00	0.00	0.00	788.80	1310.00	798.27
6051.000	1.00	0.00	0.00	788.80	1310.00	798.27
6051.000	1.00	0.00	0.00	788.80	1310.00	798.27
6051.000	1.00	0.00	0.00	788.80	1310.00	798.27
6100.000	49.00	0.00	0.00	789.30	1310.00	799.09
6100.000	49.00	0.00	0.00	789.30	1310.00	799.09
6100.000	49.00	0.00	0.00	789.30	1310.00	799.09
6100.000	49.00	0.00	0.00	789.30	1310.00	799.09
6100.000	49.00	0.00	0.00	789.30	1310.00	799.09
6150.000	50.00	0.00	0.00	789.80	1310.00	799.09
6150.000	50.00	0.00	0.00	789.80	1310.00	799.09
6150.000	50.00	0.00	0.00	789.80	1310.00	799.09
6150.000	50.00	0.00	0.00	789.80	1310.00	799.09
6150.000	50.00	0.00	0.00	789.80	1310.00	799.09
6850.000	700.00	0.00	0.00	792.90	1310.00	799.72
6850.000	700.00	0.00	0.00	792.90	1310.00	799.72
6850.000	700.00	0.00	0.00	792.90	1310.00	799.72
6850.000	700.00	0.00	0.00	792.90	1310.00	799.72
6850.000	700.00	0.00	0.00	792.90	1310.00	799.72



Oakley Park Road
Commerce Road
Welch Road
Wolverine Lake
100yr stage 919.4
Encroached Floodway
Natural Floodway
Carus Lake
Pontiac Trail
Hagerty Road
910
920
930
940
950
LEGEND
FIS - Commerce Twp
FIS - WEST BLOOMFIELD
5850-10-1
Channel Bet. Carus and Pleasant Lakes
Section A 960
Natural Floodway
Encroached Floodway
Flood fringe
Scale : 1" = 800'



MAPLE ROAD
HALSTEAD ROAD
HAGGERTY ROAD
14 MILE ROAD
COMMERCE TWP
FARMINGTON TWP
FARMINGTON TWP
FLOW
5850 - 10 -1
FIS - WEST BLOOMFIELD TWP
MINNOW POND DRAIN
SECTION A
FLOODWAY
FLOOD FRINGE
SCALE: 1" = 400'
N



DRAWN
DESIGN

VERT. 1" = 5'
SCALE
HORIZ. 1" = 500'

REVISIONS	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS
PONTIAC, MICHIGAN

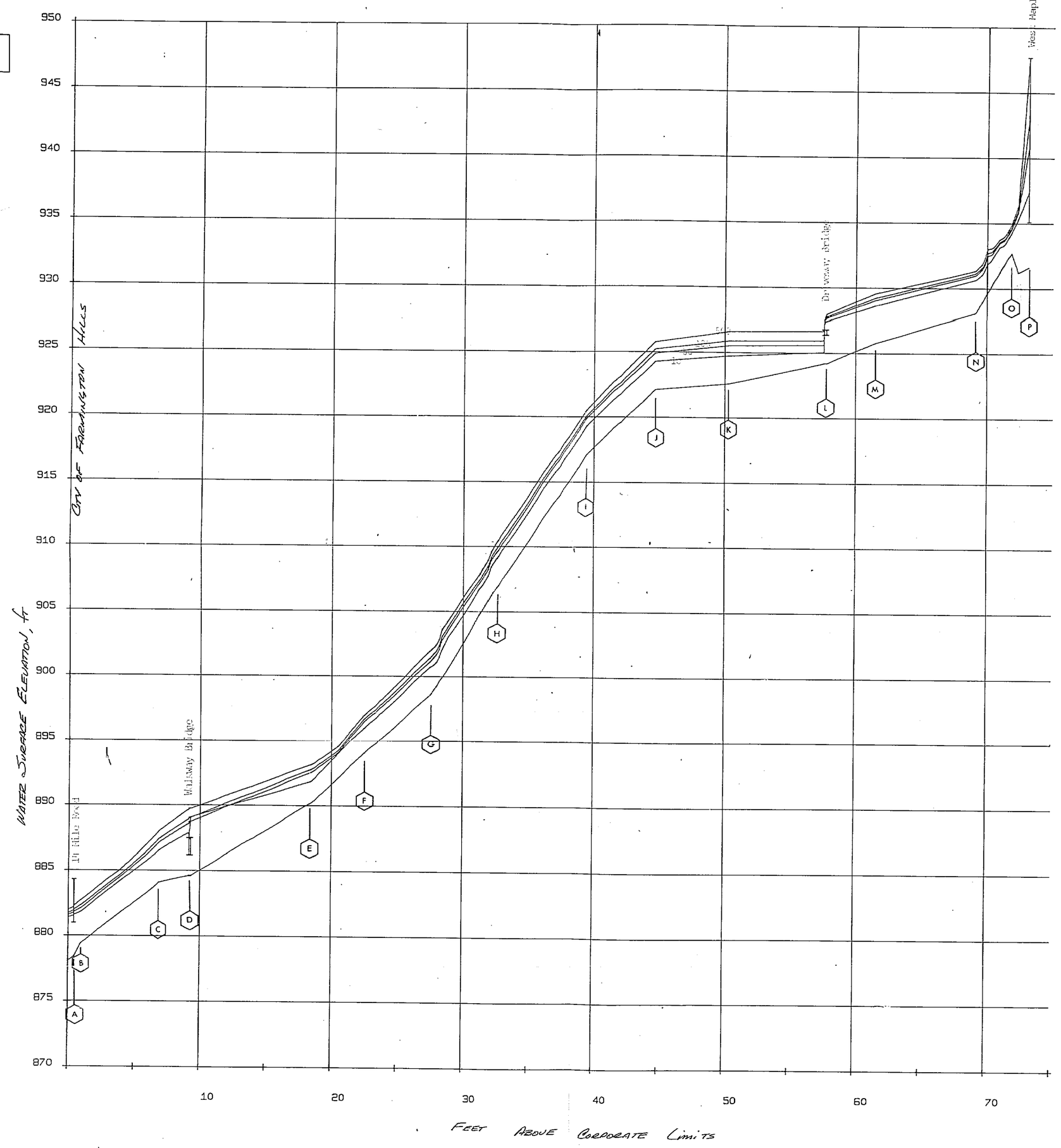
COMMERCE TOWNSHIP F.I.S.
WEST BLOOMFIELD TOWNSHIP F.I.S.
OAKLAND COUNTY, MICHIGAN

CHANNEL BETWEEN CARUS LAKE
AND PLEASANT LAKE

JOB NO 5850-02.10-1

SHEET NO

Minnow Pond Drain
5850-10-1
West Bloomfield Twp. FIS



Job No. | Contr. No. | Cont. Tab No. | Type of Job No. | Sheet No. in Set | Sheet No. of Sheets | As Built | Section | City No. in County | Twp. No. in County | Village No. in County | County Num. in State | State | Construction Contract | Job Code No.

TOPOGRAPHIC INFORMATION
DATE OBTAINED
DATE UPDATED

DRAWING ISSUE DATES

	DATE	BY	BY	BY	BY
V.I.					

OWNER
UTILITIES — TELE. | ELEC. | GAS | PIPE LINE
APPR. AGENCIES
BIDDERS

CHECKED	DATE	BY
P.M.		
DES.		
CONSTR.		

DRAWN:
DESIGN:

SCALE: VERT. 1" = 5'
HORIZ. 1" = 500'

REVISIONS	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE	MARK	ADDENDUM/CHANGE ORDER	DATE

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS
PONTIAC, MICHIGAN

TOWNSHIP OF WEST BLOOMFIELD
OAKLAND COUNTY, MICHIGAN

MINNOW POND DRAIN

JOB NO. 5850-10

SHEET NO.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WEST BRANCH STONY CREEK FLOOD HAZARD ANALYSIS

3) WATERCOURSE: WEST BRANCH STONY CREEK

4) DOCUMENT TYPE: FINAL RUN - WSP2

00BREAK00

----------80/80 LIST OF INPUT DATA----------

```
WSP2
TITLE1      WEST BRANCH STONY CREEK FLOOD HAZARD STUDY, OAKLAND CO., MICH.
TITLE2      FINAL FLOOD PROFILES- ROUTED 2, 10, 50, 100 AND 500 YR. Q'S.
DISCHARGE   -1.          131.         31..         45C.         53%.         670.
STRTG       9.9A         803.0        804.78       805.18       805.87       807.31
TRIB        15.1         17.1         23.03
OUTPUT      SN
REACH       9.9A         1.           0.           0.
REACH2      9.9          -3.
REACH       9.9          1.           6[illegible].  6[illegible].
SEGMENT     9.9          1            N            792.                                  6[illegible]
NVALUE      0.135                                                                        6[illegible]
SEGMENT     9.9          2            C            817.                                  7[illegible]
NVALUE      0.06                                                                         75
SEGMENT     9.9          3            N            1400.                                 80
NVALUE      0.135                                                                        85
SECTION     9.9
            0.00         804.81       1011.01      808.80       500.00       811.21
            300.00       811.80       460.00       811.60       566.00       811.56
            600.00       814.10       771.50       812.10       787.00       811.[illegible]
            792.00       804.20       796.00       803.30       800.00       803.20
            803.00       803.60       807.00       804.40       813.00       804.60
            964.00       [illegible]  1030.00      804.70       1100.00      805.81
            1271.00      [illegible]  1300.00      811.20       1370.00      812.00
            1400.00      815.50
ENDTABLE
REACH       9.95         1.0          50.          55.                                   9[illegible]
SEGMENT     9.95         1            N            195.                                  95
NVALUE      0.135                                                                        100
SEGMENT     9.95         2            C            210.                                  105
NVALUE      0.06                                                                         110
SEGMENT     9.95         3            N            760.                                  115
NVALUE      0.135                                                                        120
SECTION     9.90                                                                         125
            -1.          824.         0.           816.         30.          814.        130
            15.          812.         191.         810.         195.         804.5       135
            199.         803.6        205.         803.3        206.         803.9       140
            21[illegible]. 814.7        216.         805.1        230.         805.5       145A
            540.         807.         630.         814.         670.         816.        150A
            710.         816.         76 .         820.                                  155
                                                                                         160
ENDTABLE
COMMENT     MANUFACTURED
REACH       9.99         1.[illegible]  250.         251.                                  165
REACH 2     9.95         0.9                                                            170
READ        10.0         3.7          50.          50.                                   75
```

80/80 LIST OF INPUT DATA

```
CULV 1      16.0                2          32233                                                    180
CULV 2      6.6                 5.5        60.         804.39      803.73      0.032                185
SECTION     16.0                                                                                    190
            -801.               827.       -600.       816.2       -500.       815.7                195
            -410.               814.9      -300.       814.3       -200.       813.8                200
            -100.               814.1      0.          814.3       100.        815.1                205
            200.                816.6      300.        818.5       400.        820.2                210
            481.                821.4      481.        827.                                         215
ENDTABLE                                                                                            220
REACH       10.65               1.6        56.         56.                                          225
REACH 2     9.55                1.1                                                                230
REACH       16.8                1.0        2120.       2120.                                        235
SEGMENT     10.5                1          N           232.                                         240
NVALUE      0.125                                                                                   245
SEGMENT     14.9                2          C           248.                                         250
NVALUE      0.07                                                                                    255
SEGMENT     10.9                3          N           641.                                         260
NVALUE      0.125                                                                                   265
SECTION     10.9                                                                                    270
            -3.0                835.00     -2.0        835.00      -1.0        835.00               275
                  0.00          830.10           40.00          822.10          45.00          818.80
                140.00          818.90          232.00          818.50          233.00          816.60
                236.00          816.20          240.00          816.10          244.00          816.30
                246.00          817.20          247.00          817.20          248.00          818.60
                290.00          819.10          340.00          819.80          395.00          821.70
                405.00          825.10          440.00          826.60          540.00          827.70
                640.00          829.90          640.0           829.90          641.0           835.00
ENDTABLE                                                                                            280
REACH       10.99               1.6        3125.       3125.                                        285
REACH 2     12.6                -1.9                                                               290
REACH       11.0                2.7        50.         50.                                          295
CULV 1      11.0                1          32233                                                    300
CULV 2      5.64                9.         16.         839.37      839.36      .028                 305
SECTION     11.0                                                                                    310
            -211.               865.       -200.       854.4       -100.       848.8                315
            0.                  846.3      100.        845.3       200.        844.5                320
            300.                847.7      400.        854.5       401.        865.                 325
ENDTABLE                                                                                            330
REACH       11.1                1.6        15.         15.                                          335
REACH 2     12.0                -1.0                                                               340
REACH       11.9                1.0        20.         20.                                          345
REACH 2     12.0                -0.5                                                               350
REACH       12.8                1.6        15.         15.                                          355
SEGMENT     12.0                1          N           -5.                                          360
NVALUE      0.15                                                                                    365
```

LOAD 12/17/76

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
SEGMENT   12.0      2.        C         9.                                    370
NVALUE    0.07                                                                375
SEGMENT   12.0      3         N         151.                                  380
NVALUE    0.15                                                                385
SECTION   12.0                                                                390
          -111.     860.      -100.     849.1     -65.      847.4             395
          -40.      843.6     -9.       843.31    -7.       842.21            400
          -6.       841.61    -2.       841.61    0.        841.41            405
          2.        841.56    6.        841.61    7.        842.71            410
          9.        843.11    13.       845.3     19.       845.2             415
          25.       841.7     100.      841.6     150.      850.1             420
          151.      860.                                                      425
ENDTABLE                                                                      430
REACH     12.1      1.0       50.       50.                                   435
REACH 2   13.1      -4.3                                                      440
REACH     12.9      1.0       375.      375.                                  445
REACH 2   13.1      -2.6                                                      450
ROAD      13.0      2.7       50.       50.                                   460
CULV 1    13.0      1         12111                                           465
CULV 2    8.5       12.8      36.       842.19    841.60    0.032             465
SECTION   13.0                                                                470
          -201.     870.      -200.     859.5     -100.     855.9             475
          0.        853.      100.      855.5     200.      860.2             480
          201.      870.                                                      485
ENDTABLE
REACH     13.01     1.0       50.       50.                                   490
REACH 2   13.1      -2.0                                                      495
REACH     13.1      1.0       225.      225.                                  500
SEGMENT   13.1      1         N         279.                                  505
NVALUE    .135                                                                510
SEGMENT   13.1      2         C         302.                                  515
NVALUE    .06                                                                 520
SEGMENT   13.1      3         N         351.                                  525
NVALUE    .135                                                                530
SECTION   13.1                                                                535
          -3.       867.      -2.       867.      -1.       867.              540
                0.00     860.10     40.00     850.40     90.00     848.10
              190.00     847.40    279.00     846.60    281.00     844.80
              286.00     844.30    290.00     844.40    294.00     844.10
              299.00     844.90    302.00     845.50    317.00     846.60
              322.00     848.30    350.00     849.20    370.00     859.50
          390.      861.6     391.      867.                                  545
ENDTABLE
REACH     13.9      1.0       1550.     1550.                                 550
SEGMENT   13.9      1         N         217.                                  560
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
NVALUE    .135                                                                  570
SEGMENT   13.9      2         C         234.                                    575
NVALUE    .06                                                                   580
SEGMENT   13.9      3         N         376.                                    585
NVALUE    .135                                                                  590
SECTION   13.9                                                                  595
          -3.       875.      -2.       875.      -1.       875.                600
                0.00     869.90     40.00     860.50    125.00     859.30
              175.00     858.70    217.00     857.10    218.00     856.60
              222.00     856.10    225.00     855.70    228.00     855.80
              232.00     856.80    234.00     857.30    275.00     861.70
          325.      865.7     375.      868.3     376.      875.                605
ENDTABLE
REACH     13.99     1.0       2985.     2985.                                   610
REACH 2   14.9      -2.6                                                        615
ROAD      14.0      2.7       50.       50.                                     620
CULV 1    14.0      1         22533                                             625
CULV 2    8.9       15.       18.       875.3     875.2     .017                630
SECTION   14.0                                                                  635
          -3.       900.      -2.       900.      -1.       900.                640
                0.00     892.20     25.00     889.60     50.00     887.60
              100.00     885.00    150.00     885.10    200.00     886.90
          250.      888.9     275.      891.2     276.      900.                645
ENDTABLE
REACH     14.9      1.0       150.      150.                                    650
SEGMENT   14.9      1         N         130.                                    655
NVALUE    .16                                                                   660
SEGMENT   14.9      2         C         160.                                    665
NVALUE    .07                                                                   670
SEGMENT   14.9      3         N         251.                                    675
NVALUE    .16                                                                   680
SECTION   14.9                                                                  685
          -3.       896.      -2.       896.      -1.       896.                690
                0.00     890.90     50.00     887.30    100.00     887.50
              130.00     885.30    143.00     880.00    147.00     878.30
              150.00     877.30    153.00     878.00    157.00     879.90
              160.00     882.30    175.00     885.50    210.00     887.40
          250.      890.7     251.      896.                                    695
ENDTABLE
COMMENT   BROKEN DAM STRUCTURE WAS NOT SURVEYED AS A SECTION
REACH     14.99     1.0       1325.     1325.                                   700
SEGMENT   14.99     1         N         170.                                    705
NVALUE    .16                                                                   715
SEGMENT   14.99     2         C         220.                                    720
NVALUE    .07                                                                   725
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
SEGMENT   14.99     3         N         251.                                    730
NVALUE    .16                                                                   735
SECTION   14.99                                                                 740
          -1.       916.      0.        910.      10.       908.                745
          60.       906.      110.      904.      120.      902.                750
          140.      900.      170.      890.      180.      885.2               755
          185.      883.8     190.      883.5     195.      884.3               760
          200.      885.5     220.      889.6     235.      900.                765
          250.      910.      251.      916.                                    770
ENDTABLE                                                                        775
COMMENT   MANUFACTURED
ROAD      15.0      2.7       50.       50.                                     780
CULV 1    15.0      2         12333                                             785
CULV 2    5.                  58.       884.38    883.79    0.032               790
SECTION   15.0                                                                  795
          -3.       917.      -2.       917.      -1.       917.                800
                0.00     910.80     50.00     907.80     100.00     905.10
              150.00     903.00    200.00     902.00     250.00     902.20
              300.00     903.90    350.00     906.90     400.00     911.90
          401.      917.                                                        805
ENDTABLE
REACH     15.1      1.0       50.       50.                                     810
REACH 2   14.99     0.9                                                         815
REACH     15.9      1.0       160.      160.                                    820
REACH 2   16.1      -1.3                                                        825
REACH     16.0      1.0       50.       50.                                     830
SEGMENT   16.0      1         N         -26.                                    835
NVALUE    .160                                                                  840
SEGMENT   16.0      2         C         -2.5                                    845
NVALUE    .055                                                                  850
SEGMENT   16.0      3         C         2.5                                     855
NVALUE    .025                                                                  860
SEGMENT   16.0      4         C         33.                                     865
NVALUE    .055                                                                  870
SEGMENT   16.       5         N         76.                                     875
NVALUE    .160                                                                  880
SECTION   16.0                                                                  885
          -91.      910.      -90.      902.3     -50.      893.3               890
          -30.      891.1     -26.      889.77    -14.      889.77              895
          -13.      888.82    -2.6      888.82    -2.5      888.32              900
          0.        888.07    2.5       888.32    33.       888.62              905
          35.       889.4     47.       890.5     75.       899.2               910
          76.       910.                                                        915
ENDTABLE                                                                        920
REACH     16.05     1.0       50.       50.                                     925
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
REACH 2   16.1      -0.7                                                        930
REACH     16.1      1.0       725.      725.                                    935
SEGMENT   16.1      1         N         142.                                    940
NVALUE     .16                                                                  945
SEGMENT   16.1      2         C         160.                                    950
NVALUE    .07                                                                   955
SEGMENT   16.1      3         N         291.                                    960
NVALUE    .16                                                                   965
SECTION   16.1                                                                  970
          -3.       907.      -2.       907.      -1.       907.                975
                0.00     901.70     50.00     891.40    100.00     889.30
              142.00     889.10    144.00     887.50    147.00     886.70
              150.00     886.50    153.00     886.30    156.00     887.80
              157.00     889.50    160.00     890.50    200.00     893.60
          250.      897.5     290.      859.8     291.      907.                980
ENDTABLE
REACH     16.9      1.0       2975.     2975.                                   985
SEGMENT   16.9      1         N         -10.                                    990
NVALUE    .20                                                                   995
SEGMENT   16.9      2         C         10.                                     1 00
NVALUE    .07                                                                   1 05
SEGMENT   16.9      3         N         226.                                    1 10
NVALUE    .20                                                                   1 15
SECTION   16.9                                                                  1 20
          -351.     917.1     -350.     909.1     -300.     907.1               1 25
          -200.     906.      -100.     902.1     -85.      901.4               1 30
          -75.      899.9     -50.      899.4     -10.      898.7               1 35
          -8.       898.6     -4.       897.      0.        896.5               1 40
          4.        896.8     8.        898.3     10.       899.0               1 45
          50.       899.9     100.      902.7     150.      906.3               1 50
          200.      908.2     225.      908.9     226.      917.1               1 55
ENDTABLE                                                                        1 60
REACH     16.99     1.0       2135.     2135.                                   1 65
SEGMENT   16.99     1         N         -15.                                    1 70
NVALUE    .09       - lowest                                                    1 75
SEGMENT   16.99     2         C         10.                                     1 80
NVALUE    .07                                                                   1 85
SEGMENT   16.99     3         N         521.                                    1 90
NVALUE    .2        4 yrs                                                       1 95
SECTION   16.99                                                                 1100
          -251.     924.      -250.     917.7     -23.      909.                1105
          -15.      909.      -6.       907.6     -3.       906.6               1110
          0.        906.6     3.        906.4     10.       906.8               1115
          50.       908.4     100.      908.2     130.      908.6               1120
          420.      916.      520.      918.      521.      924.                1125
```

.16 0 - 142
.07 142 - 160
.16 160 - 291

.2 -351 → -10.
.07 -10 → 10
.2 10 → 226

```
----------------------------80/80 LIST OF INPUT DATA-------------------------------
ENDTABLE                                                                    1130
COMMENT   MANUFACTURED
ROAD      17.0        2.7         50.         50.                           1135
CULV 1    17.0        2           32233                                     1140
CULV 2    3.          5.          26.         906.42      906.75     0.052  1145
SECTION   17.0                                                              1150
          -3.         924.        -2.         924.        -1.        924.0  1155
                0.00      917.60      50.00     916.00      100.00     914.20
              150.00      912.80     200.00     911.80      300.00     911.00
              400.00      910.50     500.00     912.10      600.00     914.50
          700.        916.4       701.        924.                          1160
ENDTABLE
REACH     17.1        1.0         20.         20.                           1165
REACH 2   16.99                                                             1170
COMPUTE   9.9A        15.1        9.9A
----------------------------END OF 80/80 LIST---------------------------------
```

COMPUTE 9.9A 15.1 9.9A

----------STARTING DATA FROM GIVEN ELEVATION----------

RATING TABLE FOR SECTION 9.9A DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	800.26	0.0	0.0						
BANK FULL	801.2	9.1	46.4	[illegible]	0.00	0.00			
1	803.00	457.3	130.0	0.00	0.00	0.00	130.00	801.6	.00044
2	804.78	1239.8	310.0	0.00	0.00	0.00	310.00	801.9	.00012
3	805.18	1423.5	450.0	0.00	0.00	0.00	450.00	802.0	.00016
ZERO DAMG	805.8	1712.3	521.9	0.00	0.00	0.00			
4	806.87	1754.0	530.0	0.00	0.00	0.00	530.00	802.1	.00012
5	807.31	2645.4	670.0	0.00	0.00	0.00	670.00	802.2	.00006

**********PROFILE NO 4 EXCEEDS SURVEY DATA**********
**********PROFILE NO 5 EXCEEDS SURVEY DATA**********

SEGMENT TABLE FOR SECTION 9.9A

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	0.	31.	98.
130.	VELOCITY FPS	.51	.15	.86	.23
2	DISCHARGE CFS	310.	1.	42.	267.
310.	VELOCITY FPS	.53	.12	.68	.23
3	DISCHARGE CFS	450.	1.	58.	391.
450.	VELOCITY FPS	.41	.15	.84	.25
4	DISCHARGE CFS	530.	2.	63.	465.
530.	VELOCITY FPS	.38	.12	.80	.26
5	DISCHARGE CFS	670.	21.	69.	580.
670.	VELOCITY FPS	.32	.10	.69	.25
1	ELEV [illegible]	[illegible]	8.	1567.	4602.
2	ELEV 804.78	28814.	51.	3972.	24791.
3	ELEV 805.18	35731.	87.	4628.	31136.
4	ELEV 806.87	49102.	122.	5653.	43207.
5	ELEV 807.31	85115.	2615.	8763.	73727.

KD TABLE FOR CROSS SECTION 9.9A

ELEVATION	AREA	KD	KD BY SEGMENT		
800.20	0.				
801.	6.	102.	1.	100.	1.
802.	111.	1108.	3.	632.	426.
803.	457.	6217.	8.	1567.	4602.
804.	890.	17174.	26.	2811.	14328.
805.	1340.	32628.	55.	4229.	28240.
806.	1831.	52904.	178.	6195.	45632.
807.	2446.	76477.	1687.	8096.	66524.
808.	3117.	106315.	5139.	12719.	97763.
809.	4050.	135829.	9660.	12792.	113333.
810.	5249.	183260.	22351.	15386.	144524.
811.	6678.	244455.	43648.	18215.	182176.
812.	7900.	316239.	73710.	21232.	220684.
813.	9350.	405704.	117556.	24439.	267934.
814.	10741.	507843.	182200.	27834.	317659.
815.	12132.	625783.	272997.	31413.	372150.

RATING TABLE FOR SECTION 9.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	803.22	0.0	0.0						
BANK FULL	804.2	9.1	61.4	0.00	0.00	0.00			
1	805.32	197.8	130.0	0.00	0.00	0.00	130.00	804.6	.00362
2	806.06	455.9	310.0	0.00	0.00	0.00	310.00	804.9	.00251
3	806.47	656.2	450.0	0.00	0.00	0.00	450.00	805.6	.00178
4	806.71	763.1	530.0	0.00	0.00	0.00	530.00	805.1	.00153
5	807.68	1194.1	670.0	0.00	0.00	0.00	670.00	805.2	.00061

SEGMENT TABLE FOR SECTION 9.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	0.	52.	78.
130.	VELOCITY FPS	1.40	0.00	2.04	.45
2	DISCHARGE CFS	310.	0.	75.	234.
310.	VELOCITY FPS	1.21	.35	2.13	.56
3	DISCHARGE CFS	450.	1.	87.	362.
450.	VELOCITY FPS	1.07	.35	2.03	.58
4	DISCHARGE CFS	530.	1.	94.	435.
530.	VELOCITY FPS	1.03	.35	2.02	.61
5	DISCHARGE CFS	670.	1.	93.	575.
670.	VELOCITY FPS	.75	.27	1.53	.51
1	ELEV 805.32 KO	2146.	4.	894.	1249.
2	ELEV 806.06 KO	6148.	8.	1563.	4578.
3	ELEV 806.47 KO	10645.	15.	2111.	8529.
4	ELEV 806.71 KO	13548.	20.	2425.	11103.
5	ELEV 807.68 KO	27169.	47.	3813.	23309.

KD TABLE FOR CROSS SECTION 9.9

ELEVATION	AREA	KD	KD BY SEGMENT		
803.20	0.				
804.	6.	102.	1.	100.	1.
805.	111.	1108.	3.	652.	426.
806.	457.	6217.	8.	1567.	4602.
807.	890.	17174.	26.	2811.	14328.
808.	1340.	32628.	59.	4329.	28240.
809.	1831.	52004.	178.	6095.	45632.
810.	2446.	76477.	1687.	8096.	66524.
811.	3117.	106315.	5139.	10219.	91753.
812.	4050.	139829.	9660.	12752.	113333.
813.	5249.	185260.	22351.	15386.	144924.
814.	6578.	244453.	43648.	18215.	182170.
815.	7960.	318239.	73710.	21232.	222884.
816.	9350.	405734.	117956.	24439.	267934.
817.	10741.	507843.	182200.	27834.	317659.
818.	12132.	625783.	272997.	31413.	372150.

RATING TABLE FOR SECTION 9.95 OA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	803.30	0.9	6.0						
BANK FULL	804.5	9.2	63.7	0.00	0.00	0.00			
1	805.75	49.8	130.0	0.00	0.00	0.00	130.00	805.3	.01277
2	806.42	158.9	310.0	0.00	0.00	0.00	310.00	805.9	.01419
3	806.82	252.5	450.0	0.00	0.00	0.00	450.00	806.1	.01181
4	806.99	316.4	530.0	0.00	0.00	0.00	530.00	806.2	.01097
5	807.79	599.6	670.0	0.00	0.00	0.00	670.00	806.4	.00339

SEGMENT TABLE FOR SECTION 9.95

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	1.	118.	12.
130.	VELOCITY FPS	4.05	.70	4.16	.57
2	DISCHARGE CFS	310.	2.	203.	106.
310.	VELOCITY FPS	4.51	.96	5.29	.89
3	DISCHARGE CFS	450.	2.	230.	209.
450.	VELOCITY FPS	4.37	1.00	5.39	.97
4	DISCHARGE CFS	530.	3.	251.	276.
530.	VELOCITY FPS	3.90	1.01	5.35	1.04
5	DISCHARGE CFS	670.	3.	205.	462.
670.	VELOCITY FPS	2.11	.68	3.46	.86
1	ELEV 805.75	KD	1135.	4.	1055.	76.
2	ELEV 806.42	KD	2568.	14.	1754.	792.
3	ELEV 806.82	KD	4093.	23.	2227.	1844.
4	ELEV 806.99	KD	5085.	27.	2452.	2546.
5	ELEV 807.79	KD	11473.	58.	3592.	7823.

KD TABLE FOR CROSS SECTION 9.95

ELEVATION	AREA	KD	KD BY SEGMENT		
803.30	0.				
804.	4.	53.	1.	51.	1.
805.	18.	456.	2.	450.	3.
806.	85.	1578.	7.	1245.	203.
807.	320.	5121.	28.	2465.	2589.
808.	673.	13652.	68.	3912.	9645.
809.	1341.	25989.	133.	5615.	20232.
810.	1424.	41534.	204.	7543.	33762.
811.	1833.	61252.	339.	9717.	50179.
812.	2270.	82173.	792.	12092.	69257.
813.	2764.	107573.	1843.	14672.	90989.
814.	3326.	136894.	4268.	17447.	115022.
815.	3941.	172219.	8751.	20411.	140066.
816.	4595.	217925.	15131.	23658.	168583.
817.	5273.	259252.	23406.	26883.	199763.
818.	5973.	292826.	33394.	30382.	232941.
819.	6692.	346846.	44844.	34451.	268116.
820.	7410.	401415.	59133.	37896.	305700.
821.	8128.	461637.	76731.	41913.	346731.
822.	8846.	524613.	98150.	46100.	389124.

RATING TABLE FOR SECTION 9.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	804.20	0.0	0.0						
BANK FULL	805.4	9.6	53.7	0.00	0.00	0.00			
1	807.11	113.6	130.0	0.00	0.00	0.00	130.00	806.2	.00419
2	807.76	274.5	310.0	0.00	0.00	0.00	310.00	806.8	.00508
3	808.16	375.0	450.0	0.00	0.00	0.00	450.00	807.0	.00536
4	808.21	429.5	530.0	0.00	0.00	0.00	530.00	807.1	.00526
5	808.63	575.7	670.0	0.00	0.00	0.00	670.00	807.3	.00379

SEGMENT TABLE FOR SECTION 9.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	1.	97.	33.
130.	VELOCITY FPS	2.44	.49	2.76	.42
2	DISCHARGE CFS	310.	2.	162.	147.
310.	VELOCITY FPS	2.67	.67	3.60	.65
3	DISCHARGE CFS	450.	2.	189.	259.
450.	VELOCITY FPS	2.79	.73	3.82	.81
4	DISCHARGE CFS	530.	3.	204.	324.
530.	VELOCITY FPS	2.85	.75	3.94	.86
5	DISCHARGE CFS	670.	3.	211.	456.
670.	VELOCITY FPS	2.23	.71	3.64	.89

1	ELEV	807.11	KO	1997.	10.	1514.	433.
2	ELEV	807.76	KO	4325.	24.	2285.	2017.
3	ELEV	808.06	KO	6065.	33.	2674.	3358.
4	ELEV	808.21	KO	7229.	38.	2890.	4300.
5	ELEV	808.63	KO	10839.	55.	3491.	7293.

KD TABLE FOR CROSS SECTION 9.95

ELEVATION	AREA	KD	KD BY SEGMENT		
804.20	0.				
805.	5.	72.	1.	70.	1.
806.	20.	527.	2.	518.	5.
807.	99.	1776.	8.	1398.	295.
808.	355.	5752.	31.	2596.	3056.
809.	769.	14792.	74.	4172.	13645.
810.	1079.	27365.	141.	5797.	21410.
811.	1464.	43250.	207.	7760.	35268.
812.	1872.	62317.	370.	9946.	51968.
813.	2315.	84565.	658.	12342.	71339.
814.	2815.	111323.	2702.	14941.	93724.
815.	3384.	140056.	4630.	17735.	117567.
816.	4004.	173778.	9344.	20718.	143566.
817.	4661.	211949.	15887.	23882.	171543.
818.	5343.	254744.	24322.	27225.	203988.
819.	6045.	301626.	34424.	30741.	236330.
820.	6763.	352396.	46138.	34428.	271661.
821.	7482.	407126.	61736.	36290.	309614.
822.	8220.	468819.	76692.	42324.	349213.
823.	8918.	531275.	107523.	46598.	394471.

ROAD SECTION 10.0

NO.	HW	CFS	HL	TW	CSM
0	804.39	0.00	0.00	0.00	0.00
1	807.39	130.00	.16	807.23	130.00
2	808.47	310.00	.56	807.91	310.00
3	809.34	450.00	1.12	808.22	450.00
4	809.82	530.00	1.44	808.38	530.00
5	810.67	670.00	1.92	808.75	670.00

MIN ROAD ELEVATION 813.80

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	2	32133.	6.63	9.72	60.00	804.39	803.73	.032

$6.63 \times 20 = 132$ (A)

$\frac{Q}{A} = \frac{530}{132}$

(A)

RATING TABLE FOR SECTION 10.05 DA= 1.0

	AC.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
	0	804.40	0.0	0.0						
BANK FULL		805.6	9.6	49.7	0.00	0.00	0.00			
	1	807.54	163.9	130.0	0.00	0.00	0.00	131.00	806.4	.00238
	2	808.55	477.1	310.0	0.00	0.00	0.00	310.00	807.0	.00134
	3	809.38	775.1	450.0	0.00	0.00	0.00	450.00	807.2	.00073
	4	809.85	946.5	530.0	0.00	0.00	0.00	530.00	807.3	.00056
	5	810.69	1265.1	670.0	0.00	0.00	0.00	670.00	807.5	.00037

SECPLAT TABLE FOR SECTION 10.05

CSM			TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS		130.	1.	84.	45.
130.	VELOCITY FPS		1.65	.40	2.17	.37
2	DISCHARGE CFS		310.	2.	112.	196.
310.	VELOCITY FPS		1.33	.40	2.09	.47
3	DISCHARGE CFS		450.	2.	116.	332.
450.	VELOCITY FPS		1.00	.38	1.75	.47
4	DISCHARGE CFS		530.	3.	120.	407.
530.	VELOCITY FPS		.90	.33	1.65	.47
5	DISCHARGE CFS		670.	4.	129.	537.
670.	VELOCITY FPS		.78	.30	1.50	.46
1	ELEV	807.54 KO	2617.	14.	1776.	827.
2	ELEV	808.55 KO	8424.	43.	3785.	5295.
3	ELEV	809.38 KO	16689.	84.	4362.	12234.
4	ELEV	809.85 KO	22447.	114.	5157.	17175.
5	ELEV	810.69 KO	34877.	185.	6732.	27809.

KD TABLE FOR CROSS SECTION 10.05

ELEVATION	AREA	KD	KD BY SEGMENT		
804.40	0.				
805.	3.	37.	1.	35.	1.
806.	16.	392.	2.	388.	2.
807.	71.	1395.	6.	1145.	138.
808.	285.	4544.	25.	2336.	2183.
809.	637.	12979.	63.	3755.	8721.
810.	1303.	24659.	126.	5435.	19099.
811.	1385.	39861.	201.	7360.	32299.
812.	1788.	56230.	311.	9491.	48411.
813.	2225.	79823.	730.	11845.	67213.
814.	2712.	104865.	1695.	14405.	88688.
815.	3268.	135774.	3930.	17161.	112510.
816.	3878.	166703.	8190.	20106.	138193.
817.	4528.	203947.	14406.	23235.	166152.
818.	5204.	245808.	22519.	26543.	196567.
819.	5902.	290070.	32388.	30025.	229577.
820.	6620.	341641.	43578.	33676.	264386.
821.	7338.	395750.	57563.	37504.	301813.
822.	8056.	454502.	74808.	41504.	341875.
823.	8775.	517998.	95820.	45674.	384604.

RATING TABLE FOR SECTION 10.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	816.10	0.	0.0						
BANK FULL	818.6	41.3	105.1	0.00	0.00	0.00			
1	819.19	117.8	130.0	0.00	0.00	0.00	130.00	817.8	.00454
2	819.79	281.9	310.0	0.00	0.00	0.00	310.00	819.0	.00465
3	820.17	396.5	450.0	0.00	0.00	0.00	450.00	819.2	.00412
4	820.32	441.4	530.0	0.00	0.00	0.00	530.00	819.2	.00520
5	820.60	531.9	670.0	0.00	0.00	0.00	670.00	819.3	.00409

SEGMENT TABLE FOR SECTION 10.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 A
1	DISCHARGE CFS	130.	26.	97.	7.
130.	VELOCITY FPS	2.19	.44	2.33	.40
2	DISCHARGE CFS	310.	132.	142.	36.
310.	VELOCITY FPS	2.03	.76	2.77	.62
3	DISCHARGE CFS	450.	220.	162.	68.
450.	VELOCITY FPS	1.89	.90	2.82	.72
4	DISCHARGE CFS	530.	266.	178.	85.
530.	VELOCITY FPS	1.90	.98	2.98	.78
5	DISCHARGE CFS	670.	352.	195.	123.
670.	VELOCITY FPS	1.91	1.08	3.04	.87
1	ELEV 819.19 KD	1851.	207.	1515.	70.
2	ELEV 819.79 KD	4583.	1883.	2142.	484.
3	ELEV 820.17 KD	6949.	3356.	2581.	1013.
4	ELEV 820.32 KD	8178.	4136.	2766.	1311.
5	ELEV 820.60 KD	10438.	5455.	3116.	1868.

(B)

KD TABLE FOR CROSS SECTION 10.5

ELEVATION	AREA	KD	KD BY SEGMENT		
816.10	0.				
817.	9.	144.	1.	142.	1.
818.	23.	597.	1.	595.	1.
819.	83.	1521.	84.	1336.	27.
820.	344.	5780.	2593.	2375.	729.
821.	661.	14339.	7774.	3647.	2901.
822.	1108.	26496.	14773.	5126.	6560.
823.	1367.	42415.	23417.	6800.	12174.
824.	1734.	61405.	33601.	8[illegible].	19136.
825.	2110.	83202.	45234.	1[illegible]694.	27267.
826.	2502.	105789.	58311.	12896.	34579.
827.	2929.	127803.	72787.	15261.	39746.
828.	3436.	153726.	88634.	17781.	47309.
829.	4[illegible]08.	186862.	105896.	20453.	60562.
830.	4624.	226929.	124660.	23273.	78876.
831.	5260.	274275.	145461.	26237.	102433.
832.	5[illegible]0.	327989.	168[illegible]87.	29342.	13[illegible]480.
833.	6541.	385673.	191945.	32585.	161116.
834.	7183.	446786.	216898.	35960.	193848.
835.	7824.	513459.	243473.	39474.	230897.
836.	8466.	585865.	271679.	43123.	272557.
837.	9107.	664170.	301528.	46905.	319127.

RATING TABLE FOR SECTION 10.99 DA= 1.0

	NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT LLEV	FRICTION SLOPE
	0	840.21	0.0	0.0						
	1	841.74	122.6	130.0	0.00	0.00	0.00	130.00	840.8	.00668
BANK FULL		841.9	140.1	167.6	0.00	0.00	0.00			
	2	842.55	217.6	310.0	0.00	0.00	0.00	310.00	841.1	.00701
	3	843.05	291.9	450.0	0.00	0.00	0.00	450.00	841.4	.00656
	4	843.26	322.9	530.0	0.00	0.00	0.00	530.00	841.5	.00681
	5	843.63	380.6	670.0	0.00	0.00	0.00	670.00	841.6	.00683

SEGMENT TABLE FOR SECTION 10.99

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	0.	35.	95.
130.	VELOCITY FPS	1.24	1.00	1.83	.92
2	DISCHARGE CFS	310.	4.	86.	220.
310.	VELOCITY FPS	1.73	.40	2.58	1.20
3	DISCHARGE CFS	450.	18.	124.	308.
450.	VELOCITY FPS	1.93	.69	2.93	1.38
4	DISCHARGE CFS	530.	26.	146.	358.
530.	VELOCITY FPS	2.06	.78	3.16	1.47
5	DISCHARGE CFS	670.	45.	182.	443.
670.	VELOCITY FPS	2.24	.94	3.46	1.58
1	ELEV 841.74 KO	1990.	1.	427.	1163.
2	ELEV 842.55 KO	3691.	33.	1025.	2633.
3	ELEV 843.05 KO	5539.	193.	1534.	3812.
4	ELEV 843.26 KO	6419.	310.	1767.	4342.
5	ELEV 843.63 KO	8093.	522.	2206.	5364.

KD TABLE FOR CROSS SECTION 10.59

ELEVATION	AREA	KD	KD BY SEGMENT		
840.21	0.				
841.	51.	397.	1.	119.	277.
842.	150.	2164.	1.	583.	1580.
843.	284.	5341.	167.	1476.	3679.
844.	442.	9983.	804.	2697.	6474.
845.	618.	16131.	1811.	4196.	10124.
846.	814.	23858.	3144.	5944.	14769.
847.	1018.	32749.	4630.	7525.	20189.
848.	1251.	43342.	6822.	10138.	26375.
849.	1498.	56349.	11262.	12555.	33502.
850.	1747.	71444.	14428.	15177.	41829.
851.	1996.	88579.	19101.	17994.	50975.
852.	2248.	108031.	24240.	20999.	60786.
853.	2499.	129196.	29753.	24187.	71209.
854.	2750.	151576.	35772.	27553.	82145.
855.	3001.	176199.	42143.	31092.	92859.
856.	3253.	202716.	48880.	34801.	106626.
857.	3504.	231360.	55962.	38676.	118722.
858.	3756.	262922.	63320.	42716.	131889.
859.	4008.	297731.	71161.	46909.	149672.
860.	4260.	291781.	79469.	51272.	160169.
861.	4511.	319067.	88309.	55795.	175174.
862.	4763.	348580.	97624.	6 476.	190680.

ROAD SECTION 11.C

NO.	HW	CFS	HL	TW	CSM
0	839.37	0.00	0.00	0.00	0.00
1	843.17	130.00	1.96	841.81	130.00
2	845.06	310.00	2.40	842.66	310.00
3	845.43	450.00	2.24	843.19	450.00
4	845.57	530.00	2.16	843.41	530.00
5	845.79	670.00	2.00	843.79	670.00

MIN ROAD ELEVATION 844.50

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	32233.	5.60	7.93	16.00	839.37	839.36	.028

Ht. wid
5.6 x 380 = A 2128
5.6 x 175 = A 980
culvert width = 175 ? = A

$v = \frac{530}{980}$ of $\frac{530}{2128} = v$

(C)

RATING TABLE FOR SECTION 11.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	840.41	0.0	0.0						
BANK FULL	842.1	140.1	75.8	0.00	0.00	0.00			
1	843.18	281.1	130.0	0.00	0.00	0.00	130.00	841.0	.00061
2	845.07	594.2	310.0	0.00	0.00	0.00	310.00	841.3	.00042
3	845.43	662.4	450.0	0.00	0.00	0.00	450.00	841.6	.00064
4	845.57	689.2	530.0	0.00	0.00	0.00	530.00	841.7	.00079
5	845.80	731.6	670.0	0.00	0.00	0.00	670.00	841.8	.00106

SEGMENT TABLE FOR SECTION 11.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	5.	36.	89.
130.	VELOCITY FPS	.58	.20	.87	.41
2	DISCHARGE CFS	310.	34.	81.	195.
310.	VELOCITY FPS	.68	.34	1.08	.47
3	DISCHARGE CFS	450.	53.	116.	281.
450.	VELOCITY FPS	.88	.45	1.42	.61
4	DISCHARGE CFS	530.	65.	135.	330.
530.	VELOCITY FPS	1.00	.51	1.61	.69
5	DISCHARGE CFS	670.	85.	169.	416.
670.	VELOCITY FPS	1.19	.61	1.92	.82
1	ELEV 843.18	KD 5241.	159.	1455.	3627.
2	ELEV 845.07	KD 15184.	1649.	3979.	9556.
3	ELEV 845.43	KD 17746.	2089.	4579.	11129.
4	ELEV 845.57	KD 18898.	2272.	4820.	11766.
5	ELEV 845.80	KD 20599.	2581.	5212.	12806.

KD TABLE FOR CROSS SECTION 11.1

ELEVATION	AREA	KD	KD BY SEGMENT		
840.41	0.				
841.	32.	193.	1.	63.	129.
842.	128.	1712.	1.	457.	1255.
843.	254.	4578.	96.	1268.	3195.
844.	408.	8975.	656.	2432.	5886.
845.	582.	14736.	1574.	3874.	9283.
846.	770.	22240.	2883.	5576.	13781.
847.	974.	30867.	4307.	7514.	19044.
848.	1202.	41185.	6290.	9677.	25176.
849.	1448.	53563.	9478.	12054.	32101.
850.	1697.	68263.	13539.	14036.	40669.
851.	1948.	84626.	18116.	17415.	49093.
852.	2198.	102323.	23166.	20383.	58765.
853.	2449.	121256.	28641.	23535.	69170.
854.	2700.	141418.	34551.	26866.	79595.
855.	2951.	162737.	41854.	30371.	91502.
856.	3202.	185135.	47524.	34147.	103564.
857.	3454.	208524.	54504.	37887.	116131.
858.	3706.	233914.	61810.	41890.	129206.
859.	3958.	258469.	69554.	46056.	142860.
860.	4209.	285272.	77764.	51386.	157141.
861.	4461.	313311.	86505.	54877.	172124.
862.	4713.	342579.	95721.	59527.	187511.

RATING TABLE FOR SECTION 11.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	840.91	0.0	0.0						
BANK FULL	842.6	140.1	96.3	0.00	0.00	0.00			
1	843.21	212.5	130.0	0.00	0.00	0.00	130.00	841.5	.00133
2	845.08	506.2	310.0	0.00	0.00	0.00	310.00	841.8	.00067
3	845.45	573.1	450.0	0.00	0.00	0.00	450.00	842.1	.00098
4	845.59	599.2	530.0	0.00	0.00	0.00	530.00	842.2	.00119
5	845.82	641.7	670.0	0.00	0.00	0.00	670.00	842.3	.00155

SEGMENT TABLE FOR SECTION 11.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	1.	36.	93.
130.	VELOCITY FPS	.74	.18	1.11	.54
2	DISCHARGE CFS	310.	30.	83.	197.
310.	VELOCITY FPS	.79	.38	1.26	.56
3	DISCHARGE CFS	450.	48.	118.	284.
450.	VELOCITY FPS	1.02	.50	1.63	.73
4	DISCHARGE CFS	530.	58.	139.	333.
530.	VELOCITY FPS	1.13	.57	1.83	.79
5	DISCHARGE CFS	670.	78.	173.	419.
670.	VELOCITY FPS	1.35	.68	2.17	.94
1	ELEV 843.21 KD	3594.	24.	906.	2544.
2	ELEV 845.08 KD	12115.	1142.	3232.	7642.
3	ELEV 845.45 KD	14379.	1516.	3792.	9070.
4	ELEV 845.59 KD	15376.	1682.	4023.	9671.
5	ELEV 845.82 KD	17003.	1955.	4397.	10650.

KD TABLE FOR CROSS SECTION 11.9

ELEVATION	AREA	KD	KD BY SEGMENT		
840.91	0.				
841.	0.	3.	1.	2.	2.
842.	79.	798.	1.	226.	570.
843.	184.	2948.	4.	806.	2130.
844.	329.	6597.	329.	1813.	4449.
845.	493.	11509.	1666.	3119.	7398.
846.	675.	18304.	2175.	4693.	11430.
847.	870.	26386.	3556.	6515.	16313.
848.	1084.	35675.	5139.	8569.	21966.
849.	1323.	46953.	7705.	10841.	28398.
850.	1572.	61656.	11481.	13322.	35148.
851.	1825.	76316.	15799.	16002.	44511.
852.	2073.	93352.	21612.	18876.	52861.
853.	2324.	111680.	28889.	21937.	63860.
854.	2575.	131232.	31572.	25179.	74477.
855.	2826.	151929.	37651.	28597.	85675.
856.	3077.	173757.	44118.	32187.	97447.
857.	3328.	196666.	5 956.	3[illegible]946.	109766.
858.	3580.	220600.	58121.	39868.	122608.
859.	3832.	245534.	65621.	43952.	135959.
860.	4083.	271716.	73608.	48201.	149927.
861.	4335.	299138.	82683.	52612.	164507.
862.	4587.	327792.	91[illegible]51.	57182.	179692.

RATING TABLE FOR SECTION 12.0 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	841.41	0.0	0.0						
BANK FULL	843.1	140.1	120.0	0.00	0.00	0.00			
1	843.25	155.1	130.0	0.00	0.00	0.00	130.00	842.0	.00323
2	845.05	423.1	310.0	0.00	0.00	0.00	310.00	842.3	.00108
3	845.47	487.3	450.0	0.00	0.00	0.00	450.00	842.6	.00156
4	845.61	512.7	530.0	0.00	0.00	0.00	530.00	842.7	.00188
5	845.85	555.1	670.0	0.00	0.00	0.00	670.00	842.8	.00238

SEGMENT TABLE FOR SECTION 12.0

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	0.	35.	95.
130.	VELOCITY FPS	.98	0.00	1.44	.73
2	DISCHARGE CFS	310.	24.	84.	202.
310.	VELOCITY FPS	.94	.41	1.46	.66
3	DISCHARGE CFS	450.	41.	121.	287.
450.	VELOCITY FPS	1.19	.56	1.89	.82
4	DISCHARGE CFS	530.	51.	142.	336.
530.	VELOCITY FPS	1.34	.64	2.13	.92
5	DISCHARGE CFS	670.	70.	177.	423.
670.	VELOCITY FPS	1.57	.76	2.49	1.08
1	ELEV 843.25 KD	2289.	2.	618.	1669.
2	ELEV 845.05 KD	9415.	720.	2549.	6146.
3	ELEV 845.47 KD	11331.	1033.	4169.	7289.
4	ELEV 845.61 KD	12233.	1186.	3287.	7765.
5	ELEV 845.85 KD	13724.	1411.	3640.	8674.

(D)

KD TABLE FOR CROSS SECTION 12.0

ELEVATION	AREA	KD	KD BY SEGMENT		
841.41	0.				
842.	32.	193.	1.	63.	129.
843.	128.	1712.	1.	457.	1255.
844.	254.	4578.	96.	1288.	3195.
845.	408.	8975.	256.	2432.	5886.
846.	582.	14736.	1574.	3874.	9283.
847.	770.	22243.	2883.	5576.	13781.
848.	974.	30867.	4307.	7514.	19044.
849.	1202.	41155.	6290.	9677.	25176.
850.	1448.	53563.	9478.	12054.	32031.
851.	1697.	68263.	13539.	14636.	40169.
852.	1948.	84626.	18116.	17415.	49883.
853.	2198.	102323.	23166.	20383.	58765.
854.	2449.	121256.	28641.	23535.	69079.
855.	2700.	141418.	34551.	26866.	79995.
856.	2951.	162731.	41854.	30371.	91502.
857.	3202.	185136.	47524.	34047.	103564.
858.	3454.	208524.	54504.	37887.	116131.
859.	3706.	232910.	61610.	41890.	129206.
860.	3958.	258469.	69554.	46056.	142866.
861.	4209.	285272.	77784.	50386.	157141.
862.	4461.	313311.	86565.	54877.	172024.
863.	4713.	342579.	95721.	59527.	187511.

RATING TABLE FOR SECTION 12.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	839.60	0.1	0.0						
BANK FULL	841.2	15.8	52.2	0.00	0.00	0.00			
1	843.29	141.3	130.0	0.00	0.00	0.00	130.00	841.4	.00111
2	845.11	579.4	310.0	0.00	0.00	0.00	310.00	842.2	.00043
3	845.49	691.2	450.0	0.00	0.00	0.00	450.00	842.8	.00028
4	845.65	738.7	530.0	0.00	0.00	0.00	530.00	842.9	.00068
5	845.90	813.9	670.0	0.00	0.00	0.00	670.00	843.2	.00085

SEGMENT TABLE FOR SECTION 12.1

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	11.	108.	11.
130.	VELOCITY FPS	1.50	.21	1.62	.45
2	DISCHARGE CFS	310.	133.	151.	26.
310.	VELOCITY FPS	1.02	.34	1.39	.33
3	DISCHARGE CFS	450.	208.	202.	41.
450.	VELOCITY FPS	1.20	.44	1.72	.42
4	DISCHARGE CFS	530.	252.	229.	50.
530.	VELOCITY FPS	1.31	.49	1.89	.47
5	DISCHARGE CFS	670.	329.	275.	66.
670.	VELOCITY FPS	1.48	.58	2.17	.56
1	ELEV 843.29 KD	3851.	234.	3272.	326.
2	ELEV 845.11 KD	14799.	6201.	7367.	1222.
3	ELEV 845.49 KD	18638.	8564.	8403.	1672.
4	ELEV 845.65 KD	20230.	9523.	8831.	1876.
5	ELEV 845.90 KD	22977.	11208.	9531.	2238.

KD TABLE FOR CROSS SECTION 12.1

ELEVATION	AREA	KD	KD BY SEGMENT		
839.80	0.				
840.	0.	4.	1.	2.	1.
841.	15.	313.	1.	311.	1.
842.	42.	1290.	1.	1261.	25.
843.	104.	3097.	59.	2747.	228.
844.	283.	6944.	1589.	4721.	635.
845.	549.	13903.	5617.	7088.	1113.
846.	645.	24259.	11977.	9832.	2406.
847.	1159.	38009.	20860.	12925.	4224.
848.	1480.	54355.	31600.	16341.	6395.
849.	1807.	77267.	44221.	2[illegible]74.	6959.
850.	2140.	94532.	58533.	24108.	11882.
851.	2479.	118[illegible]61.	74466.	28431.	15157.
852.	2824.	143776.	91957.	33[illegible].	18778.
853.	3175.	171701.	111[illegible]36.	37913.	22753.
854.	3533.	2[illegible]1612.	131[illegible]2.	43[illegible]52.	27[illegible]52.
855.	3896.	233338.	153465.	48451.	31415.
856.	4269.	266660.	177385.	54[illegible]3.	35155.
857.	4651.	302486.	203259.	6[illegible]01.	39216.
858.	5[illegible]39.	341779.	23[illegible]891.	66144.	44744.
859.	5430.	384[illegible]62.	259603.	72519.	51921.
860.	5821.	428389.	289688.	79129.	59536.
861.	6212.	474606.	321[illegible]81.	85969.	67550.
862.	6604.	522516.	353605.	93[illegible]32.	75872.
863.	6995.	572830.	387771.	100326.	84785.
864.	7387.	625556.	423586.	107848.	94301.
865.	7779.	68[illegible]704.	461057.	115595.	104434.

RATING TABLE FOR SECTION 12.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	841.50	0.0	0.0						
BANK FULL	842.9	19.8	63.8	0.00	0.00	0.00			
1	844.35	71.5	130.0	0.00	0.00	0.00	130.00	843.1	.00314
2	845.75	296.6	310.0	0.00	0.00	0.00	310.00	843.9	.00184
3	846.25	410.2	450.0	0.00	0.00	0.00	450.00	844.5	.00202
4	846.40	463.2	530.0	0.00	0.00	0.00	530.00	844.6	.00214
5	846.70	548.6	670.0	0.00	0.00	0.00	670.00	844.9	.00232

SEGMENT TABLE FOR SECTION 12.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	1.	121.	8.
130.	VELOCITY FPS	2.27	.17	2.32	.57
2	DISCHARGE CFS	310.	76.	206.	28.
310.	VELOCITY FPS	2.03	.44	2.45	.70
3	DISCHARGE CFS	450.	154.	262.	34.
450.	VELOCITY FPS	2.17	.59	2.77	.64
4	DISCHARGE CFS	530.	199.	291.	40.
530.	VELOCITY FPS	2.25	.66	2.93	.66
5	DISCHARGE CFS	670.	279.	336.	55.
670.	VELOCITY FPS	2.36	.76	3.10	.74
1	ELEV 844.35 KD	2359.	10.	2169.	129.
2	ELEV 845.75 KD	7225.	1724.	4834.	647.
3	ELEV 846.25 KD	9960.	3345.	5864.	752.
4	ELEV 846.40 KD	11415.	4225.	6339.	851.
5	ELEV 846.70 KD	13820.	5619.	7088.	1114.

KD TABLE FOR CROSS SECTION 12.5

ELEVATION	AREA	KD	KD BY SECMENT		
841.50	0.				
842.	3.	28.	1.	25.	1.
843.	22.	534.	1.	531.	2.
844.	54.	1719.	2.	1652.	60.
845.	143.	3940.	247.	3295.	331.
846.	359.	8682.	2502.	5388.	704.
847.	634.	16704.	7352.	7875.	1434.
848.	938.	28823.	14365.	10725.	2915.
849.	1255.	42579.	23818.	13514.	4821.
850.	1578.	59720.	35148.	17427.	7115.
851.	1907.	79357.	48295.	21252.	9790.
852.	2241.	101316.	63107.	25373.	12821.
853.	2582.	125516.	79521.	29782.	16202.
854.	2929.	151865.	97461.	34468.	19923.
855.	3282.	180400.	116969.	39425.	23997.
856.	3641.	211162.	137971.	44646.	28483.
857.	4006.	243976.	160387.	50122.	32765.
858.	4382.	278974.	184979.	55847.	36135.
859.	4767.	314005.	211343.	61818.	40232.
860.	5156.	354184.	239313.	68031.	46826.
861.	5547.	397268.	268574.	74479.	54209.
862.	5938.	442033.	298965.	81157.	61895.
863.	6330.	488727.	331666.	88063.	69986.
864.	6721.	537357.	363482.	95196.	78484.
865.	7113.	588394.	398342.	102559.	87576.
866.	7514.	641846.	434653.	111149.	97275.
867.	7896.	697722.	472622.	117963.	107597.

ROAD SECTION 13.0

NO.	HW	CFS	HL	TW	CSH
0	842.19	0.00	0.00	0.00	0.00
1	846.27	130.00	1.76	844.51	130.00
2	849.05	310.00	3.20	845.85	310.00
3	851.83	450.00	5.52	846.31	450.00
4	852.91	530.00	6.40	846.51	530.00
5	853.86	670.00	7.04	846.82	670.00

MIN ROAD ELEVATION 853.00

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12111.	8.50		36.00	842.19	841.60	.032

$8.5 \times 30 = A$

(E)

$Q/A \quad \frac{530}{255} = 2.07$

RATING TABLE FOR SECTION 13.01 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	842.10	0.0	0.0						
BANK FULL	843.5	19.8	43.5	0.00	0.00	0.00			
1	846.29	280.8	130.0	0.00	0.00	0.00	130.00	843.7	.06036
2	849.05	1081.2	310.0	0.00	.00	0.00	310.00	844.5	.03008
3	851.83	1981.9	450.0	0.00	0.00	0.00	450.00	845.1	.00603
4	852.91	2346.1	530.0	0.00	0.00	0.00	530.00	845.2	.00002
5	853.86	2671.2	670.0	0.00	0.00	0.00	670.00	845.5	.00003

SEGMENT TABLE FOR SECTION 13.01

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	30.	89.	12.
130.	VELOCITY FPS	.89	.18	1.07	.31
2	DISCHARGE CFS	310.	167.	109.	34.
310.	VELOCITY FPS	.48	.22	.74	.21
3	DISCHARGE CFS	450.	276.	118.	56.
450.	VELOCITY FPS	.33	.19	.96	.18
4	DISCHARGE CFS	530.	332.	130.	68.
530.	VELOCITY FPS	.32	.19	.95	.18
5	DISCHARGE CFS	670.	406.	157.	87.
670.	VELOCITY FPS	.36	.21	.81	.23
1	ELEV 846.25	KO	6869.	1547.	4694.	629.
2	ELEV 849.05	KO	34231.	18376.	12131.	3725.
3	ELEV 851.83	KO	84144.	51532.	22163.	10450.
4	ELEV 852.91	KO	108699.	68160.	26712.	13838.
5	ELEV 853.86	KO	132150.	84343.	30990.	17137.

KD TABLE FOR CROSS SECTION 13.01

ELEVATION	AREA	KD	KD BY SEGMENT		
842.10	0.				
843.	10.	147.	1.	145.	1.
844.	32.	926.	1.	916.	8.
845.	73.	2411.	13.	2246.	143.
846.	220.	5484.	807.	4982.	491.
847.	463.	11446.	4224.	6359.	651.
848.	754.	20816.	9849.	8971.	1946.
849.	1064.	33481.	17861.	11960.	3620.
850.	1383.	49198.	28196.	15284.	5706.
851.	1708.	67366.	40276.	18923.	8156.
852.	2039.	87933.	54987.	22867.	10972.
853.	2376.	110789.	69837.	27105.	14142.
854.	2720.	135861.	86572.	31625.	17660.
855.	3070.	163034.	105692.	36419.	21513.
856.	3425.	192363.	125155.	41481.	25717.
857.	3787.	223619.	146712.	46804.	30195.
858.	4156.	256548.	169970.	52382.	34184.
859.	4534.	291201.	195550.	58208.	37641.
860.	4923.	328721.	222356.	64275.	42090.
861.	5313.	371097.	250797.	70581.	49696.
862.	5704.	414933.	284567.	77122.	57233.
863.	6095.	461609.	311576.	83894.	65130.
864.	6486.	507891.	343675.	90889.	73314.
865.	6878.	557483.	377348.	98114.	82048.
866.	7269.	609484.	412668.	105568.	91382.
867.	7661.	663905.	449641.	113246.	101325.
868.	8153.	727753.	486275.	121151.	111502.

RATING TABLE FOR SECTION 13.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	844.10	0.0	0.0						
BANK FULL	845.5	19.8	64.2	0.00	0.00	0.00			
1	846.93	76.1	130.0	0.00	0.00	0.00	130.00	845.7	.00323
2	849.17	512.5	310.0	0.00	0.00	0.00	310.00	846.5	.00058
3	851.85	1333.5	450.0	0.00	0.00	0.00	450.00	847.1	.00009
4	852.92	1683.0	530.0	0.00	0.00	0.00	530.00	847.2	.00006
5	853.87	1996.4	670.0	0.00	0.00	0.00	670.00	847.5	.00006

SEGMENT TABLE FOR SECTION 13.1

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	1.	121.	8.
130.	VELOCITY FPS	2.29	.18	2.35	.58
2	DISCHARGE CFS	310.	124.	161.	25.
310.	VELOCITY FPS	1.18	.36	1.56	.36
3	DISCHARGE CFS	450.	256.	142.	52.
450.	VELOCITY FPS	.53	.27	.86	.26
4	DISCHARGE CFS	530.	316.	150.	64.
530.	VELOCITY FPS	.47	.26	.79	.25
5	DISCHARGE CFS	670.	411.	175.	83.
670.	VELOCITY FPS	.49	.28	.83	.27

1	ELEV 846.93 KD	2276.	10.	2142.	125.
2	ELEV 849.17 KD	12753.	4990.	6767.	996.
3	ELEV 851.85 KD	46546.	26445.	14748.	5352.
4	ELEV 852.92 KD	65831.	39252.	18631.	7948.
5	ELEV 853.87 KD	85197.	52174.	22341.	10581.

(F)

KD TABLE FOR CROSS SECTION 13.1

ELEVATION	AREA	KD	KD BY SEGMENT		
844.10	0.				
845.	10.	147.	1.	145.	1.
846.	32.	926.	1.	916.	8.
847.	73.	2411.	13.	2246.	143.
848.	220.	5484.	807.	4182.	491.
849.	463.	11446.	4224.	6339.	851.
850.	754.	20816.	9849.	8971.	1946.
851.	1164.	33481.	17661.	11960.	3820.
852.	1383.	49198.	28196.	15284.	5706.
853.	1708.	67366.	47276.	18923.	8156.
854.	2039.	87933.	54187.	22667.	10972.
855.	2376.	119789.	69537.	27105.	14142.
856.	2720.	135861.	86572.	31625.	17660.
857.	3170.	163234.	105192.	36415.	21913.
858.	3425.	192363.	125155.	41481.	25717.
859.	3787.	224619.	146712.	46804.	30795.
860.	4156.	258548.	169970.	52382.	36164.
861.	4534.	291901.	195350.	58268.	37641.
862.	4923.	329721.	222396.	64275.	43 43.
863.	5313.	371097.	252797.	70581.	49699.
864.	5704.	414933.	286567.	77122.	57233.
865.	6095.	462605.	324676.	83844.	65130.
866.	6486.	514891.	343675.	90889.	73214.
867.	6878.	587483.	377348.	96114.	82 48.
868.	7269.	609484.	412468.	105568.	91382.
869.	7661.	663965.	449641.	113248.	101325.
870.	8053.	720753.	488275.	121151.	111902.

RATING TABLE FOR SECTION 13.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	855.7[illegible]	0.0	0.0						
BANK FULL	857.1	14.6	66.8	0.00	0.00	0.00			
1	858.35	62.4	130.0	0.00	0.00	0.00	130.00	857.5	.00652
2	859.42	162.0	310.0	0.00	0.00	0.00	310.00	858.2	.00630
3	859.94	242.7	456.0	0.00	0.00	0.00	450.00	858.5	.00611
4	860.25	305.3	530.0	0.00	0.00	0.00	530.00	858.7	.00546
5	860.77	415.9	670.0	0.00	0.00	0.00	670.00	859.0	.00436

SEGMENT TABLE FOR SECTION 13.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	150.	14.	112.	3.
130.	VELOCITY FPS	3.01	.67	3.17	.61
2	DISCHARGE CFS	31[illegible].	69.	222.	15.
310.	VELOCITY FPS	3.57	.79	4.13	.91
3	DISCHARGE CFS	450.	133.	28[illegible].	34.
450.	VELOCITY FPS	3.66	.90	4.5[illegible]	1.02
4	DISCHARGE CFS	530.	182.	305.	43.
530.	VELOCITY FPS	3.51	.93	4.49	1.05
5	DISCHARGE CFS	67[illegible].	281.	330.	59.
670.	VELOCITY FPS	3.23	.99	4.32	1.04
1	ELEV 858.35 KD	1595.	157.	1403.	34.
2	ELEV 859.42 KD	3867.	836.	2815.	237.
3	ELEV 859.94 KD	5749.	1690.	3632.	427.
4	ELEV 860.25 KD	7142.	2465.	4161.	574.
5	ELEV 860.77 KD	10044.	4109.	5094.	881.

(G)

KD TABLE FOR CROSS SECTION 13.9

ELEVATION	AREA	KD	KD BY SEGMENT		
855.70	0.				
856.	1.	12.	1.	10.	1.
857.	13.	273.	1.	271.	1.
858.	43.	1122.	66.	1038.	12.
859.	114.	2842.	481.	2218.	130.
860.	255.	6018.	1815.	3734.	454.
861.	470.	11828.	5161.	5843.	1349.
862.	707.	20502.	13883.	7632.	1968.
863.	960.	31352.	18095.	9978.	3271.
864.	1232.	44354.	26672.	12567.	5196.
865.	1519.	59589.	36657.	15591.	7523.
866.	1823.	76910.	47831.	18433.	10527.
867.	2149.	96202.	61455.	21704.	14027.
868.	2499.	118140.	74185.	25178.	18735.
869.	2865.	147284.	89164.	28857.	25242.
870.	3238.	171649.	105447.	32733.	33468.
871.	3613.	202519.	123619.	36630.	42461.
872.	3989.	236436.	142125.	41157.	52318.
873.	4365.	271953.	163489.	45498.	62931.
874.	4742.	309677.	185124.	50122.	74443.
875.	5118.	351204.	210239.	54533.	87277.
876.	5495.	395581.	237853.	59528.	101504.
877.	5871.	439855.	258980.	65103.	117195.

RATING TABLE FOR SECTION 13.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	874.70	0.0	0.0						
1	878.78	44.5	130.0	0.00	0.00	0.00	130.00	877.2	.00704
BANK FULL	879.7	63.9	230.2	0.00	0.00	0.00			
2	880.43	82.2	310.0	0.00	0.00	0.00	310.00	878.4	.00754
3	881.48	115.7	450.0	0.00	0.00	0.00	450.00	879.1	.00677
4	881.91	131.2	530.0	0.00	0.00	0.00	530.00	879.4	.00687
5	882.56	157.7	670.0	0.00	0.00	0.00	670.00	880.0	.00714

SEGMENT TABLE FOR SECTION 13.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	130.	0.	130.	0.
130.	VELOCITY FPS	2.93	0.00	2.92	0.00
2	DISCHARGE CFS	310.	0.	309.	1.
310.	VELOCITY FPS	3.84	0.00	3.83	.49
3	DISCHARGE CFS	450.	0.	444.	6.
450.	VELOCITY FPS	4.11	0.00	4.12	.73
4	DISCHARGE CFS	530.	0.	521.	9.
530.	VELOCITY FPS	4.32	0.00	4.35	.81
5	DISCHARGE CFS	670.	0.	651.	19.
670.	VELOCITY FPS	4.65	0.00	4.70	.99
1	ELEV 878.78 KD	1554.	1.	1548.	1.
2	ELEV 880.43 KD	3568.	1.	3562.	5.
3	ELEV 881.48 KD	5461.	1.	5400.	60.
4	ELEV 881.91 KD	6392.	1.	6279.	112.
5	ELEV 882.56 KD	7926.	1.	7704.	220.

KO TABLE FOR CROSS SECTION 13.59

ELEVATION	AREA	KO	KO BY SEGMENT		
874.70	0.				
875.	0.	5.	1.	3.	1.
876.	6.	96.	1.	94.	1.
877.	16.	384.	1.	382.	1.
878.	31.	926.	1.	924.	1.
879.	49.	1753.	1.	1751.	1.
880.	71.	2933.	1.	2930.	2.
881.	99.	4544.	1.	4514.	25.
882.	135.	6587.	1.	6460.	123.
883.	181.	9208.	3.	8884.	310.
884.	248.	12747.	71.	12018.	618.
885.	361.	17336.	401.	15517.	1314.
886.	536.	23543.	1521.	19367.	2535.
887.	743.	31584.	3689.	23538.	4244.
888.	972.	41412.	6777.	28045.	6545.
889.	1221.	53712.	10978.	32650.	9828.
890.	1471.	67817.	16097.	37948.	13772.
891.	1722.	83505.	22140.	43341.	18044.
892.	1973.	101636.	28671.	49218.	22748.
893.	2225.	119300.	36145.	54996.	28185.
894.	2476.	14 191.	45009.	61526.	34383.
895.	2728.	163402.	55428.	68609.	41525.
896.	2979.	184058.	67580.	75047.	49697.

ROAD SECTION 14.0

NO.	HW	CFS	HL	TW	CSM
0	875.30	0.00	0.00	0.00	0.00
1	879.75	130.00	.56	879.19	130.00
2	882.27	310.00	1.44	880.83	310.00
3	884.00	450.00	2.16	881.84	450.00
4	884.92	530.00	2.64	882.28	530.00
5	885.65	670.00	2.72	882.93	670.00

MIN ROAD ELEVATION 885.00

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	22533.	8.90		18.00	875.30	875.20	.017

8.9 | 18

(H)

8.9 x 20 = A

530/178 = 2.97

8.9
20
780

RATING TABLE FOR SECTION 14.9 OA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	877.30	0.0	0.0						
1	881.15	40.1	130.0	0.00	0.00	0.00	130.00	879.8	.00934
BANK FULL	882.3	63.9	232.7	0.00	0.00	0.00			
2	883.16	86.3	310.0	0.00	0.00	0.00	310.00	881.0	.00669
3	884.62	135.8	450.0	0.00	0.00	0.00	450.00	881.7	.00458
4	885.40	169.5	530.0	0.00	0.00	0.00	530.00	882.0	.00380
5	886.11	210.3	670.0	0.00	0.00	0.00	670.00	882.6	.00378

SEGMENT TABLE FOR SECTION 14.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	0.	130.	0.
130.	VELOCITY FPS	3.25	0.00	3.24	0.00
2	DISCHARGE CFS	310.	0.	309.	1.
310.	VELOCITY FPS	3.68	0.00	3.67	.52
3	DISCHARGE CFS	450.	0.	441.	9.
450.	VELOCITY FPS	3.56	0.00	3.50	.78
4	DISCHARGE CFS	530.	0.	513.	17.
530.	VELOCITY FPS	3.48	.44	3.52	.73
5	DISCHARGE CFS	670.	2.	641.	27.
670.	VELOCITY FPS	3.78	.36	3.84	.71
1	ELEV 881.15 KD	1345.	1.	1343.	1.
2	ELEV 883.16 KD	3786.	1.	3778.	8.
3	ELEV 884.62 KD	6644.	1.	6516.	127.
4	ELEV 885.40 KD	8597.	1.	8324.	271.
5	ELEV 886.11 KD	10890.	20.	10439.	431.

(I)

KD TABLE FOR CROSS SECTION 14.5

ELEVATION	AREA	KD	KD BY SEGMENT		
877.30	0.				
878.	2.	21.	1.	19.	1.
879.	9.	185.	1.	183.	1.
880.	21.	567.	1.	565.	1.
881.	37.	1222.	1.	1220.	1.
882.	57.	2171.	1.	2169.	1.
883.	81.	3520.	1.	3515.	5.
884.	113.	5307.	1.	5248.	53.
885.	151.	7535.	1.	7340.	187.
886.	204.	10522.	14.	10090.	402.
887.	284.	14414.	148.	13373.	643.
888.	427.	19609.	726.	17013.	1743.
889.	616.	26564.	2269.	21954.	3156.
890.	833.	35275.	4756.	25293.	5066.
891.	1171.	46056.	8254.	29917.	7728.
892.	1321.	69112.	12893.	34650.	11284.
893.	1571.	74001.	18475.	40080.	15422.
894.	1822.	97290.	24703.	45589.	19971.
895.	2074.	107828.	31504.	51367.	24885.
896.	2325.	127386.	39515.	57485.	30556.
897.	2577.	149190.	48680.	63957.	37122.
898.	2828.	173364.	60071.	70762.	44665.
899.	3080.	200133.	72967.	77961.	53274.

RATING TABLE FOR SECTION 14.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	883.50	0.0	0.0						
1	886.91	61.5	130.0	0.00	0.00	0.00	130.00	885.3	.00409
2	888.53	120.4	310.0	0.00	0.00	0.00	310.00	886.2	.00379
3	889.52	165.1	450.0	0.00	0.00	0.00	450.00	886.7	.00335
BANK FULL	889.6	168.8	463.0	0.00	0.00	0.00			
4	890.00	188.3	530.0	0.00	0.00	0.00	530.00	887.0	.00316
5	890.51	215.0	670.0	0.00	0.00	0.00	670.00	887.4	.00331

SEGMENT TABLE FOR SECTION 14.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 A
1	DISCHARGE CFS	130.	0.	130.	0.
130.	VELOCITY FPS	2.12	0.00	2.11	0.00
2	DISCHARGE CFS	310.	0.	310.	0.
310.	VELOCITY FPS	2.58	0.00	2.57	0.00
3	DISCHARGE CFS	450.	0.	450.	0.
450.	VELOCITY FPS	2.74	0.00	2.73	0.00
4	DISCHARGE CFS	530.	0.	530.	0.
530.	VELOCITY FPS	2.82	0.00	2.82	0.00
5	DISCHARGE CFS	670.	0.	670.	0.
670.	VELOCITY FPS	3.14	.28	3.13	.35
1	ELEV 886.91 KD	2034.	1.	2032.	1.
2	ELEV 888.53 KD	5034.	1.	5032.	1.
3	ELEV 889.52 KD	7772.	1.	7770.	1.
4	ELEV 890.00 KD	9434.	1.	9431.	2.
5	ELEV 890.51 KD	11648.	2.	11642.	4.

KD TABLE FOR CROSS SECTION 14.59

ELEVATION	AREA	KD	KD BY SLGMENT		
883.50	0.				
884.	3.	26.	1.	24.	1.
885.	16.	316.	1.	314.	1.
886.	37.	1508.	1.	1506.	1.
887.	64.	2165.	1.	2163.	1.
888.	99.	3872.	1.	3870.	1.
889.	140.	6205.	1.	6203.	1.
890.	189.	9450.	1.	9447.	2.
891.	241.	12968.	7.	12947.	8.
892.	299.	19257.	50.	19169.	37.
893.	361.	25295.	155.	24952.	95.
894.	427.	32052.	337.	31512.	191.
895.	497.	39531.	615.	38574.	330.
896.	573.	47724.	1001.	46185.	528.
897.	652.	56647.	1515.	54351.	780.
898.	735.	66294.	2168.	63742.	1079.
899.	824.	76657.	2969.	72236.	1456.
900.	917.	87630.	3819.	81694.	1905.
901.	1020.	99205.	4716.	92142.	2432.
902.	1130.	111617.	5860.	103681.	3076.
903.	1251.	125190.	7550.	113778.	3748.
904.	1381.	140157.	9283.	125302.	4543.
905.	1528.	157779.	11035.	137283.	5440.
906.	1695.	178232.	13756.	149709.	6445.
907.	1898.	202593.	16417.	167532.	7552.
908.	2118.	230909.	21117.	175793.	8778.
909.	2355.	267426.	27758.	189477.	10124.
910.	2602.	251139.	35663.	203540.	11641.
911.	2851.	276449.	44965.	218526.	13308.
912.	3102.	303351.	55177.	232960.	15112.
913.	3353.	331324.	66764.	248154.	16970.
914.	3604.	360851.	78446.	263819.	18929.
915.	3856.	391212.	90285.	279833.	21095.
916.	4107.	422987.	103788.	296263.	23086.
917.	4359.	456262.	118867.	313116.	25208.
918.	4611.	491160.	135461.	330389.	27571.
919.	4862.	527402.	153871.	346781.	30678.

ROAD SECTION 15.0

NO.	HW	CFS	HL	TW	CSM
0	884.38	0.00	0.00	0.00	0.00
1	888.10	130.00	.96	887.14	130.00
2	891.46	310.00	2.72	888.74	310.00
3	895.30	450.00	5.00	885.70	450.00
4	898.01	530.00	7.84	890.17	530.00
5	902.29	670.00	11.60	890.69	670.00

MIN ROAD ELEVATION 902.00

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	2	12333.	5.00		58.00	884.38	883.79	.032

J

5 x 20 = 100 cfs

530/100

20/5/100

T

RATING TABLE FOR SECTION 15.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	884.40	0.0	0.0						
1	888.23	74.9	130.0	0.00	0.00	0.00	130.00	886.2	.00239
BANK FULL	890.5	168.8	255.2	0.00	0.00	0.00			
2	891.49	219.4	310.0	0.00	0.00	0.00	310.00	887.1	.00066
3	895.31	455.3	450.0	0.00	0.00	0.00	450.00	887.6	.00016
4	898.01	661.1	530.0	0.00	0.00	0.00	530.00	887.9	.00008
5	902.29	1061.2	670.0	0.00	0.00	0.00	670.00	888.3	.00004

SEGMENT TABLE FOR SECTION 15.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	130.	0.	130.	0.
130.	VELOCITY FPS	1.74	0.00	1.73	0.00
2	DISCHARGE CFS	310.	0.	310.	0.
310.	VELOCITY FPS	1.42	.12	1.42	.15
3	DISCHARGE CFS	450.	6.	441.	3.
450.	VELOCITY FPS	1.07	.20	1.08	.19
4	DISCHARGE CFS	530.	15.	508.	7.
530.	VELOCITY FPS	.92	.19	.93	.18
5	DISCHARGE CFS	670.	33.	620.	17.
670.	VELOCITY FPS	.79	.16	.82	.17
1	ELEV 888.23 KD	2659.	1.	2657.	1.
2	ELEV 891.49 KD	12045.	3.	12038.	4.
3	ELEV 895.31 KD	35[illegible].	442.	34374.	244.
4	ELEV 898.01 KD	57[illegible]2.	1579.	55285.	799.
5	ELEV 902.29 KD	10[illegible]7.	5084.	9[illegible]123.	2668.

KD TABLE FOR CROSS SECTION 15.1

ELEVATION	AREA	KD	KD BY SEGMENT		
884.40	0.				
885.	4.	40.	1.	38.	1.
886.	18.	366.	1.	364.	1.
887.	39.	1101.	1.	1099.	1.
888.	67.	2309.	1.	2307.	1.
889.	103.	4175.	1.	4173.	1.
890.	145.	6474.	1.	6472.	1.
891.	194.	9859.	1.	9855.	3.
892.	247.	14462.	9.	14437.	16.
893.	305.	19828.	58.	19719.	41.
894.	367.	25937.	169.	25653.	103.
895.	434.	32766.	361.	32193.	202.
896.	505.	40319.	649.	39311.	347.
897.	580.	48582.	1046.	46975.	542.
898.	660.	57576.	1572.	55191.	796.
899.	744.	67294.	2235.	63532.	1113.
900.	833.	77739.	3060.	73179.	1499.
901.	926.	88767.	3911.	82893.	1955.
902.	1030.	100398.	4809.	93485.	2489.
903.	1143.	112937.	6122.	103766.	3110.
904.	1263.	126594.	7651.	114918.	3825.
905.	1394.	141584.	9455.	126482.	4628.
906.	1545.	158279.	11218.	138804.	5535.
907.	1715.	176926.	13365.	156569.	6551.
908.	1918.	198381.	16788.	163842.	7670.
909.	2141.	221704.	21713.	177139.	8906.
910.	2379.	246649.	28510.	190271.	10267.
911.	2627.	273606.	36544.	204970.	11802.
912.	2877.	299771.	45910.	219493.	13481.
913.	3127.	326126.	56295.	234432.	15302.
914.	3378.	354298.	67191.	249731.	17159.
915.	3629.	383878.	79336.	265409.	19133.
916.	3881.	394323.	91570.	281457.	21102.
917.	4132.	426247.	105215.	297929.	23202.
918.	4384.	459673.	121397.	314824.	25438.
919.	4636.	494624.	137921.	332139.	27815.

----------80/80 LIST OF INPUT DATA----------

```
CHANGE    DISCHARGE
DISCHARGE -1.       110.      265.      385.      455.      575.
END
COMPUTE   15.9      17.1      15.1
```

----------END OF 80/80 LIST----------

COMPUTE 15.9 17.1 15.1

----------STARTING DATA FROM PREVIOUS COMPUTATICAS----------

RATING TABLE FOR SECTION 15.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT FLEV	FRICTION SLOPE
	885.00	0.1	0.0						
BANK FULL	887.8	32.7	82.8	0.00	0.00	0.00			
1	888.72	85.3	110.0	0.00	0.00	0.00	110.00	886.9	.00317
2	891.60	421.7	265.0	0.00	0.00	0.00	265.00	888.2	.00053
3	895.34	1101.5	385.0	0.00	0.00	0.00	385.00	888.5	.00009
4	898.03	1749.1	455.0	0.00	0.00	0.00	455.00	888.6	.00004
5	902.30	2971.6	575.0	0.00	0.00	0.00	575.00	888.8	.00001

SECMENT TABLE FOR SECTION 15.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	110.	17.	93.	0.
110.	VELOCITY FPS	1.96	.42	2.10	0.00
2	DISCHARGE CFS	265.	125.	131.	8.
265.	VELOCITY FPS	1.02	.43	1.57	.24
3	DISCHARGE CFS	385.	204.	134.	47.
385.	VELOCITY FPS	.54	.29	.83	.19
4	DISCHARGE CFS	455.	240.	137.	78.
455.	VELOCITY FPS	.46	.23	.66	.15
5	DISCHARGE CFS	575.	287.	137.	150.
575.	VELOCITY FPS	.28	.18	.48	.14

1	ELEV	888.72	KD	1938.	280.	1657.	1.
2	ELEV	891.60	KD	11507.	5413.	5711.	382.
3	ELEV	895.34	KD	39642.	20975.	13918.	4749.
4	ELEV	898.03	KD	71319.	37580.	21476.	12263.
5	ELEV	902.30	KD	150377.	75173.	36032.	35173.

KD TABLE FOR CROSS SECTION 15.9

ELEVATION	AREA	KD	KD BY SEGMENT		
885.00	0.				
885.	0.	0.	1.	0.	1.
886.	7.	101.	1.	99.	1.
887.	19.	473.	1.	471.	1.
888.	37.	1099.	8.	1090.	1.
889.	108.	2409.	474.	1908.	1.
890.	208.	4845.	1665.	3139.	18.
891.	337.	8638.	3758.	4677.	172.
892.	483.	13702.	6651.	6453.	579.
893.	646.	19996.	11219.	8451.	1325.
894.	828.	27528.	14462.	11655.	2471.
895.	1027.	36364.	19214.	13058.	4091.
896.	1245.	46654.	24451.	15654.	6249.
897.	1481.	57994.	31711.	18433.	8850.
898.	1742.	71439.	37381.	21390.	12146.
899.	2019.	86148.	44691.	24521.	16870.
900.	2305.	103388.	52739.	27892.	22765.
901.	2594.	121650.	61808.	31289.	29516.
902.	2885.	143885.	72140.	34718.	36538.
903.	3175.	166404.	82820.	38702.	44881.
904.	3467.	191127.	94117.	42639.	53340.
905.	3758.	219526.	106151.	46739.	62486.
906.	4050.	249828.	119122.	51193.	73191.
907.	4341.	282074.	132746.	55432.	84617.
908.	4632.	318306.	147335.	63022.	97324.

RATING TABLE FOR SECTION 16.0 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	888.07	0.0	0.0						
BANK FULL	888.3	.9	25.4	0.00	0.00	0.00			
1	889.15	29.6	110.0	0.00	0.00	0.00	110.00	889.1	.12185
2	891.59	198.2	265.0	0.00	0.00	0.00	265.00	889.5	.00060
3	895.34	593.0	385.0	0.00	0.00	0.00	385.00	889.8	.00006
4	898.02	947.6	455.0	0.00	0.00	0.00	455.00	890.0	.00003
5	902.30	1610.3	575.0	0.00	0.00	0.00	575.00	890.2	.00001

SECMENT TABLE FOR SECTION 16.0

CSM		TOTAL	Seg NO 1 N	2 C	3 C	4 C
1	DISCHARGE CFS	110.	0.	7.	34.	63.
110.	VELOCITY FPS	5.67	0.00	2.07	8.21	2.98
2	DISCHARGE CFS	265.	1.	59.	55.	149.
265.	VELOCITY FPS	1.84	.17	1.12	3.27	1.22
3	DISCHARGE CFS	385.	13.	98.	62.	212.
385.	VELOCITY FPS	.92	.14	.69	1.74	.65
4	DISCHARGE CFS	455.	24.	115.	67.	249.
455.	VELOCITY FPS	.73	.12	.56	1.36	.50
5	DISCHARGE CFS	575.	43.	137.	75.	320.
575.	VELOCITY FPS	.53	.10	.45	1.06	.40
1	ELEV 889.15 KK	732.	1.	35.	274.	422.
2	ELEV 891.59 KK	10837.	41.	2423.	2273.	6100.
3	ELEV 895.34 KK	48560.	1656.	12349.	7848.	26706.
4	ELEV 898.02 KK	93737.	4813.	22872.	13370.	49682.
5	ELEV 902.30 KK	186984.	14162.	44516.	24402.	104004.

(K)

KD TABLE FOR CROSS SECTION 14.0

ELEVATION	AREA	KD	KD BY SEGMENT			
888.07	0.					
889.	22.	500.	1.	12.	205.	274.
890.	76.	2762.	2.	347.	792.	1620.
891.	150.	7204.	14.	1460.	1653.	4073.
892.	234.	13727.	79.	3193.	2748.	7701.
893.	330.	22062.	285.	5433.	4055.	12303.
894.	438.	32238.	714.	8115.	5557.	17842.
895.	553.	44166.	1479.	11215.	7243.	24320.
896.	675.	57823.	2270.	14707.	9103.	31740.
897.	806.	73197.	3395.	18561.	11129.	40108.
898.	944.	91302.	4776.	22765.	13315.	49443.
899.	1090.	109152.	6427.	27386.	15655.	59761.
900.	1243.	129768.	8366.	32172.	18144.	72185.
901.	1400.	154198.	10605.	37347.	20778.	85451.
902.	1562.	179237.	13214.	42829.	23553.	99628.
903.	1726.	206006.	16263.	48610.	26465.	114545.
904.	1892.	234401.	20137.	54682.	29512.	130157.
905.	2058.	264117.	23964.	61036.	32690.	146422.
906.	2224.	295024.	28054.	67662.	35996.	163761.
907.	2390.	327134.	32447.	74558.	39429.	180685.
908.	2556.	360459.	37135.	81725.	42986.	198706.
909.	2723.	394909.	41822.	89152.	46665.	217267.
910.	2890.	431811.	46961.	96861.	5 465.	236573.
911.	3056.	469157.	52460.	104848.	54384.	256618.
912.	3223.	506938.	58326.	113110.	58421.	277397.

RATING TABLE FOR SECTION 16.05 DA= 1.6

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	885.60	0.0	0.0						
BANK FULL	888.4	32.7	74.9	0.00	0.01	0.00			
1	889.71	117.0	110.0	0.00	0.00	0.00	110.00	887.5	.00178
2	891.66	345.6	265.0	0.00	0.00	0.00	265.00	888.6	.00088
3	895.35	977.4	385.0	0.00	0.00	0.00	385.00	889.1	.00113
4	898.03	1593.5	455.0	0.00	0.00	0.00	455.00	889.2	.00005
5	902.30	2797.4	575.0	0.00	0.00	0.00	575.00	889.4	.00002

SEGMENT TABLE FOR SECTION 16.05

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	110.	25.	85.	0.
110.	VELOCITY FPS	1.48	.38	1.66	0.00
2	DISCHARGE CFS	265.	118.	141.	6.
265.	VELOCITY FPS	1.26	.50	1.64	.27
3	DISCHARGE CFS	385.	203.	140.	42.
385.	VELOCITY FPS	.61	.32	.92	.21
4	DISCHARGE CFS	455.	240.	141.	74.
455.	VELOCITY FPS	.44	.25	.70	.17
5	DISCHARGE CFS	575.	288.	141.	145.
575.	VELOCITY FPS	.30	.19	.51	.15

1	ELEV 889.71	KD	2593.	579.	2113.	1.
2	ELEV 891.66	KD	8848.	3924.	4784.	140.
3	ELEV 895.35	KD	33982.	17925.	12434.	3623.
4	ELEV 898.03	KD	63356.	33494.	19684.	10178.
5	ELEV 902.30	KD	137416.	68937.	33815.	34664.

KD TABLE FOR CROSS SECTION 16.05

ELEVATION	AREA	KD	KD BY SEGMENT		
885.00	0.				
886.	1.	12.	1.	10.	1.
887.	11.	215.	1.	212.	1.
888.	24.	690.	1.	689.	1.
889.	63.	1530.	80.	1392.	1.
890.	144.	3216.	863.	2338.	2.
891.	257.	6208.	2398.	3724.	54.
892.	392.	12544.	4871.	5366.	308.
893.	546.	16867.	7995.	7225.	831.
894.	719.	22827.	11780.	9303.	1716.
895.	906.	30879.	16222.	11588.	3043.
896.	1114.	40255.	21289.	14670.	4870.
897.	1339.	50948.	26979.	16740.	7209.
898.	1585.	62984.	33286.	19592.	10076.
899.	1850.	76713.	41234.	22622.	13819.
900.	2132.	93820.	47815.	25825.	15179.
901.	2420.	111831.	56179.	29191.	25425.
902.	2710.	130963.	65822.	32721.	32382.
903.	3001.	152655.	76246.	36411.	39958.
904.	3292.	175783.	87293.	40259.	48216.
905.	3583.	200061.	98831.	44259.	56955.
906.	3875.	226216.	111198.	48425.	66717.
907.	4166.	254291.	124408.	52755.	77563.
908.	4458.	284327.	138477.	57248.	89554.

RATING TABLE FOR SECTION 16.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	886.30	0.0	0.0						
BANK FULL	889.1	32.7	70.4	0.00	0.00	0.00			
1	890.67	141.4	110.0	0.00	0.00	0.00	110.00	888.2	.00122
2	892.32	339.9	265.0	0.00	0.00	0.00	265.00	889.5	.00092
3	895.48	863.6	385.0	0.00	0.00	0.00	385.00	889.8	.00018
4	898.08	1420.2	455.0	0.00	0.00	0.00	455.00	889.9	.00007
5	902.32	2598.6	575.0	0.00	0.00	0.00	575.00	890.1	.00002

SEGMENT TABLE FOR SECTION 16.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	110.	30.	80.	0.
110.	VELOCITY FPS	1.20	.35	1.44	.18
2	DISCHARGE CFS	265.	117.	142.	6.
265.	VELOCITY FPS	1.28	.50	1.66	.27
3	DISCHARGE CFS	385.	202.	147.	37.
385.	VELOCITY FPS	.89	.36	1.03	.23
4	DISCHARGE CFS	455.	241.	146.	68.
455.	VELOCITY FPS	.49	.28	.77	.18
5	DISCHARGE CFS	575.	290.	146.	139.
575.	VELOCITY FPS	.32	.20	.55	.16

1	ELEV 890.67 KD	3144.	836.	2306.	2.
2	ELEV 892.32 KD	8712.	3818.	4716.	178.
3	ELEV 895.48 KD	28982.	15199.	11068.	2715.
4	ELEV 898.08 KD	55339.	29313.	17606.	8221.
5	ELEV 902.32 KD	122939.	61966.	31348.	29627.

KD TABLE FOR CROSS SECTION 16.1

ELEVATION	AREA	KD	KD BY SEGMENT		
886.30	0.				
887.	4.	45.	1.	43.	1.
888.	15.	332.	1.	330.	1.
889.	31.	882.	3.	877.	1.
890.	84.	1925.	271.	1641.	1.
891.	174.	3972.	1227.	2729.	7.
892.	295.	7371.	3158.	4193.	108.
893.	437.	12055.	5712.	5896.	426.
894.	596.	17962.	9161.	7826.	1154.
895.	773.	25108.	13048.	9967.	2065.
896.	968.	33552.	17678.	12313.	3536.
897.	1179.	43334.	22932.	14852.	5527.
898.	1410.	54402.	28868.	17577.	7958.
899.	1664.	66889.	35258.	20481.	11076.
900.	1935.	81345.	42429.	23563.	15285.
901.	2218.	98115.	51242.	26816.	20913.
902.	2517.	116637.	58898.	30235.	27493.
903.	2747.	137422.	69934.	33819.	34661.
904.	3188.	159443.	79493.	37549.	42559.
905.	3379.	182871.	91168.	41442.	50734.
906.	3671.	207708.	102453.	45491.	59774.
907.	3962.	234435.	115172.	49767.	69655.
908.	4234.	263004.	129638.	54086.	81538.
909.	4545.	293726.	145866.	58628.	93384.

RATING TABLE FOR SECTION 16.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	896.50	0.0	0.0						
BANK FULL	898.7	25.3	73.6	0.00	0.00	0.00			
1	899.79	96.6	110.0	0.00	0.00	0.00	110.00	898.3	.00333
2	901.01	261.4	265.0	0.00	0.00	0.00	265.00	899.3	.00261
3	901.73	380.5	385.0	0.00	0.00	0.00	385.00	899.6	.00235
4	902.47	521.7	455.0	0.00	0.00	0.00	455.00	899.7	.00159
5	904.19	933.3	575.0	0.00	0.00	0.00	575.00	899.9	.00065

SEGMENT TABLE FOR SECTION 16.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	110.	11.	94.	4.
110.	VELOCITY FPS	1.95	.32	2.05	.27
2	DISCHARGE CFS	265.	61.	172.	32.
265.	VELOCITY FPS	2.01	.52	2.43	.44
3	DISCHARGE CFS	385.	101.	222.	62.
385.	VELOCITY FPS	2.04	.58	2.61	.51
4	DISCHARGE CFS	455.	127.	240.	88.
455.	VELOCITY FPS	1.79	.53	2.43	.49
5	DISCHARGE CFS	575.	181.	251.	143.
575.	VELOCITY FPS	1.28	.40	1.87	.41
1	ELEV 899.79 KD	1859.	160.	1662.	48.
2	ELEV 901.01 KD	5167.	1169.	3386.	613.
3	ELEV 901.73 KD	7928.	2061.	4618.	1249.
4	ELEV 902.47 KD	11396.	3172.	6042.	2181.
5	ELEV 904.19 KD	22531.	7074.	9889.	5567.

(M)

$\left(\frac{455}{11395}\right)^2 \left(\frac{Q}{K}\right)^2 = S_S$

KO TABLE FOR CROSS SECTION 16.5

ELEVATION	AREA	KO	KO BY SEGMENT		
896.50	0.				
897.	2.	25.	1.	23.	1.
898.	14.	282.	1.	280.	1.
899.	35.	848.	4.	835.	2.
900.	121.	2329.	271.	1930.	100.
901.	260.	5155.	1159.	3372.	607.
902.	427.	9126.	2440.	5120.	1560.
903.	634.	14328.	4138.	7146.	3038.
904.	882.	21192.	6535.	9431.	5112.
905.	1171.	29509.	9748.	11963.	7776.
906.	1501.	39960.	13297.	14733.	11019.
907.	1905.	49953.	17546.	17728.	14661.
908.	2391.	64179.	24380.	20941.	18803.
909.	2934.	82975.	34 96.	24263.	24437.
910.	3505.	106261.	4F135.	27642.	32 79.
911.	4181.	133539.	63370.	31620.	41334.
912.	4650.	163165.	75920.	35839.	51389.
913.	5232.	195064.	92763.	40046.	62225.
914.	5808.	229214.	113896.	44438.	73841.
915.	6385.	265778.	136439.	49014.	86305.
916.	6961.	304414.	161161.	53768.	99478.
917.	7538.	346308.	173867.	58710.	113849.
918.	8114.	391556.	198700.	63938.	129462.
919.	8691.	44 250.	226681.	69150.	146357.

RATING TABLE FOR SECTION 16.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	906.40	0.0	0.0						
BANK FULL	906.8	3.0	17.4	0.00	0.00	0.00			
1	908.93	146.2	110.0	0.00	0.00	0.00	110.00	907.6	.00336
2	909.67	285.7	265.0	0.00	0.00	0.00	265.00	908.3	.00389
3	910.11	385.7	385.0	0.00	0.00	0.00	385.00	908.5	.00378
4	910.39	456.4	455.0	0.00	0.00	0.00	455.00	908.6	.00345
5	910.87	589.1	575.0	0.00	0.00	0.00	575.00	908.7	.00284

SEGMENT TABLE FOR SECTION 16.99

CSM		TOTAL	SLG NO 1 N	SLG NO 2 C	SLG NO 3 R
1	DISCHARGE CFS	110.	0.	72.	38.
110.	VELOCITY FPS	1.45	.44	1.72	.36
2	DISCHARGE CFS	265.	8.	140.	117.
265.	VELOCITY FPS	1.77	.66	2.32	.55
3	DISCHARGE CFS	385.	21.	184.	180.
385.	VELOCITY FPS	1.87	.80	2.59	.62
4	DISCHARGE CFS	455.	32.	205.	217.
455.	VELOCITY FPS	1.85	.87	2.62	.64
5	DISCHARGE CFS	575.	58.	237.	280.
575.	VELOCITY FPS	1.79	.93	2.62	.64
1	ELEV 908.93 KD	1885.	2.	1266.	617.
2	ELEV 909.67 KD	4217.	92.	2271.	1854.
3	ELEV 910.11 KD	6248.	312.	3021.	2915.
4	ELEV 910.39 KD	7734.	512.	3527.	3685.
5	ELEV 910.87 KD	10768.	1034.	4479.	5255.

KO TABLE FOR CROSS SECTION 16.99

ELEVATION	AREA	KO	KO BY SEGMENT		
906.40	0.				
907.	6.	69.	1.	66.	2.
908.	40.	604.	1.	508.	95.
909.	159.	2081.	4.	1352.	705.
910.	357.	5715.	252.	2827.	2637.
911.	626.	11692.	1208.	4744.	5717.
912.	955.	20429.	3245.	7548.	11136.
913.	1357.	32282.	6585.	9693.	15979.
914.	1820.	47643.	11532.	12670.	23409.
915.	2361.	66859.	18307.	15956.	32550.
916.	2944.	91112.	27156.	19549.	43272.
917.	3609.	117571.	38276.	23489.	55843.
918.	4342.	152114.	53128.	27553.	71366.
919.	5108.	195469.	72607.	31960.	91419.
920.	5879.	245533.	93832.	36626.	115125.
921.	6650.	301145.	117846.	41547.	141752.
922.	7421.	359268.	143924.	46711.	168633.
923.	8192.	421616.	171673.	52111.	197816.
924.	8964.	490430.	202669.	57763.	230149.
925.	9735.	565728.	237078.	63666.	265535.
926.	10507.	647722.	275359.	69815.	304475.

ROAD SECTION 17.0

NO.	HW	CFS	HL	TW	CSM
0	906.75	0.00	0.00	0.00	0.00
1	909.95	110.00	.80	909.15	110.00
2	911.11	265.00	1.20	909.91	265.00
3	911.39	385.00	1.04	910.35	385.00
4	911.49	455.00	.88	910.61	455.00
5	911.61	575.00	.56	911.05	575.00

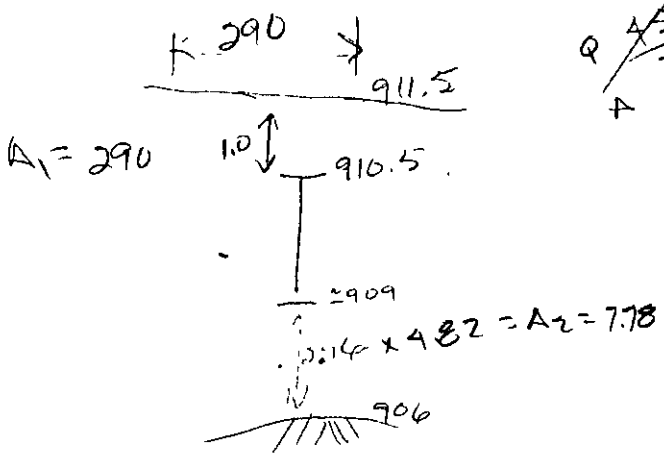
MIN ROAD ELEVATION 910.50

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	2	32233.	2.96	4.82	26.00	906.42	906.75	.032

N

2.96 x 250 = 740'

Q 455 / A 740 .6148



Q 455 / A 297.78 = 1.5

RATING TABLE FOR SECTION 17.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	906.40	0.0	0.0						
BANK FULL	906.8	3.[illegible]	12.4	0.00	0.00	0.00			
1	909.95	347.3	110.0	0.00	0.00	0.00	110.00	907.6	.00040
2	911.12	660.9	265.0	0.00	0.00	0.00	265.00	908.3	.00044
3	911.46	752.8	385.0	0.00	0.00	0.00	385.00	908.5	.00067
4	911.61	787.9	455.0	0.00	0.00	0.00	455.00	908.6	.00084
5	911.64	832.1	575.0	0.00	0.00	0.00	575.00	908.7	.00116

SEGMENT TABLE FOR SECTION 17.1

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	110.	5.	55.	51.
110.	VELOCITY FPS	.59	.24	.61	.1[illegible]
2	DISCHARGE CFS	265.	30.	105.	130.
265.	VELOCITY FPS	.73	.39	1.09	.27
3	DISCHARGE CFS	385.	56.	145.	190.
385.	VELOCITY FPS	.92	.52	1.40	.34
4	DISCHARGE CFS	455.	62.	168.	225.
455.	VELOCITY FPS	1.04	.60	1.58	.39
5	DISCHARGE CFS	575.	83.	208.	284.
575.	VELOCITY FPS	1.24	.73	1.92	.47
1	ELEV 909.95 KD	5487.	221.	2747.	2519.
2	ELEV 911.12 KD	12508.	1354.	4995.	6175.
3	ELEV 911.46 KD	14814.	1873.	5622.	7319.
4	ELEV 911.61 KD	15692.	2165.	5858.	7765.
5	ELEV 911.64 KD	16891.	2340.	6161.	8350.

KD TABLE FOR CROSS SECTION 17.1

ELEVATION	AREA	KD	KD BY SEGMENT		
906.40	0.				
907.	6.	69.	1.	66.	2.
908.	40.	604.	1.	508.	95.
909.	159.	2681.	4.	1352.	709.
910.	357.	5715.	252.	2827.	2637.
911.	626.	11692.	1208.	4744.	5717.
912.	958.	20429.	3245.	7048.	10136.
913.	1357.	32282.	6585.	9693.	15979.
914.	1820.	47643.	11532.	12677.	23409.
915.	2341.	66859.	18307.	15956.	32550.
916.	2944.	91112.	27156.	19540.	43372.
917.	3609.	117571.	38276.	23409.	55843.
918.	4342.	152114.	53128.	27553.	71386.
919.	5108.	195469.	72907.	31960.	91419.
920.	5879.	246533.	93832.	36628.	115025.
921.	6650.	305145.	117846.	41547.	145730.
922.	7421.	359968.	143924.	46711.	168433.
923.	8192.	421616.	171673.	52111.	197816.
924.	8964.	490430.	206665.	57773.	230149.
925.	9735.	565728.	237078.	63866.	265535.
926.	10507.	647722.	275059.	69815.	304075.

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
LINK                                                                          1775
CHANGE     DISCHARGE
DISCHARGE  -1.        95.        225.       330.       390.       515.
END
REACH      18.0       1.0        20.        20.                                1175
SEGMENT    18.0       1          N          -14.                               1180
NVALUE     .20                                                                1185
SEGMENT    18.0       2          N          -5                                 1190
NVALUE     .025                                                               1195
SEGMENT    18.0       3          C          5                                  1200
NVALUE     .025                                                               1205
SEGMENT    18.0       4          N          14.                                1210
NVALUE     .025                                                               1215
SEGMENT    18.0       5          N          401.                               1220
NVALUE     .20                                                                1225
SECTION    18.0                                                               1230
           -126.      924.0      -125.      917.2      -100.      914.1        1235
           -60.       912.4      -22.       911.2      -19.       909.5        1240
           -14.5      910.1      -14.       912.4      -5.1       912.39       1245
           -5.        910.37     -1.        910.37     -1.1       912.39       1250
           1.         912.39     1.1        910.37     5.         910.37       1255
           5.1        912.39     14.        912.4      14.5       911.1        1260
           17.        912.3      50.        912.5      100.       912.4        1265
           119.       912.1      122.       910.5      135.       909.4        1270
           138.       910.4      148.       911.0      160.       911.0        1275
           200.       911.3      250.       912.1      300.       912.8        1280
           350.       913.4      400.       916.5      401.       924.         1285
ENDTABLE                                                                      1290
---------------------DATA POINTS ON SECTION 18.0   REORDERED BY PROGRAM ACCORDING TO X VALUES
                    DUPLICATE X POINTS NOT CHANGED---------------------
REACH      18.01      1.         65.        65.                                1295
SEGMENT    18.01      1          N          352.                               1300
NVALUE     0.15                                                               1305
SEGMENT    18.01      2          C          1100.                              1310
NVALUE     0.35                                                               1315
SEGMENT    18.01      3          N          2036.                              1320
NVALUE     0.15                                                               1325
SECTION    18.01                                                              1330
           -1.        926.       0.         922.       230.       924.         1335
           270.       924.       295.       922.       305.       920.         1340
           317.       916.       330.       914.       350.       912.         1345
           352.       910.       600.       907.       1100.      912.         1350
           1200.      913.       1870.      914.       1950.      916.         1355
           1995.      918.       2035.      920.       2036.      926.         1360
ENDTABLE                                                                      1365
COMMENT    MANUFACTURED
REACH      18.03      1.         420.       420.                               1370
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
SEGMENT   18.03     1         N         238.                                  1375
NVALUE    0.15                                                                1380
SEGMENT   18.03     2         C         555.                                  1385
NVALUE    0.035                                                               1390
SEGMENT   18.03     3         N         801.                          1395
NVALUE    0.15                                                                1400
SECTION   18.03                                                               1405
          -1.       925.      0.        922.      170.      920.              1410
          150.      918.      207.      916.      225.      914.              1415
          238.      912.      400.      907.5     555.      912.              1420
          611.      914.      657.      916.      748.      918.              1425
          800.      919.      801.      925.                                  1430
ENDTABLE                                                                      1435
COMMENT   MANUFACTURED
REACH     18.05     1.        600.      600.                                  1440
SEGMENT   18.05     1         N         250.                                  1445
NVALUE    0.15                                                                1450
SEGMENT   18.05     2         C         535.                                  1455
NVALUE    0.035                                                               1460
SEGMENT   18.05     3         N         801.                          1465
NVALUE    0.15                                                                1470
SECTION   18.05                                                               1475
          -1.       925.      0.        922.5     80.       922.              1480
          150.      920.      180.      918.      200.      916.              1485
          218.      914.      240.      912.      250.      910.              1490
          400.      908.      535.      910.      595.      912.              1495
          658.      914.      706.      916.      755.      918.              1500
          800.      920.      801.      925.                                  1505
ENDTABLE                                                                      1510
COMMENT   MANUFACTURED
REACH     18.07     1.        700.      700.                                  1515
SEGMENT   18.07     1         N         355.                                  1520
NVALUE    0.15                                                                1525
SEGMENT   18.07     2         C         440.                                  1530
NVALUE    0.040                                                               1535
SEGMENT   18.07     3         N         801.                          154
NVALUE    0.15                                                                1545
SECTION   18.07                                                               1550
          -1.       930.      0.        925.      20.       924.              1555
          52.       922.      72.       920.      210.      918.              1560
          250.      916.      308.      914.      340.      912.              1565
          355.      911.9     400.      908.5     440.      911.9             1570
          455.      912.      520.      914.      552.      916.              1575
          570.      918.      590.      920.      610.      922.              1580
          630.      924.      647.      926.      670.      928.              1585
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
          800.      928.2     801.      930.                                  1590
ENDTABLE                                                                      1595
COMMENT   MANUFACTURED
REACH     18.1      1.0       435.      435.                                  1600
SEGMENT   18.1      1         N         272.                                  1605
NVALUE    .2                                                                  1610
SEGMENT   18.1      2         C         320.                                  1615
NVALUE    .07                                                                 1620
SEGMENT   18.1      3         N         399.                                  1625
NVALUE    .2                                                                  1630
SECTION   18.1                                                                1635
          -3.       935.      -2.       925.      98.       921.              1640
          198.      915.7     233.      913.7     235.      913.3             1645
          239.      913.0     241.      913.2     244.      913.7             1650
          272.      913.5     288.      912.7     295.      912.0             1655
          298.      912.1     301.      912.2     308.      912.6             1660
          305.      912.5     313.      912.3     316.      912.1             1665
          318.      912.7     329.      913.7     334.      916.6             1670
          348.      924.4     398.      929.6     399.      935.              1675
ENDTABLE                                                                      1680
REACH     18.9      1.0       2325.     2325.                                 1685
SEGMENT   18.9      1         C         441.                                  1690
NVALUE    .12                                                                 1695
SECTION   18.9                                                                1700
          -3.       936.      -2.       936.      -1.       936.              1705
                0.00      929.70     40.00     923.30     86.00     918.70
              129.00     918.50    135.00     917.20    140.00     917.00
              145.00     917.10    151.00     918.20    175.00     918.80
              198.00     920.40    240.00     922.50    340.00     926.10
          441.      929.3     441.      936.0                                 1710
ENDTABLE
REACH     18.99     1.0       45.       45.                                   1715
REACH 2   18.9      0.0                                                       1720
ROAD      19.0      2.7       50.       50.                                   1725
BPR       19.0      B         3.                                              1730
GIRDER    921.2     920.97    0.        0.8       2.7                         1735
          -8.1      924.8     -8.       920.97    8.        920.97            1740
          8.1       924.8                                                     1745
ENDTABLE
SECTION   15.0                                                                1750
          -245.     930.5     -200.     929.      -150.     926.7             1755
          -100.     925.2     -50.      924.6     -25.      924.5             1760
          -8.1      924.8     -8.       916.8     8.        917.8             1765
          8.1       924.8     50.       925.6     100.      927.              1775
          150.      929.      190.      930.5
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
ENDTABLE                                                                        1780
REACH      19.1       1.0        50.        50.                                 1785
REACH 2    18.9       0.0                                                      1790
REACH      19.9       1.0        1555.      1555.                               1795
SEGMENT    19.9       1          N          115.                                1800
NVALUE     .125                                                                1805
SEGMENT    19.9       2          C          135.                                1810
NVALUE     .08                                                                 1815
SEGMENT    19.9       3          N          276.                                1820
NVALUE     .125                                                                1825
SECTION    19.9                                                                1830
           -3.        942.       -2.        942.       -1.        942.          1835
                 0.00     935.60     25.00     931.90     73.00     928.20
                89.00     925.00    100.00     922.90    115.00     922.90
               119.00     921.50    122.00     921.00    125.00     921.00
               128.00     921.30    131.00     921.90    135.00     922.00
               145.00     922.30    150.00     922.20    160.00     923.00
               175.00     924.50    181.00     927.60    225.00     928.90
           243.       933.6      275.       936.6      276.       942.          1840
ENDTABLE
REACH      19.99      1.0        30.        30.                                 1845
REACH 2    19.9       0.5                                                      1850
ROAD       20.0       2.7        20.        20.                                 1855
DPR        20.0       8          3.                                             1860
GIRDER     926.9      925.56     0.         0.8        2.7                      1865
           -5.1       926.4      -5.        925.56     5.         925.56        1870
           5.1        926.4                                                     1875
ENDTABLE
SECTION    20.0                                                                1880
           -100.      927.9      -50.       926.8      -5.1       926.4         1890
           -5.        922.9      0.         922.2      5.         922.8         1895
           5.1        926.4      50.        926.9      51.        926.9         1897
           100.       928.2      150.       931.2      200.       934.4         1900
           -200.      936.4      -150.      931.4      201.       936.4         1885
ENDTABLE                                                                        1905
-------------------DATA POINTS ON SECTION 20.0   RECROERED BY PROGRAM ACCORDING TO X VALUES
                   DUPLICATE X POINTS NOT CHANGED-------------------
REACH      20.1       1.0        20.        20.                                 1910
REACH 2    19.9       1.1                                                      1915
REACH      20.9       1.0        750.       750.                                1920
SEGMENT    20.9       1          N          99.                                 1925
NVALUE     0.12                                                                1930
SEGMENT    20.9       2          C          190.                                1935
NVALUE     0.045
SEGMENT    20.9       3          N          316.                                1945
NVALUE     0.12                                                                1950
SECTION    20.9                                                                1955
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
          -3.        943.       -2.        943.       -1.        943.              1960
                0.00     936.60     15.00     932.70     50.00     930.10
               65.00     927.10     99.00     925.10    145.00     924.30
              159.00     922.70    163.00     922.10    165.00     922.10
              167.00     922.60    171.00     923.60    177.00     924.80
              190.00     925.00    265.00     930.10    315.00     936.50
          310.       943.                                                        1965
ENDTABLE
REACH     20.99      1.0        1715.      1715.                                 1980
REACH 2   21.5       -0.2                                                       1985
ROAD      21.0       2.7        50.        50.                                   1990
CULV 1    21.0       1          22551                                            1995
CULV 2    3.                    16.        923.63     923.35                     2000
SECTION   21.0                                                                  2005
          -261.      947.       -260.      932.8      -200.      930.4           2010
          -100.      926.9      -30.       926.7      -6.        927.3           2015
          -3.        926.1      0.         926.8      4.         925.5           2020
          8.         926.7      100.       929.2      200.       932.3           2025
          215.       932.8      216.       947.                                  2030
ENDTABLE                                                                        2035
REACH     21.1       1.0        50.        50.                                   2040
REACH 2   21.5       1.5                                                        2045
REACH     21.5       1.0        250.       250.                                  2050
SEGMENT   21.5       1          N          388.                                  2055
NVALUE    0.15                                                                  2060
SEGMENT   21.5       2          C          412.                                  2065
NVALUE    0.040                                                                 2070
SEGMENT   21.5       3          N          631.                                  2075
NVALUE    0.15                                                                  2080
SECTION   21.5                                                                  2085
          -3.        944.0      -2.        944.0      -1.0       944.0           2090
                0.00     935.90    100.00     932.80    200.00     929.50
              300.00     927.20    385.00     926.60    388.00     924.70
              394.00     924.00    400.00     922.30    406.00     923.00
              412.00     924.60    425.00     928.70    500.00     931.10
          600.       935.4      630.       936.3      631.       944.0           2095
ENDTABLE
REACH     21.9       1.0        4375.      4375.                                 2100
SEGMENT   21.9       1          N          190.                                  2105
NVALUE    0.15                                                                  2110
SEGMENT   21.9       2          C          210.                                  2115
NVALUE    0.040                                                                 2120
SEGMENT   21.9       3          N          551.0                                 2125
NVALUE    0.15                                                                  2130
SECTION   21.9                                                                  2135
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
          -3.0       945.00     -2.0       945.00     -1.0       945.00          2140
                0.00      939.20     100.00     933.80     182.00     931.00
              190.00      928.60     197.00     926.60     200.00     926.30
              203.00      926.80     210.00     928.70     228.00     933.50
              236.00      931.40     300.00     932.80     400.00     935.20
          500.00     938.00     550.00     938.50     551.00     945.00          2145
ENDTABLE
REACH     21.95      1.         350.       350.                                  2150
REACH 2   21.9       2.0                                                         2155
SEGMENT   21.95      1          N          197.                                  2160
NVALUE    0.075                                                                  2170
SEGMENT   21.95      2          C          203.                                  2175
NVALUE    0.06                                                                   2180
SEGMENT   21.95      3          N          551.                                  2185
NVALUE    0.15                                                                   2190
ROAD      22.0       2.7        50.        50.                                   2195
CULV 1    22.0       1          12211                                            2200
CULV 2    8.0        12.0       60.        928.43     928.43     0.026           2205
SECTION   22.0                                                                   2210
                0.00      945.60     100.00     945.90     200.00     945.80
              300.00      944.60     400.00     943.00     500.00     941.70
              550.00      941.50     600.00     941.70     650.00     942.20
              700.00      942.90     750.00     943.70     800.00     945.10
              850.00      946.30     900.00     947.30     950.00     947.80
          -0.1       5.         951.       955.                                  2215
ENDTABLE
---------------------DATA POINTS ON SECTION 22.0   RECORDERED BY PROGRAM ACCORDING TO X VALUES
                    DUPLICATE X POINTS NOT CHANGED---------------------
REACH     22.03      1.         50.        50.                                   2220
REACH 2   21.9       2.1                                                         2225
SEGMENT   22.03      1          N          197.                                  2230
NVALUE    0.09                                                                   2235
SEGMENT   22.03      2          C          203.                                  2240
NVALUE    0.06                                                                   2245
SEGMENT   22.03      3          N          551.                                  2250
NVALUE    0.08                                                                   2255
REACH     22.1       1.0        2450.      2450.                                 2260
SEGMENT   22.1       1          N          797.                                  2265
NVALUE    0.20                                                                   2270
SEGMENT   22.1       2          C          809.                                  2275
NVALUE    0.045                                                                  2280
SEGMENT   22.1       3          N          1601.                                 2285
NVALUE    0.20                                                                   2290
SECTION   22.1                                                                   2295
                0.00      938.10     100.00     939.70     200.00     940.20
              300.00      939.30     400.00     938.70     500.00     937.20
              600.00      937.10     700.00     935.70     790.00     934.80
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
              795.00     931.70     797.00     931.10     800.00     930.60
              803.00     930.80     805.00     931.10     809.00     935.10
              900.00     933.60    1000.00     932.60    1100.00     934.20
             1200.00     934.30    1300.00     935.50    1400.00     936.00
             1500.00     937.40    1600.00     938.90    1601.       946.
             -1.         946.
ENDTABLE
---------------------DATA POINTS ON SECTION 22.1   REORDERED BY PROGRAM ACCORDING TO X VALUES
                     DUPLICATE X POINTS NOT CHANGED---------------------
REACH      22.9      1.0        1570.      1570.                                  2310
SEGMENT    22.9      1          N          793.                                   2315
NVALUE     0.20                                                                   2320
SEGMENT    22.9      2          C          807.                                   2325
NVALUE     0.045                                                                  2330
SEGMENT    22.9      3          N          1601.                                  2335
NVALUE     0.20                                                                   2340
SECTION    22.9                                                                   2345
                0.00     936.60     100.00     936.90     200.00     933.60
              300.00     934.20     400.00     933.80     500.00     933.80
              600.00     933.60     700.00     934.10     792.00     933.30
              793.00     932.60     797.00     931.70     800.00     931.60
              803.00     931.60     807.00     932.70     808.00     933.50
              900.00     933.50    1000.00     932.60    1100.00     933.50
             1200.00     933.80    1300.00     934.00    1400.00     933.80
             1500.00     934.20    1600.00     935.20    1601.       944.
             -1.         944.
ENDTABLE
---------------------DATA POINTS ON SECTION 22.9   REORDERED BY PROGRAM ACCORDING TO X VALUES
                     DUPLICATE X POINTS NOT CHANGED---------------------
REACH      22.95     1.         150.       150.                                   2360
REACH 2    22.9      0.8                                                          2365
ROAD       23.0      2.7        50.        50.                                    2370
CULV 1     23.0      1          12211                                             2375
CULV 2     4.5       7.9        50.        932.6      932.6      0.026           2380
SECTION    23.0                                                                   2385
                0.00     940.70     100.00     940.40     200.00     941.00
              300.00     940.00     400.00     939.60     500.00     939.20
              600.00     939.20     700.00     937.70     800.00     937.10
              900.00     936.40    1000.00     936.90    1100.00     939.00
             1200.00     942.50      -1.       945.      1201.       945.
ENDTABLE
---------------------DATA POINTS ON SECTION 23.0   REORDERED BY PROGRAM ACCORDING TO X VALUES
                     DUPLICATE X POINTS NOT CHANGED---------------------
REACH      23.5      1.         50.        50.                                    2390
REACH 2    22.9      1.0                                                          2400
REACH      23.9      1.0        3175.      3175.                                  2405
SEGMENT    23.9      1          N          218.                                   2410
NVALUE     0.20                                                                   2415
SEGMENT    23.9      2          C          232.                                   2420
NVALUE     0.045     .                                                            2425
SEGMENT    23.9      3          N          351.                                   2430
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
NVALUE    0.20                                                                  2435
SECTION   23.9                                                                  2440
          -3.0       957.00     -2.0       957.00     -1.0       957.00         2445
                0.00     951.20     25.00     946.00     55.00     940.50
              125.00     937.30    175.00     936.50    218.00     935.80
              219.00     934.40    222.00     934.40    225.00     934.50
              228.00     934.50    231.00     934.80    232.00     935.90
              275.00     937.80    315.00     938.90    325.00     941.80
          350.0      946.90     351.0      957.00                              2450
ENDTABLE
REACH     23.95      1.         150.       150.                                2455
REACH 2   23.9       1.0                                                       2460
ROAD      24.0       2.7        50.        50.                                 2500
CULV 1    24.0       1          32111                                          2505
CULV 2    3.67       6.1        24.        935.6      935.6      0.032         2510
SECTION   24.0                                                                  2515
                0.00     950.60     50.00     943.80    100.00     940.90
              150.00     940.20    200.00     941.70    233.00     943.30
              250.00     949.30    -1.        955.      251.       955.
ENDTABLE
---------------------DATA POINTS ON SECTION 24.0   REORDERED BY PROGRAM ACCORDING TO X VALUES
                    DUPLICATE X POINTS NOT CHANGED---------------------
REACH     24.1       1.         50.        50.                                 2525
REACH 2   23.9       1.2                                                       2530
REACH     24.9       1.         890.       890.                                2535
REACH 2   23.9       2.0                                                       2540
ROAD      25.0       2.7        50.        50.                                 2580
BPR       25.0       0          3.                                             2585
GIRDER    940.5      939.11     0.         2.8        0.6                      2590
          240.       940.66     240.1      939.08     260.       939.08
          260.1      940.66
ENDTABLE
SECTION   25.0                                                                  2610
          0.0        949.       100.       945.       200.       944.
          240.       940.66     240.1      937.5      250.       936.7
          256.       937.2      260.1      940.66     300.       940.3
          340.       941.3      400.       949.1      425.       952.
          426.       955.       -1.        955.
ENDTABLE
---------------------DATA POINTS ON SECTION 25.0   REORDERED BY PROGRAM ACCORDING TO X VALUES
                    DUPLICATE X POINTS NOT CHANGED---------------------
REACH     25.05      1.         50.        50.                                 2545
REACH 2   23.9       2.3                                                       2615
COMPUTE   18.0       22.03      17.1
-----------------------------END OF 80/80 LIST-----------------------------
```

COMPUTE 18.0 22.03 17.1

----------STARTING DATA FROM PREVIOUS COMPUTATIONS----------

RATING TABLE FOR SECTION 18.0 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-CHAN	CSM	CRIT ELEV	FRICTION SLOPE
0	909.40	0.0	0.0						
BANK FULL	910.4	11.2	53.3	0.00	0.00	0.00			
1	911.13	41.4	95.0	0.00	0.00	0.00	95.00	910.7	.07255
2	911.59	88.3	225.0	0.00	0.00	0.00	225.00	911.2	.08736
3	911.82	118.9	330.0	0.00	0.00	0.00	330.00	911.5	.08916
4	911.92	136.2	390.0	0.00	0.00	0.00	390.00	911.6	.09674
5	912.00	151.9	515.0	0.00	0.00	0.00	515.00	911.7	.13539

SEGMENT TABLE FOR SECTION 18.0

CSM		TOTAL	SEG NO 1 N	2 N	3 C	4 N	5 N
1	DISCHARGE CFS	95.	15.	0.	38.	0.	42.
95.	VELOCITY FPS	6.22	1.72	0.00	9.81	0.00	1.46
2	DISCHARGE CFS	225.	25.	0.	92.	0.	108.
225.	VELOCITY FPS	8.83	1.66	0.00	12.99	0.00	1.63
3	DISCHARGE CFS	330.	35.	0.	129.	0.	166.
330.	VELOCITY FPS	9.55	1.73	0.00	14.52	0.00	1.65
4	DISCHARGE CFS	390.	43.	0.	149.	0.	198.
390.	VELOCITY FPS	10.07	1.83	0.00	15.28	0.00	1.93
5	DISCHARGE CFS	515.	59.	0.	193.	0.	264.
515.	VELOCITY FPS	12.04	2.20	0.00	18.39	0.00	2.30
1	ELEV 911.13 KD	391.	56.	3.	135.	3.	194.
2	ELEV 911.59 KD	799.	86.	4.	313.	4.	311.
3	ELEV 911.82 KD	1105.	115.	5.	429.	5.	552.
4	ELEV 911.92 KD	1256.	139.	5.	479.	5.	630.
5	ELEV 912.00 KD	1398.	153.	5.	527.	5.	7 7.

KD TABLE FOR CROSS SECTION 18.0

ELEVATION	AREA	KD	KD BY SEGMENT				
909.40	0.						
910.	4.	15.	3.	1.	1.	1.	9.
911.	31.	283.	51.	3.	101.	3.	125.
912.	152.	1400.	153.	5.	527.	5.	707.
913.	439.	5119.	602.	216.	1445.	210.	2652.
914.	873.	14008.	1532.	1227.	2823.	1027.	7584.
915.	1342.	27496.	3158.	2336.	4564.	2336.	15101.
916.	1839.	44451.	5327.	3995.	6607.	3995.	24525.
917.	2365.	65267.	8162.	6805.	8947.	6805.	36541.
918.	2886.	89588.	11621.	8329.	11863.	8329.	50240.
919.	3405.	117092.	15609.	10954.	14443.	10954.	66527.
920.	3931.	146890.	20147.	13857.	17573.	13857.	83456.
921.	4457.	182534.	25106.	17026.	21944.	17026.	102430.
922.	4983.	219745.	30449.	20445.	24545.	20445.	122860.
923.	5510.	257650.	36182.	24117.	28574.	24117.	144759.
924.	6037.	298988.	42314.	28047.	32451.	28047.	168151.
925.	6563.	343679.	48574.	32252.	36742.	32292.	193394.
926.	7090.	391645.	56170.	36856.	41305.	36856.	220462.
927.	7617.	442906.	63908.	41741.	46116.	41741.	249467.

*****SECT.18.01 KD VALUES REVERSED ON SEGMENT 1 AT ELEVATION 922.60 VALUE CHANGED TO EQUAL PREVIOUS VALUE*****

RATING TABLE FOR SECTION 18.01 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	907.00	0.0	0.0						
BANK FULL	910.3	822.3	60.2	0.00	0.00	0.00			
1	911.73	1924.5	95.0	0.00	0.00	0.00	95.00	907.6	.00004
2	912.81	2781.4	225.0	0.00	0.00	0.00	225.00	907.8	.00007
3	913.24	3181.2	330.0	0.00	0.00	0.00	330.00	907.9	.00010
4	913.50	3458.9	390.0	0.00	0.00	0.00	390.00	908.0	.00011
5	914.26	4524.7	515.0	0.00	0.00	0.00	515.00	908.1	.00009

SEGMENT TABLE FOR SECTION 18.01

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	.05	.04	.05	0.00
2	DISCHARGE CFS	225.	0.	222.	2.
225.	VELOCITY FPS	.08	.06	.08	.04
3	DISCHARGE CFS	330.	1.	323.	6.
330.	VELOCITY FPS	.11	.09	.11	.05
4	DISCHARGE CFS	390.	2.	375.	14.
390.	VELOCITY FPS	.11	.10	.12	.07
5	DISCHARGE CFS	515.	4.	451.	60.
515.	VELOCITY FPS	.12	.11	.12	.09
1	ELEV 911.73 KD	15684.	11.	15673.	1.
2	ELEV 912.81 KD	27495.	49.	27298.	148.
3	ELEV 913.24 KD	33591.	102.	32987.	502.
4	ELEV 913.50 KD	37633.	149.	36503.	981.
5	ELEV 914.26 KD	54261.	373.	47829.	6059.

KD TABLE FOR CROSS SECTION 18.01

ELEVATION	AREA	KD	KD BY SEGMENT		
907.00	0.				
908.	95.	247.	1.	244.	1.
909.	365.	1553.	1.	1551.	1.
910.	822.	4576.	1.	4574.	1.
911.	1425.	10156.	3.	10152.	1.
912.	2126.	18210.	16.	18177.	3.
913.	2957.	30162.	68.	29799.	256.
914.	4156.	48240.	278.	43612.	3455.
915.	5688.	77862.	734.	60034.	17094.
916.	7298.	117774.	1433.	78159.	38182.
917.	8944.	167109.	2488.	98148.	66465.
918.	10615.	224645.	3803.	119917.	100925.
919.	12311.	290173.	5381.	143396.	141396.
920.	14031.	363242.	7181.	168483.	187451.
921.	15782.	445337.	9165.	195193.	240810.
922.	17511.	535865.	10433.	223472.	302173.
923.	19322.	628535.	12457.	252272.	364713.
924.	21241.	731717.	12688.	284548.	434134.
925.	23269.	847687.	21975.	317247.	508465.
926.	25297.	974255.	30947.	351608.	589494.
927.	27375.	1111755.	61486.	387684.	676610.
928.	29353.	1261512.	96668.	425405.	778295.

RATING TABLE FOR SECTION 18.03 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED- DAMAGE	CHANNEL	NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	907.56	0.0	0.0						
1	911.73	632.0	95.0	.00	0.00	0.00	95.00	908.3	.10000
BANK FULL	912.0	715.6	127.1	0.00	0.00	0.00			
2	912.61	984.3	225.0	0.00	0.00	0.00	225.00	908.7	.00601
3	913.25	1137.2	330.0	0.00	0.00	0.00	330.00	908.9	.00601
4	913.56	1230.5	390.0	0.00	0.00	0.00	390.00	909.0	.00601
5	914.26	1520.3	515.0	0.00	0.00	0.00	515.00	909.2	.00601

SEGMENT TABLE FOR SECTION 18.03

CSM		TOTAL	SEG NO 1 N	2 C	3 N
1	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	.15	0.00	.15	0.00
2	DISCHARGE CFS	225.	0.	225.	0.
225.	VELOCITY FPS	.23	.02	.23	.02
3	DISCHARGE CFS	330.	0.	329.	1.
330.	VELOCITY FPS	.30	.02	.30	.02
4	DISCHARGE CFS	390.	0.	389.	1.
390.	VELOCITY FPS	.33	.03	.33	.03
5	DISCHARGE CFS	515.	1.	512.	3.
515.	VELOCITY FPS	.36	.03	.36	.03
1	ELEV 911.73 KD	44294.	1.	44292.	1.
2	ELEV 912.61 KD	86365.	11.	86351.	34.
3	ELEV 913.25 KD	108414.	34.	108230.	150.
4	ELEV 913.56 KD	121728.	55.	121434.	239.
5	ELEV 914.26 KD	166508.	171.	165366.	752.

KD TABLE FOR CROSS SECTION 18.03

ELEVATION	AREA	KD	KD BY SEGMENT		
907.50	0.				
908.	9.	151.	1.	148.	1.
909.	80.	2779.	1.	2777.	1.
910.	222.	13846.	1.	13844.	1.
911.	433.	26603.	1.	26601.	1.
912.	716.	52991.	1.	52988.	2.
913.	1049.	95848.	19.	95731.	78.
914.	1417.	152654.	126.	149961.	548.
915.	1821.	215258.	370.	213217.	1124.
916.	2258.	289765.	835.	285158.	3355.
917.	2736.	372646.	1588.	365315.	5661.
918.	3267.	465991.	2662.	453248.	9578.
919.	3854.	568168.	4089.	548585.	15313.
920.	4484.	681365.	5329.	650562.	23619.
921.	5159.	801978.	6997.	761358.	34793.
922.	5905.	933882.	9864.	876552.	47304.
923.	6716.	1077828.	17464.	998761.	61106.
924.	7567.	1231194.	28854.	1127897.	76175.
925.	8398.	1395210.	39804.	1265698.	93539.
926.	9110.	1571125.	57723.	1407470.	113458.
927.	9911.	1756109.	82086.	1558496.	136459.
928.	10712.	1952941.	114693.	1716952.	162480.

RATING TABLE FOR SECTION 18.05 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	908.00	0.0	0.0						
BANK FULL	910.0	285.0	50.9	.00	0.00	0.00			
1	911.74	833.4	95.0	0.00	0.00	0.00	95.00	908.6	.00000
2	912.81	1228.1	225.0	0.00	0.00	0.00	225.00	908.9	.00000
3	913.25	1405.8	330.0	0.00	0.00	0.00	330.00	909.0	.00001
4	913.50	1508.7	390.0	0.00	0.00	0.00	390.00	909.1	.00001
5	914.26	1839.2	515.0	0.00	0.00	0.00	515.00	909.3	.00001

SEGMENT TABLE FOR SECTION 18.05

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	0.	94.	1.
95.	VELOCITY FPS	.12	.01	.12	.01
2	DISCHARGE CFS	225.	0.	222.	3.
225.	VELOCITY FPS	.20	.02	.20	.02
3	DISCHARGE CFS	330.	1.	324.	5.
330.	VELOCITY FPS	.27	.03	.27	.03
4	DISCHARGE CFS	390.	1.	382.	7.
390.	VELOCITY FPS	.29	.03	.30	.04
5	DISCHARGE CFS	515.	2.	501.	12.
515.	VELOCITY FPS	.33	.04	.33	.04

1	ELEV 911.74 KD	651?6.	65.	64640.	491.
2	ELEV 912.81 KD	114377.	235.	112671.	1472.
3	ELEV 913.25 KD	137306.	365.	134867.	2154.
4	ELEV 913.50 KD	151772.	464.	148660.	2648.
5	ELEV 914.26 KD	198141.	873.	192782.	4536.

KD TABLE FOR CROSS SECTION 18.05

ELEVATION	AREA	KD	KD BY SEGMENT		
908.00	0.				
909.	74.	1907.	1.	1905.	1.
910.	285.	12101.	1.	12099.	1.
911.	588.	38531.	15.	38422.	94.
912.	926.	76977.	93.	76383.	585.
913.	1304.	123921.	285.	121870.	1738.
914.	1723.	181386.	708.	176832.	3796.
915.	2178.	248247.	1450.	239752.	7004.
916.	2666.	324188.	2549.	311131.	11406.
917.	3189.	408477.	4008.	387452.	17020.
918.	3747.	501426.	5916.	471508.	24002.
919.	4341.	602738.	8107.	562140.	32492.
920.	4972.	713117.	10968.	659823.	42727.
921.	5643.	831936.	13622.	761550.	56630.
922.	6355.	959581.	16055.	870283.	72135.
923.	7123.	1096219.	21949.	984732.	89123.
924.	7924.	1244820.	32195.	1104753.	107803.
925.	8726.	1402484.	44962.	1230440.	127405.
926.	9527.	1569381.	61597.	1361967.	149632.
927.	10329.	1746492.	82962.	1499296.	173988.
928.	11130.	1936801.	110642.	1642357.	200877.

RATING TABLE FOR SECTION 18.07 BA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	908.50	0.0	0.0						
1	911.85	143.7	95.0	0.00	0.00	0.00	95.00	909.8	.00016
BANK FULL	911.9	148.3	101.3	0.00	0.00	0.00			
2	912.93	284.3	225.0	0.00	0.00	0.00	225.00	910.3	.00017
3	913.38	362.4	331.0	0.00	0.00	0.00	330.00	910.6	.00021
4	913.65	413.8	390.0	0.00	0.00	0.00	390.00	910.8	.00023
5	914.38	568.9	515.0	0.00	0.00	0.00	515.00	911.0	.00026

SEGMENT TABLE FOR SECTION 18.07

CSM		TOTAL	SEC NO 1 N	SEC NO 2 C	SEC NO 3 N
1	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	.68	.04	.67	.04
2	DISCHARGE CFS	225.	2.	220.	3.
225.	VELOCITY FPS	.94	.11	.93	.10
3	DISCHARGE CFS	330.	5.	317.	7.
330.	VELOCITY FPS	1.15	.15	1.17	.14
4	DISCHARGE CFS	390.	8.	371.	11.
390.	VELOCITY FPS	1.24	.16	1.27	.16
5	DISCHARGE CFS	515.	15.	476.	24.
515.	VELOCITY FPS	1.33	.18	1.34	.18
1	ELEV 911.85 KD	7477.	3.	7471.	3.
2	ELEV 912.93 KD	17061.	163.	16720.	198.
3	ELEV 913.38 KD	22568.	359.	21736.	474.
4	ELEV 913.65 KD	25881.	491.	24713.	677.
5	ELEV 914.38 KD	36787.	1043.	34145.	1599.

KD TABLE FOR CROSS SECTION 18.07

ELEVATION	AREA	KD	KD BY SEGMENT		
908.50	0.				
909.	3.	48.	1.	46.	1.
910.	28.	863.	1.	861.	1.
911.	79.	3363.	1.	3361.	1.
912.	157.	8488.	5.	8478.	5.
913.	296.	17921.	187.	17476.	236.
914.	483.	30961.	734.	29129.	1067.
915.	718.	47553.	1706.	43335.	2791.
916.	998.	67832.	3442.	[illegible].	5350.
917.	1316.	92049.	6188.	76886.	8984.
918.	1664.	119605.	9569.	96673.	13315.
919.	2067.	153700.	13469.	118226.	18553.
920.	2542.	199682.	19629.	141477.	24634.
921.	3067.	227529.	29337.	166559.	31598.
922.	3615.	274333.	41868.	192838.	39496.
923.	4184.	329197.	55927.	220873.	48367.
924.	4781.	388194.	71563.	253[illegible].	58203.
925.	5407.	439994.	89974.	281338.	69286.
926.	6049.	506513.	111413.	313720.	81161.
927.	6702.	572994.	134589.	347539.	91636.
928.	7368.	635934.	160530.	382725.	92564.
929.	8154.	712003.	187881.	419211.	104781.
930.	8952.	784196.	219010.	457160.	119226.
931.	9751.	881270.	251266.	496584.	134555.
932.	10550.	973593.	287811.	537470.	151724.
933.	11349.	1071131.	327612.	579808.	169868.

RATING TABLE FOR SECTION 18.1 DA= 1.6

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	912.00	0.0	0.0						
BANK FULL	913.5	46.2	81.6	0.00	0.00	0.00			
1	913.75	64.5	95.0	0.00	0.00	0.00	95.00	913.0	.00554
2	914.54	141.5	225.0	0.00	0.00	0.00	225.00	913.5	.00453
3	915.08	201.1	330.0	0.00	0.00	0.00	330.00	913.7	.00396
4	915.24	221.6	390.0	0.00	0.00	0.00	390.00	913.9	.00436
5	915.80	293.0	515.0	0.00	0.00	0.00	515.00	914.1	.00373

SEGMENT TABLE FOR SECTION 18.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	95.	3.	92.	0.
95.	VELOCITY FPS	1.70	.28	1.69	0.00
2	DISCHARGE CFS	225.	22.	203.	1.
225.	VELOCITY FPS	2.10	.46	2.19	.30
3	DISCHARGE CFS	330.	42.	286.	2.
330.	VELOCITY FPS	2.27	.54	2.42	.37
4	DISCHARGE CFS	390.	53.	334.	3.
390.	VELOCITY FPS	2.48	.60	2.64	.42
5	DISCHARGE CFS	515.	83.	427.	5.
515.	VELOCITY FPS	2.56	.64	2.79	.47
1	ELEV 913.75 KD	1268.	23.	1244.	1.
2	ELEV 914.54 KD	3335.	306.	3023.	7.
3	ELEV 915.08 KD	5242.	659.	4557.	26.
4	ELEV 915.24 KD	5902.	791.	5077.	35.
5	ELEV 915.80 KD	8420.	1342.	7004.	80.

(P)

KD TABLE FOR CROSS SECTION 18.1

ELEVATION	AREA	KD	KD BY SEGMENT		
912.00	0.				
913.	22.	321.	1.	318.	1.
914.	87.	1837.	86.	1749.	2.
915.	192.	4948.	603.	4322.	22.
916.	320.	9415.	1570.	7737.	102.
917.	470.	15251.	3055.	11915.	275.
918.	642.	22478.	5135.	16777.	555.
919.	834.	31108.	7886.	22299.	925.
920.	1046.	41172.	11375.	28411.	1386.
921.	1279.	52708.	15663.	35107.	1937.
922.	1537.	65439.	2 497.	42356.	2585.
923.	1821.	79641.	26365.	50144.	3332.
924.	2132.	95982.	33351.	58447.	4184.
925.	2474.	114945.	41433.	67247.	4744.
926.	2833.	135285.	53265.	76538.	5479.
927.	3203.	156915.	66147.	86304.	6511.
928.	3583.	180654.	80178.	96535.	7800.
929.	3973.	206200.	95230.	107220.	9718.
930.	4371.	241804.	111211.	119348.	17210.
931.	4771.	273576.	128074.	129909.	15319.
932.	5172.	306750.	145926.	141900.	18177.
933.	5573.	341748.	164711.	154314.	22723.
934.	5975.	378634.	184149.	167133.	26715.
935.	6377.	416302.	204862.	180377.	31182.
936.	6778.	456565.	226874.	194039.	35158.
937.	7180.	498839.	25 206.	208114.	41675.

RATING TABLE FOR SECTION 18.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	917.00	0.0	0.0						
1	919.62	128.3	95.0	0.00	0.00	0.00	95.00	918.3	.00309
2	920.63	252.3	225.0	0.00	0.00	0.00	225.00	918.8	.00230
3	921.14	325.3	330.0	0.00	0.00	0.00	330.00	919.0	.00244
4	921.28	347.2	390.0	0.00	0.00	0.00	390.00	919.1	.00285
5	921.90	448.9	515.0	0.00	0.00	0.00	515.00	919.3	.00246

SEGMENT TABLE FOR SECTION 18.9

CSM		TOTAL	SEG NO 1
1	DISCHARGE CFS	95.	95.
95.	VELOCITY FPS	.76	.74
2	DISCHARGE CFS	225.	225.
225.	VELOCITY FPS	.89	.89
3	DISCHARGE CFS	330.	330.
330.	VELOCITY FPS	1.02	1.01
4	DISCHARGE CFS	390.	390.
390.	VELOCITY FPS	1.13	1.12
5	DISCHARGE CFS	515.	515.
515.	VELOCITY FPS	1.15	1.15
1	ELEV 919.62 KD	1708.	1708.
2	ELEV 920.63 KD	4696.	4696.
3	ELEV 921.14 KD	6682.	6682.
4	ELEV 921.28 KD	7306.	7306.
5	ELEV 921.90 KD	10393.	10393.

(Q)

KD TABLE FOR CROSS SECTION 18.9

ELEVATION	AREA	KD	KD BY SEGMENT
917.00	0.		
918.	13.	125.	125.
919.	64.	611.	611.
920.	171.	2694.	2694.
921.	305.	6082.	6082.
922.	468.	11960.	11960.
923.	662.	17433.	17433.
924.	890.	25817.	25817.
925.	1151.	36498.	36498.
926.	1448.	49583.	49583.
927.	1780.	64960.	64960.
928.	2150.	83172.	83172.
929.	2558.	104460.	104460.
930.	2995.	133038.	133038.
931.	3435.	166110.	166110.
932.	3876.	202597.	202597.
933.	4317.	241864.	241864.
934.	4758.	283744.	283744.
935.	5199.	326119.	326119.
936.	5641.	370242.	370242.
937.	6083.	416527.	416527.
938.	6524.	464989.	464989.

RATING TABLE FOR SECTION 18.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	917.00	0.0	0.0						
1	919.73	141.0	95.0	0.00	0.00	0.00	95.00	918.3	.00233
2	920.73	266.0	225.0	0.00	0.00	0.00	225.00	918.8	.00200
3	921.24	340.8	330.0	0.00	0.00	0.00	330.00	919.0	.00214
4	921.40	366.3	390.0	0.00	0.00	0.00	390.00	919.1	.00247
5	922.00	467.9	515.0	0.00	0.00	0.00	515.00	919.3	.00220

SEGMENT TABLE FOR SECTION 18.99

CSM		TOTAL	SEG NO 1 C
1	DISCHARGE CFS	95.	95.
55.	VELOCITY FPS	.69	.67
2	DISCHARGE CFS	225.	225.
225.	VELOCITY FPS	.85	.85
3	DISCHARGE CFS	330.	330.
330.	VELOCITY FPS	.97	.97
4	DISCHARGE CFS	390.	390.
390.	VELOCITY FPS	1.07	1.06
5	DISCHARGE CFS	515.	515.
515.	VELOCITY FPS	1.11	1.10
1	ELEV 919.73 KD	1969.	1969.
2	ELEV 920.73 KD	5035.	5035.
3	ELEV 921.24 KD	7130.	7130.
4	ELEV 921.40 KD	7849.	7849.
5	ELEV 922.00 KD	10972.	10972.

KD TABLE FOR CROSS SECTION 18.99

ELEVATION	AREA	KD	KD BY SEGMENT
917.00	0.		
918.	13.	125.	125.
919.	64.	611.	611.
920.	171.	2694.	2694.
921.	305.	6082.	6082.
922.	468.	11960.	11960.
923.	662.	17433.	17433.
924.	890.	25817.	25817.
925.	1151.	36498.	36498.
926.	1448.	49583.	49583.
927.	1780.	64960.	64960.
928.	2150.	83172.	83172.
929.	2558.	104460.	104460.
930.	2995.	133038.	133038.
931.	3435.	166110.	166110.
932.	3876.	202697.	202697.
933.	4317.	241864.	241864.
934.	4758.	283744.	283744.
935.	5199.	328419.	328419.
936.	5641.	376242.	376242.
937.	6083.	428527.	428527.
938.	6524.	484989.	484989.

TABLE OF VALUES FOR BPR FORMATION

CLEAR	AKB	DGTAK	SIGMA	DKF	DKS	M	ALPHA	ALPHA2	BRILA	APPAR	AEXIT
1.8555	1.8555	0.0000	0.0000	0.0001	0.0000	.3706	1.0000	1.0000	40.1646	194.6945	171.8795
DCRIT	918.23	KBCRIT=									
2.3249	2.3249	0.0000	0.0000	0.0000	0.0000	.2730	1.0000	1.0000	59.0870	363.9974	305.9110
DCRIT	915.12	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	59.0870	363.9974	305.9110
DCRIT	-1.00	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	59.0870	363.9974	305.9110
DCRIT	-1.00	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	59.0870	363.9974	305.9110
DCRIT	-1.00	KBCRIT=									

ROAD SECTION 19.0

NO.	HW	CFS	HL	TW	CSH
0	916.80	0.00	0.00	0.00	0.00
1	919.96	95.00	.16	919.80	95.00
2	921.19	225.00	.38	920.81	225.00
3	922.07	330.00	.74	921.33	330.00
4	922.54	390.00	1.04	921.50	390.00
5	923.93	515.00	1.84	922.09	515.00

MIN ROAD ELEVATION 924.56

BRIDGE TYPE 2 GIRDER BOTTOM ELEVATION = 920.97 OPENING NO.= 1

(R)

Q $\frac{390}{59.087} = V = 6.6$

A

RATING TABLE FOR SECTION 19.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	917.00	0.0	0.0						
1	920.03	175.2	95.0	0.00	0.00	0.00	95.00	918.3	.00117
2	921.24	349.1	225.0	0.00	0.00	0.00	225.00	918.8	.00100
3	922.11	487.9	330.0	0.00	0.00	0.00	330.00	919.0	.00081
4	922.57	572.3	390.0	0.00	0.00	0.00	390.00	919.1	.00072
5	923.96	878.8	515.0	0.00	0.00	0.00	515.00	919.3	.00041

SEGMENT TABLE FOR SECTION 19.1

CSM		TOTAL	SEG NO 1 C
1	DISCHARGE CFS	95.	95.
95.	VELOCITY FPS	.54	.54
2	DISCHARGE CFS	225.	225.
225.	VELOCITY FPS	.66	.66
3	DISCHARGE CFS	330.	330.
330.	VELOCITY FPS	.68	.68
4	DISCHARGE CFS	390.	390.
390.	VELOCITY FPS	.68	.68
5	DISCHARGE CFS	515.	515.
515.	VELOCITY FPS	.59	.59

1	ELEV	920.03	KD	2776.	2776.
2	ELEV	921.24	KD	7110.	7110.
3	ELEV	922.11	KD	11600.	11600.
4	ELEV	922.57	KD	14494.	14494.
5	ELEV	923.96	KD	25390.	25390.

KD TABLE FOR CROSS SECTION 19.1

ELEVATION	AREA	KD	KD BY SEGMENT
917.00	0.		
918.	13.	125.	125.
919.	64.	611.	611.
920.	171.	2694.	2694.
921.	305.	6762.	6782.
922.	468.	17960.	17960.
923.	662.	17433.	17433.
924.	890.	25817.	25817.
925.	1151.	36498.	36498.
926.	1440.	49583.	49583.
927.	1760.	64960.	64960.
928.	2110.	83172.	83172.
929.	2508.	104460.	104460.
930.	2995.	133538.	133538.
931.	3435.	166110.	166110.
932.	3876.	202597.	202597.
933.	4317.	241864.	241864.
934.	4758.	283744.	283744.
935.	5199.	328019.	328019.
936.	5641.	376242.	376242.
937.	6083.	428527.	428527.
938.	6524.	484989.	484989.

RATING TABLE FOR SECTION 19.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	921.05	0.0	0.0						
BANK FULL	922.3	10.3	33.6	0.00	0.00	0.00			
1	923.82	101.8	95.0	0.00	0.00	0.00	95.00	922.4	.00202
2	924.87	186.1	225.0	0.00	0.00	0.00	225.00	923.0	.00220
3	925.54	245.2	330.0	0.00	0.00	0.00	330.00	923.2	.00215
4	925.93	281.0	390.0	0.00	0.00	0.00	390.00	923.3	.00203
5	926.65	349.8	515.0	0.00	0.00	0.00	515.00	923.5	.00188

SEGMENT TABLE FOR SECTION 19.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	8.	63.	25.
95.	VELOCITY FPS	1.20	.48	1.40	.60
2	DISCHARGE CFS	225.	30.	125.	70.
225.	VELOCITY FPS	1.53	.75	1.90	.87
3	DISCHARGE CFS	330.	51.	168.	111.
330.	VELOCITY FPS	1.68	.88	2.13	1.03
4	DISCHARGE CFS	390.	64.	191.	135.
390.	VELOCITY FPS	1.72	.92	2.20	1.08
5	DISCHARGE CFS	515.	93.	238.	184.
515.	VELOCITY FPS	1.80	1.00	2.35	1.16
1	ELEV 923.82 KO	2102.	156.	1409.	537.
2	ELEV 924.87 KO	4787.	632.	2676.	1479.
3	ELEV 925.54 KO	7106.	1687.	3642.	2377.
4	ELEV 925.93 KO	8649.	1412.	4258.	2979.
5	ELEV 926.65 KO	11862.	2128.	5497.	4237.

(5)

KD TABLE FOR CROSS SECTION 19.5

ELEVATION	AREA	KD	KD BY SEGMENT		
921.00	0.				
922.	10.	135.	1.	133.	1.
923.	46.	807.	4.	659.	145.
924.	114.	2488.	225.	1602.	661.
925.	197.	5198.	708.	2849.	1635.
926.	288.	8935.	1472.	4371.	3088.
927.	385.	13577.	2528.	6141.	4904.
928.	494.	18223.	3902.	8146.	6163.
929.	634.	23351.	5279.	10371.	7700.
930.	805.	31732.	7156.	12804.	11772.
931.	993.	41698.	9691.	15439.	16569.
932.	1198.	53344.	13005.	18285.	22072.
933.	1415.	67107.	17555.	21281.	28271.
934.	1646.	81790.	22784.	24476.	34514.
935.	1892.	97716.	28756.	27848.	41089.
936.	2154.	115795.	35568.	31393.	48995.
937.	2425.	137022.	44402.	35106.	57484.
938.	2710.	161661.	53624.	38983.	69037.
939.	2976.	187799.	63437.	43021.	81323.
940.	3252.	215343.	72803.	47210.	94299.
941.	3529.	244448.	84105.	51566.	108777.
942.	3806.	275918.	96394.	56069.	122555.
943.	4082.	307720.	108515.	60729.	136181.
944.	4359.	340594.	122197.	65543.	154970.
945.	4636.	379632.	138866.	70509.	172955.

RATING TABLE FOR SECTION 19.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT FLEV	FRICTION SLOPE
0	921.50	0.0	0.0						
BANK FULL	922.5	10.3	38.8	0.00	0.00	0.00			
1	923.95	74.9	95.0	0.00	0.00	0.00	95.00	922.9	.00440
2	924.97	152.4	225.0	0.00	0.00	0.00	225.00	923.5	.00384
3	925.63	208.5	330.0	0.00	0.00	0.00	330.00	923.7	.00341
4	926.01	242.4	390.0	0.00	0.00	0.00	390.00	923.8	.00311
5	926.72	308.4	515.0	0.00	0.00	0.00	515.00	924.0	.00272

SEGMENT TABLE FOR SECTION 19.99

CSP		TOTAL	SEG NO 1 N	2 C	3 R
1	DISCHARGE CFS	95.	5.	68.	22.
95.	VELOCITY FPS	1.62	.51	1.83	.77
2	DISCHARGE CFS	225.	26.	133.	65.
225.	VELOCITY FPS	1.89	.87	2.36	1.02
3	DISCHARGE CFS	330.	47.	177.	106.
330.	VELOCITY FPS	1.99	1.00	2.49	1.17
4	DISCHARGE CFS	390.	60.	200.	131.
390.	VELOCITY FPS	2.10	1.04	2.54	1.22
5	DISCHARGE CFS	515.	86.	246.	181.
515.	VELOCITY FPS	2.86	1.12	2.65	1.32

1	ELEV 923.95 KD	1429.	65.	1037.	327.
2	ELEV 924.97 KD	3625.	418.	2157.	1050.
3	ELEV 925.63 KD	5648.	797.	3 39.	1813.
4	ELEV 926.01 KD	6993.	1164.	3596.	2333.
5	ELEV 926.72 KD	9864.	1676.	5737.	3452.

KD TABLE FOR CROSS SECTION 19.99

ELEVATION	AREA	KD	KD BY SEGMENT		
921.50	0.				
922.	3.	33.	1.	31.	1.
923.	24.	368.	1.	237.	21.
924.	79.	1520.	74.	1087.	353.
925.	154.	3699.	431.	2189.	1074.
926.	241.	6952.	1255.	3578.	2315.
927.	335.	11149.	1964.	5227.	3556.
928.	437.	16158.	3176.	7116.	5809.
929.	560.	20645.	4602.	9231.	6812.
930.	719.	27344.	6174.	11560.	9580.
931.	899.	36507.	8361.	14695.	14129.
932.	1095.	47302.	11266.	18827.	19189.
933.	1307.	59966.	15155.	19749.	25748.
934.	1531.	74232.	20051.	22855.	31299.
935.	1767.	89607.	25675.	26140.	37769.
936.	2019.	106333.	32123.	29601.	44599.
937.	2288.	125747.	40124.	33230.	52382.
938.	2563.	145137.	48928.	37124.	63157.
939.	2838.	174427.	58395.	41891.	75116.
940.	3114.	201411.	68560.	45699.	87735.
941.	3391.	229839.	79295.	49573.	101164.
942.	3667.	259469.	90484.	53798.	115168.
943.	3944.	291100.	102536.	58389.	130224.
944.	4221.	324883.	115534.	63117.	146428.
945.	4498.	360859.	129606.	68107.	163811.
946.	4774.	399068.	144479.	73749.	182402.

TABLE OF VALUES FOR BPR EQUATION

CDEFK	AKB	DGTAK	SIGMA	DKF	EKS	M	ALPHA	ALPHA2	BRIDA	APPAR	AEXIT
1.5415	1.5415	0.0000	0.0000	0.0000	0.0000	.4416	1.0000	1.0000	16.3688	84.2101	44.2014
DCRIT	923.62	KBCRIT=C									
2.1758	2.1758	0.0000	0.0000	0.0000	0.0000	.3631	1.0000	1.0000	26.0798	226.7482	108.5160
DCRIT	925.00	KBCRIT=C									
2.2381	2.2381	0.0000	0.0000	0.0000	0.0000	.2904	1.0000	1.0000	30.6210	253.8358	157.5030
DCRIT	925.46	KBCRIT=									
2.2519	2.2519	0.0000	0.0000	0.0000	0.0000	.2918	1.0000	1.0000	30.6210	250.5491	188.4951
DCRIT	925.61	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.2889	1.0000	1.0000	30.6210	258.3062	248.9627
DCRIT	926.61	KBCRIT=									

ROAD SECTION 20.0

NO.	HW	CFS	HL	TW	CSM
0	922.20	0.00	0.00	0.00	0.00
1	924.76	95.00	.00	924.16	95.00C
2	926.52	225.00	1.43	925.12	225.00C
3	927.04	330.00	1.30	925.74	330.00
4	927.24	390.00	1.14	926.10	390.00
5	927.54	515.00	.76	926.78	515.00

MIN ROAD ELEVATION 926.40

BRIDGE TYPE 2 GIRDER BOTTOM ELEVATION = 925.56 OPENING NO.= 1

T

$\frac{Q}{A} = \frac{390}{30.63} = 12.734$

RATING TABLE FOR SECTION 20.1 DA= 1.6

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	922.16	0.0	0.0						
BANK FULL	923.1	10.3	34.9	0.00	0.00	0.00			
1	924.82	94.3	95.0	0.00	0.00	0.00	95.00	923.5	.00249
2	926.54	236.2	225.0	0.00	0.00	0.00	225.00	924.1	.00111
3	927.17	284.6	330.0	0.00	0.00	0.00	330.00	924.3	.00140
4	927.28	304.5	390.0	0.00	0.00	0.00	390.00	924.4	.00162
5	927.59	334.5	515.0	0.00	0.00	0.00	515.00	924.6	.00215

SEGMENT TABLE FOR SECTION 20.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	95.	7.	64.	24.
95.	VELOCITY FPS	1.30	.50	1.49	.64
2	DISCHARGE CFS	225.	34.	116.	75.
225.	VELOCITY FPS	1.19	.62	1.50	.72
3	DISCHARGE CFS	330.	55.	161.	114.
330.	VELOCITY FPS	1.43	.77	1.84	.91
4	DISCHARGE CFS	390.	66.	187.	137.
390.	VELOCITY FPS	1.58	.86	2.03	1.01
5	DISCHARGE CFS	515.	91.	241.	183.
515.	VELOCITY FPS	1.89	1.04	2.45	1.23
1	ELEV 924.82 KD	1893.	123.	1299.	471.
2	ELEV 926.54 KD	6738.	1012.	3492.	2234.
3	ELEV 927.17 KD	8814.	1445.	4330.	3039.
4	ELEV 927.28 KD	9605.	1636.	4667.	3302.
5	ELEV 927.59 KD	11111.	1956.	5214.	3942.

KD TABLE FOR CROSS SECTION 20.1

ELEVATION	AREA	KD	KD BY SEGMENT		
922.10	0.				
923.	9.	109.	1.	107.	1.
924.	42.	702.	3.	586.	110.
925.	107.	2270.	183.	1491.	588.
926.	188.	4874.	647.	2711.	1510.
927.	278.	8526.	1385.	4208.	2933.
928.	375.	13074.	2405.	5954.	4707.
929.	482.	17792.	3745.	7935.	6093.
930.	619.	22797.	5140.	10138.	7518.
931.	788.	3[illegible]822.	6952.	12[illegible]51.	11307.
932.	974.	4[illegible]626.	9414.	15165.	16138.
933.	1177.	52100.	12644.	17974.	21474.
934.	1394.	65642.	17055.	20971.	27606.
935.	1623.	80243.	22218.	24148.	33656.
936.	1867.	96761.	28122.	27503.	41412.
937.	2127.	113863.	35174.	31[illegible]31.	47624.
938.	2397.	134[illegible]77.	43632.	[illegible]4728.	56392.
939.	2673.	155179.	52702.	38569.	67880.
940.	2949.	177076.	62406.	42610.	87735.
941.	3225.	212512.	72735.	46789.	92962.
942.	3501.	241506.	83696.	51124.	106673.
943.	3778.	271866.	95193.	55612.	121055.
944.	4[illegible]55.	304352.	107620.	6[illegible]256.	130566.
945.	4331.	339009.	121[illegible]05.	66[illegible]55.	153238.
946.	4608.	375872.	135374.	7[illegible]006.	171100.

RATING TABLE FOR SECTION 20.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	922.10	0.0	0.0						
BANK FULL	925.0	72.7	85.2	0.00	0.00	0.00			
1	925.33	102.8	95.0	0.00	0.00	0.00	95.00	923.7	.00078
2	926.75	275.8	225.0	0.00	0.00	0.00	225.00	924.5	.00024
3	927.29	359.9	330.0	0.00	0.00	0.00	330.00	924.8	.00026
4	927.52	396.4	390.0	0.00	0.00	0.00	390.00	925.0	.00028
5	927.89	458.1	515.0	0.00	0.00	0.00	515.00	925.2	.00034

SEGMENT TABLE FOR SECTION 20.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	.99	.16	.94	.18
2	DISCHARGE CFS	225.	4.	217.	4.
225.	VELOCITY FPS	.94	.17	.95	.18
3	DISCHARGE CFS	330.	10.	311.	9.
330.	VELOCITY FPS	1.10	.23	1.12	.22
4	DISCHARGE CFS	390.	13.	366.	12.
390.	VELOCITY FPS	1.19	.26	1.22	.24
5	DISCHARGE CFS	515.	20.	477.	18.
515.	VELOCITY FPS	1.39	.32	1.43	.29
1	ELEV 925.33 KD	3397.	3.	3389.	5.
2	ELEV 926.75 KD	14391.	245.	13898.	249.
3	ELEV 927.29 KD	20301.	539.	19249.	513.
4	ELEV 927.52 KD	23137.	720.	21751.	666.
5	ELEV 927.89 KD	28800.	1058.	25979.	563.

KD TABLE FOR CROSS SECTION 20.5

ELEVATION	AREA	KD	KD BY SEGMENT		
922.10	0.				
923.	6.	133.	1.	130.	1.
924.	25.	808.	1.	606.	1.
925.	73.	2163.	1.	2160.	2.
926.	177.	7764.	44.	7651.	52.
927.	313.	17053.	365.	16315.	360.
928.	477.	29525.	1164.	27271.	1561.
929.	661.	45157.	2410.	4[illegible]423.	2297.
930.	863.	63860.	4078.	55588.	4182.
931.	1087.	85405.	5819.	73568.	7601.
932.	1332.	110871.	8152.	91319.	10586.
933.	1597.	138163.	11483.	111751.	14911.
934.	1877.	169783.	15958.	135800.	2[illegible]004.
935.	2169.	204426.	21126.	157373.	25877.
936.	2472.	242112.	26980.	182482.	32595.
937.	2784.	283642.	33742.	2[illegible]9470.	4[illegible]748.
938.	3[illegible]99.	329109.	41471.	237094.	50496.
939.	3415.	377355.	49817.	2665[illegible]14.	61[illegible]07.
940.	3730.	428046.	59623.	297246.	72131.
941.	4[illegible]47.	481301.	67966.	329320.	83566.
942.	4363.	537485.	78[illegible]80.	362[illegible]421.	96719.
943.	4680.	596987.	88914.	397435.	110640.
944.	4996.	659839.	10[illegible]736.	434364.	125771.
945.	5312.	726036.	113[illegible]405.	472369.	142155.

RATING TABLE FOR SECTION 20.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	922.10	0.0	0.0						
BANK FULL	924.4	26.9	55.9	0.00	0.00	0.00			
1	926.31	71.3	95.0	0.00	0.00	0.00	95.00	923.9	.00041
2	927.48	197.6	225.0	0.00	0.00	0.00	225.00	924.7	.00046
3	928.14	301.8	330.0	0.00	0.00	0.00	330.00	925.1	.00053
4	928.43	351.6	390.0	0.00	0.00	0.00	390.00	925.3	.00057
5	928.94	459.0	515.0	0.00	0.00	0.00	515.00	925.7	.00066

SEGMENT TABLE FOR SECTION 20.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	95.	0.	94.	1.
95.	VELOCITY FPS	1.44	.15	1.44	.17
2	DISCHARGE CFS	225.	15.	206.	4.
225.	VELOCITY FPS	1.97	.18	2.04	.28
3	DISCHARGE CFS	330.	42.	280.	8.
330.	VELOCITY FPS	2.24	.26	2.41	.34
4	DISCHARGE CFS	390.	58.	322.	9.
390.	VELOCITY FPS	2.38	.29	2.61	.37
5	DISCHARGE CFS	515.	102.	401.	12.
515.	VELOCITY FPS	2.64	.36	2.96	.32
1	ELEV 926.31 KQ	4686.	13.	4641.	33.
2	ELEV 927.48 KQ	10332.	527.	9612.	193.
3	ELEV 928.14 KQ	14212.	1668.	12232.	322.
4	ELEV 928.43 KQ	16266.	2385.	13487.	396.
5	ELEV 928.94 KQ	20034.	3814.	15745.	476.

KD TABLE FOR CROSS SECTION 20.59

ELEVATION	AREA	KD	KD BY SEGMENT		
922.10	0.				
923.	5.	110.	1.	107.	1.
924.	19.	685.	1.	683.	1.
925.	42.	2143.	1.	2139.	3.
926.	71.	4671.	13.	4625.	33.
927.	132.	8119.	131.	7818.	122.
928.	277.	13389.	1375.	11633.	290.
929.	473.	2 628.	4026.	16840.	485.
930.	731.	36436.	8409.	21999.	965.
931.	1055.	43243.	14485.	26470.	2234.
932.	1436.	52209.	22321.	32437.	4401.
933.	1870.	76414.	31968.	38879.	7524.
934.	2360.	101776.	43557.	45785.	11702.
935.	2910.	127432.	57241.	53118.	16973.
936.	3510.	159527.	74753.	63892.	23730.
937.	4135.	157965.	96632.	69287.	32162.
938.	4765.	242002.	120248.	77692.	43968.
939.	5396.	289795.	140543.	86697.	56523.
940.	6027.	34 750.	174539.	98685.	70146.
941.	6658.	396201.	204507.	105258.	84743.
942.	7289.	455168.	236482.	116311.	102 628.
943.	7921.	514254.	275196.	126533.	117506.
944.	8552.	58 135.	306759.	137449.	136723.
945.	9184.	65 942.	346390.	148757.	156182.
946.	9816.	720805.	389367.	160452.	179587.

ROAD SECTION 21.0

NO.	HW	CFS	HL	TW	CSM
0	923.63	0.00	0.00	0.00	0.00
1	926.89	95.00	.80	926.09	95.00
2	927.57	225.00	.08	927.49	225.00
3	928.19	330.00	.08	928.11	330.00
4	928.47	390.00	.08	928.39	390.00
5	928.95	515.00	.06	928.87	515.00

MIN ROAD ELEVATION 925.50

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	22551.	3.00		16.00	923.63	923.35	.012

(V)

$3 \times 16 = A_1$

$\frac{Q}{A} \quad \frac{390}{695 + 48} \quad \frac{390}{693} = .562$

928.47
925.5 $3.0 \times 215 = A_2$

928.5
- 925.5
3.0

RATING TABLE FOR SECTION 21.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	923.80	0.0	0.0						
BANK FULL	926.1	26.9	69.4	0.00	0.00	0.00			
1	926.95	48.7	95.0	0.00	0.00	0.00	95.00	925.6	.00125
2	927.68	70.5	225.0	0.00	0.00	0.00	225.00	926.4	.00239
3	928.30	99.7	330.0	0.00	0.00	0.00	330.00	926.8	.00250
4	928.58	117.6	390.0	0.00	0.00	0.00	390.00	927.0	.00262
5	929.07	181.3	515.0	0.00	0.00	0.00	515.00	927.4	.00273

SECMLAT TABLE FOR SECTION 21.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	2.03	0.00	2.02	.21
2	DISCHARGE CFS	225.	1.	223.	2.
225.	VELOCITY FPS	3.45	.37	3.45	.41
3	DISCHARGE CFS	330.	3.	323.	4.
330.	VELOCITY FPS	4.64	.24	4.66	.52
4	DISCHARGE CFS	390.	5.	380.	6.
390.	VELOCITY FPS	4.34	.23	4.40	.57
5	DISCHARGE CFS	515.	30.	476.	9.
515.	VELOCITY FPS	4.72	.43	4.86	.60
1	ELEV 926.95 KD	2690.	2.	2682.	6.
2	ELEV 927.68 KD	4604.	12.	4561.	31.
3	ELEV 928.30 KD	6585.	47.	6461.	78.
4	ELEV 928.58 KD	7622.	93.	7420.	108.
5	ELEV 929.07 KD	9698.	378.	9147.	173.

KD TABLE FOR CROSS SECTION 21.1

ELEVATION	AREA	KD	KD BY SEGMENT		
923.80	0.				
924.	0.	4.	1.	2.	1.
925.	8.	229.	1.	227.	1.
926.	25.	977.	1.	974.	1.
927.	50.	2814.	2.	2804.	7.
928.	81.	5598.	21.	5524.	53.
929.	122.	9511.	312.	8891.	162.
930.	329.	15361.	2019.	12698.	360.
931.	539.	21189.	5177.	17481.	531.
932.	825.	33964.	10032.	22583.	1270.
933.	1166.	47687.	16633.	28206.	2771.
934.	1562.	64617.	25006.	34318.	5227.
935.	2013.	84834.	35222.	41600.	8663.
936.	2520.	108680.	47424.	47774.	13156.
937.	3077.	136122.	61656.	55415.	18951.
938.	3696.	17 337.	8 938.	63311.	26 97.
939.	4324.	210758.	123062.	71626.	35406.
940.	4954.	256815.	127813.	81349.	47523.
941.	5585.	308527.	154609.	89469.	64359.
942.	6216.	357100.	183588.	98864.	74528.
943.	6847.	412278.	217925.	108865.	89409.
944.	7479.	47 998.	246295.	119126.	105705.
945.	8110.	535509.	281065.	129766.	122923.
946.	8742.	66 854.	318359.	140801.	142212.
947.	9374.	671164.	359865.	152225.	163474.
948.	10005.	75 568.	402466.	164036.	186813.

RATING TABLE FOR SECTION 21.5 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	922.30	0.0	0.0						
BANK FULL	924.6	26.9	46.1	0.00	0.00	0.00			
1	927.04	114.6	95.0	0.00	0.00	0.00	95.00	924.1	.00016
2	927.91	227.3	225.0	0.00	0.00	0.00	225.00	924.9	.00037
3	928.60	345.1	330.0	0.00	0.00	0.00	330.00	925.3	.00042
4	928.92	411.1	390.0	0.00	0.00	0.00	390.00	925.5	.00045
5	929.46	529.4	515.0	0.00	0.00	0.00	515.00	925.9	.00051

SEGMENT TABLE FOR SECTION 21.5

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	1.	93.	1.
95.	VELOCITY FPS	1.07	.06	1.09	.14
2	DISCHARGE CFS	225.	18.	202.	5.
225.	VELOCITY FPS	1.81	.17	1.91	.26
3	DISCHARGE CFS	330.	49.	274.	8.
330.	VELOCITY FPS	2.04	.25	2.23	.31
4	DISCHARGE CFS	390.	69.	311.	9.
390.	VELOCITY FPS	2.15	.28	2.39	.29
5	DISCHARGE CFS	515.	114.	390.	12.
515.	VELOCITY FPS	2.38	.33	2.72	.26
1	ELEV 927.04 KD	7467.	83.	7252.	102.
2	ELEV 927.91 KD	11678.	938.	10475.	233.
3	ELEV 928.60 KD	15981.	2277.	13320.	385.
4	ELEV 928.92 KD	18343.	3151.	14748.	444.
5	ELEV 929.46 KD	22708.	4995.	17269.	525.

KD TABLE FOR CROSS SECTION 21.5

ELEVATION	AREA	KD	KD BY SEGMENT		
922.30	0.				
923.	3.	57.	1.	55.	1.
924.	15.	532.	1.	530.	1.
925.	37.	1730.	1.	1726.	3.
926.	65.	4107.	9.	4074.	23.
927.	112.	7318.	76.	7129.	98.
928.	243.	12168.	1053.	10828.	250.
929.	429.	19025.	3385.	15115.	455.
930.	676.	28232.	7354.	19961.	830.
931.	989.	40940.	13082.	25329.	1910.
932.	1359.	55748.	21567.	31199.	3869.
933.	1782.	74292.	29851.	37549.	6797.
934.	2261.	96245.	41045.	44380.	10755.
935.	2795.	121644.	54303.	51612.	15804.
936.	3386.	152583.	70886.	59303.	22246.
937.	4039.	189720.	91541.	67417.	30632.
938.	4639.	233674.	115381.	75943.	41712.
939.	5269.	279981.	141145.	84863.	53929.
940.	5910.	331139.	168676.	94173.	67170.
941.	6531.	384267.	198380.	103875.	81729.
942.	7163.	441014.	230077.	113955.	97465.
943.	7794.	501858.	263225.	124397.	113986.
944.	8426.	566569.	298243.	135235.	132327.
945.	9058.	636380.	336229.	146465.	153590.
946.	9689.	711222.	380280.	158083.	174877.

RATING TABLE FOR SECTION 21.9 DA= 1.6

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	926.30	0.0	0.0						
BANK FULL	928.6	25.7	60.7	0.00	0.00	0.00			
1	929.90	57.1	95.0	0.00	0.00	0.00	95.00	928.1	.00071
2	931.33	111.1	225.0	0.00	0.00	0.00	225.00	928.9	.00087
3	932.32	197.4	330.0	0.00	0.00	0.00	330.00	929.4	.00082
4	932.71	247.2	390.0	0.00	0.00	0.00	390.00	929.6	.00084
5	933.25	349.7	515.0	0.00	0.00	0.00	515.00	930.1	.00094

SEGMENT TABLE FOR SECTION 21.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	1.	94.	0.
95.	VELOCITY FPS	1.81	.19	1.82	.18
	DISCHARGE CFS	225.	4.	217.	4.
225.	VELOCITY FPS	2.66	.27	2.73	.27
3	DISCHARGE CFS	330.	14.	304.	12.
330.	VELOCITY FPS	2.94	.29	3.04	.25
4	DISCHARGE CFS	390.	21.	348.	20.
390.	VELOCITY FPS	3.28	.31	3.24	.27
	DISCHARGE CFS	515.	39.	432.	43.
515.	VELOCITY FPS	3.37	.38	3.65	.34
1	ELEV 929.90 KD	3572.	20.	3531.	19.
2	ELEV 931.33 KD	7642.	132.	7371.	138.
3	ELEV 932.32 KD	11442.	436.	10630.	376.
4	ELEV 932.71 KD	13466.	712.	12080.	673.
5	ELEV 933.25 KD	16712.	1233.	14165.	1314.

KD TABLE FOR CROSS SECTION 21.9

ELEVATION	AREA	KD	KD BY SEGMENT		
926.30	0.				
927.	3.	70.	1.	68.	1.
928.	15.	547.	1.	545.	1.
929.	34.	1713.	3.	1708.	2.
930.	60.	3807.	24.	3758.	23.
931.	93.	6581.	91.	6383.	105.
932.	158.	10075.	287.	9534.	229.
933.	302.	15183.	959.	13167.	966.
934.	520.	22541.	2367.	17265.	2803.
935.	805.	32609.	4686.	21781.	6101.
936.	1146.	45601.	7934.	26716.	10830.
937.	1543.	61700.	12147.	32045.	17408.
938.	1996.	80394.	17406.	37755.	25166.
939.	2516.	104360.	24010.	43830.	36322.
940.	3162.	134191.	32449.	50265.	51302.
941.	3613.	168941.	42747.	57050.	69152.
942.	4164.	207127.	54108.	64175.	88798.
943.	4715.	248291.	66379.	71629.	110255.
944.	5266.	292242.	79479.	79401.	133277.
945.	5818.	340616.	94102.	87516.	159192.
946.	6370.	392842.	110438.	95973.	186393.
947.	6921.	452122.	126587.	104766.	221099.
948.	7473.	515657.	148648.	113894.	257529.

RATING TABLE FOR SECTION 21.95 DA= 1.0

NO.	ELEV	APEA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	928.52	0.0	0.0						
BANK FULL	928.6	.H	9.2	0.00	0.00	0.00			
1	931.39	43.5	95.0	0.00	0.00	0.00	95.00	930.1	.00502
2	932.89	89.3	225.0	0.00	0.00	0.00	225.00	930.9	.00500
3	933.96	152.5	330.0	0.00	0.00	0.00	330.00	931.4	.00498
4	934.33	199.4	390.0	0.00	0.00	0.00	390.00	931.6	.00458
5	934.86	274.4	515.0	0.00	0.00	0.00	515.00	932.1	.00451

SEGMENT TABLE FOR SECTION 21.95

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	95.	24.	61.	10.
95.	VELOCITY FPS	2.99	1.72	3.63	.82
2	DISCHARGE CFS	225.	68.	123.	34.
225.	VELOCITY FPS	3.67	2.13	4.66	1.10
3	DISCHARGE CFS	330.	108.	176.	46.
330.	VELOCITY FPS	4.08	1.75	5.36	.80
4	DISCHARGE CFS	390.	141.	187.	62.
390.	VELOCITY FPS	3.91	1.73	5.33	.75
5	DISCHARGE CFS	515.	205.	214.	96.
515.	VELOCITY FPS	3.87	1.81	5.60	.78
1	ELEV 931.39 KD	1359.	330.	867.	142.
2	ELEV 932.89 KD	3100.	963.	1736.	480.
3	ELEV 933.96 KD	4659.	1523.	2498.	648.
4	ELEV 934.33 KD	5736.	2048.	2793.	896.
5	ELEV 934.86 KD	7644.	3 23.	3223.	1398.

KD TABLE FOR CROSS SECTION 21.95

ELEVATION	AREA	KD	KD BY SEGMENT			
928.30	0.					
929.	3.	52.	3.	46.	2.	
930.	15.	361.	52.	290.	18.	
931.	34.	993.	220.	680.	91.	
932.	60.	1998.	555.	1192.	250.	
933.	93.	3344.	1114.	1812.	417.	
934.	158.	4796.	1579.	2532.	674.	
935.	302.	9356.	3367.	3345.	1598.	
936.	520.	14777.	6763.	4246.	3713.	
937.	805.	24652.	12113.	5232.	7244.	
938.	1146.	38172.	19382.	6297.	12443.	
939.	1543.	55541.	28635.	7441.	19427.	
940.	1998.	76290.	40738.	8659.	27568.	
941.	2516.	103489.	54238.	9951.	39220.	
942.	3162.	138439.	72264.	11313.	54860.	
943.	3913.	185146.	94162.	12744.	73212.	
944.	4164.	226125.	118235.	14243.	93639.	
945.	4715.	275809.	144160.	15807.	115804.	
946.	5206.	329857.	171836.	17436.	139960.	
947.	5618.	387882.	201582.	19129.	166230.	
948.	6370.	453582.	236789.	20886.	195620.	
949.	6921.	526316.	274642.	22705.	229681.	
950.	7473.	606442.	316624.	24585.	266894.	

ROAD SECTION 22.0

NO.	HW	CFS	HL	TW	CSH
0	920.43	0.00	0.00	0.00	0.00
1	932.52	95.00	.88	931.64	95.00
2	934.89	225.00	1.76	933.13	225.00
3	936.60	330.00	2.40	934.20	330.00
4	937.52	390.00	2.96	934.56	390.00
5	939.56	515.00	4.48	935.08	515.00

MIN ROAD ELEVATION 941.50

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12211.	8.00		60.00	928.43	928.43	.026

390 / 40x8 · 390 / 330 21 218

(Y)

40 60
8
320 480

RATING TABLE FOR SECTION 22.03 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
L	928.40	0.1	0.0						
BANK FULL	928.7	.8	6.8	0.00	0.00	0.00			
1	932.58	75.0	95.0	0.00	0.00	0.00	95.00	930.2	.00114
2	934.93	270.4	225.0	0.00	0.00	0.00	225.00	931.0	.00074
3	936.62	658.8	330.0	0.00	0.00	0.00	330.00	931.5	.00021
4	937.53	941.5	390.0	0.00	0.00	0.00	390.00	931.7	.00012
5	939.56	1743.2	515.0	0.00	0.00	0.00	515.00	932.2	.00004

SEGMENT TABLE FOR SECTION 22.03

CSM		TOTAL	SEG NO 1 N	2 C	3 N
1	DISCHARGE CFS	95.	22.	50.	23.
95.	VELOCITY FPS	1.53	.85	2.09	.92
2	DISCHARGE CFS	225.	68.	86.	71.
225.	VELOCITY FPS	1.50	.61	2.26	.59
3	DISCHARGE CFS	330.	113.	68.	148.
330.	VELOCITY FPS	.77	.43	1.42	.43
4	DISCHARGE CFS	390.	137.	62.	191.
390.	VELOCITY FPS	.68	.37	1.15	.37
5	DISCHARGE CFS	515.	182.	52.	282.
515.	VELOCITY FPS	.36	.27	.76	.28
1	ELEV 932.58 KD	2811.	656.	1476.	680.
2	ELEV 934.93 KD	8252.	2479.	3295.	2569.
3	ELEV 936.62 KD	22529.	7740.	4744.	10045.
4	ELEV 937.53 KD	35557.	12531.	5670.	17388.
5	ELEV 939.56 KD	79511.	28060.	7997.	43455.

KD TABLE FOR CROSS SECTION 22.03

ELEVATION	AREA	KD	KD BY SEGMENT		
928.40	0.				
929.	3.	37.	3.	32.	2.
930.	14.	322.	36.	259.	27.
931.	32.	952.	163.	635.	152.
932.	57.	1994.	428.	1136.	430.
933.	90.	3463.	808.	1745.	908.
934.	146.	4826.	1214.	2456.	1157.
935.	283.	8637.	2604.	3260.	2731.
936.	495.	15934.	5274.	4152.	6442.
937.	775.	27556.	9567.	5129.	12780.
938.	1111.	43908.	15467.	6197.	22190.
939.	1502.	66327.	23 67.	7323.	34949.
940.	1949.	9 962.	32325.	8534.	50075.
941.	2462.	124741.	43853.	9818.	7 940.
942.	3007.	169376.	58637.	11173.	99610.
943.	3558.	223827.	76623.	12598.	133783.
944.	4109.	282372.	96527.	14090.	171755.
945.	4660.	346210.	117854.	15648.	212691.
946.	5211.	415186.	14 787.	17270.	256999.
947.	5763.	491446.	166129.	18957.	306440.
948.	6314.	576737.	194335.	20707.	361967.
949.	6866.	671445.	225573.	22520.	424 67.
950.	7418.	778 98.	259982.	24394.	493107.

```
----------80/80 LIST OF INPUT DATA----------
CHANGE    DISCHARGE
DISCHARGE -1.       60.       130.      185.      220.      295.
END
COMPUTE   22.1      25.05     22.03
----------END OF 80/80 LIST----------
```

COMPUTE 22.1 25.05 22.03

----------STARTING DATA FROM PREVIOUS COMPUTATIONS----------

RATING TABLE FOR SECTION 22.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	930.60	0.0	0.0						
BANK FULL	931.0	1.7	7.4	1.00	0.01	0.00			
1	933.84	166.0	60.0	0.00	0.00	0.00	60.00	931.9	.00061
2	935.38	762.9	130.0	0.00	0.00	0.00	130.00	932.6	.00017
3	936.75	1750.3	185.0	0.00	0.00	0.00	185.00	933.1	.00005
4	937.60	2552.1	220.0	0.00	0.00	0.00	220.00	933.1	.00003
5	939.55	4957.9	295.0	0.00	0.00	0.00	295.00	933.2	.00001

SEGMENT TABLE FOR SECTION 22.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	60.	2.	40.	18.
60.	VELOCITY FPS	1.19	.22	1.40	.14
2	DISCHARGE CFS	130.	2.	46.	83.
130.	VELOCITY FPS	.57	.07	.96	.12
3	DISCHARGE CFS	185.	12.	39.	133.
185.	VELOCITY FPS	.31	.06	.63	.05
4	DISCHARGE CFS	220.	21.	38.	162.
220.	VELOCITY FPS	.23	.05	.52	.08
5	DISCHARGE CFS	295.	47.	35.	214.
295.	VELOCITY FPS	.13	.04	.36	.06
1	ELEV 933.84 KD	2385.	81.	1659.	645.
2	ELEV 935.38 KD	9940.	181.	3402.	6357.
3	ELEV 936.75 KD	26152.	1637.	5661.	18854.
4	ELEV 937.60 KD	42065.	3830.	7289.	31946.
5	ELEV 939.55 KD	99576.	15708.	11686.	72181.

7

KD TABLE FOR CROSS SECTION 22.1

ELEVATION	AREA	KD	KD BY SEGMENT			
930.60	0.					
931.	2.	22.	1.	20.	1.	
932.	12.	361.	6.	453.	1.	
933.	37.	1033.	35.	965.	33.	
934.	201.	2860.	92.	1811.	902.	
935.	573.	7162.	169.	2899.	4.48.	
936.	1172.	19882.	573.	4364.	10870.	
937.	1950.	3[illegible]48.	2193.	6120.	22235.	
938.	2972.	51066.	5382.	8099.	37518.	
939.	4180.	79908.	11169.	10295.	57453.	
940.	5593.	116229.	21157.	12699.	83196.	
941.	7160.	164584.	35642.	15300.	113352.	
942.	8761.	223577.	58236.	18092.	147163.	
943.	10362.	290112.	84805.	21067.	184076.	
944.	11963.	364249.	119487.	24232.	224470.	
945.	13565.	445287.	149766.	27551.	267970.	
946.	15166.	537960.	190869.	31068.	316116.	
947.	16768.	64[illegible]153.	239543.	34769.	369154.	
948.	18370.	755144.	296627.	38654.	426927.	

RATING TABLE FOR SECTION 22.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	931.60	0.0	0.0						
BANK FULL	932.6	11.8	23.5	0.00	0.00	0.00			
1	934.16	646.3	60.0	0.00	0.00	0.00	60.00	932.8	.00018
2	935.42	2394.7	130.0	0.00	0.00	0.00	130.00	933.0	.00002
3	936.76	4399.1	185.0	0.00	0.00	0.00	185.00	933.1	.00001
4	937.61	5734.5	220.0	0.00	0.00	0.00	220.00	933.2	.00000
5	939.59	8901.2	295.0	0.00	0.00	0.00	295.00	933.3	.00000

SEGMENT TABLE FOR SECTION 22.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	60.	12.	21.	27.
60.	VELOCITY FPS	.48	.06	.66	.07
2	DISCHARGE CFS	130.	46.	17.	67.
130.	VELOCITY FPS	.14	.05	.35	.05
3	DISCHARGE CFS	185.	70.	16.	98.
185.	VELOCITY FPS	.08	.04	.24	.04
4	DISCHARGE CFS	220.	86.	17.	117.
220.	VELOCITY FPS	.07	.03	.21	.04
5	DISCHARGE CFS	295.	125.	18.	152.
295.	VELOCITY FPS	.05	.03	.17	.03
1	ELEV 934.16 KD	4294.	611.	1739.	1944.
2	ELEV 935.42 KD	27474.	9709.	3678.	14087.
3	ELEV 936.76 KD	70577.	26832.	6327.	37418.
4	ELEV 937.61 KD	106239.	41451.	8262.	56467.
5	ELEV 939.59 KD	218[illegible]2.	92264.	13625.	112214.

AA

KD TABLE FOR CROSS SECTION 22.5

ELEVATION	AREA	KD	KD BY SEGMENT		
931.60	0.				
932.	3.	43.	1.	41.	1.
933.	37.	571.	2.	512.	34.
934.	442.	3189.	329.	1543.	1317.
935.	1792.	17624.	5682.	2970.	8888.
936.	3243.	44385.	16498.	4751.	23118.
937.	4765.	79505.	30209.	6849.	42433.
938.	6355.	125977.	50385.	9246.	66345.
939.	7956.	181356.	75436.	11920.	93991.
940.	9557.	244664.	104416.	14858.	125376.
941.	11158.	315560.	137153.	18751.	160346.
942.	12759.	353436.	173314.	21488.	198627.
943.	14361.	477973.	212735.	25160.	241[illegible]72.
944.	15963.	569693.	255742.	29[illegible]4.	284903.
945.	17564.	669827.	303081.	3[illegible]0.	333642.
946.	19166.	778432.	354818.	37[illegible]63.	386[illegible]01.
947.	20768.	895562.	411012.	42149.	442891.

RATING TABLE FOR SECTION 22.95 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	932.40	0.)	0.0						
BANK FULL	933.4	11.8	30.8	0.00	0.00	0.00			
1	934.35	138.5	60.0	0.00	0.00	0.00	60.00	933.6	.00173
2	935.44	1284.5	130.0	0.00	0.00	0.00	130.00	933.8	.00014
3	936.77	3194.6	185.0	0.00	0.00	0.00	185.00	933.9	.00002
4	937.61	4475.1	220.0	0.00	0.00	0.00	220.00	934.0	.00001
5	939.59	7621.1	295.0	0.00	0.00	0.00	295.00	934.1	.00000

SEGMENT TABLE FOR SECTION 22.95

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	60.	0.	42.	17.
60.	VELOCITY FPS	1.58	.09	1.86	.16
2	DISCHARGE CFS	130.	37.	28.	65.
130.	VELOCITY FPS	.35	.07	.73	.09
3	DISCHARGE CFS	185.	69.	20.	96.
185.	VELOCITY FPS	.13	.05	.35	.05
4	DISCHARGE CFS	220.	84.	19.	117.
220.	VELOCITY FPS	.10	.04	.26	.05
5	DISCHARGE CFS	295.	122.	20.	153.
295.	VELOCITY FPS	.06	.03	.21	.04
1	ELEV 934.35 KD	1434.	11.	1.22.	401.
2	ELEV 935.44 KD	11114.	3153.	2415.	5536.
3	ELEV 936.77 KD	43352.	16088.	4687.	22577.
4	ELEV 937.61 KD	72374.	27513.	6434.	38427.
5	ELEV 939.55 KD	169254.	69956.	11330.	87960.

KD TABLE FOR CROSS SECTION 22.55

ELEVATION	AREA	KD	KD BY SEGMENT		
932.40	0.				
933.	5.	91.	1.	89.	1.
934.	58.	821.	3.	685.	133.
935.	704.	4895.	722.	1796.	2376.
936.	2073.	22300.	7678.	3301.	11321.
937.	3538.	50921.	19149.	5146.	26606.
938.	5075.	87600.	33275.	7317.	47 17.
939.	6675.	136195.	54946.	9758.	71475.
940.	8276.	193361.	81902.	12466.	99459.
941.	9877.	258250.	116669.	15477.	132099.
942.	11478.	335575.	144138.	18719.	167737.
943.	13080.	409819.	188936.	22284.	208663.
944.	14681.	495647.	22 993.	25922.	246726.
945.	16283.	589045.	264861.	29973.	294337.
946.	17885.	691869.	313775.	34154.	343860.
947.	19487.	801175.	365698.	38462.	397305.
948.	21088.	920016.	422791.	44192.	454182.

ROAD SECTION 23.0

NO.	HW	CFS	HL	TW	CSM
0	932.60	0.00	0.00	0.00	0.00
1	936.46	60.00	2.00	934.46	60.00
2	936.81	130.00	1.36	935.45	130.00
3	937.01	185.00	.24	936.77	185.00
4	937.61	220.00	0.00	937.61	220.00
5	939.59	295.00	0.00	939.59	295.00

MIN ROAD ELEVATION 936.40

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12211.	4.50		50.00	932.60	932.60	.026

AB

~~4.5 + 320~~

$\frac{Q \quad 220}{A \quad 387.2 + 225 = 612} = .359$

0.4

K 320 937.61

$A_1 = 320 \times 1.21$ 936.4

$4.5 \times 50 = A_2$

932.6

387
225
612

RATING TABLE FOR SECTION 23.5 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	932.60	0.0	0.0						
BANK FULL	933.6	11.8	15.6	0.00	0.00	0.00			
1	936.46	2449.9	60.0	0.00	0.00	0.00	60.00	933.8	.00000
2	936.81	2965.8	130.0	0.00	0.00	0.00	130.00	934.0	.00001
3	937.01	3256.6	185.0	0.00	0.00	0.00	185.00	934.1	.00002
4	937.21	4166.5	220.0	0.00	0.00	0.00	220.00	934.2	.00001
5	939.59	7301.5	295.0	0.00	0.00	0.00	295.00	934.3	.00000

SEGMENT TABLE FOR SECTION 23.5

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	60.	21.	8.	31.
60.	VELOCITY FPS	.06	.02	.16	.02
2	DISCHARGE CFS	130.	48.	15.	68.
130.	VELOCITY FPS	.10	.04	.27	.04
3	DISCHARGE CFS	185.	69.	20.	96.
185.	VELOCITY FPS	.12	.05	.34	.05
4	DISCHARGE CFS	220.	84.	20.	116.
220.	VELOCITY FPS	.10.	.05	.31	.05
5	DISCHARGE CFS	295.	121.	20.	154.
295.	VELOCITY FPS	.07	.04	.22	.04

1	ELEV 936.46 KD	28451.	10089.	3744.	14599.
2	ELEV 936.81 KD	38782.	14251.	4552.	20134.
3	ELEV 937.01 KD	44652.	16613.	4769.	23270.
4	ELEV 937.61 KD	65248.	24810.	6004.	34433.
5	ELEV 939.59 KD	157580.	64621.	10794.	82165.

KD TABLE FOR CROSS SECTION 23.5

ELEVATION	AREA	KD	KD BY SEGMENT		
932.60	0.				
933.	3.	43.	1.	41.	1.
934.	37.	571.	2.	512.	34.
935.	442.	3189.	329.	1543.	1317.
936.	1792.	17624.	5682.	2970.	8888.
937.	3243.	44385.	10498.	4751.	23118.
938.	4765.	79505.	30209.	6849.	42433.
939.	6355.	125977.	50385.	9246.	66345.
940.	7956.	181356.	75436.	11920.	93991.
941.	9557.	244664.	104416.	14858.	125376.
942.	11158.	315560.	137153.	18051.	160346.
943.	12759.	393436.	173314.	21488.	198627.
944.	14361.	477973.	212735.	25160.	240072.
945.	15963.	569693.	255742.	29[illegible]4.	284903.
946.	17564.	669827.	303181.	33290.	333642.
947.	19166.	778432.	354818.	37563.	386301.
948.	20768.	895562.	411012.	42145.	442[illegible]91.

RATING TABLE FOR SECTION 23.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	934.48	0.0	0.0						
BANK FULL	935.8	17.4	27.0	0.00	0.00	0.00			
1	937.51	161.5	60.0	0.00	0.00	0.00	60.00	935.4	.00031
2	938.32	298.2	130.0	0.00	0.00	0.00	130.00	936.2	.00044
3	938.77	389.4	185.0	0.00	0.00	0.00	185.00	936.4	.00051
4	939.06	454.1	220.0	0.00	0.00	0.00	220.00	936.5	.00052
5	940.38	778.5	295.0	0.00	0.00	0.00	295.00	936.7	.00026

SEGMENT TABLE FOR SECTION 23.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	60.	11.	45.	3.
60.	VELOCITY FPS	.98	.13	1.11	.11
2	DISCHARGE CFS	130.	37.	82.	12.
130.	VELOCITY FPS	1.26	.21	1.57	.17
3	DISCHARGE CFS	185.	58.	106.	21.
185.	VELOCITY FPS	1.40	.25	1.82	.20
4	DISCHARGE CFS	220.	73.	120.	28.
220.	VELOCITY FPS	1.43	.27	1.92	.22
5	DISCHARGE CFS	295.	111.	129.	54.
295.	VELOCITY FPS	1.68	.24	1.60	.23
1	ELEV 937.51 KD	3349.	618.	2595.	187.
2	ELEV 938.32 KD	6144.	1707.	3897.	540.
3	ELEV 938.77 KD	8147.	2548.	4717.	882.
4	ELEV 939.06 KD	9647.	3171.	5279.	1198.
5	ELEV 940.38 KD	18420.	6928.	8130.	3363.

AC

KD TABLE FOR CROSS SECTION 23.5

ELEVATION	AREA	KD	KD BY SEGMENT		
934.40	0.				
935.	6.	125.	1.	123.	1.
936.	21.	767.	2.	763.	2.
937.	95.	2193.	227.	1875.	65.
938.	238.	4961.	1233.	3356.	372.
939.	441.	9340.	3033.	5160.	1126.
940.	679.	15598.	5670.	7262.	2666.
941.	943.	23748.	9373.	9641.	4723.
942.	1218.	33757.	14213.	12283.	7248.
943.	1503.	45251.	19476.	15174.	10186.
944.	1798.	58243.	25454.	18315.	13573.
945.	2103.	72691.	32608.	21667.	17407.
946.	2418.	88599.	41648.	25251.	21692.
947.	2743.	106155.	51481.	29052.	27610.
948.	3075.	125397.	61106.	33063.	32219.
949.	3412.	146167.	71479.	37279.	38404.
950.	3754.	168271.	81596.	41696.	44979.
951.	4101.	191614.	93425.	46317.	51876.
952.	4451.	217081.	106835.	51139.	59125.
953.	4802.	244117.	121269.	56141.	66740.
954.	5153.	273393.	136420.	61276.	74697.
955.	5504.	304641.	152105.	66632.	82998.
956.	5856.	339071.	168477.	72107.	91422.
957.	6208.	375738.	186576.	77877.	100288.
958.	6559.	414855.	206557.	83763.	109573.
959.	6911.	457425.	227424.	89822.	119279.
960.	7263.	467448.	248183.	96151.	129407.

RATING TABLE FOR SECTION 23.95 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	935.40	0.9	0.0						
BANK FULL	936.8	17.4	36.6	0.00	0.00	0.00			
1	937.69	62.3	60.0	0.00	0.00	0.00	60.00	936.4	.00135
2	938.51	160.2	130.0	0.00	0.00	0.00	130.00	937.2	.00147
3	938.96	230.9	185.0	0.00	0.00	0.00	185.00	937.4	.00148
4	939.24	282.9	220.0	0.00	0.00	0.00	220.00	937.5	.00142
5	940.45	546.7	295.0	0.00	0.00	0.00	295.00	937.7	.00061

SEGMENT TABLE FOR SECTION 23.95

CSM		TOTAL	SEC NO 1 N	SEC NO 2 C	SEC NO 3 N
1	DISCHARGE CFS	60.	4.	55.	1.
60.	VELOCITY FPS	1.79	.16	1.87	.15
2	DISCHARGE CFS	130.	24.	98.	7.
130.	VELOCITY FPS	2.13	.27	2.42	.25
3	DISCHARGE CFS	185.	45.	126.	14.
185.	VELOCITY FPS	2.23	.33	2.69	.28
4	DISCHARGE CFS	220.	61.	140.	19.
220.	VELOCITY FPS	2.24	.36	2.76	.37
5	DISCHARGE CFS	295.	102.	149.	44.
295.	VELOCITY FPS	1.59	.32	2.19	.28
1	ELEV 937.69 KD	1623.	102.	1494.	27.
2	ELEV 938.51 KD	3377.	610.	2583.	184.
3	ELEV 938.96 KC	4801.	1164.	3285.	351.
4	ELEV 939.24 KD	5824.	1576.	3756.	492.
5	ELEV 940.45 KD	11910.	4115.	6177.	1718.

KD TABLE FOR CROSS SECTION 23.95

ELEVATION	AREA	KD	KD BY SEGMENT		
935.40	0.				
936.	6.	125.	1.	123.	1.
937.	21.	767.	2.	763.	2.
938.	95.	2193.	227.	1875.	65.
939.	238.	4961.	1233.	3356.	372.
940.	441.	9340.	3033.	5160.	1126.
941.	679.	15598.	5670.	7262.	2666.
942.	943.	23748.	9373.	9641.	4720.
943.	1218.	33757.	14213.	12283.	7248.
944.	1503.	45251.	19876.	15174.	10186.
945.	1798.	58243.	26354.	18365.	13573.
946.	2103.	72691.	33608.	21667.	17407.
947.	2418.	89399.	41648.	25251.	21692.
948.	2743.	106155.	50481.	29052.	26610.
949.	3075.	125397.	60106.	33063.	32219.
950.	3412.	146167.	70479.	37279.	38404.
951.	3754.	168271.	81596.	41696.	44979.
952.	4101.	191614.	93425.	46307.	51878.
953.	4451.	217081.	106835.	51109.	59125.
954.	4802.	244117.	121269.	56101.	66740.
955.	5153.	272393.	136420.	61276.	74697.
956.	5504.	301641.	150105.	66632.	82698.
957.	5856.	330671.	168477.	72167.	91422.
958.	6208.	363738.	185576.	77877.	100288.
959.	6559.	390855.	203057.	83763.	109573.
960.	6911.	431425.	222424.	89822.	119279.
961.	7263.	467448.	242183.	96051.	129407.

ROAD SECTION 24.0

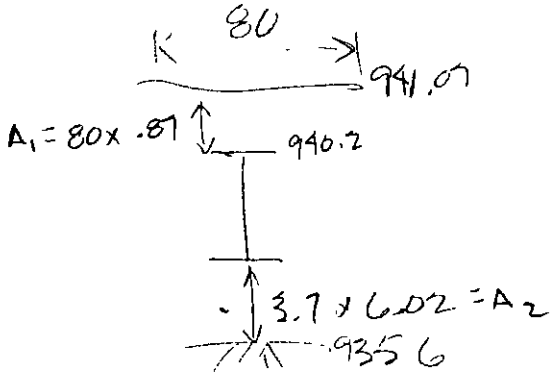
NO.	HW	CFS	HL	TW	CSM
0	935.60	0.00	0.00	0.00	0.00
1	938.58	60.00	.80	937.78	60.00
2	940.51	130.00	1.92	938.59	130.00
3	940.87	185.00	1.84	939.03	185.00
4	941.07	220.00	1.76	939.31	220.00
5	941.36	295.00	.88	940.48	295.00

MIN. ROAD ELEVATION 940.20

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	32111.	3.70	6.02	24.00	935.60	935.60	.032

AD

$$\frac{Q}{A} \quad \frac{250}{69.6 + 23.8} = \frac{}{92} \quad 2.39$$



RATING TABLE FOR SECTION 24.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	935.60	0.0	0.0						
BANK FULL	937.0	17.4	28.0	0.00	0.00	0.00			
1	938.60	143.7	60.0	0.00	0.00	0.00	60.00	936.6	.00038
2	940.51	512.6	130.0	0.00	0.00	0.00	130.00	937.4	.00014
3	940.88	602.5	185.0	0.00	0.00	0.00	185.00	937.6	.00019
4	941.08	690.5	220.0	0.00	0.00	0.00	220.00	937.7	.00022
5	941.38	726.1	295.0	0.00	0.00	0.00	295.00	937.9	.00030

SEGMENT TABLE FOR SECTION 24.1

CSP		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 R
1	DISCHARGE CFS	60.	10.	47.	3.
60.	VELOCITY FPS	1.07	.13	1.20	.12
2	DISCHARGE CFS	130.	44.	67.	18.
130.	VELOCITY FPS	.76	.15	1.02	.13
3	DISCHARGE CFS	185.	66.	90.	29.
185.	VELOCITY FPS	.99	.19	1.26	.17
4	DISCHARGE CFS	220.	79.	104.	37.
220.	VELOCITY FPS	.98	.21	1.41	.19
5	DISCHARGE CFS	295.	109.	133.	53.
295.	VELOCITY FPS	1.17	.26	1.71	.24
1	ELEV 938.60 KD	3391.	913.	2422.	156.
2	ELEV 940.51 KD	11077.	3769.	5786.	1522.
3	ELEV 940.88 KD	13571.	4728.	6565.	2278.
4	ELEV 941.08 KD	14752.	5303.	6957.	2432.
5	ELEV 941.38 KD	16887.	6242.	7666.	2980.

KD TABLE FOR CROSS SECTION 24.1

ELEVATION	AREA	KD	KD BY SEGMENT		
935.60	0.				
936.	4.	55.	1.	53.	1.
937.	17.	608.	1.	597.	1.
938.	71.	1806.	144.	1623.	40.
939.	206.	4261.	939.	3132.	283.
940.	396.	8314.	2608.	4775.	912.
941.	631.	14189.	5762.	6618.	2282.
942.	869.	21965.	8536.	9145.	4284.
943.	1162.	31647.	13186.	11734.	6716.
944.	1445.	42833.	18678.	14576.	9564.
945.	1738.	56529.	24997.	17663.	12861.
946.	2041.	69687.	32097.	20976.	16405.
947.	2354.	86331.	39978.	24517.	21799.
948.	2678.	102500.	48652.	28275.	25563.
949.	3006.	121433.	58134.	32244.	31149.
950.	3344.	141944.	68463.	36420.	37161.
951.	3685.	163718.	79702.	40798.	43015.
952.	4032.	186819.	91990.	45369.	50454.
953.	4381.	211826.	104037.	50134.	57644.
954.	4732.	238656.	117358.	55088.	65209.
955.	5083.	267608.	133311.	60226.	73767.
956.	5434.	298669.	148894.	65546.	81222.
957.	5786.	332912.	165163.	71046.	89899.
958.	6137.	369288.	182086.	76721.	98481.
959.	6489.	408116.	199290.	82572.	107883.
960.	6841.	449395.	218579.	88597.	117304.
961.	7193.	493127.	238159.	94792.	127347.

RATING TABLE FOR SECTION 24.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	936.40	0.0	0.0						
BANK FULL	937.8	17.4	30.9	0.00	0.00	0.00			
1	939.12	109.7	60.0	0.00	0.00	0.00	60.00	937.4	.00060
2	940.75	385.7	130.0	0.00	0.00	0.00	130.00	938.2	.00026
3	941.18	481.1	185.0	0.00	0.00	0.00	185.00	938.4	.00032
4	941.41	536.5	220.0	0.00	0.00	0.00	220.00	938.5	.00035
5	941.78	627.2	295.0	0.00	0.00	0.00	295.00	938.7	.00044

SEGMENT TABLE FOR SECTION 24.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	60.	8.	49.	2.
60.	VELOCITY FPS	1.29	.15	1.40	.14
2	DISCHARGE CFS	130.	41.	75.	14.
130.	VELOCITY FPS	.99	.18	1.29	.14
3	DISCHARGE CFS	185.	62.	99.	24.
185.	VELOCITY FPS	1.14	.22	1.54	.16
4	DISCHARGE CFS	220.	76.	112.	32.
220.	VELOCITY FPS	1.21	.24	1.66	.21
5	DISCHARGE CFS	295.	106.	141.	48.
295.	VELOCITY FPS	1.37	.29	1.95	.26
1	ELEV 939.12 KO	2419.	296.	2 37.	86.
2	ELEV 940.75 KO	8[illegible]67.	2515.	4[illegible]86.	866.
3	ELEV 941.18 KO	10353.	3459.	5921.	1353.
4	ELEV 941.41 KO	11657.	4010.	5990.	1658.
5	ELEV 941.78 KO	14058.	5218.	6765.	2255.

AE?
USW

KO TABLE FOR CROSS SECTION 24.5

ELEVATION	AREA	KO	KO BY SEGMENT		
936.40	0.				
937.	6.	125.	1.	123.	1.
938.	21.	767.	2.	763.	2.
939.	95.	2143.	227.	1875.	65.
940.	238.	4961.	1233.	3356.	372.
941.	441.	9340.	3033.	5160.	1126.
942.	679.	15598.	5670.	7262.	2666.
943.	943.	23748.	9373.	9641.	4720.
944.	1218.	33757.	14213.	12283.	7248.
945.	1503.	45251.	19876.	15174.	1 186.
946.	1798.	58243.	26354.	18306.	13573.
947.	2103.	72691.	33608.	21667.	17407.
948.	2418.	88599.	41646.	25291.	21662.
949.	2743.	106156.	50481.	29102.	26616.
950.	3075.	125397.	60106.	33163.	32219.
951.	3412.	146167.	70479.	37279.	38404.
952.	3754.	168274.	81596.	41696.	44979.
953.	4101.	191614.	93425.	46207.	51878.
954.	4451.	217681.	106835.	51114.	59125.
955.	4802.	244117.	121265.	56161.	66741.
956.	5153.	272393.	136420.	61276.	74697.
957.	5504.	301641.	152105.	66632.	82998.
958.	5856.	332071.	169477.	72167.	91422.
959.	6208.	363738.	187576.	77877.	100288.
960.	6559.	396855.	207957.	83763.	109573.
961.	6911.	431425.	228424.	89822.	119279.
962.	7263.	467448.	249183.	96 51.	129407.

TABLE OF VALUES FOR BPR FUNCTION

CREEP	AKB	DGTAK	SIGMA	DKE	EKS	P	ALPHA	ALPHA2	BRIDA	APPAR	ALXII
.5797	.5758	0.0000	0.0000	0.0000	0.0000	.7198	1.0000	1.0000	34.3814	80.2991	77.8728
DCRIT	937.79	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	33.1550	80.2991	77.8728
DCRIT	-1.00	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	33.1550	80.2991	77.8728
DCRIT	-1.00	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	33.1550	80.2991	77.8728
DCRIT	-1.00	KBCRIT=									
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	33.1550	80.2991	77.8728
DCRIT	-1.00	KBCRIT=									

ROAD SECTION 25.0

NO.	HW	CFS	HL	TW	CSM
.	936.70	[illegible]	0.03	0.00	0.00
1	939.16	60.00	0.00	939.16	60.00
2	940.79	130.00	.02	940.77	130.00
3	941.24	185.00	.04	941.20	185.00
4	941.47	220.00	.04	941.43	220.00
5	941.87	295.00	.06	941.81	295.00

MIN ROAD ELEVATION 940.30

BRIDGE TYPE 2 GIRDER BOTTOM ELEVATION = 939.11 OPENING NO.= 1

(dam) AE/AF (private line)

AE per div.

$\frac{Q}{A} = \frac{220}{33.155} = 6.638$

RATING TABLE FOR SECTION 25.05 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
	936.76	0.0	0.0						
BANK FULL	938.1	17.4	33.5	0.00	0.00	0.00			
1	939.21	83.8	60.0	0.00	0.00	0.00	60.00	937.7	.00089
2	940.81	333.4	130.0	0.00	0.00	0.00	130.00	938.5	.00035
3	941.26	431.3	185.0	0.00	0.00	0.00	185.00	938.7	.00041
4	941.49	483.2	220.0	0.00	0.00	0.00	220.00	938.8	.00045
5	941.85	580.5	295.0	0.00	0.00	0.00	295.00	939.0	.00053

SEGMENT TABLE FOR SECTION 25.05

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	60.	6.	52.	2.
60.	VELOCITY FPS	1.52	.16	1.61	.15
2	DISCHARGE CFS	130.	39.	79.	13.
130.	VELOCITY FPS	1.14	.19	1.45	.15
3	DISCHARGE CFS	185.	60.	102.	22.
185.	VELOCITY FPS	1.27	.24	1.68	.19
4	DISCHARGE CFS	220.	74.	117.	29.
220.	VELOCITY FPS	1.34	.26	1.83	.22
5	DISCHARGE CFS	295.	104.	145.	46.
295.	VELOCITY FPS	1.50	.30	2.08	.27
1	ELEV 939.21 KD	1995.	185.	1757.	52.
2	ELEV 940.81 KD	6924.	2138.	4226.	560.
3	ELEV 941.26 KD	9096.	2943.	5079.	1078.
4	ELEV 941.49 KD	10390.	3484.	5540.	1367.
5	ELEV 941.85 KD	12781.	4480.	6371.	1930.

KD TABLE FOR CROSS SECTION 25.05

ELEVATION	AREA	KD	KD BY SEGMENT		
936.70	0.				
937.	3.	32.	1.	29.	1.
938.	16.	524.	1.	522.	1.
939.	63.	1644.	104.	1501.	28.
940.	191.	5964.	814.	2876.	246.
941.	374.	7828.	2412.	4587.	617.
942.	607.	13515.	4775.	6601.	2106.
943.	863.	21496.	8134.	6899.	4051.
944.	1134.	36621.	12891.	11464.	6460.
945.	1416.	41652.	18097.	14281.	9262.
946.	1708.	54200.	24335.	17341.	12513.
947.	2010.	69211.	31357.	20635.	16212.
948.	2322.	85677.	39157.	24153.	20361.
949.	2645.	104899.	47752.	27889.	25 49.
950.	2975.	115476.	57161.	31838.	30474.
951.	3310.	134815.	67398.	35993.	36520.
952.	3651.	161466.	78168.	41349.	42543.
953.	3997.	184445.	89785.	44903.	49750.
954.	4346.	209225.	102654.	49749.	56612.
955.	4697.	235950.	116916.	54584.	64447.
956.	5048.	263740.	131771.	59794.	72259.
957.	5349.	292786.	147702.	65 66.	8 391.
958.	5750.	325854.	163519.	70468.	88644.
959.	6102.	354 85.	18 354.	76146.	97 84.
960.	6454.	385767.	198370.	81979.	106744.
961.	6806.	42 902.	216670.	87986.	116323.
962.	7157.	456488.	236161.	94165.	126324.

----------80/80 LIST OF INPUT DATA----------

NDJ[illegible] 35

**********NORMAL END OF JOB----------

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APPLIED HYDROLOGY=UBIN
FILE: INPUT DEF 010
FILE: OUTPUT DEF 010
SEASONAL
WORK
TEMP
USER
TITLE      HC CLUBE DRAIN FLOOD HAZARD STUDY OAKLAND CO , MICH                1
TITLE      FINAL FLOOD PROFILES - 2, 10, 50, 100 AND 500 YR. FLOODS  3/80
SEQUENCE    1 0        45          120         180         220         290
START       9 9        803 0       804 78      805 18      805 87      807 31
ROUTE      12 9        15 95       15 98
OUTPUT     OK
REACH       9 9        1           0           0                                11
CONNECT     9 9        1           N           490                              12
MANNUR      .125                                                                13
SEGMENT     9 9        2           C           510                              14
MANNUR      .07                                                                 15
SEGMENT     9 9        3           N           801                              16
MANNUR      .125                                                                17
SECTION     9 9                                                                 18
            -3         817         2           817.        -1.         817.     19
              0 60     811 20      100 00      807 60      200.00      805 90   20
            300 00     805 30      310 00      804 30      325 00      802 70   21
            400 00     802 20      460 00      802 50      480 00      803 50   22
            470 00     802 70      490 00      801 10      495 00      800.60   23
            500 00     800 20      505 00      800 40      507 00      801 30   24
            510 00     802 40      575 00      803. 50     600.00      806 00   25
            700        807 6       800         810 5       801.        817      26
ENDTABLE                                                                        27
REACH      10 99       1           550         550                              28
  REACH    9 9           6                                                      29
ROUGH      10 0        2 7         50          50                               30
CURVE      10 5        0           32133                                        31
GAUGE      9 3         9 75        76          800 95      800 78               32
SECTION    10 0                                                                33
            -500       800         -600        811 7       -500        811 3    34
            -300       816 9       -300        811 6       -200        812 4    35
            -100       812 6       0           812 8       100         813 5    36
             300       811 4       300         814 9       400         815 5    37
             500       815 9       600         816 2       601         820      38
ENDTABLE                                                                        39
REACH      10 1        1           50          50                               40
SEGMENT    10 1        1           N           408                              41
  MANNUR     .125                                                               42
SEGMENT    10 1        2           C           428                              43
MANNUR      .07                                                                 44
SEGMENT    10 1        3           N           726                              45
MANNUR      .125                                                                46
SECTION    10 1                                                                47
            0          820         1           816         60          814      48
            210        812         330         810         390         808      49
            400        806         408         804         409         803 2    50
            410        802 7       414         803 6       420         802 3    51
            430        801 7       426         802 1       427.        803 4    52
            450        804         440         806         550.        808      53
            500        810         635         812         685         814      54
            700        816         726         820.                             55
ENDTABLE                                                                        56
REACH      410 9       1           150         150                              57
REACH      10 1        2                                                       58
ROUGH      11 0        2 7         50          50                               59
CURVE      11 0        1           33122                                        60
GAUGE      9 3         8 85        46          804 25      803 93               61
SECTION    11 0                                                                62
            -500       824         -400        818 7       -300        816 1    63
            -200       815 5       -100        812 4       0           812. 2   64
             100       813 4       200         813 2       300         814 6    65
             400       816 3       500         818 2       600         818 7    66
             601       821                                                      67
ENDTABLE                                                                        68
REACH      411 05      1           50          50                               69
REACH      11 1        -4 6                                                    70
REACH      11 1        1           450         450                              71
SEGMENT    11 1        1           N           505                              72
  MANNUR     .125                                                               73
SEGMENT    11 1        2           C           604                              74
MANNUR      .07                                                                 75
SEGMENT     1 1        3           N           701                              76
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Final Deck
w/ Q's revised
per new TR20
run with Gould
Site Levee as
a storage structure

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ENDTABLE                                                                                  161
REACH     [illegible]1      1          50          50                                       162
REACH2    1[illegible]      -14 4                                                           163
REACH     13 9              1          1350        1350                                     164
SEGMENT   13 9              1          N           140                                      165
NVALUE     175                                                                              166
SEGMENT   13 9              2          C           161.                                     167
NVALUE     075                                                                              168
SEGMENT   13 9              3          N           451                                      169
NVALUE     175                                                                              170
SECTION   13 9                                                                              171
                                                                                            172
          -3                881        -2          881         -1          881.             173
                0 00      875 50      50 00      874.30      70 00      874 70   174
               80 00      872 60     140 00      868 10     144 00      865 70   175
              147 00      864 90     150.00      865 00     153.00      865 00   176
              156 00      865 90     161 00      868 10     200 00      869 00   177
              250 00      871 00     350 00      873 50     450 00      875 20   178
          451               881                                                             179
ENDTABLE                                                                                    180
REACH     13 95             1          1010        1010.
REACH2    13 9              7 4
ROAD      13 96             2 6        25          25
CURV1     13 96             4          12333
CURV2     2 5               0          30          872 4       872 6       .025
SECTION   13 96
          0 0               885        0 1         880.1       25          878.7
          50                877.4      75          876 5       100.        876 3
          125               876 9      150         878 2       175         879 7
          175 1             885
ENDTABLE
REACH     13 97             1          25          25
REACH2    13 9              7 4
REACH     13 99             1.         250         250
REACH2    14 9              -1 3
ROAD      14 0              2 7        25          25
CURV1     14 0              1          13322                                                 184
CURV2     6                 0          70          878 1       877 17                        185
SECTION   14 0                                                                              186
          -2 5              900        -265        892 3       -200.       890 7             187
          100               887 6      0           886 2       100.        886.3             188
          [illegible]       888 1      300         870 4       475.        892.3             189
          [illegible]       900                                                             190
ENDTABLE                                                                                    191
REACH     14 1              1          25.         25
REACH2    14 9              - 2                                                             193
REACH     14 9              1          50          50.                                      194
SEGMENT   14 9              1          N           140                                      195
NVALUE     175                                                                              196
SEGMENT   14 9              2          C           160                                      197
NVALUE     075                                                                              198
SEGMENT   14 9              3          N           316                                      199
NVALUE     175                                                                              200
SECTION   14 9                                                                              201
                            896        -2          896         -1.         896.             202
                0 00      889 80      50.00      884 20      80.00      881 50   203
              135 00      880 90     140 00      880.20     143 00      879 70   204
              145 00      879 00     150 00      879 70     154 00      878 60   205
              157 00      878.40     160 00      879 80     162 00      880 90   206
          250               884 9      315         890 4       316         896               207
ENDTABLE                                                                                    208
REACH     14 95             1          350.        350
REACH2    14 9              0
ROAD      14 96             2 6        20          20
CURV1     14 96             4          12333
CURV2     2 5               0          30          880 2       879.9       025
SECTION   14 96
          0                 890        0 1         885 3       50.         885 2
          75                885 3      100         884 8       125         884 4
          150               884        175         884 4       200         885 3
          201               890
ENDTABLE
REACH     14 99             1          30          30
REACH2    14 9              2 29
REACH     15 0              1          20          20                                       211
SEGMENT   15 0              1          N           -2                                       212
NVALUE     175                                                                              213
SEGMENT   15 0              2          C           2                                        214
NVALUE     075                                                                              215
SEGMENT   15 0              3          N           101                                      216
NVALUE     175                                                                              217
SECTION   15 0                                                                              218
                            900        -235        895 9       -200        889 9             219
          [illegible]       [illegible] 8     -15         884 2       -8          883 4     220
```

```
                                                                                                                    2221
                                                                                                                    2222
                                                                                                                    2223
                                                                                                                    2223A
ENDTABLE                                                                                                            2224
REACH      15 9          1                1000              1800                                                  2225
SEGMENT    15 9          1                N                 594.                                                  2226
NVALUE      1                                                                                                       2227
SEGMENT    15 9          2                C                 606                                                   2228
NVALUE      .08                                                                                                    2229
SEGMENT    15 9          3                N                 901                                                   2230
NVALUE      1                                                                                                      2231
SECTION    15 9                                                                                                    2232
           -3            905              -2                905               -1              905.                2233
                0.00        887.00          100.00          887.90          200.00          888.10              234
              300.00        889.30          400.00          889.30          500.00          887.70              235
              592.00        887.50          594.00          885.60          597.00          884.90              236
              600.00        884.10          603.00          884.70          606.00          885.70              237
              607.00        886.40          700.00          887.40          800.00          893.00              238
           900              899.2            901.              905                                             239
                                                                                                                    240
ENDTABLE
REACH      15 93         1                250               250
REACH      15 9          1.5
ROAD       15 91         2.6              10                10
CURVE1     15 94         1                12111
CURVE2     1.0           0                30                885.9             885.5           032
SECTION    15 91
           0             895              1                 890.6             200             890.6
           201           895
ENDTABLE
REACH      15 95         1                10                10
REACH      15 9          1.5
REACH      15 96         1                30                30
REACH      15 9          2.0
ROAD       15 97         2.6              10                10
CURVE1     15 97         1                11048
CURVE2     .5            0                60                887.26            886             .025
SECTION    15 97
           0             915              1                 909.4             200.            909.4
           201           915
ENDTABLE
REACH      15 98         1                10                10
REACH      15 9          2
REACH      15 99         1                60                60
SEGMENT    15 99         1                N                 238                                                   242
NVALUE      1                                                                                                      243
SEGMENT    15 99         2                C                 253.                                                  244
NVALUE      .04                                                                                                    245
SEGMENT    15 99         3                N                 591.                                                  246
NVALUE      1                                                                                                      247
SECTION    15 97
           0             910              1                 904               35              902                 249
           75            900              95                898               135             896.                250
           150           894              185               892               225             890                 251
           228           889              240               888               243             887.8               252
           239           888.5            253               889               305             890                 253
           313           892.             336.              894               354             896                 254
           370           898              410               900               472.            902                 255
           378           904              591               910                                                   255A
ENDTABLE                                                                                                            256
ROAD       16 0          2.7              50                50                                                    257
CURVE1     16 0          1                12311                                                                   258
CURVE2     3             0                24                889.65            889.75                          259
SECTION    16 0                                                                                                    260
           -201.         910              -200              899.1             -100.           895.3               261
           0             893.3            20                893.1             100.            894.1               262
           200           897.2            255               899.1             256             910                 263
ENDTABLE                                                                                                            264
REACH      16 1          1                15                15                                                    265
SEGMENT    16 1          1                N                 -3                                                    266
NVALUE      1.5                                                                                                    267
SEGMENT    16 1          2                C                 3.                                                    268
NVALUE      .05                                                                                                    269
SEGMENT    16 1          3                N                 351                                                   270
NVALUE      1.5                                                                                                    271
SECTION    16 1                                                                                                    272
           -250          910              -240              904               -195.           902                 273
           -170          900              -145              898               -125            896                 274
           -105          894              -50               892               -3              891.9               275
           -7            889.5            -1                889.4             0               889.5               276
           1             889.4            2                 889.4             3               891.7               277
           15            894              90                894               115             896                 278
           100           898              220               898               260             902                 279
           107           904              241               910                                                   280
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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
WSPR                                                                          1
TITLE     MC CLURE DRAIN FLOOD HAZARD STUDY OAKLAND CO., MICH.
TITLE     FINAL FLOOD PROFILES - 2, 10, 50, 100 AND 500 YR. FLOODS. 3/80
DISCHARGE -1.0      45.       120.      180.      220.      290.
STARTE    9.9       803.0     804.78    805.18    805.87    807.31
IPTR      12.9      15.95     15.98
OUTPUT    SK
REACH     9.9       1.        0.        0.                                  11
SEGMENT   9.9       1         N         490.                                12
[illegible]                                                                   13
SEGMENT   9.9       2         C         510.                                14
[illegible]                                                                   15
SEGMENT   9.9       3         N         801.                                16
[illegible]                                                                   17
SECTION   9.9                                                                 18
          -3.       817.      -2.       817.      -1.       817.            19
                [illegible].00    811.20    10[illegible].00    807.60    200.00    205.90   20
                300.00    805.30    310.00    804.30    325.00    802.70   21
                400.00    802.20    460.00    802.50    480.00    803.50   22
                490.00    802.70    492.00    801.10    495.00    800.60   23
                500.00    800.20    505.00    800.40    507.00    801.30   24
                510.00    802.40    575.00    803.50    600.00    806.00   25
          700.      807.6     800.      810.5     801.      817.            26
ENDTABLE                                                                      27
REACH     [illegible]  1.        550.      550.                                28
REACH2    [illegible]                                                         29
ROAD      1.        2.7       50.       50.                                 30
CULV1     10.[illegible]  2         32133                                       31
CULV2     [illegible]  2.75      76.       800.95    800.78                    32
SECTION   [illegible]                                                         33
          -[illegible]  820.      -600.     811.7     -500.     811.3          34
          -400.     810.9     -300.     811.6     -200.     812.4          35
          -[illegible]  812.6     0.        812.8     100.      813.5          36
          200.      814.4     300.      814.9     400.      815.5          37
          500.      815.9     600.      816.2     601.      820.           38
ENDTABLE                                                                      39
REACH     [illegible]  1.        50.       50.                                 40
SEGMENT   [illegible]  1         N         428.                                41
[illegible]                                                                   42
SEGMENT   [illegible]  2         C         428.                                43
[illegible]                                                                   44
SEGMENT   [illegible]  3         N         726.                                45
[illegible]                                                                   46
SECTION   [illegible]                                                         47
          .         820.      1.        816.      60.       814.            48
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
          210.      812.      330.      810.      390.      808.      49
          400.      806.      408.      804.      409.      803.2     50
          412.      802.7     414.      802.6     420.      802.3     51
          423.      801.7     426.      802.1     427.      803.4     52
          428.      804.      440.      806.      550.      808.      53
          590.      810.      635.      812.      655.      814.      54
          725.      816.      726.      820.                            55
RDTABLE                                                               56
REACH     +10.9     1.        150.      150.                            57
REACH2    10.1      2.                                                  58
ROAD      11.0      2.7       50.       50.                             59
CULV1     11.0      1         33122                                     60
CULV2     6.08      8.83      46.       804.25    803.93                61
SECTION   11.0                                                          62
          -401.     824.      -400.     818.7     -300.     816.1     63
          -200.     813.5     -100.     812.4     0.        812.2     64
          100.      812.4     200.      813.2     300.      814.6     65
          400.      816.3     500.      818.2     600.      818.7     66
          601.      824.                                                67
RDTABLE                                                               68
REACH     +11.05    1.        50.       5 .                             69
REACH2    11.1      -4.6                                                70
REACH     11.1      1.        450.      450.                            71
SEGMENT   11.1      1         N         585.                            72
NVALUE    .125                                                          73
SEGMENT   11.1      2         C         604.                            74
NVALUE    .07                                                           75
SEGMENT   11.1      3         N         701.                            76
NVALUE    .125                                                          77
SECTION   11.1                                                          78
          -3.       826.      -2.       826.      -1.       826.      79
                .00     819.60    100.00    817.20    200.00    814.40   80
              300.00    814.30    400.00    813.80    500.00    813.70   81
              585.00    812.20    596.00    809.90    597.00    809.30   82
              600.00    809.00    603.00    809.00    604.00    809.30   83
              616.00    815.40    630.00    818.30    700.00    820.60   84
          701.      826.                                                85
RDTABLE                                                               86
REACH     11.9      1.        2950.     2950.                           87
SEGMENT   11.9      1         N         590.                            88
NVALUE    .125                                                          89
SEGMENT   11.9      2         C         609.                            90
NVALUE    .07                                                           91
SEGMENT   11.9      3         N         1201.                           92
NVALUE    .125                                                          93
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
SECTION   11.9                                                                  94
          -3.        836.       -2.        836.       -1.        836.          95
                 0.00     831.00     100.00     828.40     200.00     828.70   96
               265.00     830.50     300.00     829.90     400.00     827.70   97
               500.00     825.50     583.00     826.60     590.00     825.00   98
               592.00     823.20     596.00     822.40     600.00     822.20   99
               604.00     822.50     608.00     823.50     609.00     824.40  100
               618.00     826.60     700.00     826.40     800.00     826.60  101
               900.00     825.90    1000.00     827.70    1100.00     828.40  102
          1200.      830.       1201.      836.                                103
ENDTABLE                                                                        104
REACH     +11.99     1.         1150.      1150.                               105
REACH2    12.1       -1.                                                       106
READ      12.0       2.7        50.        50.                                 107
CULV1     12.0       1          12335                                          108
CULV2     5.         0.         38.        834.98     833.88                   109
SECTION   12.0                                                                  110
                 0.00     840.60     100.00     840.80     200.00     840.80  111
               300.00     840.80     400.00     840.90     500.00     841.00  112
               600.00     841.80     700.00     842.60     800.00     844.60  113
               900.00     846.40    1000.00     846.60    1100.00     846.60  114
              1200.00     847.70       -1.       847.                          115
ENDTABLE                                                                        116
-----------------------DATA POINTS ON SECTION 12.0   REORDERED BY PROGRAM ACCORDING TO X VALUES
                      DUPLICATE X POINTS NOT CHANGED=====================
REACH     +12.05     1.         50.        50.                                 117
REACH2    12.1       -1.                                                       118
REACH     12.1       1.         450.       450.                                119
SEGMENT   12.1       1          N          116.                                120
NVALUE    .17                                                                   121
SEGMENT   12.1       2          C          137.                                122
NVALUE    .07                                                                   123
SEGMENT   12.1       3          N          326.                                124
NVALUE    .175                                                                  125
SECTION   12.1                                                                  126
          -3.        854.       -2.        854.       -1.        854.          127
                 0.00     848.10      25.00     845.80      80.00     840.70  128
                95.00     843.70     107.00     841.20     116.00     840.80  129
               120.00     837.00     122.00     836.40     125.00     836.10  130
               128.00     836.30     130.00     836.70     137.00     840.20  131
               141.00     840.50     149.00     843.30     157.00     840.90  132
               190.00     839.50     225.00     841.40     290.00     843.90  133
               305.00     843.40     317.00     846.00     325.00     846.30  134
          326.       854.                                                       135
ENDTABLE                                                                        136
REACH     12.9       1.         650.       650.                                137
SEGMENT   12.9       1          N          189.                                138
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
NVALUE    .175                                                                  139
SEGMENT   12.9      2         C         211.                                    140
NVALUE    .075                                                                  141
SEGMENT   12.9      3         N         321.                                    142
NVALUE    .175                                                                  143
SECTION   12.9                                                                  144
          -3.       866.      -2.       866.      -1.       866.                145
                0.00     857.30    100.00    851.30    164.00    850.30   146
              170.00     852.70    189.00    846.10    194.00    845.30   147
              195.00     844.90    198.00    844.30    200.00    844.30   148
              202.00     844.30    205.00    845.00    211.00    846.30   149
              225.00     851.30    250.00    852.40    300.00    855.80   150
          310.      860.9     320.      860.9     321.      866.                151
ENDTABLE                                                                        152
REACH     +12.99    1.        500.      500.                                    153
REACH2    12.9      5.7                                                         154
ROAD      13.0      2.7       50.       50.                                     155
CULV1     13.0      1         12311                                             156
CULV      4.        0.        16.       850.41    850.24                        157
SECTION   13.0                                                                  158
          -126.     870.      -125.     865.2     -100.     861.9               159
          -70.      858.9     0.        855.1     100.      860.4               160
          120.      863.3     130.      863.5     131.      870.                161
ENDTABLE                                                                        162
REACH     +13.1     1.        50.       50.                                     163
REACH2    13.9      -14.4                                                       164
REACH     13.9      1.        1350.     1350.                                   165
SEGMENT   13.9      1         N         140.                                    166
NVALUE    .175                                                                  167
SEGMENT   13.9      2         C         161.                                    168
NVALUE    .075                                                                  169
SEGMENT   13.9      3         N         451.                                    170
NVALUE    .175                                                                  171
SECTION   13.9                                                                  172
          -3.       881.      -2.       881.      -1.       881.                173
                0.00     875.50     50.00    874.30     70.00    874.70   174
               80.00     872.60    140.00    868.10    144.00    865.70   175
              147.00     864.90    150.00    865.00    153.00    865.00   176
              156.00     865.90    161.00    868.10    200.00    869.00   177
              250.00     871.00    350.00    873.50    450.00    875.20   178
          451.      881.                                                        179
ENDTABLE                                                                        180
REACH     13.95     1.        1010.     1010.
REACH2    13.9      7.4
ROAD      13.96     2.6       25.       25.
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
CULV1 .   13.96     4.        12333
CULV2     2.5       0.        30.       872.4     872.6     .025
SECTION   13.96
          0.0       885.      0.1       880.1     25.       87[illegible].7
          5[illegible].       877.4     75.       876.5     100.      876.3
          125.      876.9     150.      878.2     175.      879.7
          175.1     885.
ENDTABLE
REACH     13.97     1.        25.       25.
REACH2    13.9      7.4
REACH     13.99     1.        250.      250.
REACH2    14.9      -1.3                                                  182
READ      14.[illegible]      2.7       25.       25.
CULV1     14.0      1         13322                                         184
CULV2     [illegible]         0.        70.       878.1     877.17                185
SECTION   14.0                                                              186
          -266.     900.      -265.     892.3     -200.     890.7           187
          -1[illegible]0.     897.6     0.        886.2     100.      886.3     188
          [illegible]0.       888.1     300.      890.4     475.      892.3     189
          47[illegible].      900.                                            190
ENDTABLE                                                                      191
REACH     14.1      1.        25.       25.
REACH2    14.9      -.2                                                     193
REACH     14.9      1.        50.       50.                                 194
SEGMENT   14.9      1         N         140.                                195
NVALUE    .175                                                              196
SEGMENT   14.9      2         C         160.                                197
NVALUE    .075                                                              198
SEGMENT   14.9      3         N         316.                                199
NVALUE    .17[illegible]                                                    200
SECTION   14.9                                                              [illegible]1
          -[illegible].       896.      -2.       896.      -1.       896.      202.
                0.00     889.80     50.00     884.20     80.00     881.50   203
              135.00     880.90    140.00     880.20    143.00     879.70   204
              145.20     879.00    150.00     879.70    154.00     878.60   205
              157.00     878.40    160.00     879.80    162.00     880.90   206
          250.      884.9     315.      890.4     316.      896.            207
ENDTABLE                                                                      208
REACH     14.95     1.        350.      350.
REACH2    14.9      0.
READ      14.96     2.6       20.       20.
CULV1     14.96     4.        12333
CULV      2.5       0.        30.       880.2     879.9     .025
SECTION   14.96
          0.        890.      0.1       885.3     50.       885.2
```

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-----------------------------80/80 LIST OF INPUT DATA-------------------------------
          75.        885.3      100.       884.8      125.       884.4
          150.       884.       175.       884.4      200.       885.3
          201.       890.
ENDTABLE
REACH     14.99      1.         30.        30.
REACH2    14.9       2.29
REACH     15.0       1.         20.        20.                                  211
SEGMENT   15.0       1          N          -2.                                  212
NVALUE    .175                                                                  213
SEGMENT   15.0       2          C          2.                                   214
NVALUE    .07                                                                   215
SEGMENT   15.0       3          N          101.                                 216
NVALUE    .175                                                                  217
SECTION   15.0                                                                  218
          -236.      900.       -235.      895.9      -200.      889.9          219
          -100.      882.8      -15.       884.2      -8.        883.4          220
          -2.        883.4      -1.99      880.4      1.99       880.4          221
          2.         883.4      20.        883.4      35.        884.3          222
          50.        885.6      82.        895.       100.       895.3          223
          101.       900.                                                       223A
ENDTABLE                                                                        224
REACH     15.9       1.         1800.      1800.                                225
SEGMENT   15.9       1          N          594.                                 226
NVALUE    .1                                                                    227
SEGMENT   15.9       2          C          606.                                 228
NVALUE    .08                                                                   229
SEGMENT   15.9       3          N          901.                                 230
NVALUE    .1                                                                    231
SECTION   15.9                                                                  232
          -3.        905.       -2.        905.       -1.        905.           233
                0.00     887.00     100.00     887.90     200.00     888.10     234
              300.00     889.30     400.00     889.30     500.00     887.70     235
              592.00     887.50     594.00     885.60     597.00     884.90     236
              600.00     884.10     603.00     884.70     606.00     885.70     237
              607.00     886.40     700.00     887.40     800.00     893.00     238
          900.       899.2      901.       905.                                 239
ENDTABLE                                                                        240
REACH     15.93      1.         250.       250.
REACH2    15.9       1.5
ROAD      15.94      2.6        10.        10.
CULV1     15.94      1.         12111
CULV2     1.0        0.         30.        885.9      885.5      .032
SECTION   15.94
          .          895.       1.         890.6      200.       890.6
          201.       895.
```

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
ENDTABLE
BEACH     15.95     1.        10.       10.
BEACH2    15.9      1.5
BEACH     15.96     1.        30.       30.
BEACH2    15.9      2.0
BEAD      15.97     2.6       10.       10.
CULV1     15.97     1.        11348
CULV2     3.5       0.        80.       887.26    886.      .025
SECTION   15.97
          0.        915.      1.        909.4     200.      909.4
          201.      915.
ENDTABLE
BEACH     15.98     1.        10.       10.
BEACH2    15.9      2.
BEACH     15.99     1.        60.       60.
SEGMENT   15.99     1         N         238.                          242
NVALUE    .1                                                          243
SEGMENT   15.99     2         C         253.                          244
NVALUE    .08                                                         245
SEGMENT   15.99     3         N         591.                          246
NVALUE    .1                                                          247
SECTION   15.99
          0.        910.      1.        904.      35.       902.      249.
          75.       900.      95.       898.      135.      896.      250
          16.       894.      185.      892.      225.      890.      251
          278.      889.      240.      888.      243.      887.8     252
          250.      888.5     253.      889.      305.      890.      253
          318.      892.      336.      894.      354.      896.      254
          378.      898.      410.      900.      472.      902.      255
          590.      904.      591.      910.                          255A
ENDTABLE                                                              256
BEAD      16.0      2.7       50.       50.                           257
CULV1     16.0      1         12311                                   258
CULV2     3.        0.        24.       889.65    889.75              259
SECTION   16.0                                                        260
          -201.     910.      -200.     899.1     -100.     895.3     261
          0.        893.3     20.       893.1     100.      894.1     262
          200.      897.2     255.      899.1     256.      910.      263
ENDTABLE                                                              264
BEACH     16.1      1.        15.       15.                           265
SEGMENT   16.1      1         N         -3.                           266
NVALUE    .125                                                        267
SEGMENT   16.1      2         C         3.                            268
NVALUE    .06                                                         269
SEGMENT   16.1      3         N         351.                          270
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
NVALUE    .125                                                                  271
SECTION   16.1                                                                  272
          -250.     910.      -240.     904.      -195.     902.                273
          -170.     900.      -145.     898.      -125.     896.                274
          -1[illegible].     894.      -5[illegible].     892.      -3.       891.9     275
          -2.       889.5     -1.       889.4     0.        889.5               276
          1.        889.4     2.        889.4     3.        891.7               277
          15.       892.      9[illegible].     894.      115.      896.                278
          165.      898.      2[illegible].     9[illegible]0.     260.      902.                279
          35[illegible].     904.      551.      910.                                  280
ENDTABLE                                                                        281
REACH     17.0      1.        15.       15.                                     282
SEGMENT   17.0      1         N         -1.25                                   283
NVALUE    .1                                                                    284
SEGMENT   17.0      2         C         1.25                                    285
NVALUE    .07                                                                   286
SEGMENT   17.0      3         N         121.                                    287
NVALUE    .1                                                                    288
SECTION   17.0                                                                  289
          -1[illegible].     908.      -135.     897.9     -105.     894.4               290
          -100.     894.3     -11.      893.1     -9.       892.5               291
          -8.       894.1     -1.25     894.1     -1.24     893.04              292
          1.24      893.04    1.25      894.2     8.        894.3               293
          9.        893.2     85.       893.4     100.      896.1               294
          12[illegible].     898.2     121.      9[illegible]8.                          295
ENDTABLE                                                                        296
REACH     17.1+     1.        50.       50.                                     297
REACH2    17.[illegible]     0.                                                    298
REACH     17.9      1.        47[illegible].     470.                                  299
SEGMENT   17.9      1         N         -10.                                    300
NVALUE    .1                                                                    301
SEGMENT   17.9      2         C         10.                                     302
NVALUE    .[illegible]                                                            303
SEGMENT   17.9      3         N         196.                                    304
NVALUE    .1                                                                    305
SECTION   17.9                                                                  306
          -1[illegible]1.     914.      -1[illegible]0.     904.      -50.      895.2     307
          -10.      893.4     -9.       897.3     -6.       891.5               308
          -3.       891.7     0.        890.6     3.        891.                309
          6.        891.4     9.        892.4     10.       893.5               310
          1[illegible]0.     894.7     12[illegible].     895.0     195.      904.4     311
          196.      914.                                                          312
ENDTABLE                                                                        313
REACH     +17.99    1.        1650.     1650.                                   314
REACH2    18.1      -2.8                                                          315
```

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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
ROAD      18.0      2.7       50.       50.                                  316
CULV1     18.0      1         12311                                          317
CULV2     3.        0.        50.       893.9     892.53                     318
SECTION   18.0                                                               319
          -121.     916.      -120.     905.1     -100.     899.8            320
          -50.      898.2     0.        897.8     100.      897.9            321
          200.      899.      300.      901.9     360.      905.1            322
          361.      916.                                                     323
ENDTABLE                                                                     324
REACH     +18.05    1.        50.       50.                                  325
REACH2    18.1      -1.4                                                     326
REACH     18.1      1.        500.      500.                                 327
SEGMENT   18.1      1         0         201.                                 328
EVALUE    .125                                                               329
SECTION   18.1                                                               330
          -201.     918.      -200.     907.2     -100.     899.4            331
          -50.      896.9     -45.      896.4     -34.      896.1            332
          -23.      895.6     -12.      895.9     0.        895.3            333
          15.       894.9     30.       895.7     45.       896.             334
          60.       896.2     75.       896.8     130.      889.             335
          160.      901.1     200.      906.7     201.      918.             336
ENDTABLE                                                                     337
REACH     18.9      1.        1200.     1200.                                338
SEGMENT   18.9      1         0         201.                                 339
EVALUE    .125                                                               340
SECTION   18.9                                                               341
          -226.     917.      -225.     906.9     -200.     905.             342
          -185.     903.      -100.     898.2     -90.      897.5            343
          -50.      896.9     -15.      896.9     -13.      895.6            344
          0.        895.4     5.        895.9     9.        896.5            345
          85.       897.8     130.      899.      200.      908.6            346
          201.      919.                                                     347
ENDTABLE                                                                     348
COMPUTE   9.9       12.9      9.9
-----------------------------END OF 80/80 LIST-----------------------------
```

COMPUTE 9.9 12.9 9.9

----------STARTING DATA FROM GIVEN ELEVATION----------

RATING TABLE FOR SECTION 9.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	800.20	0.0	0.0						
BANK FULL	802.4	45.4	35.4	0.00	0.00	0.00			
1	803.00	141.5	45.0	0.00	0.00	0.00	45.00	801.1	.00042
2	804.78	599.6	120.0	0.00	0.00	0.00	120.00	801.8	.00008
3	805.19	719.1	180.0	0.00	0.00	0.00	180.00	802.2	.00011
4	805.43	867.3	220.0	0.00	0.00	0.00	220.00	802.5	.00009
5	807.31	1636.1	290.0	0.00	0.00	0.00	290.00	802.7	.00004

SEGMENT TABLE FOR SECTION 9.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 F	SEG NO 3 N
1	DISCHARGE CFS	45.	15.	29.	2.
45.	VELOCITY FPS	.58	.17	.67	.17
2	DISCHARGE CFS	120.	67.	35.	18.
120.	VELOCITY FPS	.28	.17	.44	.14
3	DISCHARGE CFS	180.	101.	48.	31.
180.	VELOCITY FPS	.34	.21	.56	.19
4	DISCHARGE CFS	220.	120.	56.	43.
220.	VELOCITY FPS	.33	.19	.56	.20
5	DISCHARGE CFS	290.	176.	60.	55.
290.	VELOCITY FPS	.25	.18	.48	.14
1	ELEV 803.00 KD	2052.	550.	1463.	39.
2	ELEV 804.78 KD	13759.	7678.	4011.	2070.
3	ELEV 805.19 KD	17366.	9736.	4716.	2925.
4	ELEV 805.43 KD	23461.	12777.	6039.	4645.
5	ELEV 807.31 KD	44592.	26961.	9198.	8422.

(A)

KD TABLE FOR CROSS SECTION 9.9

ELEVATION	AREA	KD	KD BY SEGMENT		
800.20	0.				
801.	7.	105.	1.	103.	1.
802.	24.	579.	1.	577.	1.
803.	142.	2199.	55.	1463.	39.
804.	385.	7323.	3727.	2772.	792.
805.	662.	15991.	9048.	4396.	2546.
806.	1103.	24974.	13765.	6300.	4892.
807.	1473.	38110.	23256.	8472.	7358.
808.	2050.	59918.	36968.	10895.	12025.
809.	2777.	87662.	54829.	13553.	19241.
810.	3425.	121249.	77138.	16440.	28639.
811.	4199.	162190.	100786.	19546.	41701.
812.	4996.	213818.	131823.	22862.	58096.
813.	5797.	273091.	166991.	26382.	76669.
814.	6598.	339305.	205533.	30103.	97332.
815.	7394.	413157.	247210.	34017.	119926.
816.	8200.	494292.	291876.	38121.	144295.
817.	9002.	582200.	339408.	42417.	170382.
818.	9804.	677274.	391253.	46901.	199274.
819.	10606.	779716.	447525.	51562.	231077.
82 .	11408.	889722.	508338.	56420.	265908.

RATING TABLE FOR SECTION +9.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	800.80	0.0	0.0						
BANK FULL	803.0	45.1	37.7	0.00	0.00	0.00			
1	803.43	107.7	45.0	0.00	0.00	0.00	45.00	801.7	.00071
2	804.87	459.2	120.0	0.00	0.00	0.00	120.00	802.4	.00016
3	805.29	574.7	180.0	0.00	0.00	0.00	180.00	802.8	.00019
4	805.95	773.5	220.0	0.00	0.00	0.00	220.00	803.1	.00014
5	807.35	1340.1	290.0	0.00	0.00	0.00	290.00	803.3	.00007

SEGMENT TABLE FOR SECTION +9.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	12.	32.	1.
45.	VELOCITY FPS	.77	.20	.54	.15
2	DISCHARGE CFS	120.	64.	40.	16.
120.	VELOCITY FPS	.39	.21	.59	.17
3	DISCHARGE CFS	180.	100.	53.	27.
180.	VELOCITY FPS	.44	.27	.69	.22
4	DISCHARGE CFS	220.	122.	59.	43.
220.	VELOCITY FPS	.4	.24	.65	.23
5	DISCHARGE CFS	290.	170.	65.	54.
290.	VELOCITY FPS	.31	.19	.55	.17
1	ELEV 803.43 KD	1578.	291.	1273.	14.
2	ELEV 804.87 KD	9958.	4989.	3186.	1183.
3	ELEV 805.29 KD	12925.	7167.	3860.	1897.
4	ELEV 805.95 KD	18735.	10398.	5020.	3317.
5	ELEV 807.35 KD	34992.	20524.	7903.	6564.

KD TABLE FOR CROSS SECTION +9.99

ELEVATION	AREA	KD	KD BY SEGMENT		
800.00	0.				
801.	1.	5.	1.	3.	1.
802.	13.	252.	1.	250.	1.
803.	45.	924.	12.	871.	2.
[illegible]	231.	3774.	1550.	1946.	212.
[illegible]	493.	10470.	5671.	3387.	1412.
[illegible]	789.	19173.	10597	5122.	3429.
[illegible]	1176.	29990.	17137.	7138.	5696.
[illegible]	1654.	40273.	28109.	9414.	8750.
[illegible]	2306.	71254.	43658.	11030.	14633.
[illegible]	2987.	100430.	62976.	14682.	22745.
811.	3729.	136629.	85609.	17657.	33321.
[illegible]	4516.	181 47.	112264.	20548.	47302.
813.	5317.	235147.	145548.	24246.	65325.
814.	6117.	295173.	182368.	27849.	84956.
[illegible]	6918.	359646.	221954.	31646.	106224.
[illegible]	7720.	429747.	266677.	35836.	129410.
[illegible]	8521.	[illegible]	310779.	39813.	154396.
818.	9323.	585358.	359622.	44179.	181597.
[illegible]	10125.	673356.	413224.	48737.	211639.
[illegible]	10927.	766860.	471299.	53483.	244640.
821.	11728.	871884.	533958.	58415.	280713.

ROAD SECTION 10.0

NO.	HW	CFS	HL	TW	CSM
0	800.95	0.00	0.00	0.00	0.00
1	803.54	45.00	.08	803.46	45.00
2	804.96	120.00	.08	804.88	120.00
3	805.46	180.00	.16	805.30	180.00
4	806.20	220.00	.24	805.96	220.00
5	807.59	290.00	.24	807.35	290.00

MIN ROAD ELEVATION 810.90

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	2	32133.	6.63	9.72	76.00	800.95	800.78	.032

$Q = \frac{330}{6.63 \times 9.72}$

$A = \frac{330}{64.4} = 3.416$

(B)

RATING TABLE FOR SECTION 10.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	801.70	0.0	0.0						
1	802.77	24.0	45.0	0.00	0.00	0.00	45.00	802.9	.00556
BANK FULL	804.0	29.5	57.9	0.00	0.00	0.00			
2	805.11	58.3	120.0	0.00	0.00	0.00	120.00	803.5	.00349
3	805.63	75.8	180.0	0.00	0.00	0.00	180.00	803.9	.00405
4	806.31	106.7	220.0	0.00	0.00	0.00	220.00	804.1	.00294
5	807.63	239.1	290.0	0.00	0.00	0.00	290.00	804.5	.00134

SEGMENT TABLE FOR SECTION 10.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	1.81	0.00	1.81	0.00
2	DISCHARGE CFS	120.	1.	117.	2.
120.	VELOCITY FPS	2.24	.49	2.26	.53
3	DISCHARGE CFS	180.	4.	171.	6.
180.	VELOCITY FPS	2.70	.67	2.73	.67
4	DISCHARGE CFS	220.	8.	202.	10.
220.	VELOCITY FPS	2.59	.69	2.68	.56
5	DISCHARGE CFS	290.	17.	223.	50.
290.	VELOCITY FPS	1.96	.56	2.19	.46
1	ELEV 802.77 KD	614.	1.	601.	1.
2	ELEV 805.11 KD	2024.	18.	1980.	28.
3	ELEV 805.63 KD	2822.	53.	2689.	80.
4	ELEV 806.31 KD	4050.	133.	3735.	182.
5	ELEV 807.63 KD	7863.	446.	6167.	1249.

KD TABLE FOR CROSS SECTION 10.1

ELEVATION	AREA	KD	KD BY SEGMENT		
801.70	0.				
802.	1.	6.	1.	3.	1.
803.	11.	172.	1.	170.	1.
804.	29.	783.	2.	780.	2.
805.	55.	1877.	13.	1837.	26.
806.	91.	3475.	92.	3245.	136.
807.	164.	5780.	271.	4947.	506.
808.	201.	9504.	567.	6932.	1966.
809.	476.	15332.	994.	9172.	5138.
810.	717.	23536.	2113.	11653.	9770.
811.	1019.	34267.	4078.	14369.	15731.
812.	1454.	49797.	7711.	17758.	23281.
813.	1860.	66438.	13448.	20462.	32416.
814.	2453.	89774.	22315.	23922.	43443.
815.	2997.	120059.	35800.	27366.	56611.
816.	3796.	156544.	52943.	31165.	72436.
817.	4518.	202567.	74775.	35193.	92536.
818.	5242.	254626.	100258.	39228.	115102.
819.	5968.	311586.	128590.	43545.	139331.
820.	6683.	374251.	160366.	48245.	165964.
821.	7419.	445156.	197705.	52734.	195626.
822.	8145.	524875.	241145.	57608.	228814.
823.	8870.	613985.	291333.	62766.	265621.

***** NO SOLUTION AFTER 1000 TRIES*** GIVE UP TAKE THIS ANSWER***** FWS= 806.57 PROFILE NUMBER = 2 +10.9
***** NO SOLUTION AFTER 1000 TRIES*** GIVE UP TAKE THIS ANSWER***** FWS= 806.38 PROFILE NUMBER = 2 +10.9
***** NO SOLUTION AFTER 1000 TRIES*** GIVE UP TAKE THIS ANSWER***** FWS= 806.57 PROFILE NUMBER = 2 +10.9

RATING TABLE FOR SECTION +10.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	803.70	0.0	0.0						
1	805.53	20.4	45.0	0.00	0.00	0.00	45.00	804.9	.01038
BANK FULL	805.6	20.5	48.9	0.00	0.00	0.00			
2	806.57	42.7	120.0	0.00	0.00	0.00	120.00	805.5	.00799
3	806.94	53.6	180.0	0.00	0.00	0.00	180.00	805.9	.01003
4	807.34	65.9	220.0	0.00	0.00	0.00	220.00	806.1	.00847
5	808.28	105.6	290.0	0.00	0.00	0.00	290.00	806.5	.00523

SEGMENT TABLE FOR SECTION +10.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	2.22	0.00	2.21	0.00
2	DISCHARGE CFS	120.	0.	119.	1.
120.	VELOCITY FPS	2.93	.56	2.92	.55
3	DISCHARGE CFS	180.	2.	176.	2.
180.	VELOCITY FPS	3.65	.78	3.66	.79
4	DISCHARGE CFS	220.	3.	212.	5.
220.	VELOCITY FPS	3.70	.84	3.75	.65
5	DISCHARGE CFS	290.	10.	267.	13.
290.	VELOCITY FPS	3.43	.91	3.56	.66
1	ELEV 805.53 KD	442.	1.	440.	1.
2	ELEV 806.57 KD	1342.	5.	1331.	6.
3	ELEV 806.94 KD	1791.	11.	1762.	17.
4	ELEV 807.36 KD	2388.	33.	2306.	50.
5	ELEV 808.28 KD	4007.	130.	3699.	178.

KD TABLE FOR CROSS SECTION +10.9

ELEVATION	AREA	KD	KD BY SEGMENT		
803.7[illegible]	0.				
804.	1.	6.	1.	3.	1.
805.	11.	172.	1.	170.	1.
806.	29.	783.	2.	780.	2.
807.	55.	1877.	13.	1837.	20.
808.	91.	3475.	92.	3245.	136.
809.	164.	5780.	271.	4947.	506.
810.	291.	9504.	567.	6932.	1966.
811.	476.	15332.	994.	9172.	5138.
812.	717.	23536.	2113.	11653.	9700.
813.	1019.	34267.	4078.	14369.	15731.
814.	1404.	48397.	7711.	17398.	23281.
815.	1380.	65478.	13448.	20462.	32416.
816.	2453.	89774.	22315.	23822.	43443.
817.	3[illegible]97.	120059.	35600.	27386.	56811.
818.	3796.	156546.	52843.	31145.	72483.
819.	4518.	2[illegible].	74775.	35[illegible]93.	92536.
820.	5242.	254626.	100258.	39228.	115[illegible]02.
821.	5968.	311586.	128590.	43545.	139331.
822.	6693.	374251.	160386.	48045.	165864.
823.	7419.	445156.	197705.	52734.	195626.
824.	8145.	524875.	241145.	57608.	226814.
825.	8870.	613985.	291333.	62666.	265621.

ROAD SECTION 11.0

NO.	HW	CFS	HL	TW	CSM
0	804.25	0.00	0.00	0.00	0.00
1	806.29	45.00	.40	805.89	45.00
2	807.96	120.00	1.04	806.92	120.00
3	808.89	180.00	1.52	807.37	180.00
4	809.59	220.00	1.84	807.75	220.00
5	810.79	290.00	2.24	808.55	290.00

MIN ROAD ELEVATION 812.20

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	33122.	5.93	8.62	46.00	804.25	803.93	.032

4.365 $\frac{220}{5.93 \times 8.62} = 51.1$ ~~51.146~~

C

RATING TABLE FOR SECTION +11.05 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	804.40	0.0	0.0						
BANK FULL	804.7	1.5	6.1	0.00	0.00	0.00			
1	806.60	24.1	45.0	0.00	0.00	0.00	45.00	805.5	.00596
2	808.14	69.2	120.0	0.00	0.00	0.00	120.00	806.3	.00342
3	809.00	143.4	180.0	0.00	0.00	0.00	180.00	806.7	.00235
4	809.65	306.8	220.0	0.00	0.00	0.00	220.00	807.0	.00125
5	810.81	768.5	290.0	0.00	0.00	0.00	290.00	807.3	.06030

SEGMENT TABLE FOR SECTION +11.05

CSM		TOTAL	SEG NO 1 N	2 C	3 N
1	DISCHARGE CFS	45.	0.	42.	3.
45.	VELOCITY FPS	2.00	0.00	2.05	.83
2	DISCHARGE CFS	120.	4.	106.	11.
120.	VELOCITY FPS	2.35	.36	2.23	.92
3	DISCHARGE CFS	180.	20.	144.	16.
180.	VELOCITY FPS	2.55	.32	2.26	.89
4	DISCHARGE CFS	220.	67.	137.	17.
220.	VELOCITY FPS	1.53	.32	1.80	.69
5	DISCHARGE CFS	290.	170.	105.	15.
290.	VELOCITY FPS	.68	.27	1.07	.40
1	ELEV 806.60 KD	583.	1.	544.	38.
2	ELEV 808.14 KD	2031.	34.	1813.	184.
3	ELEV 809.00 KD	3714.	390.	2989.	335.
4	ELEV 809.65 KD	5945.	1461.	3998.	486.
5	ELEV 810.81 KD	16852.	9889.	6111.	850.

KD TABLE FOR CROSS SECTION +11.05

ELEVATION	AREA	KD	KD BY SEGMENT		
804.40	0.				
[illegible]	4.	52.	1.	48.	3.
[illegible]	14.	[illegible]	1.	[illegible]	14.
[illegible]	32.	[illegible]	1.	773.	63.
[illegible]	60.	1832.	18.	1649.	165.
[illegible]	143.	[illegible]	387.	2973.	334.
[illegible]	416.	[illegible]	[illegible]	[illegible]	583.
[illegible]	[illegible]	[illegible]	11769.	6405.	[illegible]
[illegible]	1340.	35227.	25219.	8643.	1297.
[illegible]	[illegible]	55755.	42782.	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	64519.	13645.	2765.
[illegible]	[illegible]	111074.	91367.	16479.	3167.
816.	3746.	[illegible]	124785.	19522.	5121.
817.	4444.	[illegible]	163453.	22755.	[illegible]
[illegible]	5145.	[illegible]	[illegible]	[illegible]	13129.
819.	[illegible]	[illegible]	253204.	[illegible]	[illegible]
82.	6547.	361799.	303716.	35664.	24419.
821.	7249.	[illegible]	357329.	[illegible]	[illegible]
[illegible]	7951.	[illegible]	416425.	[illegible]	[illegible]
823.	8653.	[illegible]	481208.	46256.	47410.
824.	9354.	[illegible]	551872.	50846.	57764.

RATING TABLE FOR SECTION 11.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	809.00	0.0	0.0						
BANK FULL	809.3	1.5	6.8	0.00	0.00	0.00			
1	810.98	20.2	45.0	0.00	0.00	0.00	45.00	810.1	.00932
2	812.17	46.1	120.0	0.00	0.00	0.00	120.00	810.9	.00819
3	812.64	62.8	180.0	0.00	0.00	0.00	180.00	811.3	.00898
4	813.05	89.2	220.0	0.00	0.00	0.00	220.00	811.6	.00727
5	813.57	139.9	290.0	0.00	0.00	0.00	290.00	811.9	.00673

SEGMENT TABLE FOR SECTION 11.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	42.	3.
45.	VELOCITY FPS	2.37	0.00	2.43	.95
2	DISCHARGE CFS	120.	1.	109.	10.
120.	VELOCITY FPS	2.89	.41	2.98	1.26
3	DISCHARGE CFS	180.	3.	161.	16.
180.	VELOCITY FPS	3.78	.49	3.53	1.47
4	DISCHARGE CFS	220.	14.	187.	20.
220.	VELOCITY FPS	3.30	.62	3.51	1.42
5	DISCHARGE CFS	290.	31.	232.	26.
290.	VELOCITY FPS	3.36	.54	3.65	1.45
1	ELEV 810.98 KD	466.	1.	438.	27.
2	ELEV 812.17 KD	1323.	2.	1207.	114.
3	ELEV 812.64 KD	1893.	22.	1700.	171.
4	ELEV 813.05 KD	2547.	118.	2198.	271.
5	ELEV 813.57 KD	3633.	372.	2933.	328.

D

KD TABLE FOR CROSS SECTION 11.1

ELEVATION	AREA	KD	KD BY SEGMENT		
809.00	0.				
810.	7.	128.	1.	123.	5.
811.	21.	477.	1.	448.	28.
812.	41.	1147.	1.	1049.	96.
813.	86.	2495.	98.	2137.	223.
814.	228.	4099.	825.	3588.	423.
815.	591.	11919.	5613.	5324.	707.
816.	1046.	25069.	16599.	7325.	1043.
817.	1540.	43155.	32[illegible].	9975.	1500.
818.	2079.	65497.	51269.	12[illegible]55.	2173.
819.	2670.	91870.	74616.	14758.	2496.
820.	3329.	125320.	103958.	17675.	3686.
821.	4[illegible]4.	167329.	140211.	20[illegible]00.	6318.
822.	4725.	214845.	180326.	24121.	10320.
823.	5425.	267442.	224580.	27639.	15147.
824.	6127.	324799.	272710.	31347.	20685.
825.	6828.	386658.	324516.	35[illegible]41.	26566.
826.	7530.	453350.	380298.	39319.	33769.
827.	8231.	526731.	441645.	43596.	41894.
828.	8933.	607044.	508757.	48069.	51372.
829.	9635.	694528.	581628.	52736.	62338.

RATING TABLE FOR SECTION 11.9 DA= 1.[illegible]

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
	822.20	0.0	0.0						
1	824.19	26.[illegible]	45.[illegible]	0.00	0.00	0.00	45.00	823.2	.00425
BANK FULL	824.4	29.9	57.8	0.00	0.00	0.00			
2	825.42	54.[illegible]	120.0	0.00	0.00	0.00	120.00	823.8	.00597
3	826.00	95.8	180.0	0.00	0.00	0.00	180.00	824.2	.00466
4	826.22	128.4	220.0	0.00	0.00	0.00	220.00	824.4	.00436
5	826.59	243.4	290.0	0.00	0.00	0.00	290.00	824.8	.00373

SEGMENT TABLE FOR SECTION 11.[illegible]

CSN		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	1.73	0.00	1.73	0.00
2	DISCHARGE CFS	120.	1.	118.	1.
120.	VELOCITY FPS	2.40	.25	2.41	.51
3	DISCHARGE CFS	180.	9.	166.	5.
180.	VELOCITY FPS	2.69	.40	2.76	.39
4	DISCHARGE CFS	220.	18.	193.	9.
220.	VELOCITY FPS	2.[illegible]	.45	2.[illegible]	.38
5	DISCHARGE CFS	290.	43.	205.	41.
290.	VELOCITY FPS	2.6[illegible]	.54	2.88	.45
1	ELEV 824.19 KD	69[illegible]	1.	668.	1.
2	ELEV 825.42 KD	1[illegible]	5.	1[illegible]	15.
3	ELEV 826.00 KD	2756.	65.	2627.	64.
4	ELEV 826.22 KD	3243.	178.	2947.	115.
5	ELEV 826.59 KD	4409.	604.	3[illegible]	330.

(E)

KD TABLE FOR CROSS SECTION 11.9

ELEVATION	AREA	KD	KD BY SEGMENT		
822.29	0.				
823.	7.	95.	1.	93.	1.
824.	23.	559.	1.	557.	1.
825.	42.	1469.	2.	1461.	5.
826.	96.	2828.	65.	2629.	64.
827.	431.	7477.	1503.	4162.	1811.
828.	1327.	19526.	4846.	5957.	8705.
829.	1819.	38529.	9792.	8004.	20615.
830.	2836.	69308.	19973.	10287.	38967.
831.	3998.	114256.	37138.	12791.	64209.
832.	5195.	170654.	61965.	15511.	95054.
833.	6306.	241376.	92432.	18435.	130448.
834.	7597.	319147.	127446.	21558.	170102.
835.	8799.	405016.	166494.	24873.	213596.
836.	10060.	503186.	212421.	28356.	262985.
837.	11252.	615726.	265709.	32997.	318886.
838.	12403.	743555.	327968.	36702.	381947.
839.	13605.	887584.	399617.	40100.	457847.

RATING TABLE FOR SECTION +11.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	835.10	0.0	0.0						
1	836.91	17.3	45.0	0.00	0.00	0.00	45.00	836.2	.01158
2	838.16	36.4	120.0	0.00	0.00	0.00	120.00	837.0	.01004
3	838.78	50.2	180.0	0.00	0.00	0.00	180.00	837.4	.01053
4	839.08	62.2	220.0	0.00	0.00	0.00	220.00	837.7	.01108
BANK FULL	839.2	66.8	235.4	0.00	0.00	0.00			
5	839.61	92.4	290.0	0.00	0.00	0.00	290.00	838.1	.01031

SEGMENT TABLE FOR SECTION +11.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	2.60	0.00	2.60	0.00
2	DISCHARGE CFS	120.	0.	120.	0.
120.	VELOCITY FPS	3.30	0.00	3.30	0.00
3	DISCHARGE CFS	179.	0.	179.	1.
180.	VELOCITY FPS	3.75	0.00	3.75	.38
4	DISCHARGE CFS	220.	0.	216.	4.
220.	VELOCITY FPS	4.01	0.00	4.03	.46
5	DISCHARGE CFS	290.	0.	273.	17.
290.	VELOCITY FPS	4.15	0.00	4.24	.61
1	ELEV 836.91 KD	418.	1.	416.	1.
2	ELEV 838.16 KD	1197.	1.	1195.	1.
3	ELEV 838.78 KD	1749.	1.	1745.	3.
4	ELEV 839.08 KD	2072.	1.	2055.	16.
5	ELEV 839.61 KD	2831.	1.	2697.	133.

KD TABLE FOR CROSS SECTION 11.99

ELEVATION	AREA	KD	KD BY SEGMENT		
835.1[illegible]	0.				
836.	6.	90.	1.	94.	1.
837.	19.	462.	1.	469.	1.
838.	34.	1078.	1.	1076.	1.
839.	59.	1993.	1.	1966.	10.
84[illegible].	124.	3608.	3.	3259.	323.
841.	249.	6466.	148.	4980.	1286.
842.	425.	11730.	646.	6985.	3950.
843.	656.	16684.	1654.	9254.	5753.
844.	924.	25318.	3246.	11767.	10270.
845.	1208.	35735.	5390.	14516.	15808.
846.	1511.	47963.	8099.	17491.	22758.
847.	1832.	62470.	11409.	20684.	32324.
848.	2157.	79212.	15863.	24085.	39212.
849.	2482.	97764.	21124.	27692.	49013.
85[illegible].	2[illegible].	117933.	26735.	31498.	59654.
851.	3134.	139558.	32957.	35500.	71197.
852.	3461.	1627[illegible]9.	39698.	39694.	83324.
853.	3797.	188[illegible]33.	47309.	44699.	96760.
854.	4114.	21[illegible]507.	56845.	49714.	111497.
855.	4440.	245463.	65359.	53536.	127517.

ROAD SECTION 12.0

NO.	HW	CFS	HL	TW	CSM
0	834.98	0.00	0.00	0.00	0.00
1	837.46	45.00	.40	837.06	45.00
2	839.57	120.00	1.20	838.37	120.00
3	840.80	190.00	1.76	839.04	160.00
4	841.89	220.00	1.52	839.37	220.00
5	842.95	290.00	1.04	841.91	290.00

MIN ROAD ELEVATION 840.60

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12335.	5.00		38.00	834.98	833.88	.024

220
198.7

(F)

30

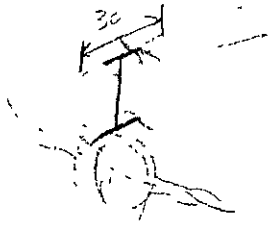
840.89

840.6

$A_1 = 8.7 = 30 \times .29$

$5.0 \times 38 = 190$

835



RATING TABLE FOR SECTION +12.05 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	835.10	0.0	0.0						
1	837.62	27.6	45.0	0.00	0.00	0.00	45.00	836.2	.00305
BANK FULL	838.2	66.8	113.0	0.00	0.00	0.00			
2	839.66	96.2	120.0	0.00	0.00	0.00	120.00	837.0	.00166
3	840.85	225.3	180.0	0.00	0.00	0.00	180.00	837.4	.00092
4	842.05	241.0	220.0	0.00	0.00	0.00	220.00	837.7	.00122
5	843.04	255.8	290.0	0.00	0.00	0.00	290.00	838.1	.00162

SEGMENT TABLE FOR SECTION +12.05

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	1.63	0.00	1.63	0.00
2	DISCHARGE CFS	120.	0.	112.	8.
120.	VELOCITY FPS	1.58	0.00	1.72	.25
3	DISCHARGE CFS	180.	4.	141.	35.
180.	VELOCITY FPS	1.41	.20	1.57	.30
4	DISCHARGE CFS	220.	6.	169.	45.
220.	VELOCITY FPS	1.64	.25	1.83	.36
5	DISCHARGE CFS	290.	9.	219.	62.
290.	VELOCITY FPS	2.07	.32	2.32	.46
1	ELEV 837.62 KD	814.	1.	812.	1.
2	ELEV 839.66 KD	2929.	2.	2767.	151.
3	ELEV 840.85 KD	5913.	111.	4701.	1101.
4	ELEV 842.05 KD	6240.	134.	4885.	1221.
5	ELEV 843.04 KD	6566.	160.	5062.	1344.

KD TABLE FOR CROSS SECTION +12.05

ELEVATION	AREA	KD	KD BY SEGMENT		
835.10	0.				
836.	6.	96.	1.	94.	1.
837.	19.	462.	1.	460.	1.
838.	34.	1078.	1.	1 7[illegible].	1.
839.	59.	1993.	1.	1966.	10.
840.	124.	3608.	3.	3259.	323.
841.	249.	6466.	14[illegible].	4990.	1286.
842.	425.	1 7[illegible]0.	646.	6985.	3[illegible]50.
843.	656.	16684.	1654.	9254.	5753.
844.	924.	25318.	3246.	11767.	10270.
845.	12[illegible]9.	35735.	5390.	14516.	15[illegible]08.
846.	1513.	47963.	8099.	17401.	22358.
847.	1832.	62430.	11409.	20684.	30324.
848.	2157.	79202.	15863.	24685.	39212.
849.	24[illegible]2.	97764.	21[illegible]24.	27692.	49[illegible]13.
850.	2[illegible]8.	117917.	26735.	31498.	59654.
851.	3134.	139558.	32957.	35[illegible].	71[illegible]7.
852.	3461.	162769.	39698.	39694.	83324.
853.	3[illegible]7.	18[illegible]73.	47309.	44[illegible]9.	96[illegible]0.
854.	4114.	215597.	55845.	48714.	111497.
855.	4440.	245463.	65359.	53536.	127517.

RATING TABLE FOR SECTION 12.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	836.19	0.0	0.0						
1	838.72	29.3	45.0	0.00	0.00	0.00	45.00	837.2	.00260
BANK FULL	840.2	66.8	115.5	0.00	0.00	0.00			
2	840.55	88.6	120.0	0.00	0.00	0.00	120.00	838.0	.00189
3	841.47	176.1	180.0	0.00	0.00	0.00	180.00	838.4	.00141
4	841.68	200.2	220.0	0.00	0.00	0.00	220.00	838.7	.00166
5	841.97	244.5	290.0	0.00	0.00	0.00	290.00	839.1	.00208

SEGMENT TABLE FOR SECTION 12.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	1.54	0.00	1.54	0.00
2	DISCHARGE CFS	120.	0.	114.	6.
120.	VELOCITY FPS	1.76	0.00	1.80	.26
3	DISCHARGE CFS	180.	2.	150.	28.
180.	VELOCITY FPS	1.69	.21	1.83	.33
4	DISCHARGE CFS	220.	3.	179.	38.
220.	VELOCITY FPS	1.87	.23	2.06	.38
5	DISCHARGE CFS	290.	8.	222.	60.
290.	VELOCITY FPS	2.14	.33	2.46	.47
1	ELEV 838.72 KD	882.	1.	880.	1.
2	ELEV 840.55 KD	2738.	1.	2622.	115.
3	ELEV 841.47 KD	4721.	30.	4032.	670.
4	ELEV 841.68 KD	5397.	76.	4413.	917.
5	ELEV 841.97 KD	6305.	139.	4920.	1245.

KD TABLE FOR CROSS SECTION 12.1

ELEVATION	AREA	KD	KD BY SEGMENT		
836.10	0.				
837.	6.	96.	1.	94.	1.
838.	19.	462.	1.	469.	1.
839.	34.	1[illegible].	1.	1[illegible].	1.
840.	50.	1[illegible].	1.	1966.	10.
841.	124.	3[illegible].	3.	3259.	323.
842.	240.	6466.	148.	4983.	1286.
843.	425.	1[illegible].	646.	6[illegible].	3050.
844.	676.	16684.	1654.	9254.	5753.
845.	924.	25318.	3246.	11767.	10270.
846.	1[illegible]	3[illegible].	5390.	14516.	15[illegible].
847.	1513.	4[illegible].	8[illegible].	17491.	22358.
848.	1832.	62430.	11409.	2[illegible].	3[illegible].
849.	2157.	79202.	15863.	24185.	39212.
850.	2452.	97764.	21124.	27692.	49013.
851.	2[illegible]	1[illegible].	2[illegible].	31[illegible].	59[illegible].
852.	3174.	13[illegible].	32957.	35[illegible].	71[illegible].
853.	3461.	16[illegible].	39698.	39604.	83324.
854.	3787.	19[illegible].	47309.	44[illegible].	96[illegible].
855.	4114.	21[illegible].	55245.	47714.	111497.
856.	4440.	245463.	65359.	53536.	127517.

RATING TABLE FOR SECTION 12.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	844.30	0.0	0.0						
BANK FULL	846.1	20.3	43.6	0.00	0.00	0.00			
1	846.16	21.3	45.0	0.00	0.00	0.00	45.00	845.4	.00938
2	847.17	42.3	120.0	0.00	0.00	0.00	120.00	846.1	.00906
3	847.76	56.6	180.0	0.00	0.00	0.00	180.00	846.5	.00911
4	848.08	65.3	220.0	0.00	0.00	0.00	220.00	846.7	.00921
5	848.51	77.2	290.0	0.00	0.00	0.00	290.00	847.0	.01005

SEGMENT TABLE FOR SECTION 12.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	45.	0.	45.	0.
45.	VELOCITY FPS	2.12	0.00	2.12	0.00
2	DISCHARGE CFS	120.	1.	119.	0.
120.	VELOCITY FPS	2.94	.55	2.93	0.00
3	DISCHARGE CFS	180.	3.	177.	0.
180.	VELOCITY FPS	3.35	.70	3.37	0.00
4	DISCHARGE CFS	220.	5.	215.	0.
220.	VELOCITY FPS	3.60	.79	3.62	0.00
5	DISCHARGE CFS	290.	8.	282.	0.
290.	VELOCITY FPS	4.05	.93	4.11	0.00
1	ELEV 846.16 KD	465.	2.	462.	1.
2	ELEV 847.17 KD	1260.	9.	1250.	1.
3	ELEV 847.76 KD	1885.	28.	1856.	1.
4	ELEV 848.08 KD	2292.	46.	2245.	1.
5	ELEV 848.51 KD	2893.	77.	2814.	2.

H

KD TABLE FOR CROSS SECTION 12.9

ELEVATION	AREA	KD	KD BY SEGMENT		
844.30	0.				
845.	5.	64.	1.	62.	1.
846.	18.	380.	1.	378.	1.
847.	38.	1098.	6.	1090.	1.
848.	63.	2184.	41.	2141.	1.
849.	93.	3723.	126.	3590.	6.
850.	131.	5711.	263.	5395.	50.
851.	197.	8089.	413.	7460.	164.
852.	320.	11626.	1361.	9832.	364.
853.	489.	16647.	3252.	12432.	804.
854.	692.	23178.	6021.	15273.	1804.
855.	926.	31269.	9655.	18342.	3206.
856.	1191.	41153.	14187.	21632.	5270.
857.	1480.	53067.	19768.	25134.	8071.
858.	1779.	67291.	26852.	28844.	11510.
859.	2085.	83756.	35517.	32758.	15437.
860.	2392.	101695.	45085.	36868.	19732.
861.	2704.	119978.	55424.	41168.	23374.
862.	3027.	140948.	66466.	45653.	28774.
863.	3344.	163643.	78383.	50325.	34896.
864.	3665.	187771.	91094.	55180.	41489.
865.	3987.	212982.	104763.	60208.	48368.
866.	4308.	240145.	118801.	65424.	56026.
867.	4630.	269312.	134448.	70827.	64443.
868.	4952.	300532.	151747.	76413.	73678.

----------80/80 LIST OF INPUT DATA----------

```
CHANGE    DISCHARGE
DISCHARGE -1.       30.       60.       85.       95.       12(.
END
COMPUTE   412.99    15.95     12.9
```

----------END OF 80/80 LIST----------

COMPUTE +12.99 15.95 12.9

----------STARTING DATA FROM PREVIOUS COMPUTATIONS----------

RATING TABLE FOR SECTION +12.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	850.00	0.0	0.0						
1	851.55	16.0	30.0	0.00	0.00	0.00	30.00	850.9	.00931
BANK FULL	851.8	20.3	42.9	0.00	0.00	0.00			
2	852.13	26.4	60.0	0.00	0.00	0.00	60.00	851.2	.00883
3	852.50	34.0	85.0	0.00	0.00	0.00	85.00	851.5	.00849
4	852.69	38.2	95.0	0.00	0.00	0.00	95.00	851.6	.00764
5	852.96	44.3	120.0	0.00	0.00	0.00	120.00	851.8	.00792

SEGMENT TABLE FOR SECTION +12.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.97	0.00	1.98	0.00
2	DISCHARGE CFS	60.	0.	60.	0.
60.	VELOCITY FPS	2.29	0.00	2.29	0.00
3	DISCHARGE CFS	85.	0.	85.	0.
85.	VELOCITY FPS	2.55	.53	2.55	0.00
4	DISCHARGE CFS	95.	1.	94.	0.
95.	VELOCITY FPS	2.56	.50	2.56	0.00
5	DISCHARGE CFS	120.	1.	119.	0.
120.	VELOCITY FPS	2.61	.55	2.61	0.00
1	ELEV 851.55 KD	311.	1.	309.	1.
2	ELEV 852.13 KD	638.	2.	635.	1.
3	ELEV 852.50 KD	922.	4.	918.	1.
4	ELEV 852.69 KD	1084.	6.	1079.	1.
5	ELEV 852.96 KD	1348.	11.	1336.	1.

KD TABLE FOR CROSS SECTION +12.99

ELEVATION	AREA	KD	KD BY SEGMENT		
85 .00	0.				
85 .	0.	0.	1.	[illegible].	1.
851.	8.	130.	1.	128.	1.
852.	24.	551.	2.	548.	1.
853.	45.	1388.	12.	1375.	1.
854.	71.	2590.	60.	2527.	2.
855.	104.	4278.	164.	4098.	11.
856.	146.	6342.	270.	5989.	75.
857.	227.	8992.	601.	8159.	208.
858.	363.	12936.	1888.	10591.	457.
859.	544.	18433.	4051.	13265.	1118.
860.	756.	25441.	7074.	16174.	2192.
861.	999.	34[illegible]20.	10664.	19310.	3746.
862.	1273.	44496.	15770.	22664.	6062.
863.	1568.	57[illegible]00.	21695.	26227.	9080.
864.	1871.	72059.	29346.	29997.	12635.
865.	2177.	88950.	35[illegible]38.	33969.	16631.
866.	2496.	106982.	48[illegible]30.	38136.	20784.
867.	2799.	125989.	58654.	42494.	24814.
868.	3119.	147692.	70020.	47037.	30604.
869.	3441.	17[illegible]693.	82[illegible]05.	51762.	36[illegible]04.
870.	3762.	195132.	94955.	56669.	43483.
871.	4083.	22[illegible]923.	108570.	61753.	50600.
872.	4405.	248682.	123366.	67026.	58468.
873.	4727.	278460.	139384.	72483.	67126.
874.	5[illegible]48.	310306.	156667.	78125.	76615.

ROAD SECTION 13.0

NO.	HW	CFS	HL	TW	FSM
0	850.41	0.00	0.00	0.00	0.00
1	852.86	30.00	2.46	851.90	30.00
2	854.56	60.00	2.08	852.48	60.00
3	855.40	85.00	2.56	852.84	85.00
4	855.99	95.00	2.56	853.33	95.00
5	856.98	120.00	2.58	853.32	120.00

MIN ROAD ELEVATION = 855.10

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12311.	4.00		16.00	850.41	850.24	.024

$\frac{95}{4 \times 40} = \frac{95}{160} = V = 1.484$

0.6

(I)

RATING TABLE FOR SECTION +13.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
1	850.50	0.0	0.0						
4	852.04	30.5	30.0	0.00	0.00	0.00	30.00	851.3	.00130
BANK FULL	853.7	47.1	43.9	0.00	0.00	0.00			
2	854.59	87.9	60.0	0.00	0.00	0.00	60.00	851.7	.00050
3	855.42	160.9	85.0	0.00	0.00	0.00	85.00	851.9	.00036
4	855.61	191.5	95.0	0.00	0.00	0.00	95.00	852.0	.00037
5	855.90	215.7	120.0	0.00	0.00	0.00	120.00	852.2	.00042

SEGMENT TABLE FOR SECTION +13.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	.98	0.00	.98	0.00
2	DISCHARGE CFS	60.	1.	57.	2.
60.	VELOCITY FPS	.28	.12	.89	.12
3	DISCHARGE CFS	85.	3.	72.	10.
85.	VELOCITY FPS	.83	.15	.99	.16
4	DISCHARGE CFS	95.	4.	78.	13.
95.	VELOCITY FPS	.85	.16	.97	.18
5	DISCHARGE CFS	120.	6.	95.	19.
120.	VELOCITY FPS	.94	.18	1.04	.21
1	ELEV 852.04 KD	831.	1.	829.	1.
2	ELEV 854.59 KD	2650.	23.	2456.	77.
3	ELEV 855.42 KD	4448.	148.	3825.	474.
4	ELEV 855.61 KD	4923.	192.	4130.	600.
5	ELEV 855.90 KD	5792.	285.	4645.	862.

KD TABLE FOR CROSS SECTION +13.1

ELEVATION	AREA	KD	KD BY SEGMENT		
850.50	0.				
851.	3.	34.	1.	32.	1.
852.	15.	314.	1.	312.	1.
853.	32.	874.	1.	874.	1.
854.	55.	1816.	3.	1795.	7.
855.	121.	3478.	68.	3157.	223.
856.	227.	6148.	324.	5224.	968.
857.	374.	9948.	956.	6722.	2279.
858.	572.	15674.	1748.	9946.	4346.
859.	822.	22809.	3137.	11370.	7449.
860.	1131.	36244.	4443.	14524.	11729.
861.	1524.	41496.	6180.	16896.	18528.
862.	1970.	57720.	9869.	19977.	27769.
863.	2420.	77469.	14833.	23261.	39283.
864.	2871.	99821.	20607.	26743.	52425.
865.	3322.	124578.	27979.	30418.	66099.
866.	3774.	151241.	34138.	34277.	82817.
867.	4225.	181493.	42419.	38339.	100009.
868.	4677.	215471.	52040.	42600.	121773.
869.	5129.	253352.	63120.	47058.	145288.

RATING TABLE FOR SECTION 13.0 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	864.00	0.0	0.0						
1	866.73	14.5	30.0	0.00	0.00	0.00	30.00	865.7	.01096
2	867.04	25.3	60.0	0.00	0.00	0.00	60.00	866.1	.00884
3	867.50	33.7	85.0	0.00	0.00	0.00	85.00	866.3	.00802
4	867.67	36.2	95.0	0.00	0.00	0.00	95.00	866.4	.00819
5	867.91	41.7	120.0	0.00	0.00	0.00	120.00	866.6	.00878

SEGMENT TABLE FOR SECTION 13.0

CSN		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	2.07	0.00	2.07	0.00
2	DISCHARGE CFS	60.	0.	60.	0.
60.	VELOCITY FPS	2.37	0.00	2.37	0.00
3	DISCHARGE CFS	85.	0.	85.	0.
85.	VELOCITY FPS	2.53	0.00	2.53	0.00
4	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	2.63	0.00	2.63	0.00
5	DISCHARGE CFS	120.	0.	120.	0.
120.	VELOCITY FPS	2.88	0.00	2.89	0.00
1	ELEV 866.35 KD	286.	1.	284.	1.
2	ELEV 867.04 KD	638.	1.	636.	1.
3	ELEV 867.50 KD	940.	1.	947.	1.
4	ELEV 867.65 KD	1040.	1.	1047.	1.
5	ELEV 867.91 KD	1281.	1.	1279.	1.

KD TABLE FOR CROSS SECTION 13.9

ELEVATION	AREA	KD	KD BY SEGMENT		
864.90	0.				
865.	0.	4.	1.	3.	1.
866.	10.	167.	1.	165.	1.
867.	25.	617.	1.	615.	1.
868.	44.	1366.	1.	1362.	2.
869.	89.	2699.	24.	2573.	81.
870.	181.	4947.	191.	4121.	596.
871.	311.	8256.	601.	5952.	1609.
872.	485.	12796.	1337.	8043.	3410.
873.	713.	19321.	2526.	10375.	6103.
874.	992.	26952.	4133.	12939.	9865.
875.	1348.	35972.	5091.	15724.	15123.
876.	1789.	50665.	8177.	18722.	23731.
877.	2240.	69429.	12837.	21926.	34639.
878.	2691.	90725.	18267.	25329.	47097.
879.	3142.	114233.	24372.	29924.	60937.
880.	3593.	140137.	31174.	32709.	76211.
881.	4045.	168957.	38953.	36690.	93432.
882.	4496.	201420.	48023.	40871.	113148.
883.	4948.	237732.	58505.	45251.	135540.
884.	5400.	278101.	70522.	49826.	160794.

RATING TABLE FOR SECTION 13.95 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	872.30	0.0	0.0						
1	873.94	17.4	30.0	0.00	0.00	0.00	30.00	873.1	.00642
2	874.61	28.3	60.0	0.00	0.00	0.00	60.00	873.5	.00649
3	875.04	36.3	85.0	0.00	0.00	0.00	85.00	873.7	.00651
4	875.32	35.9	95.0	0.00	0.00	0.00	95.00	873.8	.00841
5	875.78	43.5	120.0	0.00	0.00	0.00	120.00	874.0	.00797

SEGMENT TABLE FOR SECTION 13.95

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.72	0.00	1.72	0.00
2	DISCHARGE CFS	60.	0.	60.	0.
60.	VELOCITY FPS	2.13	0.00	2.13	0.00
3	DISCHARGE CFS	85.	0.	85.	0.
85.	VELOCITY FPS	2.35	0.00	2.34	0.00
4	DISCHARGE CFS	95.	0.	95.	0.
95.	VELOCITY FPS	2.44	0.00	2.43	0.00
5	DISCHARGE CFS	120.	0.	120.	0.
120.	VELOCITY FPS	2.81	0.00	2.80	0.00
1	ELEV 873.94 KD	374.	1.	372.	1.
2	ELEV 874.61 KD	745.	1.	743.	1.
3	ELEV 875.04 KD	1054.	1.	1052.	1.
4	ELEV 875.32 KD	1036.	1.	1034.	1.
5	ELEV 875.78 KD	1343.	1.	1341.	1.

KD TABLE FOR CROSS SECTION 13.95

ELEVATION	AREA	KD	KD BY SEGMENT		
872.37	0.				
873.	5.	67.	1.	65.	1.
874.	18.	404.	1.	402.	1.
875.	36.	1024.	1.	1022.	1.
876.	64.	2069.	5.	2037.	16.
877.	138.	3924.	102.	3478.	333.
878.	253.	6709.	407.	5101.	1197.
879.	411.	10817.	998.	7176.	2614.
880.	618.	16321.	1986.	9412.	4883.
881.	876.	23614.	3483.	11884.	8201.
882.	1200.	31990.	4602.	14592.	12754.
883.	1612.	44334.	6789.	17496.	19959.
884.	2160.	61504.	10816.	20619.	29978.
885.	2510.	81725.	15916.	23941.	41772.
886.	2961.	104495.	21410.	27462.	55162.
887.	3413.	129583.	28398.	31173.	69979.
888.	3864.	157004.	35693.	35073.	86255.
889.	4316.	187984.	44232.	39175.	104951.
890.	4767.	222733.	54135.	43476.	126259.
891.	5219.	261454.	65523.	47973.	150337.

ROAD SECTION 13.96

NO.	HW	CFS	HL	TW	CSM
0	872.60	0.00	0.00	0.00	0.00
1	874.30	30.00	.16	874.14	30.00
2	875.12	60.00	.32	874.80	60.00
3	875.95	85.00	.72	875.23	85.00
4	876.13	95.00	.88	875.25	95.00
5	876.65	120.00	1.04	875.61	120.00

MIN ROAD ELEVATION 876.30

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	4	12333.	2.50		30.00	872.40	872.60	.025

$\frac{95}{2.5 \times 30 \times 75}$

(K)

RATING TABLE FOR SECTION 13.97 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	872.30	0.0	0.0						
1	874.37	24.3	30.0	0.00	0.00	0.00	30.00	873.1	.00249
2	875.20	39.4	60.0	0.00	0.00	0.00	60.00	873.5	.00257
BANK FULL	875.5	47.[illegible]	69.4	0.00	0.00	0.00			
3	876.[illegible]0	64.4	85.0	0.00	0.00	0.00	85.00	873.7	.00169
4	876.18	75.4	95.[illegible]	0.00	0.00	0.00	95.00	873.8	.00164
5	876.69	110.8	120.0	0.00	0.00	0.00	120.00	874.0	.08137

SEGMENT TABLE FOR SECTION 13.97

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.24	0.00	1.24	0.00
2	DISCHARGE CFS	60.	0.	60.	0.
60.	VELOCITY FPS	1.53	0.00	1.52	0.00
3	DISCHARGE CFS	85.	0.	84.	1.
85.	VELOCITY FPS	1.49	.17	1.49	.18
4	DISCHARGE CFS	95.	1.	92.	2.
95.	VELOCITY FPS	1.53	.20	1.54	.20
5	DISCHARGE CFS	120.	2.	110.	8.
120.	VELOCITY FPS	1.52	.23	1.57	.25
1	ELEV 874.37 KD	601.	1.	599.	1.
2	ELEV 875.20 KD	1192.	1.	1180.	1.
3	ELEV 876.00 KD	2057.	5.	2037.	16.
4	ELEV 876.18 KD	2316.	10.	2272.	34.
5	ELEV 876.69 KD	3215.	53.	2985.	176.

KD TABLE FOR CROSS SECTION 13.97

ELEVATION	AREA	KD	KD BY SEGMENT		
872.30	0.				
873.	5.	67.	1.	65.	1.
874.	18.	404.	1.	402.	1.
875.	36.	1024.	1.	1022.	1.
876.	64.	2069.	5.	2037.	16.
877.	138.	3924.	102.	3470.	333.
878.	253.	6799.	407.	5191.	1187.
879.	411.	10817.	998.	7176.	2614.
880.	618.	16321.	1984.	9412.	4888.
881.	876.	23614.	3483.	11884.	8201.
882.	1200.	31980.	4602.	14582.	12754.
883.	1612.	44734.	6769.	17496.	19959.
884.	2160.	61504.	10816.	20610.	29978.
885.	2510.	81725.	15916.	23941.	41772.
886.	2961.	104495.	21913.	27462.	55162.
887.	3413.	129583.	28393.	31173.	69979.
888.	3864.	157004.	35693.	35077.	86255.
889.	4316.	187984.	44232.	39175.	104951.
890.	4767.	222732.	54135.	43476.	126250.
891.	5219.	261454.	65523.	47973.	151337.

RATING TABLE FOR SECTION 13.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	877.10	0.0	0.0						
BANK FULL	878.5	12.8	26.3	0.00	0.00	0.00			
1	878.72	15.4	30.0	0.00	0.00	0.00	30.00	878.2	.01299
2	879.13	24.4	60.0	0.00	0.00	0.00	60.00	878.5	.01319
3	879.44	32.1	85.0	0.00	0.00	0.00	85.00	878.7	.01207
4	879.51	33.9	95.0	0.00	0.00	0.00	95.00	878.8	.01295
5	879.78	47.4	120.0	0.00	0.00	0.00	120.00	879.0	.01189

SEGMENT TABLE FOR SECTION 13.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.93	0.00	1.95	0.00
2	DISCHARGE CFS	60.	0.	60.	0.
60.	VELOCITY FPS	2.46	0.00	2.52	0.00
3	DISCHARGE CFS	85.	0.	84.	0.
85.	VELOCITY FPS	2.79	.43	2.79	.56
4	DISCHARGE CFS	95.	1.	94.	1.
95.	VELOCITY FPS	2.97	.43	2.94	.55
5	DISCHARGE CFS	120.	1.	115.	1.
120.	VELOCITY FPS	3.13	.41	3.14	.47
1	ELEV [illegible]	263.	1.	260.	2.
2	ELEV 879.13 KD	522.	2.	517.	3.
3	ELEV 879.44 KD	774.	4.	765.	4.
4	ELEV 879.51 KD	834.	5.	825.	5.
5	ELEV 879.78 KD	1091.	17.	1065.	9.

KD TABLE FOR CROSS SECTION 13.99

ELEVATION	AREA	KD	KD BY SEGMENT		
877.10	0.				
878.	5.	55.	1.	53.	1.
879.	22.	435.	2.	431.	3.
880.	59.	1360.	41.	1294.	17.
881.	161.	3324.	616.	2503.	177.
882.	299.	6570.	1866.	4613.	681.
883.	472.	11140.	3692.	5789.	1656.
884.	673.	17277.	6135.	7819.	3299.
885.	897.	25004.	9197.	10088.	5719.
886.	1143.	34214.	12857.	12579.	8769.
887.	1419.	44960.	17149.	15285.	12526.
888.	1697.	57286.	22093.	18199.	16988.
889.	2003.	71738.	28203.	21312.	22216.
890.	2318.	89057.	35510.	24617.	29093.
891.	2633.	109124.	43311.	28111.	36874.
892.	2949.	129663.	51493.	31790.	45342.
893.	3265.	150596.	60427.	35647.	54512.
894.	3582.	171930.	69919.	39681.	64335.
895.	3903.	193922.	80224.	43901.	75209.
896.	4215.	216513.	91367.	48302.	87177.
897.	4532.	239844.	103359.	52884.	100283.

ROAD SECTION 14.0

NO.	HW	CFS	HL	TW	CSM
0	878.10	0.00	0.00	0.00	0.00
1	880.01	30.00	1.12	878.89	30.00
2	881.04	60.00	1.68	879.36	60.00
3	881.69	85.00	2.00	879.69	85.00
4	881.93	95.00	2.16	879.77	95.00
5	882.43	120.00	2.40	880.03	120.00

MIN ROAD ELEVATION -REG.20

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	13322.	6.00		70.00	878.10	877.17	.024

$\frac{95}{6 \times 70} = \frac{95}{420} = 0.226$

RATING TABLE FOR SECTION 14.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
	878.20	0.0	0.0						
BANK FULL	879.6	12.3	21.8	0.00	0.00	0.00			
1	880.13	22.3	30.0	0.00	0.00	0.00	30.00	879.3	.00434
2	881.09	58.5	60.0	0.00	0.00	0.00	60.00	879.6	.00197
3	881.72	116.0	85.0	0.00	0.00	0.00	85.00	879.8	.00124
4	881.95	143.3	95.0	0.00	0.00	0.00	95.00	879.9	.00103
5	882.45	204.6	120.0	0.00	0.00	0.00	120.00	880.1	.00077

SEGMENT TABLE FOR SECTION 14.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.36	0.00	1.37	0.00
2	DISCHARGE CFS	60.	2.	57.	1.
60.	VELOCITY FPS	1.73	.17	1.38	.16
3	DISCHARGE CFS	85.	12.	70.	3.
85.	VELOCITY FPS	1.23	.25	1.31	.21
4	DISCHARGE CFS	95.	17.	73.	5.
95.	VELOCITY FPS	1.17	.27	1.26	.22
5	DISCHARGE CFS	120.	28.	83.	9.
120.	VELOCITY FPS	1.03	.29	1.22	.23
1	ELEV [illegible] KD	455.	2.	451.	3.
2	ELEV 881.09 KD	1343.	40.	1283.	16.
3	ELEV 881.72 KD	2300.	304.	2003.	84.
4	ELEV 881.95 KD	2939.	493.	2309.	137.
5	ELEV 882.45 KD	4313.	1502.	3502.	310.

KD TABLE FOR CROSS SECTION 14.1

ELEVATION	AREA	KD	KD BY SEGMENT		
878.20	0.				
879.	4.	41.	1.	39.	1.
880.	20.	372.	1.	368.	2.
881.	54.	1240.	28.	1168.	13.
882.	149.	3169.	529.	2369.	148.
883.	282.	6193.	1727.	3852.	615.
884.	452.	11627.	3475.	5601.	1551.
885.	652.	16586.	5862.	7605.	3095.
886.	874.	24158.	8860.	9856.	5433.
887.	1118.	33215.	12457.	12319.	8423.
888.	1383.	43[illegible].	16687.	15104.	12103.
889.	1668.	55974.	21565.	17897.	16511.
890.	1972.	72200.	27545.	20991.	21663.
891.	2284.	87210.	34561.	24277.	28338.
892.	2610.	106147.	43305.	27754.	35088.
893.	2918.	126559.	53636.	31414.	44492.
894.	3234.	149369.	59522.	35254.	53586.
895.	3550.	171509.	68933.	39270.	63306.
896.	3867.	196[illegible].	78158.	43471.	74473.
897.	4183.	223693.	90215.	47854.	85929.
898.	4500.	252818.	102121.	52418.	98920.

RATING TABLE FOR SECTION 14.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	878.40	0.0	0.0						
BANK FULL	879.8	12.0	21.8	0.00	0.00	0.00			
1	880.33	22.3	30.0	0.00	0.00	0.00	30.00	879.5	.00459
2	881.21	54.3	60.0	0.00	0.00	0.00	60.00	879.8	.00229
3	881.80	103.9	85.0	0.00	0.00	0.00	85.00	880.0	.00153
4	882.02	127.0	95.0	0.00	0.00	0.00	95.00	880.1	.00129
5	882.50	185.0	120.0	0.00	0.00	0.00	120.00	880.3	.00096

SEGMENT TABLE FOR SECTION 14.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.37	0.00	1.37	0.00
2	DISCHARGE CFS	60.	2.	57.	1.
60.	VELOCITY FPS	1.43	.18	1.45	.21
3	DISCHARGE CFS	85.	11.	72.	3.
85.	VELOCITY FPS	1.31	.24	1.40	.23
4	DISCHARGE CFS	95.	14.	77.	4.
95.	VELOCITY FPS	1.24	.27	1.38	.23
5	DISCHARGE CFS	120.	21.	86.	8.
120.	VELOCITY FPS	1.13	.35	1.32	.24
1	ELEV 880.33 KD	453.	2.	448.	3.
2	ELEV 881.21 KD	1243.	29.	1200.	13.
3	ELEV 881.80 KD	2130.	214.	1854.	62.
4	ELEV 882.02 KD	2642.	398.	2137.	107.
5	ELEV 882.50 KD	3846.	822.	2779.	246.

(M)

KD TABLE FOR CROSS SECTION 14.9

ELEVATION	AREA	KD	KD BY SEGMENT		
878.40	0.				
879.	2.	24.	1.	22.	1.
880.	15.	265.	1.	262.	2.
881.	44.	1021.	12.	993.	8.
882.	125.	2601.	386.	2112.	103.
883.	254.	5460.	1427.	3531.	484.
884.	414.	9632.	3085.	5232.	1314.
885.	609.	15260.	5340.	7186.	2716.
886.	828.	22519.	8210.	9782.	4908.
887.	1069.	31272.	11682.	11806.	7761.
888.	1329.	41556.	15785.	14449.	11303.
889.	1610.	53406.	20532.	17302.	15556.
890.	1911.	67154.	26257.	20356.	20554.
891.	2223.	83589.	33077.	23604.	26871.
892.	2539.	102258.	40718.	27044.	34474.
893.	2854.	122412.	48948.	30669.	42785.
894.	3170.	143972.	57735.	34474.	51763.
895.	3487.	166726.	66986.	38452.	61280.
896.	3804.	191426.	77047.	42616.	71834.
897.	4120.	218114.	87936.	46963.	83469.
898.	4437.	246828.	99671.	51491.	96229.

RATING TABLE FOR SECTION 14.05 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	878.40	0.0	0.0						
BANK FULL	879.8	12.0	17.6	0.00	0.00	0.00			
1	880.78	33.1	30.0	0.00	0.00	0.00	30.00	879.5	.00137
2	881.40	84.5	60.0	0.00	0.00	0.00	60.00	879.8	.00109
3	882.11	138.4	85.0	0.00	0.00	0.00	85.00	880.0	.00088
4	882.52	163.2	95.0	0.00	0.00	0.00	95.00	880.1	.00079
5	882.75	219.3	120.0	0.00	0.00	0.00	120.00	880.3	.00067

SEGMENT TABLE FOR SECTION 14.05

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	.96	.14	.96	.18
2	DISCHARGE CFS	60.	6.	53.	2.
60.	VELOCITY FPS	1.08	.20	1.13	.18
3	DISCHARGE CFS	85.	14.	66.	4.
85.	VELOCITY FPS	1.14	.24	1.15	.28
4	DISCHARGE CFS	95.	19.	70.	6.
95.	VELOCITY FPS	1.01	.25	1.12	.21
5	DISCHARGE CFS	120.	29.	81.	10.
120.	VELOCITY FPS	.97	.28	1.15	.22
1	ELEV [illegible] KD	811.	5.	802.	4.
2	ELEV 881.40 KD	1787.	119.	1428.	77.
3	ELEV 882.11 KD	2846.	463.	2256.	127.
4	ELEV 882.52 KD	3342.	693.	2527.	182.
5	ELEV 882.75 KD	4625.	1116.	3154.	355.

KD TABLE FOR CROSS SECTION 14.95

ELEVATION	AREA	KD	KD PY SEGMENT		
878.40	0.				
879.	2.	24.	1.	22.	1.
880.	15.	265.	1.	262.	2.
881.	44.	1021.	12.	993.	8.
882.	125.	2601.	386.	2112.	103.
883.	254.	5460.	1427.	3530.	484.
884.	414.	9632.	3085.	5232.	1314.
885.	609.	15260.	5340.	7186.	2716.
886.	828.	22519.	8210.	9382.	4908.
887.	1069.	31272.	11682.	11876.	7761.
888.	1329.	41556.	15785.	14449.	11303.
889.	1610.	53406.	20532.	17302.	15556.
890.	1911.	67184.	26257.	20356.	20554.
891.	2223.	83599.	33077.	23604.	26871.
892.	2539.	102258.	40718.	27044.	34474.
893.	2854.	122412.	48948.	30669.	42785.
894.	3170.	143972.	57735.	34474.	51763.
895.	3487.	166726.	66986.	38452.	61280.
896.	3804.	191426.	77047.	42616.	71834.
897.	4120.	218114.	87936.	46963.	83469.
898.	4437.	246828.	99671.	51491.	96229.

ROAD SECTION 14.96

NO.	HW	CFS	HL	TW	CSM
0	880.20	0.00	0.00	0.00	0.00
1	881.40	30.00	.16	881.24	30.00
2	882.32	60.00	.48	881.84	60.00
3	882.97	85.00	.72	882.25	85.00
4	883.31	95.00	.88	882.43	95.00
5	884.18	120.00	1.36	882.82	120.00

MIN ROAD ELEVATION = 884.00

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	4	12333.	2.50		30.00	880.20	879.90	.025

(N)

$\frac{95}{2.5 \times 30} = 1.26$

$2.5 \times 10 \quad \frac{95}{25} = 3.8$

↑ per

RATING TABLE FOR SECTION 14.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	880.49	0.0	0.0						
BANK FULL	882.1	12.[illegible]	29.9	0.00	0.00	0.00			
1	882.49	12.[illegible]	30.0	0.00	0.00	0.00	30.00	881.8	.02761
2	883.20	23.7	60.0	0.00	0.00	0.00	60.00	882.1	.01425
3	883.80	39.2	85.0	0.00	0.00	0.00	85.00	882.3	.00829
4	884.47	52.7	95.0	0.00	0.00	0.00	95.00	882.4	.00610
5	884.93	118.4	120.0	0.00	0.00	0.00	120.00	882.6	.00235

SEGMENT TABLE FOR SECTION 14.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	2.54	0.00	2.49	0.00
2	DISCHARGE CFS	60.	0.	60.	0.
60.	VELOCITY FPS	2.55	0.00	2.58	0.00
3	DISCHARGE CFS	85.	1.	83.	1.
85.	VELOCITY FPS	2.49	.34	2.47	.41
4	DISCHARGE CFS	95.	3.	91.	1.
95.	VELOCITY FPS	2.32	.30	2.33	.34
5	DISCHARGE CFS	120.	17.	98.	5.
120.	VELOCITY FPS	1.66	.35	1.82	.30
1	ELEV 882.00	KD	180.	1.	177.	1.
2	ELEV 882.69	KD	503.	2.	498.	3.
3	ELEV 883.20	KD	929.	8.	914.	6.
4	ELEV 883.67	KD	1285.	26.	1167.	12.
5	ELEV 884.23	KD	2452.	377.	2036.	89.

KD TABLE FOR CROSS SECTION 14.99

ELEVATION	AREA	KD	KD BY SEGMENT		
[illegible].69	0.				
881.	1.	7.	1.	5.	1.
882.	10.	146.	1.	144.	1.
883.	31.	746.	4.	738.	4.
884.	95.	2010.	165.	1750.	50.
[illegible]	217.	45[illegible]2.	1067.	3099.	376.
886.	367.	8271.	2526.	4708.	1011.
887.	55[illegible].	13459.	4624.	6594.	2230.
888.	762.	20271.	7324.	8723.	4215.
889.	997.	28[illegible].	10613.	11080.	6968.
890.	1251.	38420.	14533.	13661.	10210.
891.	1526.	49[illegible].	19090.	16454.	14251.
892.	1821.	62954.	24460.	19450.	19029.
893.	2132.	78[illegible].	30299.	22643.	24939.
894.	2447.	96776.	38483.	26029.	32256.
895.	2763.	116465.	46524.	29670.	40334.
896.	3079.	137506.	55097.	33350.	49044.
897.	3395.	159929.	64221.	37270.	58415.
898.	3712.	184[illegible]0.	74[illegible]45.	41389.	68664.
899.	4028.	210167.	84692.	45683.	79981.
900.	4345.	23[illegible]290.	96180.	50159.	92410.
901.	4661.	268468.	109527.	54914.	1[illegible]5995.

RATING TABLE FOR SECTION 15.0 DA= 1.0

	NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
	0	880.40	0.0	0.0						
	1	882.52	8.4	30.0	0.00	0.00	0.00	30.00	881.6	.02647
	2	883.25	21.5	60.0	0.00	0.00	0.00	60.00	882.3	.03831
BANK FULL		883.4	25.4	68.7	0.00	0.00	0.00			
	3	883.69	53.8	85.0	0.00	0.00	0.00	85.00	882.8	.02704
	4	883.84	72.5	95.0	0.00	0.00	0.00	95.00	883.1	.02128
	5	884.39	147.1	120.0	0.00	0.00	0.00	120.00	883.4	.00702

SEGMENT TABLE FOR SECTION 15.0

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	3.52	0.00	3.55	0.00
2	DISCHARGE CFS	60.	8.	52.	0.
60.	VELOCITY FPS	4.35	.75	4.61	0.00
3	DISCHARGE CFS	85.	29.	51.	5.
85.	VELOCITY FPS	3.43	.84	3.95	.82
4	DISCHARGE CFS	95.	17.	50.	7.
95.	VELOCITY FPS	2.92	.88	3.68	.72
5	DISCHARGE CFS	120.	28.	57.	16.
120.	VELOCITY FPS	1.53	.65	2.30	.59
1	ELEV 882.52 KD	184.	1.	182.	1.
2	ELEV 883.25 KD	291.	21.	269.	1.
3	ELEV 883.68 KD	471.	129.	332.	8.
4	ELEV 883.84 KD	610.	215.	360.	25.
5	ELEV 884.39 KD	1401.	765.	462.	174.

KD TABLE FOR CROSS SECTION 15.0

ELEVATION	AREA	KD	KD BY SEGMENT		
880.40	0.				
881.	2.	32.	1.	30.	1.
882.	6.	127.	1.	125.	1.
883.	15.	255.	4.	239.	1.
884.	87.	812.	350.	389.	73.
885.	248.	2916.	1860.	586.	456.
886.	433.	6600.	4539.	814.	1248.
887.	639.	11639.	8129.	1070.	2427.
888.	862.	18016.	12710.	1354.	3948.
889.	1103.	25728.	18272.	1665.	5787.
890.	1360.	34094.	25041.	2008.	7050.
891.	1630.	45963.	33169.	2359.	10431.
892.	1909.	58434.	42456.	2742.	13233.
893.	2199.	72214.	52797.	3148.	16356.
894.	2494.	87757.	64964.	3576.	19816.
895.	2805.	105536.	78214.	4025.	23302.
896.	3132.	119632.	89509.	4495.	25628.
897.	3467.	144133.	104799.	4986.	31045.
898.	3823.	162240.	122004.	5497.	36437.
899.	4140.	177248.	138173.	6027.	43. 43.
900.	4476.	212452.	156254.	6577.	49623.
901.	4813.	239537.	175623.	7146.	56799.
902.	5156.	268544.	196702.	7774.	64991.
903.	5486.	299510.	218313.	8341.	73748.

RATING TABLE FOR SECTION 15.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	884.10	0.0	0.0						
BANK FULL	885.6	9.3	17.5	0.00	0.00	0.00			
1	886.70	31.7	30.0	0.00	0.00	0.00	30.00	885.3	.00207
2	887.29	83.2	60.0	0.00	0.00	0.00	60.00	885.8	.00190
3	887.56	126.7	85.0	0.00	0.00	0.00	85.00	886.0	.00179
4	887.53	122.7	95.0	0.00	0.00	0.00	95.00	886.1	.00239
5	887.70	149.9	120.0	0.00	0.00	0.00	120.00	886.5	.00244

SEGMENT TABLE FOR SECTION 15.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	27.	3.
30.	VELOCITY FPS	1.20	.21	1.72	.31
2	DISCHARGE CFS	60.	3.	49.	17.
60.	VELOCITY FPS	1.23	.22	1.35	.41
3	DISCHARGE CFS	85.	7.	47.	31.
85.	VELOCITY FPS	1.18	.22	1.44	.49
4	DISCHARGE CFS	95.	7.	53.	35.
95.	VELOCITY FPS	1.36	.25	1.65	.56
5	DISCHARGE CFS	120.	10.	62.	47.
120.	VELOCITY FPS	1.36	.27	1.81	.62
1	ELEV 886.70 KD	627.	4.	611.	12.
2	ELEV 887.29 KD	1304.	21.	969.	314.
3	ELEV 887.56 KD	1911.	98.	1153.	662.
4	ELEV 887.53 KD	1839.	85.	1135.	618.
5	ELEV 887.70 KD	2436.	212.	1258.	966.

(P)

KD TABLE FOR CROSS SECTION 15.0

ELEVATION	AREA	KD	KD BY SEGMENT		
884.10	0.				
885.	4.	44.	1.	38.	1.
886.	14.	282.	3.	278.	2.
887.	47.	931.	6.	786.	94.
888.	264.	3931.	675.	1484.	1555.
889.	756.	14428.	2178.	2748.	4935.
890.	1449.	34604.	21503.	3362.	9620.
891.	2304.	67214.	46596.	4517.	16043.
892.	2977.	108847.	78854.	5805.	24173.
893.	3769.	152331.	117027.	7218.	34075.
894.	4577.	215746.	160980.	8752.	46008.
895.	5462.	285578.	210274.	10401.	59899.
896.	6242.	352513.	264611.	12163.	75836.
897.	7121.	431356.	323528.	14133.	93788.
898.	7975.	517186.	387200.	16008.	113968.
899.	8863.	612805.	455366.	18787.	137327.
900.	9762.	713013.	527841.	20206.	164570.
901.	10663.	823814.	604452.	22544.	196818.
902.	11564.	943330.	684764.	24917.	233614.
903.	12465.	1062991.	769022.	27382.	266547.
904.	13367.	1192843.	857805.	29944.	305137.
905.	14268.	1331112.	951724.	32613.	347005.
906.	15170.	1477596.	1050811.	35356.	392254.
907.	16071.	1632688.	1155093.	38204.	440982.

RATING TABLE FOR SECTION 15.93 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	885.60	0.0	0.0						
BANK FULL	887.1	9.3	19.7	0.00	1.60	0.00			
1	887.89	19.7	30.0	0.00	0.00	0.00	30.00	886.8	.00430
2	888.49	47.0	60.0	0.00	0.00	0.00	60.00	887.3	.00424
3	888.77	60.4	85.0	0.00	0.00	0.00	85.00	887.5	.00401
4	888.82	68.7	95.0	0.00	0.00	0.00	95.00	887.6	.00431
5	888.92	104.4	120.0	0.00	0.00	0.00	120.00	861.0	.00522

SEGMENT TABLE FOR SECTION 15.93

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	30.	0.	30.	0.
30.	VELOCITY FPS	1.56	0.00	1.60	.23
2	DISCHARGE CFS	60.	0.	50.	9.
60.	VELOCITY FPS	1.82	.25	1.95	.48
3	DISCHARGE CFS	85.	4.	57.	24.
85.	VELOCITY FPS	1.78	.31	1.97	.61
4	DISCHARGE CFS	95.	5.	61.	29.
95.	VELOCITY FPS	1.85	.33	2.06	.66
5	DISCHARGE CFS	120.	8.	72.	40.
120.	VELOCITY FPS	2.13	.37	2.23	.77
1	ELEV 887.89 KD	457.	3.	452.	2.
2	ELEV 888.49 KD	875.	6.	780.	89.
3	ELEV 888.77 KD	1275.	10.	968.	298.
4	ELEV 888.82 KD	1363.	24.	991.	348.
5	ELEV 888.92 KD	1556.	45.	1057.	454.

KD TABLE FOR CROSS SECTION 15.93

ELEVATION	AREA	KD	KD BY SEGMENT		
885.60	0.				
886.	1.	6.	1.	4.	1.
887.	8.	122.	1.	120.	1.
888.	21.	514.	3.	509.	3.
889.	119.	1861.	72.	1113.	567.
890.	481.	7980.	2964.	1896.	3004.
891.	1090.	22897.	12936.	2836.	7014.
892.	1823.	50270.	33675.	3924.	12671.
893.	2589.	87012.	61951.	5145.	19894.
894.	3372.	132265.	96879.	6495.	28867.
895.	4172.	185816.	138068.	7969.	39765.
896.	4989.	247018.	184764.	9561.	52684.
897.	5821.	315489.	236638.	11268.	67576.
898.	6671.	390941.	293333.	13084.	84515.
899.	7535.	473574.	354946.	15008.	103615.
900.	8415.	563059.	421086.	17036.	124935.
901.	9312.	660821.	491165.	19165.	150477.
902.	10212.	767430.	565531.	21392.	180462.
903.	11113.	880983.	643933.	23717.	213283.
904.	12015.	1001154.	726547.	26138.	248450.
905.	12916.	1126883.	812773.	28651.	285439.
906.	13818.	1260981.	904120.	31261.	325655.
907.	14719.	1403246.	1000620.	33968.	369201.
908.	15621.	1554073.	1102300.	36768.	416176.

ROAD SECTION 15.94

NO.	HW	CFS	HL	TW	CSM
0	885.90	0.00	0.00	0.00	0.00
1	890.73	30.00	2.80	887.93	30.00
2	890.77	60.00	2.24	888.53	60.00
3	890.81	85.00	2.00	888.81	85.00
4	890.87	95.00	2.00	888.87	95.00
5	890.89	120.00	1.92	888.97	120.00

MIN ROAD ELEVATION 890.60

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12111.	1.00		30.00	885.90	885.50	.032

(Q)

95 / 1.0 x 30 ✓

RATING TABLE FOR SECTION 15.05 DA= 1.6

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	885.60	0.0	0.0						
BANK FULL	887.1	9.3	8.8	0.00	0.00	0.00			
1	891.73	909.2	30.0	0.00	0.00	0.00	30.00	886.8	.00060
2	892.77	978.4	60.0	0.00	0.00	0.00	60.00	887.3	.00001
3	893.81	960.0	85.0	0.00	0.00	0.00	85.00	887.5	.00002
4	894.87	1002.4	95.0	0.00	0.00	0.00	95.00	887.6	.00002
5	895.89	1020.1	121.0	0.00	0.00	0.00	120.00	888.0	.00003

SEGMENT TABLE FOR SECTION 15.05

CSM		TOTAL	SEG NO 1 W	SEG NO 2 C	SEG NO 3 W
1	DISCHARGE CFS	30.	16.	4.	9.
30.	VELOCITY FPS	.12	.03	.08	.04
2	DISCHARGE CFS	60.	33.	8.	19.
60.	VELOCITY FPS	.08	.05	.15	.07
3	DISCHARGE CFS	85.	48.	11.	26.
85.	VELOCITY FPS	.11	.07	.21	.10
4	DISCHARGE CFS	95.	54.	12.	29.
95.	VELOCITY FPS	.12	.08	.22	.11
5	DISCHARGE CFS	120.	68.	15.	37.
121.	VELOCITY FPS	.15	.10	.27	.14
1	ELEV 891.73 KD	17797.	9470.	2506.	5760.
2	ELEV 892.77 KD	18528.	9869.	2609.	5950.
3	ELEV 893.81 KD	19244.	10461.	2650.	6134.
4	ELEV 894.87 KD	20225.	11143.	2739.	6382.
5	ELEV 895.89 KD	20718.	11483.	2730.	6505.

KD TABLE FOR CROSS SECTION 15.95

ELEVATION	AREA	KD	KD BY SEGMENT		
885.60	0.				
886.	1.	6.	1.	4.	1.
887.	8.	122.	1.	120.	1.
888.	21.	514.	3.	509.	3.
889.	118.	1861.	72.	1113.	567.
890.	481.	7980.	2964.	1896.	3004.
891.	1090.	22897.	12936.	2836.	7014.
892.	1823.	50270.	33675.	3924.	12671.
893.	2589.	87013.	61951.	5145.	19894.
894.	3372.	132265.	96879.	6495.	28867.
895.	4172.	185816.	138068.	7969.	39765.
896.	4909.	247[illegible].	184764.	9561.	52684.
897.	5821.	315499.	236638.	11268.	67576.
898.	6671.	39[illegible]941.	293333.	13[illegible]84.	84515.
899.	7535.	473574.	354946.	15008.	103615.
900.	8415.	54[illegible].	421[illegible]8.	17[illegible]6.	124935.
901.	9312.	66[illegible]21.	491165.	19165.	150477.
902.	10212.	767430.	565531.	21392.	180462.
903.	11113.	880983.	643933.	23717.	213283.
904.	12015.	1001154.	726567.	26175.	248450.
905.	12916.	1126883.	812773.	28651.	285439.
906.	13818.	126[illegible]881.	904120.	31261.	325655.
907.	14719.	1403246.	1000620.	33948.	369201.
908.	15621.	1554[illegible]73.	1102300.	36768.	416176.

```
----------80/80 LIST OF INPUT DATA----------
CHANGE    DISCHARGE
DISCHARGE -1.       25.       55.       75.       85.       105.
END
COMPUTE   15.96     15.98     15.95
----------END OF 80/80 LIST----------
```

COMPUTE 15.96 15.98 15.95

----------STARTING DATA FROM PREVIOUS COMPUTATIONS----------

RATING TABLE FOR SECTION 15.96 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	886.10	0.0	0.0						
BANK FULL	887.6	9.7	3.1	0.00	0.00	0.00			
1	890.73	600.1	25.0	0.00	0.00	0.00	25.00	887.3	.00001
2	890.77	623.0	55.0	0.00	0.00	0.00	55.00	887.7	.00002
3	890.82	644.7	75.0	0.00	0.00	0.00	75.00	887.9	.00004
4	890.87	673.0	85.0	0.00	0.00	0.00	85.00	888.0	.00005
5	890.90	687.0	105.0	0.00	0.00	0.00	105.00	888.3	.00007

SEGMENT TABLE FOR SECTION 15.96

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	25.	11.	5.	9.
25.	VELOCITY FPS	.08	.03	.10	.05
2	DISCHARGE CFS	55.	26.	10.	19.
55.	VELOCITY FPS	.12	.07	.22	.10
3	DISCHARGE CFS	75.	36.	14.	26.
75.	VELOCITY FPS	.16	.08	.28	.13
4	DISCHARGE CFS	85.	41.	15.	29.
85.	VELOCITY FPS	.17	.10	.31	.14
5	DISCHARGE CFS	105.	51.	19.	36.
105.	VELOCITY FPS	.20	.12	.37	.17
1	ELEV 890.73 KD	10506.	4619.	2099.	3788.
2	ELEV 890.77 KD	11411.	5017.	2130.	3955.
3	ELEV 890.82 KD	11717.	5421.	2177.	4119.
4	ELEV 890.87 KD	12561.	5993.	2227.	4341.
5	ELEV 890.90 KD	13001.	6295.	2253.	4454.

KD TABLE FOR CROSS SECTION 15.96

ELEVATION	AREA	KD	KD BY SEGMENT		
886.10	0.				
887.	4.	40.	1.	38.	1.
888.	14.	282.	3.	278.	2.
889.	47.	931.	6.	786.	94.
89[illegible].	264.	3931.	675.	1484.	1555.
891.	756.	14408.	7178.	2348.	4835.
892.	1449.	34604.	21503.	3362.	9620.
893.	2204.	67214.	46506.	4517.	16043.
894.	2977.	108847.	78854.	5805.	24173.
895.	3769.	158331.	117027.	7218.	34075.
896.	4577.	215746.	160980.	8752.	46008.
897.	5402.	280578.	210274.	10401.	59899.
898.	6242.	352583.	264611.	12163.	75806.
899.	7101.	431356.	323528.	14033.	93788.
900.	7975.	517196.	387200.	16008.	113968.
901.	8863.	610805.	455366.	18087.	137327.
902.	9762.	713013.	527541.	20266.	164870.
903.	10663.	823814.	604452.	22544.	196806.
904.	11564.	940330.	684764.	24916.	230614.
905.	12465.	1062921.	769022.	27302.	266547.
906.	13367.	1192843.	857805.	29944.	305137.
907.	14268.	1331012.	951724.	32603.	347005.
908.	15170.	1477596.	1050811.	35356.	392254.
909.	16071.	1632608.	1155093.	38204.	440982.

ROAD SECTION 15.07

NO.	HW	CFS	HL	TW	CSM
0	887.26	0.00	0.00	0.00	0.00
1	891.35	25.00	.32	890.77	25.00
2	892.20	55.00	1.52	890.77	55.00
3	893.54	75.00	2.72	890.82	75.00
4	894.47	85.00	3.60	890.87	85.00
5	896.42	105.00	5.52	890.90	105.00

MIN ROAD ELEVATION 889.40

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	11348.	3.50		80.00	887.26	886.00	.025

(R)

$\frac{85}{3.5 \times 80}$ $\frac{85}{280}$ 0.3

RATING TABLE FOR SECTION 15.98 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	886.10	0.0	0.0						
BANK FULL	887.6	9.2	7.6	0.00	0.00	0.00			
1	891.05	7[illegible]9.2	25.0	0.00	0.00	0.00	25.00	887.3	.00000
2	892.29	1668.7	55.0	0.00	0.00	0.00	55.00	887.7	.00000
3	893.54	2616.3	75.0	0.00	0.00	0.00	75.00	887.9	.00000
4	894.47	3345.4	85.0	0.00	0.00	0.00	85.00	888.0	.00000
5	896.42	4929.1	105.0	0.00	0.00	0.00	105.00	888.3	.00000

SEGMENT TABLE FOR SECTION 15.98

CSM		TOTAL	SEG NO 1 IN	SEG NO 2 C	SEG NO 3 IN
1	DISCHARGE CFS	25.	13.	4.	8.
25.	VELOCITY FPS	.04	.03	.08	.04
2	DISCHARGE CFS	55.	36.	5.	14.
55.	VELOCITY FPS	.04	.03	.07	.04
3	DISCHARGE CFS	75.	54.	4.	17.
75.	VELOCITY FPS	.03	.03	.05	.03
4	DISCHARGE CFS	85.	62.	4.	19.
85.	VELOCITY FPS	.03	.02	.05	.02
5	DISCHARGE CFS	105.	79.	4.	22.
105.	VELOCITY FPS	.02	.02	.04	.02
1	ELEV 891.05 KD	15056.	7634.	2395.	5027.
2	ELEV 892.29 KD	43139.	28111.	3687.	11341.
3	ELEV 893.54 KD	88428.	63052.	5190.	20181.
4	ELEV 894.47 KD	130780.	95755.	6453.	28573.
5	ELEV 896.42 KD	241712.	180741.	9425.	51545.

KD TABLE FOR CROSS SECTION 15.98

ELEVATION	AREA	KD	KD BY SEGMENT		
886.10	0.				
887.	4.	4[illegible].	1.	38.	1.
888.	14.	282.	3.	278.	2.
889.	47.	931.	6.	786.	94.
890.	264.	3971.	475.	1404.	1555.
891.	756.	14409.	7178.	2348.	4835.
892.	1449.	34604.	21503.	3362.	9621.
893.	2204.	67214.	46596.	4517.	16043.
894.	2977.	108847.	78854.	5805.	24173.
895.	3769.	158331.	117027.	7218.	34075.
896.	4577.	215746.	160980.	8752.	46008.
897.	5402.	280578.	210274.	10401.	59899.
898.	6242.	352583.	264611.	12163.	75806.
899.	7101.	431356.	323528.	14033.	93788.
900.	7975.	517186.	387200.	16008.	113968.
901.	8863.	610805.	455366.	18087.	137327.
902.	9762.	713[illegible]13.	527841.	20266.	164870.
903.	10663.	823814.	604452.	22544.	196806.
904.	11564.	940330.	684764.	24916.	230614.
905.	12465.	1062991.	769022.	27382.	266547.
906.	13367.	1192843.	857805.	29944.	305137.
907.	14268.	1331012.	951724.	32603.	347005.
908.	15170.	1477596.	1050811.	35356.	392254.
909.	16071.	1632688.	1155093.	38204.	440982.

```
-----------------------------80/80 LIST OF INPUT DATA-----------------------------
WSP2                                                                          1
TITLE      MC CLURE DRAIN FLOOD HAZARD STUDY OAKLAND CO., MICH.
TITLE      FINAL FLOOD PROFILES - 2, 10, 50, 100 AND 500 YR. FLOODS. 3/80
DISCHARGE  -1.        25.        55.        80.        100.       145.
STARTE     15.98      891.05     892.29     893.54     894.47     896.42
OUTPUT     SK
REACH      15.98      1.         0.         0.
SEGMENT    15.98      1          N          594.                                226
NVALUE     .1                                                                   227
SEGMENT    15.98      2          C          606.                                228
NVALUE     .08                                                                  229
SEGMENT    15.98      3          N          901.                                230
NVALUE     .1                                                                   231
SECTION    15.98                                                                232
           -3.        905.       -2.        905.       -1.        905.          233
                0.00      887.00     100.00     887.90     200.00     888.10   234
              300.00      889.30     400.00     889.30     500.00     887.70   235
              592.00      887.50     594.00     885.60     597.00     884.90   236
              600.00      884.10     603.00     884.70     606.00     885.70   237
              607.00      886.40     700.00     887.40     800.00     893.00   238
           900.       899.2      901.       905.                                239
ENDTABLE                                                                        240
REACH      15.99      1.         60.        60.
SEGMENT    15.99      1          N          238.                                242
NVALUE     .1                                                                   243
SEGMENT    15.99      2          C          253.                                244
NVALUE     .08                                                                  245
SEGMENT    15.99      3          N          591.                                246
NVALUE     .1                                                                   247
SECTION    15.99
           0.         910.       1.         904.       35.        902.          249.
           75.        900.       95.        898.       135.       896.          250
           160.       894.       185.       892.       225.       890.          251
           238.       889.       240.       888.       243.       887.8         252
           250.       888.5      253.       889.       305.       890.          253
           318.       892.       336.       894.       354.       896.          254
           378.       898.       410.       900.       472.       902.          255
           590.       904.       591.       910.                                255A
ENDTABLE                                                                        256
ROAD       16.0       2.7        50.        50.                                 257
CULV1      16.0       1          12311                                          258
CULV2      3.         0.         24.        889.65     889.75                   259
SECTION    16.0                                                                 260
           -201.      910.       -200.      899.1      -100.      895.3         261
           0.         893.3      20.        893.1      100.       894.1         262
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80/80 LIST OF INPUT DATA

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                200.      897.2     255.      899.1     256.      910.      263
ENDTABLE                                                                    264
REACH           16.1      1.        15.       15.                           265
SEGMENT         16.1      1         N         -3.                           266
NVALUE          .125                                                        267
SEGMENT         16.1      2         C         3.                            268
NVALUE          .06                                                         269
SEGMENT         16.1      3         N         351.                          270
NVALUE          .125                                                        271
SECTION         16.1                                                        272
                -250.     910.      -240.     904.      -195.     902.      273
                -170.     900.      -145.     898.      -125.     896.      274
                -105.     894.      -50.      892.      -3.       891.9     275
                -2.       889.5     -1.       889.4     0.        889.5     276
                1.        889.4     2.        889.4     3.        891.7     277
                15.       892.      90.       894.      115.      896.      278
                165.      898.      222.      900.      260.      902.      279
                350.      904.      351.      910.                          280
ENDTABLE                                                                    281
REACH           17.0      1.        15.       15.                           282
SEGMENT         17.0      1         N         -1.25                         283
NVALUE          .1                                                          284
SEGMENT         17.0      2         C         1.25                          285
NVALUE          .07                                                         286
SEGMENT         17.0      3         N         121.                          287
NVALUE          .1                                                          288
SECTION         17.0                                                        289
                -136.     908.      -135.     897.9     -105.     894.4     290
                -100.     894.3     -11.      893.1     -9.       892.5     291
                -8.       894.1     -1.25     894.1     -1.24     893.04    292
                1.24      893.04    1.25      894.2     8.        894.3     293
                9.        893.2     65.       893.4     100.      896.1     294
                120.      898.2     121.      908.                          295
ENDTABLE                                                                    296
REACH           17.1*     1.        50.       50.                           297
REACH2          17.0      0.                                              298
REACH           17.9      1.        470.      470.                          299
SEGMENT         17.9      1         N         -10.                          300
NVALUE          .1                                                          301
SEGMENT         17.9      2         C         10.                           302
NVALUE          .09                                                         303
SEGMENT         17.9      3         N         196.                          304
NVALUE          .1                                                          305
SECTION         17.9                                                        306
                -101.     914.      -100.     304.      -50.      895.2     307
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-----------------------------80/80 LIST OF INPUT DATA-----------------------------
          -10.      893.4     -9.       892.3     -6.       891.5     308
          -3.       891.7     0.        890.6     3.        891.      309
          6.        891.4     9.        892.4     10.       893.5     310
          100.      894.7     120.      895.6     195.      904.4     311
          196.      914.                                              312
ENDTABLE                                                              313
REACH     +17.99    1.        1650.     1650.                         314
REACH2    18.1      -2.8                                              315
ROAD      18.0      2.7       50.       50.                           316
CULV1     18.0      1         12311                                   317
CULV2     3.        0.        50.       893.9     892.53              318
SECTION   18.0                                                        319
          -121.     916.      -120.     905.1     -100.     899.8     320
          -50.      898.2     0.        897.8     100.      897.9     321
          200.      899.      300.      901.9     360.      905.1     322
          361.      916.                                              323
ENDTABLE                                                              324
REACH     +18.05    1.        50.       50.                           325
REACH2    18.1      -1.4                                              326
REACH     18.1      1.        500.      500.                          327
SEGMENT   18.1      1         C         201.                          328
NVALUE    .125                                                        329
SECTION   18.1                                                        330
          -201.     918.      -200.     907.2     -100.     899.4     331
          -50.      896.9     -45.      896.4     -34.      896.1     332
          -23.      895.5     -12.      895.9     0.        895.3     333
          15.       894.9     30.       895.7     45.       896.      334
          60.       896.2     75.       896.8     130.      889.      335
          160.      901.1     200.      906.7     201.      916.      336
ENDTABLE                                                              337
REACH     18.9      1.        1200.     1200.                         338
SEGMENT   18.9      1         C         201.                          339
NVALUE    .125                                                        340
SECTION   18.9                                                        341
          -226.     917.      -225.     906.9     -200.     905.      342
          -185.     903.      -100.     898.2     -90.      897.5     343
          -50.      896.9     -15.      896.9     -13.      895.6     344
          0.        895.4     5.        895.9     9.        896.5     345
          85.       897.8     130.      899.      200.      908.6     346
          201.      919.                                              347
ENDTABLE                                                              348
COMPUTE   15.98     18.9      15.98
-----------------------------END OF 80/80 LIST-----------------------------
```

COMPUTE 15.98 18.9 15.98

----------STARTING DATA FROM GIVEN ELEVATION----------

RATING TABLE FOR SECTION 15.98 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	884.10	0.0	0.0						
BANK FULL	885.6	9.3	5.4	0.00	0.00	0.60			
1	891.05	2242.5	25.0	0.00	0.00	0.00	25.00	885.3	.00000
2	892.29	3205.6	55.0	0.00	0.00	0.00	55.00	885.7	.00000
3	893.54	4204.4	80.0	0.00	0.00	0.30	80.00	886.8	.00000
4	894.47	4963.8	100.0	0.00	0.00	0.00	100.00	886.2	.00000
5	896.42	6602.0	145.0	0.00	0.00	0.00	145.00	886.7	.00000

SEGMENT TABLE FOR SECTION 15.98

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	25.	17.	2.	6.
25.	VELOCITY FPS	.01	.01	.02	.01
2	DISCHARGE CFS	55.	40.	3.	12.
55.	VELOCITY FPS	.02	.02	.03	.02
3	DISCHARGE CFS	80.	59.	3.	17.
80.	VELOCITY FPS	.02	.02	.03	.02
4	DISCHARGE CFS	100.	75.	4.	21.
100.	VELOCITY FPS	.02	.02	.03	.02
5	DISCHARGE CFS	145.	109.	5.	31.
145.	VELOCITY FPS	.02	.02	.04	.02
1	ELEV 891.05 KO	69060.	48071.	4578.	16411.
2	ELEV 892.29 KO	122232.	89186.	6201.	26844.
3	ELEV 893.54 KO	188069.	139816.	8030.	40243.
4	ELEV 894.47 KO	245081.	183300.	9512.	52269.
5	ELEV 896.42 KO	384687.	288665.	12935.	83087.

KD TABLE FOR CROSS SECTION 15.98

ELEVATION	AREA	KD	KD BY SEGMENT		
884.10	0.				
885.	4.	40.	1.	38.	1.
886.	14.	282.	3.	278.	2.
887.	47.	931.	6.	786.	94.
888.	264.	3931.	675.	1484.	1555.
889.	756.	14403.	7178.	2348.	4835.
890.	1449.	34604.	21503.	3362.	9620.
891.	2204.	67214.	46596.	4517.	16043.
892.	2977.	108647.	78854.	5805.	24173.
893.	3769.	158331.	117027.	7218.	34075.
894.	4577.	215746.	160980.	8752.	46008.
895.	5402.	280578.	210274.	10401.	59899.
896.	6242.	352583.	264611.	12163.	75806.
897.	7101.	431356.	323528.	14033.	93795.
898.	7975.	517186.	387200.	16008.	113986.
899.	8863.	610805.	455366.	18087.	137327.
900.	9762.	713013.	527841.	20268.	164870.
901.	10663.	823614.	604452.	22544.	196606.
902.	11564.	940330.	684764.	24916.	230614.
903.	12465.	1062991.	769022.	27382.	266547.
904.	13367.	1192843.	857805.	29944.	305137.
905.	14268.	1331012.	951724.	32603.	347005.
906.	15170.	1477596.	1050811.	35356.	392254.
907.	16071.	1632688.	1155093.	38204.	440982.

RATING TABLE FOR SECTION 15.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	887.80	0.0	0.0						
BANK FULL	888.0	11.0	9.2	0.00	0.00	0.00			
1	891.05	156.5	25.0	0.00	0.00	0.00	25.00	888.6	.00005
2	892.29	312.2	55.0	0.00	0.00	0.00	55.00	889.0	.00004
3	893.54	502.9	80.0	0.00	0.00	0.00	80.00	889.3	.00002
4	894.47	667.2	100.0	0.00	0.00	0.00	100.00	889.4	.00002
5	896.42	1074.8	145.0	0.00	0.00	0.00	145.00	889.6	.00001

SEGMENT TABLE FOR SECTION 15.99

CSM		TOTAL	SEG NO 1 N	SEG NO 2 S	SEG NO 3 N
1	DISCHARGE CFS	25.	3.	11.	11.
25.	VELOCITY FPS	.19	.10	.25	.13
2	DISCHARGE CFS	55.	11.	17.	27.
55.	VELOCITY FPS	.21	.12	.29	.16
3	DISCHARGE CFS	80.	21.	21.	39.
80.	VELOCITY FPS	.18	.12	.26	.15
4	DISCHARGE CFS	100.	29.	23.	48.
100.	VELOCITY FPS	.17	.12	.25	.14
5	DISCHARGE CFS	145.	49.	28.	68.
145.	VELOCITY FPS	.15	.11	.23	.13
1	ELEV 891.05 KD	3516.	434.	1514.	1568.
2	ELEV 892.29 KD	8659.	1752.	2798.	4309.
3	ELEV 893.54 KD	17095.	4410.	4392.	8203.
4	ELEV 894.47 KD	24942.	7245.	5757.	11940.
5	ELEV 896.42 KD	46882.	15662.	9080.	22140.

KD TABLE FOR CROSS SECTION 15.99

ELEVATION	AREA	KD	KD BY SEGMENT		
887.00	0.				
888.	1.	4.	1.	2.	1.
889.	11.	166.	1.	164.	1.
890.	59.	1002.	58.	686.	244.
891.	153.	3362.	402.	1467.	1481.
892.	272.	7385.	1326.	2470.	3589.
893.	417.	13131.	3092.	3666.	6356.
894.	582.	20722.	5710.	5048.	9955.
895.	767.	30250.	9235.	6601.	14414.
896.	970.	41689.	13648.	8313.	19722.
897.	1213.	54714.	18769.	10182.	25755.
898.	1480.	70283.	25327.	12199.	32741.
899.	1776.	89023.	34153.	14359.	40497.
900.	2100.	110191.	44326.	16698.	49196.
901.	2456.	131398.	54767.	19092.	57538.
902.	2873.	155968.	66918.	21656.	67382.
903.	3355.	182880.	81334.	24348.	77569.
904.	3900.	219995.	99018.	27165.	93760.
905.	4483.	265516.	120386.	30104.	117926.
906.	5072.	327637.	145317.	33163.	149156.
907.	5662.	389959.	171433.	36338.	182114.
908.	6252.	457251.	199452.	39629.	218107.
909.	6843.	529939.	229537.	43035.	257413.
910.	7433.	610018.	262454.	46556.	301489.
911.	8023.	697858.	298325.	50190.	350662.
912.	8614.	793826.	337270.	53938.	405263.

ROAD SECTION 16.0

NO.	HW	CFS	HL	TW	CSM
0	889.75	0.00	0.00	0.00	0.00
1	892.42	25.00	1.12	891.30	25.00
2	893.38	55.00	1.04	892.34	55.00
3	893.71	80.00	.16	893.55	80.00
4	894.47	100.00	0.00	894.47	100.00
5	896.42	145.00	0.00	696.42	145.00

MIN ROAD ELEVATION 893.18

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12311.	3.00		24.00	889.65	889.75	.024

(5)

$V = \frac{100}{3 \times 24}$ $\frac{100}{72}$

RATING TABLE FOR SECTION 16.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	889.40	0.0	0.0						
BANK FULL	891.7	11.4	18.8	0.00	0.00	0.00			
1	892.45	54.1	25.0	0.00	0.00	0.00	25.00	890.5	.00095
2	893.39	173.0	55.0	0.00	0.00	0.00	55.00	891.1	.00042
3	893.72	226.7	80.0	0.00	0.00	0.00	80.00	891.8	.00045
4	894.48	374.3	100.0	0.00	0.00	0.00	100.00	891.9	.00019
5	896.42	818.5	145.0	0.00	0.00	0.00	145.00	892.1	.00004

SEGMENT TABLE FOR SECTION 16.1

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	25.	6.	17.	2.
25.	VELOCITY FPS	.92	.22	1.07	.20
2	DISCHARGE CFS	55.	24.	18.	12.
55.	VELOCITY FPS	.56	.26	.86	.22
3	DISCHARGE CFS	80.	37.	22.	20.
80.	VELOCITY FPS	.58	.30	.96	.26
4	DISCHARGE CFS	100.	49.	19.	31.
100.	VELOCITY FPS	.38	.24	.69	.22
5	DISCHARGE CFS	145.	74.	17.	54.
145.	VELOCITY FPS	.21	.17	.42	.15
1	ELEV 892.45 KD	800.	174.	559.	67.
2	ELEV 893.39 KD	2674.	1171.	931.	571.
3	ELEV 893.72 KD	3772.	1759.	1079.	934.
4	ELEV 894.48 KD	7282.	3596.	1453.	2233.
5	ELEV 896.42 KD	22362.	11440.	2603.	8319.

KO TABLE FOR CROSS SECTION 15.1

ELEVATION	AREA	KO	KO BY SEGMENT		
889.40	0.				
890.	2.	37.	1.	35.	1.
891.	7.	180.	1.	178.	1.
892.	24.	462.	6.	409.	7.
893.	115.	1731.	671.	768.	293.
894.	279.	4915.	2350.	1212.	1334.
895.	483.	10697.	5361.	1736.	3600.
896.	714.	16532.	9408.	2331.	6768.
897.	972.	26235.	14518.	2995.	10716.
898.	1267.	40153.	20621.	3723.	15799.
899.	1598.	54466.	27699.	4514.	22243.
900.	1969.	71705.	35847.	5365.	30478.
901.	2376.	92396.	45191.	6273.	40914.
902.	2820.	114993.	55280.	7237.	52463.
903.	3311.	139118.	66046.	8256.	64307.
904.	3857.	167479.	78499.	9328.	79630.
905.	4447.	206405.	95866.	10452.	102086.
906.	5040.	254592.	115307.	11625.	127041.
907.	5635.	304460.	136183.	12848.	155397.
908.	6231.	358343.	158617.	14120.	185588.
909.	6829.	415921.	182502.	15440.	217980.
910.	7427.	479185.	208522.	16808.	253984.
911.	8025.	546377.	236752.	18224.	293797.
912.	8623.	623740.	267264.	19687.	337619.

RATING TABLE FOR SECTION 17.0 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	892.50	0.0	0.0						
1	893.49	25.1	25.0	0.00	0.00	0.00	25.00	893.3	.07640
2	893.76	56.7	55.0	0.00	0.00	0.00	55.00	893.4	.01445
3	893.90	76.7	80.0	0.00	0.00	0.00	80.00	893.5	.01309
BANK FULL	894.1	105.7	85.7	0.00	0.00	0.00			
4	894.50	179.9	100.0	0.00	0.00	0.00	100.00	893.8	.00154
5	896.42	565.8	145.0	0.00	0.00	0.00	145.00	893.8	.00008

SEGMENT TABLE FOR SECTION 17.0

CSM		TOTAL	SEG NO 1 N	2 C	3 N
1	DISCHARGE CFS	25.	8.	2.	16.
25.	VELOCITY FPS	1.81	.89	1.45	1.02
2	DISCHARGE CFS	55.	17.	2.	36.
55.	VELOCITY FPS	1.04	.86	1.39	1.01
3	DISCHARGE CFS	80.	25.	3.	52.
80.	VELOCITY FPS	1.15	.90	1.39	1.11
4	DISCHARGE CFS	100.	38.	3.	59.
100.	VELOCITY FPS	.57	.48	.70	.61
5	DISCHARGE CFS	145.	71.	2.	72.
145.	VELOCITY FPS	.25	.24	.28	.26
1	ELEV 893.49 KO	79.	16.	10.	33.
2	ELEV 893.76 KO	457.	136.	22.	299.
3	ELEV 893.90 KO	696.	215.	28.	455.
4	ELEV 894.50 KO	2548.	973.	65.	1510.
5	ELEV 896.42 KO	16327.	7926.	265.	8136.

KO TABLE FOR CROSS SECTION 17.0

ELEVATION	AREA	KO	KO BY SEGMENT		
892.50	0.				
893.	1.	6.	4.	1.	1.
894.	91.	926.	292.	33.	602.
895.	281.	5121.	2213.	106.	2800.
896.	492.	12481.	5924.	212.	6344.
897.	719.	22294.	11070.	345.	10879.
898.	963.	34722.	17697.	502.	16522.
899.	1218.	50774.	26122.	682.	23970.
900.	1473.	69350.	35806.	883.	32661.
901.	1729.	90064.	46619.	1105.	42339.
902.	1984.	112807.	58506.	1346.	52954.
903.	2240.	137416.	71380.	1606.	64430.
904.	2496.	163786.	85185.	1884.	76717.
905.	2753.	191807.	99864.	2179.	89764.
906.	3009.	221459.	115407.	2491.	103561.
907.	3266.	252687.	131785.	2820.	118082.
908.	3522.	285792.	149160.	3166.	133466.
909.	3779.	320755.	167524.	3529.	149703.
910.	4036.	357558.	186868.	3909.	166784.

RATING TABLE FOR SECTION 17.1+ DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	892.50	0.0	0.0						
1	893.73	52.2	25.0	0.00	0.00	0.00	25.00	893.3	.00367
2	893.96	85.7	55.0	0.00	0.00	0.00	55.00	893.4	.00434
BANK FULL	894.1	105.7	78.8	0.00	0.00	0.00			
3	894.11	107.0	80.0	0.00	0.00	0.00	80.00	893.5	.00426
4	894.58	195.3	100.0	0.00	0.00	0.00	100.00	893.5	.00121
5	896.43	586.7	145.0	0.00	0.00	0.00	145.00	893.6	.00008

SEGMENT TABLE FOR SECTION 17.1+

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	25.	7.	1.	16.
25.	VELOCITY FPS	.50	.43	.71	.49
2	DISCHARGE CFS	55.	17.	2.	36.
55.	VELOCITY FPS	.70	.55	.84	.69
3	DISCHARGE CFS	80.	26.	3.	52.
80.	VELOCITY FPS	.77	.63	.96	.82
4	DISCHARGE CFS	100.	40.	2.	58.
100.	VELOCITY FPS	.53	.45	.63	.56
5	DISCHARGE CFS	145.	71.	2.	72.
145.	VELOCITY FPS	.25	.24	.28	.26
1	ELEV 893.73 KO	413.	122.	21.	270.
2	ELEV 893.96 KO	834.	260.	31.	542.
3	ELEV 894.11 KO	1225.	395.	39.	791.
4	ELEV 894.58 KO	2874.	1124.	71.	1680.
5	ELEV 898.43 KO	16365.	7946.	265.	8154.

KD TABLE FOR CROSS SECTION 17.1+

ELEVATION	AREA	KD	KD BY SEGMENT		
892.50	0.				
893.	1.	6.	4.	1.	1.
894.	91.	928.	292.	33.	502.
895.	281.	5121.	2213.	106.	2800.
896.	492.	12481.	5924.	212.	6344.
897.	719.	22294.	11070.	345.	10878.
898.	963.	34722.	17697.	502.	16522.
899.	1218.	50774.	26122.	682.	23970.
900.	1473.	69350.	35806.	883.	32661.
901.	1729.	90064.	46619.	1105.	42339.
902.	1984.	112807.	58506.	1346.	52954.
903.	2240.	137416.	71330.	1606.	64430.
904.	2496.	163786.	85165.	1884.	76717.
905.	2753.	191807.	99864.	2179.	89764.
906.	3009.	221459.	115407.	2491.	103561.
907.	3266.	252687.	131785.	2820.	118082.
908.	3522.	285792.	149160.	3166.	133466.
909.	3779.	320765.	167524.	3529.	149703.
910.	4036.	357558.	186868.	3909.	166784.

RATING TABLE FOR SECTION 17.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	890.60	0.0	0.0						
BANK FULL	893.4	37.2	21.4	0.00	0.00	0.00			
1	893.87	58.0	25.0	0.00	0.00	0.00	25.00	891.7	.00028
2	894.27	86.1	55.0	0.00	0.00	0.00	55.00	892.0	.00068
3	894.52	115.9	80.0	0.00	0.00	0.00	80.00	892.3	.00089
4	894.88	161.9	100.0	0.00	0.00	0.00	100.00	892.6	.00071
5	896.49	436.5	145.0	0.00	0.00	0.00	145.00	892.7	.00012

SEGMENT TABLE FOR SECTION 17.9

CSM		TOTAL	SEG NO 1 N	SEG NO 2 C	SEG NO 3 N
1	DISCHARGE CFS	25.	0.	24.	1.
25.	VELOCITY FPS	.51	.13	.51	.12
2	DISCHARGE CFS	55.	2.	48.	5.
55.	VELOCITY FPS	.84	.23	.89	.22
3	DISCHARGE CFS	80.	5.	62.	13.
80.	VELOCITY FPS	.98	.31	1.06	.31
4	DISCHARGE CFS	100.	8.	68.	24.
100.	VELOCITY FPS	.89	.33	1.03	.33
5	DISCHARGE CFS	145.	24.	55.	66.
145.	VELOCITY FPS	.41	.26	.56	.27
1	ELEV 893.87 KQ	1436.	8.	1413.	15.
2	ELEV 894.27 KQ	2082.	69.	1847.	166.
3	ELEV 894.52 KQ	2610.	130.	2139.	341.
4	ELEV 894.88 KQ	3733.	293.	2599.	841.
5	ELEV 896.49 KQ	12993.	2105.	5029.	5859.

KD TABLE FOR CROSS SECTION 17.9

ELEVATION	AREA	KD	KD BY SEGMENT		
890.60	0.				
891.	1.	7.	1.	5.	1.
892.	11.	152.	1.	150.	1.
893.	29.	675.	1.	673.	1.
894.	66.	1663.	10.	1547.	36.
895.	181.	4210.	360.	2756.	1037.
896.	348.	9506.	1362.	4225.	3855.
897.	532.	17406.	3057.	5938.	8411.
898.	732.	27410.	5285.	7869.	14243.
899.	947.	39590.	8113.	10014.	21444.
900.	1174.	53981.	11573.	12362.	30031.
901.	1416.	70557.	15675.	14904.	39366.
902.	1672.	89354.	20444.	17632.	51266.
903.	1943.	110402.	25307.	20540.	63944.
904.	2226.	134155.	32257.	23625.	78261.
905.	2520.	162014.	40134.	26881.	94999.
906.	2815.	193159.	48736.	30238.	114113.
907.	3110.	226447.	57561.	33879.	134594.
908.	3406.	261698.	67742.	37618.	156323.
909.	3702.	299034.	78126.	41514.	179389.
910.	3998.	338032.	93356.	45561.	203510.
911.	4294.	378679.	100232.	49755.	228684.
912.	4591.	421142.	112013.	54098.	255025.
913.	4887.	465323.	124266.	58587.	282470.
914.	5184.	511904.	137235.	63227.	311476.
915.	5481.	560903.	150929.	68018.	342057.
916.	5777.	612340.	165356.	72957.	374230.

RATING TABLE FOR SECTION +17.99 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	886.20	0.0	0.0						
1	893.89	393.0	25.0	0.00	0.00	0.00	25.00	887.3	.00001
2	894.33	479.0	55.0	0.00	0.00	0.00	55.00	887.7	.00003
3	894.61	538.6	80.0	0.00	0.00	0.00	80.00	888.0	.00005
4	894.98	615.8	100.0	0.00	0.00	0.00	100.00	888.1	.00005
5	896.53	984.8	145.0	0.00	0.00	0.00	145.00	888.4	.00003

SEGMENT TABLE FOR SECTION +17.99

CSM			TOTAL	SEG NO 1 C
1	DISCHARGE CFS		25.	25.
25.	VELOCITY FPS		.06	.06
2	DISCHARGE CFS		55.	55.
55.	VELOCITY FPS		.12	.11
3	DISCHARGE CFS		80.	80.
80.	VELOCITY FPS		.15	.15
4	DISCHARGE CFS		100.	100.
100.	VELOCITY FPS		.16	.16
5	DISCHARGE CFS		145.	145.
145.	VELOCITY FPS		.15	.15
1	ELEV 893.89	KD	7415.	7415.
2	ELEV 894.33	KD	9849.	9849.
3	ELEV 894.61	KD	11616.	11616.
4	ELEV 894.98	KD	14273.	14273.
5	ELEV 896.53	KD	28566.	28566.

KD TABLE FOR CROSS SECTION +17.99

ELEVATION	AREA	KD	KD BY SEGMENT
886.20	0.		
887.	3.	19.	19.
888.	16.	168.	168.
889.	38.	546.	546.
890.	69.	1232.	1232.
891.	110.	2296.	2298.
892.	163.	3634.	3634.
893.	251.	4681.	4681.
894.	413.	7957.	7957.
895.	621.	14463.	14463.
896.	852.	23088.	23088.
897.	1104.	33921.	33921.
898.	1374.	46994.	46994.
899.	1662.	61699.	61699.
900.	1968.	78394.	78394.
901.	2293.	97251.	97251.
902.	2638.	118360.	118360.
903.	3001.	141793.	141793.
904.	3390.	168071.	168071.
905.	3786.	199285.	199285.
906.	4166.	235182.	235182.
907.	4587.	272989.	272989.
908.	4987.	312735.	312735.
909.	5368.	354680.	354680.
910.	5769.	398635.	398635.
911.	6190.	444136.	444136.
912.	6592.	491868.	491868.
913.	6993.	540993.	540993.
914.	7395.	591894.	591894.
915.	7797.	644774.	644774.
916.	8198.	700331.	700330.
917.	8600.	758600.	758600.
918.	9002.	819622.	819622.

MC CLURE DRAIN FLOOD HAZARD STUDY OAKLAND CO., MICH.
FINAL FLOOD PROFILES - 2, 10, 50, 100 AND 500 YR. FLOODS. 3/

ROAD SECTION 15.0

NO.	HW	CFS	HL	TW	CSM
0	893.90	0.00	0.00	0.00	0.00
1	896.33	25.00	1.84	894.49	25.00
2	897.17	55.00	2.80	895.07	55.00
3	896.05	80.00	2.64	895.41	80.00
4	893.09	100.00	2.32	895.77	100.00
5	893.22	145.00	1.36	896.86	145.00

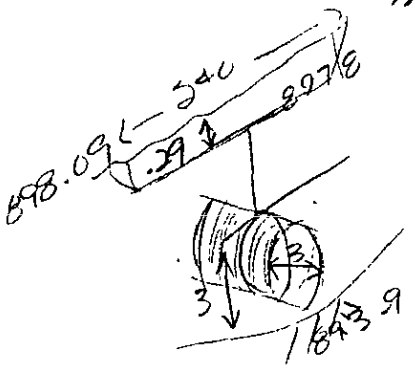
HI ! ROAD ELEVATION 897.80

OPENING NO.	NO. CULVERTS	CULV. CODE	HEIGHT OR DIAM	WIDTH	LENGTH	U/S INVERT	D/S INVERT	(N) COEFF
1	1	12311.	3.00		50.00	893.90	892.53	.024

V

$\frac{100}{69.6+150}$ $\frac{100}{230}$ V 0.4345 0.5

.29×240=69.6



RATING TABLE FOR SECTION +18.05 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM*	CRIT ELEV	FRICTION SLOPE
0	887.60	0.0	0.0						
1	896.35	609.6	25.0	0.00	0.00	0.00	25.00	888.7	.00000
2	897.86	969.8	55.0	0.00	0.00	0.00	55.00	889.1	.00000
3	898.06	1018.3	80.0	0.00	0.00	0.00	80.00	889.4	.00001
4	898.12	1031.5	100.0	0.00	0.00	0.00	100.00	889.5	.00001
5	898.26	1068.1	145.0	0.00	0.00	0.00	145.00	889.8	.00002

SEGMENT TABLE FOR SECTION +18.05

CSM		TOTAL	SEG NO 1
1	DISCHARGE CFS	25.	25.
25.	VELOCITY FPS	.04	.04
2	DISCHARGE CFS	55.	55.
55.	VELOCITY FPS	.06	.06
3	DISCHARGE CFS	80.	80.
80.	VELOCITY FPS	.08	.08
4	DISCHARGE CFS	100.	100.
100.	VELOCITY FPS	.10	.10
5	DISCHARGE CFS	145.	145.
145.	VELOCITY FPS	.14	.14
1	ELEV 896.35 KO	14043.	14043.
2	ELEV 897.88 KO	27942.	27942.
3	ELEV 898.06 KO	29998.	29998.
4	ELEV 898.12 KO	30577.	30577.
5	ELEV 898.26 KO	32224.	32224.

KD TABLE FOR CROSS SECTION *18.05

ELEVATION	AREA	KD	KD BY SEGMENT
887.60	0.		
888.	1.	3.	3.
889.	10.	86.	86.
890.	27.	362.	362.
891.	55.	916.	916.
892.	93.	1822.	1822.
893.	140.	3146.	3146.
894.	202.	4150.	4150.
895.	336.	6049.	6049.
896.	536.	11523.	11523.
897.	758.	19378.	19378.
898.	1002.	29283.	29283.
899.	1265.	41472.	41472.
900.	1545.	55608.	55608.
901.	1842.	71513.	71513.
902.	2157.	89530.	83530.
903.	2497.	109646.	109646.
904.	2856.	132084.	132084.
905.	3235.	157206.	157206.
906.	3626.	185883.	185883.
907.	4026.	220619.	220619.
908.	4427.	257413.	257413.
909.	4827.	296596.	296596.
910.	5228.	337999.	337999.
911.	5629.	380663.	380663.
912.	6030.	425733.	425739.
913.	6431.	472635.	472635.
914.	6832.	521006.	521006.
915.	7234.	571483.	571483.
916.	7636.	623304.	623304.
917.	8038.	677784.	677784.
918.	8440.	734964.	734964.
919.	8841.	794881.	794881.

RATING TABLE FOR SECTION 18.1 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	869.00	0.0	0.0						
1	896.36	329.3	25.0	0.00	0.00	0.00	25.00	890.1	.00002
2	897.88	638.3	55.0	0.00	0.00	0.00	55.00	890.3	.00001
3	898.08	681.4	80.0	0.00	0.00	0.00	80.00	890.8	.00002
4	898.13	694.8	100.0	0.00	0.00	0.00	100.00	890.9	.00003
5	898.29	731.8	145.0	0.00	0.00	0.00	145.00	891.2	.00006

SEGMENT TABLE FOR SECTION 18.1

CSM		TOTAL	SEG NO 1 C
1	DISCHARGE CFS	25.	25.
25.	VELOCITY FPS	.08	.08
2	DISCHARGE CFS	55.	55.
55.	VELOCITY FPS	.09	.09
3	DISCHARGE CFS	80.	80.
80.	VELOCITY FPS	.12	.12
4	DISCHARGE CFS	100.	100.
100.	VELOCITY FPS	.14	.14
5	DISCHARGE CFS	145.	145.
145.	VELOCITY FPS	.20	.20
1	ELEV 896.36 KD	5865.	5865.
2	ELEV 897.88 KD	15135.	15135.
3	ELEV 898.08 KD	16722.	16722.
4	ELEV 898.13 KD	17169.	17169.
5	ELEV 898.29 KD	18444.	18444.

KD TABLE FOR CROSS SECTION 10.1

ELEVATION	AREA	KD	KD BY SEGMENT
889.00	0.		
890.	5.	35.	35.
891.	19.	222.	222.
892.	43.	656.	656.
893.	77.	1413.	1413.
894.	120.	2562.	2562.
895.	176.	3804.	3804.
896.	276.	4959.	4959.
897.	450.	9079.	9079.
898.	663.	16141.	16141.
899.	899.	25134.	25134.
900.	1156.	36435.	36435.
901.	1428.	49947.	49947.
902.	1720.	64912.	64912.
903.	2031.	81995.	81995.
904.	2361.	101273.	101273.
905.	2710.	122825.	122825.
906.	3079.	146815.	146815.
907.	3468.	173685.	173685.
908.	3866.	206230.	206230.
909.	4266.	242443.	242443.
910.	4667.	281008.	281008.
911.	5067.	321015.	321015.
912.	5468.	363212.	363212.
913.	5869.	407819.	407819.
914.	6271.	453514.	453514.
915.	6672.	501468.	501468.
916.	7073.	551157.	551157.
917.	7475.	602258.	602258.
918.	7877.	655670.	655670.
919.	8279.	711766.	711766.
920.	8661.	770583.	770583.
921.	9082.	832160.	832160.

RATING TABLE FOR SECTION 18.9 DA= 1.0

NO.	ELEV	AREA	CFS	ACRES FLOODED DAMAGE	ACRES FLOODED CHANNEL	ACRES FLOODED NON-DAM	CSM	CRIT ELEV	FRICTION SLOPE
0	895.40	0.0	0.0						
1	897.40	90.5	25.0	0.00	0.00	0.00	25.00	895.9	.00102
2	898.24	242.4	55.0	0.00	0.00	0.00	55.00	896.2	.00030
3	898.49	293.7	80.0	0.00	0.00	0.00	80.00	896.4	.00036
4	898.62	323.2	100.0	0.00	0.00	0.00	100.00	896.6	.00043
5	898.88	381.8	145.0	0.00	0.00	0.00	145.00	896.9	.00056

SEGMENT TABLE FOR SECTION 18.9

CSM		TOTAL	SEG NO 1 C
1	DISCHARGE CFS	25.	25.
25.	VELOCITY FPS	.28	.28
2	DISCHARGE CFS	55.	55.
55.	VELOCITY FPS	.23	.23
3	DISCHARGE CFS	80.	80.
80.	VELOCITY FPS	.28	.27
4	DISCHARGE CFS	100.	100.
100.	VELOCITY FPS	.31	.31
5	DISCHARGE CFS	145.	145.
145.	VELOCITY FPS	.38	.38
1	ELEV 897.40 KD	782.	782.
2	ELEV 898.24 KD	3155.	3155.
3	ELEV 898.49 KD	4227.	4227.
4	ELEV 898.62 KD	4817.	4817.
5	ELEV 898.88 KD	6153.	6153.

(X)

KD TABLE FOR CROSS SECTION 18.9

ELEVATION	AREA	KD	KD BY SEGMENT
895.40	0.		
896.	8.	57.	57.
897.	42.	290.	290.
898.	195.	2261.	2261.
899.	409.	6855.	6855.
900.	667.	14417.	14417.
901.	948.	24538.	24538.
902.	1256.	37053.	37053.
903.	1587.	52292.	52292.
904.	1939.	70677.	70677.
905.	2316.	91653.	91653.
906.	2690.	114690.	114690.
907.	3094.	140832.	140832.
908.	3511.	170860.	170860.
909.	3933.	204751.	204751.
910.	4356.	242352.	242352.
911.	4784.	282321.	282321.
912.	5210.	324328.	324328.
913.	5636.	368487.	368487.
914.	6062.	414909.	414909.
915.	6488.	463456.	463456.
916.	6915.	513637.	513637.
917.	7341.	565849.	565849.
918.	7768.	620188.	620188.
919.	8195.	677051.	677051.

----------80/80 LIST OF INPUT DATA----------
ENDJOB

**********NORMAL END OF JOB----------

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WHITE LAKE TWP

3) WATERCOURSE: HURON RIVER & SUGDEN CREEK

4) DOCUMENT TYPE: REPORT

00BREAK00

WHITE LAKE TOWNSHIP
OAKLAND COUNTY
MICHIGAN

FLOOD INSURANCE STUDY
HURON RIVER
SUGDEN CREEK

HYDRAULIC ANALYSIS
REFERENCES
SECNO TABLE
BRIDGE SKETCHES AND CALCULATIONS
SUPPLEMENTAL HAND CALCULATIONS

JUNE, 1981

JOHNSON & ANDERSON, INC.
2300 DIXIE HIGHWAY
PONTIAC, MICHIGAN 48055

J&A FILE NO. 6504-06-1

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- Appendix A - SECNO Table
- Appendix B - Bridge Sketches and Calculations
- Appendix C - Lake Level Control Summary

HYDRAULIC ANALYSIS

INTRODUCTION

The subject of this report is the Huron River and Sugden Creek in the Township of White Lake, Oakland County, Michigan. The lakes connected by the Huron River for which detailed study has been completed include Sugden, Bogie, Brendel, Cedar Island, Oxbow, and Pontiac. Additional lakes studied unconnected by the Huron River include White, Neva, Grass, Mandon, Round, Tull, Long and Cooley. This study begins at Cooley Lake Road, the southern township boundary which crosses the Huron River. The study limits are bounded to the east by Williams Lake Road, to the west by Bogie Lake Road, and to the north by Pontiac Lake.

The flows used in this study have been established using the hydrological computer program described in Technical Release No. 20 compiled by the U.S. Department of Agriculture Soil Conservation Service (Reference 1). Those flows have been compared against a gage analysis completed for the Commerce Township Flood Insurance Study (Reference 2). The starting water surface elevation for the Huron River used at Cooley Lake Road (Section 0.0) were taken from this same study. The starting water surface elevations for Sugden Creek were taken from SECNO 3180 of the Huron River.

The project manager for this study is Robert Mihos.

METHOD OF ANALYSIS

This study has been conducted using an iterative process involving the COE HEC-2 step-backwater computer program (Reference 3) and the SCS TR-20 hydrology program. Stage-discharge relations for each of the lakes linked by the Huron River required by the TR-20 program are generated by running multiple flows in the HEC-2 computer model. The TR-20 program simulates runoff for the four predetermined events into the various lakes, routes the collected runoff, and

yields discharges and water surface elevations for each lake in the chain. The peak flow for each lake resulting from a particular storm event is then used in the HEC-2 computer program to establish flood elevations and refine the stage-discharge characteristics of the lakes. The revised data is installed in the TR-20 program which generates new flows and elevations. As this process is repeated, specific flows for each event are converged upon and final flood elevations are determined.

Within the HEC-2 program, bridges which are under low flow conditions for all four flows are coded according to the "normal bridge" routine requirements. The "special bridge" routine or hand calculations were used to determine the upstream water surface elevation for bridges experiencing pressure or weir flow for any of the four flows. The hydraulic model has been developed for the 100 year flow.

Valley sections upstream and downstream of bridges are located where full cross section flow would be developed out of the influence of the bridge constriction. The criteria for placement of these sections is that outlined on pages 18-21 of the HEC Training Document No. 6, Application of the HEC-2 Bridge Routines (Reference 4). Accordingly, the downstream section is placed at a distance of about four times the average length of the side constriction caused by the bridge abutment. The upstream section is placed at a distance about equal to the bridge constriction. If additional sections were found necessary within this distance or if the actual field-surveyed cross section fell within this distance, the intermediate sections were encroached as appropriate.

CROSS SECTION DATA AQUISTION

Cross section data for the computer model of the Huron River and Sugden Creek have been obtained from two sources: Johnson & Anderson (J&A) and Abrams Aerial Survey (AAS). Field crews from J&A collected field elevations and structure data at each section during April and May, 1980. Primary emphasis was placed on obtaining detailed channel cross sections. This information was then supplemented with overbank elevations determined by AAS (Reference 5).

VARIABLES AND COEFFICIENTS

The Mannings "n" values have been selected by comparing photos taken during field inspection in May and October, 1980 with photographs and descriptions from Open-Channel Hydraulics, (Reference 6) pp. 101-123 and Roughness Characteristics of Natural Channels (Reference 7).

For channels, the "n" values varied generally from 0.035 for smooth sandy stream beds to 0.045 for winding reaches with weed growth along the banks and fallen timber. Sections adjacent to lakes were given "n" values closer to 0.035, while those of irregular courses with rough edges, stone, weeks and fallen timber were rated as high as 0.050.

The Mannings "n" values for the overbanks varied from as low as 0.035 for residential lawns to as high as 0.080 for flood plains characterized by heavy stands of timber with dense underbrush. Typically, the overbank values ranged between 0.055 and 0.070.

The expansion and contraction coefficients employed in this analysis were 0.5 and 0.3, respectively.

SPECIAL PROBLEMS

In the course of conducting this study, certain instances occurred where special techniques had to be used in order to reach completion. The first of these involved the operation policies for the adjustable lake level controls for Cedar Island, Oxbow, and Pontiac Lakes. An inspection of operation records collected by the Oakland County Drain Commissioner (Reference 8) showed that local conditions determined the operation policy which was followed during periods of high lake levels between 1968 and 1980. Therefore, after reviewing Oakland County records, typical operation settings were assigned to each structure:

Pontiac Lake - Both gates closed.
Oxbow Lake - Gate open 8 inches.
Cedar Island Lake - 1 of 3 gates open 12 inches.

A Lake Level Control Summary can be found in Appendix C. The flows generated from these conditions have been compared to the gage analysis results from the Commerce Township Flood Insurance Study (Reference 2), adjusted, and approved by the Michigan Department of Natural Resources.

The last area of concern involved culverts exhibiting inlet control. The first case occurred at Windhurst Drive and Sugden Creek (SECNO 4096.1), and the second at Pontiac Lake Road and the Huron River (SECNO 51170). Upstream water surface elevations for each of these structures were determined by inlet control nomographs and placed on X5 cards in the HEC-2 model. For Windhurst Drive, combined weir flow and inlet control occurred for the 500 year flow. In this case, inlet control headwater values were plotted and combined with a weir rating curve to create a stage-discharge curve for this culvert. The upstream water surface elevation corresponding to the flow discharging from Bogie Lake was picked off the graph and used on an X5 card in the computer model. Supporting calculations for these inlet control situations can be found in Appendix B.

LAKE ELEVATION AND FLOW SUMMARY

LAKE	STRUCTURE NO.	Discharge, cfs / Elevation 10-YEAR	50-YEAR	100-YEAR	500-YEAR
SUGDEN CREEK					
BOGIE LAKE	13	15 937.46	17.6 937.49	18.4 937.50	20 937.52
SUGDEN LAKE	14	8.3 932.10	11 932.41	12 932.56	14 932.91
CEDAR CREEK					
LAKE NEVA	9	55 945.93	80 946.16	85 946.22	105 946.40
HURON RIVER					
BRENDEL LAKE	11	135 933.18	190 933.63	225 933.89	280 934.26
CEDAR ISLAND LAKE	7	95 934.74	125 935.04	135 935.14	170 935.46
OXBOW LAKE	6	95 943.15	125 943.67	135 943.80 9465	170 944.20
PONTIAC LAKE	3	85 964.56	130 965.11	140 965.22 very high	170 965.54
WHITE LAKE*	100	<1	18	25	53
*See Highland Twp FIS	20	1020.64	1020.97	1021.04 high	1021.17
INDEPENDENT LAKES					
GRASS LAKE	2	<1 1016.89	<1 1017.53	<1 1017.79	<1 1018.33
MANDON LAKE	1	<1 936.04	<1 936.40	<1 936.55	<1 936.91
ROUND LAKE	1	<1 935.07	<1 935.30	<1 935.52	<1 935.83
TULL LAKE	5	<1 953.70	<1 953.94	<1 954.01	<1 954.19
LONG LAKE*		934.62	935.30	935.58	936.22
COOLEY LAKE*		936.08	936.28	936.33	936.48

* This data has been taken from the Commerce Township Flood Insurance Study (Reference 2).

REFERENCES

1. U.S. Department of Agriculture, Soil Conservation Service, Technical Release No. 20, Computer Program for Project Formulation, Hydrology, May 1965.

2. U.S. Department of Housing and Urban Development Federal Insurance Administration, Flood Insurance Study, Township of Commerce, Michigan, September, 1980.

3. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2, Water Surface Profile User's Manual, 1973.

4. U.S. Army Corps of Engineers, Hydrologic Engineering Center, Application of the HEC-2 Bridge Routines, Training Document No. 6, June 1974.

5. Abrams Aerial Survey Corp., Lansing, Michigan
Date of Photography: January 20, 1980

6. Chow, Ven Te, Ph.D., Open-Channel Hydraulics, McGraw-Hill Book Company, 1959.

7. Barnes, Harry H., Jr., Geological Survey Water - Supply Paper 1849, Roughness Characteristics of Natural Channels, 1967.

8. Oakland County Drain Commissioner, Lake Level Records, 1968-1980.

APPENDIX A

Huron River
White Lake Township FIS
6504-06-1

CROSS SECTION	SECNO	DESCRIPTION
A	61	Cooley Lake Road; field section #1 with bridge data.
B	180	Field Section #2
C	810	Field Section #3
D	1455	Field Section #4
E	2305	Field Section #5
F	3180	Field Section #6
G	3745	Field Section #7
H	3932	Oxbow Lake Road; field section #8 with bridge data.
I	4470	Field Section #9
J	5240	Field Section #10
K	5351	Private Road; field section #11 with bridge data
L	5695	Field Section #12
M	6530	Field Section #13
N	7310	Field Section #14
O	8310	Field Section #15
P	8493	Cedar Island Road; field section #16 with bridge data.
Q	9250	Field Section #17
R	10515	Field Section #18
S	11636	Field Section #18-A; weir 300 feet downstream of Brendel Lake.
T	11935	Field Section #19
U	12535	Field Section #20
V	14345	Field Section #21
W	15480	Field Section #22
X	16695	Oxbow Lake Road; field section #23 with bridge data.

End of First Model

CROSS SECTION	SECNO	DESCRIPTION
Y	16722	Oxbow Lake Control Structure; field section #24 with bridge data.
Z	22800	Field Section #25
AA	23505	Field Section #26
AB	23623	Lakeview Drive; field section #27 with bridge data.
AC	24255	Field Section #28
AD	24970	Field Section #29
AE	25675	Field Section #30
AF	25757	Avonlea Road; field section #31 with bridge data.
AG	26475	Field Section #32
AH	28055	Field Section #33
AI	28219	Oxbow Lake Dam; field section #33-1 with bridge data.
AJ	28613	Field Section #34
AK	28888	Elizabeth Lake Road; field section #35 with bridge data.
AL	32219	Field Section #36
AM	32761	Shotwell Drive, field section #37 with bridge data.
AN	32844	Field Section #38
AO	33944	Field Section #39
AP	36194	Field Section #40
AQ	38364	Field Section #41
AR	40914	Field Section #42
AS	43374	Field Section #43
AT	45374	Field Section #44
AU	45553	M-59; field section #45 with bridge data
AV	46179	Field Section #46

CROSS SECTION	SECNO	DESCRIPTION
AW	47604	Field Section #47
AX	48194	Field Section #48
AY	48924	Field Section #49
AZ	50454	Field Section #50
BA	51024	Field Section #51
BB	51170	Pontiac Lake Road; field section #52 with bridge data.
BC	51178	Field Section #53
BD	51249	Pontiac Lake Dam; field section #54 with bridge data.

CROSS SECTION	SECNO	DESCRIPTION
SA	240.1	Field Section #1 240 feet upstream of confluence with Huron River.
SB	755.1	Field Section #2
SC	925.1	Oxbow Lake Road; field section #3 with bridge data.
SD	1262.1	Field Section #4
SE	1687.1	Field Section #5; Sugden Lake outlet.
SF	3707.1	Field Section #6
SG	3844.1	Sugden Road; field section #7.
SH	3917.1	Field Section #8
SI	4096.1	Windhurst Drive; field section #9 with bridge data.
SJ	4311.1	Bogie Lake Control Structure; field section #10.

APPENDIX B

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Consulting Engineers
P.O. Box 1166 2300 Dixie Highway Pontiac, Michigan 48056

HYDRAULIC STRUCTURAL DATA

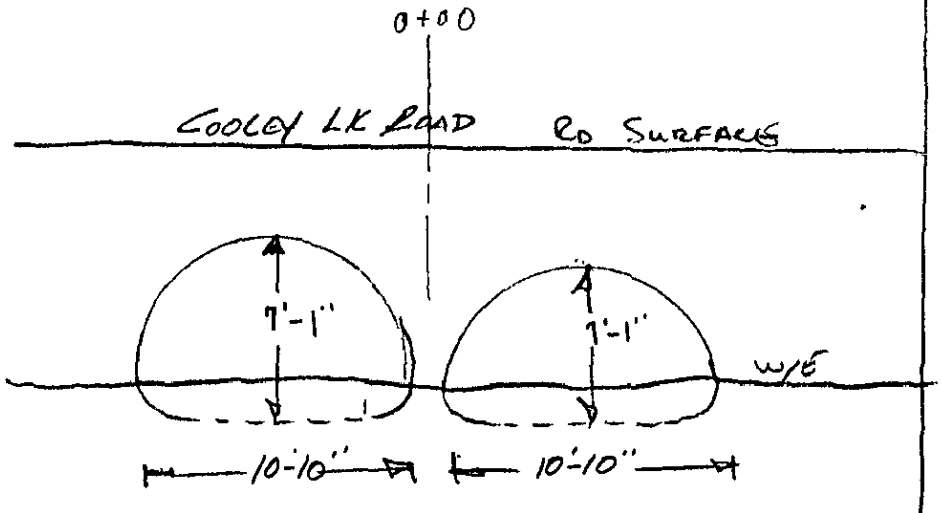
B.S # 1

Code No. 6504-06

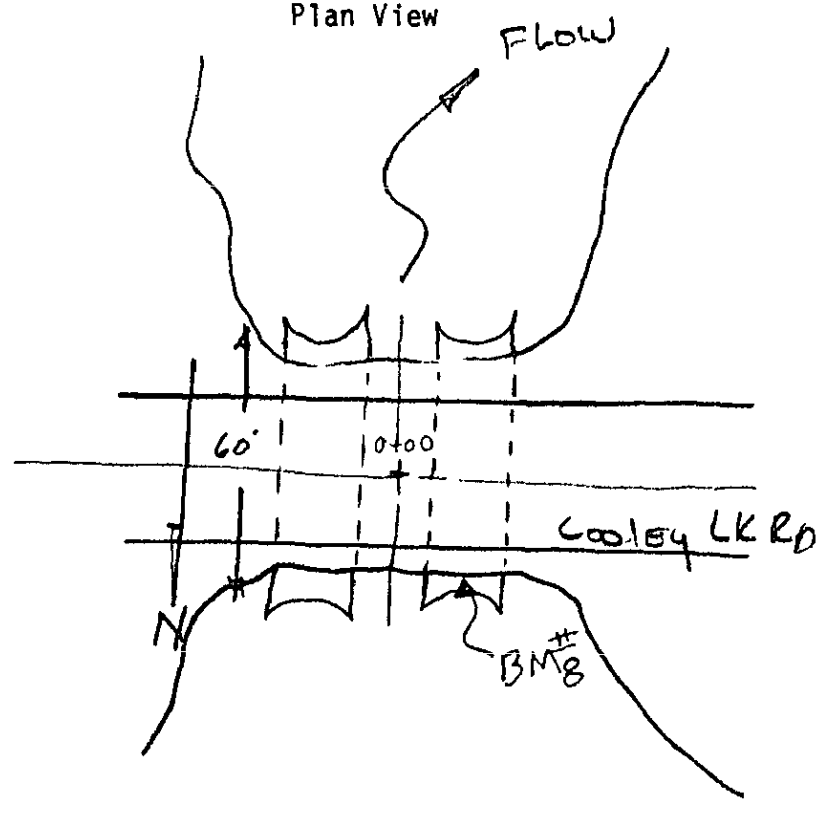
Job Name: White Lk Twp. F.I.S.			By: R. Moses
Date: 4-8-80	Feature: 2-Cmp Arch		Water Course: Hupp River
Remarks: Up & Downstream Low Marsh Area			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 930.8	Length: 60'	Width of Deck:	Skew: 90°

FIELD SKETCH

Profile View



Plan View



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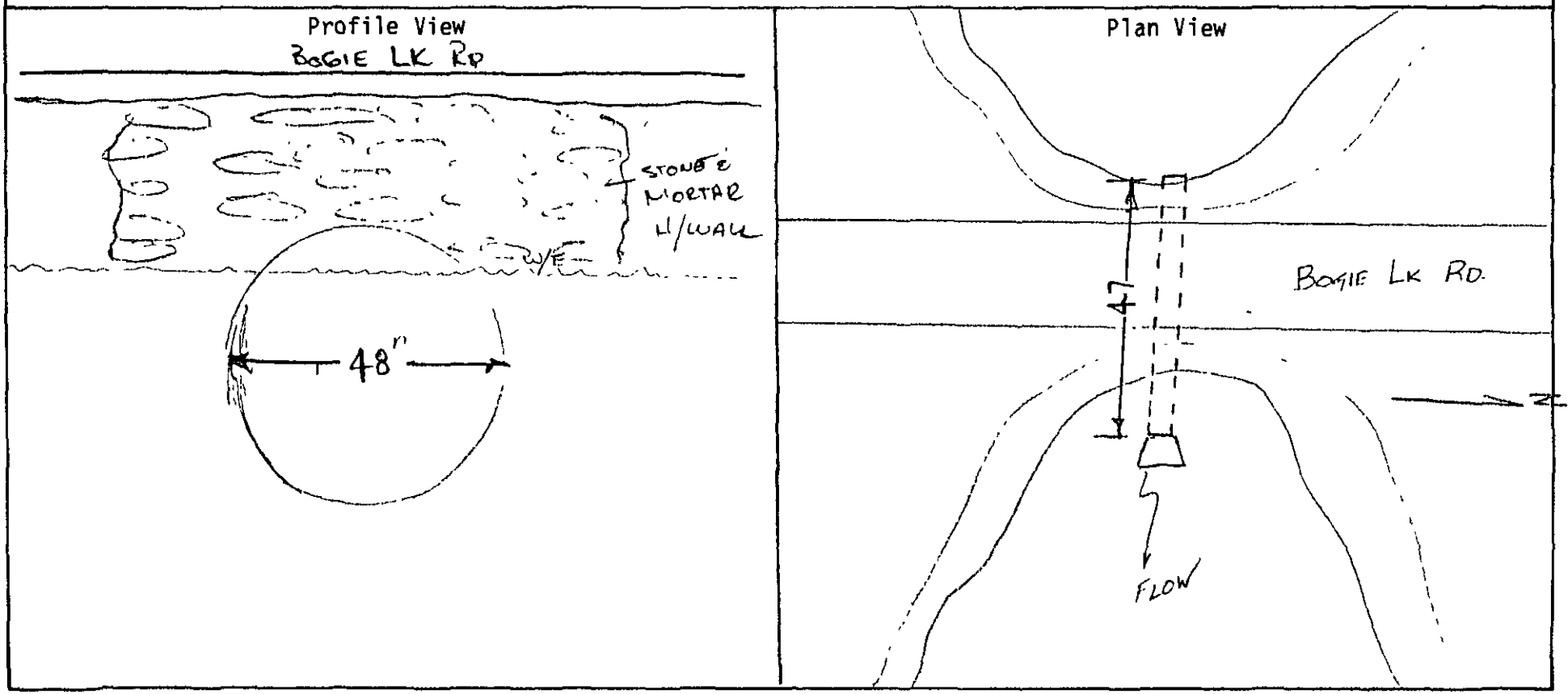
HYDRAULIC STRUCTURAL DATA

B.S. #6

Code No. 6504-06

Job Name: WHITE LK Twp. F.I.S.			By: MOSES
Date: 4-18-00	Feature: 48" ϕ C.M.P		Water Course: CEDAR CREEK
Remarks: JUST SOUTH OF BISCAYNE under BOGIE LK RD			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 944.9	Length: 47'	Width of Deck: —	Skew: 90°

FIELD SKETCH



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HYDRAULIC STRUCTURAL DATA

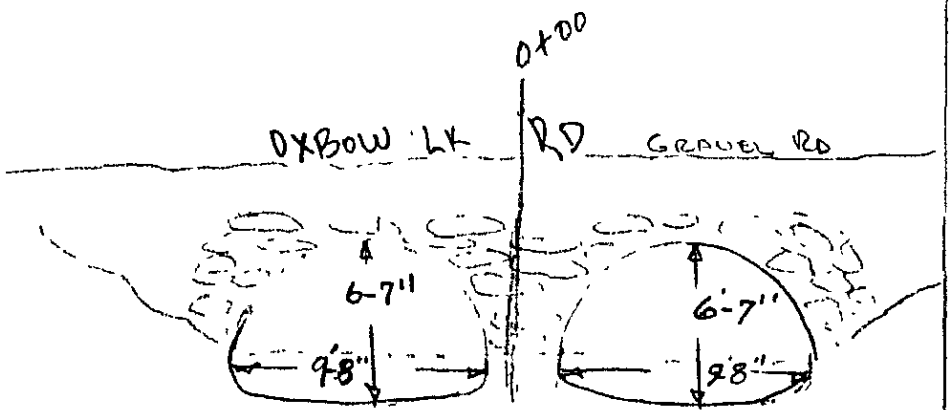
R.S. 3

Code No. 6501-06

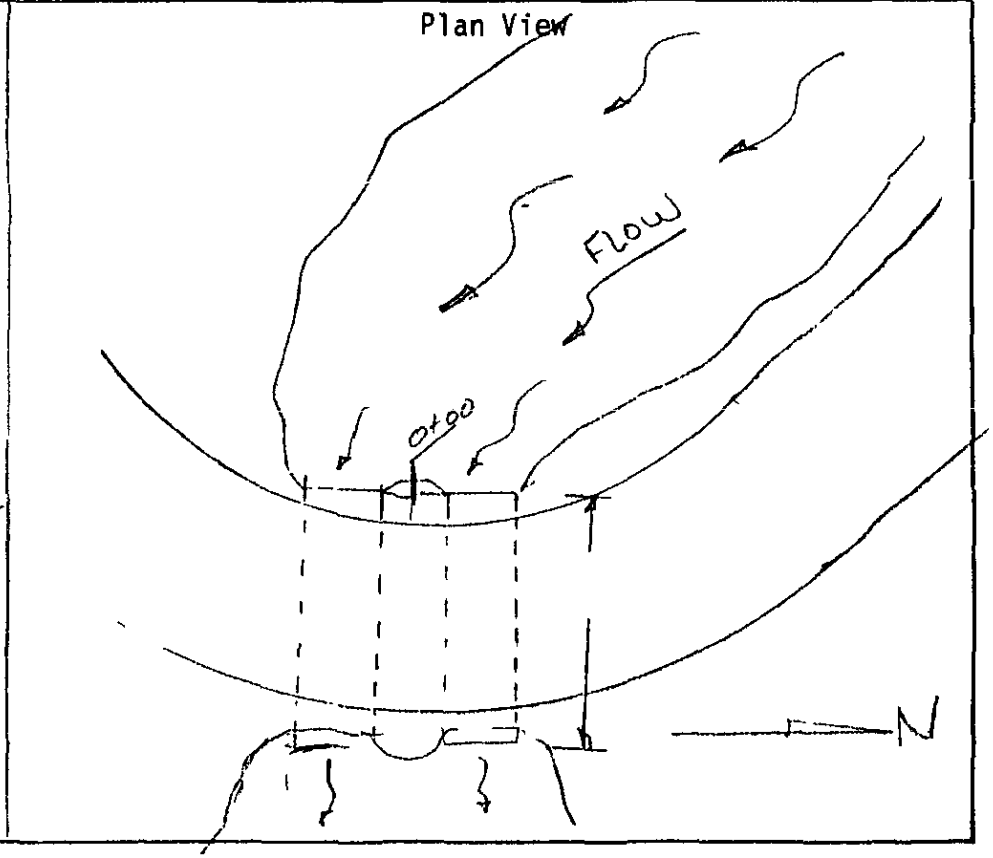
Job Name: White Lk. Twp F.I.S.		By: R. Moses	
Date: 4-[illegible]-80	Feature: 2- Arch C.M.P	Water Course: Huron River	
Remarks: Oxbow Lk just N. of Estola Dr. Upstream Low Marsh Area			
Dnstream - Med. Brush w/ scattered homes			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 931.4	Length: 57'	Width of Deck:	Skew:

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

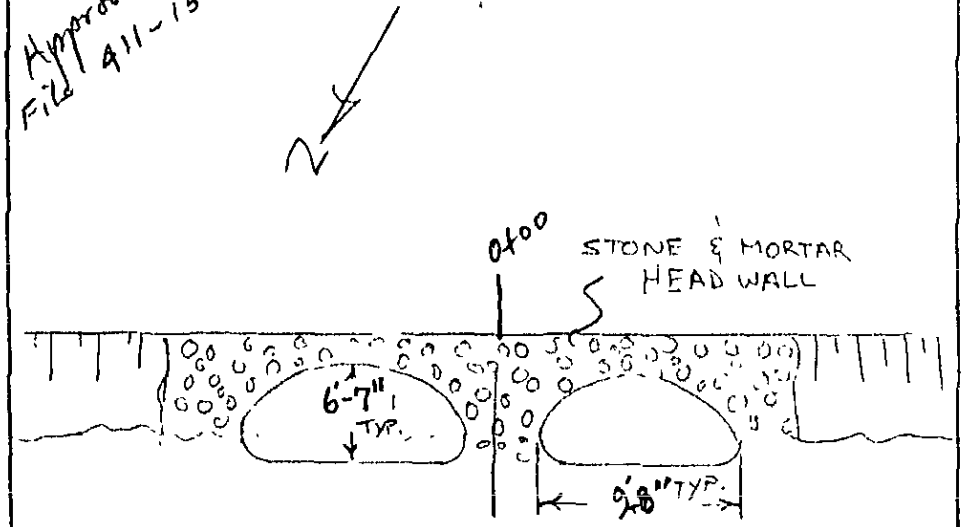
Code No. _____

Job Name: [illegible]		By: [illegible]	
Date: 4-10-80	Feature: MULTI-PLATE ARCH [illegible]	Water Course: [illegible]	
Remarks: RIGHT: RISE'S SLOWLY TO LAWN AREA, LEFT: [illegible] UPSTREAM: SWAMP & HEAVY BRUSH & TREES DOWNSTREAM: SWAMP, HEAVY BRUSH			
Secns 5351 Section K?			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 931.6	Length: 21'	Width of Deck: —	Skew: 0

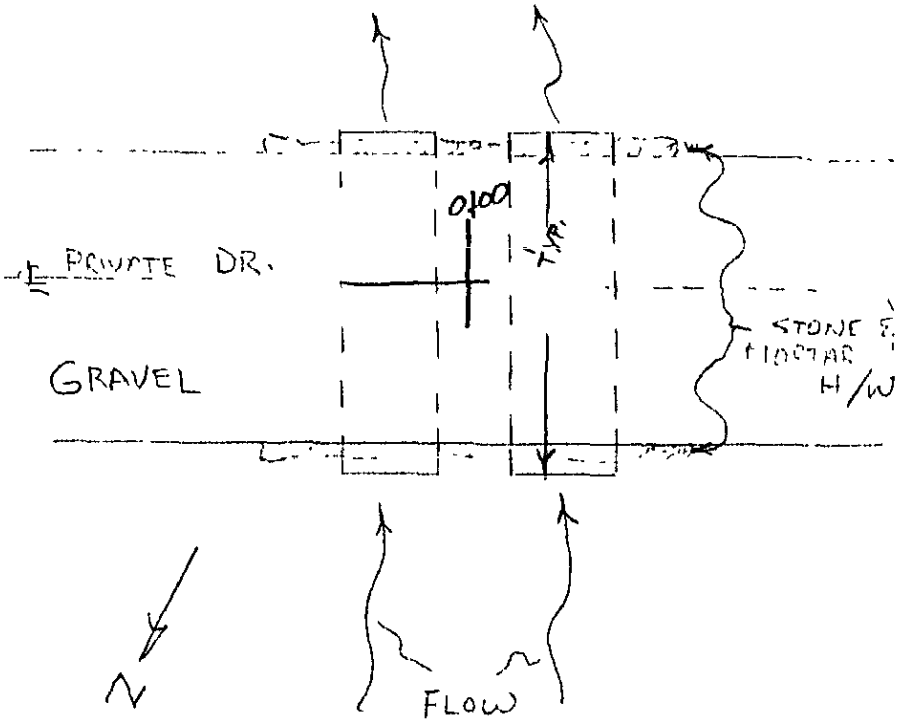
FIELD SKETCH

Approved by File 411-15

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

Pg. #16

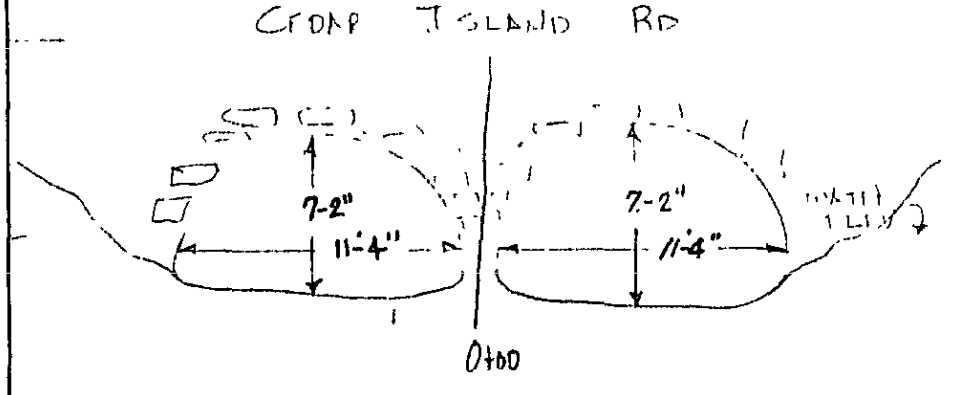
Code No. [illegible]

Job Name: White Lake Twp FT. 5		By: M Janette
Date: 4-10-80	Feature: Multi-Plate Arch Culvert	Water Course: Huron River
Remarks: UPSTREM - Low Marsh Swamp Dowstream Low Marsh Swamp		

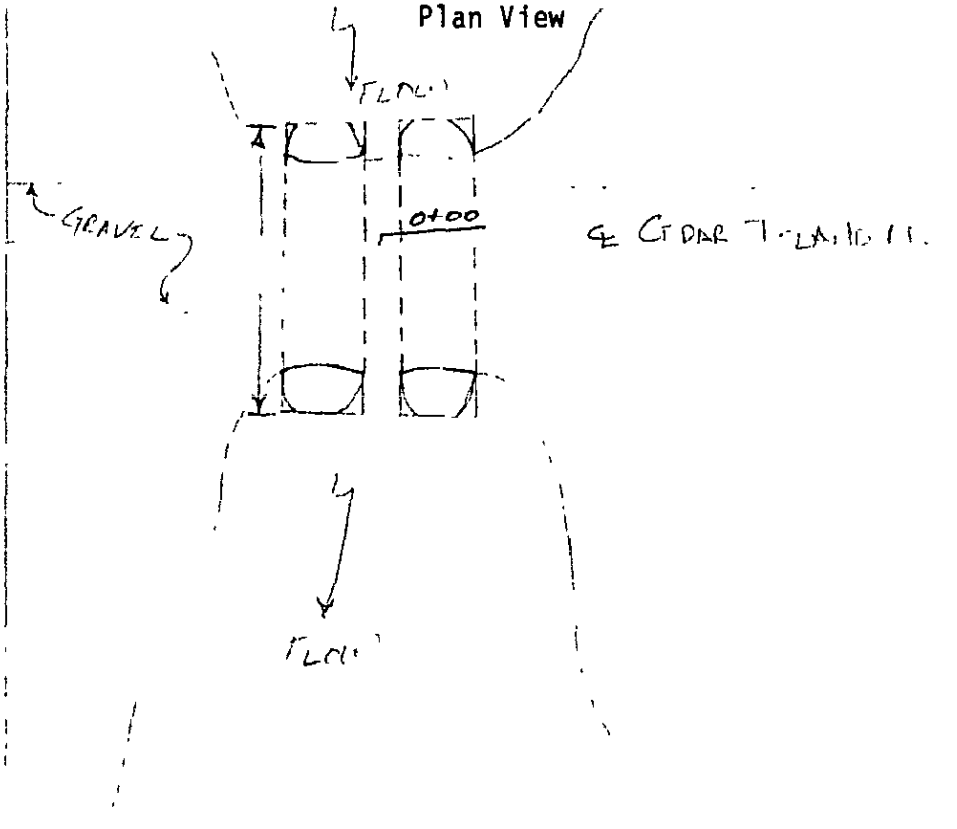
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 932.8	Length: 55'	Width of Deck: —	Skew: 0°

FIELD SKETCH

Profile View



Plan View



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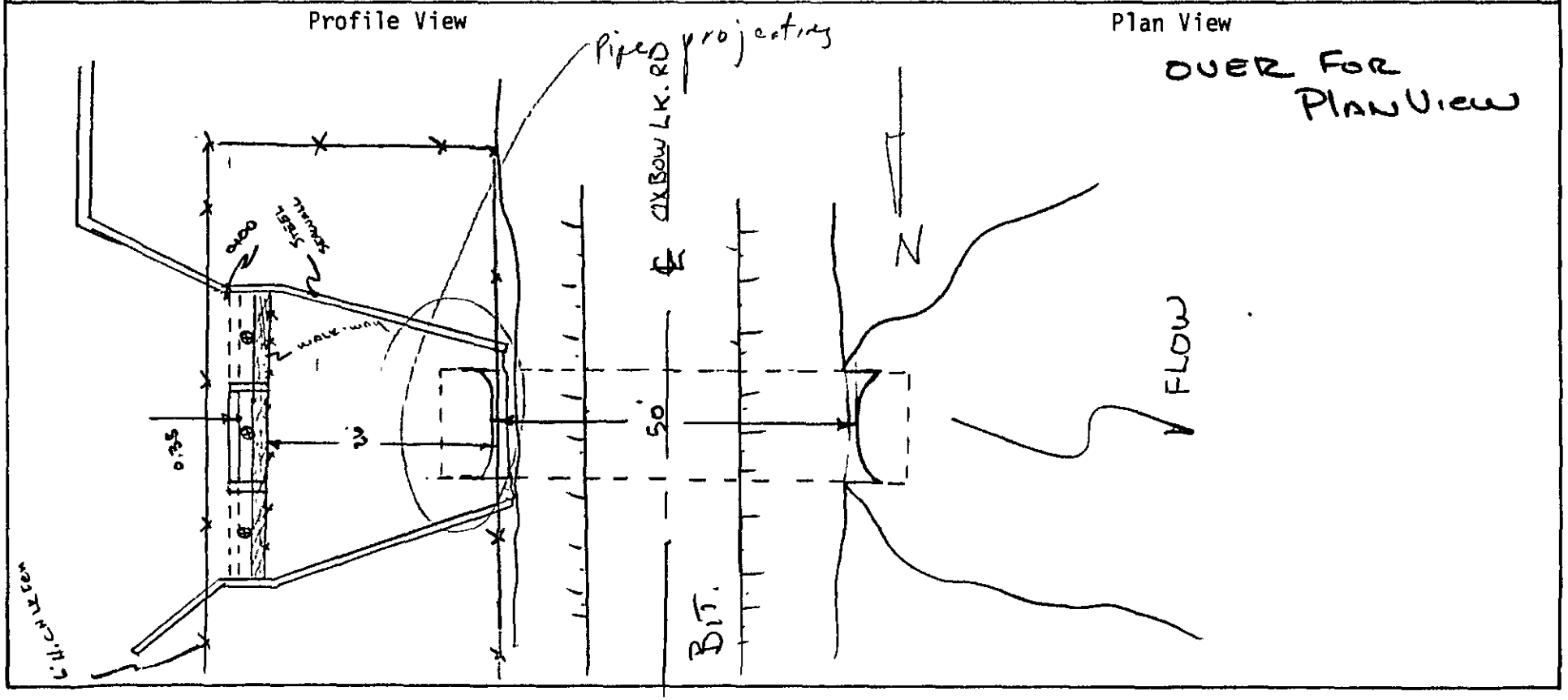
HYDRAULIC STRUCTURAL DATA

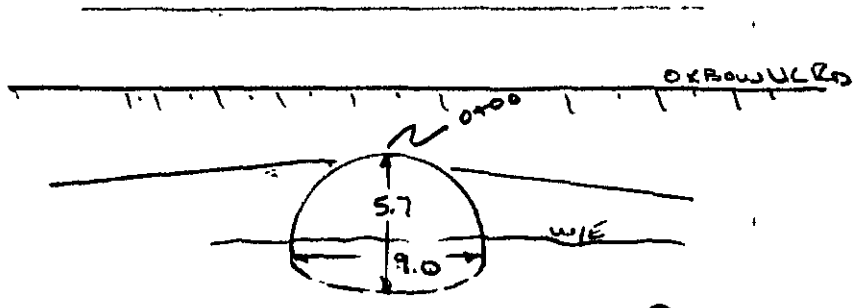
B.S. #23 AND DAM #24

Code No. 1650A-06

Job Name: WHITE LK TWP. F.I.S.			By: R. MOSES
Date: 4-10-80	Feature: ARCH CULV. & DAM		Water Course: HURON RIVER
Remarks: DID BOTH SECTION BECAUSE THEY ARE CONNECTED			
DOWNSTREAM OF CULVERT MARSH & HEAVY BRUSH			
Width of Piers: 0.35	Pier Shape: FLAT STEEL	No. of Piers: 2	Area: —
Water Elevation: 933.5 BRIDGE 933.8 DAM	Length: 50'	Width of Deck: —	Skew: —

FIELD SKETCH

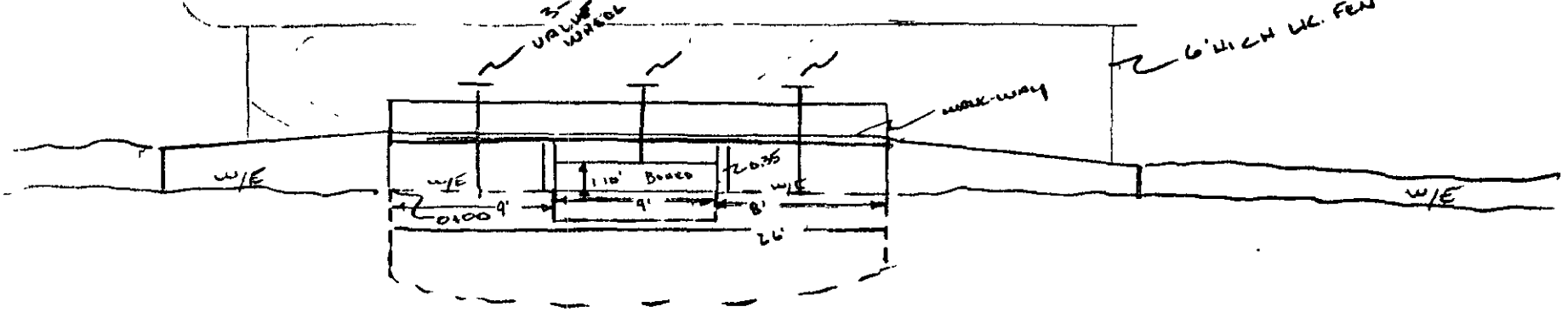




6.8 x 10.8

UPSTREAM PROFILE OF CULVERT BS #23

DAM #24



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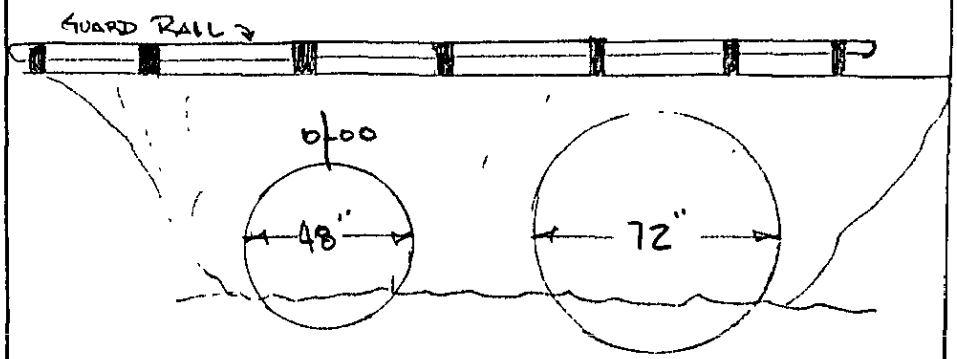
HYDRAULIC STRUCTURAL DATA

Code No. 6504-06

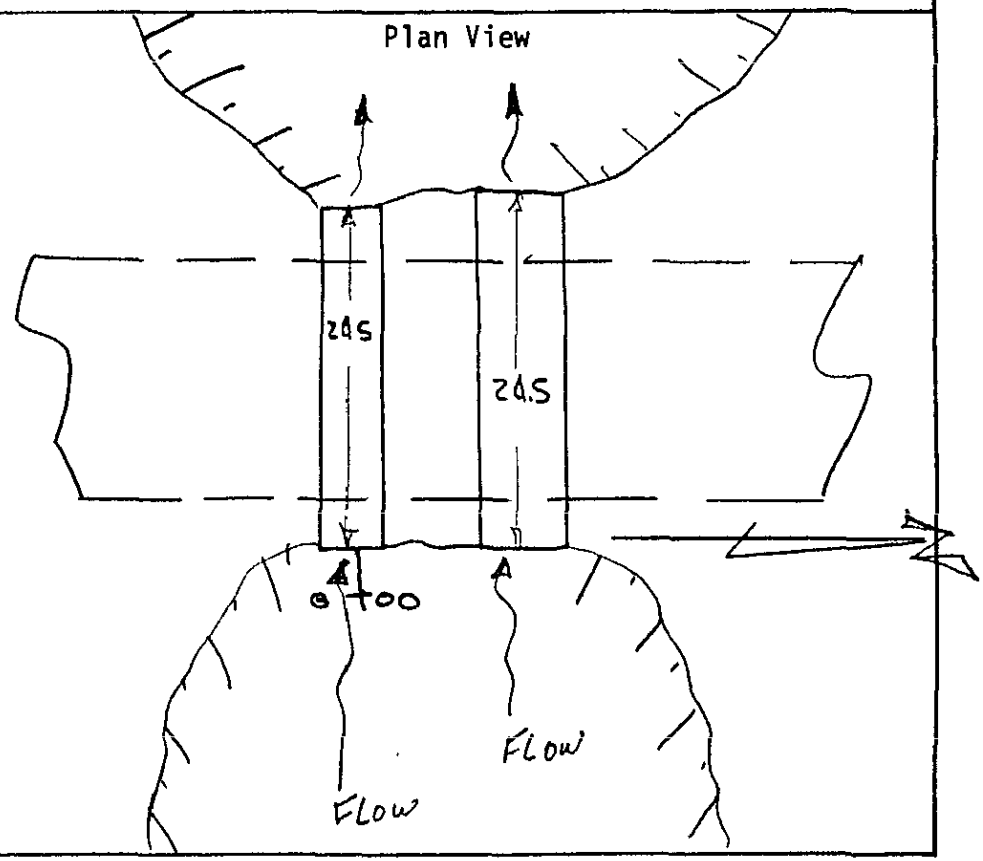
Job Name: WHITE LK TWP F.I.S. BS#27			By: MOSES
Date: 4-18-80	Feature: 1-48 RCP 1-72" RCP		Water Course: HURON RIVER
Remarks: ON LAKEVIEW DR CULVERTS ARE CLEAN			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 935.1	Length: 24.5	Width of Deck: —	Skew: —

FIELD SKETCH

Profile View Section A-B



Plan View



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HYDRAULIC STRUCTURAL DATA

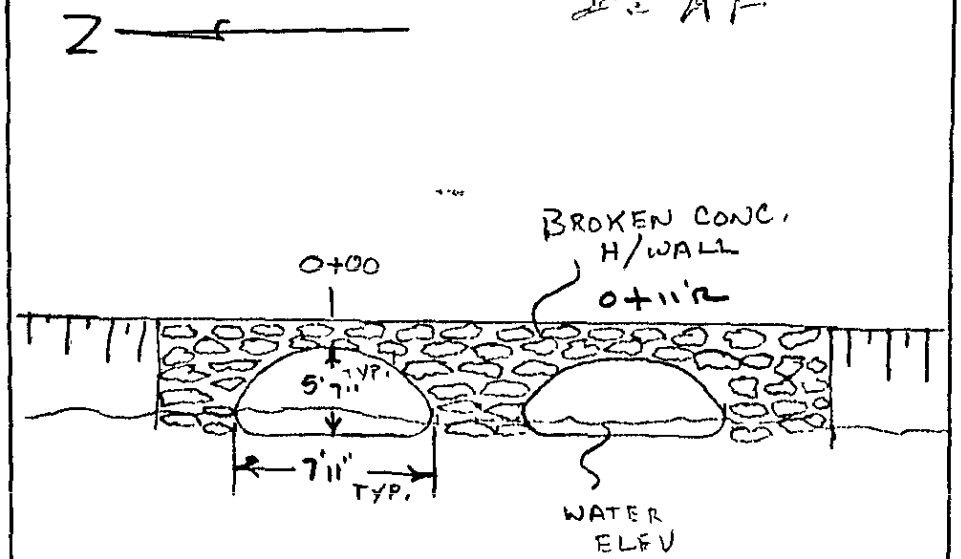
B.S. # 31

Code No. 6504-06

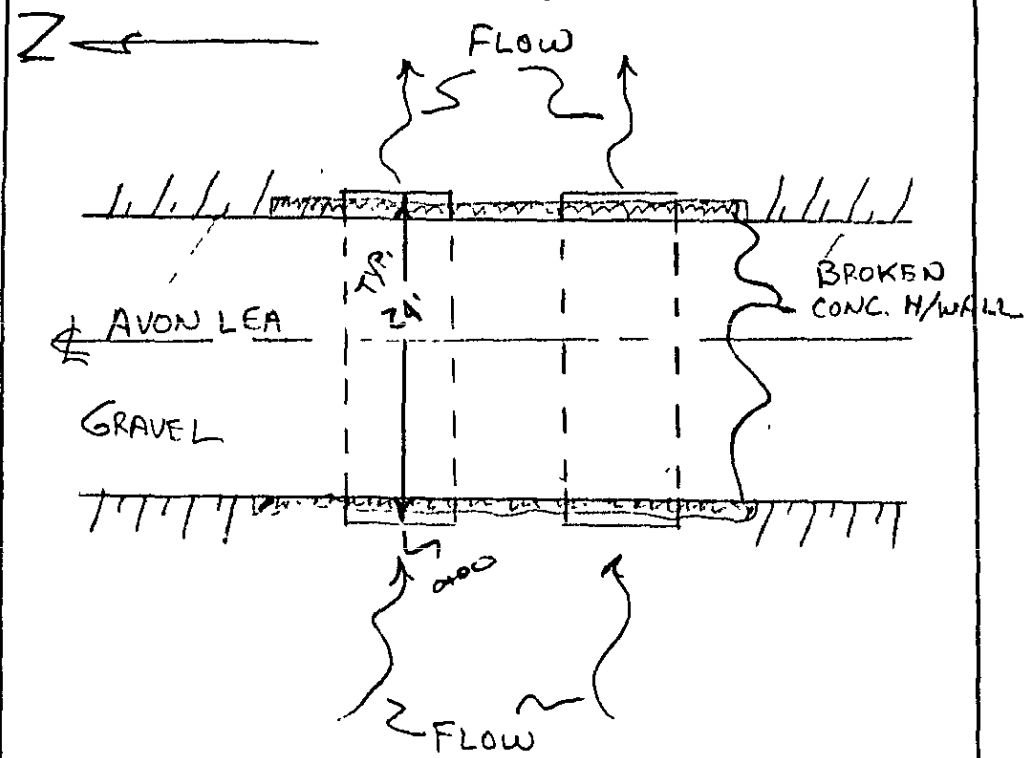
Job Name: WHITE LAKE TWP. F.I.S.			By: D. NETT
Date: 4-16-80	Feature: TWIN MULTI-PLATE ARCH C.M.P.		Water Course: HURON RIVER
Remarks: Culverts under AVON LEA RD on HURON RIVER			
UPSTREAM - BOTH BANKS HEAVY BRUSH			
DOWNSTREAM - " " " "			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 935.7	Length: 24'	Width of Deck: —	Skew: —

FIELD SKETCH

Profile View



Plan View



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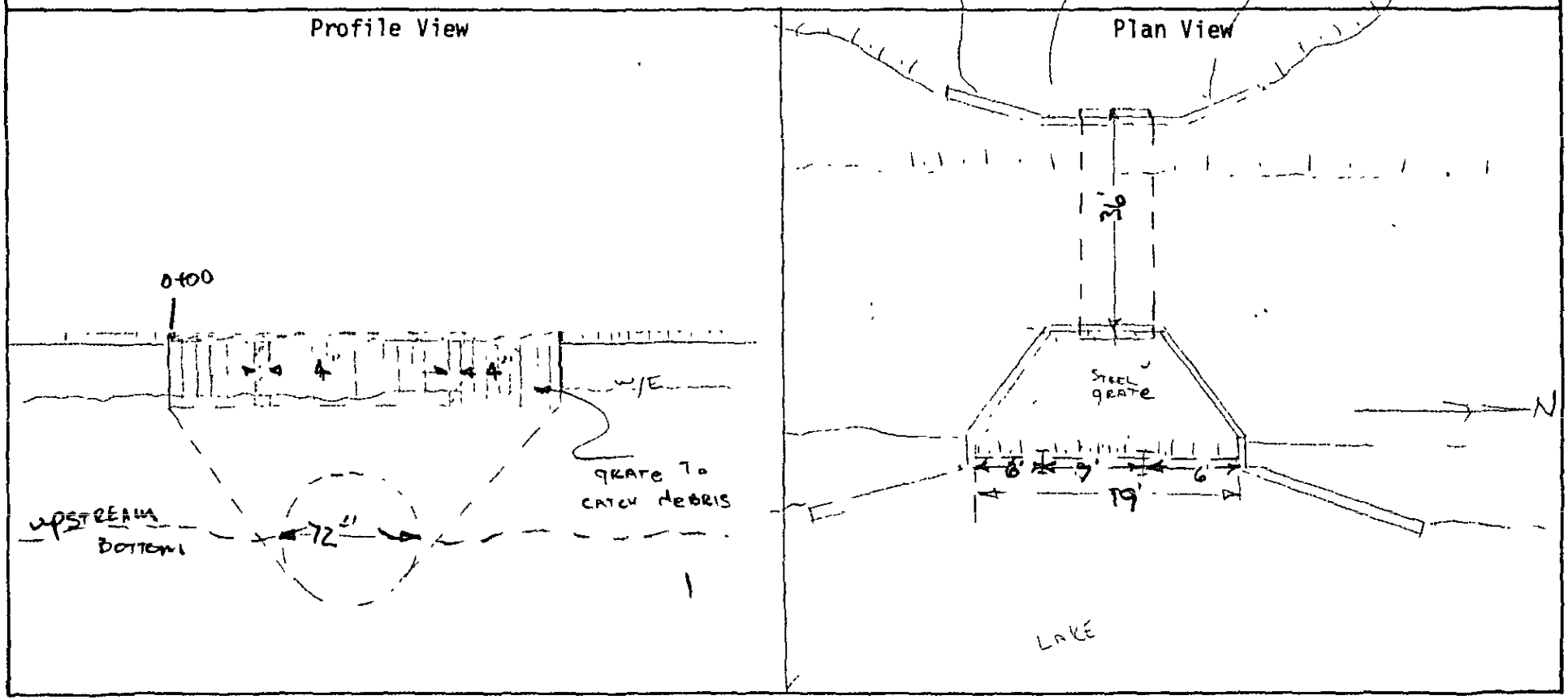
HYDRAULIC STRUCTURAL DATA

DAM # 33 - A

Code No. 6504.06

Job Name: WHITE LK. Twp. F.I.S. HURON RIVER			By: R. MOSES
Date:	Feature: DAM & 72" CMP		Water Course: HURON RIVER
Remarks: 1300'± S. OF OXBOW LK RD, 560'± W. OF ELIZ. LK RD			
THERE IS SOME DEBRIS IN FRONT OF DAM			
Width of Piers: 4"	Pier Shape: H - BEAMS	No. of Piers: 2	Area: —
Water Elevation: 943.1	Length: 36'	Width of Deck: —	Skew: —

FIELD SKETCH



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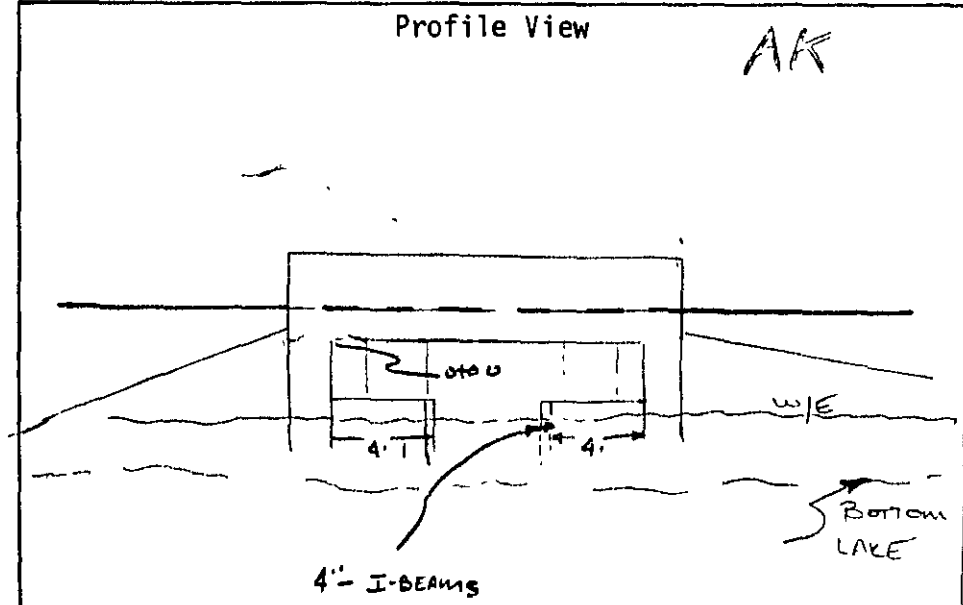
HYDRAULIC STRUCTURAL DATA
BS #35

Code No. 6504-06

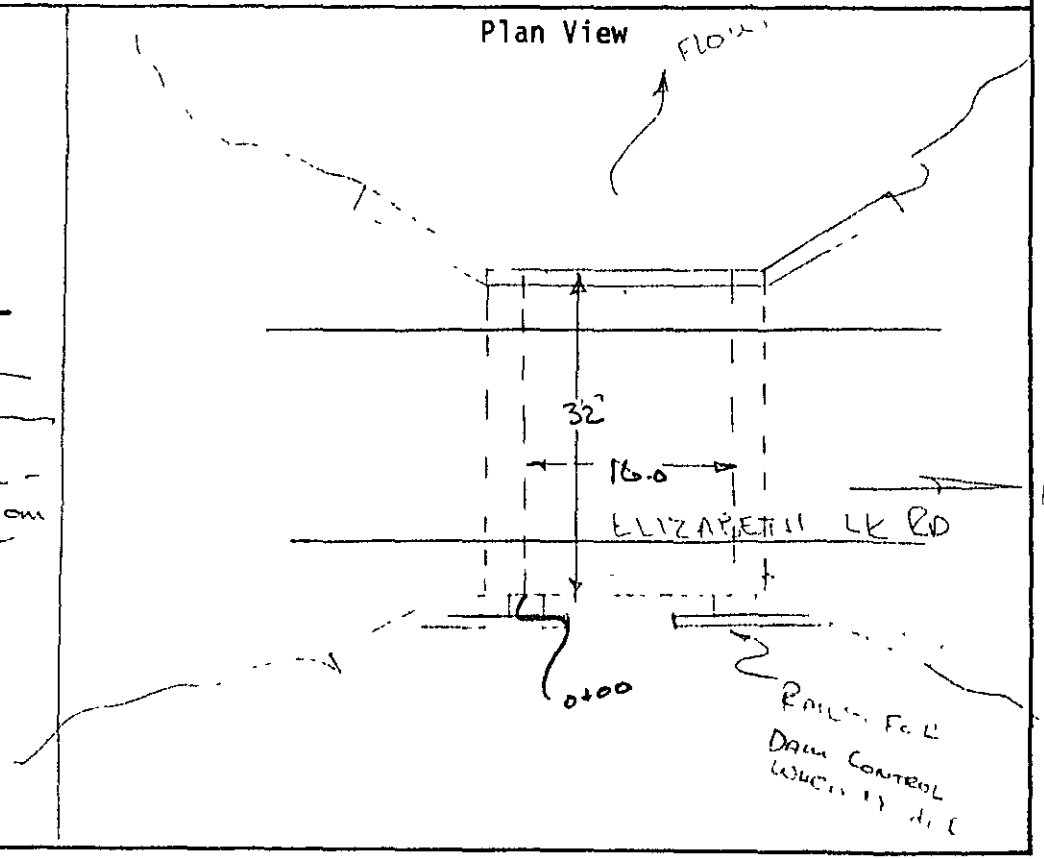
Job Name: WHITE LK TWP. SAN			By: R. MOSES
Date:	Feature: Box Culvert		Water Course: HURON RIVER
Remarks: BRIDGE IS ON ELIZ. LK RD AT OUTLET OF OXBOW LK			
BOARDS FOR WATER CONTROL ARE GONE ON THIS DATE - WATER FLOWS FREE UNDER BRIDGE.			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: 90°
Water Elevation: 943.3	Length: 32'	Width of Deck: 16'	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

B.S. #37

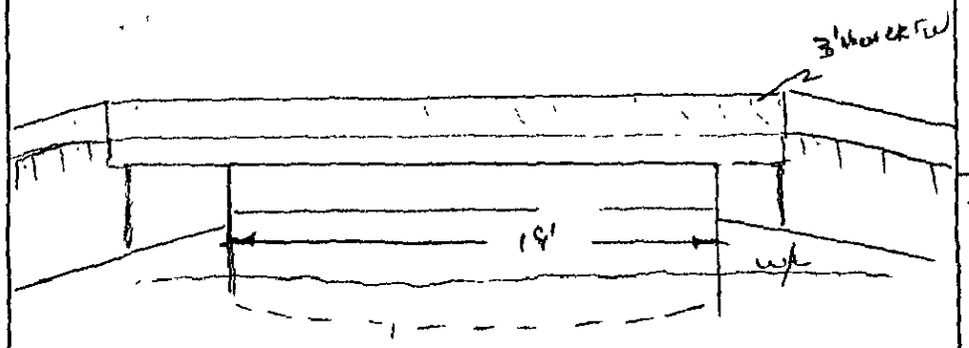
Code No. 6504 06

Job Name: White Lk Twp. F.I.S.			By: R. Moses
Date: 4-16-80	Feature: Conc. Bridge		Water Course: Huron River
Remarks: Bridge on Shotwell Dr S. of Steep-Hollow Dr 1100'±			
3' To 4' H. Ch. Lk Few, Runs Along Rd, Left & Right For 300'±			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 943.3	Length: 24'	Width of Deck: 14'	Skew: —

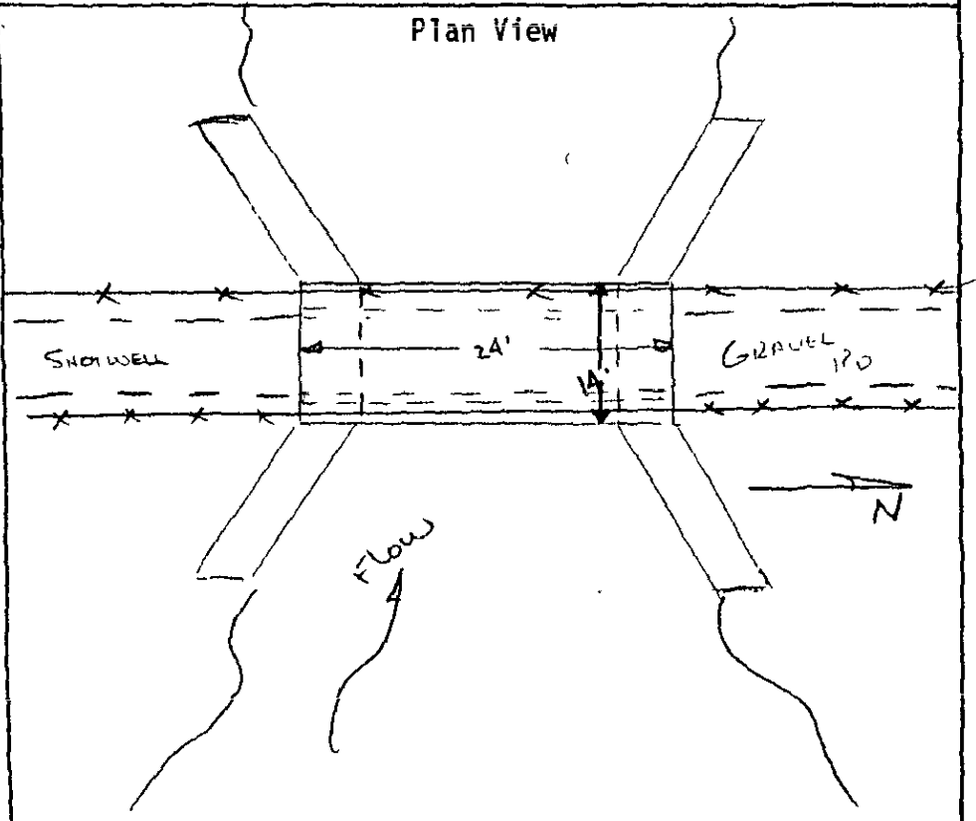
FIELD SKETCH

Profile View

AM



Plan View



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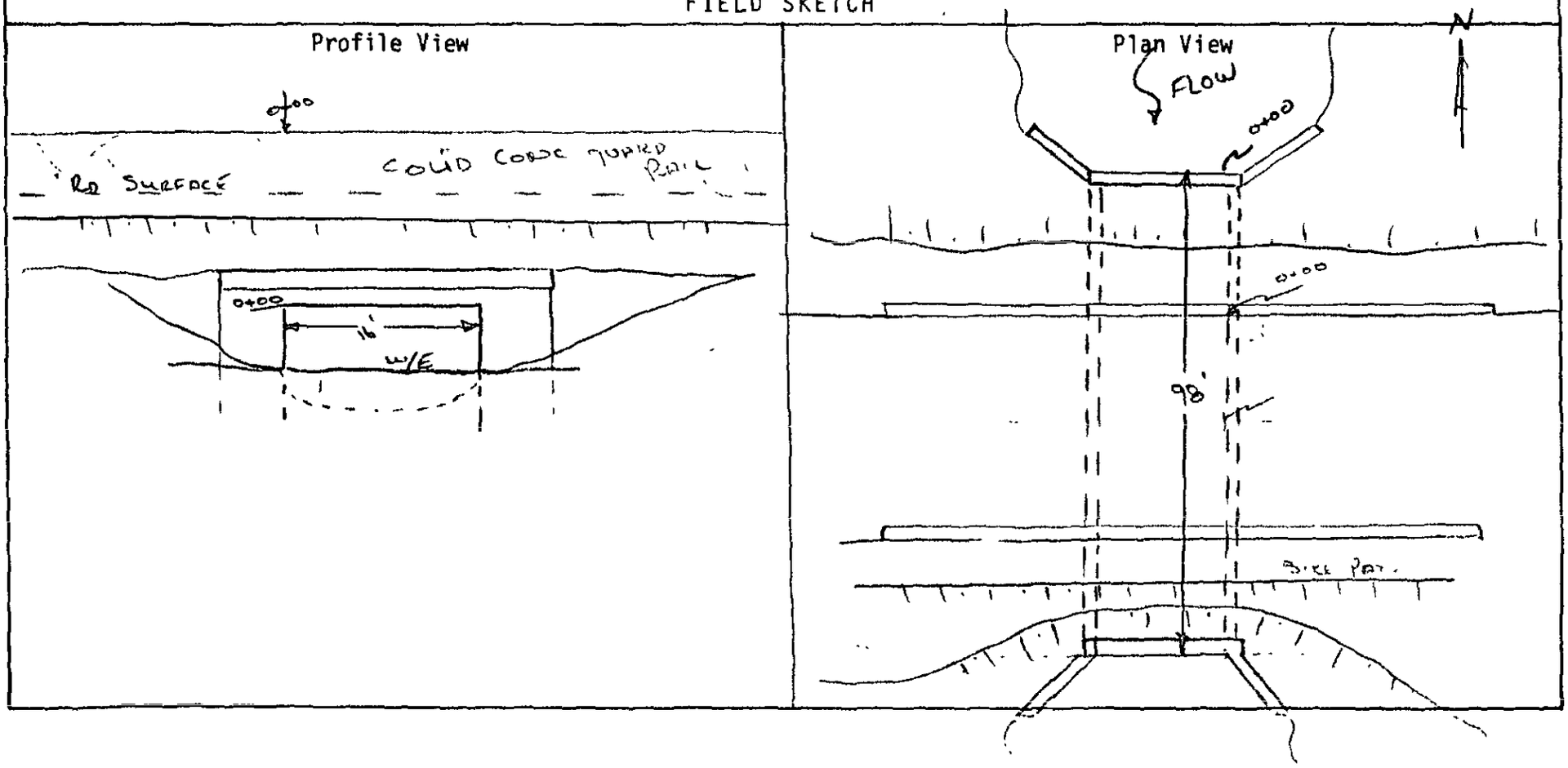
HYDRAULIC STRUCTURAL DATA

BS #45

Code No. 6504-06

Job Name: WHITE LK TWP. F.I.S.			By: R. ALGER
Date: 4-11-80	Feature: CONC. BOX CULVERT		Water Course: HURON RIVER
Remarks: NEW BOX CULV. ON M-59 AT HURON RIVER			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 944.4	Length: 98'	Width of Deck: 16	Skew: —

FIELD SKETCH



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HYDRAULIC STRUCTURAL DATA

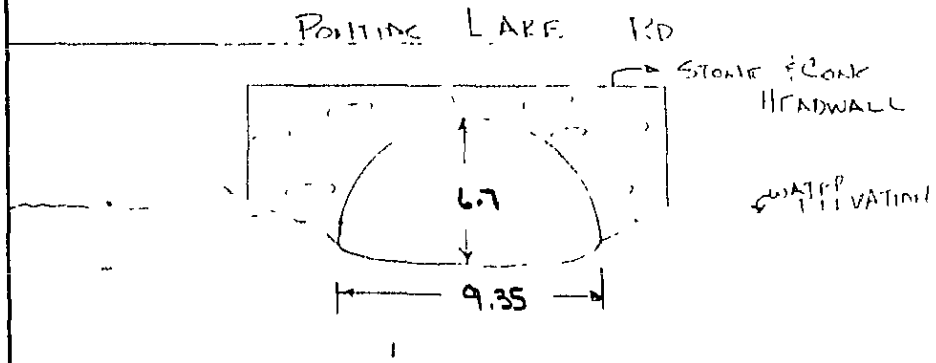
B.S. #52

Code No. [illegible]

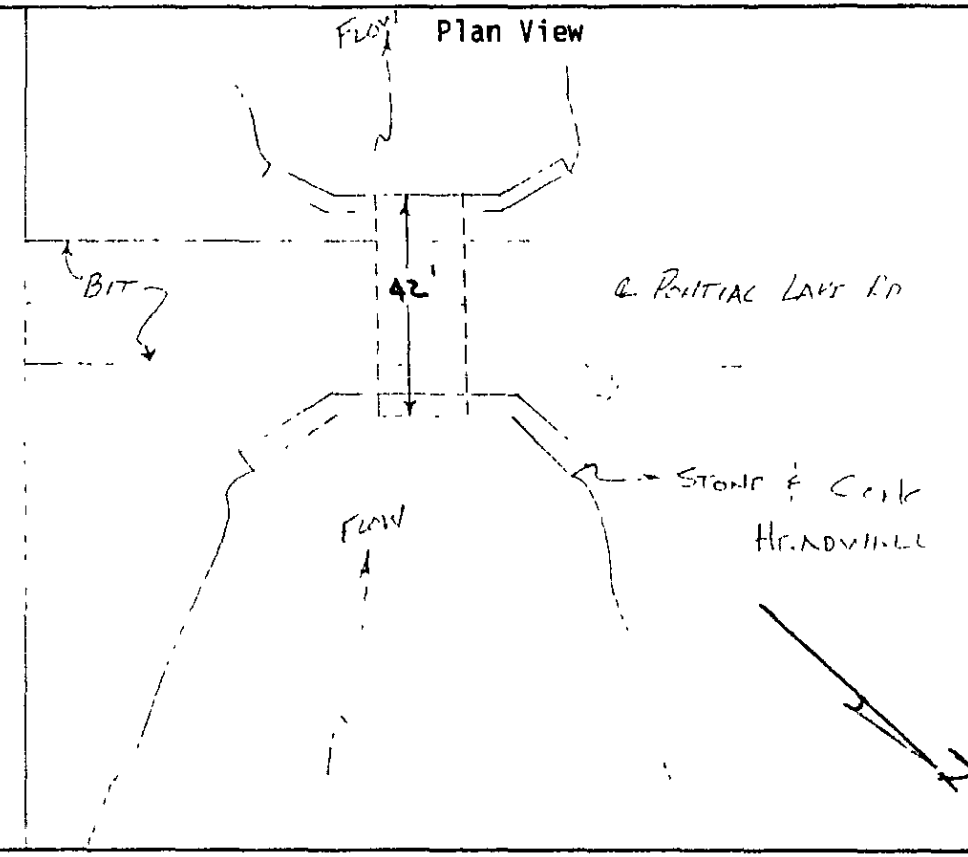
Job Name: WHITE LAKE TWP. [illegible]			By: R. Moses
Date: 4-11-80	Feature: MULTI-PLATE ARCH CULVERT		Water Course: UNNAMED DRAIN
Remarks: Culvert is clean			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 949.6	Length: 42	Width of Deck: 9.4'	Skew: —

FIELD SKETCH

Profile View



Plan View



JOB NAME: WHITE LAKE TWP. FIS | JOB NO. 6504 | 06 | 1 | 13

WATERCOURSE: HURON RIVER | CULVERT LOCATION: PONTIAC LAKE ROAD

CULVERT DESCRIPTION: 9' 4" x 6' 3" CMP | BY RMW | DATE 6-15-81

n= 0.033 | Q_{10}= 85 | TW_{10}= 1.67

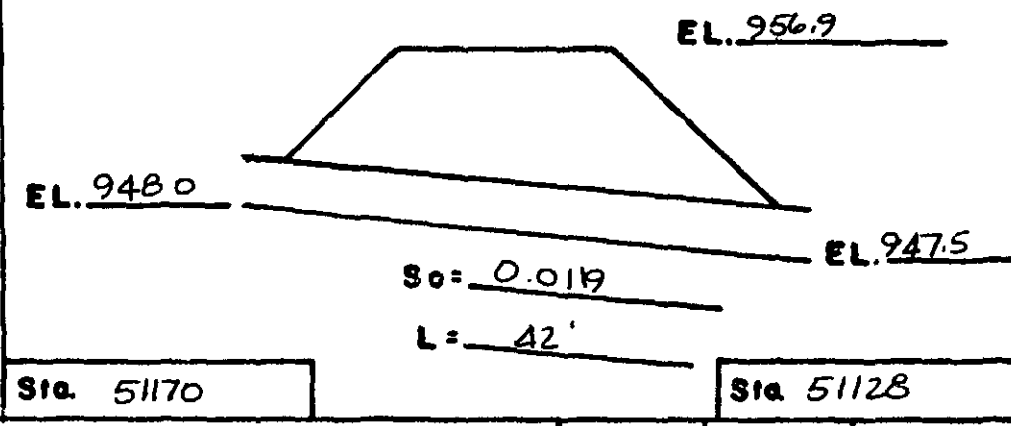
A= 48 FT² | Q_{50}= 130 | TW_{50}= 1.87

R= 1.87 FT | Q_{100}= 140 | TW_{100}= 1.96

Ke= 0.5 | Q_{500}= 170 | TW_{500}= 2.22

D= 6.25 FT

LSo= 0.5 FT



Sta. 51170 | Sta. 51128

HEADWATER ANALYSIS

NORMAL BRIDGE

Q	INLET CONT.		OUTLET CONT. HW = H + ho − LSo					HEC-2		FINAL HW	FINAL HW ELEV. (HGL)	FINAL EGL
	HW/D	HW	H	dc	(dc+D)/2	ho	HW	$D+(1+K_e)\frac{V^2}{2g}$	HW			
85	0.42	2.63						7.01	2.49	2.63	950.38	950.63
130	0.52	3.25						7.26	3.17	3.17	950.89	951.25
140	0.55	3.44						7.31	3.31	3.31	951.08	951.44
170	0.62	3.88						7.46	3.67	3.67	951.48	951.88

CALCULATIONS AND COMMENTS

A_{10} = 21.1 FT²
A_{50} = 26.9 FT²
A_{100} = 29.0 FT²
A_{500} = 33.6 FT²

Velocity Head = $\frac{(\frac{Q}{A})^2}{2g}$

$H_{V_{10}}$ = 0.25 FT
$H_{V_{50}}$ = 0.36 FT
$H_{V_{100}}$ = 0.36 FT
$H_{V_{500}}$ = 0.40 FT

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HYDRAULIC STRUCTURAL DATA

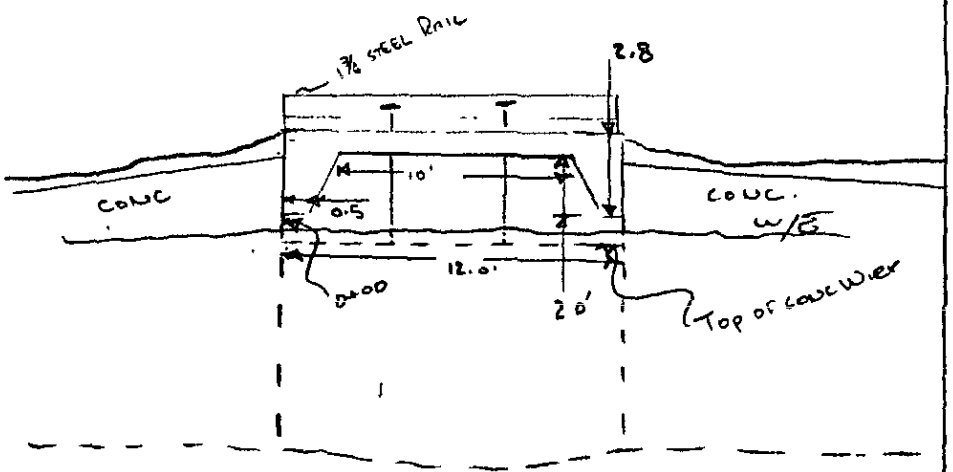
DAM #54

Code No. 6504-06

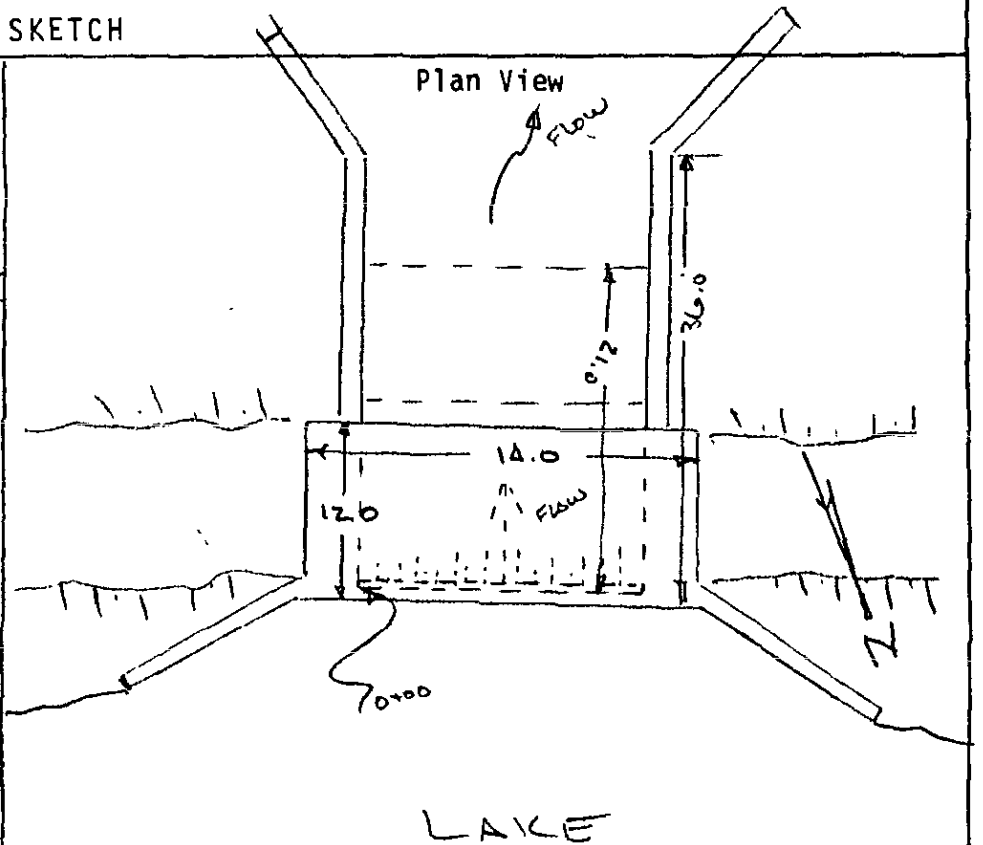
Job Name: WHITE LK TWP. F.I.S.			By: R. MOSES
Date: 4-11-00	Feature: CONC DAM		Water Course: HURON RIVER
Remarks: PONTIAC LAKE OUTLET			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 963.8	Length: 12.0	Width of Deck: 14.0	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

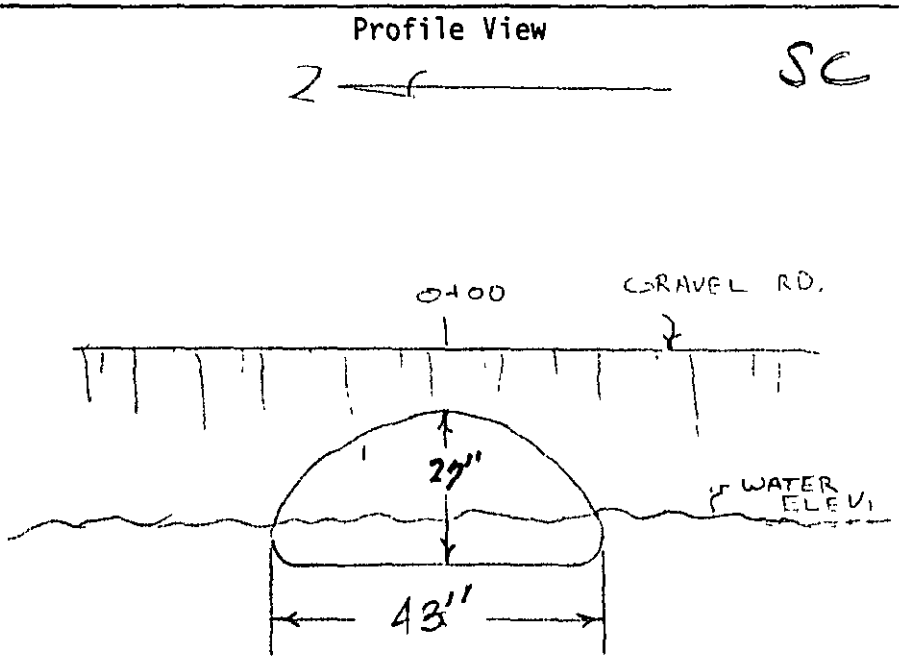
B.S #3
SUGDEN

Code No. [illegible]

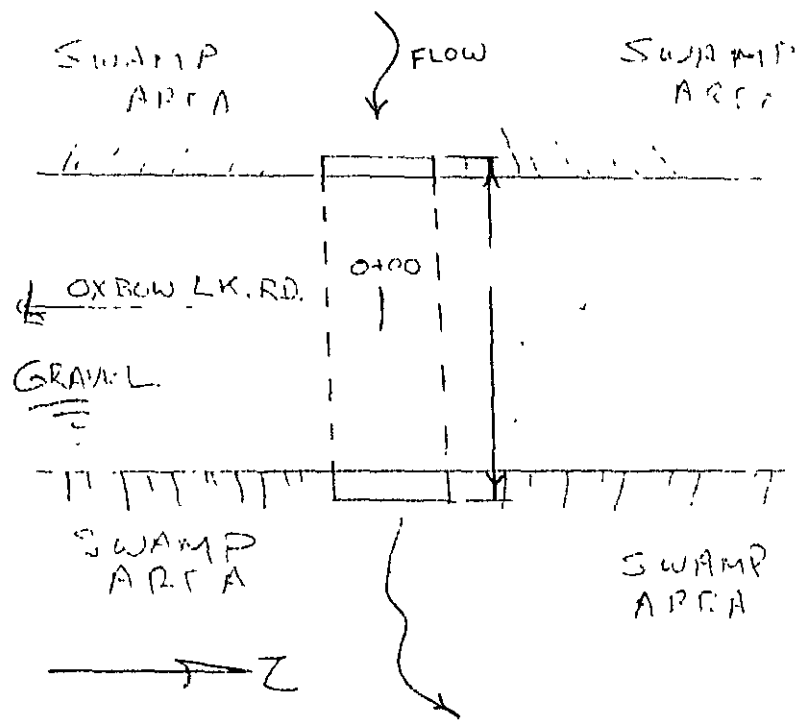
Job Name: WHITE LK. TWP. [illegible]		By: [illegible]	
Date: 4-10-80	Feature: 27"x43" C.M.P. ARCH	Water Course: [illegible]	
Remarks: SANDY BOTTOM SWAMP & MARSH UPSTREAM & DOWNSTREAM			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 931.8	Length: 36'	Width of Deck: —	Skew: 0

FIELD SKETCH

Profile View



Plan View



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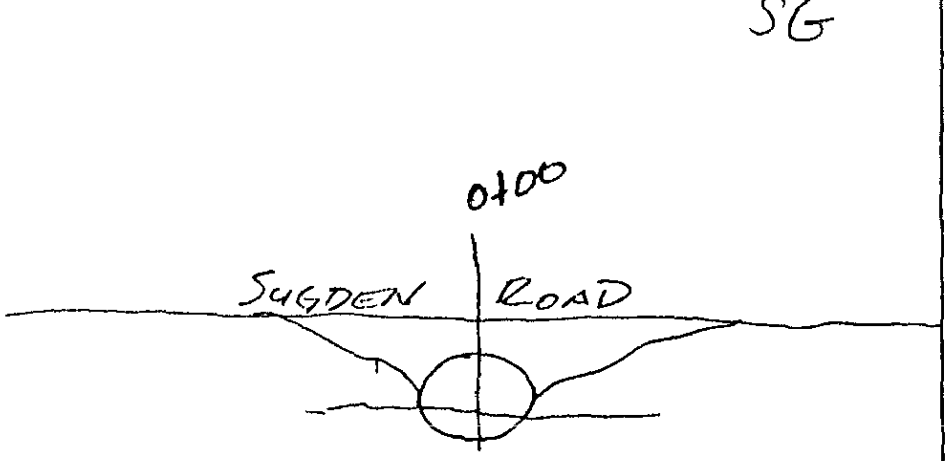
HYDRAULIC STRUCTURAL DATA

Code No. 6500.06

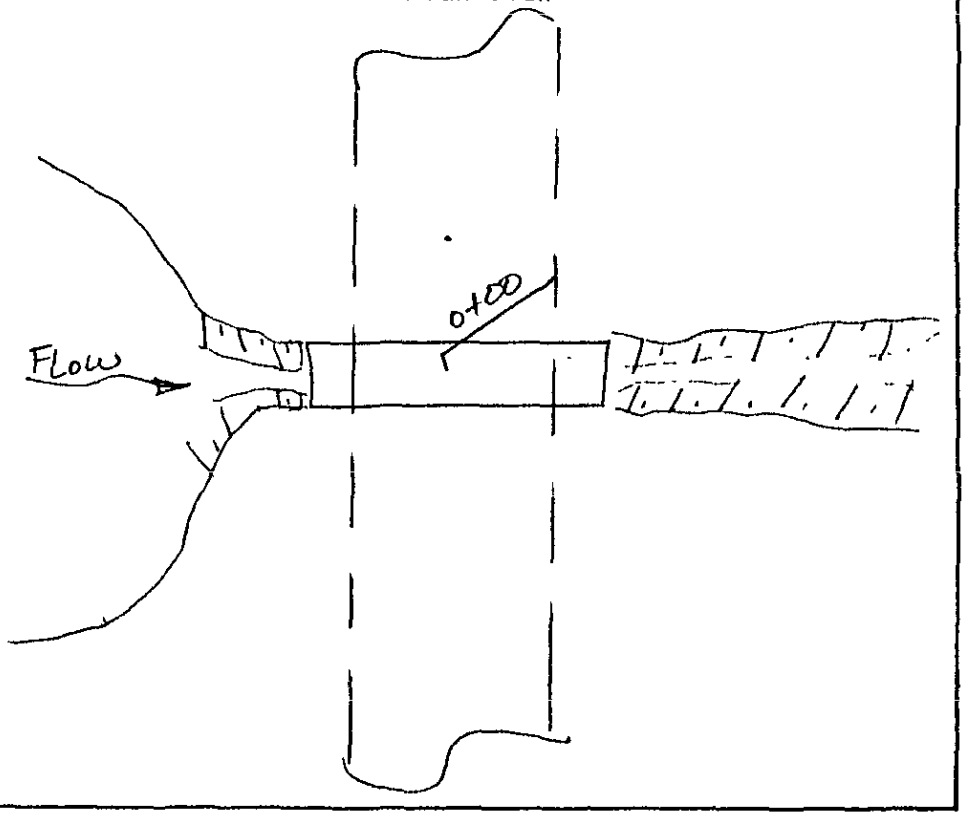
Job Name: WHITE LK TWP FIS BSH 7			By: M. JANETTE
Date: 4-11-80	Feature: 30" CMP		Water Course: SUGDEN CREEK
Remarks: UPSTREAM HEAVY BRUSH TO POND			
DOWNSTREAM MOD BRUSH TO LAKE			
BOTTOM - SANDY			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 932.1	Length: 36'	Width of Deck: —	Skew: —

FIELD SKETCH

Profile View



Plan View



SUGDEN ROAD

30" CMP

$L = 36$ FT

$A = 4.91\ FT^2$ $P = 7.85$ FT $R = \frac{4.91}{7.85} = 0.63$ FT

$\Sigma K_{OR} = 1.0 + K_e + K_f$

$K_e = 0.9$ (PROJECTING FROM FILL)

$K_f = \frac{29.1\, n^2 L}{R^{1.3}} = \frac{29.1\,(0.024)^2(36)}{(0.63)^{1.3}} = 1.12$

$\Sigma K_{OR} = 1.0 + 0.9 + 1.12 = 3.02$

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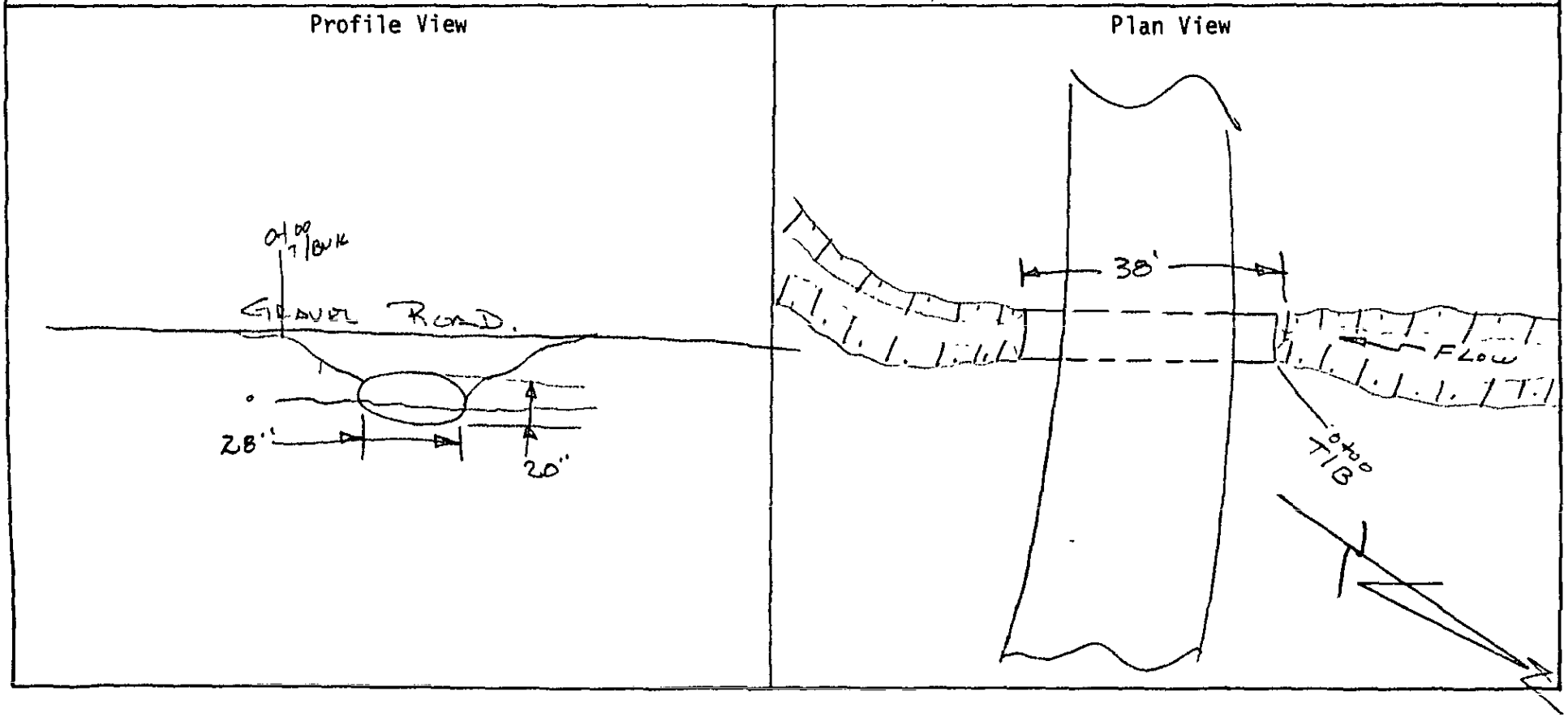
HYDRAULIC STRUCTURAL DATA

Code No. 6504-06

Job Name: WHITE LK TWP FIS BS#9		By: M JANETTE
Date: 4-15-80	Feature: 20" X 28" CMP	Water Course: SUBDEN CREEK
Remarks: HARD GRAVEL BOTTOM - UPSTREAM RESIDENTIAL DOWNSTREAM - SMALL POND		

Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation:	Length: 38'	Width of Deck: —	Skew: —

FIELD SKETCH



JOB NAME: WHITE LAKE TWP. F15 JOB NO. 6504 06

WATERCOURSE: SUGDEN CREEK CULVERT LOCATION: B.S. #9

CULVERT DESCRIPTION: 28"x 20" CMP BY RSH DATE 6-1-81

INLET/OUTLET CONTROL FOR RATING CURVE

n= 0.024 Q_{10}= 5 TW_{10}= ____

A= 2.9 ft² Q_{50}= 10 TW_{50}= ____

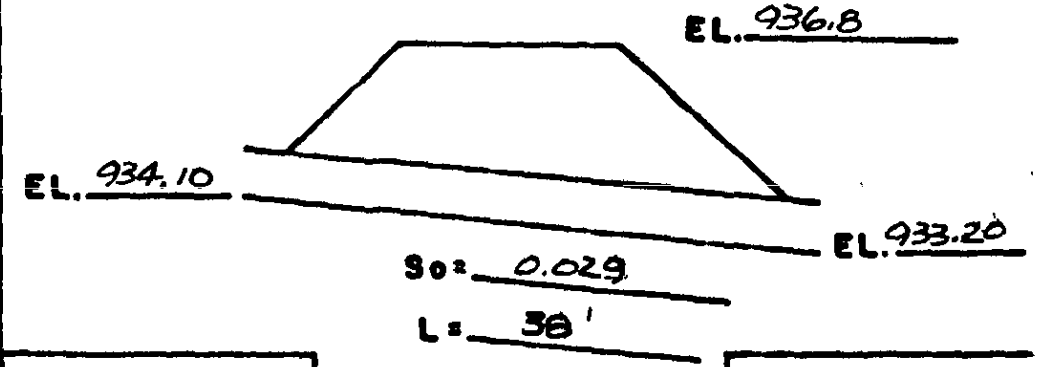
R= 0.46 Q_{100}= 15 TW_{100}= ____

Ke= 0.9 Q_{500}= 20 TW_{500}= ____

D= 20" (1.67) Q= 25

LSo= 0.9

CRITICAL DEPTH AT OUTFALL (FREE OVER FALL)



HEADWATER ANALYSIS — LOW FLOW

Q	INLET CONT.		OUTLET CONT. HW = H + ho − LSo					HEC-2		FINAL HW	FINAL EGL ELEV.	
	HW/D	HW	H	dc	(dc+D)/2	ho	HW	$D+(1+K_e)\frac{V^2}{2g}$	HW			
5	0.63	1.05						1.75	0.84	1.05	935.15	
10	1.02	1.70						2.02	1.33	1.70	935.80	
15	1.50	2.51						2.46	1.77	2.51	936.61	
20	2.24	3.74						3.07	2.23	3.74	937.84	
25	3.3	5.51						3.86	2.74	5.51	939.61	

CALCULATIONS AND COMMENTS

XKOR = 3.68 V_5 = 1.7 V_{20} = 6.9

A = 2.9 V_{10} = 3.4 V_{25} = 8.6

V = Q/A V_{15} = 5.2

K+E 20 X 20 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.

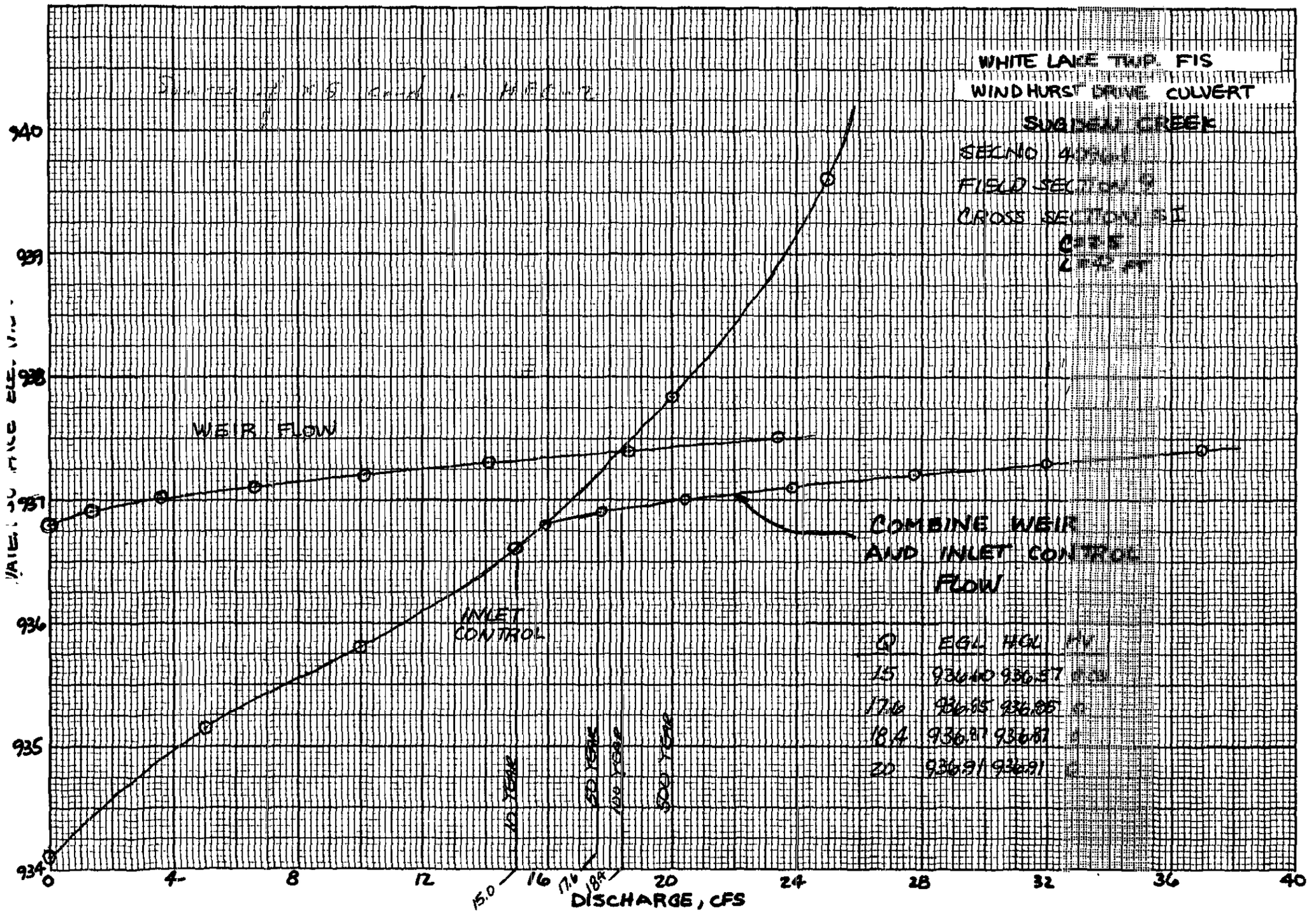
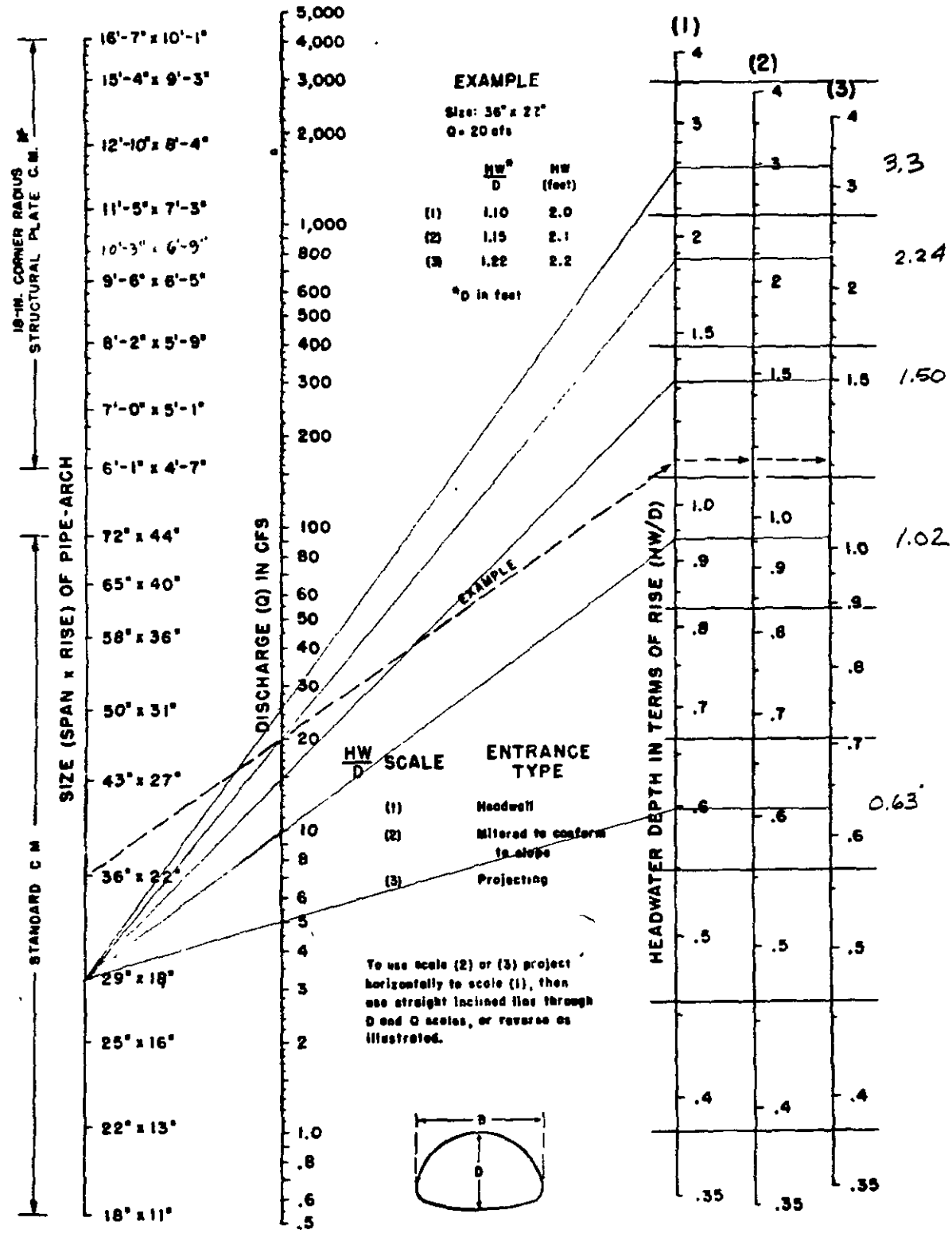


CHART 6



*ADDITIONAL SIZES NOT DIMENSIONED ARE LISTED IN FABRICATOR'S CATALOG

BUREAU OF PUBLIC ROADS JAN. 1963

HEADWATER DEPTH FOR C. M. PIPE-ARCH CULVERTS WITH INLET CONTROL

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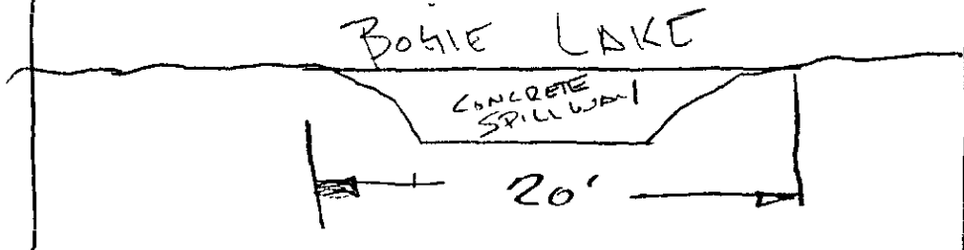
HYDRAULIC STRUCTURAL DATA

Code No. 6501-06

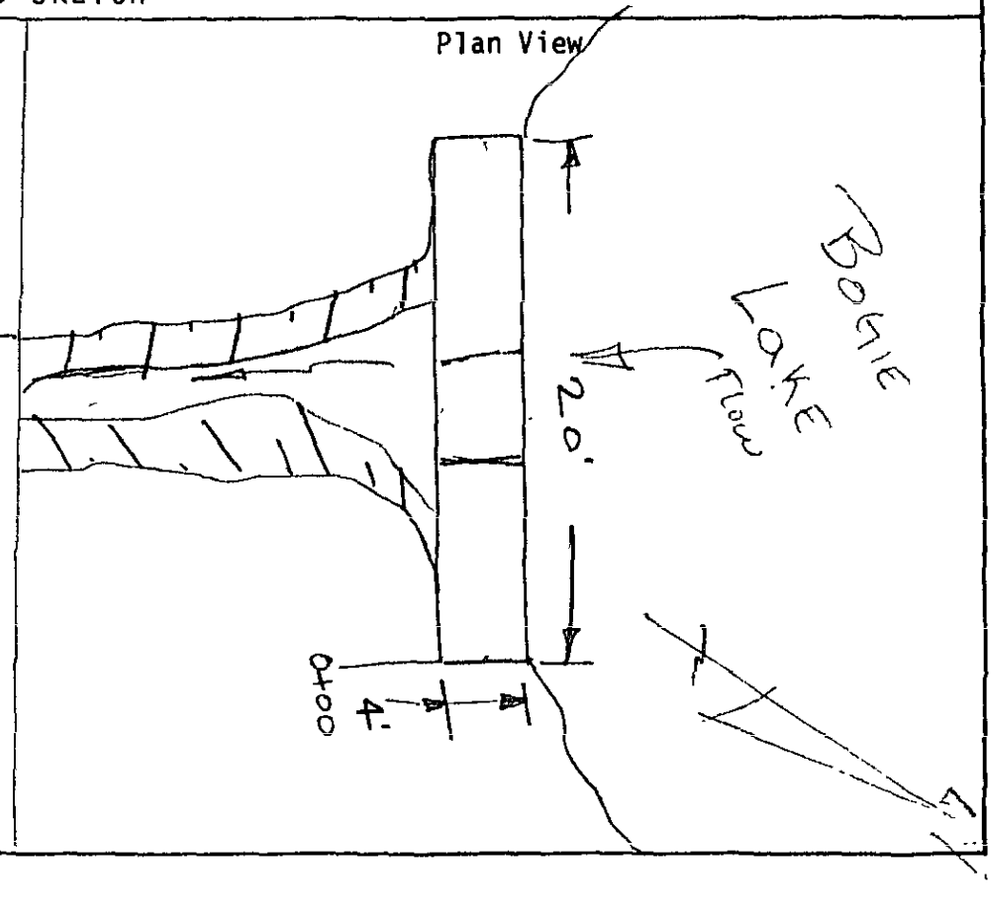
Job Name: WHITE LK TWP FIS SECTION #10		By: M. Jarlette	
Date: 4-15-80	Feature: SPILLWAY	Water Course: SUGDEN CREEK	
Remarks: UPSTREAM - BOGIE LAKE			
DOWNSTREAM - RESIDENTIAL			
BOTTOM - HARD SANDY GRAVEL			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: US. 937.5 D.S. 935.8	Length: 20'	Width of Deck: 4'	Skew: —

FIELD SKETCH

Profile View



Plan View



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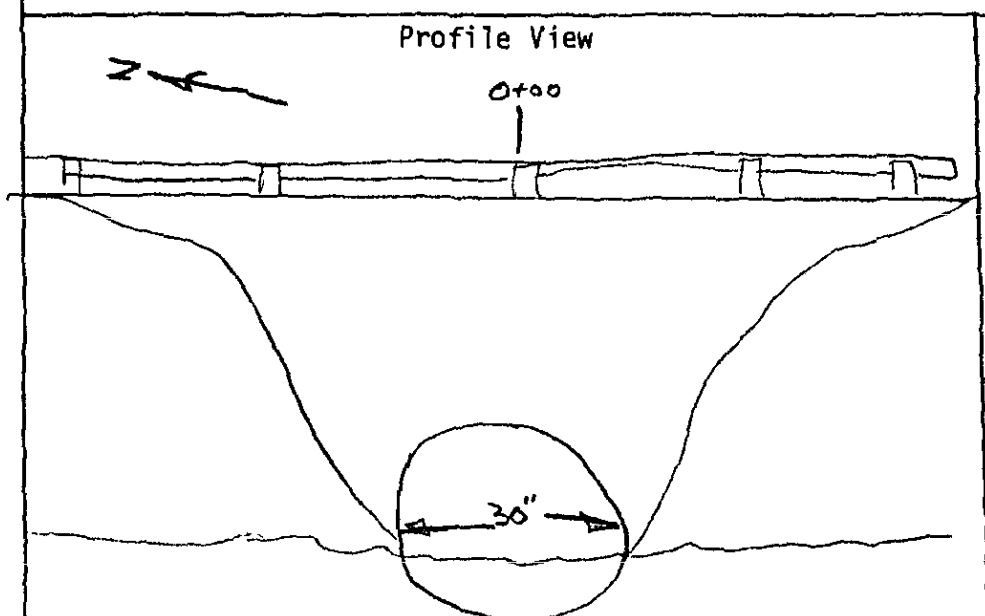
HYDRAULIC STRUCTURAL DATA

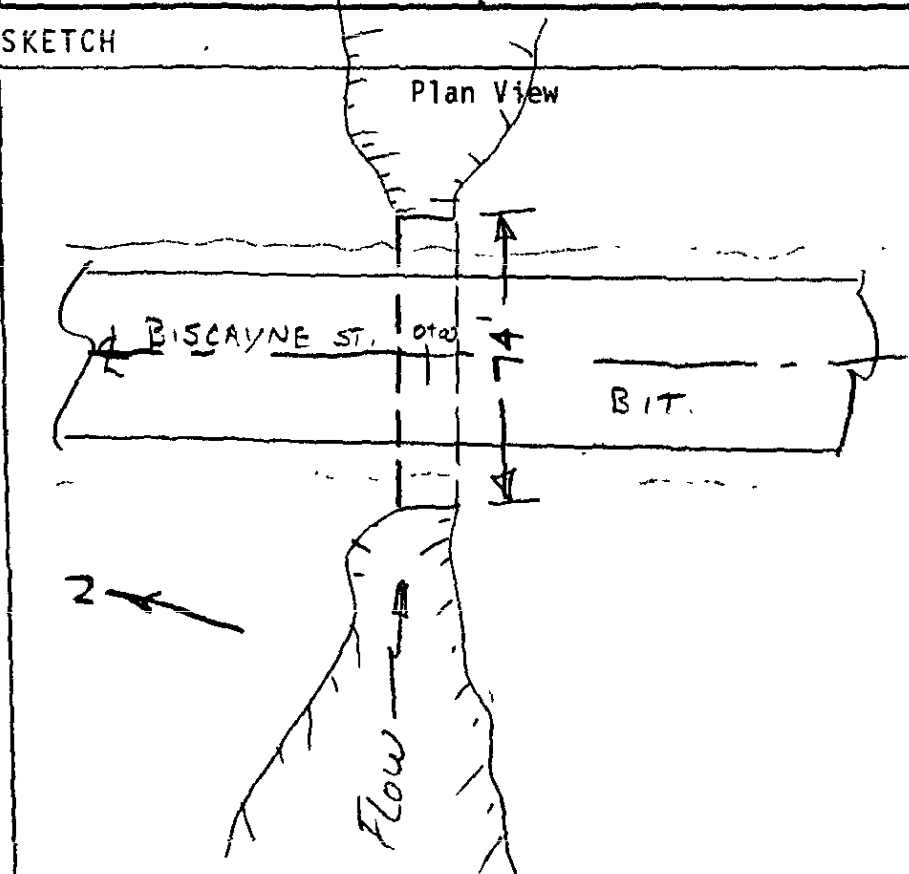
BS#1

Code No. 6504-06

Job Name: WHITE LK TWP FIS CEDAR CREEK			By: JANETTE, NETT, WALSH
Date: 4-21-80	Feature: 30" CMP		Water Course: CEDAR CREEK
Remarks: CHANNEL: HARD STONES, INVERTS CLEAR OF DEBRIS			
RIGHT & LEFT BANKS LIGHT BRUSH & TREES			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 938.1	Length:	Width of Deck: —	Skew: —

FIELD SKETCH





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HYDRAULIC STRUCTURAL DATA

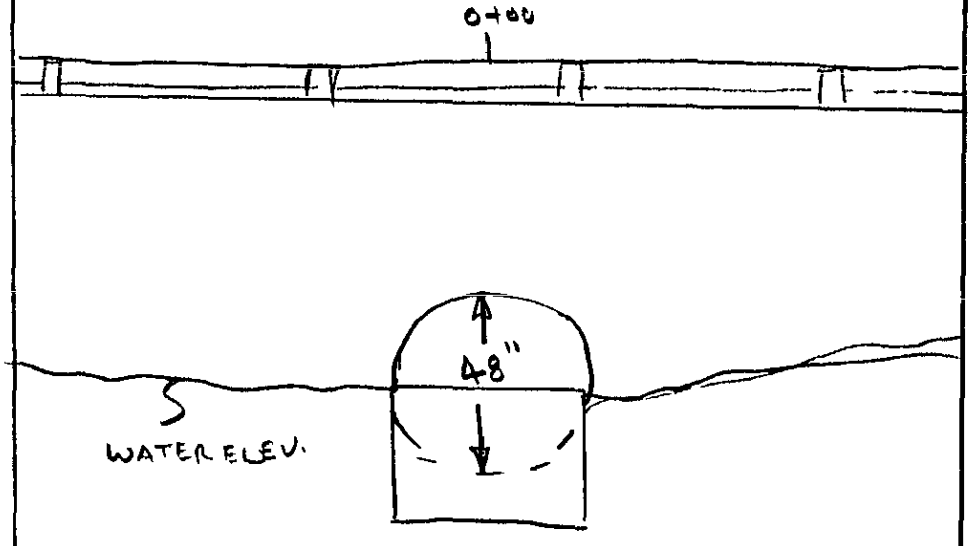
BS #2

Code No. 6504-06

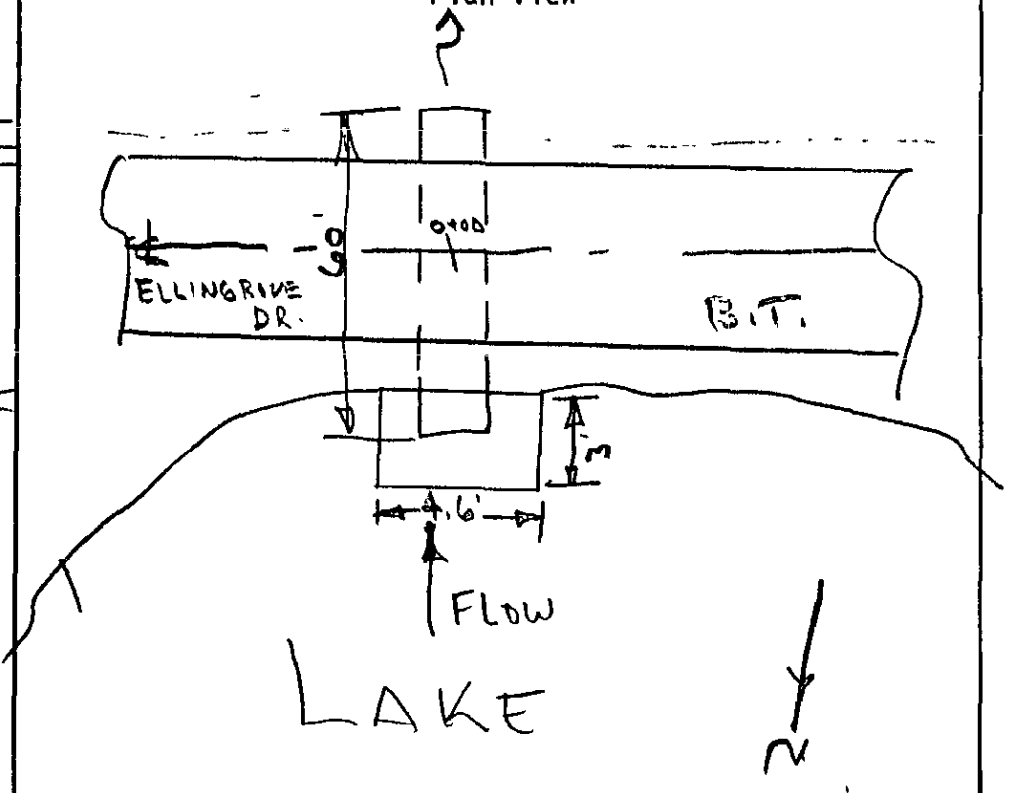
Job Name: WHITE LK TWP FIS			By: JANETTE, NETT, WALSH
Date: 4-21-80	Feature: 48" CMP		Water Course: CEDAR CREEK
Remarks: C.M.P. CHANNEL CLEAN, UPSTREAM CHANNEL SANDY MUCK FOR 1'(±) THEN HARD			
RIGHT & LEFT BANKS LIGHT BRUSH			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 944.8	Length: 60'	Width of Deck: —	Skew: —

FIELD SKETCH

Profile View



Plan View



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HYDRAULIC STRUCTURAL DATA

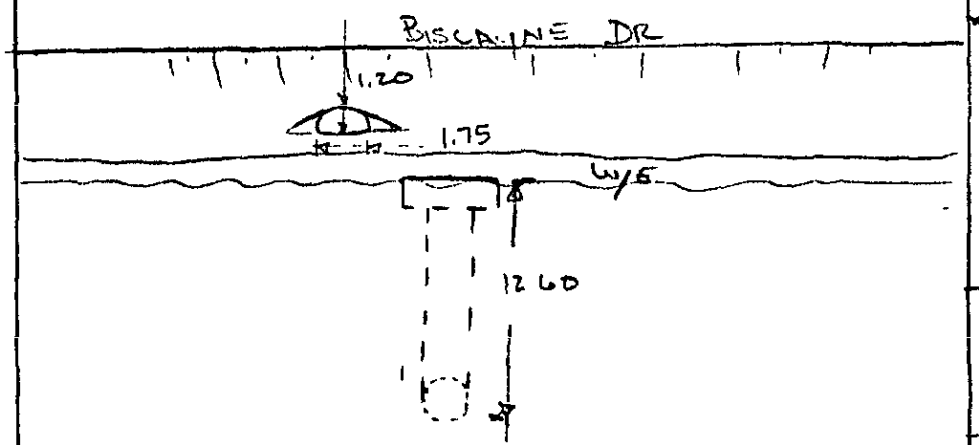
B.S. # 4

Code No. 6504-06

Job Name: WHITE LAKE TWP F.I.S.			By: R MOSES
Date: 4-22-80	Feature: 2-culvert C.M.P		Water Course: CEDAR CR.
Remarks: ON BISCAYNE DR. JUST N.W. OF BISCAYNE CT. LAKE NEVA			
Width of Piers: —	Pier Shape: —	No. of Piers: —	Area: —
Water Elevation: 944.06	Length: 43' & 62'	Width of Deck: —	Skew: —

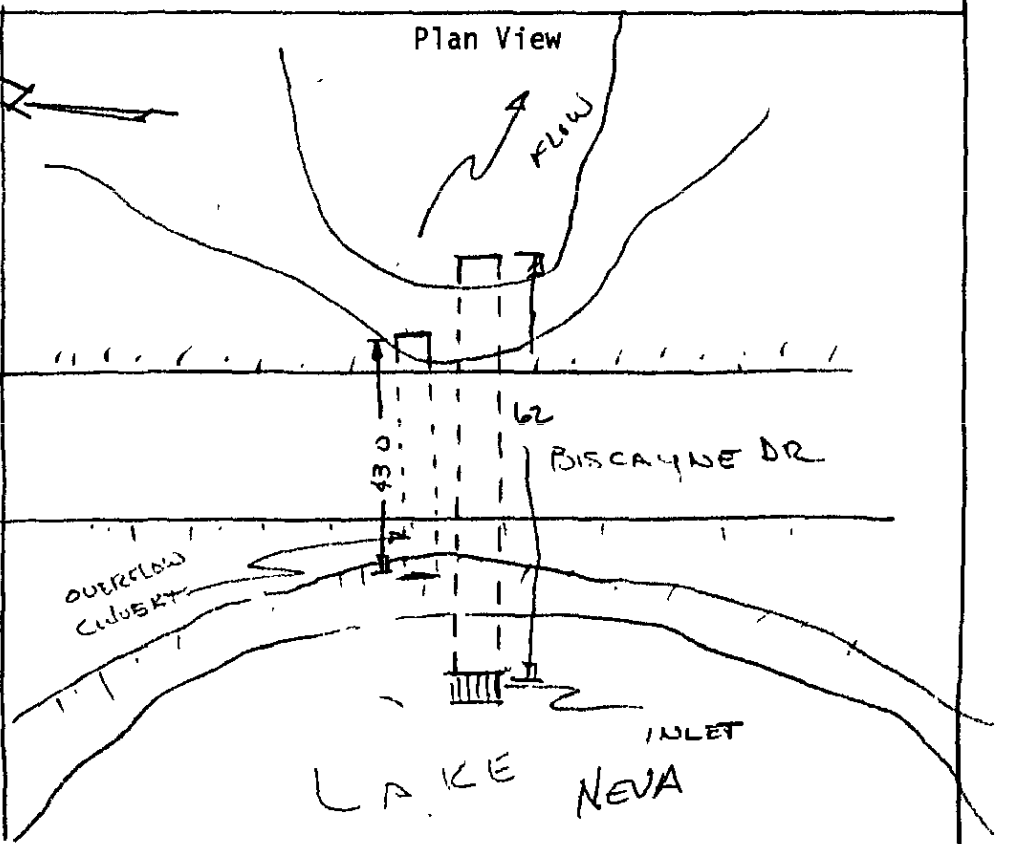
FIELD SKETCH

Profile View

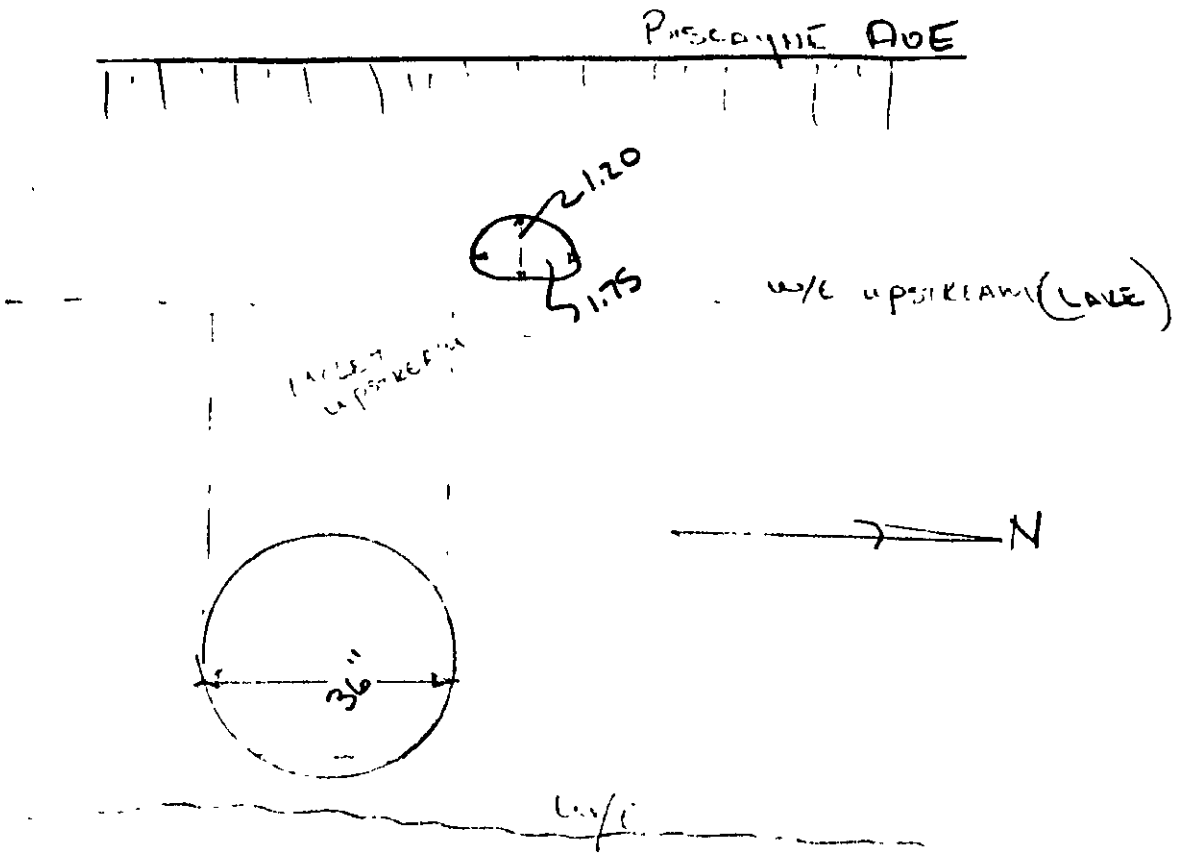


SEE BACK FOR DNSTREAM PROFILE VIEW

Plan View



CEDAR CREEK (LAKE NEVA)
B.S. #4
DS PLACE VIEW



APPENDIX C

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CONSULTING ENGINEERS

BY BMW DATE 5-29-81 JOB DESCRIPTION WHITE LAKE TWP. FIS SHEET ____ OF ____
SUBJECT OPERATION POLICY FOR OXBOW / PONTIAC / CEDAR ISLAND JOB NO. 6504-06

IN ATTEMPT TO DETERMINE LAKE LEVEL CONTROL SETTINGS FOR CEDAR ISLAND, OXBOW, AND PONTIAC LAKES TO COMPLETE THE HYDRAULIC ANALYSIS PORTION OF THE WHITE LAKE TOWNSHIP FLOOD INSURANCE STUDY, LAKE OPERATION RECORDS COLLECTED BY OAKLAND COUNTY BETWEEN 1968 AND 1981 WERE EXAMINED. IT WAS FOUND THAT NO CONSISTANT OPERATION POLICY FOR THESE LAKES WAS APPLIED DURING THIS PERIOD WHEN THESE LAKES WERE EXPERIENCING PEAK WATER SURFACE ELEVATIONS. IN THE SUMMARY THAT FOLLOWS, THIS FACT IS DEMONSTRATED:

DATE	PEAK LAKE LEVEL OVER LEGAL LEVEL	CONTROL SETTINGS
PONTIAC LAKE		
3/10/74	1.45	EACH GATE OPENED 1" AT PEAK; NO CHANGE UNTIL 6/21/74
7/1/68	1.05	ONE GATE OPENED 12" 1 WEEK PRIOR TO PEAK; NO CHANGE THRU EVENT
4/25/75	1.00	EACH GATE OPEN 2" SINCE 12/23/74; NO CHANGE UNTIL 5/9/74
2/5/68	0.81	EACH GATE OPENED 12" AT PEAK

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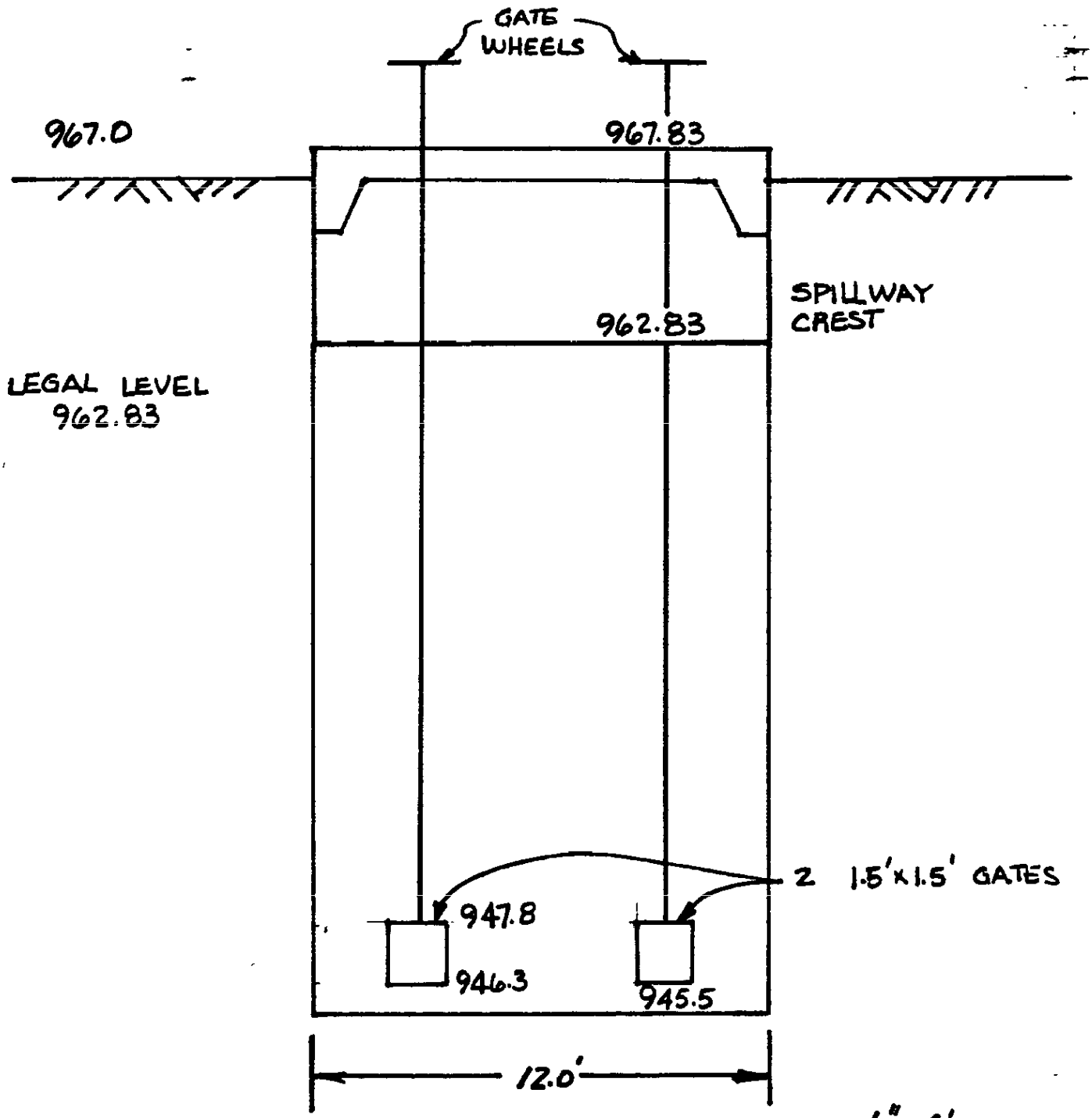
CONSULTING ENGINEERS

BY BMW DATE 5-29-81 JOB DESCRIPTION WHITE LAKE TWP FIS SHEET ____ OF ____
SUBJECT PONTIAC LAKE DAM JOB NO. 6504-06



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CONSULTING ENGINEERS

BY_____ DATE_____ JOB DESCRIPTION_____ SHEET _____ OF_____
SUBJECT_____ JOB NO._____

DATE	PEAK LAKE LEVEL - OVER LEGAL LEVEL	CONTROL SETTINGS

NOTE: BOTH GATES CLOSED 4/24/78 TO 11/14/80, 4/18/77 TO 12/16/77, 6/7/76 TO 12/10/76, 5/9/75 TO 12/10/76.

OXBOW LAKE

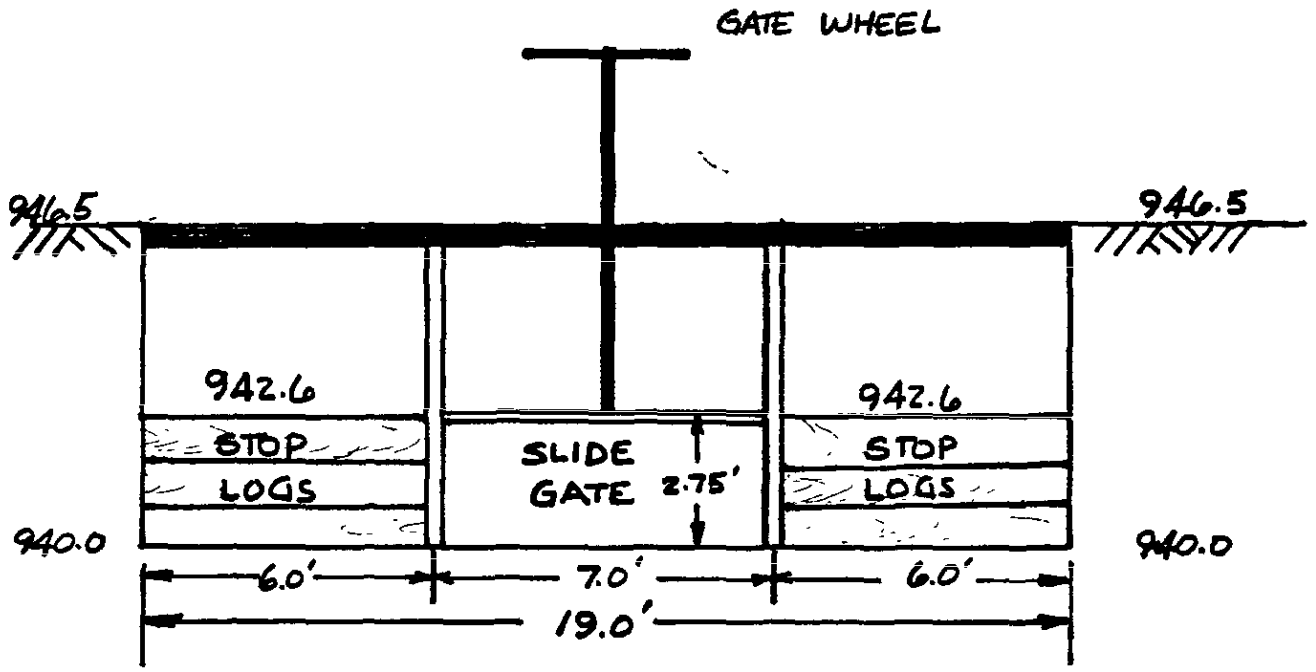
3/10/74	1.65	GATE OPEN 12" SINCE 2/22/74; OPENED TO 16" 3/9; TO 19" 3/10; TO 13" 4/2/74
4/25/75	1.17	GATE OPEN 11" SINCE 4/11/75; CLOSED TO 9" 5/2/75
7/1/68	0.89	GATE WIDE OPEN 6/24/68; CLOSED TO 12", THEN TO 5" DURING PEAK; CLOSED 7/8/68
3/25/68	0.27	GATE OPENED WIDE
4/1/68	0.29	GATE CLOSED TO 1"

CEDAR ISLAND LAKE

3/15/74	1.28	ONE GATE OPENED FROM 6" TO 30"; TO 36"; SECOND GATE OPENED 2" 4/12/74
7/1/68	1.48	THREE GATES WIDE OPEN SINCE 6/24/68; ALL GATES CLOSED 7/25/68
2/5/68	0.65	ALL THREE GATES WIDE OPEN SINCE 2/2/68; ALL CLOSED 2/26/68
4/25/75	0.62	TWO GATES OPEN 5" SINCE 4/11/75 NO CHANGE UNTIL 4/29/75 WHEN TWO GATES OPENED TO 7"
6/24/68	0.18	THREE GATES OPENED WIDE.

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY BMW DATE 5-29-81 JOB DESCRIPTION WHITE LAKE TWP. FIS SHEET ____ OF ____
SUBJECT OXBOW LAKE DAM JOB NO. 6504-06



1" = 4'

IT APPEARS THAT THE PRIMARY REASON FOR ADJUSTING THESE CONTROLS IS TO MAINTAIN LAKE LEVELS FOR RECREATIONAL PURPOSES, NOT FOR FLOOD CONTROL. FOR THIS REASON, "AVERAGE" OPERATING SETTINGS WERE SOUGHT IN THE RECORDS RATHER THAN SETTINGS ALTERED FOR THE PURPOSE OF FLOOD CONTROL. THE RESULTING OPERATION CONDITIONS HAVE BEEN USED IN THE PRELIMINARY COMPUTER MODELS IN THIS STUDY.

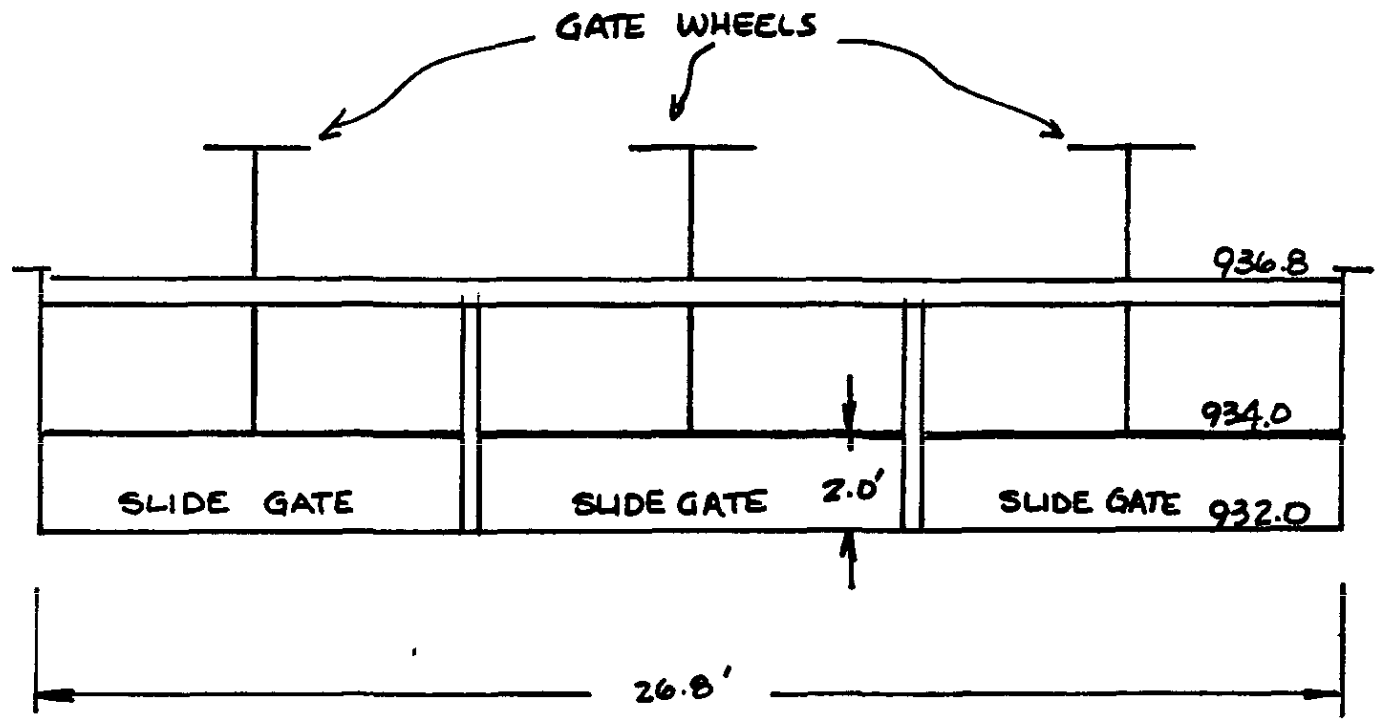
PONTIAC LAKE – BOTH GATES CLOSED

OXBOW LAKE – GATE OPENED 8".

CEDAR ISLAND LAKE – ONE GATE OPENED 12", TWO GATES CLOSED.

JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

BY RMW DATE 5-29-81 JOB DESCRIPTION WHITE LAKE Twp EIS SHEET ____ OF ____
SUBJECT CEDAR ISLAND LAKE DAM JOB NO. 6504:06



JOHNSON & ANDERSON, INC.
CONSULTING ENGINEERS

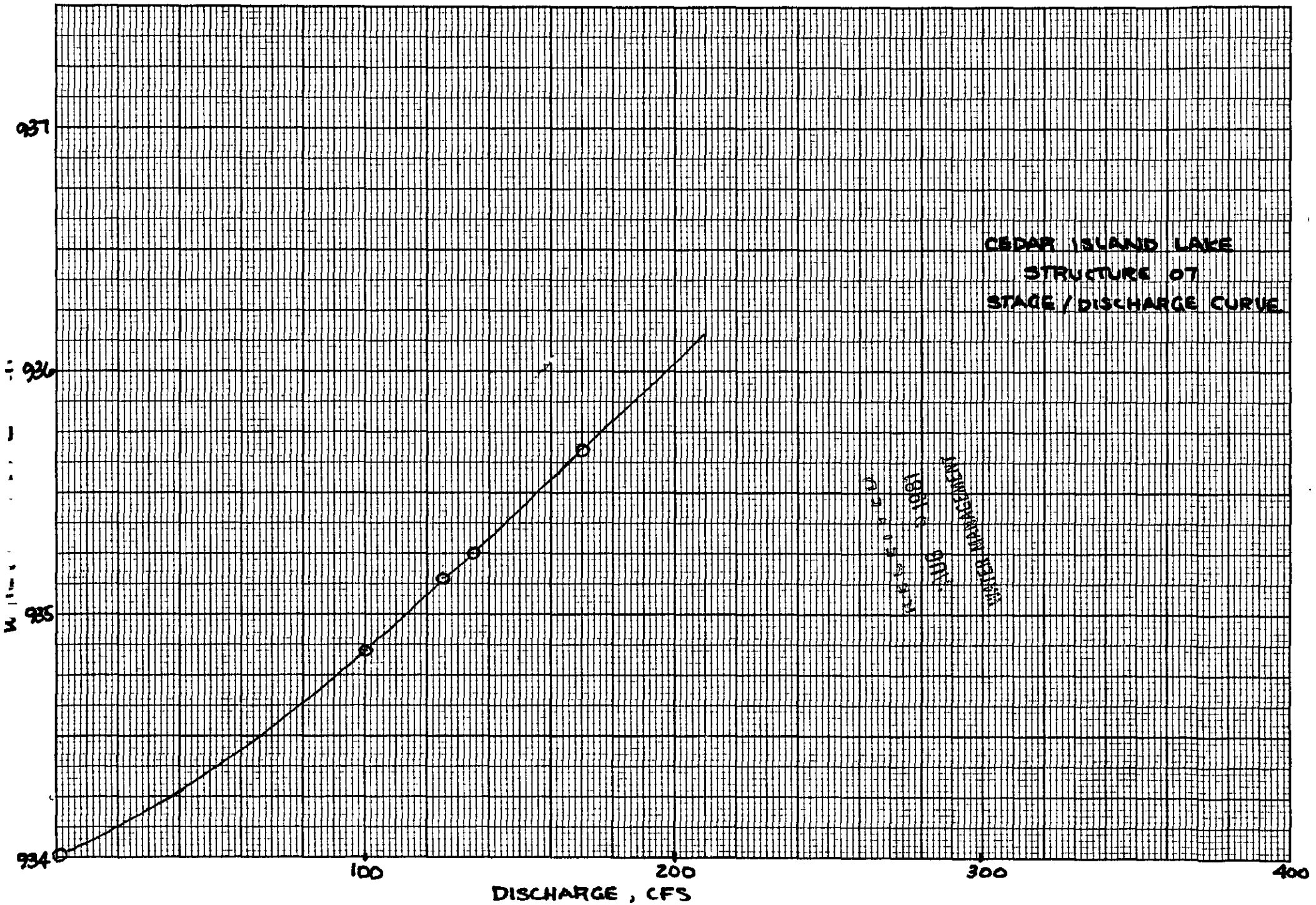
BY RMW DATE 7-31-81 JOB DESCRIPTION WHITE LAKE TWP FIS SHEET ____ OF ____
SUBJECT HURON RIVER FLOOD FLOWS JOB NO. 6504-06

LOCATION	DRAINAGE AREA, MI²	FLOWS IN CFS 10-YR	50-YR	100-YR	500-YR
HURON RIVER AT COOLEY LAKE ROAD (SOUTHERN TWP. BOUNDARY)	46.6	145	205	240	300
HURON RIVER ABOVE SUGDEN CREEK CONFLUENCE	45.0	140	195	235	290
HURON RIVER AT BRENDEL LAKE OUTLET	44.0	135	190	225	280
CEDAR CREEK AT LAKE NEVA OUTLET	10.7	57	79	85	103
HURON RIVER AT CEDAR ISLAND LAKE OUTLET	27.4	95	126	137	169
HURON RIVER AT OXBOW LAKE OUTLET	25.5	85	128	138	170
HURON RIVER AT PONTIAC LAKE OUTLET	20.9	84	127	137	168

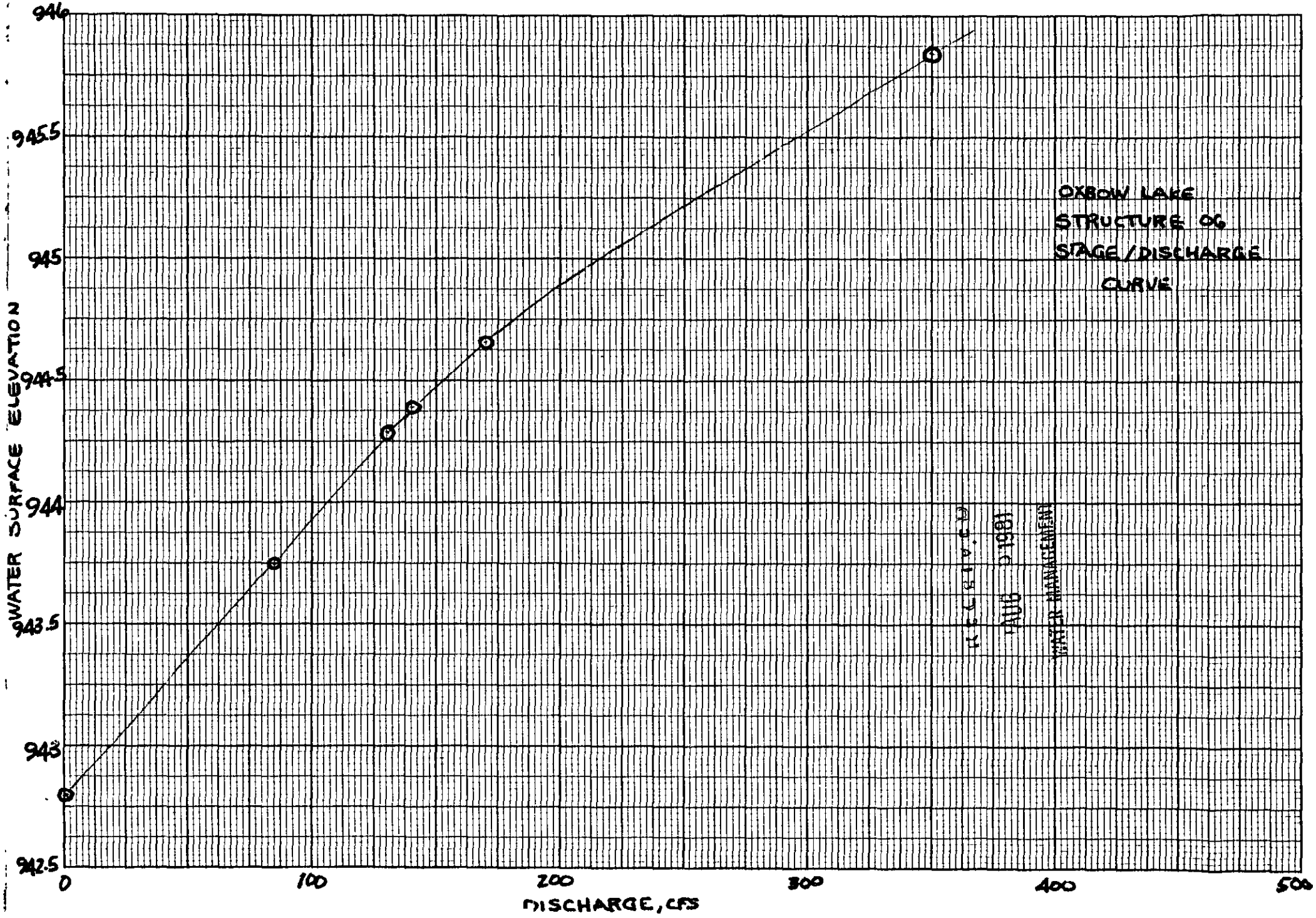
RECEIVED
AUG 5 1981
WATER MANAGEMENT

K·E 20 X 20 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.

46 1240



K•E 20 X 20 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO MADE IN U.S.A.



Johnson & Anderson, Inc.
Consulting Engineers

2300 Dixie Highway
Pontiac, Michigan 48055
Telephone 313-334-9901

August 3, 1981

Water Management Division
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

RECEIVED
AUG 5 1981
WATER MANAGEMENT

Attn: Mr. Daniel H. Morgan, P.E.
Chief, Technical Programs Unit

Re: FIS - White Lake Township
Hydrology and Hydraulics

Ref: J&A Job No. 6504-06

Dear Mr. Morgan:

After a telephone conversation with Mr. Richard Sorrell of your department, we found an error in our previous hydrologic and hydraulic transmittals (June 26, 1981). Now, we are sending you our revised hydrologic and hydraulic calculations. Please note that only those portions affected by this error are re-submitted.

If you have any questions related to this transmittal, please feel free to call us. Thank you.

Sincerely yours,

JOHNSON & ANDERSON, INC.

Mow-Soung Cheng, P.E.
Project Manager

MSC:clf

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WHITE LAKE TWP

3) WATERCOURSE: HURON RIVER - BRENDEL LAKE TO CEDAR ISLAND LAKE

4) DOCUMENT TYPE: 100YR NATURAL

00BREAK00

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**********************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**********************************************

C
T1       WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2       10 YEAR EVENT  FILE:  WHITE2C
T3       HURON RIVER                BRENDEL TO CEDAR ISLAND LAKE

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
       -1.        2.         0.         0.    .000000        .00         .0         0.    933.480       .000

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE
     1.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

J3   VARIABLE CODES FOR SUMMARY PRINTOUT
      38.000    40.000    41.000    42.000    43.000     1.000     8.000    10.000    12.000     3.000

      39.000     4.000    25.000      .000      .000      .000      .000      .000      .000      .000

QT      4.000    95.000   125.000   135.000   165.000      .000      .000      .000      .000      .000
NC       .850      .080      .040      .300      .500      .000      .000      .000      .000      .000

          BRENDEL LAKE                U-20

X1  12535.000    29.000   650.000   683.000   600.000   600.000   600.000      .000      .000      .000
X3       .000      .000      .000      .000      .000  1470.000      .000      .000      .000      .000
GR     942.600      .000   939.400    20.000   937.800    46.000   937.400   106.000   937.000   184.000
GR     936.200   270.000   935.000   354.000   933.600   406.000   933.000   474.000   933.000   538.000
GR     933.000   614.000   932.400   650.000   929.500   652.000   929.500   667.000   929.300   680.000
GR     932.500   683.000   933.000   774.000   933.000   910.000   933.600   962.000   934.600  1026.000
GR     934.200  1092.000   932.800  1150.000   932.800  1302.000   932.800  1524.000   933.800  1578.000
GR     934.200  1650.000   935.000  1788.000   936.200  1842.000   936.600  1894.000      .000      .000
NC       .009      .080      .040      .000      .000      .000      .000      .000      .000      .000

                              Y 21

X1  14345.000    25.000   418.000   444.000  1810.000  1810.000  1810.000      .000      .000      .000
GR     942.800      .000   940.200    32.000   938.200    82.000   937.400   132.000   936.000   178.000
GR     936.200   230.000   935.400   280.000   934.000   328.000   933.400   370.000   933.000   408.000
GR     932.900   418.000   930.300   421.000   929.600   430.000   930.200   441.000   933.700   444.000
GR     933.200   458.000   933.200   512.000   934.600   570.000   935.400   630.000   936.200   682.000
GR     936.800   706.000   938.800   734.000   940.800   774.000   942.600   808.000   942.800   816.000
NC       .090      .080      .045      .000      .000      .000      .000      .000      .000      .000

                              W 22
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X1	15480.000	21.000	338.000	362.000	1135.000	1135.000	1135.000	.000	.000	.000
X3	.000	.000	.000	106.000	.000	697.000	.000	.000	.000	.000
GR	942.900	.000	940.200	34.000	937.200	58.000	934.500	82.000	934.400	144.000
GR	933.800	192.000	933.200	226.000	933.200	282.000	932.900	338.000	930.400	341.000
GR	929.700	350.000	930.500	360.000	932.800	362.000	933.400	444.000	933.400	526.000
GR	933.400	612.000	933.800	664.000	934.400	696.000	937.200	720.000	940.600	736.000
GR	942.900	746.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	16644.000	.000	.000	.000	1164.000	1164.000	1164.000	.000	.900	.000
X3	.000	.000	.000	346.000	.000	355.000	.000	.000	.000	.000
NC	.050	.050	.032	.000	.000	.000	.000	.000	.000	.000
X1	16645.000	16.000	195.700	204.300	1.000	1.000	1.000	.000	.000	.000
BT	14.000	.000	941.400	.000	100.000	939.900	.000	195.700	937.900	932.600
BT	196.200	937.900	933.800	197.500	937.900	935.000	199.000	937.900	935.700	200.000
BT	937.900	935.900	201.000	937.900	935.700	202.500	937.900	935.000	203.800	937.900
BT	933.800	204.300	937.900	932.600	300.000	939.400	.000	400.000	938.000	.000
BT	500.000	939.400	.000	.000	.000	.000	.000	.000	.000	.000
GR	941.400	.000	939.900	100.000	937.900	195.700	932.200	195.700	931.400	196.200
GR	930.900	197.500	930.600	199.000	930.600	200.000	930.600	201.000	930.900	202.500
GR	931.400	203.800	932.200	204.300	937.900	204.300	937.700	300.000	938.000	400.000
GR	939.400	500.000	.000	.000	.000	.000	.000	.000	.000	.000

OXBOW LAKE ROAD X 23

X1	16695.000	.000	.000	.000	50.000	50.000	50.000	.000	.600	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
NC	.060	.060	.037	.000	.000	.000	.000	.000	.000	.000
X1	16696.000	10.000	195.700	204.300	1.000	1.000	1.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	937.500	937.500	.000
GR	941.400	.000	939.900	100.000	936.600	195.700	930.600	195.700	930.300	200.000
GR	930.900	204.300	936.600	204.300	937.700	300.000	938.000	400.000	939.400	500.000
X1	16714.000	11.000	187.000	213.000	18.000	18.000	18.000	.000	-.500	.000
GR	941.400	.000	939.900	100.000	936.600	164.000	936.800	186.900	931.800	187.000
GR	931.700	213.000	936.800	213.100	936.600	237.000	937.700	313.000	938.000	413.000
GR	939.400	513.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	16721.000	.000	.000	.000	7.000	7.000	7.000	.000	.500	.000
SB	.000	1.500	3.080	.000	8.130	.000	8.130	.000	931.800	931.800

CEDAR ISLAND LAKE AND DAM Y 24

X1	16722.000	19.000	186.900	213.100	1.000	1.000	1.000	.000	.000	.000
X2	.000	.000	1.000	932.800	933.800	.000	.000	.000	.000	.000
BT	13.000	.000	941.400	.000	100.000	939.900	.000	164.000	936.600	.000
BT	186.900	936.800	.000	187.000	934.800	932.800	195.130	934.800	932.800	195.130
BT	933.800	.000	213.000	933.800	.000	213.100	936.800	.000	237.000	936.600
BT	.000	313.000	937.700	.000	413.000	938.000	.000	513.000	939.400	.000
GR	941.400	.000	939.900	100.000	936.600	164.000	936.800	186.900	931.800	187.000
GR	931.800	195.130	934.000	195.130	934.000	195.930	931.800	195.930	931.800	204.060
GR	934.000	204.060	934.000	204.860	931.800	204.860	931.800	213.000	936.800	213.100

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GR	936.600	237.000	937.700	313.000	938.000	413.000	939.400	513.000	.000	.000
X1	16723.000	11.000	186.900	213.100	1.000	1.000	1.000	.000	.000	.000
GR	941.100	.000	939.900	100.000	936.600	164.000	936.800	186.900	931.800	187.000
GR	931.800	213.000	936.800	213.100	936.600	237.000	937.700	313.000	938.000	413.000
GR	939.400	513.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	16730.000	12.000	179.900	220.100	7.000	7.000	7.000	.000	.000	.000
GR	941.400	.000	939.900	100.000	936.600	164.000	936.800	179.900	931.800	180.000
GR	930.800	200.000	931.800	220.000	936.800	220.100	936.600	237.000	937.700	313.000
GR	938.000	413.000	939.400	513.000	.000	.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************


T1       WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2       100 YEAR EVENT  FILE:  WHITE2
T3       HURON RIVER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -10.       4.        0.        0.    .000000      .00       .0        0.    934.290     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     3.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

*PROF 3

CCHV=     .300 CEHV=     .500
*SECNO 12535.000

3265 DIVIDED FLOW

   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3470 ENCROACHMENT STATIONS=        .0    1470.0  TYPE=     1  TARGET=    1469.999

        BRENDEL LAKE                  U 20

 12535.00     4.99    934.29      .00    934.29    934.29      .00       .00       .00    932.40
     135.       2.       55.      77.      314.      152.     906.        0.        0.    932.50
      .00      .01      .36      .09      .850      .040     .080      .000    929.30    380.37
  .000014     600.     600.     600.         0         0         0       .00   1018.64   1470.00


*SECNO 14345.000

                                      V 21

 14345.00     4.72    934.32      .00       .00    934.33      .01       .04       .00    932.90
     135.      75.       50.      10.       84.      103.      98.       34.       26.    933.70
      .73      .90       .49      .10      .009      .040     .080      .040    929.60    317.19
  .000031    1810.     1810.    1810.         0         0         0       .00    241.01    558.20


*SECNO 15480.000

3470 ENCROACHMENT STATIONS=      106.0     697.0  TYPE=     1  TARGET=     591.000
```

15480.00	4.68	934.38	.00	.00	934.38	.00	.05	.00	932.90
135.	26.	60.	48.	184.	95.	319.	46.	36.	932.80
1.59	.14	.63	.15	.090	.045	.080	.042	929.70	145.69
.000065	1135.	1135.	1135.	2	0	0	.00	549.18	694.87

*SECNO 16644.000

3470 ENCROACHMENT STATIONS= 346.0 355.0 TYPE= 1 TARGET= 9.000

16644.00	3.90	934.50	.00	.00	934.75	.25	.25	.12100000.00	
135.	0.	135.	0.	0.	33.	0.	54.	44.	100000.00
1.67	.00	4.03	.00	.090	.045	.080	.043	930.60	346.00
.005626	1164.	1164.	1164.	2	0	0	.00	9.00	355.00

*SECNO 16645.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 937.90 MAX ELLC= 935.90

16645.00	3.86	934.46	.00	.00	934.81	.35	.01	.05	937.90
135.	0.	135.	0.	0.	28.	0.	54.	44.	937.90
1.67	.00	4.76	.00	.050	.032	.050	.043	930.60	195.70
.004522	1.	1.	1.	2	0	0	-1.72	8.60	204.30

*SECNO 16695.000

3370 NORMAL BRIDGE,NRD= 14 MIN ELTRD= 937.90 MAX ELLC= 935.30

OXBOW LAKE ROAD X 23

16695.00	4.78	934.78	.00	.00	935.04	.26	.20	.03	937.30
135.	0.	135.	0.	0.	33.	0.	54.	44.	937.30
1.68	.00	4.09	.00	.050	.032	.050	.043	930.00	195.70
.003582	50.	50.	50.	2	0	0	-5.01	8.60	204.30

*SECNO 16696.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 937.50 ELREA= 937.50

16696.00	4.55	934.85	.00	.00	935.06	.20	.00	.02	936.60
135.	0.	135.	0.	0.	37.	0.	54.	44.	936.60
1.68	.00	3.63	.00	.060	.037	.060	.043	930.30	195.70
.002839	1.	1.	1.	2	0	0	.00	8.60	204.30

*SECNO 16714.000

16714.00	3.89	935.09	.00	.00	935.12	.03	.01	.05	931.30
135.	0.	135.	0.	0.	100.	0.	54.	44.	931.20
1.68	.04	1.35	.04	.060	.037	.060	.043	931.20	186.92

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.000189	18.	18.	18.	2	0	0	.00	26.15	213.08

*SECNO 16721.000

16721.00	3.39	935.09	.00	.00	935.12	.04	.00	.00	931.80
135.	0.	135.	0.	0.	87.	0.	54.	44.	931.70
1.68	.04	1.55	.04	.060	.037	.060	.043	931.70	186.93
.000299	7.	7.	7.	1	0	0	.00	26.13	213.07

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.50	3.08	.00	8.13	.00	8.13	.00	931.80	931.80

*SECNO 16722.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
941.51	935.22	.00	105.	30.	8.	8.	932.80	933.80

CEDAR ISLAND LAKE AND DAM Y 24

16722.00	3.57	935.37	.00	.00	935.40	.04	.28	.00	936.80
135.	0.	135.	0.	0.	90.	0.	54.	44.	936.80
1.68	.00	1.51	.00	.060	.037	.060	.043	931.80	186.93
.000513	1.	1.	1.	2	0	8	.00	26.14	213.07

*SECNO 16723.000

16723.00	3.57	935.37	.00	.00	935.41	.03	.00	.00	936.80
135.	0.	135.	0.	0.	93.	0.	54.	44.	936.80
1.68	.00	1.45	.00	.060	.037	.060	.043	931.80	186.93
.000329	1.	1.	1.	0	0	0	.00	26.14	213.07

*SECNO 16730.000

16730.00	4.60	935.40	.00	.00	935.41	.01	.00	.01	936.80
135.	0.	135.	0.	0.	164.	0.	54.	44.	936.80
1.69	.00	.82	.00	.060	.037	.060	.043	930.80	179.93
.000079	7.	7.	7.	2	0	0	.00	40.14	220.07

FORM 1411 ½ G8
PRINTED IN U.S.A.

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HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR - 01,02,03
MODIFICATION - 50,51,52,53

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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HURON RIVER

SUMMARY PRINTOUT

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
12535.000	.00	.00	929.30	95.00	933.48	4.18	.00	.00	933.48	600.00	880.17	602.75
12535.000	.00	.00	929.30	125.00	933.99	4.69	.00	.00	933.99	600.00	964.74	1075.51
12535.000	.00	.00	929.30	135.00	934.29	4.99	.00	.00	934.29	600.00	1018.64	1371.85
12535.000	.00	.00	929.30	165.00	934.71	5.41	.00	.00	934.71	600.00	1105.23	1821.77
14345.000	.00	.00	929.60	95.00	933.58	3.98	.01	.00	933.59	1810.00	167.33	131.93
14345.000	.00	.00	929.60	125.00	934.04	4.44	.01	.00	934.05	1810.00	219.87	220.42
14345.000	.00	.00	929.60	135.00	934.32	4.72	.01	.00	934.33	1810.00	241.01	284.78
14345.000	.00	.00	929.60	165.00	934.73	5.13	.01	.00	934.74	1810.00	276.68	391.27
15480.000	.00	.00	929.70	95.00	933.74	4.04	.01	.00	933.75	1135.00	460.50	273.58
15480.000	.00	.00	929.70	125.00	934.13	4.43	.00	.00	934.14	1135.00	516.45	467.86
15480.000	.00	.00	929.70	135.00	934.38	4.68	.00	.00	934.38	1135.00	549.18	597.87
15480.000	.00	.00	929.70	165.00	934.77	5.07	.00	.00	934.77	1135.00	591.00	826.26
16644.000	.00	.00	930.60	95.00	934.15	3.55	.15	.07	934.30	1164.00	9.00	30.33
16644.000	.00	.00	930.60	125.00	934.37	3.77	.23	.11	934.60	1164.00	9.00	32.29
16644.000	.00	.00	930.60	135.00	934.50	3.90	.25	.12	934.75	1164.00	9.00	33.48
16644.000	.00	.00	930.60	165.00	934.78	4.18	.33	.16	935.11	1164.00	9.00	36.03
16645.000	937.90	935.90	930.60	95.00	934.13	3.53	.20	.03	934.33	1.00	8.60	26.21
16645.000	937.90	935.90	930.60	125.00	934.33	3.73	.32	.04	934.65	1.00	8.60	27.56
16645.000	937.90	935.90	930.60	135.00	934.46	3.86	.35	.05	934.81	1.00	8.60	28.36
16645.000	937.90	935.90	930.60	165.00	934.72	4.12	.47	.07	935.19	1.00	8.60	29.90
16695.000	937.90	935.30	930.00	95.00	934.31	4.31	.15	.02	934.46	50.00	8.60	30.96
16695.000	937.90	935.30	930.00	125.00	934.62	4.62	.23	.03	934.85	50.00	8.60	32.40
16695.000	937.90	935.30	930.00	135.00	934.78	4.78	.26	.03	935.04	50.00	8.60	32.98
16695.000	937.90	935.30	930.00	165.00	935.14	5.14	.37	.03	935.51	50.00	8.60	33.93
16696.000	.00	.00	930.30	95.00	934.33	4.03	.13	.00	934.47	1.00	8.60	32.68
16696.000	.00	.00	930.30	125.00	934.68	4.38	.19	.01	934.87	1.00	8.60	35.71
16696.000	.00	.00	930.30	135.00	934.85	4.55	.20	.02	935.06	1.00	8.60	37.21
16696.000	.00	.00	930.30	165.00	935.30	5.00	.25	.04	935.55	1.00	8.60	41.08
16714.000	.00	.00	931.20	95.00	934.49	3.29	.02	.03	934.51	18.00	26.13	84.36
16714.000	.00	.00	931.20	125.00	934.90	3.70	.03	.05	934.93	18.00	26.14	95.13
16714.000	.00	.00	931.20	135.00	935.09	3.89	.03	.05	935.12	18.00	26.15	100.10
16714.000	.00	.00	931.20	165.00	935.59	4.39	.03	.07	935.63	18.00	26.17	113.27

FORM 1411 1/ C3
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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
16721.000	.00	.00	931.70	95.00	934.48	2.78	.03	.00	934.51	7.00	26.11	71.50
16721.000	.00	.00	931.70	125.00	934.90	3.20	.04	.00	934.93	7.00	26.12	82.16
16721.000	.00	.00	931.70	135.00	935.09	3.39	.04	.00	935.12	7.00	26.13	87.13
16721.000	.00	.00	931.70	165.00	935.59	3.89	.04	.00	935.63	7.00	26.15	100.31
16722.000	933.80	932.80	931.80	95.00	934.88	3.08	.02	.00	934.90	1.00	26.12	76.76
16722.000	933.80	932.80	931.80	125.00	935.21	3.41	.03	.00	935.24	1.00	26.14	85.37
16722.000	933.80	932.80	931.80	135.00	935.37	3.57	.04	.00	935.40	1.00	26.14	89.53
16722.000	933.80	932.80	931.80	165.00	935.82	4.02	.04	.00	935.86	1.00	26.16	101.29
16723.000	.00	.00	931.80	95.00	934.88	3.08	.02	.00	934.91	1.00	26.12	80.29
16723.000	.00	.00	931.80	125.00	935.21	3.41	.03	.00	935.24	1.00	26.14	88.90
16723.000	.00	.00	931.80	135.00	935.37	3.57	.03	.00	935.41	1.00	26.14	93.06
16723.000	.00	.00	931.80	165.00	935.82	4.02	.04	.00	935.86	1.00	26.16	104.82
16730.000	.00	.00	930.80	95.00	934.90	4.10	.01	.00	934.91	7.00	40.12	143.98
16730.000	.00	.00	930.80	125.00	935.24	4.44	.01	.01	935.25	7.00	40.14	157.91
16730.000	.00	.00	930.80	135.00	935.40	4.60	.01	.01	935.41	7.00	40.14	164.37
16730.000	.00	.00	930.80	165.00	935.86	5.06	.01	.01	935.87	7.00	40.16	182.62

SUMMARY OF ERRORS

FORM 1411 5-68
PRINTED IN U.S.A.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WHITE LAKE TWP

3) WATERCOURSE: HURON RIVER - CEDAR ISLAND LAKE TO OXBOW LAKE

4) DOCUMENT TYPE: 100 YR NATURAL

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**************************************************
   HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
   ERROR CORR -  01,02,03
   MODIFICATION -  50,51,52,53
**************************************************

C
T1       WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2       10 YEAR EVENT  FILE:  WHITE3
T3       HURON RIVER              CEDAR ISLAND LAKE TO OXBOW LAKE

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ
        -1.        2.         0.         0.    .000000        .00         .0         0.    934.740       .000

J2   NPROF     IPLOT     PRFVS     XSECV     XSECH        FN        ALLDC     IBW       CHNIM     ITRACE
       1.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

J3   VARIABLE CODES FOR SUMMARY PRINTOUT
      38.000    40.000    41.000    42.000    43.000     1.000     8.000    10.000    12.000     3.000

      39.000     4.000    25.000      .000      .000      .000      .000      .000      .000      .000

QT      4.000    85.000   130.000   140.000   170.000      .000      .000      .000      .000      .000
NC       .055      .060      .040      .000      .000      .000      .000      .000      .000      .000

     CEDAR ISLAND LAKE                Z 25

X1  22800.000    30.000   178.000   238.000  6070.000  6070.000  6070.000      .000      .000      .000
GR    944.000      .000   941.200    14.000   938.100    38.000   935.600    70.000   935.200   106.000
GR    934.800   156.000   933.900   178.000   932.800   180.000   930.200   194.000   928.900   208.000
GR    930.900   223.000   932.500   231.000   935.500   238.000   935.200   346.000   936.800   398.000
GR    937.600   444.000   937.400   524.000   937.000   576.000   938.400   632.000   939.600   686.000
GR    940.400   750.000   939.800   798.000   940.200   832.000   941.200   842.000   941.000   854.000
GR    939.800   870.000   940.800   896.000   941.500   926.000   942.800   966.000   944.000  1002.000
NC       .070      .038      .035      .000      .000      .000      .000      .000      .000      .000

                         AA 26

X1  23505.000    18.000   176.000   220.000   705.000   705.000   705.000      .000      .000      .000
X3       .000      .000      .000   172.000      .000   226.000      .000      .000      .000      .000
GR    944.400      .000   941.600    18.000   937.400    40.000   935.200    64.000   935.400   102.000
GR    934.600   144.000   934.700   176.000   932.600   188.000   932.600   203.000   932.900   216.000
GR    934.900   220.000   936.600   236.000   939.600   254.000   940.000   278.000   940.000   292.000
GR    940.000   312.000   941.200   332.000   944.400   368.000      .000      .000      .000      .000

X1  23589.000      .000      .000      .000    84.000    84.000    84.000      .000      .000      .000
X3       .000      .000      .000   193.000      .000   207.000      .000      .000      .000      .000
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FORM 1411 4 GB
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X1	23593.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	194.000	.000	206.000	.000	.000	.000	.000
X1	23597.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	195.000	.000	205.000	.000	.000	.000	.000
NC	.000	.000	.024	.000	.000	.000	.000	.000	.000	.000
X1	23598.000	21.000	198.000	211.000	1.000	1.000	1.000	.000	.000	.000
BT	13.000	.000	943.000	.000	100.000	941.100	.000	198.000	939.700	935.900
BT	199.500	939.700	937.400	200.500	939.700	937.400	202.000	939.700	935.900	205.000
BT	939.700	936.600	206.000	939.700	938.000	208.000	939.700	938.600	210.000	939.700
BT	938.000	211.000	939.700	936.600	300.000	940.100	.000	400.000	944.000	.000
GR	943.000	.000	941.100	100.000	939.700	198.000	935.900	198.000	934.400	198.000
GR	933.400	199.500	933.400	200.500	934.400	202.000	935.900	202.000	939.700	202.000
GR	939.700	205.000	936.600	205.000	934.600	205.000	933.200	206.000	932.600	208.000
GR	933.200	210.000	934.600	211.000	936.600	211.000	939.700	211.000	940.100	300.000
GR	944.000	400.000	.000	.000	.000	.000	.000	.000	.000	.000

LAKEVIEW DRIVE BRIDGE AB 27

X1	23623.000	21.000	198.000	211.000	25.000	25.000	25.000	.000	.000	.000
BT	13.000	.000	943.000	.000	100.000	941.100	.000	198.000	939.700	936.600
BT	199.500	939.700	938.100	200.500	939.700	938.100	202.000	939.700	936.600	205.000
BT	939.700	936.600	206.000	939.700	938.000	208.000	939.700	938.600	210.000	939.700
BT	938.000	211.000	939.700	936.600	300.000	940.100	.000	400.000	944.000	.000
GR	943.000	.000	941.100	100.000	939.700	198.000	936.600	198.000	935.100	198.000
GR	934.100	199.500	934.100	200.500	935.100	202.000	936.600	202.000	939.700	202.000
GR	939.700	205.000	936.600	205.000	934.600	205.000	933.200	206.000	932.600	208.000
GR	933.200	210.000	934.600	211.000	936.600	211.000	939.700	211.000	940.100	300.000
GR	944.000	400.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.000	.000	.040	.000	.000	.000	.000	.000	.000	.000
X1	23624.000	10.000	184.000	219.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	197.000	.000	212.000	.000	.000	.000	.000
GR	943.000	.000	941.100	100.000	937.200	184.000	934.200	186.000	933.300	200.000
GR	932.600	208.000	934.200	215.000	936.400	219.000	940.100	300.000	944.000	400.000
NC	.075	.070	.045	.000	.000	.000	.000	.000	.000	.000

AC 28

X1	24255.000	39.000	1138.000	1181.000	631.000	631.000	631.000	.000	.000	.000
X3	.000	.000	.000	850.000	.000	.000	.000	.000	.000	.000
GR	949.000	.000	948.600	22.000	947.400	46.000	945.500	82.000	943.600	116.000
GR	941.700	150.000	940.400	174.000	939.700	190.000	939.500	226.000	938.600	258.000
GR	937.900	290.000	937.700	328.000	938.000	356.000	938.300	396.000	938.000	452.000
GR	937.600	488.000	936.600	544.000	936.200	598.000	935.800	644.000	935.000	682.000
GR	934.700	756.000	934.800	810.000	934.400	864.000	934.400	940.000	934.400	1018.000
GR	934.800	1076.000	934.400	1138.000	932.900	1145.000	932.100	1159.000	933.700	1176.000
GR	934.600	1181.000	935.000	1234.000	936.200	1286.000	938.200	1340.000	939.600	1400.000
GR	941.100	1452.000	941.300	1494.000	942.500	1548.000	939.600	1580.000	.000	.000
NC	.060	.060	.040	.000	.000	.000	.000	.000	.000	.000

AD 29

FORM 1411 4 68

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X1	24970.000	33.000	638.000	670.000	715.000	715.000	715.000	.000	.000	.000
X3	.000	.000	.000	360.000	.000	936.000	.000	.000	.000	.000
GR	945.300	.000	944.500	26.000	944.200	66.000	943.800	84.000	943.200	104.000
GR	943.000	134.000	942.400	154.000	937.800	202.000	936.600	244.000	936.000	272.000
GR	937.800	294.000	940.600	324.000	942.200	360.000	941.300	386.000	940.800	434.000
GR	939.500	478.000	937.000	520.000	935.800	578.000	935.200	630.000	934.000	638.000
GR	932.900	644.000	932.500	654.000	932.500	662.000	934.300	670.000	935.400	708.000
GR	935.800	786.000	936.400	834.000	936.400	894.000	936.600	950.000	939.200	1076.000
GR	940.900	1096.000	943.200	1116.000	945.400	1130.000	.000	.000	.000	.000
NC	.065	.065	.040	.000	.000	.000	.000	.000	.000	.000

AE 30

X1	25675.000	24.000	342.000	372.000	705.000	705.000	705.000	.000	.000	.000
X3	.000	.000	.000	335.000	.000	379.000	.000	.000	.000	.000
GR	944.800	.000	941.000	18.000	938.200	40.000	937.200	72.000	936.200	124.000
GR	936.000	160.000	936.800	190.000	936.700	206.000	936.200	230.000	936.000	268.000
GR	936.200	304.000	934.700	342.000	932.800	352.000	932.100	357.000	932.600	365.000
GR	934.100	372.000	935.700	428.000	936.300	478.000	937.000	518.000	938.500	560.000
GR	940.200	592.000	942.000	618.000	942.500	636.000	945.000	648.000	.000	.000

X1	25732.000	.000	.000	.000	57.000	57.000	57.000	.000	-.300	.000
X3	.000	.000	.000	352.000	.000	368.000	.000	.000	.000	.000
NC	.000	.000	.032	.000	.000	.000	.000	.000	.000	.000

X1	25733.000	24.000	296.000	315.000	1.000	1.000	1.000	.000	.000	.000
BT	20.000	.000	940.600	.000	100.000	937.500	.000	200.000	937.200	.000
BT	296.000	938.100	933.500	296.500	938.100	935.300	297.700	938.100	936.500	300.000
BT	938.100	937.400	302.300	938.100	936.500	303.500	938.100	935.300	304.000	938.100
BT	933.500	307.000	938.100	933.600	307.500	938.100	935.400	308.700	938.100	936.600
BT	311.000	938.100	937.500	313.300	938.100	936.600	314.500	938.100	935.400	315.000
BT	938.100	933.600	400.000	937.600	.000	500.000	938.500	.000	600.000	942.100
BT	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	940.600	.000	937.500	100.000	937.200	200.000	938.100	296.000	933.500	296.000
GR	932.500	296.500	932.000	297.700	931.800	300.000	932.000	302.300	932.500	303.500
GR	933.500	304.000	938.100	304.000	938.100	307.000	933.600	307.000	932.600	307.500
GR	932.100	308.700	931.900	311.000	932.100	313.300	932.600	314.500	933.600	315.000
GR	938.100	315.000	937.600	400.000	938.500	500.000	942.100	600.000	.000	.000

AVONLEA AVENUE BRIDGE AF 31

X1	25757.000	24.000	296.000	315.000	24.000	24.000	24.000	.000	.000	.000
BT	20.000	.000	940.600	.000	100.000	937.500	.000	200.000	937.200	.000
BT	296.000	938.100	933.600	296.500	938.100	935.400	297.700	938.100	936.600	300.000
BT	938.100	937.500	302.300	938.100	936.600	303.500	938.100	935.400	304.000	938.100
BT	933.600	307.000	938.100	933.900	307.500	938.100	935.700	308.700	938.100	936.900
BT	311.000	938.100	937.800	313.300	938.100	936.900	314.500	938.100	935.700	315.000
BT	938.100	933.900	400.000	937.600	.000	500.000	938.500	.000	600.000	942.100
BT	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	940.600	.000	937.500	100.000	937.200	200.000	938.100	296.000	933.600	296.000
GR	932.600	296.500	932.100	297.700	931.900	300.000	932.100	302.300	932.600	303.500
GR	933.600	304.000	938.100	304.000	938.100	307.000	933.900	307.000	932.900	307.500
GR	932.400	308.700	932.200	311.000	932.400	313.300	932.900	314.500	933.900	315.000
GR	938.100	315.000	937.600	400.000	938.500	500.000	942.100	600.000	.000	.000
NC	.000	.000	.040	.000	.000	.000	.000	.000	.000	.000

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X1	25758.000	13.000	287.000	322.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	295.000	.000	316.000	.000	.000	.000	.000
GR	940.600	.000	937.500	100.000	937.200	200.000	936.500	287.000	933.900	293.000
GR	932.800	301.000	931.900	306.000	932.500	312.000	934.300	319.000	936.500	322.000
GR	937.600	400.000	938.500	500.000	942.100	600.000	.000	.000	.000	.000
NC	.075	.035	.040	.000	.000	.000	.000	.000	.000	.000

AG 32

X1	26475.000	25.000	242.000	270.000	717.000	717.000	717.000	.000	.000	.000
GR	945.100	.000	942.100	18.000	937.900	36.000	937.000	54.000	936.200	94.000
GR	935.400	138.000	935.000	182.000	935.200	216.000	937.100	242.000	933.700	246.000
GR	931.700	253.000	933.700	267.000	936.500	270.000	935.600	318.000	936.600	370.000
GR	937.300	430.000	938.000	486.000	937.200	526.000	937.600	556.000	937.800	578.000
GR	940.600	598.000	942.000	634.000	943.700	672.000	944.800	704.000	945.200	714.000
NC	.055	.047	.042	.000	.000	.000	.000	.000	.000	.000

AH 33

X1	28055.000	18.000	116.000	145.000	1580.000	1580.000	1580.000	.000	.000	.000
X3	.000	.000	.000	93.000	.000	164.000	.000	.000	.000	.000
GR	945.800	.000	943.400	16.000	942.600	42.000	938.200	60.000	935.000	64.000
GR	932.500	72.000	934.200	84.000	939.600	88.000	939.900	99.000	939.400	116.000
GR	934.300	120.000	933.800	129.000	934.000	139.000	937.500	145.000	941.000	172.000
GR	942.200	180.000	943.100	188.000	945.800	198.000	.000	.000	.000	.000

X1	28142.000	.000	.000	.000	87.000	87.000	87.000	.000	.100	.000
X3	.000	.000	.000	116.000	.000	143.000	.000	.000	.000	.000

X1	28162.000	.000	.000	.000	20.000	20.000	20.000	.000	.000	.000
X3	.000	.000	.000	121.000	.000	137.000	.000	.000	.000	.000

X1	28170.000	.000	.000	.000	8.000	8.000	8.000	.000	.000	.000
X3	.000	.000	.000	123.000	.000	135.000	.000	.000	.000	.000

X1	28174.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	124.000	.000	134.000	.000	.000	.000	.000

X1	28178.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	125.000	.000	133.000	.000	.000	.000	.000

X1	28182.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	126.000	.000	132.000	.000	.000	.000	.000
NC	.000	.000	.024	.000	.000	.000	.000	.000	.000	.000

X1	28183.000	11.000	206.500	212.500	1.000	1.000	1.000	.000	.000	.000
BT	9.000	.000	949.900	.000	100.000	946.200	.000	206.500	946.700	937.600
BT	207.500	946.700	939.400	209.500	946.700	939.900	211.500	946.700	939.400	212.500
BT	946.700	937.600	266.000	947.200	.000	300.000	950.900	.000	.000	.000
GR	949.900	.000	946.200	100.000	946.700	206.500	936.200	206.500	934.400	207.500

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GR    933.900    209.500    934.400    211.500    936.200    212.500    946.700    212.500    947.200    266.000
GR    950.900    300.000       .000       .000       .000       .000       .000       .000       .000       .000

          OXBOW LAKE DAM                    AI 33-1

X1  28219.000     11.000    206.500    212.500     36.000     36.000     36.000       .000       .000       .000
BT      9.000       .000    949.900        .000    100.000    946.200       .000    206.500    946.700    938.200
BT    207.500    946.700    940.000    209.500    946.700    940.500    211.500    946.700    940.000    212.500
BT    946.700    938.200    266.000    947.200       .000    300.000    950.900       .000       .000       .000
GR    949.900       .000    946.200    100.000    946.700    206.500    936.800    206.500    935.000    207.500
GR    934.500    209.500    935.000    211.500    936.800    212.500    946.700    212.500    947.200    266.000
GR    950.900    300.000       .000       .000       .000       .000       .000       .000       .000       .000
NC       .000       .000       .020       .000       .000       .000       .000       .000       .000       .000

X1  28220.000       8.000    205.000    214.000      1.000      1.000      1.000       .000       .000       .000
X3       .000       .000       .000    206.000       .000    213.000       .000       .000       .000       .000
GR    949.900       .000    946.200    100.000    946.600    205.000    934.500    205.000    934.500    214.000
GR    946.700    214.000    947.200    266.000    950.900    300.000       .000       .000       .000       .000

X1  28225.000       8.000    200.000    219.000      5.000      5.000      5.000       .000       .000       .000
GR    949.900       .000    946.200    100.000    946.600    200.000    934.500    200.000    934.500    219.000
GR    946.700    219.000    947.200    266.000    950.900    300.000       .000       .000       .000       .000

     APPROXIMATE VALUE OF (DC+D)/2=940.7 IS READ IN

X1  28226.000       .000       .000       .000      1.000      1.000      1.000       .000       .000       .000
X5      4.000    940.700    940.700    940.700    940.700       .000       .000       .000       .000       .000
SB       .000      1.500      3.080       .000      6.700       .000      4.490       .000    940.000    934.500

X1  28227.000      13.000    200.000    218.560      1.000      1.000      1.000       .000       .000       .000
X2       .000       .000      1.000    940.670    943.500       .000       .000       .000       .000       .000
X3       .000       .000       .000    200.000       .000    218.560       .000       .000       .000       .000
BT     16.000       .000    949.900        .000    100.000    946.200       .000    200.000    946.300       .000
BT    200.000    942.800       .000    205.600    942.800       .000    205.600    945.900       .000    205.930
BT    945.930       .000    205.930    943.500    940.670    212.630    943.500    940.670    212.630    945.900
BT       .000    212.960    945.900        .000    212.960    942.800       .000    218.560    942.800       .000
BT    218.560    946.300       .000    266.000    947.200       .000    300.000    950.900       .000       .000
GR    949.900       .000    946.200    100.000    940.000    190.000    940.000    200.000    940.000    205.600
GR    940.000    205.930    940.000    212.630    940.000    212.960    940.000    218.560    942.700    239.000
GR    944.300    241.000    947.200    266.000    950.900    300.000       .000       .000       .000       .000
NC       .055       .055       .038       .000       .000       .000       .000       .000       .000       .000

                              AJ 34

X1  28613.000      16.000     62.000    269.000    386.000    386.000    386.000       .000       .000       .000
X3       .000       .000       .000    105.000       .000    234.000       .000       .000       .000       .000
GR    952.800       .000    950.400     18.000    948.200     40.000    943.600     62.000    941.100     66.000
GR    940.000     78.000    938.600    114.000    938.400    148.000    937.500    188.000    939.600    225.000
GR    942.400    265.000    944.000    269.000    946.600    300.000    950.200    320.000    952.400    344.000
GR    952.900    390.000       .000       .000       .000       .000       .000       .000       .000       .000

X1  28855.000      15.000    300.000    316.000    242.000    242.000    242.000       .000       .000       .000
GR    950.700       .000    949.000    100.000    948.200    200.000    948.000    299.000    950.500    299.000
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GR	950.500	300.000	941.500	300.000	940.100	308.000	941.600	316.000	950.600	316.000
GR	950.600	317.000	947.800	317.000	947.500	400.000	947.500	500.000	948.700	600.000
NC	.000	.000	.020	.000	.000	.000	.000	.000	.000	.000
X1	28856.000	15.000	300.000	316.000	1.000	1.000	1.000	.000	.000	.000
BT	13.000	.000	950.700	.000	100.000	949.000	.000	200.000	948.200	.000
BT	299.000	948.000	.000	299.000	950.500	.000	300.000	950.500	945.800	308.000
BT	950.500	945.800	316.000	950.600	945.800	317.000	950.600	.000	317.000	947.800
BT	.000	400.000	947.500	.000	500.000	947.500	.000	600.000	948.700	.000
GR	950.700	.000	949.000	100.000	948.200	200.000	948.000	299.000	950.500	299.000
GR	950.500	300.000	941.500	300.000	940.100	308.000	941.600	316.000	950.600	316.000
GR	950.600	317.000	947.800	317.000	947.500	400.000	947.500	500.000	948.700	600.000

ELIZABETH LAKE ROAD BRIDGE AK 35

X1	28838.000	15.000	300.000	316.000	32.000	32.000	32.000	.000	.000	.000
BT	13.000	.000	950.700	.000	100.000	949.000	.000	200.000	948.200	.000
BT	299.000	948.000	.000	299.000	950.500	.000	300.000	950.500	945.800	308.000
BT	950.500	945.800	316.000	950.600	945.800	317.000	950.600	.000	317.000	947.800
BT	.000	400.000	947.500	.000	500.000	947.500	.000	600.000	948.700	.000
GR	950.700	.000	949.000	100.000	948.200	200.000	948.000	299.000	950.500	299.000
GR	950.500	300.000	941.500	300.000	940.100	308.000	941.600	316.000	950.600	316.000
GR	950.600	317.000	947.800	317.000	947.500	400.000	947.500	500.000	948.700	600.000
NC	.000	.000	.038	.000	.000	.000	.000	.000	.000	.000
X1	28689.000	15.000	300.000	316.000	1.000	1.000	1.000	.000	.000	.000
GR	950.700	.000	949.000	100.000	948.200	200.000	948.000	299.000	950.500	299.000
GR	950.500	300.000	941.500	300.000	940.100	308.000	941.600	316.000	950.600	316.000
GR	950.600	317.000	947.800	317.000	947.500	400.000	947.500	500.000	948.700	600.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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T1      WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2      100 YEAR EVENT  FILE:  WHITE3
T3      HURON RIVER

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -10.       4.        0.        0.   .000000       .00        .0        0.   935.140      .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     3.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

*PROF 3

*SECNO 22800.000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


        CEDAR ISLAND LAKE              Z 25

 22800.00     6.24   935.14       .00   935.14   935.14       .00       .00       .00   933.90
     140.       3.     137.        0.      25.     247.        0.        0.        0.   935.50
      .00      .11      .56       .00     .055     .040      .060      .000    928.90   113.50
  .000034    6070.    6070.     6070.        0        0         0       .00    123.66   237.16


*SECNO 23505.000

3470 ENCROACHMENT STATIONS=      172.0      226.0  TYPE=      1  TARGET=       54.000

                                       AA 26

 23505.00     2.57   935.17       .00      .00   935.20       .03       .06       .00   934.70
     140.       0.     139.        0.       2.      93.        0.        3.        1.   934.90
      .13      .26     1.50       .22     .070     .035      .038      .035    932.60   172.00
  .000468     705.     705.      705.        0        0         0       .00     50.49   222.49


*SECNO 23589.000

3470 ENCROACHMENT STATIONS=      193.0      207.0  TYPE=      1  TARGET=       14.000
 23589.00     2.43   935.03       .00      .00   935.29       .27       .09       .00100000.00
     140.       0.     140.        0.       0.      34.        0.        3.        1. 100000.00
      .14      .00     4.14       .00     .070     .035      .038      .035    932.60   193.00
  .004332      84.      84.       84.        2        0         0       .00     14.00   207.00
```

*SECNO 23593.000

3470 ENCROACHMENT STATIONS= 194.0 206.0 TYPE= 1 TARGET= 12.000

23593.00	2.32	934.92	.00	.00	935.32	.39	.02	.001	00000.00
140.	0.	140.	0.	0.	28.	0.	3.	1.	100000.00
.14	.00	5.04	.00	.070	.035	.038	.035	932.60	194.00
.007093	4.	4.	4.	2	0	0	.00	12.00	206.00

*SECNO 23597.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 195.0 205.0 TYPE= 1 TARGET= 10.000

23597.00	1.99	934.59	.00	.00	935.36	.77	.04	.001	00000.00
140.	0.	140.	0.	0.	20.	0.	3.	1.	100000.00
.14	.00	7.02	.00	.070	.035	.038	.035	932.60	195.00
.016975	4.	4.	4.	3	0	0	.00	10.00	205.00

*SECNO 23598.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 939.70 MAX ELLC= 938.60

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

23598.00	2.65	935.25	935.25	.00	936.19	.94	.01	.00	939.70
140.	0.	140.	0.	0.	18.	0.	3.	1.	939.70
.14	.00	7.76	.00	.070	.024	.038	.035	932.60	198.00
.012544	1.	1.	1.	20	9	0	.00	10.00	211.00

*SECNO 23623.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 939.70 MAX ELLC= 938.60

LAKEVIEW DRIVE BRIDGE AB 27

23623.00	3.05	935.65	.00	.00	936.47	.82	.28	.00	939.70
140.	0.	140.	0.	0.	19.	0.	3.	1.	939.70
.14	.00	7.27	.00	.070	.024	.038	.034	932.60	198.00

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.010263	25.	25.	25.	2	0	0	.00	10.00	211.00

*SECNO 23624.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS= 197.0 212.0 TYPE= 1 TARGET= 15.000

23624.00	3.75	936.35	.00	.00	936.48	.13	.00	.00100000.00	
140.	0.	140.	0.	0.	49.	0.	3.	1. 100000.00	
.14	.00	2.84	.00	.070	.040	.038	.034	932.60	197.00
.001862	1.	1.	1.	3	0	0	.00	15.00	212.00

*SECNO 24255.000

3470 ENCROACHMENT STATIONS= 850.0 1580.0 TYPE= 1 TARGET= -850.000

AC 28

24255.00	4.41	936.51	.00	.00	936.51	.00	.04	.00	934.40
140.	77.	47.	16.	584.	149.	140.	10.	5.	934.60
1.05	.13	.32	.11	.075	.045	.070	.039	932.10	850.00
.000018	631.	631.	631.	3	0	0	.00	444.44	1294.44

*SECNO 24970.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 360.0 936.0 TYPE= 1 TARGET= 576.000

AD 29

24970.00	4.03	936.53	.00	.00	936.54	.01	.02	.00	934.00
140.	18.	85.	37.	82.	114.	167.	20.	12.	934.30
1.42	.22	.74	.22	.060	.040	.060	.039	932.50	542.70
.000074	715.	715.	715.	2	0	0	.00	387.82	930.52

*SECNO 25675.000

3470 ENCROACHMENT STATIONS= 335.0 379.0 TYPE= 1 TARGET= 44.000

AE 30

25675.00	4.50	936.60	.00	.00	936.62	.02	.08	.00	934.70
140.	5.	127.	8.	12.	106.	17.	24.	15.	934.10
1.60	.41	1.20	.48	.065	.040	.065	.039	932.10	335.00
.000198	705.	705.	705.	2	0	0	.00	44.00	379.00

*SECNO 25732.000

3470 ENCROACHMENT STATIONS= 352.0 368.0 TYPE= 1 TARGET= 16.000

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 25732.00      4.77    936.57       .00       .00    936.63       .06       .02       .00100000.00
     140.        0.       140.        0.        0.       70.        0.       24.       15.  100000.00
     1.60       .00      2.00       .00      .065      .040      .065      .039    931.80    352.00
 .000684        57.       57.       57.         2         0         0       .00     16.00    368.00

*SECNO 25733.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 20 MIN ELTRD=  937.20 MAX ELLC=  937.50

 25733.00      4.76    936.56       .00       .00    936.64       .08       .00       .00    938.10
     140.        0.       140.        0.        0.       63.        0.       24.       15.    938.10
     1.60       .00      2.23       .00      .065      .032      .065      .039    931.80    296.00
 .000996         1.        1.        1.         1         0         0     -7.20     16.00    315.00

*SECNO 25757.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 20 MIN ELTRD=  937.20 MAX ELLC=  937.80

        AVONLEA AVENUE BRIDGE          AF 31

 25757.00      4.68    936.58       .00       .00    936.66       .08       .02       .00    938.10
     140.        0.       140.        0.        0.       61.        0.       24.       15.    938.10
     1.61       .00      2.30       .00      .065      .032      .065      .039    931.90    296.00
 .001044        24.       24.       24.         0         0         0     -6.02     16.00    315.00

*SECNO 25758.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK         EG         HV         HL      QLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB          ACH        AROB       VOL      TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL           XNCH       XNR        WTN      ELMIN       SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL        IDC        ICONT      CORAR    TOPWID      ENDST

3470 ENCROACHMENT STATIONS=    295.0    316.0  TYPE=     1  TARGET=     21.000
 25758.00      4.72    936.62       .00       .00    936.66       .04       .00       .00100000.00
     140.        0.       140.        0.        0.       83.        0.       24.       15.  100000.00
     1.61       .00      1.69       .00      .065      .040      .065      .039    931.90    295.00
 .000476         1.        1.        1.         2         0         0       .00     21.00    316.00

*SECNO 26475.000

3265 DIVIDED FLOW

                              AG 32

 26475.00      5.09    936.78       .00       .00    936.79       .01       .13       .00    937.10
     140.       44.       73.       22.      195.       96.       71.       28.       18.    936.50
     1.99       .23       .76       .31      .075      .040      .035      .039    931.70     65.22
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.000090	717.	717.	717.	2	0	0	.00	315.02	385.06

*SECNO 28055.000

3470 ENCROACHMENT STATIONS= 93.0 164.0 TYPE= 1 TARGET= 71.000

AH 33

28055.00	3.26	937.06	.00	.00	937.12	.06	.34	.00	939.40
140.	0.	140.	0.	0.	70.	0.	36.	24.	937.50
2.21	.00	2.01	.00	.055	.042	.047	.040	933.80	117.83
.000982	1580.	1580.	1580.	2	0	0	.00	26.41	144.25

*SECNO 28142.000

3470 ENCROACHMENT STATIONS= 116.0 143.0 TYPE= 1 TARGET= 27.000

28142.00	3.24	937.14	.00	.00	937.21	.06	.09	.00	939.50
140.	0.	140.	0.	0.	69.	0.	36.	24.	100000.00
2.22	.00	2.03	.00	.055	.042	.047	.040	933.90	117.85
.000987	87.	87.	87.	2	0	0	.00	25.15	143.00

*SECNO 28162.000

3470 ENCROACHMENT STATIONS= 121.0 137.0 TYPE= 1 TARGET= 16.000

28162.00	3.21	937.11	.00	.00	937.24	.13	.03	.00	100000.00
140.	0.	140.	0.	0.	49.	0.	36.	24.	100000.00
2.22	.00	2.86	.00	.055	.042	.047	.040	933.90	121.00
.002228	20.	20.	20.	2	0	0	.00	16.00	137.00

*SECNO 28170.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 123.0 135.0 TYPE= 1 TARGET= 12.000

28170.00	3.13	937.03	.00	.00	937.26	.23	.02	.00	100000.00
140.	0.	140.	0.	0.	36.	0.	36.	24.	100000.00
2.22	.00	3.87	.00	.055	.042	.047	.040	933.90	123.00
.004644	8.	8.	8.	2	0	0	.00	12.00	135.00

*SECNO 28174.000

3470 ENCROACHMENT STATIONS= 124.0 134.0 TYPE= 1 TARGET= 10.000

28174.00	3.03	936.93	.00	.00	937.29	.35	.02	.00	100000.00
140.	0.	140.	0.	0.	29.	0.	36.	24.	100000.00
2.22	.00	4.76	.00	.055	.042	.047	.040	933.90	124.00
.007851	4.	4.	4.	2	0	0	.00	10.00	134.00

*SECNO 28178.000

3470 ENCROACHMENT STATIONS= 125.0 133.0 TYPE= 1 TARGET= 8.000

```
 28178.00      2.79    936.69       .00       .00    937.33       .64       .04       .00100000.00
     140.        0.       140.        0.        0.       22.        0.       36.       24. 100000.00
     2.22       .00      6.43       .00      .055      .042      .047      .040    933.90    125.00
  .017103         4.        4.        4.         2         0         0       .00      8.00    133.00


 *SECNO 28182.000

 3301 HV CHANGED MORE THAN HVINS

    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED

 3470 ENCROACHMENT STATIONS=      126.0      132.0  TYPE=       1  TARGET=        6.000
  28182.00      2.61    936.51    936.51       .00    937.81      1.29       .10       .00100000.00
      140.        0.       140.        0.        0.       15.        0.       36.       24. 100000.00
      2.22       .00      9.13       .00      .055      .042      .047      .040    933.90    126.00
   .042717         4.        4.        4.        20        11         0       .00      6.00    132.00


 *SECNO 28183.000
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  946.20 MAX ELLC=  939.90

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3710 WSEL ASSUMED BASED ON MIN DIFF
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
  28183.00      3.19    937.09    937.09       .00    938.38      1.30       .02       .00    946.70
      140.        0.       140.        0.        0.       15.        0.       36.       24.    946.70
      2.22       .00      9.14       .00      .055      .024      .047      .040    933.90    206.50
   .012372         1.        1.        1.        20        15         0       .00      6.00    212.50


 *SECNO 28219.000
    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


 3370 NORMAL BRIDGE,NRD=  9 MIN ELTRD=  946.20 MAX ELLC=  940.50

 3685 20 TRIALS ATTEMPTED WSEL,CWSEL
 3693 PROBABLE MINIMUM SPECIFIC ENERGY
 3720 CRITICAL DEPTH ASSUMED
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 28219.00     3.19   937.69   937.69      .00   938.98     1.30      .45      .00   946.70
    140.        0.      140.       0.       0.      15.       0.      36.      24.   946.70
     2.22      .00     9.14      .00     .055     .024     .047     .040   934.50   206.50
  .012372       36.      36.      36.       20       15        0      .00     6.00   212.50

*SECNO 28220.000

3301 HV CHANGED MORE THAN HVINS

3470 ENCROACHMENT STATIONS=     206.0     213.0  TYPE=       1  TARGET=       7.000
 28220.00     4.12   938.62      .00      .00   938.99      .37      .00      .00100000.00
    140.        0.      140.       0.       0.      29.       0.      36.      24. 100000.00
     2.22      .00     4.86      .00     .055     .020     .047     .040   934.50   206.00
  .001828       1.       1.       1.        3        0        0      .00     7.00   213.00

*SECNO 28225.000
 28225.00     4.45   938.95      .00      .00   938.99      .04      .00      .00   946.60
    140.        0.      140.       0.       0.      84.       0.      36.      24.   946.70
     2.22      .00     1.66      .00     .055     .020     .047     .040   934.50   200.00
  .000114       5.       5.       5.        2        0        0      .00    19.00   219.00


*SECNO 28226.000
 WATER EL=X5 CARD=    940.700

          APPROXIMATE VALUE OF (DC+D)/2=940.7 IS READ IN

 28226.00     6.20   940.70      .00      .00   940.72      .02      .00      .00   946.60
    140.        0.      140.       0.       0.     118.       0.      36.      24.   946.70
     2.22      .00     1.19      .00     .055     .020     .047     .040   934.50   200.00
  .000044       1.       1.       1.        0        0        0      .00    19.00   219.00


SPECIAL BRIDGE

SB   XK         XKOR       COFQ       RDLEN      BWC        BWP        BAREA      SS         ELCHU      ELCHD
        .00       1.50       3.08         .00      6.70        .00       4.49        .00     940.00     934.50

*SECNO 28227.000
PRESSURE AND WEIR FLOW

 EGPRS       EGLWC       H3        QWEIR      QPR        BAREA    TRAPEZOID      ELLC       ELTRD
                                                                     AREA
   963.34     946.22        .00        84.        56.        4.         4.     940.67     943.50


3470 ENCROACHMENT STATIONS=     200.0     218.6  TYPE=       1  TARGET=      18.560
 28227.00     4.32   944.32      .00      .00   944.37      .05     3.64      .00   940.00
    140.        0.      140.       0.       0.      80.       0.      36.      24. 100000.00
     2.22      .00     1.75      .00     .055     .020     .047     .040   940.00   200.00
  .000131       1.       1.       1.        2        0        9      .00    18.56   218.56
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*SECNO 28613.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 105.0 234.0 TYPE= 1 TARGET= 129.000

AJ 34

28613.00	6.87	944.37	.00	.00	944.37	.00	.00	.00	100000.00
140.	0.	140.	0.	0.	761.	0.	40.	25.	100000.00
2.61	.00	.18	.00	.055	.038	.055	.040	937.50	105.00
.000002	386.	386.	386.	1	0	0	.00	129.00	234.00

*SECNO 28855.000

28855.00	4.17	944.27	.00	.00	944.37	.10	.00	.00	950.50
140.	0.	140.	0.	0.	55.	0.	42.	25.	950.60
2.83	.00	2.54	.00	.055	.038	.055	.040	940.10	300.00
.001216	242.	242.	242.	2	0	0	.00	16.00	316.00

*SECNO 28856.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 947.50 MAX ELLC= 945.80

28856.00	4.17	944.27	.00	.00	944.37	.10	.00	.00	950.50
140.	0.	140.	0.	0.	55.	0.	42.	25.	950.60
2.83	.00	2.54	.00	.055	.020	.055	.040	940.10	300.00
.000337	1.	1.	1.	0	0	0	.00	16.00	316.00

*SECNO 28888.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 947.50 MAX ELLC= 945.80

ELIZABETH LAKE ROAD BRIDGE AK 35

28888.00	4.18	944.28	.00	.00	944.38	.10	.01	.00	950.50
140.	0.	140.	0.	0.	55.	0.	42.	25.	950.60
2.84	.00	2.53	.00	.055	.020	.055	.040	940.10	300.00
.000332	32.	32.	32.	1	0	0	.00	16.00	316.00

*SECNO 28889.000

28889.00	4.18	944.28	.00	.00	944.38	.10	.00	.00	950.50
140.	0.	140.	0.	0.	55.	0.	42.	25.	950.60
2.84	.00	2.53	.00	.055	.038	.055	.040	940.10	300.00
.001204	1.	1.	1.	0	0	0	.00	16.00	316.00

FORM 1411 K GB

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****
HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR - 01,02,03
MODIFICATION - 50,51,52,53
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HURON RIVER

SUMMARY PRINTOUT

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	22800.000	.00	.00	928.90	85.00	934.74	5.84	.00	.00	934.74	6070.00	78.76	232.20
	22800.000	.00	.00	928.90	130.00	935.04	6.14	.00	.00	935.04	6070.00	110.93	259.93
	22800.000	.00	.00	928.90	140.00	935.14	6.24	.00	.00	935.14	6070.00	123.66	271.36
	22800.000	.00	.00	928.90	170.00	935.46	6.56	.01	.00	935.47	6070.00	257.36	329.83
	23505.000	.00	.00	932.60	85.00	934.76	2.16	.02	.00	934.78	705.00	47.70	75.22
	23505.000	.00	.00	932.60	130.00	935.07	2.47	.03	.00	935.10	705.00	49.53	90.21
	23505.000	.00	.00	932.60	140.00	935.17	2.57	.03	.00	935.20	705.00	50.49	95.29
	23505.000	.00	.00	932.60	170.00	935.49	2.89	.04	.00	935.53	705.00	53.52	112.07
	23589.000	.00	.00	932.60	85.00	934.71	2.11	.13	.00	934.84	84.00	14.00	29.32
	23589.000	.00	.00	932.60	130.00	934.94	2.34	.25	.00	935.19	84.00	14.00	32.66
	23589.000	.00	.00	932.60	140.00	935.03	2.43	.27	.00	935.29	84.00	14.00	33.83
	23589.000	.00	.00	932.60	170.00	935.30	2.70	.32	.00	935.61	84.00	14.00	37.60
	23593.000	.00	.00	932.60	85.00	934.67	2.07	.18	.00	934.85	4.00	12.00	24.69
	23593.000	.00	.00	932.60	130.00	934.85	2.25	.36	.00	935.21	4.00	12.00	26.90
	23593.000	.00	.00	932.60	140.00	934.92	2.32	.39	.00	935.32	4.00	12.00	27.76
	23593.000	.00	.00	932.60	170.00	935.16	2.56	.48	.00	935.64	4.00	12.00	30.64
	23597.000	.00	.00	932.60	85.00	934.58	1.98	.29	.00	934.87	4.00	10.00	19.79
	23597.000	.00	.00	932.60	130.00	934.58	1.98	.67	.00	935.25	4.00	10.00	19.78
	23597.000	.00	.00	932.60	140.00	934.59	1.99	.77	.00	935.36	4.00	10.00	19.94
*	23597.000	.00	.00	932.60	170.00	934.68	2.08	1.05	.00	935.72	4.00	10.00	20.70
*	23598.000	939.70	938.60	932.60	85.00	934.75	2.15	.67	.00	935.41	1.00	10.00	12.95
*	23598.000	939.70	938.60	932.60	130.00	935.17	2.57	.88	.00	936.06	1.00	10.00	17.24
*	23598.000	939.70	938.60	932.60	140.00	935.25	2.65	.94	.00	936.19	1.00	10.00	18.04
*	23598.000	939.70	938.60	932.60	170.00	935.51	2.91	1.05	.00	936.57	1.00	10.00	20.65
	23623.000	939.70	938.60	932.60	85.00	935.03	2.43	.66	.00	935.69	25.00	9.80	13.04
	23623.000	939.70	938.60	932.60	130.00	935.54	2.94	.80	.00	936.34	25.00	10.00	18.11
	23623.000	939.70	938.60	932.60	140.00	935.65	3.05	.82	.00	936.47	25.00	10.00	19.26
	23623.000	939.70	938.60	932.60	170.00	935.95	3.35	.91	.00	936.85	25.00	10.00	22.26
	23624.000	.00	.00	932.60	85.00	935.62	3.02	.08	.00	935.70	1.00	15.00	38.28
	23624.000	.00	.00	932.60	130.00	936.23	3.63	.12	.00	936.34	1.00	15.00	47.36
	23624.000	.00	.00	932.60	140.00	936.35	3.75	.13	.00	936.48	1.00	15.00	49.23
	23624.000	.00	.00	932.60	170.00	936.71	4.11	.15	.00	936.86	1.00	15.00	54.60

FORM 1411 5 68
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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
24255.000	.00	.00	932.10	85.00	935.75	3.65	.00	.00	935.75	631.00	416.42	542.53
24255.000	.00	.00	932.10	130.00	936.38	4.28	.00	.00	936.38	631.00	440.90	814.60
24255.000	.00	.00	932.10	140.00	936.51	4.41	.00	.00	936.51	631.00	444.44	872.75
24255.000	.00	.00	932.10	170.00	936.89	4.79	.00	.00	936.89	631.00	454.66	1042.89
24970.000	.00	.00	932.50	85.00	935.77	3.27	.01	.00	935.78	715.00	200.08	161.86
24970.000	.00	.00	932.50	130.00	936.40	3.90	.01	.00	936.41	715.00	345.01	315.51
24970.000	.00	.00	932.50	140.00	936.53	4.03	.01	.00	936.54	715.00	387.82	363.29
24970.000	.00	.00	932.50	170.00	936.91	4.41	.00	.00	936.91	715.00	411.47	514.48
25675.000	.00	.00	932.10	85.00	935.86	3.76	.01	.00	935.88	705.00	44.00	102.69
25675.000	.00	.00	932.10	130.00	936.47	4.37	.02	.00	936.49	705.00	44.00	129.44
25675.000	.00	.00	932.10	140.00	936.60	4.50	.02	.00	936.62	705.00	44.00	134.92
25675.000	.00	.00	932.10	170.00	936.95	4.85	.02	.00	936.98	705.00	44.00	150.68
25732.000	.00	.00	931.80	85.00	935.86	4.06	.03	.00	935.89	57.00	16.00	58.81
25732.000	.00	.00	931.80	130.00	936.45	4.65	.06	.00	936.51	57.00	16.00	68.21
25732.000	.00	.00	931.80	140.00	936.57	4.77	.06	.00	936.63	57.00	16.00	70.15
25732.000	.00	.00	931.80	170.00	936.92	5.12	.08	.00	937.00	57.00	16.00	75.71
25733.000	937.20	937.50	931.80	85.00	935.85	4.05	.04	.00	935.89	1.00	16.00	55.31
25733.000	937.20	937.50	931.80	130.00	936.44	4.64	.07	.00	936.51	1.00	16.00	61.66
25733.000	937.20	937.50	931.80	140.00	936.56	4.76	.08	.00	936.64	1.00	16.00	62.78
25733.000	937.20	937.50	931.80	170.00	936.89	5.09	.11	.00	937.00	1.00	16.00	65.19
25757.000	937.20	937.80	931.90	85.00	935.86	3.96	.04	.00	935.90	24.00	16.00	52.87
25757.000	937.20	937.80	931.90	130.00	936.46	4.56	.07	.00	936.53	24.00	16.00	59.74
25757.000	937.20	937.80	931.90	140.00	936.58	4.68	.08	.00	936.66	24.00	16.00	60.96
25757.000	937.20	937.80	931.90	170.00	936.93	5.03	.11	.00	937.04	24.00	16.00	63.95
25758.000	.00	.00	931.90	85.00	935.88	3.98	.03	.00	935.90	1.00	21.00	66.98
25758.000	.00	.00	931.90	130.00	936.49	4.59	.04	.00	936.53	1.00	21.00	80.01
25758.000	.00	.00	931.90	140.00	936.62	4.72	.04	.00	936.66	1.00	21.00	82.66
25758.000	.00	.00	931.90	170.00	936.98	5.08	.06	.00	937.04	1.00	21.00	90.32
26475.000	.00	.00	931.70	85.00	936.04	4.34	.01	.00	936.05	717.00	197.81	172.07
26475.000	.00	.00	931.70	130.00	936.66	4.96	.01	.00	936.66	717.00	296.66	324.68
26475.000	.00	.00	931.70	140.00	936.78	5.08	.01	.00	936.79	717.00	315.02	361.98
26475.000	.00	.00	931.70	170.00	937.14	5.44	.00	.00	937.14	717.00	364.70	485.11
28055.000	.00	.00	933.80	85.00	936.46	2.66	.04	.00	936.50	1580.00	24.91	54.25
28055.000	.00	.00	933.80	130.00	936.97	3.17	.06	.00	937.02	1580.00	26.18	67.25
28055.000	.00	.00	933.80	140.00	937.06	3.26	.06	.00	937.12	1580.00	26.41	69.72
28055.000	.00	.00	933.80	170.00	937.33	3.53	.08	.00	937.41	1580.00	27.09	77.03
28142.000	.00	.00	933.90	85.00	936.52	2.62	.04	.00	936.56	87.00	24.66	53.40
28142.000	.00	.00	933.90	130.00	937.05	3.15	.06	.00	937.11	87.00	25.08	66.42
28142.000	.00	.00	933.90	140.00	937.14	3.24	.06	.00	937.21	87.00	25.15	68.86
28142.000	.00	.00	933.90	170.00	937.42	3.52	.08	.00	937.50	87.00	25.37	75.93
28162.000	.00	.00	933.90	85.00	936.51	2.61	.07	.00	936.58	20.00	16.00	39.38
28162.000	.00	.00	933.90	130.00	937.02	3.12	.12	.00	937.13	20.00	16.00	47.46
28162.000	.00	.00	933.90	140.00	937.11	3.21	.13	.00	937.24	20.00	16.00	48.94
28162.000	.00	.00	933.90	170.00	937.38	3.48	.16	.00	937.53	20.00	16.00	53.19

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	28170.000	.00	.00	933.90	85.00	936.47	2.57	.13	.00	936.60	8.00	12.00	29.52
	28170.000	.00	.00	933.90	130.00	936.95	3.05	.21	.00	937.16	8.00	12.00	35.19
	28170.000	.00	.00	933.90	140.00	937.03	3.13	.23	.00	937.26	8.00	12.00	36.20
	28170.000	.00	.00	933.90	170.00	937.27	3.37	.29	.00	937.56	8.00	12.00	39.07
	28174.000	.00	.00	933.90	85.00	936.43	2.53	.19	.00	936.62	4.00	10.00	24.34
	28174.000	.00	.00	933.90	130.00	936.86	2.96	.32	.00	937.18	4.00	10.00	28.66
	28174.000	.00	.00	933.90	140.00	936.98	3.08	.35	.00	937.29	4.00	10.00	29.40
	28174.000	.00	.00	933.90	170.00	937.14	3.24	.45	.00	937.59	4.00	10.00	31.45
	28178.000	.00	.00	933.90	85.00	936.33	2.43	.32	.00	936.64	4.00	8.00	18.83
	28178.000	.00	.00	933.90	130.00	936.65	2.75	.57	.00	937.22	4.00	8.00	21.44
	28178.000	.00	.00	933.90	140.00	936.69	2.79	.64	.00	937.33	4.00	8.00	21.78
	28178.000	.00	.00	933.90	170.00	936.73	2.83	.92	.00	937.65	4.00	8.00	22.04
*	28182.000	.00	.00	933.90	85.00	935.79	1.89	.93	.00	936.72	4.00	6.00	11.00
*	28182.000	.00	.00	933.90	130.00	936.39	2.49	1.23	.00	937.62	4.00	6.00	14.60
*	28182.000	.00	.00	933.90	140.00	936.51	2.61	1.29	.00	937.81	4.00	6.00	15.34
*	28182.000	.00	.00	933.90	170.00	936.87	2.97	1.47	.00	938.34	4.00	6.00	17.46
*	28183.000	946.20	939.90	933.90	85.00	936.36	2.46	.93	.00	937.29	1.00	6.00	10.97
*	28183.000	946.20	939.90	933.90	130.00	936.97	3.07	1.23	.00	938.20	1.00	6.00	14.63
*	28183.000	946.20	939.90	933.90	140.00	937.09	3.19	1.30	.00	938.38	1.00	6.00	15.31
*	28183.000	946.20	939.90	933.90	170.00	937.45	3.55	1.46	.00	938.92	1.00	6.00	17.53
*	28219.000	946.20	940.50	934.50	85.00	936.96	2.46	.93	.00	937.89	36.00	6.00	10.97
*	28219.000	946.20	940.50	934.50	130.00	937.57	3.07	1.23	.00	938.80	36.00	6.00	14.63
*	28219.000	946.20	940.50	934.50	140.00	937.69	3.19	1.30	.00	938.98	36.00	6.00	15.31
*	28219.000	946.20	940.50	934.50	170.00	938.05	3.55	1.46	.00	939.52	36.00	6.00	17.53
	28220.000	.00	.00	934.50	85.00	937.67	3.17	.23	.00	937.90	1.00	7.00	22.17
	28220.000	.00	.00	934.50	130.00	938.46	3.96	.34	.00	938.80	1.00	7.00	27.69
	28220.000	.00	.00	934.50	140.00	938.62	4.12	.37	.00	938.99	1.00	7.00	28.81
	28220.000	.00	.00	934.50	170.00	939.08	4.58	.44	.00	939.52	1.00	7.00	32.03
	28225.000	.00	.00	934.50	85.00	937.87	3.37	.03	.00	937.90	5.00	19.00	64.05
	28225.000	.00	.00	934.50	130.00	938.76	4.26	.04	.00	938.80	5.00	19.00	81.00
	28225.000	.00	.00	934.50	140.00	938.95	4.45	.04	.00	938.99	5.00	19.00	84.48
	28225.000	.00	.00	934.50	170.00	939.47	4.97	.05	.00	939.52	5.00	19.00	94.45
*	28226.000	.00	.00	934.50	85.00	940.70	6.20	.01	.00	940.71	1.00	19.00	117.80
*	28226.000	.00	.00	934.50	130.00	940.70	6.20	.02	.00	940.72	1.00	19.00	117.80
*	28226.000	.00	.00	934.50	140.00	940.70	6.20	.02	.00	940.72	1.00	19.00	117.80
*	28226.000	.00	.00	934.50	170.00	940.70	6.20	.03	.00	940.73	1.00	19.00	117.80
	28227.000	943.50	940.67	940.00	85.00	943.72	3.72	.02	.00	943.75	1.00	18.56	69.09
	28227.000	943.50	940.67	940.00	130.00	944.22	4.22	.04	.00	944.26	1.00	18.56	78.29
	28227.000	943.50	940.67	940.00	140.00	944.32	4.32	.05	.00	944.37	1.00	18.56	80.15
	28227.000	943.50	940.67	940.00	170.00	944.58	4.58	.06	.00	944.64	1.00	18.56	85.04
	28613.000	.00	.00	937.50	85.00	943.75	6.25	.00	.00	943.75	386.00	129.00	680.95
	28613.000	.00	.00	937.50	130.00	944.26	6.76	.00	.00	944.26	386.00	129.00	747.50
	28613.000	.00	.00	937.50	140.00	944.37	6.87	.00	.00	944.37	386.00	129.00	760.92
	28613.000	.00	.00	937.50	170.00	944.65	7.15	.00	.00	944.65	386.00	129.00	797.91

FORM 141 # GB

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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
28855.000	.00	.00	940.10	85.00	943.70	3.60	.05	.00	943.75	242.00	16.00	45.93
28855.000	.00	.00	940.10	130.00	944.17	4.07	.09	.00	944.27	242.00	16.00	53.59
28855.000	.00	.00	940.10	140.00	944.27	4.17	.10	.00	944.37	242.00	16.00	55.13
28855.000	.00	.00	940.10	170.00	944.52	4.42	.13	.00	944.65	242.00	16.00	59.16
28856.000	947.50	945.80	940.10	85.00	943.70	3.60	.05	.00	943.75	1.00	16.00	45.94
28856.000	947.50	945.80	940.10	130.00	944.17	4.07	.09	.00	944.27	1.00	16.00	53.60
28856.000	947.50	945.80	940.10	140.00	944.27	4.17	.10	.00	944.37	1.00	16.00	55.14
28856.000	947.50	945.80	940.10	170.00	944.52	4.42	.13	.00	944.65	1.00	16.00	59.17
28888.000	947.50	945.80	940.10	85.00	943.70	3.60	.05	.00	943.76	32.00	16.00	46.19
28888.000	947.50	945.80	940.10	130.00	944.19	4.09	.09	.00	944.28	32.00	16.00	53.88
28888.000	947.50	945.80	940.10	140.00	944.28	4.18	.10	.00	944.38	32.00	16.00	55.44
28888.000	947.50	945.80	940.10	170.00	944.54	4.44	.13	.00	944.66	32.00	16.00	59.52
28889.000	.00	.00	940.10	85.00	943.70	3.60	.05	.00	943.76	1.00	16.00	46.06
28889.000	.00	.00	940.10	130.00	944.19	4.09	.09	.00	944.28	1.00	16.00	53.78
28889.000	.00	.00	940.10	140.00	944.28	4.18	.10	.00	944.38	1.00	16.00	55.33
28889.000	.00	.00	940.10	170.00	944.54	4.44	.13	.00	944.66	1.00	16.00	59.40

SUMMARY OF ERRORS

CAUTION SECNO=23597.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO=23597.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=23597.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=23598.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=23598.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=23598.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=23598.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO=23598.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=23598.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=23598.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO=23598.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=23598.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=23598.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO=23598.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=23598.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=28182.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=28182.000 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO=28182.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO=28182.000 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=28182.000 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=28182.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO=28182.000 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=28182.000 PROFILE= 3 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO=28182.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO=28182.000 PROFILE= 4 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=28182.000 PROFILE= 4 20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION SECNO=28183.000 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO=28183.000 PROFILE= 1 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO=28183.000 PROFILE= 1 20 TRIALS ATTEMPTED TO BALANCE WSEL

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CAUTION   SECNO=28183.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28183.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28183.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO=28183.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28183.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28183.000  PROFILE= 3  WSEL ASSUMED BASED ON MIN DIFF
CAUTION   SECNO=28183.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO=28183.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28183.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28183.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION   SECNO=28219.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28219.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28219.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO=28219.000  PROFILE= 2  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28219.000  PROFILE= 2  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28219.000  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO=28219.000  PROFILE= 3  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28219.000  PROFILE= 3  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28219.000  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO=28219.000  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION   SECNO=28219.000  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO=28219.000  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE      SECNO=28226.000  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE      SECNO=28226.000  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE      SECNO=28226.000  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE      SECNO=28226.000  PROFILE= 4  WSEL BASED ON X5 CARD
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FORM 1411 M GB
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00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WHITE LAKE TWP

3) WATERCOURSE: HURON RIVER - OXBOW LAKE TO PONTIAC LAKE

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1      WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2      100YEAR EVENT  FILE:  WHITE4C
T3      HURON RIVER              OXBOW TO PONTIAC LAKE

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.        2.        0.        0.    .000000      .00       .0        0.    943.700     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

     1.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    40.000    41.000    42.000    43.000     1.000     8.000    10.000    12.000     3.000

    39.000     4.000    25.000      .000      .000      .000      .000      .000      .000      .000

QT      4.000    85.000   130.000   140.000   170.000      .000      .000      .000      .000      .000
NC       .040      .035      .042      .300      .500      .000      .000      .000      .000      .000
NH      6.000      .050    64.000      .075   348.000      .040   444.000      .075   564.000      .040
NH    654.000      .050   754.000      .000      .000      .000      .000      .000      .000      .000

        UPSTREAM OF OXBOW LAKE       AL 36

X1  32219.000    25.000   564.000   654.000      .000      .000      .000      .000      .000      .000
X3       .000      .000      .000   369.000      .000      .000      .000      .000      .000      .000
GR    953.000      .000   948.200    14.000   945.000    30.000   943.300    64.000   942.400    70.000
GR    942.200   154.000   942.300   254.000   941.800   329.000   940.400   348.000   939.600   359.000
GR    940.600   370.000   941.000   407.000   941.400   444.000   941.900   529.000   941.100   564.000
GR    937.100   592.000   936.800   621.000   939.400   642.000   942.500   648.000   944.600   654.000
GR    947.000   664.000   948.800   692.000   950.000   720.000   951.800   746.000   953.000   754.000
NC       .070      .070      .035      .000      .000      .000      .000      .000      .000      .000

X1  32746.000    13.000   300.000   319.000   527.000   527.000   527.000      .000      .000      .000
GR    950.300      .000   947.300   100.000   945.800   200.000   945.500   250.000   947.200   300.000
GR    942.400   300.000   940.100   309.000   942.300   319.000   947.000   319.000   945.800   337.000
GR    945.400   400.000   946.900   500.000   948.000   600.000      .000      .000      .000      .000
NC       .050      .050      .020      .000      .000      .000      .000      .000      .000      .000

X1  32747.000      .000      .000      .000     1.000     1.000     1.000      .000      .000      .000
BT     11.000      .000   950.300      .000   100.000   947.300      .000   200.000   945.800      .000
BT    250.000   945.500      .000   300.000   947.200   944.300   309.000   947.100   944.200   319.000
BT    947.000   944.100   337.000   945.800      .000   400.000   945.400      .000   500.000   946.900
BT       .000   600.000   948.000      .000      .000      .000      .000      .000      .000      .000
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FORM 1411 ½ GB
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SHOTWELL DRIVE BRIDGE AN 37

X1	32761.000	.000	.000	.000	14.000	14.000	14.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
NC	.070	.070	.042	.000	.000	.000	.000	.000	.000	.000
X1	32762.000	13.000	299.000	320.000	1.000	1.000	1.000	.000	.000	.000
X5	4.000	.000	.000	944.560	945.070	.000	.000	.000	.000	.000
GR	950.300	.000	947.300	100.000	945.800	200.000	945.500	250.000	947.200	299.000
GR	942.400	299.000	940.100	309.000	942.300	320.000	947.000	320.000	945.800	337.000
GR	945.400	400.000	946.900	500.000	948.000	600.000	.000	.000	.000	.000
NC	.045	.075	.042	.000	.000	.000	.000	.000	.000	.000

AN 38

X1	32844.000	34.000	504.000	708.000	82.000	82.000	82.000	.000	.000	.000
X3	.000	.000	.000	525.000	.000	710.000	.000	.000	.000	.000
GR	952.900	.000	949.400	44.000	947.200	84.000	946.100	126.000	947.100	168.000
GR	948.800	204.000	951.000	226.000	951.200	270.000	950.200	322.000	947.900	378.000
GR	945.800	430.000	945.000	474.000	943.800	504.000	942.500	507.000	941.900	586.000
GR	941.400	613.000	941.700	638.000	940.800	653.000	940.900	665.000	940.500	678.000
GR	940.700	696.000	941.900	706.000	943.100	708.000	947.200	738.000	948.600	788.000
GR	949.200	810.000	949.200	904.000	947.400	932.000	945.700	992.000	946.800	1028.000
GR	949.900	1054.000	951.800	1110.000	952.000	1128.000	953.000	1132.000	.000	.000
NC	.085	.085	.042	.000	.000	.000	.000	.000	.000	.000

AO 39

X1	33944.000	38.000	842.000	898.000	1100.000	1100.000	1100.000	.000	.000	.000
GR	952.800	.000	951.000	32.000	950.900	68.000	951.200	96.000	949.600	142.000
GR	947.200	200.000	945.800	248.000	945.600	270.000	946.800	282.000	947.000	300.000
GR	945.600	322.000	944.200	348.000	943.800	424.000	943.900	498.000	943.900	570.000
GR	948.000	592.000	950.800	620.000	951.800	660.000	950.400	692.000	944.600	719.000
GR	942.300	842.000	941.100	845.000	940.400	870.000	941.200	893.000	942.300	898.000
GR	943.500	1240.000	943.800	1302.000	943.800	1342.000	943.900	1406.000	944.200	1460.000
GR	944.200	1516.000	944.800	1556.000	948.200	1590.000	949.000	1626.000	947.000	1656.000
GR	948.800	1710.000	951.600	1740.000	952.900	1756.000	.000	.000	.000	.000
NC	.080	.850	.040	.000	.000	.000	.000	.000	.000	.000

AP 40

X1	36194.000	15.000	131.000	183.000	2400.000	2100.000	2250.000	.000	.000	.000
GR	953.000	.000	948.000	10.000	946.400	40.000	946.400	86.000	944.200	94.000
GR	943.200	131.000	941.300	142.000	940.300	156.000	940.800	178.000	941.800	183.000
GR	943.500	332.000	945.300	411.000	946.500	440.000	949.600	458.000	953.000	482.000
NC	.095	.095	.045	.000	.000	.000	.000	.000	.000	.000

AQ 41

X1	38364.000	21.000	320.000	458.000	2170.000	2170.000	2170.000	.000	.000	.000
GR	953.200	.000	952.800	30.000	950.800	52.000	950.400	96.000	950.700	136.000
GR	949.200	168.000	946.600	216.000	945.100	272.000	944.200	320.000	942.100	323.000
GR	941.300	342.000	940.700	360.000	941.600	387.000	941.600	410.000	942.000	431.000

GR	942.300	456.000	944.000	458.000	945.400	510.000	947.700	540.000	951.000	566.000
GR	953.000	582.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.100	.110	.045	.000	.000	.000	.000	.000	.000	.000

AR 42

X1	40914.000	17.000	162.000	193.000	2750.000	2350.000	2550.000	.000	.000	.000
GR	953.200	.000	950.200	24.000	947.200	56.000	946.300	96.000	944.800	130.000
GR	943.400	162.000	943.000	164.000	941.100	169.000	940.800	177.000	941.200	187.000
GR	942.200	192.000	943.700	193.000	944.600	224.000	946.800	260.000	948.900	296.000
GR	952.800	342.000	953.200	352.000	.000	.000	.000	.000	.000	.000
NC	.085	.085	.045	.000	.000	.000	.000	.000	.000	.000

AS 43

X1	43374.000	38.000	1232.000	1254.000	2400.000	2400.000	2460.000	.000	.000	.000
X3	.000	.000	.000	958.000	.000	1842.000	.000	.000	.000	.000
GR	953.000	.000	952.100	32.000	950.000	72.000	947.000	108.000	946.500	174.000
GR	945.600	238.000	945.000	298.000	944.100	342.000	944.200	402.000	944.100	420.000
GR	944.200	470.000	944.300	524.000	944.800	610.000	945.600	678.000	944.400	688.000
GR	944.400	690.000	945.800	694.000	946.200	748.000	946.700	788.000	948.200	832.000
GR	948.400	868.000	946.400	918.000	946.400	944.000	947.800	958.000	946.200	1008.000
GR	945.000	1078.000	943.800	1162.000	943.800	1218.000	943.400	1232.000	941.100	1234.000
GR	940.600	1243.000	941.000	1252.000	943.600	1254.000	943.600	1266.000	943.600	1364.000
GR	944.400	1424.000	948.000	1452.000	949.800	1482.000	.000	.000	.000	.000
NC	.080	.090	.040	.000	.000	.000	.000	.000	.000	.000

AT 44

X1	45374.000	23.000	200.000	250.000	1950.000	1950.000	2000.000	.000	.000	.000
GR	953.200	.000	952.200	24.000	952.200	50.000	953.000	64.000	951.800	94.000
GR	949.400	136.000	947.500	162.000	946.200	186.000	946.200	200.000	942.900	207.000
GR	942.800	217.000	942.600	228.000	943.500	245.000	947.000	250.000	946.700	260.000
GR	947.200	310.000	947.200	368.000	947.000	426.000	947.900	486.000	948.800	546.000
GR	949.800	590.000	951.400	626.000	953.200	660.000	.000	.000	.000	.000

X1	45454.000	15.000	300.000	316.000	80.000	80.000	80.000	.000	.000	.000
GR	954.300	.000	953.600	100.000	952.600	200.000	952.500	224.900	955.300	225.000
GR	955.300	300.000	942.900	300.000	942.700	308.000	941.900	316.000	955.300	316.000
GR	955.900	375.000	953.100	375.100	953.500	400.000	955.600	500.000	957.400	600.000
NC	.050	.050	.020	.000	.000	.000	.000	.000	.000	.000

X1	45455.000	.000	.000	.000	1.000	1.000	1.000	.000	.000	.000
BT	13.000	.000	954.300	.000	100.000	953.600	.000	200.000	952.600	.000
BT	224.900	952.500	.000	225.000	955.300	.000	300.000	955.300	947.700	308.000
BT	955.300	947.700	316.000	955.300	947.200	325.000	955.900	.000	375.100	953.100
BT	.000	400.000	953.500	.000	500.000	955.600	.000	600.000	957.400	.000

M-59 BRIDGE AU 45

X1	45553.000	.000	.000	.000	98.000	98.000	98.000	.000	.000	.000
X2	.000	.000	.000	.000	.000	.000	1.000	.000	.000	.000
NC	.060	.060	.040	.000	.000	.000	.000	.000	.000	.000

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X1	45554.000	15.000	299.000	317.000	1.000	1.000	1.000	.000	.000	.000
GR	954.300	.000	953.600	100.000	952.600	200.000	952.500	224.900	955.300	225.000
GR	955.300	299.000	942.900	299.000	942.700	308.000	941.900	317.000	955.300	317.000
GR	955.900	375.000	953.100	375.100	953.500	400.000	955.600	500.000	957.400	600.000
NC	.110	.110	.050	.000	.000	.000	.000	.000	.000	.000

AV 46

X1	46179.000	32.000	834.000	856.000	625.000	625.000	625.000	.000	.000	.000
X3	.000	.000	.000	580.000	.000	1194.000	.000	.000	.000	.000
GR	954.800	.000	950.800	24.000	947.100	44.000	947.100	148.000	950.000	168.000
GR	953.000	190.000	953.800	224.000	953.300	264.000	952.200	296.000	950.200	326.000
GR	950.000	368.000	949.000	456.000	948.200	530.000	947.600	544.000	945.200	560.000
GR	948.000	580.000	946.100	610.000	946.200	694.000	945.800	740.000	945.800	788.000
GR	945.400	834.000	943.300	840.000	941.600	849.000	942.100	854.000	944.200	856.000
GR	946.600	916.000	948.900	946.000	950.000	996.000	951.000	1068.000	951.000	1116.000
GR	952.400	1160.000	954.800	1194.000	.000	.000	.000	.000	.000	.000
NC	.120	.110	.050	.000	.000	.000	.000	.000	.000	.000
ET	.000	7.100	.000	.000	.000	.000	408.000	.000	.000	.000

X1	47604.000	28.000	524.000	544.000	1210.000	1210.000	1425.000	.000	.000	.000
GR	955.300	.000	952.600	14.000	951.600	44.000	950.800	76.000	948.200	104.000
GR	947.600	142.000	945.400	174.000	945.300	252.000	945.400	364.000	945.200	516.000
GR	944.400	524.000	942.800	529.000	942.900	535.000	943.300	542.000	944.700	544.000
GR	945.600	592.000	947.400	678.000	947.400	742.000	947.700	830.000	948.000	926.000
GR	948.200	1016.000	948.200	1114.000	948.200	1250.000	948.400	1310.000	950.200	1376.000
GR	952.800	1424.000	954.200	1470.000	955.400	1506.000	.000	.000	.000	.000
NC	.080	.090	.045	.000	.000	.000	.000	.000	.000	.000

AW 47

X1	48194.000	40.000	710.000	736.000	100.000	750.000	590.000	.000	.000	.000
GR	955.400	.000	952.600	24.000	951.000	64.000	951.400	98.000	949.800	110.000
GR	948.600	144.000	948.200	170.000	949.800	186.000	949.200	222.000	948.000	256.000
GR	951.200	282.000	951.300	306.000	947.700	320.000	947.800	380.000	948.400	432.000
GR	948.600	500.000	947.400	538.000	947.400	588.000	948.000	640.000	947.000	696.000
GR	945.100	710.000	943.900	714.000	942.800	721.000	944.100	732.000	945.900	736.000
GR	946.600	796.000	946.600	856.000	946.200	914.000	946.200	990.000	946.400	1070.000
GR	947.000	1168.000	947.100	1244.000	948.200	1320.000	949.000	1376.000	949.800	1408.000
GR	950.700	1460.000	951.000	1516.000	953.600	1560.000	954.600	1600.000	955.600	1618.000
NC	.060	.070	.045	.000	.000	.000	.000	.000	.000	.000

AX 48

X1	48924.000	15.000	108.000	147.000	200.000	700.000	730.000	.000	.000	.000
GR	955.600	.000	953.000	24.000	950.600	52.000	949.600	86.000	949.200	108.000
GR	945.600	121.000	944.200	132.000	944.900	144.000	945.900	147.000	948.000	202.000
GR	947.200	240.000	948.000	284.000	949.800	314.000	953.800	340.000	955.600	352.000
NC	.080	.070	.045	.000	.000	.000	.000	.000	.000	.000

AY 49

X1	50454.000	17.000	70.000	100.000	1510.000	1495.000	1530.000	.000	.000	.000
GR	958.400	.000	955.600	14.000	952.200	28.000	952.000	48.000	949.600	70.000

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GR	946.900	75.000	945.700	83.000	946.200	91.000	947.600	94.000	947.800	100.000
GR	950.200	160.000	951.200	210.000	952.700	236.000	954.200	264.000	953.400	268.000
GR	953.400	284.000	958.400	304.000	.000	.000	.000	.000	.000	.000
NC	.085	.090	.050	.000	.000	.000	.000	.000	.000	.000

AZ 50

X1	51024.000	14.000	122.000	152.000	550.000	600.000	570.000	.000	.000	.000
X3	.000	.000	.000	95.000	.000	156.000	.000	.000	.000	.000
GR	959.000	.000	955.000	10.000	951.600	26.000	950.600	60.000	949.400	92.000
GR	948.100	122.000	947.300	131.000	947.400	135.000	947.900	149.000	948.500	152.000
GR	951.600	168.000	953.800	190.000	955.800	218.000	959.200	236.000	.000	.000

X1	51119.000	.000	.000	.000	95.000	95.000	95.000	.000	.200	.000
X3	.000	.000	.000	123.000	.000	139.000	.000	.000	.000	.000

X1	51123.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	125.000	.000	137.000	.000	.000	.000	.000

X1	51127.000	.000	.000	.000	4.000	4.000	4.000	.000	.000	.000
X3	.000	.000	.000	126.000	.000	136.000	.000	.000	.000	.000
NC	.050	.050	.032	.000	.000	.000	.000	.000	.000	.000

X1	51128.000	15.000	200.000	209.500	1.000	1.000	1.000	.000	.000	.000
BT	13.000	.000	960.700	.000	100.000	957.600	.000	200.000	956.900	949.400
BT	200.600	956.900	951.400	201.800	956.900	952.800	203.000	956.900	953.700	204.800
BT	956.900	954.000	206.600	956.900	953.700	207.800	956.900	952.800	209.000	956.900
BT	951.400	209.500	956.900	949.400	300.000	958.400	.000	400.000	959.400	.000
GR	960.700	.000	957.600	100.000	956.900	200.000	949.400	200.000	948.200	200.600
GR	947.900	201.800	947.700	203.000	947.500	204.800	947.700	206.600	947.900	207.800
GR	948.200	209.000	949.400	209.500	956.900	209.500	958.400	300.000	959.400	400.000

BA 51

X1	51170.000	15.000	200.000	209.500	42.000	42.000	42.000	.000	.000	.000
BT	13.000	.000	960.700	.000	100.000	957.600	.000	200.000	956.900	949.900
BT	200.600	956.900	951.900	201.800	956.900	953.300	203.000	956.900	954.200	204.800
BT	956.900	954.500	206.600	956.900	954.200	207.800	956.900	953.300	209.000	956.900
BT	951.900	209.500	956.900	949.900	300.000	958.400	.000	400.000	959.400	.000
GR	960.700	.000	957.600	100.000	956.900	200.000	949.900	200.000	948.700	200.600
GR	948.400	201.800	948.200	203.000	948.000	204.800	948.200	206.600	948.400	207.800
GR	948.700	209.000	949.900	209.500	956.900	209.500	958.400	300.000	959.400	400.000
NC	.060	.060	.038	.000	.000	.000	.000	.000	.000	.000

X1	51171.000	15.000	199.000	210.500	1.000	1.000	1.000	.000	.000	.000
X5	4.000	950.630	951.250	951.440	951.880	.000	.000	.000	.000	.000
GR	960.700	.000	957.600	100.000	956.900	199.000	949.900	199.000	948.200	200.600
GR	948.400	201.800	948.200	203.000	948.000	204.800	948.200	206.600	948.400	207.800
GR	948.700	209.000	949.900	210.500	956.900	210.500	958.400	300.000	959.400	400.000

PONTIAC LAKE ROAD BRIDGE BB 52

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X1	51178.000	10.000	48.000	86.000	7.000	7.000	7.000	.000	.000	.000
X3	.000	.000	.000	54.300	.000	79.800	.000	.000	.000	.000
GR	959.500	.000	958.400	24.000	957.000	40.000	952.000	48.000	949.000	57.000
GR	947.900	67.000	949.000	78.000	951.900	86.000	958.600	110.000	959.400	136.000
NC	.050	.050	.015	.000	.000	.000	.000	.000	.000	.000
X1	51198.000	6.000	87.500	124.500	20.000	20.000	20.000	.000	.000	.000
X3	.000	.000	.000	96.500	.000	115.500	.000	.000	.000	.000
GR	953.000	.000	953.000	87.500	947.000	87.500	947.000	124.500	953.000	124.500
GR	953.000	200.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	51212.000	6.000	100.000	112.000	14.000	14.000	14.000	.000	.000	.000
GR	958.000	.000	958.000	100.000	947.000	100.000	947.000	112.000	958.000	112.000
GR	958.000	200.000	.000	.000	.000	.000	.000	.000	.000	.000
X1	51231.000	6.000	100.000	112.000	18.500	18.500	18.500	.000	.000	.000
GR	967.100	.000	967.100	100.000	947.000	100.000	947.000	112.000	967.100	112.000
GR	967.100	200.000	.000	.000	.000	.000	.000	.000	.000	.000
SB	.000	1.650	3.300	.000	.010	.000	.010	.000	946.300	946.300

BC 53

X1	51249.000	14.000	100.000	112.000	18.000	18.000	18.000	.000	.000	.000
X2	.000	.000	1.000	947.000	962.900	.000	.000	.000	.000	.000
BT	14.000	.000	967.100	.000	100.000	967.100	.000	100.000	962.900	.000
BT	102.000	962.900	.000	102.000	962.900	.000	103.500	962.900	.000	103.500
BT	962.900	.000	108.500	962.900	.000	108.500	962.900	.000	110.000	962.900
BT	.000	110.000	962.900	.000	112.000	962.900	.000	112.000	967.100	.000
BT	200.000	967.100	.000	.000	.000	.000	.000	.000	.000	.000
GR	967.100	.000	967.100	100.000	947.000	100.000	947.000	102.000	946.300	102.000
GR	946.300	103.500	947.000	103.500	947.000	108.500	946.300	108.500	946.600	110.000
GR	947.000	110.000	947.000	112.000	967.100	112.000	967.100	200.000	.000	.000
NC	.050	.050	.030	.000	.000	.000	.000	.000	.000	.000
X1	51259.000	6.000	.000	200.000	10.000	10.000	10.000	.000	.000	.000
X3	.000	.000	.000	90.000	.000	122.000	.000	.000	.000	.000
GR	967.100	.000	952.100	.000	952.100	100.000	952.100	112.000	952.100	200.000
GR	967.100	200.000	.000	.000	.000	.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**********************************************************

T1       WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2       100 YEAR EVENT  FILE:  WHITE4
T3       HURON RIVER

J1  ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

      -10.        4.         0.         0.    .000000        .00         .0         0.    944.370       .000

J2  NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIN      ITRACE

     3.000       .000     -1.000       .000       .000       .000       .000       .000       .000       .000

*PROF 3

CCHV=     .300 CEHV=     .500
1490 NH CARD USED
*SECNO 32219.000
   SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
   Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
   TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
   SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      369.0      754.0  TYPE=      1  TARGET=     -369.000

        UPSTREAM OF OXBOW LAKE        AL 36

 32219.00       7.57     944.37        .00     944.37     944.37        .00        .00        .00     941.10
      140.         50.        90.         0.        585.       520.         0.         0.         0.     944.60
      .00         .08        .17        .00        .053       .040       .000       .000     936.80     369.00
   .000002          0.         0.         0.          0          0          0        .00     284.34     653.34


*SECNO 32746.000
 32746.00       4.23     944.33        .00        .00     944.42        .09        .00        .04     947.20
      140.         0.        140.         0.         0.        59.         0.         7.         2.     947.00
      .06        .00       2.37        .00        .070       .035       .070       .035     940.10     300.00
   .000913        527.       527.       527.          2          0          0        .00      19.00     319.00


*SECNO 32747.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD=  945.40 MAX ELLC=  944.30

 32747.00       4.23     944.33        .00        .00     944.42        .10        .00        .00     947.20
      140.         0.        140.         0.         0.        56.         0.         7.         2.     947.00
      .06        .00       2.48        .00        .050       .020       .050       .035     940.10     300.00
   .000754          1.         1.         1.          0          0          0      -2.54      19.00     319.00
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*SECNO 32761.000

3370 NORMAL BRIDGE,NRD= 11 MIN ELTRD= 945.40 MAX ELLC= 944.30

SHOTWELL DRIVE BRIDGE AM 37

32761.00	4.24	944.34	.00	.00	944.43	.10	.01	.00	947.20
140.	0.	140.	0.	0.	56.	0.	7.	2.	947.00
.06	.00	2.48	.00	.050	.020	.050	.034	940.10	300.00
.000754	14.	14.	14.	0	0	0	-2.69	19.00	319.00

*SECNO 32762.000

WATER EL=X5 CARD= 944.560

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
32762.00	4.46	944.56	.00	.00	944.62	.06	.00	.01	947.20
140.	0.	140.	0.	0.	70.	0.	7.	2.	947.00
.06	.00	2.00	.00	.070	.042	.070	.034	940.10	299.00
.000846	1.	1.	1.	0	0	0	.00	21.00	320.00

*SECNO 32844.000

3470 ENCROACHMENT STATIONS= 525.0 710.0 TYPE= 1 TARGET= 185.000

AN 38

32844.00	4.14	944.64	.00	.00	944.64	.00	.00	.02100000.00	
140.	0.	140.	0.	0.	568.	3.	8.	2.	943.10
.16	.00	.25	.06	.045	.042	.075	.035	940.50	525.00
.000011	82.	82.	82.	1	0	0	.00	185.00	710.00

*SECNO 33944.000

3265 DIVIDED FLOW

AO 39

33944.00	4.25	944.65	.00	.00	944.66	.00	.01	.00	942.30
140.	18.	60.	62.	315.	210.	813.	32.	18.	942.30
2.02	.06	.29	.08	.085	.042	.085	.040	940.40	339.56
.000011	1100.	1100.	1100.	2	0	0	.00	1062.06	1546.31

*SECNO 36194.000

AP 40

36194.00	4.40	944.70	.00	.00	944.71	.01	.05	.00	943.20
140.	5.	128.	7.	37.	190.	337.	80.	52.	941.80
3.02	.14	.67	.02	.080	.040	.850	.040	940.30	92.18

.000059	2400.	2250.	2100.	2	0	0	.00	292.53	384.71

*SECNO 38364.000

AQ 41

38364.00	4.08	944.78	.00	.00	944.78	.00	.07	.00	944.20
140.	0.	139.	0.	9.	434.	11.	105.	64.	944.00
4.90	.03	.32	.04	.095	.045	.095	.042	940.70	289.22
.000021	2170.	2170.	2170.	0	0	0	.00	197.64	486.86

*SECNO 40914.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

AR 42

40914.00	4.10	944.90	.00	.00	944.92	.02	.13	.01	943.40
140.	5.	130.	4.	25.	106.	24.	123.	73.	943.70
5.51	.21	1.23	.18	.100	.045	.110	.043	940.80	127.97
.000285	2750.	2550.	2350.	1	0	0	.00	100.78	228.74

*SECNO 43374.000

3470 ENCROACHMENT STATIONS= 958.0 1842.0 TYPE= 1 TARGET= 884.000

AS 43

43374.00	4.63	945.23	.00	.00	945.24	.00	.31	.01	943.40
140.	29.	61.	50.	175.	91.	256.	142.	86.	943.60
7.22	.17	.67	.19	.085	.045	.085	.043	940.60	1064.38
.000071	2400.	2460.	2400.	2	0	0	.00	366.10	1430.48

*SECNO 45374.000

AT 44

45374.00	2.90	945.50	.00	.00	945.53	.03	.28	.01	946.20
140.	0.	140.	0.	0.	109.	0.	156.	95.	947.00
7.65	.00	1.28	.00	.080	.040	.090	.043	942.60	201.48
.000395	1950.	2000.	1950.	2	0	0	.00	46.38	247.86

*SECNO 45454.000

45454.00	3.61	945.51	.00	.00	945.65	.14	.06	.05	955.30
140.	0.	140.	0.	0.	47.	0.	156.	95.	955.30
7.65	.00	2.95	.00	.080	.040	.090	.043	941.90	300.00
.002301	80.	80.	80.	1	0	0	.00	16.00	316.00

*SECNO 45455.000

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3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 952.50 MAX ELLC= 947.70

45455.00	3.61	945.51	.00	.00	945.65	.14	.00	.00	955.30
140.	0.	140.	0.	0.	47.	0.	156.	95.	955.30
7.65	.00	2.95	.00	.050	.020	.050	.043	941.90	300.00
.000578	1.	1.	1.	0	0	0	.00	16.00	316.00

*SECNO 45553.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD= 952.50 MAX ELLC= 947.70

M-59 BRIDGE AU 45

45553.00	3.67	945.57	.00	.00	945.70	.13	.05	.00	955.30
140.	0.	140.	0.	0.	48.	0.	156.	95.	955.30
7.66	.00	2.89	.00	.050	.020	.050	.043	941.90	300.00
.000543	98.	98.	98.	2	0	0	.00	16.00	316.00

*SECNO 45554.000

45554.00	3.71	945.61	.00	.00	945.71	.10	.00	.01	955.30
140.	0.	140.	0.	0.	55.	0.	156.	95.	955.30
7.66	.00	2.54	.00	.060	.040	.060	.043	941.90	299.00
.001581	1.	1.	1.	2	0	0	.00	18.00	317.00

*SECNO 46179.000

3470 ENCROACHMENT STATIONS= 580.0 1194.0 TYPE= 1 TARGET= 614.000

AV 46

46179.00	4.65	946.25	.00	.00	946.27	.03	.54	.02	945.40
140.	13.	110.	17.	73.	74.	53.	158.	97.	944.20
7.80	.18	1.49	.32	.110	.050	.110	.043	941.60	607.55
.000540	625.	625.	625.	1	0	0	.00	299.83	907.38

*SECNO 47604.000

47604.00	3.79	946.59	.00	.00	946.59	.00	.31	.01	944.40
140.	75.	49.	16.	457.	67.	93.	170.	108.	944.70
8.81	.16	.74	.17	.120	.050	.110	.044	942.80	156.66
.000128	1210.	1425.	1210.	3	0	0	.00	482.76	639.42

*SECNO 48194.000

48194.00	3.88	946.68	.00	.00	946.71	.03	.11	.01	945.10
140.	3.	112.	24.	9.	74.	121.	173.	113.	945.90
8.92	.37	1.51	.20	.080	.045	.090	.044	942.80	698.34
.000535	100.	590.	750.	2	0	0	.00	417.87	1116.21

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*SECNO 48924.000

3265 DIVIDED FLOW

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
48924.00	3.03	947.23	.00	.00	947.28	.05	.55	.01	949.20
140.	0.	127.	13.	0.	68.	23.	175.	117.	945.90
9.03	.00	1.87	.56	.060	.045	.070	.044	944.20	115.14
.001199	200.	730.	700.	2	0	0	.00	68.99	241.32

*SECNO 50454.000

50454.00	3.37	949.07	.00	.00	949.12	.05	1.85	.00	949.60
140.	0.	129.	11.	0.	66.	20.	178.	119.	947.80
9.26	.00	1.95	.55	.080	.045	.070	.044	945.70	70.99
.001218	1510.	1530.	1495.	3	0	0	.00	60.67	131.65

*SECNO 51024.000

3470 ENCROACHMENT STATIONS= 95.0 156.0 TYPE= 1 TARGET= 61.000

51024.00	2.52	949.82	.00	.00	949.86	.04	.74	.00	948.10
140.	21.	117.	2.	31.	64.	4.	180.	120.	948.50
9.36	.69	1.82	.53	.085	.050	.090	.045	947.30	95.00
.001370	550.	570.	600.	2	0	0	.00	61.00	156.00

*SECNO 51119.000

3470 ENCROACHMENT STATIONS= 123.0 139.0 TYPE= 1 TARGET= 16.000

51119.00	2.48	949.98	.00	.00	950.22	.24	.26	.10	100000.00
140.	0.	140.	0.	0.	36.	0.	180.	120.	100000.00
9.37	.00	3.89	.00	.085	.050	.090	.045	947.50	123.00
.007860	95.	95.	95.	2	0	0	.00	16.00	139.00

*SECNO 51123.000

3470 ENCROACHMENT STATIONS= 125.0 137.0 TYPE= 1 TARGET= 12.000

51123.00	2.44	949.94	.00	.00	950.35	.41	.04	.09	100000.00
140.	0.	140.	0.	0.	27.	0.	180.	120.	100000.00
9.37	.00	5.16	.00	.085	.050	.090	.045	947.50	125.00
.015105	4.	4.	4.	2	0	0	.00	12.00	137.00

*SECNO 51127.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 126.0 136.0 TYPE= 1 TARGET= 10.000

51127.00	2.42	949.92	.00	.00	950.51	.59	.07	.09	100000.00

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    140.       0.     140.       0.       0.      23.       0.     180.     120. 100000.00
    9.37      .00     6.14      .00     .085     .050     .090     .045   947.50   126.00
 .022898       4.       4.       4.        2        0        0      .00    10.00   136.00

*SECNO 51128.000
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  956.90 MAX ELLC=  954.00

7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
 51128.00     2.27   949.77   949.77      .00   950.74      .97      .02      .19   956.90
    140.       0.     140.       0.       0.      18.       0.     180.     120.   956.90
    9.37      .00     7.90      .00     .050     .032     .050     .045   947.50   200.00
 .017116       1.       1.       1.        2       19        0     -.04     9.50   209.50

*SECNO 51170.000

3370 NORMAL BRIDGE,NRD= 13 MIN ELTRD=  956.90 MAX ELLC=  954.50

 51170.00     2.73   950.73      .00      .00   951.36      .64      .52      .10   956.90
    140.       0.     140.       0.       0.      22.       0.     180.     120.   956.90
    9.37      .00     6.40      .00     .050     .032     .050     .045   948.00   200.00
 .009394      42.      42.      42.        3        0        0     -.19     9.50   209.50

*SECNO 51171.000
 WATER EL=X5 CARD=    951.440
 51171.00     3.44   951.44      .00      .00   951.72      .28      .01      .11   956.90
    140.       0.     140.       0.       0.      33.       0.     180.     120.   956.90
    9.37      .00     4.23      .00     .060     .038     .060     .045   948.00   199.00
 .004252       1.       1.       1.        0        0        0      .00    11.50   210.50

*SECNO 51178.000

3470 ENCROACHMENT STATIONS=      54.3      79.8  TYPE=      1  TARGET=      25.500
 51178.00     3.85   951.75      .00      .00   951.79      .05      .01      .07100000.00
    140.       0.     140.       0.       0.      80.       0.     180.     120. 100000.00
    9.37      .00     1.75      .00     .060     .038     .060     .045   947.90    54.30
 .000542       7.       7.       7.        2        0        0      .00    25.50    79.80

*SECNO 51198.000
   SECNO    DEPTH    CWSEL    CRIWS    WSELK    EG       HV       HL       OLOSS   BANK ELEV
   Q        QLOB     QCH      QROB     ALOB     ACH      AROB     VOL      TWA   LEFT/RIGHT
   TIME     VLOB     VCH      VROB     XNL      XNCH     XNR      WTN      ELMIN      SSTA
   SLOPE    XLOBL    XLCH     XLOBR    ITRIAL   IDC      ICONT    CORAR    TOPWID     ENDST

3470 ENCROACHMENT STATIONS=      96.5     115.5  TYPE=      1  TARGET=      19.000
 51198.00     4.76   951.76      .00      .00   951.80      .04      .00      .00100000.00
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	140.	0.	140.	0.	0.	90.	0.	180.	120.	100000.00
	9.37	.00	1.55	.00	.050	.015	.050	.044	947.00	96.50
	.000052	20.	20.	20.	2	0	0	.00	19.00	115.50

*SECNO 51212.000

51212.00	4.74	951.74	.00	.00	951.83	.09	.00	.03	958.00
140.	0.	140.	0.	0.	57.	0.	180.	120.	958.00
9.38	.00	2.46	.00	.050	.015	.050	.044	947.00	100.00
.000169	14.	14.	14.	2	0	0	.00	12.00	112.00

*SECNO 51231.000

51231.00	4.74	951.74	.00	.00	951.83	.09	.00	.00	967.10
140.	0.	140.	0.	0.	57.	0.	180.	120.	967.10
9.38	.00	2.46	.00	.050	.015	.050	.044	947.00	100.00
.000169	19.	19.	19.	0	0	0	.00	12.00	112.00

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.65	3.30	.00	.01	.00	.01	.00	946.30	946.30

*SECNO 51249.000
PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
022690.87	951.16	.00	140.	0.	0.	0.	947.00	962.90

51249.00	18.91	965.21	.00	.00	965.22	.01	13.39	.00	967.10
140.	0.	140.	0.	0.	221.	0.	180.	120.	967.10
9.39	.00	.63	.00	.050	.015	.050	.044	946.30	100.00
.000006	18.	18.	18.	0	0	12	.00	12.00	112.00

*SECNO 51259.000

3470 ENCROACHMENT STATIONS=			90.0	122.0	TYPE=	1	TARGET=	32.000	
51259.00	13.12	965.22	.00	.00	965.22	.00	.00	.00100000.00	
140.	0.	140.	0.	0.	420.	0.	180.	120.	100000.00
9.39	.00	.33	.00	.050	.030	.050	.044	952.10	90.00
.000003	10.	10.	10.	0	0	0	.00	32.00	122.00

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
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NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HURON RIVER

SUMMARY PRINTOUT

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	32219.000	.00	.00	936.80	85.00	943.70	6.90	.00	.00	943.70	.00	282.43	914.90
	32219.000	.00	.00	936.80	130.00	944.21	7.41	.00	.00	944.21	.00	283.89	1059.31
	32219.000	.00	.00	936.80	140.00	944.37	7.57	.00	.00	944.37	.00	284.34	1104.77
	32219.000	.00	.00	936.80	170.00	944.67	7.87	.00	.00	944.67	.00	285.29	1190.21
	32746.000	.00	.00	940.10	85.00	943.68	3.58	.05	.03	943.73	527.00	19.00	46.61
	32746.000	.00	.00	940.10	130.00	944.17	4.07	.08	.04	944.26	527.00	19.00	56.02
	32746.000	.00	.00	940.10	140.00	944.33	4.23	.09	.04	944.42	527.00	19.00	59.03
	32746.000	.00	.00	940.10	170.00	944.62	4.52	.11	.05	944.73	527.00	19.00	64.55
	32747.000	945.40	944.30	940.10	85.00	943.68	3.58	.05	.00	943.73	1.00	19.00	46.62
	32747.000	945.40	944.30	940.10	130.00	944.17	4.07	.08	.00	944.26	1.00	19.00	55.77
	32747.000	945.40	944.30	940.10	140.00	944.33	4.23	.10	.00	944.42	1.00	19.00	56.50
	32747.000	945.40	944.30	940.10	170.00	944.61	4.51	.14	.02	944.75	1.00	19.00	56.50
	32761.000	945.40	944.30	940.10	85.00	943.68	3.58	.05	.00	943.73	14.00	19.00	46.24
	32761.000	945.40	944.30	940.10	130.00	944.18	4.08	.08	.00	944.26	14.00	19.00	55.87
	32761.000	945.40	944.30	940.10	140.00	944.34	4.24	.10	.00	944.43	14.00	19.00	56.50
	32761.000	945.40	944.30	940.10	170.00	944.62	4.52	.14	.00	944.76	14.00	19.00	56.50
	32762.000	.00	.00	940.10	85.00	943.69	3.59	.04	.00	943.74	1.00	21.00	51.73
	32762.000	.00	.00	940.10	130.00	944.20	4.10	.07	.01	944.27	1.00	21.00	62.56
*	32762.000	.00	.00	940.10	140.00	944.56	4.46	.06	.01	944.62	1.00	21.00	70.06
*	32762.000	.00	.00	940.10	170.00	945.07	4.97	.07	.02	945.14	1.00	21.00	80.77
	32844.000	.00	.00	940.50	85.00	943.75	3.25	.00	.01	943.75	82.00	185.00	405.67
	32844.000	.00	.00	940.50	130.00	944.29	3.79	.00	.02	944.29	82.00	185.00	507.27
	32844.000	.00	.00	940.50	140.00	944.64	4.14	.00	.02	944.64	82.00	185.00	570.63
	32844.000	.00	.00	940.50	170.00	945.16	4.66	.00	.02	945.16	82.00	185.00	667.00
	33944.000	.00	.00	940.40	85.00	943.77	3.37	.00	.00	943.77	1100.00	531.99	522.11
	33944.000	.00	.00	940.40	130.00	944.31	3.91	.00	.00	944.31	1100.00	1014.89	978.38
	33944.000	.00	.00	940.40	140.00	944.65	4.25	.00	.00	944.66	1100.00	1062.06	1337.97
	33944.000	.00	.00	940.40	170.00	945.17	4.77	.00	.00	945.17	1100.00	1090.19	1894.38
	36194.000	.00	.00	940.30	85.00	943.85	3.55	.00	.00	943.85	2250.00	240.32	334.68
	36194.000	.00	.00	940.30	130.00	944.38	4.08	.01	.00	944.39	2250.00	277.31	473.37
	36194.000	.00	.00	940.30	140.00	944.70	4.40	.01	.00	944.71	2250.00	292.53	564.63
	36194.000	.00	.00	940.30	170.00	945.20	4.90	.01	.00	945.21	2250.00	316.01	714.98

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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
38364.000	.00	.00	940.70	85.00	943.93	3.23	.00	.00	943.93	2170.00	137.54	317.33
38364.000	.00	.00	940.70	130.00	944.47	3.77	.00	.00	944.48	2170.00	170.72	399.08
38364.000	.00	.00	940.70	140.00	944.78	4.08	.00	.00	944.78	2170.00	197.64	453.88
38364.000	.00	.00	940.70	170.00	945.27	4.57	.00	.00	945.27	2170.00	239.25	561.19
40914.000	.00	.00	940.80	85.00	944.06	3.26	.02	.01	944.07	2550.00	58.31	87.19
40914.000	.00	.00	940.80	130.00	944.62	3.82	.02	.01	944.65	2550.00	90.27	129.24
40914.000	.00	.00	940.80	140.00	944.90	4.10	.02	.01	944.92	2550.00	100.78	154.86
40914.000	.00	.00	940.80	170.00	945.38	4.58	.02	.01	945.40	2550.00	119.51	207.24
43374.000	.00	.00	940.60	85.00	944.50	3.90	.01	.00	944.50	2460.00	311.39	271.49
43374.000	.00	.00	940.60	130.00	945.03	4.43	.00	.01	945.03	2460.00	352.57	448.78
43374.000	.00	.00	940.60	140.00	945.23	4.63	.00	.01	945.24	2460.00	366.10	522.31
43374.000	.00	.00	940.60	170.00	945.64	5.04	.00	.01	945.65	2460.00	393.27	678.33
45374.000	.00	.00	942.60	85.00	944.86	2.26	.02	.01	944.88	2000.00	44.11	80.14
45374.000	.00	.00	942.60	130.00	945.35	2.75	.03	.01	945.38	2000.00	45.84	102.05
45374.000	.00	.00	942.60	140.00	945.50	2.90	.03	.01	945.53	2000.00	46.38	109.06
45374.000	.00	.00	942.60	170.00	945.86	3.26	.03	.01	945.89	2000.00	47.64	125.82
45454.000	.00	.00	941.90	85.00	944.89	2.99	.08	.03	944.97	80.00	16.00	37.31
45454.000	.00	.00	941.90	130.00	945.36	3.46	.13	.05	945.49	80.00	16.00	45.12
45454.000	.00	.00	941.90	140.00	945.51	3.61	.14	.05	945.65	80.00	16.00	47.45
45454.000	.00	.00	941.90	170.00	945.85	3.95	.16	.07	946.02	80.00	16.00	52.87
45455.000	952.50	947.70	941.90	85.00	944.89	2.99	.08	.00	944.97	1.00	16.00	37.41
45455.000	952.50	947.70	941.90	130.00	945.36	3.46	.13	.00	945.49	1.00	16.00	45.04
45455.000	952.50	947.70	941.90	140.00	945.51	3.61	.14	.00	945.65	1.00	16.00	47.39
45455.000	952.50	947.70	941.90	170.00	945.86	3.96	.16	.00	946.02	1.00	16.00	52.90
45553.000	952.50	947.70	941.90	85.00	944.93	3.03	.08	.00	945.01	98.00	16.00	38.14
45553.000	952.50	947.70	941.90	130.00	945.43	3.53	.12	.00	945.55	98.00	16.00	46.03
45553.000	952.50	947.70	941.90	140.00	945.57	3.67	.13	.00	945.70	98.00	16.00	48.37
45553.000	952.50	947.70	941.90	170.00	945.92	4.02	.15	.00	946.08	98.00	16.00	53.96
45554.000	.00	.00	941.90	85.00	944.96	3.06	.06	.01	945.02	1.00	18.00	43.33
45554.000	.00	.00	941.90	130.00	945.46	3.56	.10	.01	945.56	1.00	18.00	52.47
45554.000	.00	.00	941.90	140.00	945.61	3.71	.10	.01	945.71	1.00	18.00	55.13
45554.000	.00	.00	941.90	170.00	945.97	4.07	.12	.01	946.09	1.00	18.00	61.56
46179.000	.00	.00	941.60	85.00	945.53	3.93	.03	.01	945.56	625.00	70.38	81.13
46179.000	.00	.00	941.60	130.00	946.12	4.52	.03	.02	946.15	625.00	219.80	162.27
46179.000	.00	.00	941.60	140.00	946.25	4.65	.03	.02	946.27	625.00	299.83	199.50
46179.000	.00	.00	941.60	170.00	946.58	4.98	.02	.03	946.60	625.00	312.90	297.60
47604.000	.00	.00	942.80	85.00	946.10	3.30	.01	.01	946.11	1425.00	208.16	209.90
47604.000	.00	.00	942.80	130.00	946.48	3.68	.00	.01	946.49	1425.00	476.63	569.79
47604.000	.00	.00	942.80	140.00	946.59	3.79	.00	.01	946.59	1425.00	482.76	617.00
47604.000	.00	.00	942.80	170.00	946.86	4.06	.00	.01	946.86	1425.00	499.66	750.20
48194.000	.00	.00	942.80	85.00	946.29	3.49	.02	.01	946.31	590.00	192.05	84.56
48194.000	.00	.00	942.80	130.00	946.59	3.79	.03	.01	946.62	590.00	339.12	166.85
48194.000	.00	.00	942.80	140.00	946.68	3.88	.03	.01	946.71	590.00	417.87	204.82
48194.000	.00	.00	942.80	170.00	946.94	4.14	.02	.01	946.96	590.00	462.31	319.37

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	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	48924.000	.00	.00	944.20	85.00	946.76	2.56	.03	.00	946.80	730.00	52.76	63.25
	48924.000	.00	.00	944.20	130.00	947.16	2.96	.05	.01	947.20	730.00	64.47	86.28
	48924.000	.00	.00	944.20	140.00	947.23	3.03	.05	.01	947.28	730.00	68.99	90.87
	48924.000	.00	.00	944.20	170.00	947.40	3.20	.06	.02	947.46	730.00	92.89	105.49
	50454.000	.00	.00	945.70	85.00	948.48	2.78	.04	.00	948.52	1530.00	44.73	54.86
	50454.000	.00	.00	945.70	130.00	948.97	3.27	.05	.00	949.03	1530.00	58.13	80.53
	50454.000	.00	.00	945.70	140.00	949.07	3.37	.05	.00	949.12	1530.00	60.67	86.14
	50454.000	.00	.00	945.70	170.00	949.33	3.63	.06	.00	949.39	1530.00	67.59	102.68
	51024.000	.00	.00	947.30	85.00	949.28	1.98	.04	.00	949.32	570.00	61.00	65.82
	51024.000	.00	.00	947.30	130.00	949.73	2.43	.04	.00	949.77	570.00	61.00	93.03
	51024.000	.00	.00	947.30	140.00	949.82	2.52	.04	.00	949.86	570.00	61.00	98.45
	51024.000	.00	.00	947.30	170.00	950.07	2.77	.05	.00	950.12	570.00	61.00	113.35
	51119.000	.00	.00	947.50	85.00	949.49	1.99	.14	.05	949.63	95.00	16.00	28.11
	51119.000	.00	.00	947.50	130.00	949.90	2.40	.22	.09	950.12	95.00	16.00	34.67
	51119.000	.00	.00	947.50	140.00	949.98	2.48	.24	.10	950.22	95.00	16.00	35.98
	51119.000	.00	.00	947.50	170.00	950.21	2.71	.29	.12	950.50	95.00	16.00	39.65
	51123.000	.00	.00	947.50	85.00	949.47	1.97	.24	.05	949.71	4.00	12.00	21.61
	51123.000	.00	.00	947.50	130.00	949.86	2.36	.38	.08	950.24	4.00	12.00	26.25
	51123.000	.00	.00	947.50	140.00	949.94	2.44	.41	.09	950.35	4.00	12.00	27.15
	51123.000	.00	.00	947.50	170.00	950.15	2.65	.51	.11	950.66	4.00	12.00	29.69
	51127.000	.00	.00	947.50	85.00	949.48	1.98	.33	.05	949.81	4.00	10.00	18.37
	51127.000	.00	.00	947.50	130.00	949.85	2.35	.54	.08	950.39	4.00	10.00	22.08
	51127.000	.00	.00	947.50	140.00	949.92	2.42	.59	.09	950.51	4.00	10.00	22.80
	51127.000	.00	.00	947.50	170.00	950.12	2.62	.73	.11	950.85	4.00	10.00	24.77
	51128.000	956.90	954.00	947.50	85.00	949.37	1.87	.57	.12	949.95	1.00	9.48	14.00
*	51128.000	956.90	954.00	947.50	130.00	949.69	2.19	.92	.19	950.60	1.00	9.50	16.93
*	51128.000	956.90	954.00	947.50	140.00	949.77	2.27	.97	.19	950.74	1.00	9.50	17.72
*	51128.000	956.90	954.00	947.50	170.00	950.04	2.54	1.11	.19	951.14	1.00	9.50	20.14
	51170.000	956.90	954.50	948.00	85.00	949.92	1.92	.54	.01	950.46	42.00	9.50	14.45
	51170.000	956.90	954.50	948.00	130.00	950.60	2.60	.61	.09	951.21	42.00	9.50	20.74
	51170.000	956.90	954.50	948.00	140.00	950.73	2.73	.64	.10	951.36	42.00	9.50	21.86
	51170.000	956.90	954.50	948.00	170.00	951.06	3.06	.73	.11	951.79	42.00	9.50	24.88
*	51171.000	.00	.00	948.00	85.00	950.63	2.63	.20	.10	950.83	1.00	11.50	23.81
*	51171.000	.00	.00	948.00	130.00	951.25	3.25	.27	.10	951.52	1.00	11.50	30.94
*	51171.000	.00	.00	948.00	140.00	951.44	3.44	.28	.11	951.72	1.00	11.50	33.13
*	51171.000	.00	.00	948.00	170.00	951.88	3.88	.31	.13	952.19	1.00	11.50	38.19
	51178.000	.00	.00	947.90	85.00	950.85	2.95	.03	.05	950.89	7.00	25.50	56.95
	51178.000	.00	.00	947.90	130.00	951.55	3.65	.05	.07	951.60	7.00	25.50	74.89
	51178.000	.00	.00	947.90	140.00	951.75	3.85	.05	.07	951.79	7.00	25.50	79.80
	51178.000	.00	.00	947.90	170.00	952.22	4.32	.05	.08	952.27	7.00	25.50	91.84
	51198.000	.00	.00	947.00	85.00	950.87	3.87	.02	.00	950.89	20.00	19.00	73.53
	51198.000	.00	.00	947.00	130.00	951.57	4.57	.03	.00	951.61	20.00	19.00	86.86
	51198.000	.00	.00	947.00	140.00	951.76	4.76	.04	.00	951.80	20.00	19.00	90.49
	51198.000	.00	.00	947.00	170.00	952.23	5.23	.05	.00	952.28	20.00	19.00	99.39

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SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	QLOSS	EG	XLCH	TOPWID	AREA
51212.000	.00	.00	947.00	85.00	950.86	3.86	.05	.02	950.91	14.00	12.00	46.38
51212.000	.00	.00	947.00	130.00	951.55	4.55	.09	.03	951.63	14.00	12.00	54.56
51212.000	.00	.00	947.00	140.00	951.74	4.74	.09	.03	951.83	14.00	12.00	56.83
51212.000	.00	.00	947.00	170.00	952.20	5.20	.12	.03	952.31	14.00	12.00	62.38
51231.000	.00	.00	947.00	85.00	950.86	3.86	.05	.00	950.91	18.50	12.00	46.28
51231.000	.00	.00	947.00	130.00	951.55	4.55	.09	.00	951.64	18.50	12.00	54.58
51231.000	.00	.00	947.00	140.00	951.74	4.74	.09	.00	951.83	18.50	12.00	56.85
51231.000	.00	.00	947.00	170.00	952.20	5.20	.12	.00	952.32	18.50	12.00	62.40
51249.000	962.90	947.00	946.30	85.00	964.56	18.26	.00	.00	964.56	18.00	12.00	212.65
51249.000	962.90	947.00	946.30	130.00	965.10	18.80	.01	.00	965.11	18.00	12.00	219.17
51249.000	962.90	947.00	946.30	140.00	965.21	18.91	.01	.00	965.22	18.00	12.00	220.52
51249.000	962.90	947.00	946.30	170.00	965.53	19.23	.01	.00	965.54	18.00	12.00	224.37
51259.000	.00	.00	952.10	85.00	964.56	12.46	.00	.00	964.57	10.00	32.00	398.79
51259.000	.00	.00	952.10	130.00	965.11	13.01	.00	.00	965.11	10.00	32.00	416.11
51259.000	.00	.00	952.10	140.00	965.22	13.12	.00	.00	965.22	10.00	32.00	419.67
51259.000	.00	.00	952.10	170.00	965.54	13.44	.00	.00	965.54	10.00	32.00	429.86

SUMMARY OF ERRORS

NOTE SECNO=32762.000 PROFILE= 3 WSEL BASED ON X5 CARD
NOTE SECNO=32762.000 PROFILE= 4 WSEL BASED ON X5 CARD

CAUTION SECNO=51128.000 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO=51128.000 PROFILE= 2 MINIMUM SPECIFIC ENERGY
CAUTION SECNO=51128.000 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO=51128.000 PROFILE= 3 MINIMUM SPECIFIC ENERGY
CAUTION SECNO=51128.000 PROFILE= 4 CRITICAL DEPTH ASSUMED
CAUTION SECNO=51128.000 PROFILE= 4 MINIMUM SPECIFIC ENERGY

NOTE SECNO=51171.000 PROFILE= 1 WSEL BASED ON X5 CARD
NOTE SECNO=51171.000 PROFILE= 2 WSEL BASED ON X5 CARD
NOTE SECNO=51171.000 PROFILE= 3 WSEL BASED ON X5 CARD
NOTE SECNO=51171.000 PROFILE= 4 WSEL BASED ON X5 CARD

FORM 1411 5 GB
PRINTED IN U.S.A.

00BREAK00

1) COUNTY: OAKLAND

2) STUDY NAME: WHITE LAKE TWP

3) WATERCOURSE: HURON RIVER TO BRENDEL LAKE

4) DOCUMENT TYPE: 100 YR NATURAL

00BREAK00

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*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************

C
T1        WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2        100YEAR EVENT  FILE:  WHITE1C
T3        HURON RIVER                BEG. TO BRENDEL LK. (A-T)

J1  ICHECK     INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -1.        2.        0.        0.   ,000000       .00        .0        0.   930.900      .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH      FN       ALLDC     IBW       CHNIM     ITRACE

     1.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    40.000    41.000    42.000    43.000     1.000     8.000    10.000    12.000     3.000

    39.000     4.000    25.000      .000      .000      .000      .000      .000      .000      .000

NC       .060      .060      .040      .300      .500      .000      .000      .000      .000      .000
QT      4.000   145.000   205.000   240.000   300.000      .000      .000      .000      .000      .000

X1       .000    18.000   287.000   313.000      .000      .000      .000      .000      .000      .000
X3       .000      .000      .000   286.100      .000   313.900      .000      .000      .000      .000
GR    936.500      .000   936.300   100.000   936.100   200.000   933.900   245.000   931.300   260.000
GR    930.500   282.000   928.800   287.000   927.000   292.500   928.600   298.000   928.800   300.000
GR    929.200   302.000   929.200   307.500   929.000   313.000   930.600   320.000   930.600   350.000
GR    935.500   400.000   934.800   500.000   934.300   600.000      .000      .000      .000      .000
NC       .000      .000      .032      .000      .000      .000      .000      .000      .000      .000

X1      1.000    28.000   287.100   312.900     1.000     1.000     1.000      .000      .000      .000
BT     24.000      .000   936.500      .000   100.000   936.300      .000   200.000   936.100      .000
BT    287.100   935.900   929.300   287.600   935.900   931.400   289.100   935.900   933.300   291.700
BT    935.900   934.300   292.700   935.900   934.400   293.700   935.900   934.300   296.100   935.900
BT    933.300   297.600   935.900   931.400   298.000   935.900   929.300   302.000   935.900   929.000
BT    302.500   935.900   931.100   304.000   935.900   933.000   306.500   935.900   934.000   307.500
BT    935.900   934.100   308.500   935.900   934.000   310.900   935.900   933.000   312.400   935.900
BT    931.100   312.900   935.900   929.000   400.000   935.500      .000   500.000   934.800      .000
BT    600.000   934.300      .000      .000      .000      .000      .000      .000      .000      .000
GR    936.500      .000   936.300   100.000   936.100   200.000   935.900   287.100   929.300   287.100
GR    928.300   287.600   927.800   289.100   927.300   292.700   927.300   293.700   927.300   294.700
GR    927.800   296.100   928.300   297.600   929.300   298.000   935.900   298.000   935.900   302.000
GR    929.000   302.000   928.000   302.500   927.500   304.000   927.000   306.500   927.000   307.500
GR    927.000   308.500   927.500   310.900   928.000   312.400   929.000   312.900   935.900   312.900
GR    935.500   400.000   934.800   500.000   934.300   600.000      .000      .000      .000      .000
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COOLEY LAKE ROAD A 1

X1	61.000	28.000	287.100	312.900	60.000	60.000	60.000	.000	.000	.000
BT	24.000	.000	936.500	.000	100.000	936.300	.000	200.000	936.100	.000
BT	287.100	935.900	929.500	287.600	935.900	931.600	289.100	935.900	933.500	291.700
BT	935.900	934.500	292.700	935.900	934.600	293.700	935.900	934.500	296.100	935.900
BT	933.500	297.600	935.900	931.600	298.000	935.900	929.500	302.000	935.900	929.000
BT	302.500	935.900	931.100	304.000	935.900	933.000	306.500	935.900	934.000	307.500
BT	935.900	934.100	308.500	935.900	934.000	310.900	935.900	933.000	312.400	935.900
BT	931.100	312.900	935.900	929.000	400.000	935.500	.000	500.000	934.800	.000
BT	600.000	934.300	.000	.000	.000	.000	.000	.000	.000	.000
GR	936.500	.000	936.300	100.000	936.100	200.000	935.900	287.100	929.500	287.100
GR	928.500	287.600	928.000	289.100	927.500	291.700	927.500	292.700	927.500	293.700
GR	928.000	296.100	928.500	297.600	929.500	298.000	935.900	298.000	935.900	302.000
GR	929.000	302.000	928.000	302.500	927.500	304.000	927.000	306.500	927.000	307.500
GR	927.000	308.500	927.500	310.900	928.000	312.400	929.000	312.900	935.900	312.900
GR	935.500	400.000	934.800	500.000	934.300	600.000	.000	.000	.000	.000
NC	.000	.000	.040	.000	.000	.000	.000	.000	.000	.000

X1	62.000	18.000	287.000	313.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	286.100	.000	313.900	.000	.000	.000	.000
GR	936.500	.000	936.300	100.000	936.100	200.000	933.900	245.000	931.300	260.000
GR	930.500	282.000	928.800	287.000	927.000	292.500	928.600	298.000	928.800	300.000
GR	929.200	302.000	929.200	307.500	929.000	313.000	930.600	320.000	930.600	350.000
GR	935.500	400.000	934.800	500.000	934.300	600.000	.000	.000	.000	.000
NC	.080	.080	.045	.000	.000	.000	.000	.000	.000	.000

B 2

X1	180.000	21.000	338.000	388.000	118.000	118.000	118.000	.000	.000	.000
X3	.000	.000	.000	234.000	.000	492.000	.000	.000	.000	.000
GR	939.900	.000	939.000	24.000	937.200	42.000	933.100	72.000	931.000	98.000
GR	930.600	144.000	930.200	218.000	930.400	292.000	929.600	338.000	927.600	350.000
GR	926.700	362.000	926.700	374.000	927.100	377.000	929.700	388.000	930.000	472.000
GR	930.000	558.000	930.600	614.000	932.100	664.000	933.500	694.000	937.200	716.000
GR	939.200	736.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.060	.080	.040	.000	.000	.000	.000	.000	.000	.000

C 3

X1	810.000	28.000	92.000	144.000	630.000	630.000	630.000	.000	.000	.000
GR	940.000	.000	938.600	20.000	936.400	42.000	934.400	58.000	930.800	92.000
GR	928.800	107.000	926.400	119.000	925.700	126.000	925.700	132.000	928.300	134.000
GR	929.900	144.000	930.000	226.000	928.500	237.000	929.200	247.000	929.900	259.000
GR	930.400	276.000	930.400	318.000	930.800	344.000	931.800	374.000	931.400	418.000
GR	931.600	484.000	931.800	534.000	932.400	594.000	931.800	626.000	931.600	666.000
GR	934.900	692.000	939.000	728.000	940.000	734.000	.000	.000	.000	.000
NC	.060	.080	.040	.000	.000	.000	.000	.000	.000	.000

D 4

X1	1455.000	27.000	170.000	203.000	645.000	645.000	645.000	.000	.000	.000
GR	940.200	.000	939.200	34.000	937.600	76.000	935.800	114.000	934.800	140.000
GR	934.000	156.000	930.700	170.000	929.600	173.000	927.700	184.000	926.600	196.000
GR	930.000	203.000	931.200	246.000	931.600	286.000	932.200	306.000	935.000	336.000
GR	936.700	360.000	937.900	386.000	938.000	412.000	936.800	440.000	935.800	470.000

FORM 1411 5 GB

" USA

GR	935.200	502.000	932.600	528.000	931.800	548.000	931.800	580.000	933.400	608.000
GR	937.200	632.000	940.200	648.000	.000	.000	.000	.000	.000	.000
NC	.080	.080	.040	.000	.000	.000	.000	.000	.000	.000

E 5

X1	2305.000	22.000	200.000	228.000	850.000	850.000	850.000	.000	.000	.000
GR	940.200	.000	938.600	20.000	936.000	48.000	934.000	78.000	933.000	108.000
GR	932.200	150.000	932.000	184.000	931.200	200.000	929.200	205.000	926.900	214.000
GR	929.600	225.000	930.100	228.000	931.100	240.000	931.100	304.000	931.100	350.000
GR	931.000	410.000	931.400	438.000	933.400	480.000	935.200	502.000	936.200	528.000
GR	939.000	554.000	940.200	564.000	.000	.000	.000	.000	.000	.000
NC	.080	.080	.045	.000	.000	.000	.000	.000	.000	.000

SUGDEN CREEK JUNCTION F 6

X1	3180.000	22.000	174.000	217.000	875.000	875.000	875.000	.000	.000	.000
GR	940.500	.000	936.900	12.000	933.800	30.000	932.800	62.000	932.400	96.000
GR	931.600	136.000	931.000	160.000	930.600	174.000	928.900	178.000	926.700	186.000
GR	927.200	194.000	929.300	210.000	930.200	217.000	931.200	244.000	931.900	270.000
GR	932.000	308.000	931.600	364.000	932.200	404.000	933.000	448.000	935.800	476.000
GR	939.200	506.000	940.600	522.000	.000	.000	.000	.000	.000	.000
NC	.050	.050	.045	.000	.000	.000	.000	.000	.000	.000
BT	4.000	140.000	195.000	235.000	290.000	.000	.000	.000	.000	.000

G 7

X1	3745.000	26.000	142.000	186.000	565.000	565.000	565.000	.000	.000	.000
X3	.000	.000	.000	150.000	.000	260.000	.000	.000	.000	.000
GR	940.600	.000	939.600	8.000	938.800	38.000	938.600	62.000	934.600	82.000
GR	933.200	96.000	932.000	126.000	931.300	142.000	929.000	149.000	926.300	166.000
GR	926.800	174.000	927.700	184.000	930.000	186.000	929.400	206.000	929.300	209.000
GR	929.400	219.000	930.400	220.000	931.400	230.000	931.400	250.000	933.100	288.000
GR	934.200	318.000	935.600	346.000	936.900	376.000	937.400	416.000	936.700	462.000
GR	937.000	510.000	.000	.000	.000	.000	.000	.000	.000	.000

X1	3874.000	19.000	287.000	313.000	129.000	129.000	129.000	.000	.000	.000
X3	.000	.000	.000	286.300	.000	313.700	.000	.000	.000	.000
GR	936.500	.000	935.700	100.000	935.100	200.000	933.800	225.000	930.700	250.000
GR	929.800	275.000	928.300	287.000	927.100	292.000	929.000	297.000	929.500	300.000
GR	929.000	303.000	928.100	308.000	928.800	313.000	931.000	321.000	932.600	323.000
GR	934.100	350.000	936.300	400.000	937.300	500.000	937.300	600.000	.000	.000
NC	.000	.000	.032	.000	.000	.000	.000	.000	.000	.000

X1	3875.000	28.000	287.300	312.700	1.000	1.000	1.000	.000	.000	.000
BT	24.000	.000	936.500	.000	100.000	935.700	.000	200.000	935.100	.000
BT	287.300	935.100	928.900	287.600	935.100	930.300	288.400	935.100	931.900	289.800
BT	935.100	933.100	292.200	935.100	933.700	294.600	935.100	933.100	296.000	935.100
BT	931.900	296.800	935.100	930.300	297.000	935.100	928.900	303.000	935.100	929.000
BT	303.300	935.100	930.400	304.000	935.100	932.000	305.400	935.100	933.200	307.800
BT	935.100	933.800	310.200	935.100	933.200	311.700	935.100	932.000	312.500	935.100
BT	930.400	312.700	935.100	929.000	400.000	936.300	.000	500.000	937.300	.000
BT	600.000	937.300	.000	.000	.000	.000	.000	.000	.000	.000
GR	936.500	.000	935.700	100.000	935.100	200.000	935.100	287.300	928.900	287.300
GR	928.100	287.600	927.500	288.400	927.300	289.800	927.100	292.200	927.300	294.600

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GR	927.500	296.000	928.100	296.800	928.900	297.000	935.100	297.000	935.100	303.000
GR	929.000	303.000	928.200	303.300	927.600	304.000	927.400	305.400	927.200	307.800
GR	927.400	310.200	927.600	311.700	928.200	312.500	929.000	312.700	935.100	312.700
GR	936.300	400.000	937.300	500.000	937.300	600.000	.000	.000	.000	.000

OXBOW LAKE ROAD H 8

X1	3932.000	28.000	287.300	312.700	57.000	57.000	57.000	.000	.000	.000
BT	24.000	.000	936.500	.000	100.000	935.700	.000	200.000	935.100	.000
BT	287.300	935.100	928.900	287.600	935.100	930.300	288.400	935.100	931.900	289.800
BT	935.100	933.100	292.200	935.100	933.700	294.600	935.100	933.100	296.000	935.100
BT	931.900	296.800	935.100	930.300	297.000	935.100	928.900	303.000	935.100	929.300
BT	303.300	935.100	930.700	304.000	935.100	932.300	305.400	935.100	933.500	307.800
BT	935.100	934.100	310.200	935.100	933.500	311.700	935.100	932.300	312.500	935.100
BT	930.700	312.700	935.100	929.300	400.000	936.300	.000	500.000	937.300	.000
BT	600.000	937.300	.000	.000	.000	.000	.000	.000	.000	.000
GR	936.500	.000	935.700	100.000	935.100	200.000	935.100	287.300	928.900	287.300
GR	928.100	287.600	927.500	288.400	927.300	289.800	927.100	292.200	927.300	294.600
GR	927.500	296.000	928.100	296.800	928.900	297.000	935.100	297.000	935.100	303.000
GR	929.300	303.000	928.500	303.300	927.900	304.000	927.700	305.400	927.500	307.800
GR	927.700	310.200	927.900	311.700	928.500	312.500	929.300	312.700	935.100	312.700
GR	936.300	400.000	937.300	500.000	937.300	600.000	.000	.000	.000	.000
NC	.000	.000	.045	.000	.000	.000	.000	.000	.000	.000

X1	3933.000	19.000	287.000	313.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	286.300	.000	313.700	.000	.000	.000	.000
GR	936.500	.000	935.700	100.000	935.100	200.000	933.800	225.000	930.700	250.000
GR	929.800	275.000	928.300	287.000	927.100	292.000	929.000	297.000	929.500	300.000
GR	929.000	303.000	928.100	308.000	928.800	313.000	931.000	321.000	932.600	323.000
GR	934.100	350.000	936.300	400.000	937.300	500.000	937.300	600.000	.000	.000
NC	.075	.080	.045	.000	.000	.000	.000	.000	.000	.000

I 9

X1	4470.000	20.000	219.000	257.000	537.000	537.000	537.000	.000	.000	.000
GR	940.600	.000	938.800	16.000	937.800	28.000	936.700	38.000	936.800	54.000
GR	934.800	76.000	932.800	112.000	931.200	146.000	930.100	149.000	929.500	219.000
GR	929.100	226.000	927.100	239.000	928.900	254.000	929.900	257.000	928.100	333.000
GR	931.900	335.000	936.200	346.000	936.200	366.000	939.400	390.000	940.800	398.000
NC	.080	.080	.045	.000	.000	.000	.000	.000	.000	.000

J 10

X1	5240.000	21.000	340.000	376.000	770.000	770.000	770.000	.000	.000	.000
X3	.000	.000	.000	312.000	.000	376.000	.000	.000	.000	.000
GR	940.900	.000	939.800	36.000	938.800	84.000	937.800	110.000	935.200	124.000
GR	933.600	164.000	932.200	216.000	931.700	280.000	931.800	320.000	931.700	340.000
GR	928.800	343.000	927.500	349.000	929.700	353.000	930.700	358.000	931.700	376.000
GR	931.800	410.000	932.800	438.000	934.200	472.000	936.200	492.000	938.100	530.000
GR	940.900	576.000	.000	.000	.000	.000	.000	.000	.000	.000

X1	5329.000	16.000	285.000	313.000	89.000	89.000	89.000	.000	.000	.000
X3	.000	.000	.000	288.300	.000	311.700	.000	.000	.000	.000
GR	942.300	.000	935.600	100.000	934.200	200.000	934.000	250.000	934.200	285.000
GR	929.100	290.000	927.700	294.500	928.700	299.000	928.800	300.000	928.800	301.000

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GR	929.000	305.500	929.900	310.000	934.600	313.000	935.100	350.000	935.900	400.000
GR	943.200	500.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.050	.050	.035	.000	.000	.000	.000	.000	.000	.000
X1	5330.000	27.000	289.300	310.700	1.000	1.000	1.000	.000	.000	.000
BT	23.000	.000	942.300	.000	100.000	935.600	.000	200.000	934.700	.000
BT	289.300	935.800	929.700	289.600	935.800	931.100	290.300	935.800	932.700	291.700
BT	935.800	933.900	294.100	935.800	934.500	296.500	935.800	933.900	298.000	935.800
BT	932.700	298.800	935.800	931.100	299.000	935.800	929.700	301.000	935.800	929.500
BT	301.300	935.800	930.900	302.000	935.800	932.500	303.400	935.800	933.700	305.800
BT	935.800	934.300	308.200	935.800	933.700	309.700	935.800	932.500	310.500	935.800
BT	930.900	310.700	935.800	929.500	400.000	935.900	.000	500.000	943.200	.000
GR	942.300	.000	935.600	100.000	934.700	200.000	935.800	289.300	929.700	289.300
GR	928.900	289.600	928.300	290.300	928.100	291.700	927.900	294.100	928.100	296.500
GR	928.300	298.000	928.900	298.800	929.700	299.000	935.800	299.000	935.800	301.000
GR	929.500	301.000	928.700	301.300	928.100	302.000	927.900	303.400	927.700	305.800
GR	927.900	308.200	928.100	309.700	928.700	310.500	929.500	310.700	935.800	310.700
GR	935.900	400.000	943.200	500.000	.000	.000	.000	.000	.000	.000

PRIVATE DRIVE K 11

X1	5351.000	27.000	289.300	310.700	21.000	21.000	21.000	.000	.000	.000
BT	23.000	.000	942.300	.000	100.000	935.600	.000	200.000	934.700	.000
BT	289.300	935.800	929.500	289.600	935.800	930.900	290.300	935.800	932.500	291.700
BT	935.800	933.700	294.100	935.800	934.300	296.500	935.800	933.700	298.000	935.800
BT	932.500	298.800	935.800	930.900	299.000	935.800	929.500	301.000	935.800	929.800
BT	301.300	935.800	931.200	302.000	935.800	932.800	303.400	935.800	934.000	305.800
BT	935.800	934.600	308.200	935.800	934.000	309.700	935.800	932.800	310.500	935.800
BT	931.200	310.700	935.800	929.800	400.000	935.900	.000	500.000	943.200	.000
GR	942.300	.000	935.600	100.000	934.700	200.000	935.800	289.300	929.500	289.300
GR	928.700	289.600	928.100	290.300	927.900	291.700	927.700	294.100	927.900	296.500
GR	928.100	298.000	928.700	298.800	929.500	299.000	935.800	299.000	935.800	301.000
GR	929.800	301.000	929.000	301.300	928.400	302.000	928.200	303.400	928.000	305.800
GR	928.200	308.200	928.400	309.700	929.000	310.500	929.800	310.700	935.800	310.700
GR	935.900	400.000	943.200	500.000	.000	.000	.000	.000	.000	.000
NC	.080	.080	.045	.000	.000	.000	.000	.000	.000	.000
X1	5352.000	16.000	285.000	313.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	288.300	.000	311.700	.000	.000	.000	.000
GR	942.300	.000	935.600	100.000	934.700	200.000	934.000	250.000	934.200	285.000
GR	929.100	290.000	927.700	294.500	928.700	299.000	928.800	300.000	928.800	301.000
GR	929.000	305.500	929.900	310.000	934.600	313.000	935.100	350.000	935.900	400.000
GR	943.200	500.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.080	.075	.040	.000	.000	.000	.000	.000	.000	.000

L 12

X1	5695.000	24.000	440.000	466.000	343.000	343.000	343.000	.000	.000	.000
GR	941.000	.000	938.200	14.000	935.000	34.000	934.600	62.000	934.300	102.000
GR	935.200	140.000	938.800	168.000	940.500	186.000	940.000	206.000	938.400	224.000
GR	934.400	256.000	931.600	284.000	931.200	336.000	931.200	390.000	931.200	440.000
GR	929.500	446.000	928.900	453.000	929.200	458.000	930.600	465.000	932.600	466.000
GR	936.600	480.000	943.200	496.000	947.900	512.000	951.300	526.000	.000	.000
NC	.110	.100	.050	.000	.000	.000	.000	.000	.000	.000

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N 13

X1	6530.000	16.000	166.000	191.000	835.000	835.000	835.000	.000	.000	.000
GR	941.000	.000	939.400	26.000	937.800	54.000	936.200	80.000	932.200	92.000
GR	931.700	126.000	932.000	166.000	929.400	172.000	928.400	179.000	928.300	187.000
GR	931.800	191.000	932.200	230.000	932.600	254.000	933.200	268.000	938.200	282.000
GR	941.000	292.000	.000	.000	.000	.000	.000	.000	.000	.000
NC	.110	.110	.045	.000	.000	.000	.000	.000	.000	.000

N 14

X1	7310.000	24.000	238.000	258.000	780.000	780.000	780.000	.000	.000	.000
GR	941.200	.000	936.600	8.000	933.600	16.000	933.400	70.000	932.400	128.000
GR	932.000	174.000	932.000	208.000	931.400	226.000	929.900	238.000	927.300	243.000
GR	926.100	248.000	927.000	254.000	931.000	258.000	931.300	264.000	931.800	308.000
GR	932.400	348.000	934.600	372.000	932.000	390.000	938.400	426.000	939.900	458.000
GR	939.300	502.000	937.500	546.000	937.500	598.000	935.700	674.000	.000	.000
NC	.120	.080	.040	.000	.000	.000	.000	.000	.000	.000

O 15

X1	8310.000	19.000	374.000	407.000	1000.000	1000.000	1000.000	.000	.000	.000
X3	.000	.000	.000	374.000	.000	460.000	.000	.000	.000	.000
GR	941.200	.000	939.200	16.000	935.100	42.000	934.700	108.000	934.000	194.000
GR	933.400	280.000	932.400	330.000	932.200	374.000	931.000	377.000	928.100	384.000
GR	927.900	387.000	928.700	391.000	929.700	399.000	931.700	407.000	932.100	482.000
GR	934.000	526.000	934.600	540.000	940.800	612.000	941.000	626.000	.000	.000
QT	4.000	135.000	190.000	225.000	280.000	.000	.000	.000	.000	.000

X1	8437.000	17.000	279.000	311.000	127.000	127.000	127.000	.000	.000	.000
X3	.000	.000	.000	285.600	.000	314.400	.000	.000	.000	.000
GR	937.700	.000	936.900	100.000	936.500	200.000	933.300	250.000	932.200	279.000
GR	929.700	289.000	928.600	293.000	929.400	298.000	929.500	300.000	928.500	302.000
GR	927.000	307.000	930.100	311.000	932.300	321.000	933.300	350.000	936.100	400.000
GR	937.400	500.000	939.500	600.000	.000	.000	.000	.000	.000	.000
NC	.050	.050	.032	.000	.000	.000	.000	.000	.000	.000

X1	8438.000	28.000	286.600	313.400	1.000	1.000	1.000	.000	.000	.000
BT	24.000	.000	937.700	.000	100.000	936.900	.000	200.000	936.500	.000
BT	286.600	936.100	929.300	287.300	936.100	931.400	288.700	936.100	933.100	290.300
BT	936.100	934.000	292.300	936.100	934.300	294.300	936.100	934.000	295.900	936.100
BT	933.100	297.300	936.100	931.400	298.000	936.100	929.300	302.000	936.100	929.800
BT	302.700	936.100	931.900	304.100	936.100	933.600	305.700	936.100	934.500	307.700
BT	936.100	934.800	309.700	936.100	934.500	311.300	936.100	933.600	312.700	936.100
BT	931.900	313.400	936.100	929.800	400.000	936.100	.000	500.000	937.400	.000
BT	600.000	939.500	.000	.000	.000	.000	.000	.000	.000	.000
GR	937.700	.000	936.900	100.000	936.500	200.000	936.100	286.600	929.300	286.600
GR	928.000	287.300	927.500	288.700	927.200	290.300	927.000	292.300	927.200	294.300
GR	927.500	295.900	928.000	297.300	929.300	298.000	936.100	298.000	936.100	302.000
GR	929.800	302.000	928.500	302.700	928.000	304.100	927.700	305.700	927.500	307.700
GR	927.700	309.700	928.000	311.300	928.500	312.700	929.800	313.400	936.100	313.400
GR	936.100	400.000	937.400	500.000	939.500	600.000	.000	.000	.000	.000

FORM 1171 X 69
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X1	8493.000	28.000	286.600	313.400	55.000	55.000	55.000	.000	.000	.000
BT	24.000	.000	937.700	.000	100.000	936.900	.000	200.000	936.500	.000
BT	286.600	936.100	929.600	287.300	936.100	931.700	288.700	936.100	933.400	290.300
BT	936.100	934.300	292.300	936.100	934.600	294.300	936.100	934.300	295.900	936.100
BT	933.400	297.300	936.100	931.700	298.000	936.100	929.600	302.000	936.100	930.100
BT	302.700	936.100	932.200	304.100	936.100	933.900	305.700	936.100	934.800	307.700
BT	936.100	935.100	309.700	936.100	934.800	311.300	936.100	933.900	312.700	936.100
BT	932.200	313.400	936.100	930.100	400.000	936.100	.000	500.000	937.400	.000
BT	600.000	939.500	.000	.000	.000	.000	.000	.000	.000	.000
GR	937.700	.000	936.900	100.000	936.500	200.000	936.100	286.600	929.600	286.600
GR	928.300	287.300	927.800	288.700	927.500	290.300	927.300	292.300	927.500	294.300
GR	927.800	295.900	928.300	297.300	929.600	298.000	936.100	298.000	936.100	302.000
GR	930.100	302.000	928.800	302.700	928.300	304.100	928.000	305.700	927.800	307.700
GR	928.000	309.700	928.300	311.300	928.800	312.700	930.100	313.400	936.100	313.400
GR	936.100	400.000	937.400	500.000	939.500	600.000	.000	.000	.000	.000
NC	.080	.100	.040	.000	.000	.000	.000	.000	.000	.000

X1	8494.000	17.000	279.000	311.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	285.600	.000	314.400	.000	.000	.000	.000
GR	937.700	.000	936.900	100.000	936.500	200.000	933.300	250.000	932.200	279.000
GR	929.700	289.000	928.600	293.000	929.400	298.000	929.500	300.000	928.500	302.000
GR	927.000	307.000	930.100	311.000	932.300	321.000	933.300	350.000	936.100	400.000
GR	937.400	500.000	939.500	600.000	.000	.000	.000	.000	.000	.000
NC	.090	.110	.045	.000	.000	.000	.000	.000	.000	.000

Q 17

X1	9250.000	29.000	1070.000	1105.000	756.000	756.000	756.000	.000	.000	.000
GR	942.200	.000	940.200	26.000	939.200	74.000	938.000	124.000	936.600	184.000
GR	936.600	242.000	936.200	336.000	936.200	442.000	936.100	546.000	935.400	662.000
GR	934.600	790.000	933.200	860.000	932.800	942.000	932.200	998.000	932.200	1050.000
GR	931.200	1070.000	929.600	1080.000	929.500	1087.000	929.100	1095.000	930.500	1100.000
GR	933.900	1105.000	933.100	1112.000	934.600	1156.000	935.300	1270.000	935.400	1352.000
GR	936.000	1460.000	936.600	1570.000	937.000	1622.000	938.400	1680.000	.000	.000
NC	.090	.110	.040	.000	.000	.000	.000	.000	.000	.000

R 18

X1	10515.000	17.000	212.000	270.000	1265.000	1265.000	1265.000	.000	.000	.000
GR	942.400	.000	938.600	26.000	936.500	68.000	935.500	112.000	934.000	152.000
GR	932.800	196.000	931.500	212.000	931.000	216.000	930.200	224.000	929.800	242.000
GR	930.500	258.000	931.200	269.000	932.200	270.000	934.400	310.000	938.000	324.000
GR	941.000	344.000	944.600	360.000	.000	.000	.000	.000	.000	.000

X1	11632.000	41.000	914.000	981.000	1117.000	1117.000	1117.000	.000	.000	.000
X3	.000	.000	.000	830.000	.000	.000	.000	.000	.000	.000
GR	942.600	.000	941.900	22.000	942.000	56.000	941.400	76.000	938.600	106.000
GR	937.400	146.000	937.100	228.000	937.000	276.000	936.200	332.000	935.800	406.000
GR	934.600	462.000	933.600	512.000	932.900	576.000	932.900	654.000	932.900	734.000
GR	932.900	794.000	934.100	806.000	934.800	830.000	934.400	856.000	933.100	884.000
GR	933.100	914.000	931.700	915.000	931.200	920.000	930.500	937.000	929.900	947.000
GR	929.400	970.000	930.400	979.000	933.200	981.000	933.000	1078.000	933.000	1184.000
GR	933.000	1320.000	932.800	1436.000	932.800	1530.000	932.500	1542.000	932.500	1610.000
GR	934.800	1648.000	937.600	1674.000	937.100	1720.000	936.900	1784.000	936.600	1866.000
GR	936.200	1940.000	.000	.000	.000	.000	.000	.000	.000	.000

FORM 1411 ½ GB

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X1	11633.000	45.000	914.000	984.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	830.000	.000	.000	.000	.000	.000	.000
GR	942.600	.000	941.900	22.000	942.000	56.000	941.400	76.000	938.600	106.000
GR	937.400	146.000	937.100	228.000	937.000	276.000	936.200	332.000	935.800	406.000
GR	934.600	462.000	933.600	512.000	932.900	576.000	932.900	654.000	932.900	734.000
GR	932.900	794.000	934.100	806.000	934.800	830.000	934.400	856.000	933.100	884.000
GR	932.300	914.000	931.500	919.000	931.100	924.000	931.900	929.000	931.600	934.000
GR	931.900	939.000	932.300	944.000	932.100	949.000	931.800	954.000	932.400	959.000
GR	932.800	984.000	932.900	1014.000	933.000	1078.000	933.000	1184.000	933.000	1320.000
GR	932.800	1436.000	932.800	1530.000	932.500	1542.000	932.500	1610.000	934.800	1648.000
GR	937.600	1674.000	937.100	1720.000	936.900	1784.000	936.600	1866.000	936.200	1940.000

S 18-A

X1	11636.000	.000	.000	.000	3.000	3.000	3.000	.000	.000	.000
X3	.000	.000	.000	830.000	.000	.000	.000	.000	.000	.000
NC	.095	.085	.042	.000	.000	.000	.000	.000	.000	.000

X1	11637.000	41.000	914.000	981.000	1.000	1.000	1.000	.000	.000	.000
X3	.000	.000	.000	830.000	.000	.000	.000	.000	.000	.000
GR	942.600	.000	941.900	22.000	942.000	56.000	941.400	76.000	938.600	106.000
GR	937.400	146.000	937.100	228.000	937.000	276.000	936.200	332.000	935.800	406.000
GR	934.600	462.000	933.600	512.000	932.900	576.000	932.900	654.000	932.900	734.000
GR	932.900	794.000	934.100	806.000	934.800	830.000	934.400	856.000	933.100	884.000
GR	932.800	914.000	931.400	915.000	930.900	920.000	930.200	937.000	929.600	947.000
GR	929.100	970.000	930.100	979.000	932.900	981.000	933.000	1078.000	933.000	1184.000
GR	933.000	1320.000	932.800	1436.000	932.800	1530.000	932.500	1542.000	932.500	1610.000
GR	934.800	1648.000	937.600	1674.000	937.100	1720.000	936.900	1784.000	936.600	1866.000
GR	936.200	1940.000	.000	.000	.000	.000	.000	.000	.000	.000

D/S BRENDEL LAKE T 19

X1	11935.000	37.000	914.000	981.000	298.000	298.000	298.000	.000	.000	.000
X3	.000	.000	.000	830.000	.000	.000	.000	.000	.000	.000
GR	942.600	.000	941.900	22.000	942.000	56.000	941.400	76.000	938.600	106.000
GR	937.400	146.000	937.100	228.000	937.000	276.000	936.200	332.000	935.800	406.000
GR	934.600	462.000	933.600	512.000	932.900	576.000	932.900	654.000	932.900	734.000
GR	932.900	794.000	934.100	806.000	934.800	830.000	934.400	856.000	933.100	884.000
GR	932.000	914.000	930.600	915.000	930.100	920.000	929.400	937.000	928.800	947.000
GR	928.300	970.000	929.300	979.000	932.100	981.000	933.000	1078.000	933.000	1184.000
GR	933.000	1320.000	932.800	1436.000	932.800	1530.000	932.500	1542.000	932.500	1610.000
GR	934.800	1648.000	937.600	1674.000	.000	.000	.000	.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
*****************************************************

T1        WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2        100 YEAR EVENT FILE: WHITE1
T3        HURON RIVER                BEG. TO BRENDEL LK. (A-T)

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

     -10.       4.        0.        0.   .000000       .00        .0        0.   931.200     .000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIN     ITRACE

     3.000      .000    -1.000      .000      .000      .000      .000      .000      .000      .000

*PROF 3

CCHV=     .300 CEHV=     .500
*SECNO .000
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS   BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA   LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN      SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      286.1      313.9  TYPE=      1  TARGET=      27.800
      .00      4.20   931.20       .00   931.20   931.38       .18       .00       .00   928.80
     240.        2.     236.        2.       2.      69.        2.        0.        0.   929.00
      .00       .92     3.44       .91     .060     .040      .060      .000   927.00   286.10
  .002406        0.       0.        0.        0        0         0       .00    27.80   313.90


*SECNO 1.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE,NRD= 24 MIN ELTRD=  934.30 MAX ELLC=  934.40

     1.00      4.24   931.24       .00       .00   931.39       .15       .00       .01   935.90
     240.        0.     240.        0.        0.      77.        0.        0.        0.   935.90
      .00       .00     3.10       .00      .060     .032      .060      .016   927.00   287.10
  .001463        1.       1.        1.         2        0         0     -2.02    21.80   312.90


*SECNO 61.000

3265 DIVIDED FLOW


3370 NORMAL BRIDGE,NRD= 24 MIN ELTRD=  934.30 MAX ELLC=  934.60
```

COOLEY LAKE ROAD A 1

61.00	4.33	931.33	.00	.00	931.48	.15	.09	.00	935.90
240.	0.	240.	0.	0.	77.	0.	0.	0.	935.90
.01	.00	3.11	.00	.060	.032	.060	.031	927.00	287.10
.001481	60.	60.	60.	2	0	0	-2.04	21.80	312.90

*SECNO 62.000

3470 ENCROACHMENT STATIONS= 286.1 313.9 TYPE= 1 TARGET= 27.800

62.00	4.33	931.33	.00	.00	931.49	.16	.00	.01	928.80
240.	2.	236.	2.	2.	72.	2.	0.	0.	929.00
.01	.86	3.27	.85	.060	.040	.060	.031	927.00	286.10
.002046	1.	1.	1.	0	0	0	.00	27.80	313.90

*SECNO 180.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	3STA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 234.0 492.0 TYPE= 1 TARGET= 258.000

B 2

180.00	4.86	931.56	.00	.00	931.57	.01	.03	.05	929.60
240.	33.	161.	46.	144.	196.	175.	1.	0.	929.70
.06	.23	.82	.26	.080	.045	.080	.040	926.70	234.00
.000102	118.	118.	118.	2	0	0	.00	258.00	492.00

*SECNO 810.000

3265 DIVIDED FLOW

C 3

810.00	5.92	931.62	.00	.00	931.63	.01	.06	.00	930.80
240.	0.	155.	85.	3.	185.	340.	8.	5.	929.90
.34	.14	.84	.25	.060	.040	.080	.040	925.70	84.22
.000098	630.	630.	630.	2	0	0	.00	385.75	666.18

*SECNO 1455.000

D 4

1455.00	5.12	931.72	.00	.00	931.77	.05	.12	.02	930.70
240.	1.	216.	24.	2.	117.	62.	14.	9.	930.00
.44	.34	1.84	.38	.060	.040	.080	.040	926.60	165.66
.000472	645.	645.	645.	2	0	0	.00	124.47	290.13

*SECNO 2305.000

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E 5

2305.00	5.21	932.11	.00	.00	932.14	.03	.36	.01	931.20
240.	2.	154.	84.	9.	95.	224.	19.	13.	930.10
.64	.21	1.62	.37	.080	.040	.080	.040	926.90	164.84
.000387	850.	850.	850.	2	0	0	.00	288.13	452.97

*SECNO 3180.000

SUGDEN CREEK JUNCTION F 6

3180.00	5.65	932.35	.00	.00	932.37	.02	.22	.00	930.60
240.	16.	194.	30.	61.	174.	130.	26.	19.	930.20
.90	.26	1.12	.23	.080	.045	.080	.041	926.70	98.42
.000182	875.	875.	875.	2	0	0	.00	313.92	412.34

*SECNO 3745.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	GLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 150.0 260.0 TYPE= 1 TARGET= 110.000

G 7

3745.00	6.13	932.43	.00	.00	932.44	.01	.07	.00	100000.00
235.	0.	163.	72.	0.	184.	141.	30.	22.	930.00
1.10	.00	.89	.51	.050	.045	.050	.042	926.30	150.00
.000098	565.	565.	565.	2	0	0	.00	110.00	260.00

*SECNO 3874.000

3470 ENCROACHMENT STATIONS= 286.3 313.7 TYPE= 1 TARGET= 27.400

3874.00	5.33	932.43	.00	.00	932.50	.08	.03	.03	928.30
235.	2.	232.	1.	3.	104.	2.	31.	22.	928.80
1.12	.58	2.23	.57	.050	.045	.050	.042	927.10	286.30
.000747	129.	129.	129.	2	0	0	.00	27.40	313.20

*SECNO 3875.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 24 MIN ELTRD= 935.10 MAX ELLC= 933.80

3875.00	5.31	932.41	.00	.00	932.52	.11	.00	.02	935.10
235.	0.	235.	0.	0.	89.	0.	31.	22.	935.10
1.12	.00	2.65	.00	.050	.032	.050	.042	927.10	287.30
.001063	1.	1.	1.	1	0	0	-7.24	19.40	312.70

*SECNO 3932.000

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3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 24 MIN ELTRD= 935.10 MAX ELLC= 934.10

OXBOW LAKE ROAD H 8

3932.00	5.37	932.47	.00	.00	932.58	.11	.06	.00	935.10
235.	0.	235.	0.	0.	87.	0.	31.	22.	935.10
1.13	.00	2.69	.00	.050	.032	.050	.042	927.10	287.30
.001100	57.	57.	57.	0	0	0	-6.69	19.40	312.70

*SECNO 3933.000

3470 ENCROACHMENT STATIONS= 286.3 313.7 TYPE= 1 TARGET= 27.400

3933.00	5.42	932.52	.00	.00	932.60	.07	.00	.01	928.30
235.	2.	232.	1.	3.	106.	3.	31.	22.	928.80
1.13	.56	2.18	.55	.050	.045	.050	.042	927.10	286.30
.000690	1.	1.	1.	2	0	0	.00	27.40	313.70

*SECNO 4470.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

I 9

4470.00	5.58	932.68	.00	.00	932.68	.00	.06	.02	929.50
235.	58.	94.	83.	231.	163.	285.	36.	23.	929.90
1.50	.25	.58	.29	.075	.045	.080	.042	927.10	114.64
.000045	537.	537.	537.	2	0	0	.00	222.34	336.98

*SECNO 5240.000

3470 ENCROACHMENT STATIONS= 312.0 376.0 TYPE= 1 TARGET= 64.000

J 10

5240.00	5.24	932.74	.00	.00	932.82	.08	.10	.04	931.70
235.	20.	215.	0.	27.	92.	0.	43.	26.	100000.00
1.60	.72	2.34	.00	.080	.045	.080	.043	927.50	312.00
.001603	770.	770.	770.	2	0	0	.00	64.00	376.00

*SECNO 5329.000

3470 ENCROACHMENT STATIONS= 288.3 311.7 TYPE= 1 TARGET= 23.400

5329.00	5.16	932.86	.00	.00	932.96	.11	.13	.01	100000.00
235.	0.	235.	0.	0.	90.	0.	43.	26.	100000.00
1.61	.00	2.61	.00	.080	.045	.080	.043	927.70	288.30
.001340	89.	89.	89.	2	0	0	.00	23.40	311.70

*SECNO 5330.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 23 MIN ELTRD= 934.70 MAX ELLC= 934.50

5330.00	5.15	932.85	.00	.00	932.97	.12	.00	.00	935.80
235.	0.	235.	0.	0.	86.	0.	43.	26.	935.80
1.61	.00	2.73	.00	.050	.035	.050	.043	927.70	289.30
.001349	1.	1.	1.	0	0	0	-5.91	19.40	310.70

*SECNO 5351.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 23 MIN ELTRD= 934.70 MAX ELLC= 934.60

PRIVATE DRIVE K 11

5351.00	5.18	932.88	.00	.00	933.00	.12	.03	.00	935.80
235.	0.	235.	0.	0.	86.	0.	43.	26.	935.80
1.61	.00	2.75	.00	.050	.035	.050	.043	927.70	289.30
.001362	21.	21.	21.	0	0	0	-5.80	19.40	310.70

*SECNO 5352.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 288.3 311.7 TYPE= 1 TARGET= 23.400

5352.00	5.20	932.90	.00	.00	933.00	.10	.00	.00	100000.00
235.	0.	235.	0.	0.	91.	0.	43.	26.	100000.00
1.61	.00	2.59	.00	.080	.045	.080	.043	927.70	288.30
.001306	1.	1.	1.	1	0	0	.00	23.40	311.70

*SECNO 5695.000

L 12

5695.00	4.27	933.17	.00	.00	933.18	.01	.15	.03	931.20
235.	127.	108.	0.	309.	90.	1.	45.	27.	932.60
1.73	.41	1.20	.12	.080	.040	.075	.042	928.90	268.33
.000217	343.	343.	343.	2	0	0	.00	199.66	467.99

*SECNO 6530.000

M 13

6530.00	5.12	933.42	.00	.00	933.44	.03	.26	.01	932.00

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235.	44.	159.	32.	115.	102.	87.	52.	31.	931.80
1.93	.38	1.56	.37	.110	.050	.100	.043	928.30	88.35
.000469	835.	835.	835.	2	0	0	.00	180.25	268.60

*SECNO 7310.000

N 14

7310.00	7.52	933.62	.00	.00	933.63	.01	.18	.00	929.90
235.	51.	143.	41.	238.	121.	174.	59.	35.	931.00
2.20	.21	1.19	.24	.110	.045	.110	.044	926.10	15.96
.000138	780.	780.	780.	2	0	0	.00	345.29	361.25

*SECNO 8310.000

3470 ENCROACHMENT STATIONS= 374.0 460.0 TYPE= 1 TARGET= 86.000

O 15

8310.00	5.89	933.79	.00	.00	933.81	.02	.18	.01	932.20
235.	0.	190.	45.	0.	137.	103.	68.	40.	931.70
2.43	.00	1.39	.43	.120	.040	.080	.043	927.90	374.00
.000234	1000.	1000.	1000.	2	0	0	.00	86.00	460.00

*SECNO 8437.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 285.6 314.4 TYPE= 1 TARGET= 28.800

8437.00	6.81	933.81	.00	.00	933.86	.05	.04	.01100000.00	
225.	0.	219.	6.	0.	125.	11.	69.	40.	930.10
2.45	.00	1.76	.50	.120	.040	.080	.043	927.00	285.60
.000341	127.	127.	127.	0	0	0	.00	28.80	314.40

*SECNO 8438.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 24 MIN ELTRD= 936.10 MAX ELLC= 934.80

8438.00	6.81	933.81	.00	.00	933.86	.05	.00	.00	936.10
225.	0.	225.	0.	0.	120.	0.	69.	40.	936.10
2.45	.00	1.87	.00	.050	.032	.050	.043	927.00	286.60
.000473	1.	1.	1.	0	0	0	-17.31	22.80	313.40

*SECNO 8493.000

3265 DIVIDED FLOW

3370 NORMAL BRIDGE,NRD= 24 NIN ELTRD= 936.10 MAX ELLC= 935.10

8493.00	6.53	933.83	.00	.00	933.89	.06	.03	.00	936.10
225.	0.	225.	0.	0.	117.	0.	69.	40.	936.10
2.46	.00	1.92	.00	.050	.032	.050	.043	927.30	286.60
.000489	55.	55.	55.	0	0	0	-14.30	22.80	313.40

*SECNO 8494.000

3470 ENCROACHMENT STATIONS= 285.6 314.4 TYPE= 1 TARGET= 28.800

8494.00	6.85	933.85	.00	.00	933.89	.05	.00	.00	100000.00
225.	0.	220.	5.	0.	126.	11.	69.	40.	930.10
2.46	.00	1.75	.40	.080	.040	.100	.043	927.00	285.60
.000338	1.	1.	1.	1	0	0	.00	28.80	314.40

*SECNO 9250.000

Q 17

9250.00	4.96	934.06	.00	.00	934.07	.01	.16	.01	931.20
225.	90.	133.	2.	336.	137.	17.	74.	43.	933.90
2.76	.27	.97	.10	.090	.045	.110	.043	929.10	817.11
.000149	756.	756.	756.	2	0	0	.00	322.98	1140.09

*SECNO 10515.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

R 18

10515.00	4.41	934.21	.00	.00	934.23	.01	.16	.00	931.50
225.	14.	205.	5.	69.	221.	37.	86.	51.	932.20
3.17	.21	.93	.14	.090	.040	.110	.043	929.80	146.29
.000106	1265.	1265.	1265.	2	0	0	.00	160.32	306.62

*SECNO 11632.000

3470 ENCROACHMENT STATIONS= 830.0 1940.0 TYPE= 1 TARGET= -830.000

11632.00	4.89	934.29	.00	.00	934.29	.00	.06	.00	933.10
225.	5.	136.	84.	51.	266.	894.	106.	63.	933.20
4.06	.09	.51	.09	.090	.040	.110	.042	929.40	858.46
.000031	1117.	1117.	1117.	2	0	0	.00	781.04	1639.50

*SECNO 11633.000

3470 ENCROACHMENT STATIONS= 830.0 1940.0 TYPE= 1 TARGET= -830.000

11633.00	3.19	934.29	.00	.00	934.29	.00	.00	.00	932.30
225.	11.	82.	133.	63.	152.	908.	106.	63.	932.80

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4.07	.17	.54	.15	.090	.040	.110	.042	931.10	858.46
.000074	1.	1.	1.	0	0	0	.00	781.05	1639.51

*SECNO 11636.000

3470 ENCROACHMENT STATIONS= 830.0 1940.0 TYPE= 1 TARGET= -830.000

S 18-A

11636.00	3.19	934.29	.00	.00	934.29	.00	.00	.00	932.30
225.	11.	82.	133.	63.	152.	908.	106.	63.	932.80
4.07	.17	.54	.15	.090	.040	.110	.042	931.10	858.44
.000074	3.	3.	3.	0	0	0	.00	781.09	1639.52

*SECNO 11637.000

3470 ENCROACHMENT STATIONS= 830.0 1940.0 TYPE= 1 TARGET= -830.000

11637.00	5.19	934.29	.00	.00	934.29	.00	.00	.00	932.80
225.	4.	125.	95.	55.	287.	909.	106.	63.	932.90
4.07	.08	.44	.10	.095	.042	.085	.042	929.10	858.43
.000023	1.	1.	1.	0	0	0	.00	781.09	1639.53

*SECNO 11935.000

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 830.0 1674.0 TYPE= 1 TARGET= -830.000

D/S BRENDEL LAKE T 19

11935.00	5.99	934.29	.00	.00	934.29	.00	.01	.00	932.00
225.	5.	135.	84.	68.	341.	958.	115.	68.	932.10
4.37	.08	.40	.09	.095	.042	.085	.042	928.30	858.12
.000015	298.	298.	298.	0	0	0	.00	781.65	1639.77

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HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR - 01,02,03
MODIFICATION - 50,51,52,53
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

HURON RIVER

SUMMARY PRINTOUT

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
.000	.00	.00	927.00	145.00	930.90	3.90	.08	.00	930.98	.00	27.80	64.37
.000	.00	.00	927.00	205.00	931.10	4.10	.14	.00	931.24	.00	27.80	69.93
.000	.00	.00	927.00	240.00	931.20	4.20	.18	.00	931.38	.00	27.80	72.71
.000	.00	.00	927.00	300.00	931.30	4.30	.26	.00	931.56	.00	27.80	75.49
1.000	934.30	934.40	927.00	145.00	930.93	3.93	.06	.01	930.99	1.00	21.80	71.04
1.000	934.30	934.40	927.00	205.00	931.14	4.14	.12	.01	931.25	1.00	21.80	75.28
1.000	934.30	934.40	927.00	240.00	931.24	4.24	.15	.01	931.39	1.00	21.80	77.38
1.000	934.30	934.40	927.00	300.00	931.36	4.36	.22	.01	931.58	1.00	21.80	79.63
61.000	934.30	934.60	927.00	145.00	930.97	3.97	.07	.00	931.03	60.00	21.80	70.00
61.000	934.30	934.60	927.00	205.00	931.21	4.21	.12	.00	931.32	60.00	21.80	74.62
61.000	934.30	934.60	927.00	240.00	931.33	4.33	.15	.00	931.48	60.00	21.80	77.07
61.000	934.30	934.60	927.00	300.00	931.49	4.49	.22	.00	931.70	60.00	21.80	80.15
62.000	.00	.00	927.00	145.00	930.96	3.96	.08	.01	931.04	1.00	27.80	66.22
62.000	.00	.00	927.00	205.00	931.20	4.20	.13	.01	931.33	1.00	27.80	72.90
62.000	.00	.00	927.00	240.00	931.33	4.33	.16	.01	931.49	1.00	27.80	76.32
62.000	.00	.00	927.00	300.00	931.48	4.48	.23	.01	931.71	1.00	27.80	80.75
180.000	.00	.00	926.70	145.00	931.08	4.38	.00	.02	931.08	118.00	258.00	388.07
180.000	.00	.00	926.70	205.00	931.39	4.69	.01	.04	931.40	118.00	258.00	467.95
180.000	.00	.00	926.70	240.00	931.56	4.86	.01	.05	931.57	118.00	258.00	514.26
180.000	.00	.00	926.70	300.00	931.81	5.11	.01	.07	931.82	118.00	258.00	578.05
810.000	.00	.00	925.70	145.00	931.13	5.43	.00	.00	931.13	630.00	264.83	380.23
810.000	.00	.00	925.70	205.00	931.45	5.75	.01	.00	931.46	630.00	299.22	468.57
810.000	.00	.00	925.70	240.00	931.62	5.92	.01	.00	931.63	630.00	385.75	528.02
810.000	.00	.00	925.70	300.00	931.88	6.18	.01	.00	931.89	630.00	506.27	644.43
1455.000	.00	.00	926.60	145.00	931.20	4.60	.03	.01	931.23	645.00	78.35	126.60
1455.000	.00	.00	926.60	205.00	931.54	4.94	.04	.02	931.58	645.00	113.87	159.35
1455.000	.00	.00	926.60	240.00	931.72	5.12	.05	.02	931.77	645.00	124.47	181.14
1455.000	.00	.00	926.60	300.00	931.99	5.39	.06	.02	932.04	645.00	174.39	222.11
2305.000	.00	.00	926.90	145.00	931.53	4.63	.03	.00	931.56	850.00	247.23	176.23
2305.000	.00	.00	926.90	205.00	931.92	5.02	.03	.00	931.94	850.00	263.16	275.39
2305.000	.00	.00	926.90	240.00	932.11	5.21	.03	.01	932.14	850.00	288.13	328.89
2305.000	.00	.00	926.90	300.00	932.40	5.50	.03	.01	932.43	850.00	319.50	417.20

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
3180.000	.00	.00	926.70	145.00	931.76	5.06	.01	.01	931.77	875.00	169.80	210.60
3180.000	.00	.00	926.70	205.00	932.16	5.46	.01	.00	932.17	875.00	292.90	305.94
3180.000	.00	.00	926.70	240.00	932.35	5.65	.02	.00	932.37	875.00	313.92	365.25
3180.000	.00	.00	926.70	300.00	932.64	5.94	.02	.00	932.66	875.00	352.28	460.33
3745.000	.00	.00	926.30	140.00	931.82	5.52	.01	.00	931.82	565.00	109.37	257.72
3745.000	.00	.00	926.30	195.00	932.23	5.93	.01	.00	932.24	565.00	110.00	302.97
3745.000	.00	.00	926.30	235.00	932.43	6.13	.01	.00	932.44	565.00	110.00	325.28
3745.000	.00	.00	926.30	290.00	932.73	6.43	.01	.00	932.74	565.00	110.00	357.62
3874.000	.00	.00	927.10	140.00	931.82	4.72	.04	.02	931.86	129.00	27.40	92.73
3874.000	.00	.00	927.10	195.00	932.23	5.13	.06	.03	932.29	129.00	27.40	103.99
3874.000	.00	.00	927.10	235.00	932.43	5.33	.08	.03	932.50	129.00	27.40	109.19
3874.000	.00	.00	927.10	290.00	932.72	5.62	.10	.04	932.82	129.00	27.40	117.08
3875.000	935.10	933.80	927.10	140.00	931.82	4.72	.05	.00	931.86	1.00	19.40	80.10
3875.000	935.10	933.80	927.10	195.00	932.22	5.12	.08	.01	932.30	1.00	19.40	86.09
3875.000	935.10	933.80	927.10	235.00	932.41	5.31	.11	.02	932.52	1.00	19.40	88.76
3875.000	935.10	933.80	927.10	290.00	932.69	5.59	.15	.03	932.84	1.00	19.40	92.12
3932.000	935.10	934.10	927.10	140.00	931.84	4.74	.05	.00	931.89	57.00	19.40	78.04
3932.000	935.10	934.10	927.10	195.00	932.26	5.16	.08	.00	932.34	57.00	19.40	84.34
3932.000	935.10	934.10	927.10	235.00	932.47	5.37	.11	.00	932.58	57.00	19.40	87.24
3932.000	935.10	934.10	927.10	290.00	932.78	5.68	.16	.00	932.93	57.00	19.40	91.15
3933.000	.00	.00	927.10	140.00	931.86	4.76	.04	.00	931.90	1.00	27.40	93.40
3933.000	.00	.00	927.10	195.00	932.30	5.20	.06	.01	932.35	1.00	27.40	105.62
3933.000	.00	.00	927.10	235.00	932.52	5.42	.07	.01	932.60	1.00	27.40	111.85
3933.000	.00	.00	927.10	290.00	932.86	5.76	.10	.02	932.95	1.00	27.40	120.98
4470.000	.00	.00	927.10	140.00	931.95	4.85	.00	.01	931.95	537.00	205.06	523.92
4470.000	.00	.00	927.10	195.00	932.42	5.32	.00	.02	932.42	537.00	216.25	622.93
4470.000	.00	.00	927.10	235.00	932.68	5.58	.00	.02	932.68	537.00	222.34	679.04
4470.000	.00	.00	927.10	290.00	933.04	5.94	.00	.03	933.05	537.00	230.29	762.14
5240.000	.00	.00	927.50	140.00	932.00	4.50	.07	.03	932.07	770.00	64.00	71.93
5240.000	.00	.00	927.50	195.00	932.48	4.98	.07	.03	932.55	770.00	64.00	102.54
5240.000	.00	.00	927.50	235.00	932.74	5.24	.08	.04	932.82	770.00	64.00	119.38
5240.000	.00	.00	927.50	290.00	933.11	5.61	.08	.04	933.19	770.00	64.00	143.16
5329.000	.00	.00	927.70	140.00	932.13	4.43	.06	.00	932.18	89.00	23.12	72.96
5329.000	.00	.00	927.70	195.00	932.59	4.89	.08	.01	932.68	89.00	23.40	83.77
5329.000	.00	.00	927.70	235.00	932.86	5.16	.11	.01	932.96	89.00	23.40	89.96
5329.000	.00	.00	927.70	290.00	933.22	5.52	.13	.03	933.36	89.00	23.40	98.50
5330.000	934.70	934.50	927.70	140.00	932.13	4.43	.05	.00	932.19	1.00	19.40	74.73
5330.000	934.70	934.50	927.70	195.00	932.59	4.89	.09	.00	932.68	1.00	19.40	82.09
5330.000	934.70	934.50	927.70	235.00	932.85	5.15	.12	.00	932.97	1.00	19.40	86.00
5330.000	934.70	934.50	927.70	290.00	933.21	5.51	.16	.01	933.37	1.00	19.40	90.77
5351.000	934.70	934.60	927.70	140.00	932.14	4.44	.06	.00	932.20	21.00	19.40	74.22
5351.000	934.70	934.60	927.70	195.00	932.61	4.91	.09	.00	932.70	21.00	19.40	81.63
5351.000	934.70	934.60	927.70	235.00	932.88	5.18	.12	.00	933.00	21.00	19.40	85.58
5351.000	934.70	934.60	927.70	290.00	933.25	5.55	.16	.00	933.41	21.00	19.40	90.49

FORM 1401 5 GB
"USA

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
5352.000	.00	.00	927.70	140.00	932.14	4.44	.06	.00	932.20	1.00	23.13	73.39
5352.000	.00	.00	927.70	195.00	932.62	4.92	.08	.00	932.70	1.00	23.40	84.28
5352.000	.00	.00	927.70	235.00	932.90	5.20	.10	.00	933.00	1.00	23.40	90.75
5352.000	.00	.00	927.70	290.00	933.29	5.59	.13	.01	933.42	1.00	23.40	100.09
5695.000	.00	.00	928.90	140.00	932.36	3.46	.01	.01	932.38	343.00	189.51	242.67
5695.000	.00	.00	928.90	195.00	932.86	3.96	.01	.02	932.88	343.00	195.57	339.14
5695.000	.00	.00	928.90	235.00	933.17	4.27	.01	.03	933.18	343.00	199.66	399.07
5695.000	.00	.00	928.90	290.00	933.59	4.69	.01	.04	933.60	343.00	205.28	483.33
6530.000	.00	.00	928.30	140.00	932.67	4.37	.03	.01	932.70	835.00	165.09	173.82
6530.000	.00	.00	928.30	195.00	933.13	4.83	.03	.01	933.16	835.00	177.12	252.02
6530.000	.00	.00	928.30	235.00	933.42	5.12	.03	.01	933.44	835.00	180.25	303.51
6530.000	.00	.00	928.30	290.00	933.81	5.51	.03	.01	933.83	835.00	182.52	374.48
7310.000	.00	.00	926.10	140.00	932.86	6.76	.01	.00	932.87	780.00	251.58	317.57
7310.000	.00	.00	926.10	195.00	933.33	7.23	.01	.00	933.34	780.00	283.74	442.46
7310.000	.00	.00	926.10	235.00	933.62	7.52	.01	.00	933.63	780.00	345.29	532.54
7310.000	.00	.00	926.10	290.00	934.00	7.90	.01	.00	934.01	780.00	350.45	666.41
8310.000	.00	.00	927.90	140.00	933.00	5.10	.02	.00	933.02	1000.00	86.00	172.74
8310.000	.00	.00	927.90	195.00	933.49	5.59	.02	.00	933.51	1000.00	86.00	214.30
8310.000	.00	.00	927.90	235.00	933.79	5.89	.02	.01	933.81	1000.00	86.00	239.92
8310.000	.00	.00	927.90	290.00	934.17	6.27	.03	.01	934.20	1000.00	86.00	273.27
8437.000	.00	.00	927.00	135.00	933.03	6.03	.02	.00	933.05	127.00	28.80	113.61
8437.000	.00	.00	927.00	190.00	933.51	6.51	.04	.01	933.55	127.00	28.80	127.60
8437.000	.00	.00	927.00	225.00	933.81	6.81	.05	.01	933.86	127.00	28.80	136.23
8437.000	.00	.00	927.00	280.00	934.20	7.20	.06	.02	934.26	127.00	28.80	147.42
8438.000	936.10	934.80	927.00	135.00	933.03	6.03	.02	.00	933.05	1.00	22.80	109.83
8438.000	936.10	934.80	927.00	190.00	933.51	6.51	.04	.00	933.55	1.00	22.80	116.78
8438.000	936.10	934.80	927.00	225.00	933.81	6.81	.05	.00	933.86	1.00	22.80	120.42
8438.000	936.10	934.80	927.00	280.00	934.19	7.19	.08	.01	934.27	1.00	22.80	124.00
8493.000	936.10	935.10	927.30	135.00	933.04	5.74	.03	.00	933.06	55.00	22.80	105.24
8493.000	936.10	935.10	927.30	190.00	933.53	6.23	.04	.00	933.57	55.00	22.80	112.86
8493.000	936.10	935.10	927.30	225.00	933.83	6.53	.06	.00	933.89	55.00	22.80	117.02
8493.000	936.10	935.10	927.30	280.00	934.23	6.93	.08	.00	934.31	55.00	22.80	121.61
8494.000	.00	.00	927.00	135.00	933.04	6.04	.02	.00	933.06	1.00	28.80	114.00
8494.000	.00	.00	927.00	190.00	933.54	6.54	.04	.00	933.57	1.00	28.80	128.14
8494.000	.00	.00	927.00	225.00	933.85	6.85	.05	.00	933.89	1.00	28.80	137.09
8494.000	.00	.00	927.00	280.00	934.26	7.26	.06	.01	934.32	1.00	28.80	149.08
9250.000	.00	.00	929.10	135.00	933.21	4.11	.01	.00	933.22	756.00	247.94	245.35
9250.000	.00	.00	929.10	190.00	933.74	4.64	.01	.01	933.75	756.00	296.01	391.34
9250.000	.00	.00	929.10	225.00	934.06	4.96	.01	.01	934.07	756.00	322.98	490.24
9250.000	.00	.00	929.10	280.00	934.49	5.39	.01	.02	934.49	756.00	356.84	635.34
10515.000	.00	.00	929.80	135.00	933.38	3.58	.01	.00	933.39	1265.00	116.98	211.85
10515.000	.00	.00	929.80	190.00	933.90	4.10	.01	.00	933.92	1265.00	145.47	280.00
10515.000	.00	.00	929.80	225.00	934.21	4.41	.01	.00	934.23	1265.00	160.32	327.48
10515.000	.00	.00	929.80	280.00	934.63	4.83	.01	.00	934.65	1265.00	175.75	399.02

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
11632.000	.00	.00	929.40	135.00	933.46	4.06	.00	.00	933.47	1117.00	749.70	580.84
11632.000	.00	.00	929.40	190.00	933.98	4.58	.00	.00	933.98	1117.00	769.32	973.33
11632.000	.00	.00	929.40	225.00	934.29	4.89	.00	.00	934.29	1117.00	781.04	1211.13
11632.000	.00	.00	929.40	280.00	934.70	5.30	.00	.00	934.70	1117.00	809.99	1541.30
11633.000	.00	.00	931.10	135.00	933.46	2.36	.00	.00	933.47	1.00	749.71	492.37
11633.000	.00	.00	931.10	190.00	933.98	2.88	.00	.00	933.98	1.00	769.38	884.85
11633.000	.00	.00	931.10	225.00	934.29	3.19	.00	.00	934.29	1.00	781.05	1122.62
11633.000	.00	.00	931.10	280.00	934.70	3.60	.00	.00	934.70	1.00	810.00	1452.78
11636.000	.00	.00	931.10	135.00	933.46	2.36	.00	.00	933.47	3.00	749.71	492.34
11636.000	.00	.00	931.10	190.00	933.98	2.88	.00	.00	933.98	3.00	769.41	885.55
11636.000	.00	.00	931.10	225.00	934.29	3.19	.00	.00	934.29	3.00	781.09	1123.42
11636.000	.00	.00	931.10	280.00	934.70	3.60	.00	.00	934.70	3.00	810.08	1453.58
11637.000	.00	.00	929.10	135.00	933.47	4.37	.00	.00	933.47	1.00	749.73	620.54
11637.000	.00	.00	929.10	190.00	933.98	4.88	.00	.00	933.98	1.00	769.42	1013.47
11637.000	.00	.00	929.10	225.00	934.29	5.19	.00	.00	934.29	1.00	781.09	1251.28
11637.000	.00	.00	929.10	280.00	934.70	5.60	.00	.00	934.70	1.00	810.09	1581.41
11935.000	.00	.00	928.30	135.00	933.47	5.17	.00	.00	933.48	298.00	750.13	732.84
11935.000	.00	.00	928.30	190.00	933.99	5.69	.00	.00	933.99	298.00	769.93	1128.25
11935.000	.00	.00	928.30	225.00	934.29	5.99	.00	.00	934.29	298.00	781.65	1367.07
11935.000	.00	.00	928.30	280.00	934.71	6.41	.00	.00	934.71	298.00	810.98	1694.65

SUMMARY OF ERRORS

FORM 1411 4 GB



1) COUNTY: OAKLAND

2) STUDY NAME: WHITE LAKE TWP

3) WATERCOURSE: SUGDEN CREEK

4) DOCUMENT TYPE: 100 YR NATURAL



FIS - White Lake Township
Sugden Creek . Hydraulics
revised on 11/12/87

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**********************************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**********************************************************************

C
T1       WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2       10 YEAR EVENT   FILE:  SUGDENC
T3       SUGDEN  CREEK

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

       -1.        2.         0.         0.    .000000        .00        .0         0.     931.760       .000

J2   NPROF      IPLOT      PRFVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

      1.000       .000     -1.000       .000       .000       .000       .000       .000       .000       .000

J3   VARIABLE CODES FOR SUMMARY PRINTOUT

        38.000     40.000     41.000     42.000     43.000      1.000      8.000     10.000     12.000      3.000

        39.000      4.000     25.000       .000       .000       .000       .000       .000       .000       .000

NC        .080       .080       .045       .300       .500       .000       .000       .000       .000       .000
QT       4.000    145.000    205.000    240.000    300.000       .000       .000       .000       .000       .000

X1        .000     22.000    174.000    217.000       .000       .000       .000       .000       .000       .000
GR     940.500       .000    936.900     12.000    933.800     30.000    932.800     62.000    932.400     96.000
GR     931.600    136.000    931.000    160.000    930.600    174.000    928.900    178.000    926.700    186.000
GR     927.200    194.000    929.300    210.000    930.200    217.000    931.200    244.000    931.900    270.000
GR     932.000    308.000    931.600    364.000    932.200    404.000    933.000    448.000    935.800    476.000
GR     939.200    506.000    940.600    522.000       .000       .000       .000       .000       .000       .000
NC        .075       .065       .048       .300       .500       .000       .000       .000       .000       .000
QT       4.000      8.600     11.300     12.300     15.000       .000       .000       .000       .000       .000

                                        SA 1

X1     240.100     23.000    154.000    290.000    300.000    100.000    240.000       .000       .000       .000
GR     940.700       .000    937.600     20.000    934.500     50.000    934.000     64.000    933.000     86.000
GR     931.400    126.000    931.800    154.000    931.300    169.000    931.200    171.000    930.800    184.000
GR     929.600    212.000    929.400    214.000    929.300    227.000    929.700    236.000    930.100    239.000
GR     930.100    254.000    930.300    264.000    930.300    279.000    930.700    289.000    931.200    289.500
GR     931.300    290.000    938.600    320.000    941.000    362.000       .000       .000       .000       .000
NC        .055       .090       .050       .000       .000       .000       .000       .000       .000       .000

                                        SB 2

X1     255.100     19.000    124.000    150.000    515.000    515.000    515.000       .000       .000       .000
X3        .000       .000       .000     94.000       .000    164.000       .000       .000       .000       .000
GR     941.200       .000    939.400      8.000    936.000     26.000    934.600     36.000    933.900     66.000
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FORM 1411 5 Ga
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GR	932.200	94.000	931.300	124.000	931.200	125.000	930.900	126.000	930.400	136.000
GR	930.200	144.000	930.500	148.000	931.200	149.000	931.300	150.000	932.800	174.000
GR	934.400	204.000	937.100	222.000	940.000	250.000	941.200	264.000	.000	.000
X1	888.100	19.000	298.200	301.800	133.000	133.000	133.000	.000	.000	.000
GR	938.000	.000	935.900	100.000	934.100	200.000	933.900	298.200	931.500	298.200
GR	931.200	298.300	931.000	298.500	930.800	299.000	930.700	299.500	930.700	300.000
GR	930.700	300.500	930.800	301.000	931.000	301.500	931.200	301.700	931.500	301.800
GR	933.900	301.800	935.000	400.000	937.100	500.000	938.900	600.000	.000	.000
NC	.000	.000	.024	.000	.000	.000	.000	.000	.000	.000
X1	889.100	.000	.000	.000	1.000	1.000	1.000	.000	.000	.000
BT	17.000	.000	938.000	.000	100.000	935.900	.000	200.000	934.100	.000
BT	298.200	933.900	931.500	298.300	933.900	931.700	298.500	933.900	932.200	299.000
BT	933.900	932.700	299.500	933.900	932.900	300.000	933.900	933.000	300.500	933.900
BT	932.900	301.000	933.900	932.700	301.500	933.900	932.200	301.700	933.900	931.700
BT	301.800	933.900	931.500	400.000	935.000	.000	500.000	937.100	.000	600.000
BT	938.900	.000	.000	.000	.000	.000	.000	.000	.000	.000

OXBOW LAKE ROAD SC 3

X1	925.100	19.000	298.200	301.800	36.000	36.000	36.000	.000	.000	.000
BT	17.000	.000	938.000	.000	100.000	935.900	.000	200.000	934.100	.000
BT	298.200	933.900	931.300	298.300	933.900	931.500	298.500	933.900	932.000	299.000
BT	933.900	932.500	299.500	933.900	932.700	300.000	933.900	932.800	300.500	933.900
BT	932.700	301.000	933.900	932.500	301.500	933.900	932.000	301.700	933.900	931.500
BT	301.800	933.900	931.300	400.000	935.000	.000	500.000	937.100	.000	600.000
BT	938.900	.000	.000	.000	.000	.000	.000	.000	.000	.000
GR	938.000	.000	935.900	100.000	934.100	200.000	933.900	298.200	931.300	298.200
GR	931.000	298.300	930.800	298.500	930.600	299.000	930.500	299.500	930.500	300.000
GR	930.500	300.500	930.600	301.000	930.800	301.500	931.000	301.700	931.300	301.800
GR	933.900	301.800	935.000	400.000	937.100	500.000	938.900	600.000	.000	.000
NC	.065	.085	.045	.000	.000	.000	.000	.000	.000	.000
X1	926.100	.000	.000	.000	1.000	1.000	1.000	.000	.000	.000

SD 4

X1	1262.100	38.000	1138.000	1238.000	336.000	336.000	336.000	.000	.000	.000
X3	.000	.000	.000	1090.000	.000	.000	.000	.000	.000	.000
GR	941.500	.000	940.800	12.000	939.800	32.000	936.600	54.000	936.800	84.000
GR	938.000	110.000	933.600	144.000	933.400	230.000	933.400	342.000	933.400	414.000
GR	935.200	434.000	936.300	482.000	936.700	538.000	934.500	570.000	934.600	594.000
GR	934.400	612.000	933.400	628.000	932.800	746.000	932.400	842.000	932.000	948.000
GR	931.800	1044.000	931.700	1138.000	931.700	1139.000	929.800	1140.000	929.500	1151.000
GR	929.900	1161.000	931.200	1162.000	931.200	1198.000	931.200	1223.000	931.700	1233.000
GR	932.000	1238.000	931.700	1264.000	931.800	1346.000	932.600	1446.000	933.600	1510.000
GR	936.400	1550.000	939.800	1580.000	941.600	1600.000	.000	.000	.000	.000
NC	.055	.095	.047	.000	.000	.000	.000	.000	.000	.000

SUGDEN LAKE OUTLET SE 5

X1	1687.100	57.000	1588.000	1688.000	425.000	425.000	425.000	.000	.000	.000
X3	.000	.000	.000	1420.000	.000	2234.000	.000	.000	.000	.000

FORM 1411 % GB
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GR	941.900	.000	940.200	22.000	938.600	70.000	938.400	124.000	937.700	180.000
GR	936.200	238.000	937.300	278.000	937.100	296.000	935.000	336.000	935.600	382.000
GR	935.700	398.000	935.600	414.000	935.200	448.000	934.800	504.000	933.800	576.000
GR	933.200	648.000	932.400	714.000	931.700	724.000	931.700	1162.000	933.000	1172.000
GR	933.800	1210.000	934.300	1276.000	934.600	1356.000	934.800	1420.000	934.400	1486.000
GR	933.600	1504.000	933.200	1556.000	933.000	1588.000	932.300	1613.000	931.900	1638.000
GR	931.700	1639.000	931.300	1640.000	930.700	1648.000	930.500	1653.000	930.600	1658.000
GR	930.700	1668.000	931.700	1668.500	932.100	1669.000	932.100	1688.000	932.000	1732.000
GR	932.000	1824.000	932.600	1924.000	932.600	2014.000	933.000	2102.000	934.400	2162.000
GR	936.400	2234.000	936.200	2272.000	935.400	2298.000	933.400	2322.000	934.000	2356.000
GR	939.800	2370.000	938.900	2408.000	935.100	2426.000	935.000	2468.000	938.400	2512.000
GR	939.200	2570.000	941.800	2598.000	.000	.000	.000	.000	.000	.000
NC	.110	.110	.050	.000	.000	.000	.000	.000	.000	.000
QT	4.000	14.300	19.900	21.500	26.100	.000	.000	.000	.000	.000

SF 6

X1	3707.100	30.000	840.000	940.000	2020.000	2020.000	2020.000	.000	.000	.000
X3	.000	.000	.000	861.000	.000	913.000	.000	.000	.000	.000
GR	942.000	.000	941.000	44.000	939.400	98.000	937.300	154.000	936.000	220.000
GR	936.000	276.000	937.000	328.000	937.000	390.000	936.500	432.000	935.400	474.000
GR	935.200	548.000	934.800	626.000	934.200	680.000	934.600	754.000	934.000	800.000
GR	932.800	840.000	932.300	890.000	931.800	890.500	931.600	891.000	931.100	898.000
GR	931.700	904.000	931.800	904.500	932.300	905.000	934.300	940.000	935.600	976.000
GR	935.400	1040.000	936.100	1096.000	937.800	1122.000	939.600	1154.000	942.000	1172.000

X1	3757.100	.000	.000	.000	50.000	50.000	50.000	.000	.200	.000
X3	.000	.000	.000	876.000	.000	904.000	.000	.000	.000	.000

X1	3772.100	.000	.000	.000	15.000	15.000	15.000	.000	.000	.000
X3	.000	.000	.000	880.000	.000	900.000	.000	.000	.000	.000

X1	3787.100	.000	.000	.000	15.000	15.000	15.000	.000	.100	.000
X3	.000	.000	.000	884.000	.000	896.000	.000	.000	.000	.000

X1	3795.100	.000	.000	.000	8.000	8.000	8.000	.000	.000	.000
X3	.000	.000	.000	886.000	.000	895.000	.000	.000	.000	.000

X1	3802.100	.000	.000	.000	7.000	7.000	7.000	.000	.000	.000
X3	.000	.000	.000	887.000	.000	892.000	.000	.000	.000	.000

X1	3807.100	15.000	298.800	301.200	5.000	5.000	5.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	934.000	934.000	.000
GR	937.600	.000	935.600	100.000	935.100	200.000	934.500	298.800	933.100	298.800
GR	932.200	298.800	931.600	299.200	931.400	300.000	931.600	300.800	932.200	301.200
GR	933.100	301.200	934.500	301.200	934.100	400.000	936.800	500.000	939.100	600.000
SB	.000	3.020	2.600	.000	1.960	.000	4.910	.000	931.500	931.400

SUGDEN ROAD SG 7

X1	3844.100	15.000	298.800	301.200	37.000	37.000	37.000	.000	.000	.000
X2	.000	.000	1.000	933.500	934.500	.000	.000	.000	.000	.000

X3	10.000	.000	.000	.000	.000	.000	.000	934.500	934.500	.000
BT	11.000	.000	937.600	.000	100.000	935.800	.000	200.000	935.100	.000
BT	298.800	934.500	933.200	299.200	934.500	933.800	300.000	934.500	934.000	300.800
BT	934.500	933.800	301.200	934.500	933.200	400.000	934.100	.000	500.000	936.800
BT	.000	600.000	939.100	.000	.000	.000	.000	.000	.000	.000
GR	937.600	.000	935.800	100.000	935.100	200.000	934.500	298.800	933.200	298.800
GR	932.300	298.800	931.700	299.200	931.500	300.000	931.700	300.800	932.300	301.200
GR	933.200	301.200	934.500	301.200	934.100	400.000	936.800	500.000	939.100	600.000
X1	3845.100	.000	.000	.000	1.000	1.000	1.000	.000	.000	.000
X3	10.000	.000	.000	.000	.000	.000	.000	934.500	934.500	.000
NC	.085	.085	.040	.000	.000	.000	.000	.000	.000	.000

SH 8

X1	3917.100	22.000	252.000	357.000	229.000	229.000	229.000	.000	.000	.000
X3	.000	.000	.000	269.000	.000	341.000	.000	.000	.000	.000
GR	942.300	.000	939.600	26.000	937.400	54.000	937.400	84.000	936.900	110.000
GR	935.200	124.000	935.900	140.000	936.800	158.000	937.600	196.000	937.000	228.000
GR	932.000	252.000	932.000	253.000	928.700	260.000	923.900	275.000	922.900	288.000
GR	923.500	302.000	924.200	322.000	927.000	342.000	932.000	356.000	932.000	357.000
GR	939.000	422.000	942.400	444.000	.000	.000	.000	.000	.000	.000
ET	.000	6.100	.000	.000	.000	203.800	208.200	.000	.000	.000
X1	4053.100	19.000	184.000	242.000	136.000	136.000	136.000	.000	-2.900	.000
GR	946.200	.000	944.400	24.000	944.400	56.000	942.000	96.000	941.100	110.000
GR	939.400	136.000	939.500	160.000	939.100	184.000	938.400	196.000	936.000	204.000
GR	936.000	206.000	936.000	208.000	938.600	216.000	939.000	242.000	940.200	304.000
GR	940.800	370.000	941.000	448.000	942.500	530.000	943.400	588.000	.000	.000
NC	.065	.065	.045	.000	.000	.000	.000	.000	.000	.000
ET	.000	6.100	.000	.000	.000	204.800	207.200	.000	.000	.000
X1	4052.100	.000	.000	.000	4.000	4.000	4.000	.000	.100	.000
NC	.000	.000	.024	.000	.000	.000	.000	.000	.000	.000
SB	.000	3.680	2.500	.000	1.740	.000	2.900	.000	934.100	933.200

WINDHURST DRIVE SI 9

X1	4096.100	16.000	298.800	301.200	39.000	39.000	39.000	.000	.000	.000
X2	.000	.000	1.000	935.800	936.810	.000	.000	.000	.000	.000
X3	10.000	.000	.000	279.000	.000	321.000	.000	936.500	936.500	.000
BT	14.000	.000	938.800	.000	100.000	937.800	.000	200.000	935.700	.000
BT	298.800	936.800	934.600	298.900	936.800	934.800	299.100	936.800	935.200	299.500
BT	936.800	935.500	300.000	936.800	935.600	300.500	936.800	935.500	300.900	936.800
BT	935.200	301.100	936.800	934.800	301.200	936.800	934.600	400.000	936.500	.000
BT	500.000	939.900	.000	.000	.000	.000	.000	.000	.000	.000
GR	938.800	.000	937.800	100.000	935.700	200.000	936.200	250.000	934.600	298.800
GR	934.400	298.900	934.200	299.100	934.100	299.500	934.100	300.000	934.100	300.500
GR	934.200	300.900	934.400	301.100	934.600	301.200	936.600	350.000	936.500	400.000
GR	939.900	500.000	.000	.000	.000	.000	.000	.000	.000	.000
ET	.000	7.100	.000	.000	.000	.000	202.800	207.200	.000	.000
NC	.055	.055	.043	.000	.000	.000	.000	.000	.000	.000
X1	4097.100	19.000	184.000	242.000	1.000	1.000	1.000	.000	-1.900	.000

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X5	4.000	936.570	936.850	936.870	936.910	.000	.000	.000	.000	.000
GR	946.200	.000	944.400	24.000	944.400	56.000	942.000	96.000	941.100	110.000
GR	939.400	136.000	939.500	160.000	939.100	184.000	938.400	196.000	936.000	204.000
GR	936.000	206.000	936.000	208.000	938.600	216.000	939.000	242.000	940.200	306.000
GR	940.800	370.000	941.000	448.000	942.500	530.000	943.400	588.000	.000	.000
X1	4257.100	.000	.000	.000	160.000	160.000	160.000	.000	.900	.000
X1	4282.100	.000	.000	.000	25.000	25.000	25.000	.000	.200	.000
X1	4307.100	.000	.000	.000	25.000	25.000	25.000	.000	.200	.000
SB	.000	1.000	2.700	.000	.010	.000	.010	.000	935.500	935.400

BOGIE LAKE CONTROL STRUCTURE SJ 10

X1	4311.100	8.000	50.000	70.000	4.000	4.000	4.000	.000	.000	.000
X2	.000	.000	1.000	935.500	937.400	.000	.000	.000	.000	.000
BT	8.000	.000	938.400	.000	50.000	938.240	.000	58.000	937.700	.000
BT	59.000	937.400	.000	63.000	937.400	.000	70.000	937.700	.000	70.000
BT	938.600	.000	116.000	939.000	.000	.000	.000	.000	.000	.000
GR	938.400	.000	935.500	50.000	935.500	58.000	935.500	60.000	935.500	62.000
GR	935.500	70.000	938.600	70.000	939.000	116.000	.000	.000	.000	.000
X1	4336.100	4.000	10.000	190.000	25.000	25.000	25.000	.000	.000	.000
X3	.000	.000	.000	47.000	.000	153.000	.000	.000	.000	.000
GR	940.000	.000	935.700	10.000	935.700	190.000	940.000	200.000	.000	.000
EJ	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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**********
  HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
  ERROR CORR -  01,02,03
  MODIFICATION -  50,51,52,53
**********

T1       WHITE LAKE TWP. FIS J&A FILE NO. 6504-06
T2       100 YEAR EVENT
T3       SUGDEN CREEK

J1   ICHECK     INQ        NINV       IDIR       STRT       METRIC     HVINS      Q          WSEL       FQ

      -10.         4.         0.         0.    .000000       .00         .0         0.    932.350       .000

J2   NPROF      IPLOT      PREVS      XSECV      XSECH      FN         ALLDC      IBW        CHNIM      ITRACE

      3.000       .000    -1.000       .000       .000       .000       .000       .000       .000       .000

*PROF 3

CCHV=     .300 CEHV=     .500
*SECNO .000
    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS    BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA    LEFT/RIGHT
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST

     .00       5.65     932.35        .00     932.35     932.37        .02        .00        .00    930.60
    240.        16.       194.        30.        61.       174.       130.         0.         0.    930.20
     .00        .26       1.12        .23       .080       .045       .080       .000    926.70     98.50
 .000183         0.         0.         0.          0          0          0        .00    313.75     412.25

CCHV=     .300 CEHV=     .500
*SECNO 240.100

                                        SA 1

  240.10       3.08     932.38        .00        .00     932.38        .00        .01        .00    931.80
    12.          0.       12.         0.         34.       281.         2.         2.         1.    931.30
    1.59        .01       .04        .01       .025       .048       .065       .049    929.30     101.28
 .000001       300.       240.       100.          0          0          0        .00    193.20     294.48

*SECNO 755.100

3420 ENCROACHMENT STATIONS=      94.0      164.0  TYPE=       1  TARGET=      70.000

                                        SB 2

  755.10       2.19     932.39        .00        .00     932.39        .00        .00        .00    931.30
    12.          2.       10.         1.         19.       47.         9.         4.         3.    931.30
    2.35        .10       .21        .06       .055       .050       .090       .050    930.20     94.00
 .000023       515.       515.       515.          2          0          0        .00     70.00     164.00
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*SECNO 888.100

888.10	1.66	932.36	.00	.00	932.44	.08	.01	.04	933.90
12.	0.	12.	0.	0.	5.	0.	4.	3.	933.90
2.37	.00	2.27	.00	.055	.050	.090	.050	930.70	298.20
.006670	133.	133.	133.	2	0	0	.00	3.60	301.80

*SECNO 889.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 933.90 MAX ELLC= 933.00

889.10	1.65	932.35	.00	.00	932.45	.09	.00	.01	933.90
12.	0.	12.	0.	0.	5.	0.	4.	3.	933.90
2.37	.00	2.41	.00	.055	.024	.090	.050	930.70	298.20
.002006	1.	1.	1.	0	0	0	-.34	3.60	301.80

*SECNO 925.100

3370 NORMAL BRIDGE,NRD= 17 MIN ELTRD= 933.90 MAX ELLC= 932.80

OXBOW LAKE ROAD SC 3

925.10	1.94	932.44	.00	.00	932.51	.07	.06	.01	933.90
12.	0.	12.	0.	0.	6.	0.	4.	3.	933.90
2.37	.00	2.13	.00	.055	.024	.090	.048	930.50	298.20
.001551	36.	36.	36.	2	0	0	-.68	3.60	301.80

*SECNO 926.100

926.10	1.97	932.47	.00	.00	932.52	.05	.00	.00	933.90
12.	0.	12.	0.	0.	7.	0.	4.	3.	933.90
2.37	.00	1.88	.00	.065	.045	.085	.048	930.50	298.20
.003303	1.	1.	1.	2	0	0	.00	3.60	301.80

*SECNO 1262.100

3470 ENCROACHMENT STATIONS= 1090.0 1600.0 TYPE= 1 TARGET= -1090.000

SD 4

1262.10	3.04	932.54	.00	.00	932.54	.00	.00	.02	931.70
12.	1.	9.	2.	39.	161.	117.	5.	4.	932.00
4.28	.03	.06	.02	.065	.045	.085	.047	929.50	1090.00
.000002	336.	336.	336.	2	0	0	.00	348.40	1438.40

*SECNO 1687.100

3470 ENCROACHMENT STATIONS= 1420.0 2234.0 TYPE= 1 TARGET= 814.000

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1697.10	2.04	932.54	.00	.00	932.54	.00	.00	.00	933.00	
12.	0.	9.	4.	0.	74.	96.	8.	7.	932.10	
5.54	.00	.12	.04	.055	.047	.095	.047	930.50	1604.38	
.000016	425.	425.	425.	2	0	0	.00	309.87	1914.25	

*SECNO 3707.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3470 ENCROACHMENT STATIONS= 861.0 913.0 TYPE= 1 TARGET= 52.000

SE 6

3707.10	1.61	932.71	.00	.00	932.72	.01	.18	.00100000.00		
22.	0.	21.	0.	0.	29.	0.	12.	16. 100000.00		
6.29	.00	.75	.00	.110	.050	.110	.049	931.10	861.00	
.001427	2020.	2020.	2020.	2	0	0	.00	51.30	912.30	

*SECNO 3757.100

3470 ENCROACHMENT STATIONS= 876.0 904.0 TYPE= 1 TARGET= 28.000

3757.10	1.50	932.80	.00	.00	932.82	.02	.09	.00100000.00		
22.	0.	21.	0.	0.	20.	0.	12.	16. 100000.00		
6.30	.00	1.08	.00	.110	.050	.110	.049	931.30	876.00	
.002240	50.	50.	50.	2	0	0	.00	28.00	904.00	

*SECNO 3772.100

3470 ENCROACHMENT STATIONS= 880.0 900.0 TYPE= 1 TARGET= 20.000

3772.10	1.53	932.83	.00	.00	932.86	.03	.04	.01100000.00		
22.	0.	21.	0.	0.	15.	0.	12.	16. 100000.00		
6.30	.00	1.41	.00	.110	.050	.110	.049	931.30	880.00	
.003598	15.	15.	15.	0	0	0	.00	20.00	900.00	

*SECNO 3787.100

3470 ENCROACHMENT STATIONS= 884.0 896.0 TYPE= 1 TARGET= 12.000

3787.10	1.49	932.89	.00	.00	933.00	.11	.10	.04100000.00		
22.	0.	21.	0.	0.	8.	0.	12.	16. 100000.00		
6.30	.00	2.66	.00	.110	.050	.110	.049	931.40	884.00	
.016472	15.	15.	15.	1	0	0	.00	12.00	896.00	

*SECNO 3795.100

3470 ENCROACHMENT STATIONS= 886.0 895.0 TYPE= 1 TARGET= 9.000

3795.10	1.61	933.01	.00	.00	933.14	.13	.13	.01100000.00		
22.	0.	21.	0.	0.	7.	0.	12.	16. 100000.00		
6.30	.00	2.89	.00	.110	.050	.110	.049	931.40	886.00	
.015936	8.	8.	8.	2	0	0	.00	9.00	895.00	

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*SECNO 3802.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS= 887.0 892.0 TYPE= 1 TARGET= 5.000

3802.10	1.80	933.20	933.20	.00	933.62	.42	.20	.14	100000.00
22.	0.	21.	0.	0.	4.	0.	12.	16.	100000.00
6.30	.00	5.20	.00	.110	.050	.110	.049	931.40	887.00
.064015	7.	7.	7.	20	8	0	.00	5.00	892.00

*SECNO 3807.100

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 934.00 ELREA= 934.00

3807.10	2.13	933.53	.00	.00	933.88	.35	.23	.02	934.50
22.	0.	21.	0.	0.	5.	0.	12.	16.	934.50
6.30	.00	4.74	.00	.110	.050	.110	.049	931.40	298.80
.034745	5.	5.	5.	0	0	0	.00	2.40	301.20

SPECIAL BRIDGE

SB	XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	3.02	2.60	.00	1.96	.00	4.91	.00	931.50	931.40

*SECNO 3844.100
PRESSURE FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
934.43	933.97	.00	0.	22.	5.	4.	933.50	934.50

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 934.50 ELREA= 934.50

SUGDEN ROAD SG 7

3844.10	2.73	934.23	.00	.00	934.43	.20	.55	.00	934.50
22.	0.	21.	0.	0.	6.	0.	12.	16.	934.50
6.31	.00	3.59	.00	.110	.050	.110	.049	931.50	298.80
.017802	37.	37.	37.	2	0	0	.00	2.40	301.20

*SECNO 3845.100

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 934.50 ELREA= 934.50

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3845.10	2.75	934.25	.00	.00	934.45	.20	.02	.00	934.50
22.	0.	21.	0.	0.	6.	0.	12.	16.	934.50
6.31	.00	3.56	.00	.110	.050	.110	.049	931.50	298.80
.017395	1.	1.	1.	0	0	0	.00	2.40	301.20

*SECNO 3917.100

3420 ENCROACHMENT STATIONS= 269.0 341.0 TYPE= 1 TARGET= 72.000

SM 8

3917.10	11.60	934.50	.00	.00	934.50	.00	.00	.06100000.00	
22.	0.	21.	0.	0.	744.	0.	14.	16. 100000.00	
8.51	.00	.03	.00	.085	.040	.085	.048	922.90	269.00
.000000	229.	229.	229.	2	0	0	.00	72.00	341.00

*SECNO 4053.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
4053.10	1.38	934.48	.00	.00	934.53	.05	.00	.03	936.20
22.	0.	21.	0.	0.	12.	0.	16.	16.	936.10
8.53	.00	1.85	.00	.085	.040	.085	.048	933.10	199.41
.002978	136.	136.	136.	3	0	0	.00	12.83	212.24

*SECNO 4057.100

4057.10	1.29	934.49	.00	.00	934.55	.07	.02	.01	936.30
22.	0.	21.	0.	0.	10.	0.	16.	16.	936.20
8.53	.00	2.07	.00	.065	.045	.065	.048	933.20	199.72
.005054	4.	4.	4.	0	0	0	.00	12.23	211.95

SPECIAL BRIDGE

SB	XK	XKOR	COPO	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	3.68	2.50	.00	1.74	.00	2.90	.00	934.10	933.20

*SECNO 4096.100

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST

PRESSURE AND WEIR FLOW

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
937.63	936.25	.00	7.	15.	3.	3.	935.80	936.81

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3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3710 WSEL ASSUMED BASED ON MIN DIFF

3470 ENCROACHMENT STATIONS= 279.0 321.0 TYPE= 1 TARGET= 42.000

3495 OVERBANK AREA ASSUMED NON-EFFECTIVE,ELLEA= 936.50 ELREA= 936.50

WINDHURST DRIVE SI 9

4096.10	1.49	935.59	.00	.00	936.22	.63	.00	.00	934.60
22.	0.	21.	0.	0.	3.	0.	16.	16.	934.60
8.53	.00	6.37	.00	.065	.024	.065	.048	934.10	298.80
.008411	39.	39.	39.	20	0	9	.00	2.40	301.20

*SECNO 4097.100
WATER EL=X5 CARD= 936.870

4097.10	2.27	936.87	.00	.00	936.88	.01	.00	.19	937.20
22.	0.	21.	0.	0.	38.	0.	16.	16.	937.10
8.53	.00	.57	.00	.055	.043	.055	.048	934.10	189.66
.000281	1.	1.	1.	0	0	0	.00	37.39	227.05

*SECNO 4257.100

4257.10	1.93	936.93	.00	.00	936.95	.02	.07	.01	938.10
22.	0.	21.	0.	0.	20.	0.	16.	16.	938.00
8.57	.00	1.09	.00	.055	.043	.055	.048	935.00	197.56
.000821	160.	160.	160.	2	0	0	.00	16.38	213.94

*SECNO 4282.100

SECNO	DEPTH	CWSEL	CRIUS	WSELK	EG	HV	HL	QLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
4282.10	1.76	936.96	.00	.00	936.98	.03	.03	.00	938.30
22.	0.	21.	0.	0.	17.	0.	16.	16.	938.20
8.58	.00	1.28	.00	.055	.043	.055	.047	935.20	198.17
.001258	25.	25.	25.	0	0	0	.00	15.21	213.38

*SECNO 4307.100

4307.10	1.59	936.99	.00	.00	937.03	.03	.04	.00	939.50
22.	0.	21.	0.	0.	14.	0.	16.	16.	938.40
8.58	.00	1.50	.00	.055	.043	.055	.047	935.40	198.72
.001925	25.	25.	25.	0	0	0	.00	14.15	212.87

SPECIAL BRIDGE

SB	XK	XKOR	COEQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
	.00	1.00	2.70	.00	.01	.00	.01	.00	935.50	935.40

*SECNO 4311.100
PRESSURE AND WEIR FLOW

FORM 1411 ½ CS
PRINTED IN U.S.A.

EGPRS	EGLWC	H3	QWEIR	QPR	BAREA	TRAPEZOID AREA	ELLC	ELTRD
72714.94	937.09	.00	22.	0.	0.	0.	935.50	937.40

BOGIE LAKE CONTROL STRUCTURE SJ 10

4311.10	2.70	938.20	.00	.00	938.20	.00	1.17	.00	935.50
22.	8.	13.	0.	63.	54.	0.	16.	16.	938.60
8.59	.13	.25	.00	.055	.043	.055	.047	935.50	3.46
.000016	4.	4.	4.	0	0	13	.00	66.54	70.00

*SECNO 4336.100

3470 ENCROACHMENT STATIONS= 47.0 153.0 TYPE= 1 TARGET= 106.000

4336.10	2.50	938.20	.00	.00	938.20	.00	.00	.00	100000.00
22.	0.	21.	0.	0.	265.	0.	16.	16.	100000.00
8.67	.00	.08	.00	.055	.043	.055	.047	935.70	47.00
.000002	25.	25.	25.	2	0	0	.00	106.00	153.00

FORM 1411 ½ GB
PRINTED IN U.S.A.

****
HEC2 RELEASE DATED NOV 76 UPDATED JULY 1979
ERROR CORR - 01,02,03
MODIFICATION - 50,51,52,53
****

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SUGDEN CREEK

SUMMARY PRINTOUT

SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	QLOSS	EG	XLCH	TOPWID	AREA
.000	.00	.00	926.70	145.00	931.76	5.06	.01	.00	931.77	.00	169.87	210.64
.000	.00	.00	926.70	205.00	932.16	5.46	.01	.00	932.17	.00	293.33	307.02
.000	.00	.00	926.70	240.00	932.35	5.65	.02	.00	932.37	.00	313.75	364.73
.000	.00	.00	926.70	300.00	932.64	5.94	.02	.00	932.66	.00	352.60	461.14
240.100	.00	.00	929.30	8.60	931.79	2.49	.00	.00	931.79	240.00	174.89	207.14
240.100	.00	.00	929.30	11.30	932.19	2.89	.00	.00	932.19	240.00	187.61	280.88
240.100	.00	.00	929.30	12.30	932.38	3.08	.00	.00	932.38	240.00	193.20	317.45
240.100	.00	.00	929.30	15.00	932.68	3.38	.00	.01	932.68	240.00	201.70	375.10
755.100	.00	.00	930.20	8.60	931.79	1.59	.00	.00	931.79	515.00	50.19	37.72
755.100	.00	.00	930.20	11.30	932.19	1.99	.00	.00	932.20	515.00	69.81	62.08
755.100	.00	.00	930.20	12.30	932.39	2.19	.00	.00	932.39	515.00	70.00	75.47
755.100	.00	.00	930.20	15.00	932.68	2.48	.00	.00	932.68	515.00	70.00	95.86
888.100	.00	.00	930.70	8.60	931.76	1.06	.11	.05	931.87	133.00	3.60	3.29
888.100	.00	.00	930.70	11.30	932.17	1.47	.09	.04	932.25	133.00	3.60	4.74
888.100	.00	.00	930.70	12.30	932.36	1.66	.08	.04	932.44	133.00	3.60	5.42
888.100	.00	.00	930.70	15.00	932.64	1.94	.08	.04	932.73	133.00	3.60	6.46
889.100	933.90	933.00	930.70	8.60	931.77	1.07	.11	.00	931.88	1.00	3.60	3.28
889.100	933.90	933.00	930.70	11.30	932.17	1.47	.10	.00	932.26	1.00	3.60	4.55
889.100	933.90	933.00	930.70	12.30	932.35	1.65	.09	.01	932.45	1.00	3.60	5.09
889.100	933.90	933.00	930.70	15.00	932.64	1.94	.10	.01	932.74	1.00	3.60	5.78
925.100	933.90	932.80	930.50	8.60	931.90	1.40	.06	.01	931.96	36.00	3.60	4.34
925.100	933.90	932.80	930.50	11.30	932.27	1.77	.07	.01	932.33	36.00	3.60	5.37
925.100	933.90	932.80	930.50	12.30	932.44	1.94	.07	.01	932.51	36.00	3.60	5.78
925.100	933.90	932.80	930.50	15.00	932.74	2.24	.09	.00	932.83	36.00	3.60	6.22
926.100	.00	.00	930.50	8.60	931.91	1.41	.06	.00	931.97	1.00	3.60	4.52
926.100	.00	.00	930.50	11.30	932.28	1.78	.06	.00	932.34	1.00	3.60	5.85
926.100	.00	.00	930.50	12.30	932.47	1.97	.05	.00	932.52	1.00	3.60	6.54
926.100	.00	.00	930.50	15.00	932.78	2.28	.06	.01	932.84	1.00	3.60	7.68
1262.100	.00	.00	929.50	8.60	931.99	2.49	.00	.02	931.99	336.00	277.85	143.12
1262.100	.00	.00	929.50	11.30	932.36	2.86	.00	.02	932.36	336.00	325.90	255.97
1262.100	.00	.00	929.50	12.30	932.54	3.04	.00	.02	932.54	336.00	348.40	316.67
1262.100	.00	.00	929.50	15.00	932.86	3.36	.00	.02	932.86	336.00	372.69	433.06

FORM 1411 ¼ G8
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	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
	1687.100	.00	.00	930.50	8.60	931.99	1.49	.00	.00	932.00	425.00	36.80	37.03
	1687.100	.00	.00	930.50	11.30	932.36	1.86	.00	.00	932.36	425.00	273.69	117.86
	1687.100	.00	.00	930.50	12.30	932.54	2.04	.00	.00	932.54	425.00	309.87	170.03
	1687.100	.00	.00	930.50	15.00	932.86	2.36	.00	.00	932.86	425.00	478.73	305.20
	3707.100	.00	.00	931.10	14.30	932.48	1.38	.01	.00	932.49	2020.00	35.62	17.32
	3707.100	.00	.00	931.10	19.90	932.67	1.57	.01	.00	932.68	2020.00	50.51	26.26
	3707.100	.00	.00	931.10	21.50	932.71	1.61	.01	.00	932.72	2020.00	51.30	28.55
	3707.100	.00	.00	931.10	26.10	932.93	1.83	.01	.00	932.94	2020.00	52.00	39.78
	3757.100	.00	.00	931.30	14.30	932.58	1.28	.02	.00	932.60	50.00	22.72	14.07
	3757.100	.00	.00	931.30	19.90	932.76	1.46	.02	.00	932.78	50.00	28.00	18.85
	3757.100	.00	.00	931.30	21.50	932.80	1.50	.02	.00	932.82	50.00	28.00	19.84
	3757.100	.00	.00	931.30	26.10	932.98	1.68	.02	.01	933.00	50.00	28.00	24.91
	3772.100	.00	.00	931.30	14.30	932.63	1.33	.03	.00	932.65	15.00	20.00	11.13
	3772.100	.00	.00	931.30	19.90	932.80	1.50	.03	.01	932.83	15.00	20.00	14.61
	3772.100	.00	.00	931.30	21.50	932.83	1.53	.03	.01	932.86	15.00	20.00	15.29
	3772.100	.00	.00	931.30	26.10	933.00	1.70	.03	.01	933.03	15.00	20.00	18.70
	3787.100	.00	.00	931.40	14.30	932.72	1.32	.09	.03	932.80	15.00	12.00	6.05
	3787.100	.00	.00	931.40	19.90	932.86	1.46	.10	.04	932.97	15.00	12.00	7.66
	3787.100	.00	.00	931.40	21.50	932.89	1.49	.11	.04	933.00	15.00	12.00	8.07
	3787.100	.00	.00	931.40	26.10	933.04	1.64	.11	.04	933.15	15.00	12.00	9.87
	3795.100	.00	.00	931.40	14.30	932.85	1.45	.09	.00	932.94	8.00	9.00	5.93
	3795.100	.00	.00	931.40	19.90	932.98	1.58	.12	.01	933.10	8.00	9.00	7.15
	3795.100	.00	.00	931.40	21.50	933.01	1.61	.13	.01	933.14	8.00	9.00	7.45
	3795.100	.00	.00	931.40	26.10	933.13	1.73	.15	.02	933.28	8.00	9.00	8.53
*	3802.100	.00	.00	931.40	14.30	933.01	1.61	.32	.12	933.33	7.00	5.00	3.14
*	3802.100	.00	.00	931.40	19.90	933.16	1.76	.40	.14	933.56	7.00	5.00	3.92
*	3802.100	.00	.00	931.40	21.50	933.20	1.80	.42	.14	933.62	7.00	5.00	4.14
*	3802.100	.00	.00	931.40	26.10	933.32	1.92	.48	.17	933.80	7.00	5.00	4.69
	3807.100	.00	.00	931.40	14.30	933.34	1.94	.19	.04	933.53	5.00	2.40	4.08
	3807.100	.00	.00	931.40	19.90	933.49	2.09	.31	.03	933.81	5.00	2.40	4.44
	3807.100	.00	.00	931.40	21.50	933.53	2.13	.35	.02	933.88	5.00	2.40	4.54
	3807.100	.00	.00	931.40	26.10	933.59	2.19	.48	.00	934.07	5.00	2.40	4.70
	3844.100	934.50	933.50	931.50	14.30	933.58	2.08	.16	.00	933.74	37.00	2.40	4.43
	3844.100	934.50	933.50	931.50	19.90	934.07	2.57	.20	.00	934.26	37.00	2.40	5.61
	3844.100	934.50	933.50	931.50	21.50	934.23	2.73	.20	.00	934.43	37.00	2.40	5.99
	3844.100	934.50	933.50	931.50	26.10	933.96	2.46	.37	.00	934.33	37.00	2.40	5.35
	3845.100	.00	.00	931.50	14.30	933.60	2.10	.16	.00	933.76	1.00	2.40	4.47
	3845.100	.00	.00	931.50	19.90	934.09	2.59	.19	.00	934.28	1.00	2.40	5.66
	3845.100	.00	.00	931.50	21.50	934.25	2.75	.20	.00	934.45	1.00	2.40	6.05
	3845.100	.00	.00	931.50	26.10	934.01	2.51	.36	.00	934.37	1.00	2.40	5.44
	3917.100	.00	.00	922.90	14.30	933.80	10.90	.00	.05	933.80	229.00	72.00	693.63
	3917.100	.00	.00	922.90	19.90	934.34	11.44	.00	.06	934.34	229.00	72.00	732.23
	3917.100	.00	.00	922.90	21.50	934.50	11.60	.00	.06	934.50	229.00	72.00	744.04
	3917.100	.00	.00	922.90	26.10	934.47	11.57	.00	.11	934.48	229.00	72.00	741.96

	SECNO	ELTRD	ELLC	ELMIN	Q	CWSEL	DEPTH	HV	OLOSS	EG	XLCH	TOPWID	AREA
*	4053.100	.00	.00	933.10	14.30	933.79	.69	.35	.17	934.14	136.00	4.40	3.03
	4053.100	.00	.00	933.10	19.90	934.31	1.21	.07	.03	934.37	136.00	11.73	9.49
	4053.100	.00	.00	933.10	21.50	934.48	1.38	.05	.03	934.53	136.00	12.83	11.59
	4053.100	.00	.00	933.10	26.10	934.43	1.33	.09	.04	934.52	136.00	12.55	11.03
*	4057.100	.00	.00	933.20	14.30	934.23	1.03	.52	.09	934.75	4.00	2.40	2.48
	4057.100	.00	.00	933.20	19.90	934.32	1.12	.09	.01	934.41	4.00	11.14	8.44
	4057.100	.00	.00	933.20	21.50	934.49	1.29	.07	.01	934.55	4.00	12.23	10.41
	4057.100	.00	.00	933.20	26.10	934.45	1.25	.11	.01	934.55	4.00	11.96	9.91
	4096.100	936.81	935.80	934.10	14.30	935.71	1.61	.43	.03	936.14	39.00	2.40	2.73
*	4096.100	936.81	935.80	934.10	19.90	935.53	1.43	.59	.00	936.12	39.00	2.40	3.24
*	4096.100	936.81	935.80	934.10	21.50	935.59	1.49	.63	.00	936.22	39.00	2.40	3.37
*	4096.100	936.81	935.80	934.10	26.10	935.72	1.62	.78	-.35	936.50	39.00	2.40	3.69
*	4097.100	.00	.00	934.10	14.30	936.57	2.47	.03	.12	936.60	1.00	4.40	10.65
*	4097.100	.00	.00	934.10	19.90	936.85	2.75	.00	.17	936.85	1.00	35.75	36.78
*	4097.100	.00	.00	934.10	21.50	936.87	2.77	.01	.19	936.88	1.00	37.39	37.51
*	4097.100	.00	.00	934.10	26.10	936.91	2.81	.01	.23	936.92	1.00	40.68	39.07
	4257.100	.00	.00	935.00	14.30	936.72	1.72	.01	.00	936.73	160.00	15.06	16.44
	4257.100	.00	.00	935.00	19.90	936.91	1.91	.02	.01	936.92	160.00	16.20	19.23
	4257.100	.00	.00	935.00	21.50	936.93	1.93	.02	.01	936.95	160.00	16.38	19.67
	4257.100	.00	.00	935.00	26.10	937.00	2.00	.02	.01	937.02	160.00	16.82	20.81
	4282.100	.00	.00	935.20	14.30	936.74	1.54	.02	.00	936.75	25.00	13.90	13.83
	4282.100	.00	.00	935.20	19.90	936.93	1.73	.02	.00	936.95	25.00	15.02	16.35
	4282.100	.00	.00	935.20	21.50	936.96	1.76	.03	.00	936.98	25.00	15.21	16.80
	4282.100	.00	.00	935.20	26.10	937.03	1.83	.03	.00	937.06	25.00	15.65	17.86
	4307.100	.00	.00	935.40	14.30	936.76	1.36	.02	.00	936.79	25.00	12.70	11.33
	4307.100	.00	.00	935.40	19.90	936.96	1.56	.03	.00	936.99	25.00	13.94	13.91
	4307.100	.00	.00	935.40	21.50	936.99	1.59	.03	.00	937.03	25.00	14.15	14.36
	4307.100	.00	.00	935.40	26.10	937.07	1.67	.04	.01	937.11	25.00	14.64	15.46
	4311.100	937.40	935.50	935.50	14.30	938.05	2.55	.00	.00	938.05	4.00	63.97	107.06
	4311.100	937.40	935.50	935.50	19.90	938.17	2.67	.00	.00	938.17	4.00	66.00	114.74
	4311.100	937.40	935.50	935.50	21.50	938.20	2.70	.00	.00	938.20	4.00	66.54	116.80
	4311.100	937.40	935.50	935.50	26.10	938.28	2.78	.00	.00	938.28	4.00	67.90	122.08
	4336.100	.00	.00	935.70	14.30	938.05	2.35	.00	.00	938.05	25.00	106.00	250.17
	4336.100	.00	.00	935.70	19.90	938.17	2.47	.00	.00	938.17	25.00	106.00	261.65
	4336.100	.00	.00	935.70	21.50	938.20	2.50	.00	.00	938.20	25.00	106.00	264.94
	4336.100	.00	.00	935.70	26.10	938.28	2.58	.00	.00	938.28	25.00	106.00	273.28

SUMMARY OF ERRORS

CAUTION SECNO= 3802.100 PROFILE= 1 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3802.100 PROFILE= 1 MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 3802.100 PROFILE= 2 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3802.100 PROFILE= 2 PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION SECNO= 3802.100 PROFILE= 2 20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION SECNO= 3802.100 PROFILE= 3 CRITICAL DEPTH ASSUMED
CAUTION SECNO= 3802.100 PROFILE= 3 PROBABLE MINIMUM SPECIFIC ENERGY

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CAUTION   SECNO= 3802.100  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO= 3802.100  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION   SECNO= 3802.100  PROFILE= 4  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO= 3802.100  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION   SECNO= 4053.100  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION   SECNO= 4053.100  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO= 4053.100  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION   SECNO= 4057.100  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION   SECNO= 4057.100  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION   SECNO= 4057.100  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION   SECNO= 4096.100  PROFILE= 2  WSEL ASSUMED BASED ON MIN DIFF
CAUTION   SECNO= 4096.100  PROFILE= 2  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO= 4096.100  PROFILE= 3  WSEL ASSUMED BASED ON MIN DIFF
CAUTION   SECNO= 4096.100  PROFILE= 3  20 TRIALS ATTEMPTED TO BALANCE WSEL
CAUTION   SECNO= 4096.100  PROFILE= 4  CRITICAL DEPTH ASSUMED
CAUTION   SECNO= 4096.100  PROFILE= 4  20 TRIALS ATTEMPTED TO BALANCE WSEL

NOTE      SECNO= 4097.100  PROFILE= 1  WSEL BASED ON X5 CARD
NOTE      SECNO= 4097.100  PROFILE= 2  WSEL BASED ON X5 CARD
NOTE      SECNO= 4097.100  PROFILE= 3  WSEL BASED ON X5 CARD
NOTE      SECNO= 4097.100  PROFILE= 4  WSEL BASED ON X5 CARD
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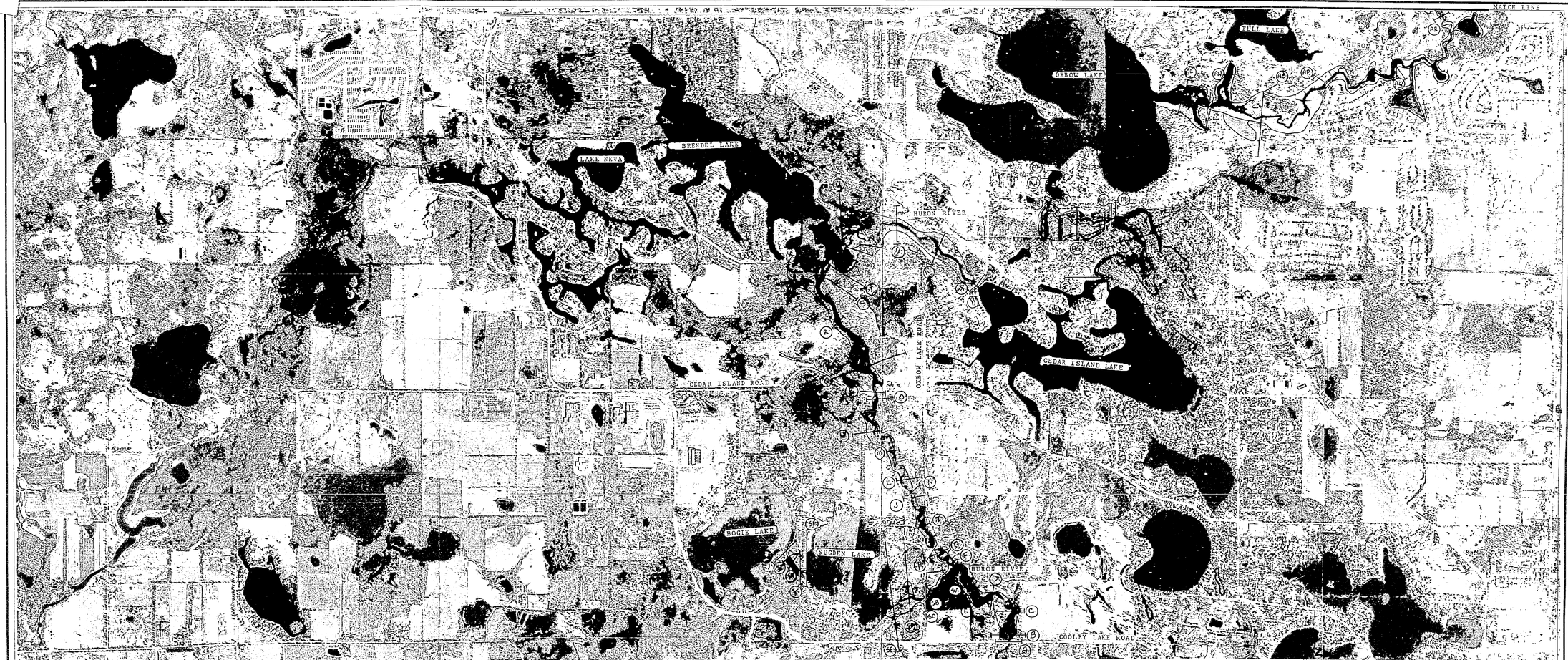
FORM 1411 5 Ga

PRINTED IN U.S.A.



ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
RM 1	981.79	Thirty feet west of centerline of Union Lake Road, approximately 100 feet south of Atha Drive, 2 nails on east side of power pole.
RM 2	936.65	Along Cooley Lake Road, opposite public fishing site, 25.5 feet east of centerline of road, approximately 2500 feet west of Union Lake Road, a Department of Conservation tablet.
RM 3	942.65	At southwest corner of Cooley Lake Road and Van Gordon Street, 2 nails on north side of power pole.
RM 4	939.38	Along north side of Round Lake Boulevard at Cooley Lake Road, a large nail in south side of guy pole.
RM 5	937.01	At northwest corner of Cooley Lake Road and Midway Drive, 2 nails in south side of power pole.
RM 6	934.38	At Huron River culvert under Cooley Lake Road, top of nut on north end of west culvert.
RM 7	935.14	Thirty feet east of centerline of Oxbow Lake Road, approximately 1200 feet north of Cooley Lake Road, in front of house No. 1343 Oxbow Lake Road, a large nail in west side of power pole.
RM 8	935.71	At southwest corner of Oxbow Lake Road and Estola, 2 nails in east side of power pole.
RM 9	934.99	Along east side of Sugden Road, approximately 1500 feet north of Bogie Lake Road, a nail in southwest side of power pole.
RM 10	951.39	Along south side of Bogie Lake Road, opposite Windhurst Street, 2 nails in east guard post.
RM 11	958.03	Along west side of Bogie Lake Road, at Pinecrest Drive, a large spike in east side of light pole.
RM 12	963.62	At southeast corner of Bogie Lake Road and Cedar Island Road, a chiseled square in southeast end of culvert under Cedar Island Road.
RM 13	951.80	At intersection of Oxbow Lake Road and Cedar Island Road, a chiseled cross on south edge of monument box.
RM 14	949.11	At "T" intersection of Biscayne Avenue and Ellingrove Avenue, 30 feet northeast of centerline Biscayne Avenue and approximately 15 feet northwest of Ellingrove Avenue, a nail in west side of power pole.
RM 15	950.74	Twenty-five feet east of Bogie Lake Road, 30 feet south of centerline Ellinwood Drive, a chiseled square in top of east end of cross-culvert.
RM 16	947.38	Thirty feet east of Bogie Lake Road, 160 feet south of Biscayne Drive, 2 nails in northwest side of power pole.
RM 17	946.08	Approximately 25 feet east of Biscayne Avenue, approximately 30 feet south of centerline Biscayne Court, a largenail in southwest side of power pole.
RM 18	947.19	Along Elizabeth Lake Road, at Huron River bridge, a square in top of southwest wing wall.
RM 19	991.56	Twenty-five feet south of Elizabeth Lake Road, 225 feet east of Teggerdine Road, 6 feet east of corner fence post, a standard tablet stamped "3T 1938 922."
RM 20	943.55	Along Oxbow Lake Road, at intersection of Mill Road, north rim of section box.
RM 21	937.17	Twenty-two feet east of centerline of Oxbow Lake Road, approximately 2700 feet south of Elizabeth Lake Road, approximately 90 feet north of centerline Huron River, a large nail in west side of power pole.
RM 22	944.74	Twenty-five feet east of Round Lake Road, approximately 15 feet north of Mandon Road, 2 nails in east side of power pole.
RM 23	938.40	Approximately 150 feet west of end of Burgess Court, a number 16 nail in north side of 18-inch poplar tree.
RM 24	943.97	At corner of Avonlea and Lakeview Drive, in front of house No. 255 Lakeview Drive, a number 16 nail in power pole.
RM 25	959.92	Forty feet west of Williams Lake Road, approximately 3200 feet south of Highland Road (M-59), near southeast corner of golf course, a large nail in power pole.
RM 26	970.03	Along south side of Elizabeth Lake Road, opposite Hurondale Street, 2 nails on north side of guy pole.

PRELIMINARY

PRELIMINARY

Received
JUL 01 1981
WATER MANAGEMENT

KEY TO MAP

500-Year Flood Boundary
100-Year Flood Boundary
FLOODWAY FRINGE
FLOODWAY
100-Year Flood Boundary
500-Year Flood Boundary
Approximate 100-Year Flood Boundary
Cross Section Line (A — A)
Elevation Reference Mark RM7 ×
River Mile • M1.5

NOTES TO USER

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Insurance Administration.

This map was prepared to facilitate flood plain management activities only; it may not show all special flood hazard areas in the community or all planimetric features outside of the flood plain. Refer to the latest official Flood Insurance Rate Map for any additional areas of special flood hazard.

For adjoining map panels, see separately printed Index To Map Panels.

PRELIMINARY

WHITE LAKE TWP. FIS

JOHNSON & ANDERSON, INC.

CONSULTING ENGINEERS

J&A FILE NO. 6504-06

Huron River
Bogie Lake
Sugden Lake
Lake Neva
Brendel Lake
Cedar Island Lake
Oxbow Lake
Tull Lake
Pontiac Lake

LEGEND

(A) Field Cross-Section
Floodway
Floodfringe

PRELIMINARY

APPROXIMATE SCALE
1000 0 1000 FEET
1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

FLOODWAY

FLOOD BOUNDARY AND FLOODWAY MAP
TOWNSHIP OF
WHITE LAKE, MICHIGAN
OAKLAND COUNTY

PANEL 1 OF 2

(SEE MAP INDEX FOR PANELS NOT PRINTED)

PRELIMINARY

COMMUNITY-PANEL NUMBER

EFFECTIVE DATE:

federal emergency management agency
federal insurance administration

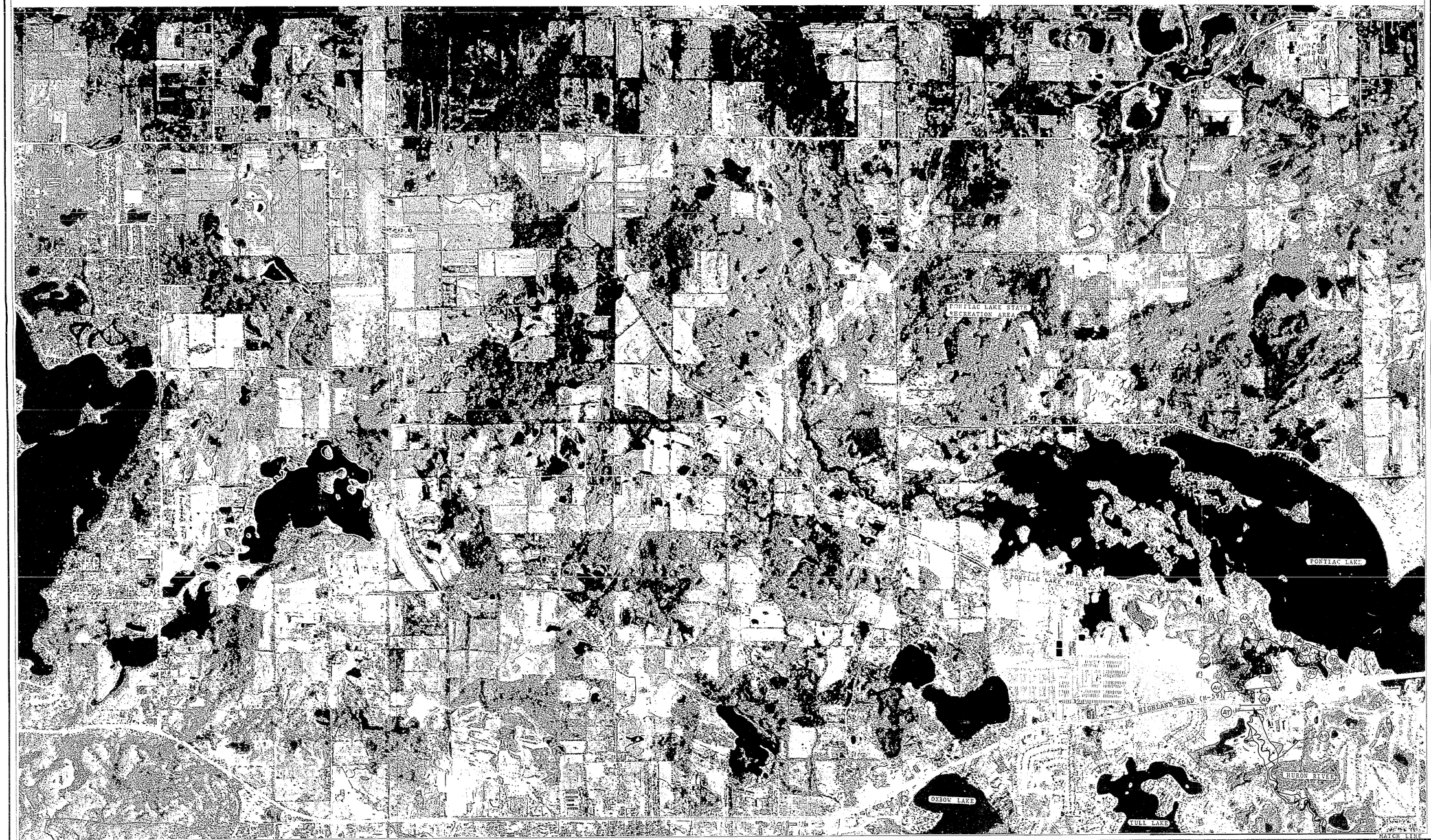
ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM 27	957.86	At south end of East Oxhill Drive, at end of cul-de-sac, in front of house No. 612, top of fire hydrant.
RM 28	962.94	Approximately 30 feet east of centerline Sandy Beach Drive, approximately 2200 feet south of Highland Road (M-59), opposite house No. 097, "M" in Mueller on fire hydrant.
RM 29	957.56	On centerline of Glynn Drive extended, approximately 30 feet east of centerline Lakeside Drive, a vertical bolt in root on west side of 20-inch maple tree.
RM 30	969.93	Along Highland Road (M-59), 50 feet south of road, approximately 500 feet west of Porter Road, a railroad spike in power pole.
RM 31	950.41	Along Highland Road (M-59) at Huron River bridge, a chiseled square in north headwall.
RM 32	967.03	Approximately 1100 feet north of Highland Road (M-59), approximately 500 feet southwest of Pontiac Lake Road, 15 feet east on centerline private drive, at north end of private drive, a large nail in northwest side of power pole.
RM 33	955.17	Twenty-one feet northeast of centerline Pontiac Lake Road at Huron River culvert, a chiseled square on top of concrete and stone headwall.

PRELIMINARY

ELEVATION REFERENCE MARKS

REFERENCE MARK	ELEVATION (FT. NGVD)	DESCRIPTION OF LOCATION
RM 34	970.14	At northwest corner of Pontiac Lake Road and Kingston Drive, 4 nails in southeast side of power pole.
RM 35	977.68	At southeast corner of Pontiac Lake Road and Teggerdine Road, a nail in north side of 20-inch walnut tree.
RM 36	981.79	Along north side of Gale Road, at centerline of Tackles Drive, a staple in south side of light pole.
RM 37	976.09	Along Gale Road at Pontiac Lake Recreation Area, top of iron rod in north end of first bumper block at entrance to beach.
RM 38	965.34	Along south side of Highland Road (M-59), approximately 250 feet west of South Williams Lake Road, a chiseled square painted orange on concrete headwall.
RM 39	1024.64	Approximately 40 feet south of centerline Highland Road, approximately 65 feet east of Waterbury Road, railroad spike in north side of power pole.



KEY TO MAP

500-Year Flood Boundary

100-Year Flood Boundary

FLOODWAY FRINGE — FLOODWAY

100-Year Flood Boundary

500-Year Flood Boundary

Approximate 100-Year Flood Boundary

Cross Section Line (A — A)

Elevation Reference Mark RM7 ×

River Mile • M1.5

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For adjoining map panels, see separately printed Index To Map Panels.

PRELIMINARY

WHITE LAKE TWP. FIS

JOHNSON & ANDERSON, INC.

CONSULTING ENGINEERS

J&A FILE NO. 6504-06

Huron River
Bogie Lake
Sugden Lake
Lake Neva
Brendel Lake
Cedar Island Lake
Oxbow Lake
Tull Lake
Pontiac Lake

LEGEND

(A) Field Cross-Section

Floodway

Floodfringe

PRELIMINARY

APPROXIMATE SCALE
1000 0 1000 FEET
1" = 1000'

NATIONAL FLOOD INSURANCE PROGRAM

FLOODWAY

FLOOD BOUNDARY AND FLOODWAY MAP
TOWNSHIP OF
WHITE LAKE, MICHIGAN
OAKLAND COUNTY

PANEL 2 OF 2

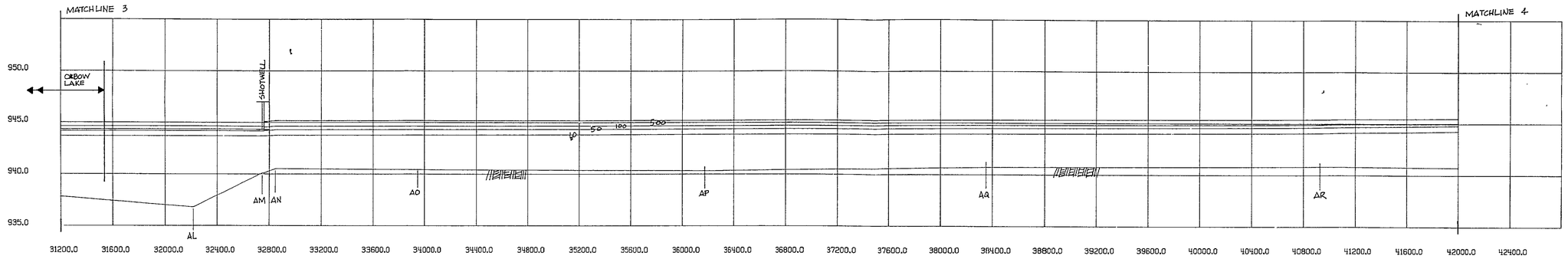
SEE MAP INDEX FOR PANELS NOT PRINTED

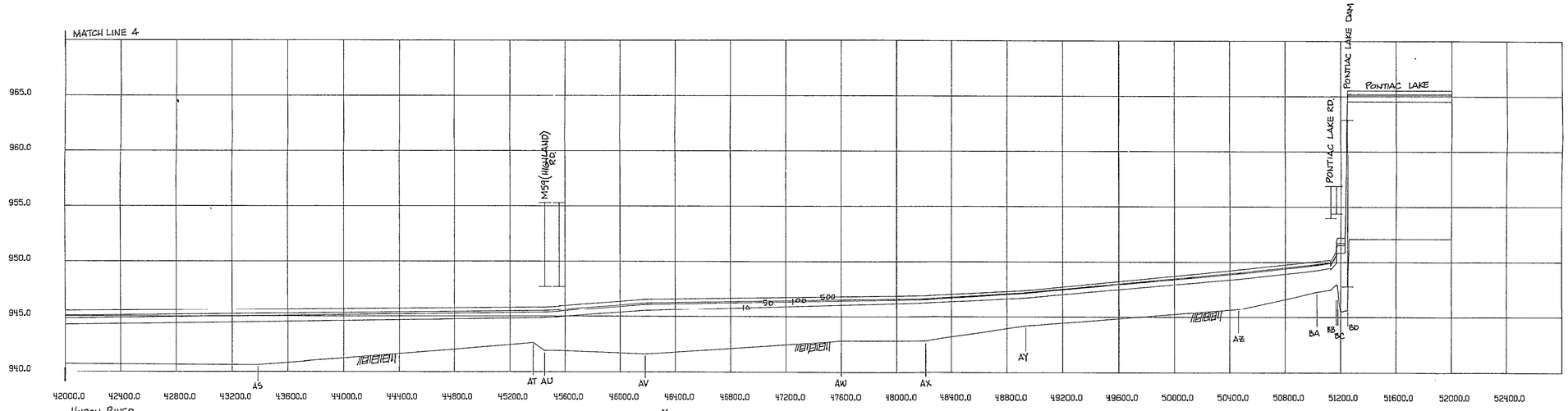
PRELIMINARY

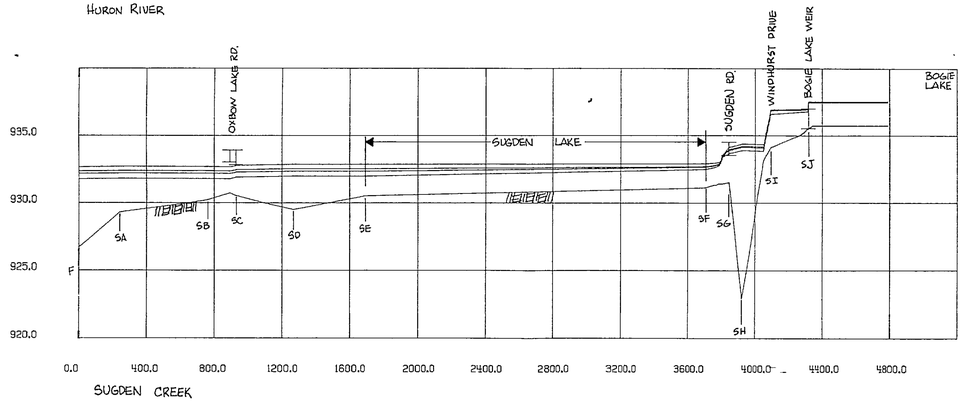
COMMUNITY-PANEL NUMBER

EFFECTIVE DATE:

RECEIVED
JUL 01 1981
federal emergency management agency
federal insurance administration







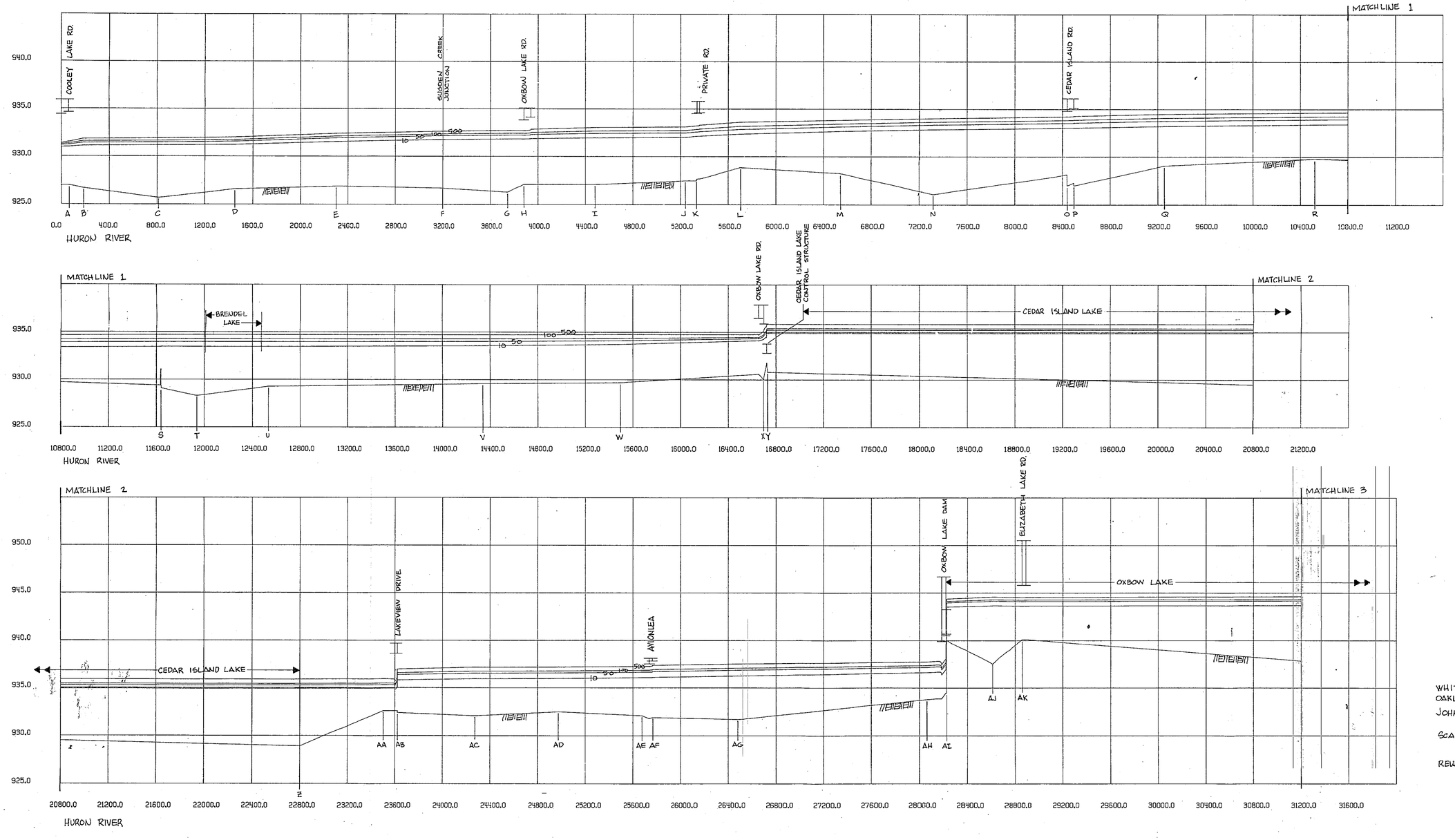
WHITE LAKE TWP F.I.S.
OAKLAND COUNTY, MI.

JOHNSON & ANDERSON INC.
6504-06

SCALE. VERT. 1"=5'
HORIZ. 1"= 400'

REVISED: 9-15-81

RECEIVED
SEP 1 - 1981
WATER MANAGEMENT



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WATER MANAGEMENT

WHITE LAKE TWP. F.I.S.
OAKLAND COUNTY, MI.

JOHNSON & ANDERSON INC.
G504-066

SCALE: VERT: 1"=5'
HORIZ: 1"=400'

REVISED: 9-15-81