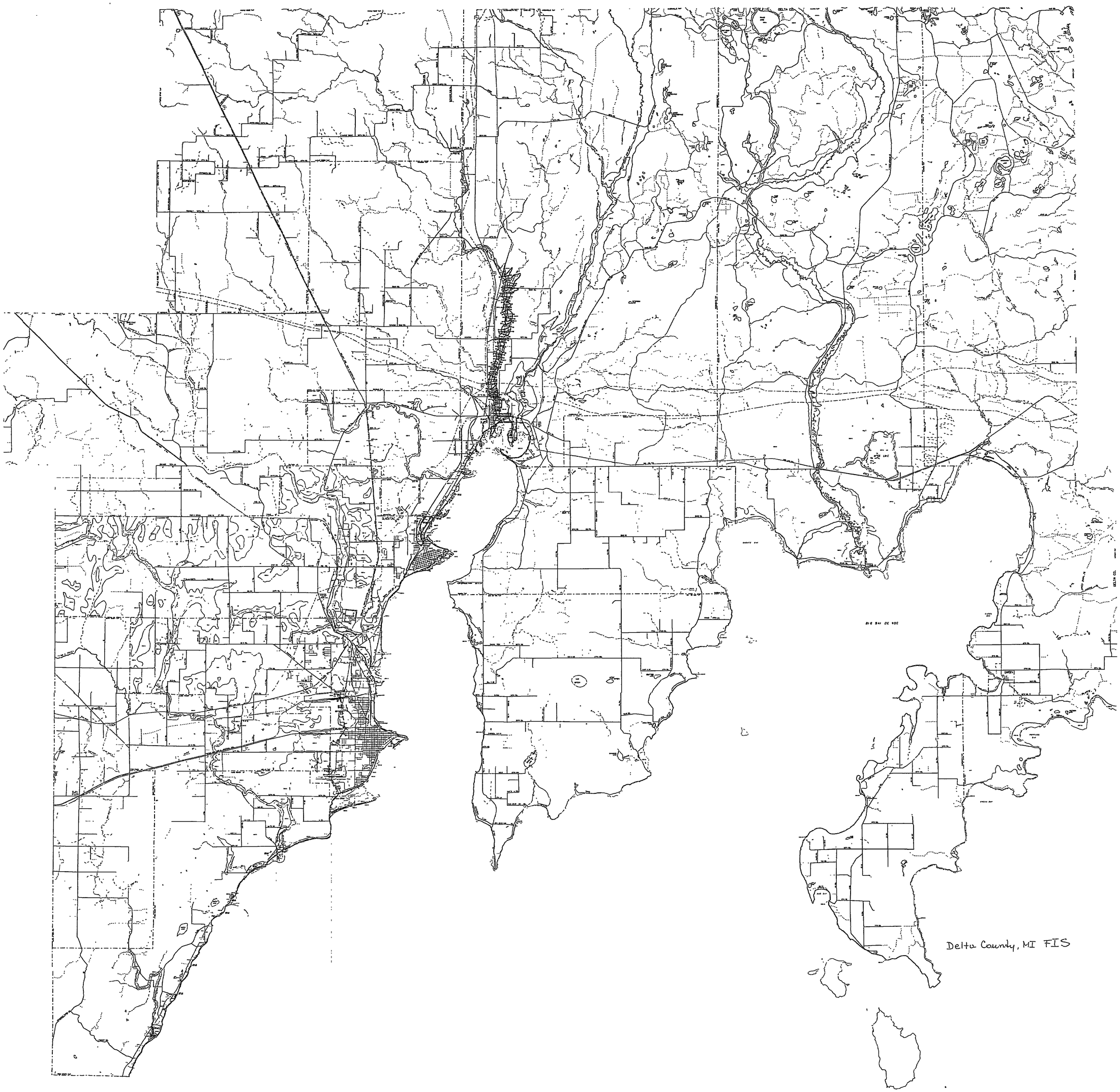

BIG BAY DE NOC
Delta County, MI FIS

00BREAK00

1) COUNTY: Delta

2) STUDY NAME: Delta County

3) WATERCOURSE: portage - Willow creek

4) DOCUMENT TYPE: report

00BREAK00

This is to certify that all work accomplished in the conduct of this study was done in accordance with the Statement of Work and General Provisions of Interagency Agreement No. EMW-93-E-4115, Project Order No. 8, together with all such modifications, either written or oral, as the Project Officer and/or the Contracting Officer or their representatives have directed, as such modifications affect this contract, and that all such work has been accomplished in accordance with sound and accepted engineering practice within the contract provisions for respective phases of the work.

David L. Schweiger

DAVID L. SCHWEIGER, P.E.
Chief, Riverine & Coastal Section,
Great Lakes Hydraulics and
Hydrology Branch

FLOOD INSURANCE STUDY

DELTA COUNTY, MICHIGAN

JANUARY 1995

U.S. ARMY ENGINEER DISTRICT

DETROIT, MICHIGAN

1.0 INTRODUCTION

1.1 Purpose of Study

Community Name: DELTA COUNTY

County: DELTA

State: Michigan

1.2 Authority and Acknowledgments

The hydrologic and hydraulic analyses for this study were prepared by the U.S. Army Corps of Engineers, Detroit District (COE), for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-93-E-4115, Project Order No. 8. This work was completed in January 1995.

1.3 Coordination

On May 14, 1993, an initial Consultation and Coordination Officer's (CCO) meeting and a subsequent May 28, 1993 telephone conference call were held with representatives of FEMA, the Michigan Department of Natural Resources (MDNR), the Delta County personnel, and the study contractor.

Results of the technical aspects of this study were coordinated with, reviewed and approved by the Michigan Department of Natural Resources, the State coordinating agency.

On , the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the community.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of Delta County, Michigan.

Flooding caused by the overflow of Portage Creek from Delta County Airport runway, the southern corporate boundary, to its confluence with Willow Creek and Willow Creek from its mouth to Danforth Road, the northern corporate boundary, were studied in detail. In the previous study (Reference 1), those segments of Portage Creek and Willow Creek were studied by approximate method. Also in this study, for Puffy Creek (1/4 mile - 402

meters, Highway 183 to confluence with Puffy Bay), an approximate study was conducted. For the entire coastline of Delta County (200 miles - 322 kilometers), the 100-year flood level was delineated. This effort utilized existing USGS topographic mapping for about 168 miles (270 kilometers) of coastline. The USGS mapping was supplemented with new topography to delineate about 32 miles - 51 kilometers of shoreline for the following areas: Little Bay de Noc around Rapid River (22 miles - 35 kilometers of shoreline), Sturgeon River around confluence with Big Bay de Noc (7 miles - 11 kilometers of shoreline, and Highway 183 (3 miles - 5 kilometers of shoreline). The area of study is shown on the vicinity map (Figure 1). All other studies developed for the respective FIS's within the county were included on the digital map.

2.2 Community Description

Delta County is located in the south-central part of Michigan's upper peninsula. The county is bordered by the Menominee and Marquette Counties on the west, the Alger County on the north, the Schoolcraft County on the east, and Little Bay de Noc, Big Bay de Noc, a part of Green Bay and Lake Michigan on the south. Delta County covers approximately 1177 square miles (3048 square kilometers). It is served by U.S. Highways 2 and 41, State Highway 35, State Highway 183, and few railroad lines. According to the U.S. Department of Commerce, Bureau of Census (Reference 2), the 1990 population of Delta County was 37,780 compared to a 1980 population of 38,947. The biggest communities include City of Escanaba, Wells Township, City of Gladstone, and Escanaba Township. Also, development in the county is concentrated along the major roads and along the shoreline.

The economy of the area includes agriculture, manufacture, wood products, fishing, and Great Lakes shipping (Reference 3). Paper, chemicals and iron products, made in Escanaba, are shipped from this port, and iron ore brought from neighboring mines is loaded along with it. Boating, swimming, and other resort activities take place here in the summer. The City of Gladstone is a railroad shipping point for a large agricultural region. Nearby farms truck potatoes, strawberries and dairy products into Gladstone for transport across Lake Michigan to larger Michigan cities. Lumber products, trailer parts and sporting goods are produced here. Located in the upper peninsula, Hiawatha National Forest stretches along the borders of Lakes Huron, Michigan and Superior. The forest covers approximately 855,000 acres. There are numerous small lakes scattered throughout. Hunting, camping and swimming are very popular activities in the Hiawatha National Forest (Reference 4).

Delta County, Michigan

Vicinity Map

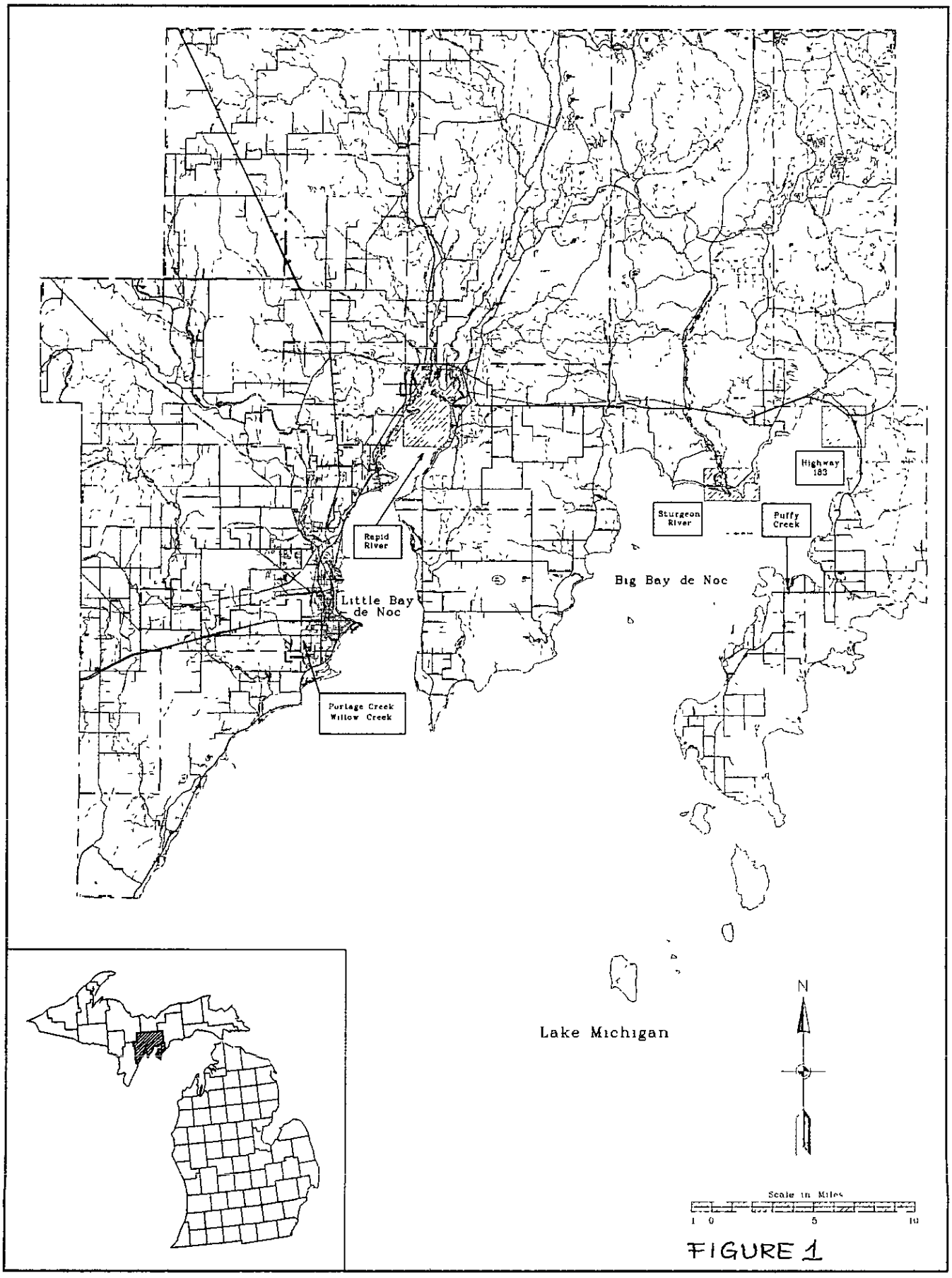


FIGURE 1

In Delta County, the influence of a nearby large body of water, in this case, Lake Michigan, on temperature generally causes a moderation from the temperature extremes found at similar latitudes at inland locations. The mean annual temperature from 1951 to 1975 is 42.2 degrees Fahrenheit (F) or 5.7 degrees Celsius (C) with extremes ranging from -26 degrees F. (-32.2 degrees C.) on March 3, 1972 to 100 degrees F. (37.8 degrees C.) on August 21,1955. July is normally the warmest month, with a mean monthly temperature of 57.8 degrees F. (14.3 degrees C.); whereas January is the coldest month, with a mean monthly temperature of 9.2 degrees F. (-12.7 degrees C.). The average annual precipitation is about 28.42 inches (72.19 centimeters). July, with an average precipitation of 3.54 inches (8.99 centimeters), is the wettest month, while February, with a 1.09-inch (2.77-centimeter) average, is the driest. Snowfall averages approximately 50.6 inches (128.5 centimeters) annually (Reference 5).

The soils of Delta County can be classified as nearly level to very steep, well drained or moderately well drained soils on outwash plains, till plains, lake plains, and moraines. The soils formed mainly in sandy material. Some soils have a loamy subsoil (Reference 6).

2.3 Principal Flood Problems

The Delta County shoreline is subject to severe wind and wave conditions during a large percentage of the time. When lake levels are high and storms occur from the southern direction, shoreline communities located in Delta County are usually subjected to extreme conditions. This combination caused extensive flooding at the head of Little Bay de Noc in January 1975.

Flooding on Lake Michigan and Green Bay is caused by two types of events: long-term and short-term. Long-term fluctuations are caused by runoff throughout the entire Great Lakes basin. On the other hand, wind tides, storm surges, barometric changes, and seiching are common short-term flooding causes on the Great Lakes.

The streams at Delta County reach flood stage as a result of heavy rainfall, rapid snowmelt, or a combination of the two. Ice jams cause frequent flooding near the mouth of the Rapid River. There is little development along most of the streams and flooding problems are minor.

2.4 Flood Protection Measures

Flood protection measures are not known to exist within the study area.

3.0 ENGINEERING METHODS

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community. The stillwater elevations for the 100-year flood for the Big Bay de Noc and Little Bay de Noc coastline of Delta County have been submitted by the MDNR. The stillwater elevations for the 100-year flood have been determined for the Lake Michigan coastline from the U.S. Army Corps of Engineers' April 1988 "Revised Report on Great Lakes Open-Coast Flood Levels" (Reference 7) and are shown in Table 1.

Since both Portage Creek and Willow Creek, which is a tributary of Portage Creek, are ungaged streams, the SCS procedure based on unit hydrograph techniques was used to determine the discharge-frequency relationship (Reference 8). The 24-hour 100-year rainfall was taken from "Computing Flood Discharges for Small Ungaged Watersheds", by the MDNR. The 500-year rainfall was obtained by extrapolation of rainfalls for other recurrence intervals. The SCS Type II rainfall distribution was used. SCS curve numbers were used to determine precipitation losses. Soil types were determined from the general soil map for Delta County (Reference 6) and the percent of each hydrologic soil class was estimated. Each soil class was further subdivided by land use, from which the composite runoff curve number was calculated. Time of concentration values were computed using the following equations:

$$V = 2.1\ S \quad \text{(small tributary and swamps w/channels)}$$
$$= 1.2\ S \quad \text{(waterways and swamps w/out channels)}$$
$$= 0.48\ S \quad \text{(sheet flow)}$$

$$t = \frac{\text{length (ft.)}}{V \times 3600}$$

where S is the slope of the channel in percent, V is the velocity of water in feet/second, length is the distance traveled by the various modes of conveyance and t is the time of concentration in hours.

Due to the degree of swamp in the Portage Creek basin, peak discharges were reduced to account for temporary storage.

Peak discharges for the 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 2.

TABLE 1 - SUMMARY OF ELEVATIONS

Flooding Source and Location	100-Year Elevation (Feet)	(Meters)
Big and Little Bay de Noc		
Garden	585.1	178.3
Nahma	585.0	178.3
Brampton	584.9	178.3
Ensign	584.9	178.3
Masonville	584.9	178.3
Escanaba Twp.	584.8	178.3
Bay De Noc	584.7	178.2
Escanaba, City	584.7	178.2
Ford River	584.7	178.2
Fairbanks	584.4	178.1
Lake Michigan		
Garden	584.4	178.1

TABLE 2 - SUMMARY OF DISCHARGES

Location	Drainage Area (Sq.Mi.)	(Sq.Km.)	100-year Discharge (cfs)	(cms)	500-year Discharge (cfs)	(cms)
PORTAGE CREEK at mouth	20.0	51.8	580	16.4	960	27.2
WILLOW CREEK at mouth	10.5	27.2	290	8.2	510	14.4

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the riverine sources studied were carried out to provide estimates of the elevation of the 100- and 500-year floods.

Cross section data for the backwater analysis were obtained by a field survey completed in April 1994. All bridges, culverts, and valley sections were surveyed to obtain elevation data and structural geometry.

Channel and overbank roughness coefficients (Manning's "n") used in the hydraulic computations were chosen by engineering judgement and were based on field observations of the streams and flood plain areas. The channel roughness coefficients ranged from 0.025 to 0.045, and the overbank roughness coefficients ranged from 0.035 to 0.080 for all floods.

Water-surface elevations of floods of the selected recurrence intervals for the streams studied in detail were calculated using the COE HEC-2 step-backwater computer program (Reference 9).

The starting water surface elevation for Portage Creek was determined using slope area method.

The coding for this data included the new 100- and 500-year discharges which previously were approved by the MDNR.

In area studied by approximate methods, the 100-year flood was determined based on slope of the ground.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevations reference marks used in the study are shown on the work map.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

4.1 Flood Plain Boundaries

Mapping used in the study for flood plain delineation and as base maps came from the U.S.G.S. quadrangle topographic maps (both digital without contours and paper copies with contours). All base maps have been placed on the U.S.G.S. quadrangle digital map files. All U.S.G.S. topographic maps (except two), (Reference 10) are at a scale of 1:24000 with contour intervals of 3 meters (References 11). The flood plain delineation for Portage Creek, Willow Creek, and the Delta County shoreline was supplemented over the entire study area by use of the U.S.G.S. topographic maps and then it was electronically transferred to the MDNR base maps in GIS design files. In addition, the existing flood plain delineation, as shown on the existing FIS panels for the City of Escanaba, Brampton Township, Masonville Township, Ford River Township, Nahma Township, and City of Gladstone were electronically transferred to the MDNR base map. The approximate study area for the 1/4 mile (402 meters) of Puffy Creek was delineated on the U.S.G.S. topographic map and then electronically transferred to the base map (References 1, 3, and 12-15).

Since Puffy Creek was studied by approximate methods, only the 100-year flood plain boundary is shown on the Flood Insurance Rate Map.

7.0 OTHER STUDIES

The Flood Insurance Rate Map printed for the City of Gladstone , Michigan (Reference 15) is not in agreement with this study.

The Flood Insurance Study published for the Township of Brampton, Michigan (Reference 3) is not in agreement with this study.

The Flood Insurance Rate Map printed for the City of Escanaba, Michigan (Reference 1) is not in agreement with this study.

The Flood Insurance Rate Maps (Reference 14) were prepared in September 1988 and shared the extent of 100-year approximate flood boundaries on the lakes, streams, and Big Bay de Noc shoreline within the Township of Nahma.

The Flood Insurance Rate Maps printed for the Township of Ford River, Michigan (Reference 13) are not in agreement with this study.

The Flood Insurance Study published for the Township of Masonville, Michigan (Reference 12) is not in agreement with this study.

The FIA Flood Hazard Boundary Maps printed for Delta County, Michigan (Reference 16) are superseded by the above existing study and this study.

The differences between the existing Flood Insurance Rate Maps and Flood Insurance Studies, and this study are due to the more recent Lake Michigan data submitted by the MDNR and the more recent topographic maps obtained for this Flood Insurance Study.

Other communities such as: the Township of Bay de Noc, Township of Cornell, Township of Ensign, Township of Escanaba, Township of Fairbanks, Township of Garden, all participate in the National Flood Insurance Program, but there are no Special Flood Hazard Areas for those communities.

8.0 REFERENCES AND BIBLIOGRAPHY

1. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Rate Map, City of Escanaba, Delta County, Michigan, September 1977.

2. U.S. Department of Commerce, Bureau of the Census, 1990 Census of Population and Housing, Michigan, Washington, D.C., August 1991.

3. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, Township of Brampton, Delta County, Michigan, October 1977.

4. Beth Blenz, Encyclopedia of Michigan, 1981.

5. National Oceanic and Atmospheric Administration, Climates of the States, Volume 1, 1980.

6. U.S. Department of Agriculture, Soil Conservation Service and Forest Service, Soil Survey of Delta County and Hiawatha National Forest of Alger and Schoolcraft Counties, Michigan, November 1977.

7. U. S. Army Corps of Engineers, Detroit District, Phase I, Revised Report on Great Lakes Open-Coast Flood Levels, April 1988.

8. Michigan Department of Natural Resources, Land and Water Management Division, Computing Flood Discharges for Small Ungaged Watersheds, October 1991.

9. U.S. Army Corps of Engineers, Hydrologic Engineering Center, Generalized Computer Program, HEC-2, May 1991.

10. U.S. Department of the Interior Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 10 Feet: Seagull Point, Michigan, 1989; Bark River, Michigan, 1989.

11. U.S. Department of the Interior Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 3 Meters: Henderson Lakes, Michigan, provisional edition 1985; Ford River, Michigan, 1985; Escanaba, Michigan, 1985; Gladstone, Michigan, 1985; Perkins, Michigan, 1985; Rapid River, Michigan, 1985; Maywood, Michigan, 1985; Peninsula Point, Michigan, 1985; Chippewa Point, Michigan, 1985; Ogontz, Michigan, 1985; Nahma, Michigan, 1985; Garden Corners, Michigan, 1985; Garden, Michigan, 1985; Fayette, Michigan, 1985; Fairport, Michigan, 1985; Point Detour, Michigan, 1985; Devils Corner, Michigan, 1985; Hiram Point, Michigan, 1983.

12. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Study, Township of Masonville, Michigan, September, 1978.

13. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Rate Maps, Township of Ford River, Michigan, April, 1978.

14. Federal Emergency Management Agency, Flood Insurance Rate Maps, Township of Nahma, Michigan, September, 1988.

15. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Rate Map, City of Gladstone, Michigan, September, 1977.

16. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Delta County, Michigan, January, 1975.

REFERENCE MARKS	ELEVATION FEET (NGVD)	METERS	DESCRIPTION OF LOCATION
RM 1	627.22	191.18	Boat spike in the south face of power pole on north side of Danforth Road, third power pole west of intersection of 30th Ave., 100' west of Willow Creek
RM 2	624.38	190 31	Boat spike in the north face of power pole, 5th power pole of northwest line of power pole's, south side of abandoned road, running northwest from 30th Ave. at railroad crossing
RM 3	626.09	190.83	Boat spike at east face of power pole on north side of the most north set of tracks, 25' west of west CMP, about 300' west of 30th Ave.
RM 4	627.49	191.26	Boat spike in the east face of power pole, 200' west of 30th Ave. and 12' south of the south rail of the south set of tracks at railroad switch.
RM 5	626 24	190 88	Boat spike in the southwest face of power pole, northeast corner of 30th Ave. and 14th Ave, just south of three track crossing on 30th Ave.
RM 6	623.30	189.98	Chiseled "X" on the west bolt on fire hydrant, on the northeast corner of U S Hwy 2 and 15th Ave.
RM 7	622 27	189.67	Boat spike in the east face of an anchor pole for street light on west side of 30th Ave , 1.2 miles north of intersection of 30th Ave. and Hwy 2 & 41.
RM 8	620 10	189 01	Boat spike in the west face of power pole on the east side of 30th Ave., power pole with cable and street light, 0.8 mile north of intersection of 30th Ave. & U S Hwy 2
RM 9	620 48	189 12	Chiseled "+" on the northwest end of the south 6' diameter CMP under 30th Ave. for Willow Creek, 0.7 mile north of intersection of 30th Ave. & U.S. Hwy 2 & 41.
RM 10	619 93	188 95	Chiseled"X" on the southeast bolt on fire hydrant, on the southeast corner of 30th Ave & 3rd Ave. N , 0 2 mile north of Hwy 2 & 41
RM 11	614 35	187 25	Chiseled square on the northeast end of the north u/s headwall for two 8' concrete pipes under 3rd Ave. N. for Willow Creek, 0 1 mile east of 30th Ave.
RM 12	617.18	188.12	Chiseled "X" on the southeast bolt on fire hydrant, on the southeast corner of intersection of 30th Ave and 1st Ave., 300' north of U.S.Hwy 2 & 41.
RM 13	617.50	188.21	Department of Transportation aluminium disk set in centerline of north sidewalk north side u/s of concrete box culvert for Willow Creek, under U.S. Hwy 2 & 41. Disk is stamped Horizontal Control Point 21-12
RM 14	612.99	186.84	Boat spike in the northwest face of power pole, on the southeast corner of 5th Ave. S. and 26th Street.
RM 15	610 24	186 00	Chiseled "X" on the south bolt on fire hydrant, south side of 5th Ave. S. at west dead end at house No. 3115.
RM 16	610 08	185 95	Chiseled "X" on the north bolt of fire hydrant at northeast corner of 8th Ave. S and 26th Street.
RM 17	608.03	185.33	Chiseled square on the southeast corner of the east wing wall for concrete headwall on the southwest corner of intersection of 8th Ave. and Willow Creek Road.
RM 18	609.95	185.91	Chiseled "+" on top of R.R. iron set vertically for guard rail Center R R iron on the north u/s side of 8th Ave. over Willow Creek, 0.25 mile west of intersection of Willow Creek Road.
RM 19	597.74	182.19	Boat spike in the east face of anchor pole on the west side of Willow Creek Road and at intersection of 18th Ave., 0 8 mile south of 8th Ave , just north of Escanaba W.W.T.P.

REFERENCE MARKS	ELEVATION FEET (NGVD)	METERS	DESCRIPTION OF LOCATION
RM 20	616.12	187.79	Chiseled square on southwest corner of bridge abutment at Willow Creek and U S Highways 2 and 41.
RM 21	612.72	186 76	Top of railroad spike in root of 18-inch diameter pine tree northwest of Willow Creek and 5th Ave S.
RM 22	607.03	185.02	Top of hydrant at the intersection of 14th Ave. S. and Willow Creek Road.
RM 23	591.82	180.39	Top of monument at the east end of the east-west runway of the Delta County Airport
RM 24	588.682	179.43	U.S. Coast and Geodetic Survey standard disk set in the southwest wingwall of bridge over Portage Creek.
RM 25	590 27	179 91	Cut "X" on top of fire hydrant at the intersection of 23rd Ave. S. and Lake Shore Drive.
RM 26	604 52	184 26	Cut "X" on top of fire hydrant at the intersection of 7th Ave. S. and Lake Shore Drive.
RM 27	590.90	180.11	Top of nut on fire hydrant across from the Coast Guard Station.
RM 28	594.34	181.15	Top of nut on fire hydrant at the intersection of Ludington Street and 3rd Street.
RM 29	584.13	178.04	Top of railroad spike driven into northwest side of power pole, 3 feet from south edge of blacktop of Portage Point Road and 0.8 mile from Hwy M-35.
RM 30	606 84	184 96	Chiseled square on center of southeast end of culvert at State Highway M-35 near entrance of Bayside Motel, approximately 1.45 miles southwest of bridge over Bark River. (Abrams Aerial Survey Corporation)
RM 31	610 27	186.01	U S Geological Survey standard brass cap stamped H-207 1972, near witness post on northwest side of State Highway M-35.
RM 32	592.29	180.53	Chiseled square on center of southeast culvert headwall, approximatelly 0.25 mile southwest along State Highway M-35 bridge over Bark River. (Abrams Aerial Survey Corporation).
RM 33	596.67	181.86	U.S. Geological Survey standard brass cap set in concrete curb at the east corner of State Highway M-35 bridge over Bark River.
RM 34	594 52	181 21	Chiseled square on center of southeast concrete culvert headwall approximatelly 0 75 mile along State Highway M-35 southwest from intersection of County Road 535. (Abrams Aerial Survey Corporation).
RM 35	593 17	180 80	U.S Geological Survey standard disk stamped F-207 1972 on northwest side of State Highway M-35 near witness post approximately 0.45 mile southwest from intersection of State Highway M-35 and County Road 535.
RM 36	590 12	179 87	Chiseled square on center of south concrete headwall at intersection of County Road 535 and State Highway M-35. (Abrams Aerial Survey Corporation).
RM 37	590 16	179.88	U.S. Geological Survey standard disk, stamped E-207 1972 on east corner of concrete headwall, approximately 0 6 mile northeast along State Highway M-35 from intersection of County Road 535.
RM 38	588.64	179 42	U.S Geological Survey standard disk, stamped D-207 1972 on north side of sand trail, approximately 1 0 mile northeast along State Highway M-35 from intersection of County Road 535.
RM 39	591.29	180.23	Chiseled square on center of southeast culvert headwall approximately 1.5 miles northeast along State Highway M-35 from intersection of County Road 535. (Abrams Aerial Survey Corp.).

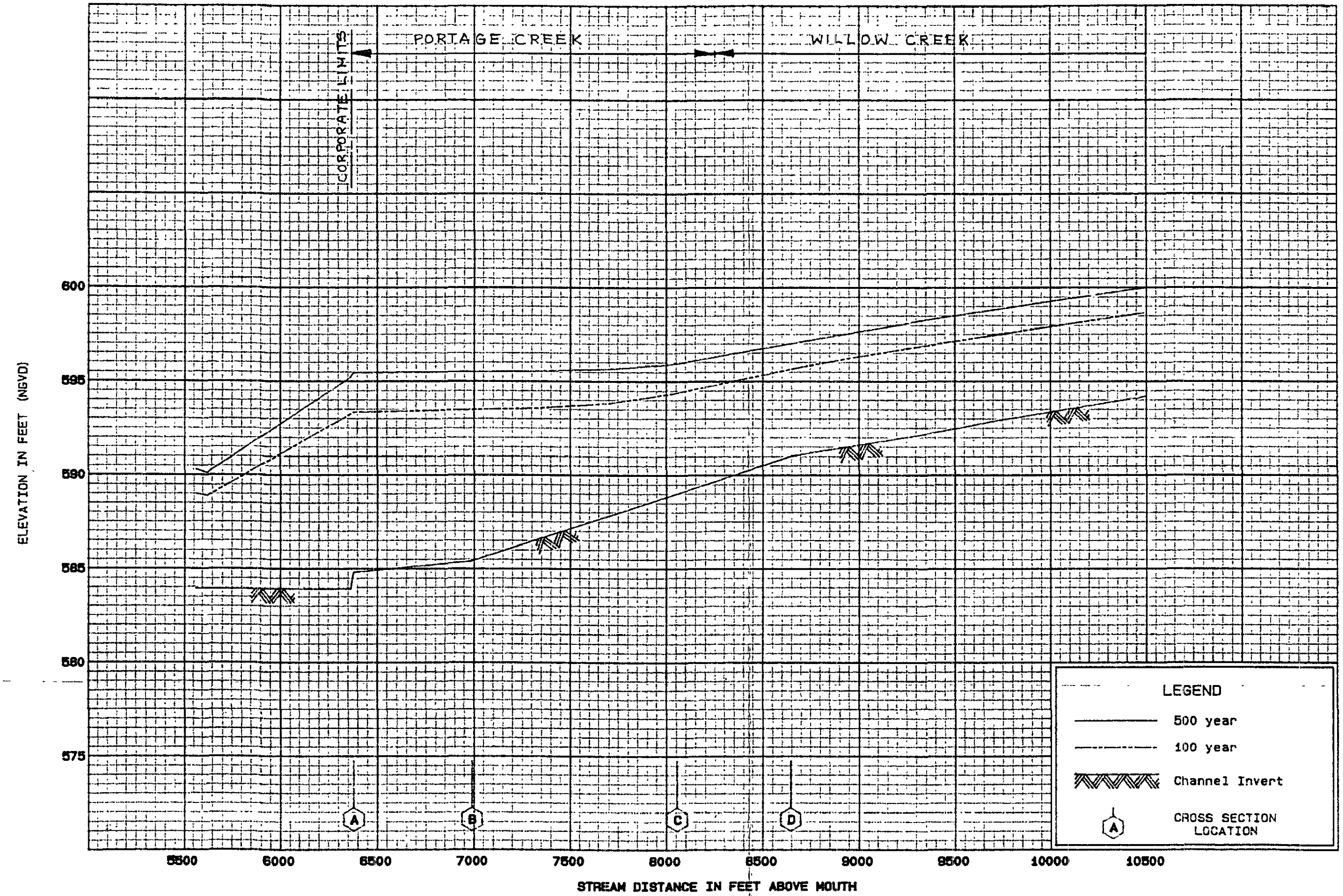
REFERENCE MARKS	ELEVATION FEET (NGVD)	METERS	DESCRIPTION OF LOCATION
RM 40	597.13	182.01	Chiseled square on southeast corner of east concrete culvert headwall at intersection of State Highway M-35 and A-25 (Abrams Aerial Survey Corporation).
RM 41	597.70	182.18	Standard U.S. Coast and Geological Survey disk stamped B-207 1972, west of the intersection of State Highway M-35 and A-23.
RM 42	598.55	182.44	Standard U.S. Geological Survey traverse station disk stamped 6 WR 1954, set in southeast concrete culvert headwall at State Highway M-35 and A-23.
RM 43	587.65	179 12	U.S. Geological Survey standard disk stamped A-207 1972, set in north concrete culvert headwall at No-see-um Creek bridge, 0 9 mile northeast along State Highway M-35 from intersection of A-23.
RM 44	588 85	179 48	U S Coast and Geological Survey Owen 1954 standard traverse station disk set in a concrete monument 0.2 foot above ground on northwest side of State Highway M-35, approximately 1.65 miles northeast from intersection of Road A-23
RM 45	588.24	179.30	U.S. Geological Survey standard azimark disk stamped Owen Az 1954, set in concrete post on southeast side of State Highway M-35, approximately 2.0 miles northeast from intersection of A-23.
RM 46	586.50	178.77	Chiseled square on center of east concrete headwall of culvert under State Highway M-35, approximately 2.6 miles northeast of A-23 (Abrams Aerial Survey Corporation).
RM 47	587.23	178.99	U.S. Geological Survey standard disk stamped Y-206 1972, set in west culvert wingwall, approximately 0.2 mile northeast on State Highway M-35 from intersection of A-14.
RM 48	585.36	178.42	Chiseled square in center of southeast culvert headwall, approximately 200 feet southwest on State Highway M-35 from intersection of A-31 (Abrams Aerial Survey Corporation).
RM 49	589.15	179.57	U S. Coast and Geological Survey X-206 standard disk set in the west wingwall of the State Highway M-35 bridge over Ford River.
RM 50	589 90	179.80	U.S Geological Survey standard disk stamped W-206 1972, on southeast side of State Highway M-35
RM 51	589 19	179.59	Chiseled square on center of culvert headwall southeast side of State Highway M-35, approximately 0.45 mile south from the intersection of Road A-11. (Abrams Aerial Survey Corporation).
RM 52	584.31	178.10	U.S. Geological Survey standard disk stamped V-206 1972, southeast of intersection of M-35 and Portage Point Road.
RM 53	610.69	186.14	Top of a concrete state highway right-of-way marker (painted white) on the north side of Lake Shore Drive, approximately 800 feet east of U.S. 2.
RM 54	590 80	180.08	Railroad spike in the north side of the power pole on the south side of Lake Shore Drive, approximately 1300 feet west of 13th Street at house No. 1607.
RM 55	587 70	179 13	North rim of a manhole casting 22 feet west of the centerline of Tenth Street and 34 feet south of the centerline of Minneapolis Ave
RM 56	585.71	178 52	Railroad spike in the power pole on the north side of Delta Ave. across from Oak Street, at Delta Ave and the entrance to the water treatment plant.

REFERENCE MARKS	ELEVATION FEET (NGVD)	METERS	DESCRIPTION OF LOCATION
RM 57	602.87	183.75	Railroad spike in the power pole at the northeast corner of Railway Ave. and Sixth Street extended.
RM 58	609.61	185.81	Standard disk stamped "T 55 1934" and set in the top of a concrete post projecting about 6" above ground, 100 feet west of the Minneapolis, St Paul and Sault Ste Marie Railway station, in the station park, 20 feet south of the centerline of the main track, and 2 ft south of a boardwalk.
RM 59	601.49	183.33	Standard disk, stamped "Gladstone 1934", and set vertically at the corner of Michigan Ave. and Tenth Street, at the public library section of the Junior High School, in the east brick wall, 50 feet north of the east entrance, 1.3 feet south of the northeast corner of the building, and 3.4 feet above the ground.
RM 60	596.12	181.70	Horizontal disk at the northeast end of the viaduct of Soo Line over M-35, on the pillar, 3 feet below the railroad tracks.
RM 61	590 79	180 07	Horizontal disk under the U.S. 2 overpass of Soo Line, 2 feet east of the western most pillar north of and above the railroad tracks.
RM 62	583 57	177.87	Railroad spike in the north face of power pole on the south side of 24.25 lane at curve Street, heading west, +- 1075' east of Bayshore Road, 0 2 mile east of Bayshore Drive.
RM 63	585.44	178 44	Chiseled "X" on east end of concrete pipe, south side of 2475 lane at residence # 7425, 0.3 mile east of Bayshore Road
RM 64	590 17	179.88	Railroad spike in the west face of power pole at the northeast corner of Bayshore Road and S 75 Road.
RM 65	584.53	178.16	Railroad spike in the west face of power pole on east side of S. 75 Road at residence # 9869 S. 75 Road, 0.3 mile east of intersection of Bayshore Drive and S. 75 Road.
RM 66	589 80	179.77	Railroad spike in the east face of power pole on west side of S. 75 Road, 200' north of T in Road, 0 5 mile from intersection of Bayshore Drive and S. 75 Road.
RM 67	592.01	180.44	Railroad spike in south face of power pole on north side of intersection of 26th and S. 6 Road.
RM 68	590.30	179 92	Railroad spike in the southeast face of power pole on northwest corner of Hubbard Street and Main Street.
RM 69	583.39	177.82	Chiseled square on northeast corner of sidewalk between a set of Johns (toilets) at the boat landing at dead end of Hubbard Road, 0 5 mile from intersection of Hubbard Street and Main St
RM 70	585.62	178.50	Chiseled "X" on south end of 15" CMP on southeast corner of road at intersection of Co. Road U-25 and Co. Road U-4, 0 5 mile south of Highway 2.
RM 71	585.88	178.58	Chiseled "X" on east end of 15" CMP on northeast corner of intersection of Co. Road U-4 and I-48, 0 1 mile from I-19 and U-4.
RM 72	635.23	193.62	Railroad spike on west face of power pole on east side of Co Road 513, 2.5 miles south of Highway 2.
RM 73	639.53	194 93	Railroad spike in the west face of power pole on the east side of Co. Road 513, 3 0 miles south of Highway 2.

REFERENCE MARKS	ELEVATION FEET (NGVD)	METERS	DESCRIPTION OF LOCATION
RM 74	630.928	192.31	Standard disk in the south end of the east headwall of a concrete culvert on U.S. Highway 4, 1,2.6miles north of U.S Highway 2. Established by U.S. Geological Survey.
RM 75	622.49	189 73	Railroad spike in north face of pole on south side of County Road I-18, 0.35 mile east of intersection with County Road I-39 at Maplewood. Established by Abrams Aerial Survey Corporation.
RM 76	631.59	192.51	Chiseled square on east corner of south headwall of concrete culvert where County Road I-39 crosses Dillaoough Creek at Maplewood, 0.2 mile northeast of intersection with U.S. Highway 41. Established by Abrams Aerial Survey Corporation.
RM 77	664.12	202.42	Top of railroad spike on west face of pole on east side of County Road I-39, 0.55 mile southwest of intersection with County Road I-14 Established by Abrams Aerial Survey Corporation.
RM 78	664.004	202.39	Standard disk in center of limestone outcrop on west side of U.S. Highway 41, 4.7 miles north of U.S. Highway 2 and just north signed entrance to the J.W. Renolds Memorial Hunting Camp Established by U.S. Geological Survey.
RM 79	656 59	200.13	Chiseled square on the east end of the south bridge step at County Road I-14 crossing of Rapid River, 0 2 mile east of County Road I-39. Established by Abrams Aerial Survey Corporation.
RM 80	660 86	201 43	Railroad spike driven flush in southeast headwall of Soo Line Railroad spur bridge across the Rapid River, 1000 feet north of railroad crossing on County Road I-39. Established by Abrams Aerial Survey Corporation
RM 81	620.09	189 00	Top of a railroad spike on southwest side of pole, in northeast corner of County Road I-20 intersection with Soo Line Railroad spur, 0.25 mile east of U.S. Highway 41. Established by Abrams Aerial Survey Corporation.
RM 82	608 15	185 36	Spike driven flush in southeast wingwall of Soo Line spur bridge across Inman Creek, 1.7 miles north of U.S. Highway 2. Established by Abrams Aerial Survey Corporation.
RM 83	599.85	182 83	Railroad spike in the south side of a pole northeast of the abandoned bridge site on the Rapid River, 0.8 mile north and 0 1 mile east of the intersection of U.S. Highway 2 and Main Street. Established by Abrams Aerial Survey Corp.
RM 84	594.03	181.06	Disk set in a concrete post 0.3 mile northeast along Soo Line Railroad from Old U.S. Highway 2 crossing, 50 feet south of milepost 342, 42.5 feet south-east of the southeast rail. Established by U S Coast and Geodetic Survey
RM 85	593 09	180 77	Southwest along Soo Line Railroad 1 10 miles from intersection with Main Street, railroad spike in north face of pole in west quadrant of intersection with County Road I-32 Established by Abrams Aerial Survey Corporation.
RM 86	587.83	179.17	Chiseled square on the south wingwall of the Soo Line Railroad bridge over the Tacoosh River Established by Abrams Aerial Survey Corporation.
RM 87	591.55	180.30	Top of railroad spike in west face of pole east side of Main Street, 0.4 mile south of U.S. Highway 2 and opposite intersection with Washington Street
RM 88	591.64	180.33	Standard disk stamped x204-1972, set in the top of the south end of the west concrete bridge seat for U.S Highway 2 bridge across the Rapid River Established by U.S. Coast and Geodetic Survey
RM 89	586.709	178 83	Standard disk set in southwest wingwall of U.S. Highway 2 bridge across Whitefish River. Established by U.S. Geological Survey.

REFERENCE MARKS	ELEVATION FEET (NGVD)	METERS	DESCRIPTION OF LOCATION
RM 90	624.684	190.40	Standard disk stamped z-56 set in concrete post, 27 feet south of railroad centerline at the edge of a sandfill, 2.3 miles east along Soo Line Railroad from Rapid River or 0.2 mile east of milepost 351. Established by U.S.Coast and Geogetic Survey.
RM 91	659.388	200.98	At U.S. Highway 2 and Soo Line Railroad overpass, tablet set in northwest overpass wingwall. Established by U.S. Coast and Geodetic Survey.
RM 92	588.51	179.38	Top railroad spike driven horizontally into southeast face of pole, north side of Garth Point Road, 0.8 mile west from intersection with County Road 513 Established by Abrams Aerial Survey Corporation.
RM 93	587.72	179.14	Standard brass cap set in the lower part of the bridge wingwall, on the south corner of bridge on North Lake Shore Drive over Days River.
RM 94	594 50	181 20	Railroad spike driven into northwest face of power pole, 0 5 mile southwest of intersection of Lake Shore Drive and Days River Road.
RM 95	589.176	179.58	U S Coast and Geodetic Survey tablet set in concrete post buried 3 inches at northeast corner of roadway and Lake Shore Drive, 1.4 miles southwest of intersection of Lake Shore Drive and Days River Road.
RM 96	584 92	178.28	Chiseled square on top of the northwest end of pipe culvert at the Skeleton Road stop sign, 1.8 miles southwest of intersection of Lake Shore Drive and Days River Road.
RM 97	596 64	181 86	Chiseled square on the southeast corner of the west u/s headwall for concrete culvert, 1.9 miles south along County Road 497.
RM 98	592.96	180.73	Chiseled square on the southeast end of east u/s concrete headwall for concrete box culvert, 3.0 miles south along County Road 497
RM 99	587.85	179.18	PK nail in the centerline of intersection of County Road 497 and L.13, 3.7 miles south of intersection of County Road 497 and U.S. 2.
RM 100	584 63	178 20	PK nail in the centerline of intersection of County Road 495 and L.13, 0 8 mile west of intersection of L.13 and County Road 497.
RM 101	592 27	180.52	Railroad spike in south face of power pole on north side of County Road 495, 0.5 mile norteast of intersection 11.5 LA
RM 102	594.00	181.05	Railroad spike in the west face of a 36" oak tree on east side of County Road 495 at end of curve to north and at Dirt Road N and southwest side of golf course, 1 1 miles northeast of intersection of County Road 495 and 11.5 LA. and L9.
RM 103	588.07	179 24	Boat spike in the west face of power pole on east side of M-183, across from Garden Township park at residence # 9316, 0.5 mile south of intersection of Highway 2 and M-183.
RM 104	608 29	185 41	Boat spike in the east face of power pole on west side of M-183, across from north end to Big Bay de Noc school, 1 5 miles south of intersection of Highway 2 and M-183.

Note: Reference Marks 20 - 62 and 75 - 97 are taken from existing FISs and have not been verified by survey crew as of April 1994.



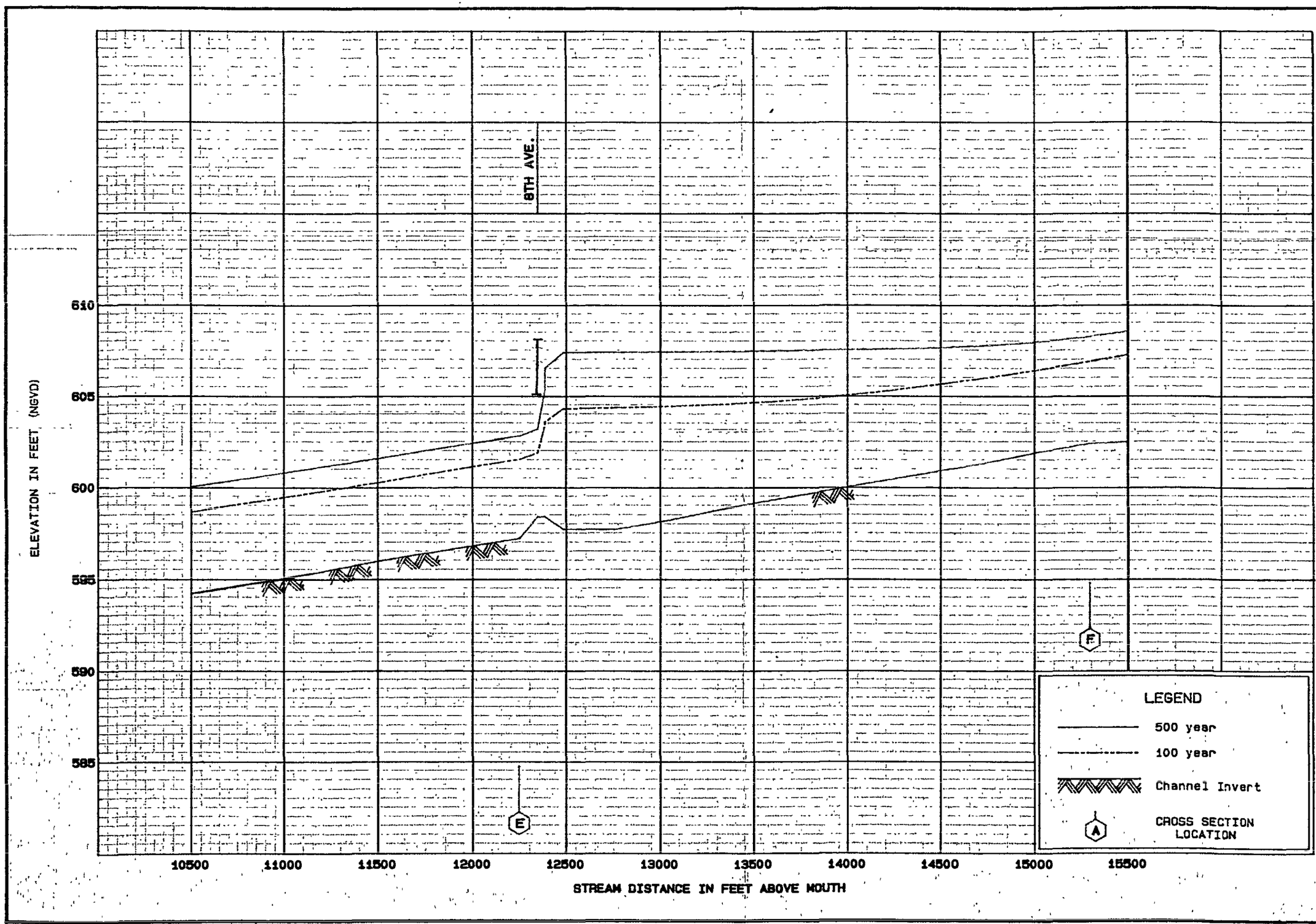
FLOOD PROFILES

PORTAGE - WILLOW CREEKS

Federal Emergency Management Agency

DELTA COUNTY, MI

01P



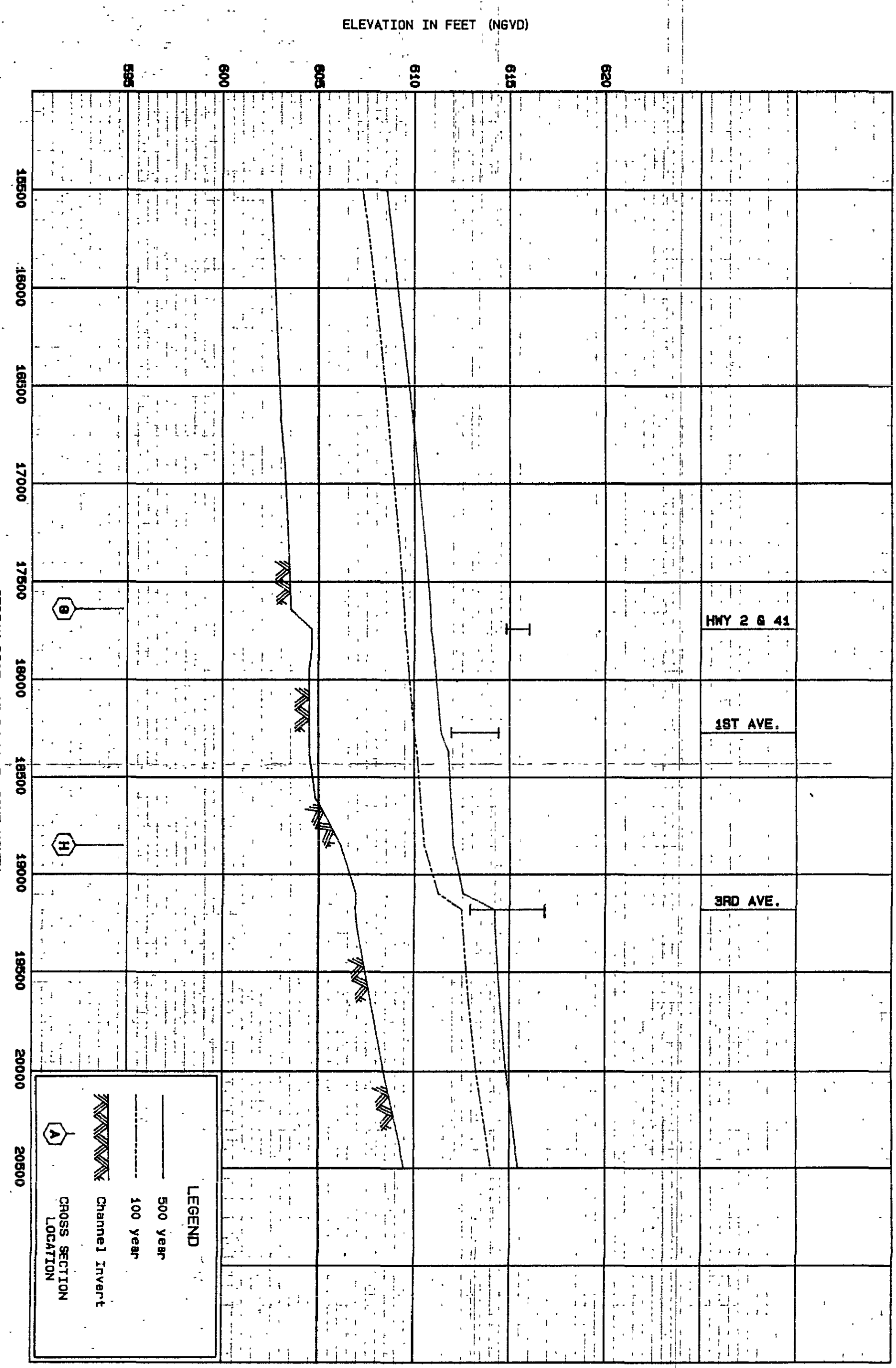
FLOOD PROFILES

WILLOW CREEK

Federal Emergency Management Agency

DELTA COUNTY, MI

02P



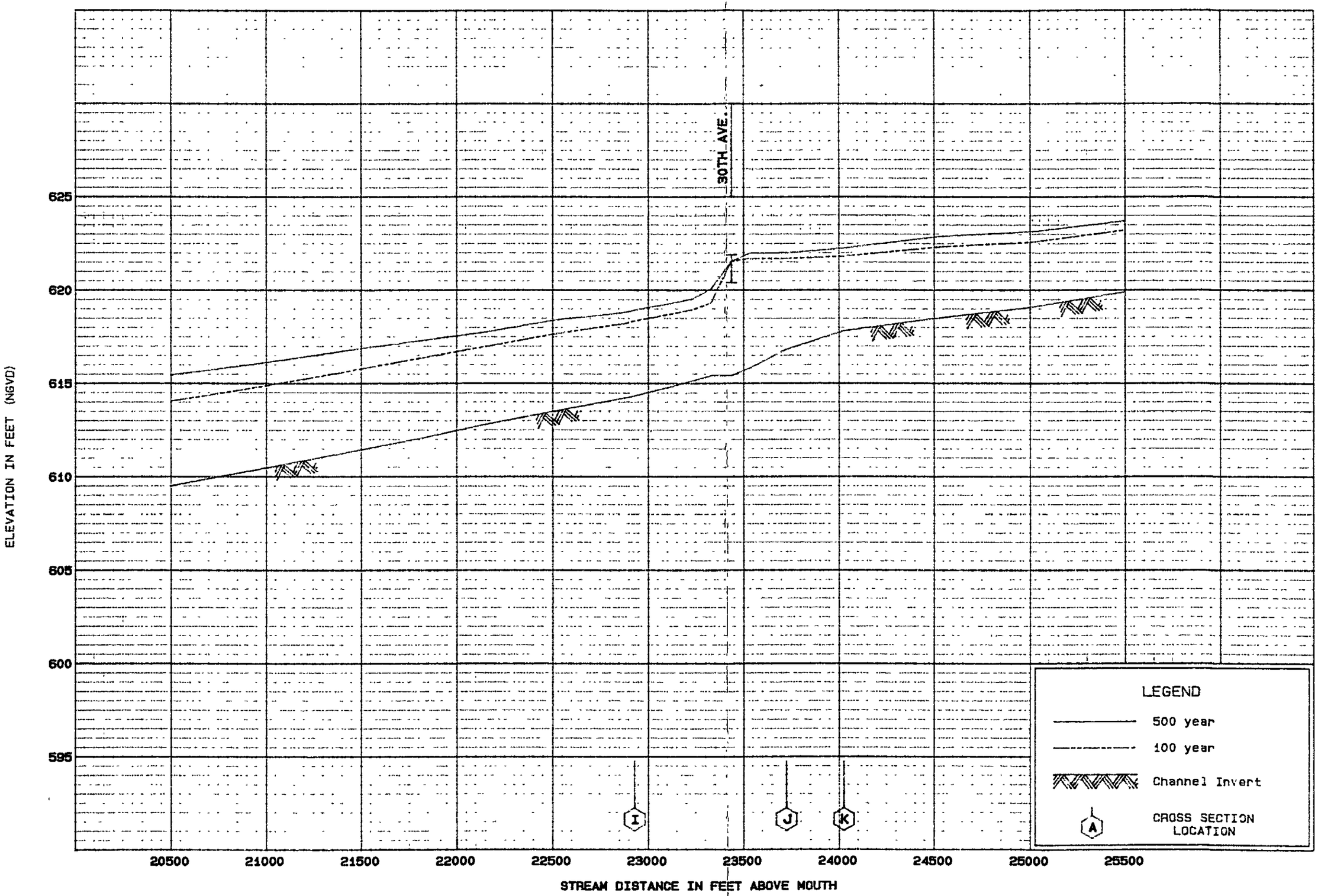
Federal Emergency Management Agency

DELTA COUNTY, MI

FLOOD PROFILES

WILLOW CREEK

03P



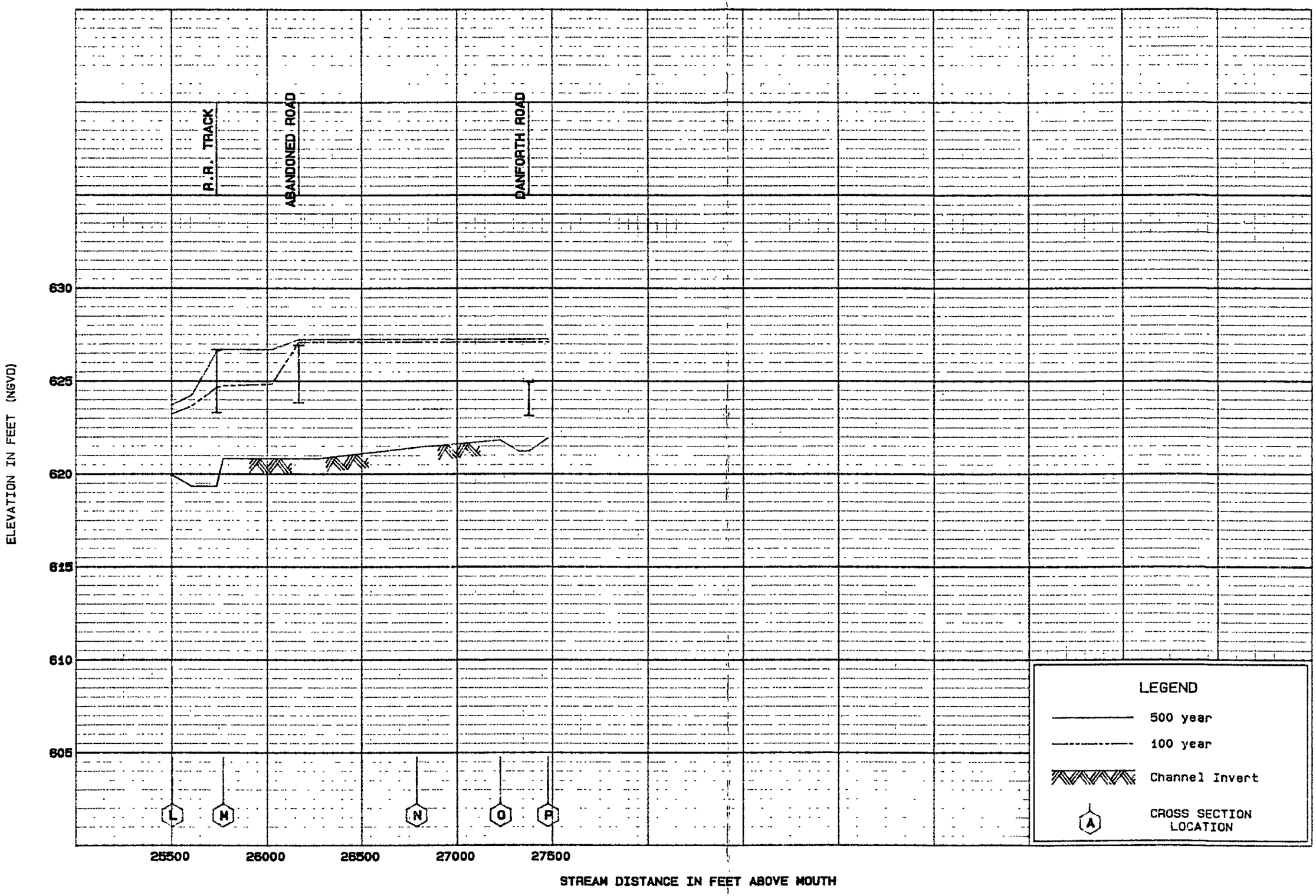
FLOOD PROFILES

WILLOW CREEK

Federal Emergency Management Agency

DELTA COUNTY, MI

04P



FLOOD PROFILES

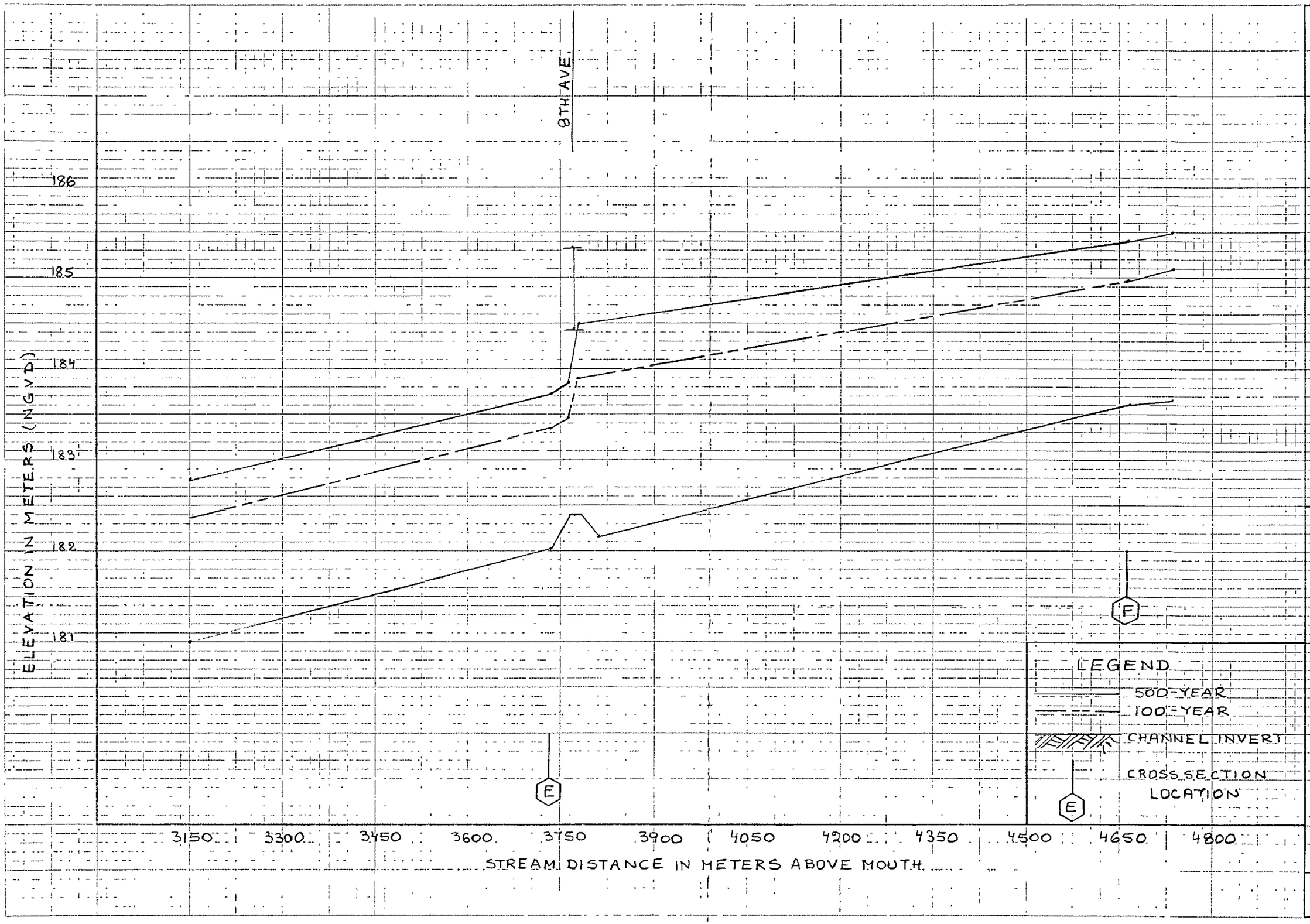
WILLOW CREEK

Federal Emergency Management Agency

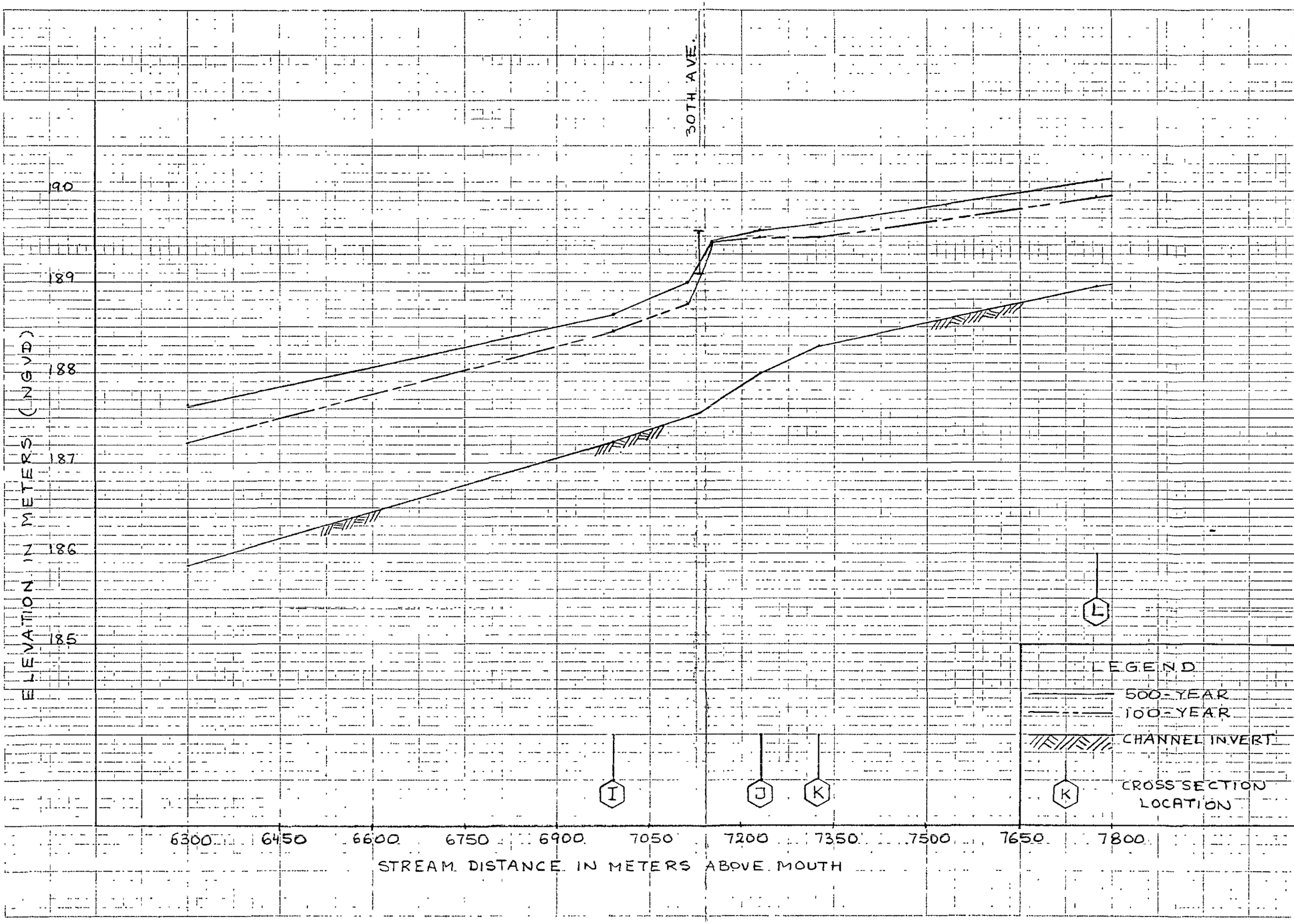
DELTA COUNTY, MI

05P

NO 341D-10 DIETZGEN GRAPH PAPER
10 X 10 PER INCH
DIETZGEN CORPORATION
MADE IN U.S.A.


8TH AVE.
186
185
184
183
182
181
ELEVATION IN METERS (NGVD)
3150
3300
3450
3600
3750
3900
4050
4200
4350
4500
4650
4800
STREAM DISTANCE IN METERS ABOVE MOUTH
E
F
LEGEND
500-YEAR
100-YEAR
CHANNEL INVERT
CROSS SECTION LOCATION
FLOOD PROFILES
WILLOW CREEK
FEDERAL EMERGENCY MANAGEMENT AGENCY
DELTA COUNTY, MI
02P

FEDERAL EMERGENCY MANAGEMENT AGENCY
DELTA COUNTY, MI
FLOOD PROFILES
WILLOW CREEK
LEGEND
500-YEAR
100-YEAR
CHANNEL INVERT
CROSS SECTION LOCATION
H
H
G
STREAM DISTANCE IN METERS ABOVE MOUTH
4650
4800
4950
5100
5250
5400
5550
5700
5850
6000
6150
6300
ELEVATION IN METERS (NGVD)
183
184
185
186
187
188
3RD. AVE.
1ST. AVE.
HWY 2 & 41



FEDERAL EMERGENCY MANAGEMENT AGENCY

DELTA COUNTY, MI

FLOOD PROFILES

WILLOW CREEK

04P

FEDERAL EMERGENCY MANAGEMENT AGENCY

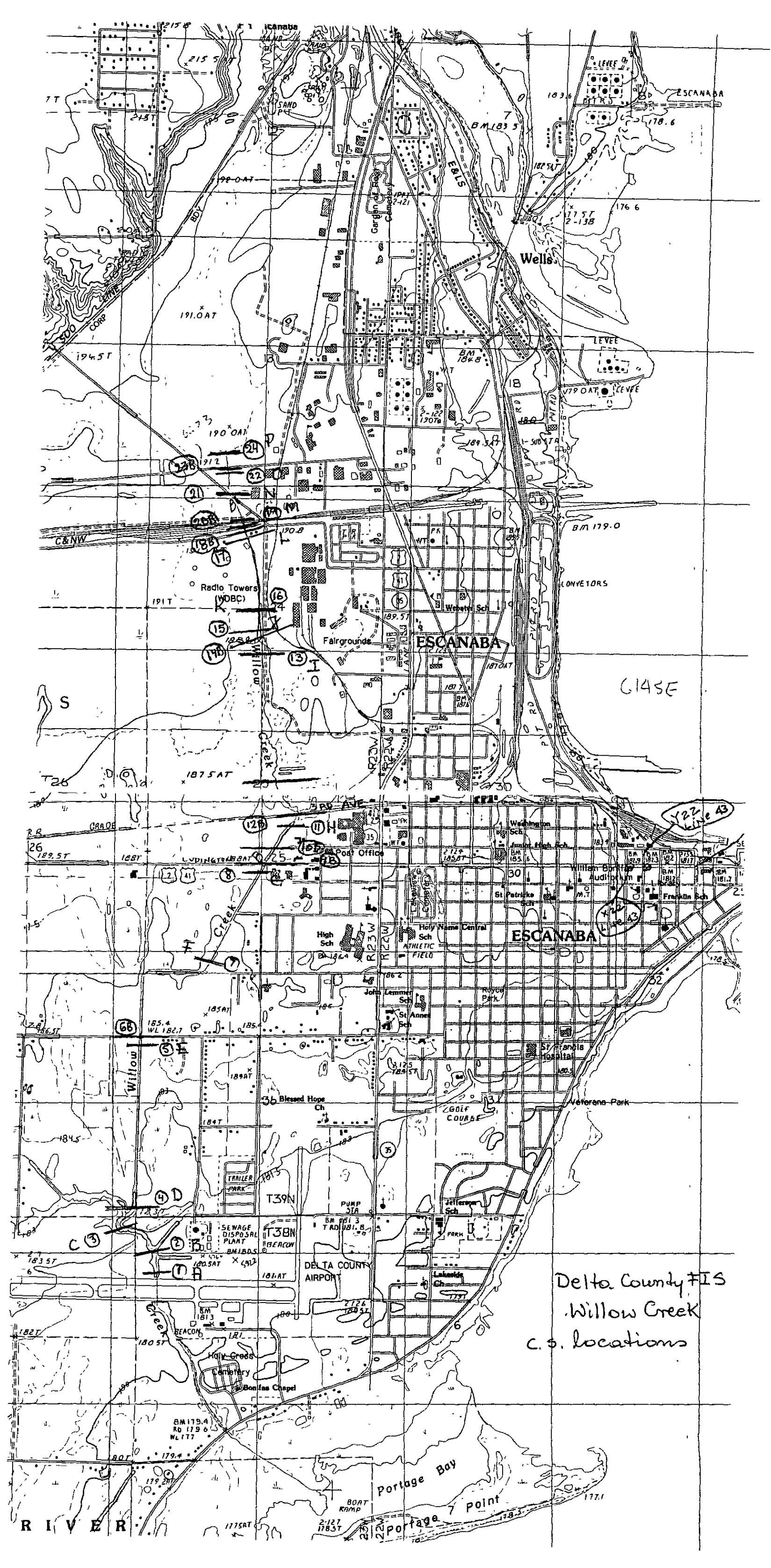
DELTA COUNTY, MI

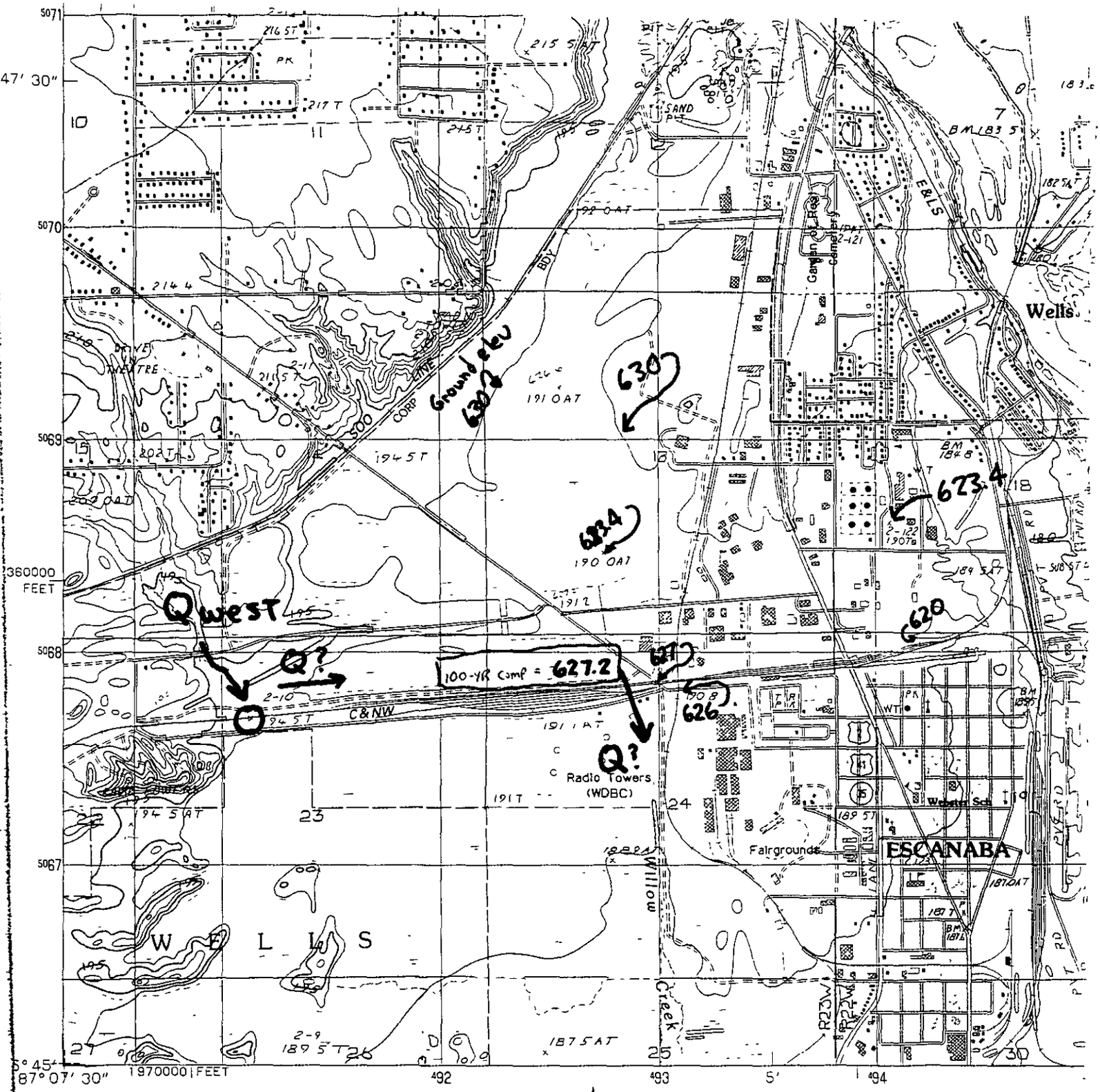
FLOOD PROFILES

WILLOW CREEK

05P

NO 341D 10 DIETZGEN LINEN PAPER 10 X 10 PER INCH
DIETZGEN CORPORATION MADE IN U.S.A.


ESCANABA
Wells
LEVEE
C&NW
Radio Towers (WDBC)
Fairgrounds
Webster Sch
CONVEYORS
Washington Sch
Junior High Sch
Post Office
William Bonifas Auditorium
St Patricks Sch
Franklin Sch
High Sch
Holy Name Central Sch
ATHLETIC FIELD
John Lemmer Sch
Royce Park
St Annes Sch
St Francis Hospital
Veterans Park
Blessed Hope Ch
GOLF COURSE
TRAILER PARK
T39N
PUMP STA
Jefferson Sch
SEWAGE DISPOSAL PLANT
T38N
BEACON
DELTA COUNTY AIRPORT
Lakeside Ch
Holy Cross Cemetery
St Bonifas Chapel
Portage Bay
Portage Point
BOAT RAMP
RIVER
Willow Creek
R22W
R23W
3RD AVE
Delta County FIS
Willow Creek
c.s. locations



DUCED BY THE UNITED STATES GEOLOGICAL SURVEY
TROL BY. . . . . USGS AND NOS/NOAA
TILED FROM AERIAL PHOTOGRAPHS TAKEN 1978
CHECKED . . . . . 1981. MAP EDITED 1985
ECTION . . . . . UNIVERSAL TRANSVERSE MERCATOR
1000-METER UNIVERSAL TRANSVERSE MERCATOR . . . . . ZONE 16
10,000-FOOT STATE GRID TICKS . . . . . MICHIGAN, NORTH ZONE
GRID DECLINATION . . . . . 0°03' WEST
MAGNETIC NORTH DECLINATION . . . . . 2°30' WEST
CAL DATUM . . . . . NATIONAL GEODETIC VERTICAL DATUM OF 1929
ZONTAL DATUM . . . . . 1927 NORTH AMERICAN DATUM
place on the predicted North American Datum of 1983,
e the projection lines as shown by dashed corner ticks
eters north and 6 meters east)
e may be private inholdings within the boundaries of any
al and State Reservations shown on this map
tint indicates areas in which selected buildings are shown

NORTH

PROVISIONAL MAP
Produced from original manuscript drawings. Information shown as of date of field check. 2

SCA

1000 0 1000 2000 3000

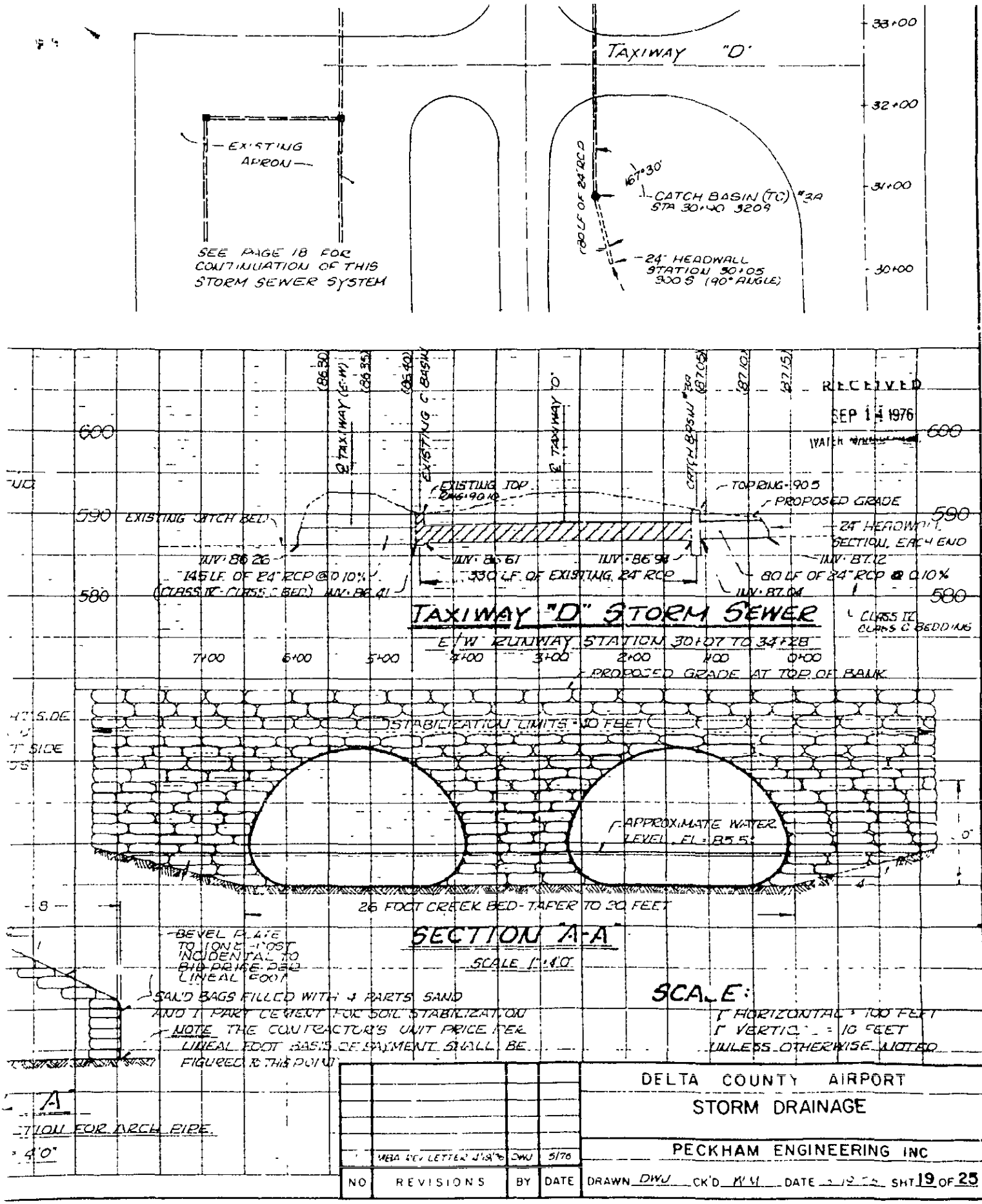
CONTOUR

178.5 METER SUPPLEMENT

CONTROL AND FIELD ESTABLISHED B
OTHER ELEVATIONS SH

To convert me
To convert fee

THIS MAP COMPLIES WITH
FOR SALE BY U.S. GEOLOGIC
AND GEOLOG
MICHIGAN DEPARTMENT OF NATU


TAXIWAY "D"
33+00
32+00
31+00
30+00
EXISTING APRON
SEE PAGE 18 FOR CONTINUATION OF THIS STORM SEWER SYSTEM
167+30'
CATCH BASIN (TC) #3A
STA 30+40 32.09
(80 LF OF 24" RCP)
24" HEADWALL
STATION 30+05
30.05 (90° ANGLE)
(86.30)
(86.35)
(86.40)
(87.05)
(87.10)
(87.15)
W TAXIWAY (E-W)
EXISTING CATCH BASIN
E TAXIWAY "D"
CATCH BASIN #3A
RECEIVED
SEP 14 1976
WATER
600
590
580
EXISTING TOP RING-90.10
TOP RING-90.5
PROPOSED GRADE
EXISTING CATCH BED
24" HEADWALL SECTION, EACH END
INV-86.26
145 LF OF 24" RCP @ 0.10%
(CLASS IV-CLASS C BED)
INV-86.41
INV-86.61
330 LF OF EXISTING 24" RCP
INV-86.94
INV-87.12
80 LF OF 24" RCP @ 0.10%
INV-87.04
TAXIWAY "D" STORM SEWER
E/W RUNWAY STATION 30+07 TO 34+28
CLASS IV
CLASS C BEDDING
7+00
6+00
5+00
4+00
3+00
2+00
1+00
0+00
PROPOSED GRADE AT TOP OF BANK
STABILIZATION LIMITS-10 FEET
APPROXIMATE WATER LEVEL EL=85.5
26 FOOT CREEK BED-TAPER TO 20 FEET
SECTION A-A
SCALE 1"=4'0"
BEVEL PLATE TO CONCRETE INCIDENTAL TO BID PRICE PER LINEAL FOOT
SAND BAGS FILLED WITH 4 PARTS SAND AND 1 PART CEMENT FOR SOIL STABILIZATION
NOTE THE CONTRACTOR'S UNIT PRICE PER LINEAL FOOT BASIS OF PAYMENT SHALL BE FIGURED TO THIS POINT
SCALE:
1" HORIZONTAL = 100 FEET
1" VERTICAL = 10 FEET
UNLESS OTHERWISE NOTED
A
SECTION FOR ARCH PIPE
= 4'0"
NO
REVISIONS
BY
DATE
MBA PER LETTER 1/19/76
DWJ
5/76
DELTA COUNTY AIRPORT
STORM DRAINAGE
PECKHAM ENGINEERING INC
DRAWN DWJ CK'D KWM DATE SHT 19 OF 25
FILE NO FM 21-1-C26

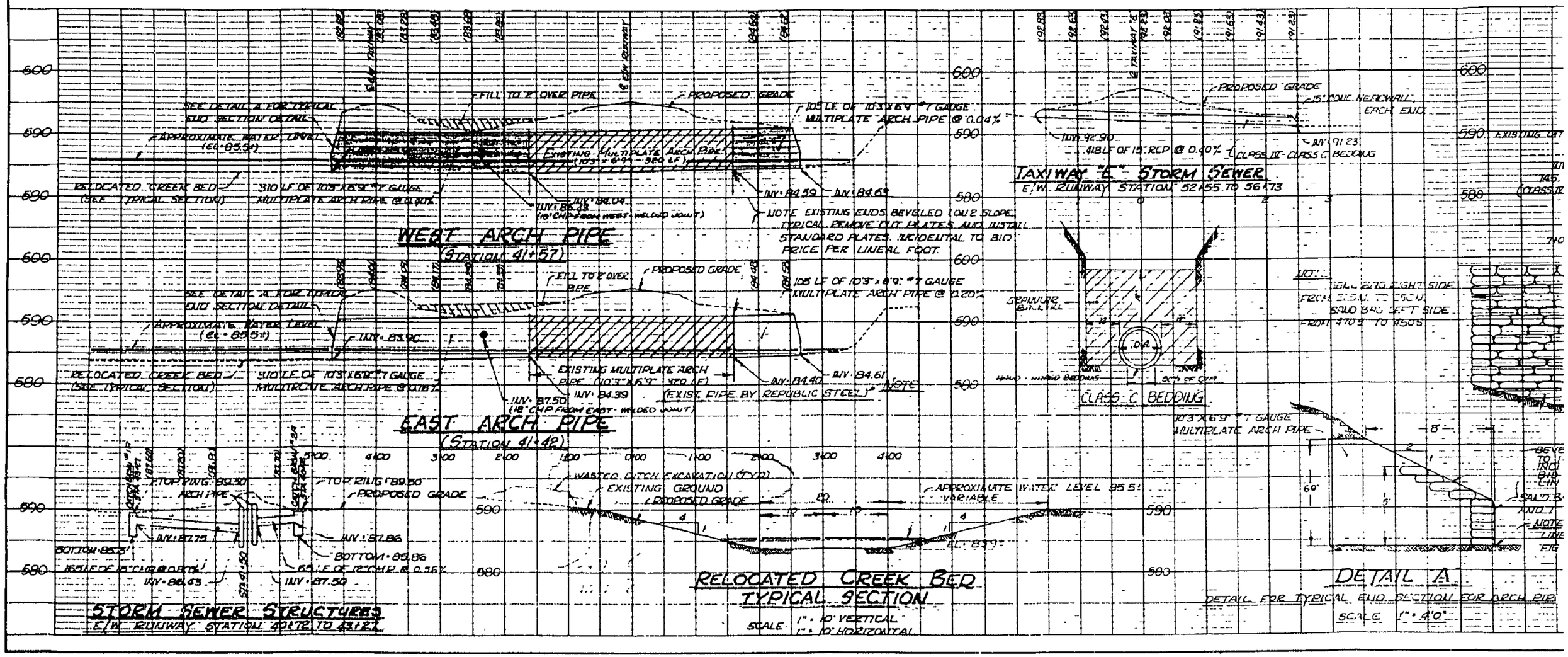
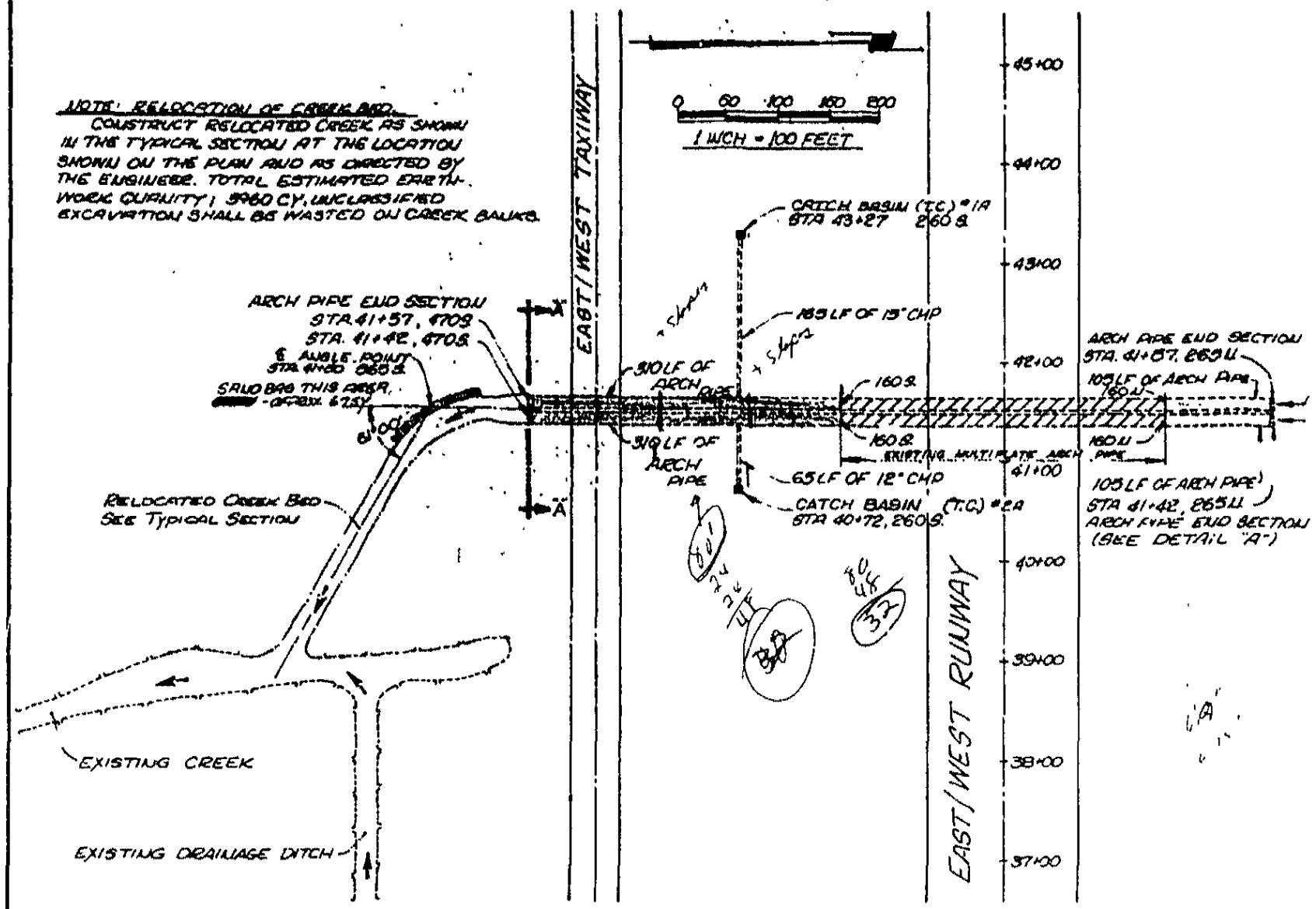


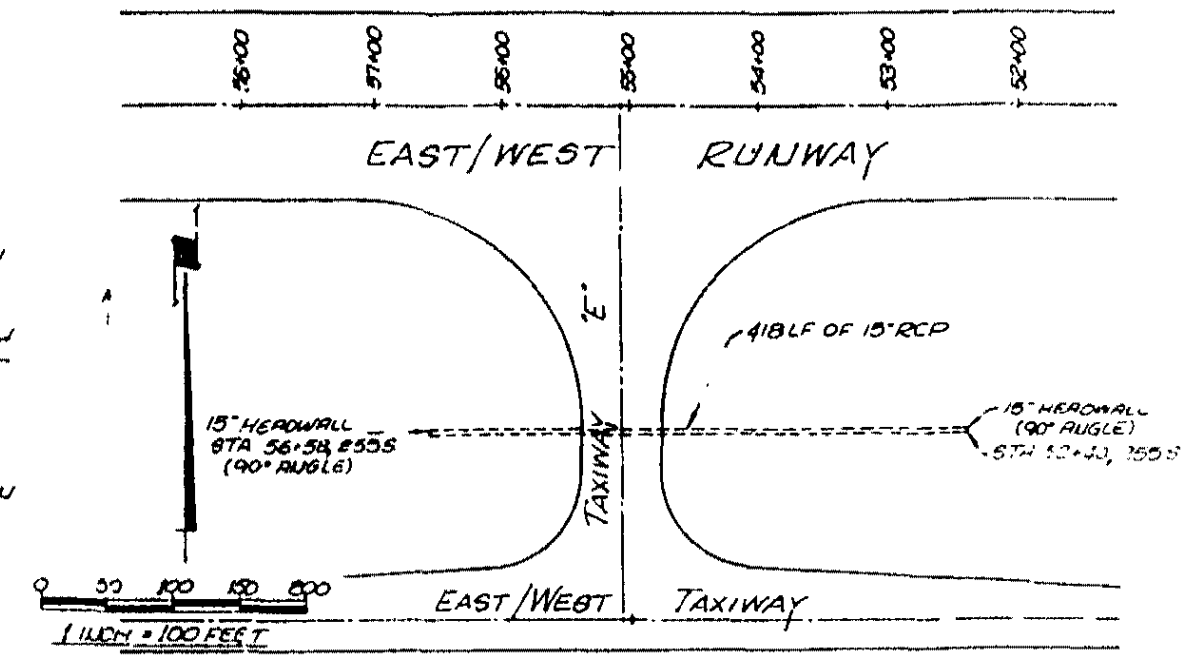
PLATE 1 PLAN-PROFILE B.P.R. STANDARD

NOTE: RELOCATION OF CREEK BED.
CONSTRUCT RELOCATED CREEK AS SHOWN IN THE TYPICAL SECTION AT THE LOCATION SHOWN ON THE PLAN AND AS DIRECTED BY THE ENGINEER. TOTAL ESTIMATED EARTH-WORK QUANITY; 3960 CY, UNCLASSIFIED EXCAVATION SHALL BE WASTED ON CREEK BANKS.



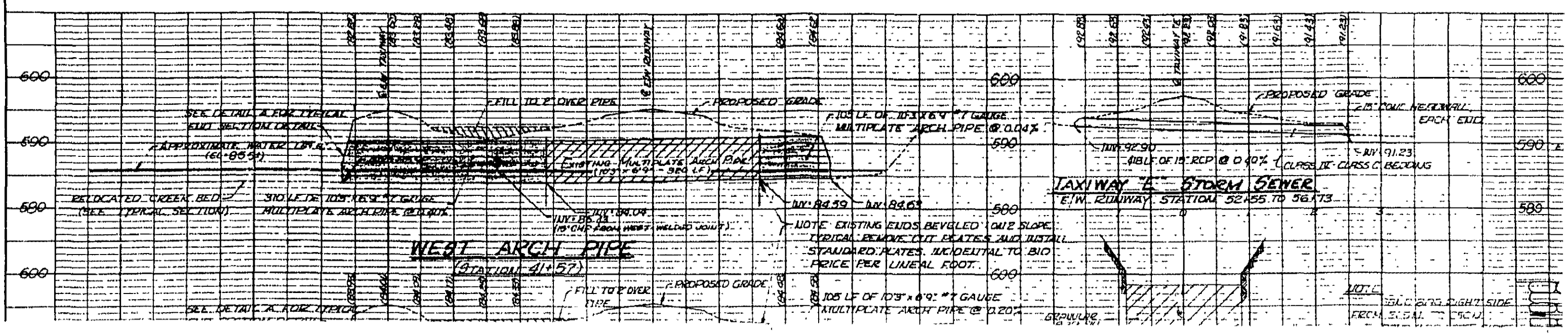
ESTIMATED QUANTITIES OF DRAINAGE SYSTEM (THIS SHEET)

ITEM NO	ITEM	QUANTITY	UNIT
701 7 521	12" CORRUGATED STEEL PIPE, 16 GAUGE	65	LF
701 7 522	15" CORRUGATED STEEL PIPE, 16 GAUGE	165	LF
701 7 518	15" RCP, CLASS IV	418	LF
701 7 515	24" RCP, CLASS IV	225	LF
701 7 526	10'-3" x 6'-9" 7 GAUGE MULTIPLATE ARCH PIPE	830	LF
701 7 521	CATCH BASIN WITH COVER D-4, 10' DEEP OR LESS	3	EACH
752 7 510	STRUCTURAL CONCRETE	440	CY
752 7 520	REINFORCING STEEL	74	LBS
752 7 530	SAND BAG SLOPE PROTECTION	240	SY
132 7 410	UNCLASSIFIED EXCAVATION FOR CREEK RELOCATION	3960	CY



752 7530 - [illegible]

[illegible]



PLAN
NOTE BOOK
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT OF WAY CHECKED
No.
DATE
BY

ESCANABA MICH

F. I. S

April 12, thru April 18, 94

T. ROZNOWSKI

K. DRAKE

INDEX

TBM DESCRIPTIONS

Pg-1D Thru 6D

Levels

Pg-1L Thru Pg-32L

VALLEY SECTIONS & BRIDGES

Pg-1 Thru 95

IBM DESCRIPTIONS

Pg-22 Levels

TBM 7

A chiseled "X" on S. BOLT on FH S. SIDE of 5th AVE S. @ W. DEAD END @ Resid. # 3115

ELEV. 610.24

Pg-22 Levels

TBM 26th

A BOAT SPIKE IN THE N.W. FACE of P.P., ON THE S.E. CORNER OF 5th AVE. S. & 26th ST.

ELEV. 612.99

Pg-52 Levels

TBM 8th

A CHISELED "X" ON The N. BOIT OF F.H. @ N.E CORNER of 8th AVE SO. & SO. 26th ST.

ELEV. 610.08

Pg-52 Levels

TBM WILLOW

A CHISELED □ ON The S.E CORNER of the E WING WALL for CONC. HEADWALL ON The S.W. CORNER of INTER. of 8th AVE. & WILLOW CREEK RD.

ELEV. 608.03

pg-62 Levels

TBM 68

A CHISELED "+" ON TOP of R.R. IRON SET Vertically for GUARD RAIL. CENTER R.R. IRON ON THE N. U/S SIDE of 8TH AVE OVER willow CREEK. 0.25 MI. W. of INTER of willow CREEK RD.

ELEV. 609.95

pg-13L Levels

TBM 30TH

A BOLT SPIKE IN THE S.W. FACE of P.P. N.E. CORNER OF 30TH AVE. & 14TH AVE. JUST S. of A three TRACK CROSSING ON 30TH AVE.

ELEV. 626.24

pg-3D

pg-20L Levels

TBM A

A BOLT SPIKE IN THE E FACE of P.P. 200' W. of 30TH AVE & 12' S. of THE S. RAIL of The S. SET of TRACKS @ R.R. switch.

ELEV. 627.49

TBM B

pg-20L Levels

BOLT SPIKE E. FACE P.P. N. SIDE of MOST N. SET of TRACKS 25' W. of W. cmp. 300' ± W. of 30TH AVE

ELEV. 626.09

(11.577)

pg-12L Levels

TBM C

A chiseled "X" ON W BOLT ON F.H., ON THE S.E CORNER OF Hwy U.S. 2 & 5TH AVE.

ELEV. 623.30

pg-14L Levels

TBM D

A BOAT SPIKE IN THE E. face of OF Anchor Pole for STreet Light W. SIDE of 30TH AVE. 0.2 mi. N of INTER. of 30th AVE & Hwy 41 & 2.

ELEV. 622.27

pg-14L Levels

TBM E

A boat spike in the W face of P.P. ON the E SIDE of 30TH AVE P.P. with cable & STreet Light. 0. mi. N of INTER. OF 30th Ave & U.S. Hwy 2 & 41.

ELEV. 620.10

pg-14L Levels

TBM F

A chiseled + ON THE N.W. END of the S. 6' DIA. cmp under 30th Ave. For willow CRK 0. mi. N OF INTER. of 30th AVE & U.S. Hwy 2 & 41

ELEV. 620.48

pg-15L Levels

TBM G

A BOAT SPIKE IN THE W. FACE of P.P. E SIDE of 30th AVE. P.P. with cable for STreeT Light. 0. mi N. of INTER. of 30th AVE & U.S. Hwy 2, & 41

ELEV. 616.55

pg-15L Levels

TBM H

A Chiseled "X" ON The S E bolT ON F.H., ON The S.E. CORNER of 30TH AVE & 3rd AVE. NO.

ELEV. 619.93

pg-32L Levels

TBM I

A chiseled □ ON N.E. END of The N. U/S Head-WALL for TWO 8' CONC. PIPES under 3rd AVE. No. for willow CRK.

ELEV 614.35

pg-15L Levels

TBM J

A chiseled "X" ON The S.E. bolT ON F.H. ON The S.E. CORNER of INTER. of 30TH Ave & 1st Ave

ELEV. 617.18

Pg-15L Levels

TBM K

A Dep. of TRAN. ALUM. DISK SET IN ¢ of N. SIDEWALK N. SIDE U/S of CONC. box CULVERT for willow CRK under U.S Hwy 2 & 41. DISK is STAMPED HORZ. CONTROL PT 21-12.

ELEV 617.50

Pg-18L Levels

TBM L

A boat spike in the N. FACE of P.P. 5TH P.P. of N. LINE of P.P.'S S. SIDE of ABANDON RUNNING N.W. FROM 30TH AVE. @ R.R. CROSSING

ELEV. 624.38

Pg-CD

Pg-9L Levels

TBM M

A boat SPIKE IN the E FACE of ANCHOR Pole ON The W. SIDE of Willow Creek Rd. & @ INTER OF 18TH AVE 0.8 S. of 8TH AVE JUST N. of ESCANABA W.W.T.P.

ELEV. 597.74

Pg-22L Levels

TBM N

A boat spike IN the S. FACE of P.P. N. SIDE of Third P.P. W. of INTER. of 30TH Ave. 100' W. of willow creek

ELEV. 627.22

Level Loop 1.

From BM R206 NGS

@ Escanaba Public school

W. along 5th Ave, set

TBM 26th & TBM 7

Apr. 1 1999 Pg-2L

	+	HI	−	ELEV		
BM R 206				611.577		1929 Datum NGS Dist set vert. in E face of SW corner of foundation ESCAM Sch
	2.849					Heading W.
TP-1			4.734	609.692	+1.885	DOT N Edge 5th Ave
	6.202					
TP-2			4.228	611.666	+1.974	" " "
	5.269					
TBM 26th			3.950	612.986 Adj. +.001 612.985	+1.319	Pg-20 Desc. bolt spike in P.P. 26th Ave & 5th Ave
	3.288					
TP-3			5.430	610.843	+2.142	DOT N Edge 5th Ave
	4.202					
TP-4			5.375	609.670	+1.173	" " "
	4.621					
TP-5			4.530	609.761	+.091	" " "
	3.910					
TP-6			5.449	608.222	+1.539	DOT S Edge 5th Ave
	5.847					
TBM 7			3.830	610.242 Adj. +.003 610.239	+2.017	Pg-20 Desc. FH W Dead End 5th Ave S side @ Bldg 3115.

Return

Return →

Pg-3L

	+	HI	−	ELEV.	
TBM 7				610.239	
	3.864				
TP-6			5.879	608.224	-2.015
	5.580				
TP-5			4.039	609.765	1.541
	4.540				
TP-4			4.633	609.672	.093
	5.365				
TP-3			4.192	610.845	1.173
	5.348				
TBM 26th			3.203	612.990	2.145
	3.878				
TP-2			5.201	611.667	-1.322
	4.231				
TP-1			6.209	609.689	-1.978
	4.701				
BM R206			2.818	611.572	1.883

Return

Pg-2L

611.577 pub 1929 Datum.
611.572 closure
diff: .005

Level Loop

TBM 26th

April 1994 pg-5L

	+	HI	−	ELEV.		
TBM 26th				612.986 ✓		Pg-2L Levels — Bort spike N. side, face P.P., SE corner 5th Ave & 26 st.
	3.241					
TP-1			5.623	610.604 ✓	− 2.382	Head S. DOT W. Edge 26th ST.
	3.901					
TP-2			5.589	608.916 ✓	− 1.688	" " "
	4.138					
TBM 8th			2.972	610.079 adj. −.003 610.082 ✓	+ 1.166	Pg-2D Desc. — F.H. N.E corner 26th ST & 8th Ave
	2.610					Heading W.
TP-3			5.155	607.537 ✓	− 2.595	DOT N Edge 8th Ave
	4.958					
TP-4			4.491	608.004 ✓	+ .467	" " "
	5.249					
TP-5			5.067	608.186 ✓	+ .182	" " "
	4.604					
TP-6			5.181	607.609 ✓	− .577	" "
	5.075					
TP-7			4.939	607.745 ✓	+ .136	" "
	5.667					
TBM Willow			5.375	608.029 adj. −.008 608.037 ✓	+ .292	Pg-2D Desc. — Chiseled □ S.E. corner wall S.W corner 8th Ave & Willow CPK Fa

	+	HI	−	ELEV.										Pg-6L
TBM Willow				608.029 608.037			Pg-5L							
	4.001													
TP-8			4.915	607.123	✓ .914		DOT N. Edge 8th Ave							
	5.603													
TP-9			4.801	607.925	✓ .802		"		"					
	5.140													
TBM 6B			3.101	609.954 609.964	Adj. -.010 ✓ +2.039	Pg-3D Desc.	Chiseled + on Top of RR from N. Side 8th Ave @ Willow Cr							
		Return												
TBM 6B				609.964			Above							
	3.222													
TP-9			5.259	607.927	✓ 2.039		"		"					
	4.890													
TP-8			5.695	607.122	✓ .805		"							
	4.950													
TBM Willow			4.035	608.037	✓ .915									
	5.460													
TP-7			5.754	607.743	✓ 294									
					✓ K.D									

	+	H.I.	−	ELEV.	
TP-7				607.743	
	4.921				
TP-6			5.053	607.611	.132
	5.243				
TP-5			4.660	608.194	.583
	5.149				
TP-4			5.330	608.013	.181
	4.431				
TP-3			4.894	607.550	.463
	5.060				
TBM 8th			2.511	610.099	2.549
	3.012				
TP-2			4.175	608.936	1.163
	5.510				
TP-1			3.825	610.621	1.685
	5.606				
TBM 26th			3.221	613.006	2.385
				V.D.	

613 006 closure
612 986
diff. + .020

Level Loop

From TBM willow

S. along willow Rd

set TBM @ 19 Ave.

Apr. 1994 pg-9L

	+	HI	−	ELEV.			
TBM Willow				608.029	Pg-52 Levels	chiseled □ on S.E corner of wing wall S.W. corner 8th Ave & Willow Crk Rd	
	2.901						
TP-1			5.178	605.752	− 2.277	HEADING S. DOT w. Edge Willow Crk Rd	
	4.829						
TP-2			4.682	605.899	+ .147	" " "	
	4.375						
TP-3			5.810	604.464	− 1.435	" "	
	5.000						
TP-4			5.678	603.786	− .678	" "	
	5.320						
TP-5			5.824	603.282	− .504	" "	
	4.908						
TP-6			6.209	601.986	− 1.296	" "	
	5.017						
TP-7			5.818	601.185	− .801	" "	
	4.932						
TP-8			2.359	603.763	+ 2.578	" "	
	0.902						
TBM M			6.930	597.735	− 6.028	Pg-60 desc.	SPIKE IN W. FACE P.P. @ 18TH AVE E. SIDE WILLOW CRK RD.
		Return					

	+	(Return) HI	−	ELEV	
TBM M				597.735	N/
	7.028				
TP-8			1.000	603.763	/ 6.028
	2.340				
TP-7			4.919	601.184	/ 2.579
	5.827				
TP-6			5.025	601.986	/ .802
	6.380				
TP-5			5.080	603.286	/ 1.300
	5.787				
TP-4			5.280	603.793	/ .507
	5.693				
TP-3			5.019	604.467	/ .674
	5.879				
TP-2			4.450	605.896	/ 1.429
	4.864				
TP-1			5.007	605.753	/ .143
	5.260				
TBM Willow			2.184	608.029	/ 2.276
					K.D

Pg-9L

Pg-10L

Level Loop
NO.
FROM NGS/USC&GS
B 205

	+	HI	−	ELEV.	
TP- 8				621.883	DOT @ 14th Ave.
	5.269				
TP- 9			4.586	622.566	" "
	5.668				
TP-10			5.174	623.060	" "
	5.116				
TP-11			5.201	622.975	" "
	5.209				
TP-12			5.468	622.716	" "
	5.952				
TP-13			3.826	624.892	" "
	5.949				
TP-14			4.789	626.002	" "
	5.203				
TBM 30th			4.960	626.245	Pg-30 Desc. Bolt spike in the S.W. Face of P.P. N.E. corner 30th Ave & 14th Ave (April is START)
	4.855				
TP- 15			5.407	625.693	Heading S DOT W. Edge 30th Ave
	4.535				
TP-16			5.539	624.689	" "

	+	HI	−	ELEV		
TP-16				624.689		W. Edge 30th Ave.
	5.041					
TBM D			7.457	622.273	Pg-4D Desc.	bolt spike in E. Face Anchor Poll. W. side 30th Ave
	6.747					
TP-17			5.476	623.544		DOT W. Edge 30th Ave
	4.444					
TP-18			5.368	622.620		" "
	4.534					
TP-19			5.428	621.726		" "
	4.492					
TBM E			6.071	620.097	Pg-4D Desc.	bolt spike in the W. Face P.P. E side 30th Ave
	5.418					
TBM F			5.030	620.485	Pg-4D Desc.	chiseled + W. Edge 6" cmp W. side 30th Ave
	5.149					
TP-20			5.810	619.824		DOT W Edge 30th Ave
	4.729					
TP-21			4.981	619.572		" "
	4.790					
TP-22			5.141	619.221		DOT W. Edge 30th Ave

	+	HI	-	ELEV.		
TP-22				619.221		DOT w. Edge 30th Ave.
	4.621					
TBM G			7.290	616.552	Pg-5D Desc.	bolt spike w. face P.P. E. side 30th Ave
	6.639					
TP-23			5.135	618.056		DOT w. Edge 30th Ave.
	4.520					
TP-24			5.439	617.137		" "
	5.714					
TBM H			2.921	619.930	Pg-5D Desc.	F.H. S.E CORNER 30th Ave & 3rd Ave.
	1.915					
TP-25			6.240	615.605		DOT E curb 30th Ave
	4.893					
TBM J			3.318	617.180	Pg-5D Desc.	F.H S.E CORNER 30th AVE & 1ST AVE
	4.364					
TBM K			4.040	617.509	Pg-6D Desc.	D.O.T. Disk N side walk ST. Hwy 41/2
	4.490					
TP-26			7.237	614.707		DOT Bot. of western Parking lot
	2.669					
TP-27			4.593	612.783		DOT S. Edge 1st Ave S.

K.D

	+	Hi.	−	ELEV	
TP-27				612.783 ✓	
	4.375				
TP-28			5.155	612.003 ✓	
	4.446				
TP-29			6.030	610.419 ✓	
	4.067				
TP-30			5.196	609.290 ✓	
	6.200				
TP-31			4.175	611.315 ✓	
	4.981				
TP-32			5.424	610.872 ✓	
	4.029				
TP-33			3.507	611.399 ✓	
	4.729				
BM R206			4.540	611.582	

Pg -

DOT S. Edge 1st Ave SO.

DOT W. Edge 26th Ave.

DOT S. Edge 3rd Ave S.

DOT N. Parking Lot Eg-manhole w/h.

" " " "

" W. " " "

@ school
611.577

611.582
611.577 - (pub. 20 Datum)
diff + .005

Level Loop
No. 2
From TBM 30th
Set TBM
For ⊗ section. No.

	+	HI	−	ELEV.			
TBM 30th				626.245		Pg 132 Levels	BOAT SPIKE IN S.W. FACE P.P. 14TH AVE & 30TH AVE.
	5.161						Heading N.W
TP-1			7.161	624.245	− 2.000		DOT N SIDE Abandon. Rd
	4.978						
TBM L			4.847	624.376	+ .131	Pg-60 Desc	About spike in the N FACE of 5th P.P. of N. Line of P.P.'s Running N.W. From 30th Ave. @ R.R. crossing.
		RETURN					RETURN
TBM L				624.376			Above
	5.031						
TP-1			5.163	624.244	− .132		"
	7.260						
TBM 30th			5.260	626.244	+ 2.000		
					VK.!		

Level Loop

SET TBM A & B

FROM TBM 30TL

	+	HI	−	ELEV.	
TBM 30th				626.245	
	4.97				
TBM A			3.72	627.49	+1.25
	3.26				
TBM B			4.66	626.09	−1.40
		Return			
TBM B				626.09	
	4.78				
TBM A			3.38	627.99	+1.40
	3.45				
TBM 30th			4.70	626.24	−1.25

April 13, 99 Pg-20L

Pg-13L Levels	Bolt spike in S.W. face P.P. N.E corner 30th Ave & 14th Ave
Pg-3D Desc.	bolt spike in the E. face P.P. S. side of S track @ switch 200' W. of 30th St.
Pg-3D Desc.	bolt spike in E. face P.P. N. side of most N. tracks 25' W. of conc. P.P. & 300' W. of 30th Ave.
	Return
	above

Level Loop

TBM 30th To TBM "N"

	+	Hi	−	ELEV	
TBm 30th				626.245 ✓	
	5.268				
TP-1			5.367	626.146 ✓	.099
	4.528				
TP-2			5.461	625.213 ✓	.933
	5.442				
TP-3			5.121	625.534 ✓	+.321
	4.918				
TP-4			5.087	625.365 ✓	.169
	5.260				
TBm N			3.410	627.219 Adj. +.004 627.215	+1.850
		Return			
TBm N				627.215 ✓	
	3.262				
TP-4			5.110	625.367 ✓	-1.848
	5.194				
TP-3			5.028	625.533	.166
	5.089				
TP-2			5.410	625.212	.321

K.B

April 5, 94 pg-22L

" pg 13L Levels

DOT SPIKE IN S.W. FACE P.P. N. E 30th Ave & 14th Ave.

DOT E. Edge 30th Ave.

" W. " " "

DOT S. Edge ? ST

" N. " ? ST

	+	HI	−	ELEV.						
TP-2				625.212						Pg-23L
	5.469						Pg- 22L			
TP-1			4.530	626.151	.939	.933				
	5.249									
TBM 30th			5.148	626.252	.101	.099	626.252	Close		
					Kes		626.245			
							diff. +.007			

Level Loop
set Hub 3 & Hub 4
for cross section
3 & 4

T. BOLNOWSKI cloudy / SNOW
K. DRAKE 35°
Apr. 16.94 Pg-25L

	+	HI	-	ELEV.			
TP-8				603.76		Rough Levels	DOT W. SIDE Willow CK. Rd N of Sewage plant.
	2.27						Heading W
TP-1			6.06	599.97	- 3.79		DOT on Dirt TRAIL N. SIDE ⊥ E.W.
	5.06						
TP-2			5.13	599.90	- .07		" " "
	2.21						
TP-3			0.94	601.67	+ 1.77		" "
	5.39						
TP-4			2.99	604.57	+ 2.90		DOT @ corner ⊥ S. & E.
	2.37						
TP-5			9.27	597.67	- 6.90		DOT @ ⊥ S.
	7.98						
TP-6			3.52	602.13	+ 4.46		" "
	5.40						
TBM Hub 1			4.56	602.97	+ .84		2x2 wood Hub set @ Section #4
	5.17						
TBM Hub 2			11.83	596.31	- 6.66		" " " @ Section #3
		Return					

	+	HI	−	ELEV	
		Return			
TBM Hub 2				596.31	
	11.89				
TBM Hub 1			5.29	602.96	+ 6.65
	4.52				
TP-6			5.36	602.12	− .84
	3.56				
TP-5			8.02	597.66	− 4.46
	9.25				
TP-4			2.35	604.56	+ 6.90
	2.54				
TP-3			5.44	601.66	− 2.90
	0.48				
TP-2			2.25	599.89	− 1.77
	5.08				
TP-1			5.01	599.96	+ .07
	6.13				
TP 8			2.33	603.76	+ 3.80

Pg-25L

Level Loop
set Hub 3
for @ section 7

	+	HI	−	ELEV.						
TBM 7				610.24 ✓		Pg-28 Levels	Flt. w. Dead End 5TH Ave. @ Tesio = 3115	April 16, 94		Pg-28L
	3.10									
TP 1			2.89	610.45 ✓ + .21			DOT on Sand Trail.			
	4.75									
TP 2			4.71	610.49 ✓ + .04			" "			
	1.96									
TP-3			5.88	606.57 ✓ − 3.92			" "			
	6.53									
TBM HUB 3			1.42	611.68 ✓ + 5.11			2×2 Hub set TOP LT Sink for O Section 17.			
		RETURN								
TBM HUB 3				611.68 ✓						
	1.04									
TP-3			6.15	606.57 ✓ − 5.11						
	5.89									
TP-2			1.97	610.49 ✓ + 3.92						
	4.67									
TP-1			4.71	610.45 ✓ − 0.4						
	2.93									
TBM 7			3.14	610.24 ✓ Ok						

Level Loop
@ Airstrip

	+	HI	−	ELEV.						
TBM M				597.73 ✓		Pg-92 Levels	Tronnaugh K. Urrico	April 18, 94	Party 98	cloudy Pg-30L
	3.15						Don't Spike	18th & Willow Cr Rd		
TP-1			5.64	595.24 ✓	-2.49		DOT on Sand	Rd Airport	Property.	
	4.21									
TP-2			5.20	594.25 ✓	.99		"	"		"
	5.45									
TBM AIR			7.50	592.20 ✓	2.05		Hub set LT Top Bnk for	1 & 2 300' U/S	AirStrip.	⊗ sections
		Return								
TBM AIR				592.20			Above			
	7.60									
TP-2			5.55	594.25 ✓	2.05					
	5.41									
TP-1			4.42	595.24 ✓	.99					
	5.68									
TBM M			3.18	597.74 ✓	2.50					

Level Loop

From TBM H, set

TBM I

April 18, 93 Pg-32L

	+	HI	−	ELEV.			
TBM H				619.93 ✓		Pg-15L Levels	F.H. S.E. CORNER 30TH Ave & 3rd Ave
	1.73						
TP-1			5.79	615.87 ✓	-4.06		DOT S. Edge 3rd Ave.
	5.68						
TBM I			7.20	614.35 ✓	-1.52	Pg-5D Desc.	Chiseled □ ON N.W. END of the N. U/S Headwall for a 6' cmpt. for willow CRK under 3rd A
		Return					
TBM I				614.35			Above
	7.33						
TP-1			5.81	615.87 ✓	+1.52		"
	5.90						
TBM H			1.89	619.93 ✓	4.06		

CROSS SECTIONS

@ SECTION VALLEY
No. 1

@ ESCANABA Airport

	+	HI	−	ELEV.	
TBM AIR				592.20	
	4.15	596.35			
	DIST	ROD	ELEV.		
	0'	7.3	589.0		
	25' LT	3.6	592.7		
	50' LT	2.5	593.8		
	75' LT	1.9	594.4		
	100' LT	1.8	594.5		
	125' LT	2.4	593.9		
	150' LT	2.3	594.0		
	175' LT	2.3	594.0		
	200' LT	2.2	594.1		
	225' LT	2.3	594.0		
	250' LT	2.3	594.0		
	0 RT	9.4	586.9	#1	
	0' RT	0.7	586.2		SNDG
	5' RT	1.1	585.8		"
	10' RT	1.5	585.4		"

April 19, 91 pg-2

(pg. 30 ~)

Desc

TOP LT. BNK & TOE SLOPE

GE on slope

" "

GE TOP SLOPE

GE

LAND CONT. FLAT

W/S S/L

SNDG @ TOE LT BNK SAND

" "

" "

	+	N.I	-	ELEV.		
		596.35				
	DIST	Rod	ELEV.	HI 586.9	w/s	DESC
	15' RT	2.1	584.8 ✓		SNDG	SNDG SAND
	20' RT	1.3	585.6 ✓			" "
	22' RT	1.1	585.8 ✓			SNDG @ TOE PT BNK
	22' RT	9.4	586.9 ✓			W/S S/L
	22' RT	7.5	588.8 ✓			TOP RT BNK & TOE SLOPE
	50' RT	4.9	591.4 ✓			GE TOP SLOPE
	75' RT	4.9	591.9 ✓			GE
	100' RT	4.5	591.8 ✓			
	125' RT	4.0	592.3 ✓			
	150' RT	4.1	592.2 ✓			
	175' RT	4.0	592.3 ✓			
	200' RT	3.8	592.5 ✓			
	225' RT	3.6	592.7 ✓			
	250' RT	3.4	592.9 ✓			
	275' RT	3.4	592.9 ✓			LAND CONT FLAT
TBM Air	CR	4.5	592.20 ✓			

VALLEY SECTION
NO. 2

	+	H.	—	ELEV.	
TBM AIR				592.20 ✓	
	4.15	596.35 ✓			
	DIST	Rod	ELEV.		
	0	6.9	589.4		
	25' LT	5.6	590.7 ✓		
	50' LT	4.0	592.3 ✓		
	75' LT	2.7	593.6 ✓		
	100' LT	2.3	594.0 ✓		
	125' LT	1.3	595.0 ✓		
	150' LT	1.9	594.4 ✓		
	175' LT	1.4	594.9 ✓		
	200' LT	1.4	594.9 ✓		
	225' LT	1.5	594.8 ✓		
	250' LT	1.4	594.9 ✓		
	0'	9.2	587.1 ✓		
	0'	0.6	586.5 ✓	SND6	
	5' RT	0.8	586.3 ✓		
	10' RT	0.8	586.3 ✓		

T. ROZNOWSKI
K. DRAKE

April 18 Pg- 5

pg 30 Levels

2x2 wood stake @ LT BNK portage creek for 1, 2

	DESC.			
	TOP LT BNK & TOE SLOPE			
	6E			
	6E			
	6E	TOP SLOPE		
	6E			
	LAND CONT FLAT			
	W/S S/2			
	SND6 @ TOE LT BNK			
	"	SAND		
	"	"		

	+	HI	-	ELEV.			
		596.35					
	DIST	Rod	ELEV.			Desc.	
	15' RT	1.1	586.0 ✓			SNDG	SAND
	20' RT	1.7	585.4 ✓			"	"
	24' RT	1.0	586.1 ✓			"	"
	24' RT	9.2	587.1 ✓			W/S S/L	
	24' RT	6.6	589.7 ✓			TOP RT BNK	
	50' RT	4.6	591.7 ✓			GF	
	75' RT	3.6	592.7 ✓				
	100' RT	2.2	594.1 ✓				
	125' RT	1.6	594.7 ✓				
	150'	1.4	594.9 ✓				
	175'	1.6	594.7 ✓				
	200'	1.7	594.6 ✓				
	225'	1.7	594.6 ✓				
	250'	1.6	594.7 ✓				
	275' RT	1.2	595.1 ✓			LAND CONT. FLAT	
TBM AIR	CK	4.15	592.20 ✓				

✓ KLB

VALLEY SECTION #3

	+	HI	−	ELEV	
TBM HUB 2				596.31 ✓	
	8.24	604.~~55~~ 61			
	DIST	ROD	ELEV		
	0'	8.9	595.7 ✓		
	25'L	8.8	595.8 ✓		
	50'L	9.3	595.3 ✓		
	70'L	8.8	595.8 ✓		
	120'L	1.6	603.0 ✓		
	150'L	1.3	603.3 ✓		
	175'L	1.6	603.0 ✓		
	200'L	1.5	603.1 ✓		
	225'L	1.5	603.1 ✓		
	250'L	1.2	603.4 ✓		
	8'R	12.6	592.0 ✓		
	8'R	0.3	591.7 ✓	SNDG	
	13'R	1.0	591.0 ✓	"	
	18'R	2.0	590.0 ✓	"	
				✓ K.D	

April 16 1994 pg-8

pg-25L Levels

Desc
Top LT BNK
G E
G.E
Toe of Slope
Top " "
G.E
LAND FAIRLY FLAT NEXT 200' ±
w/s S/L
SOUND

	+	Hi	—	ELEV			DESC
		604.6					
		(592.0	SNAG)				
	DIST	ROD	ELEV				
	23'R	2.5	589.5 ✓		SNAG	SOUND	
	28'R	3.0	589.0 ✓		"		
	33'R	2.0	590.0 ✓		"		
	38'R	12.6	592.0 ✓				W/S S/L
	45'R	8.8	595.8 ✓				Top OF RT. BNK
	75'R	9.1	595.5 ✓				G.E
	100'R	9.4	595.2 ✓				
	125'R	9.1	595.5 ✓				TOE OF SLOPE
	175'R	4.4	600.2 ✓				Top OF "
	200'R	3.3	601.3 ✓				G.E
	225'R	3.2	601.4 ✓				
	250'R	2.7	601.9 ✓				
	275'R	2.4	602.2 ✓				
	300'R	2.4	602.2 ✓				LAND CONT FLAT NEXT 200'±
TBM HUB# 2	✓	8.24	596.31 ✓				

VALLEY SECTION

NO. 4

pg- 25L Levels

	+	HI	-	ELEV		Desc.
TBM HUB 1				602.97 ✓		
	4.46	607.43				
	DIST	ROD	ELEV			
	0'	10.7	596.7 ✓			Top Lt BNK
	7' L	10.2	597.2 ✓			Top of Slope
	11' L	10.2	597.2 ✓			Toe " "
	33' L	12.7	594.7 ✓			" " "
	48' L	5.1	602.3 ✓			Top of Slope
	75' L	4.3	603.1 ✓			G.E
	100' L	3.8	603.6 ✓			
	125' L	4.1	603.2			
	150' L	3.1	604.3 ✓			
	175' L	2.5	604.9 ✓			
	200' L	2.8	604.6 ✓			
	250' L	2.8	604.6 ✓			
						LAND CON'T FLAT NEXT 200'
	0'	15.0	592.4 ✓✓			w/s S/L
	5' R	1.4	591.0 ✓			SOUND.
	10' R	1.2	591.2 ✓			
	0'	1.0	591.4 ✓			

+	HI	-	ELEV
	607.4		

DIST	ROD	ELEV	DESC
15'R	15.0	592.4 ✓	w/s S/L
18'R	13.2	594.2 ✓	TOP OF RT BNK
25'R	12.3	595.1 ✓	G.E.
50'R	10.8	596.6 ✓	TOE OF SLOPE
60'R	10.7	596.7 ✓	TOP OF SLOPE
77'R	5.8	601.6 ✓	G.E
100'R	5.5	601.9 ✓	
125'R	5.1	602.3 ✓	
150'R	4.9	602.5 ✓	
175'R	5.4	601.9 601.4	
200'R	5.5	601.9 ~~601.3~~ ✓	
225'R	5.4	602.0 ~~601.4~~	
250'R	5.4	602.0 ~~601.4~~	
			LAND CONT FLAT NEXT 200' ±
TBM HUB /	✓	4.46	602.97 ✓

✓ KB

VALLEY SECTION

NO. 5

100' D/S 8TH AVE

	+	HI	-	ELEV.	
TBM GB				609.95	
	1.19	HI 611.14			
	DIST	Rod	ELEV.		
	0'	6.1	605.0		
	6' LT	10.0	601.1		
	20' LT	12.1	599.0		
	25' LT	1.6	597.4		SNDC
	30' LT	1.8	597.2		"
	35' LT	1.1	597.9		"
	37' LT	12.1	599.0		
	44' LT	4.5	606.6		
	75' LT	5.0	606.1		
	84' LT	5.4	605.7		
	97' LT	6.4	604.7		
	125' LT	7.0	604.1		
	150' LT	7.6	603.5		
	175' LT	7.4	603.7		
	185' LT	7.5	603.6		
	191' LT	6.1	605.0		

April 16, 94 pg - 19

pg - 6L Levels

chainlink + Top RR. Iron N. side 6th Ave @ willow cee

	Desc
Top RT BNK	
Toe " "	
w/s s/L	
SNDC	SAND
"	"
SNDC	SAND
w/s f.s.l	Toe LT BNK
Top LT BNK	
GE	
Top Slope	
Toe "	
GE	
GE	
GE	
GE @ Toe of TRAIL	RT
GE @ TOP "	RT

	+	HI	−	ELEV.		
		611.1				
	DIST	Rod	ELEV.			DESC.
	197' LT	6.2	604.9 ✓			GE @ LT Top Tunnel
	205' LT	8.8	602.3 ✓			GE @ LT TOE "
	230' LT	8.9	602.2 ✓			GE
	250' LT	8.6	602.5 ✓			"
	275 LT	8.4	602.7 ✓			"
	300' LT	8.0	603.1 ✓			" LAND CONT. FLAT NEXT 100' : THEN RISES 3' ± NEXT 100'
	30' RT	5.1	606.0 ✓			GE TOP SLOPE
	35 RT	6.8	604.3 ✓			" TOE
TBM 6B	CK	1.19	609.95 ✓			
TBM 6B				609.95 ✓		
	2.81	612.76 ✓				
	50' RT	8.2	604.6 ✓			GE
	75 RT	8.4	604.4 ✓			
	100 RT	8.4	604.4 ✓			
	150 RT	8.8	604.0 ✓			

	+	HI	−	ELEV.			DESC
		612.8					
	DIST	Rod	ELEV				
	175' RT	8.4	604.4 ✓			GE	
	200' RT	8.6	604.2 ✓				
	225' RT	8.2	604.6 ✓				
	250' RT	8.0	604.8 ✓				LAND CONT. FLAT
TBM 6B	CK	2.81	609.95				

⊗ SECTION 6B
CMP 8TH AVE &
WILLOW CREEK

T. ROZNOWSKI
K. DRAKE

Cloudy 45°
High winds
April 12, 94 Pg-18

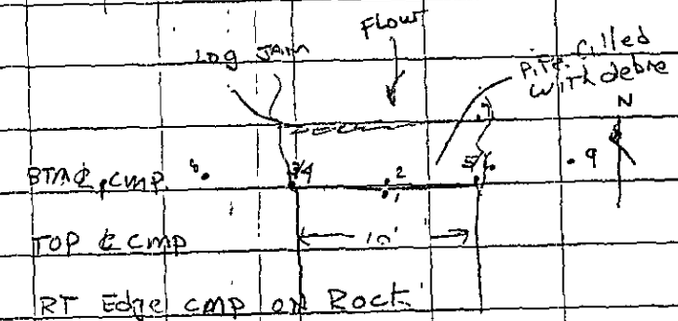
Pg 60 Levels

	+	Hi	−	ELEV.	Desc
TBM 6B				609.95 ✓	Chiseled + Top R.R. Iron @ N. U/S SIDE 8TH Ave @ Willow Ck
	2.69	612.64 ✓			
DIST.	ROD	ELEV.			
0'	4.59	608.10			℄ 8TH AVE & ℄ Cmp = Top Rd
25' RT	4.59	608.05 ✓			℄ Rd
50' RT	4.44	608.20 ✓			
75' RT	4.26	608.38 ✓			
100' RT	4.17	608.47 ✓			
125' RT	4.07	608.57 ✓			
150' RT	4.04	608.60 ✓			
175' RT	3.95	608.69 ✓			
200' RT	3.82	608.82 ✓			
225' RT	3.66	608.98 ✓			
250' RT	3.59	609.05 ✓			
25' LT	4.95	607.69 ✓			℄ 8TH AVE
50' LT	4.74	607.90 ✓			
75' LT	4.55	608.35 (603.95)			
100' LT	4.59	608.10 ✓			

	+	HI	-	ELEV.
		612.64		
	DIST	Rod	ELEV.	
	125' LT	4.65	607.99	✓
	150' LT	4.74	607.90	✓
	175' LT	4.68	607.96	✓
	200' LT	4.76	607.88	✓
	225' LT	4.78	607.86	✓
	250' LT	4.87	607.77	✓
1	0'	14.2	598.4	✓
2	0'	7.5	605.1	✓
3	5' RT	12.3	600.3	✓
4	5' RT	12.8	599.8	✓
5	5' LT	13.1	599.5	✓
6	5' LT	12.9	599.7	✓
7		11.7	600.9	✓
8	17' RT	5.8	606.8	✓
9	14' LT	5.7	606.9	✓

DESC

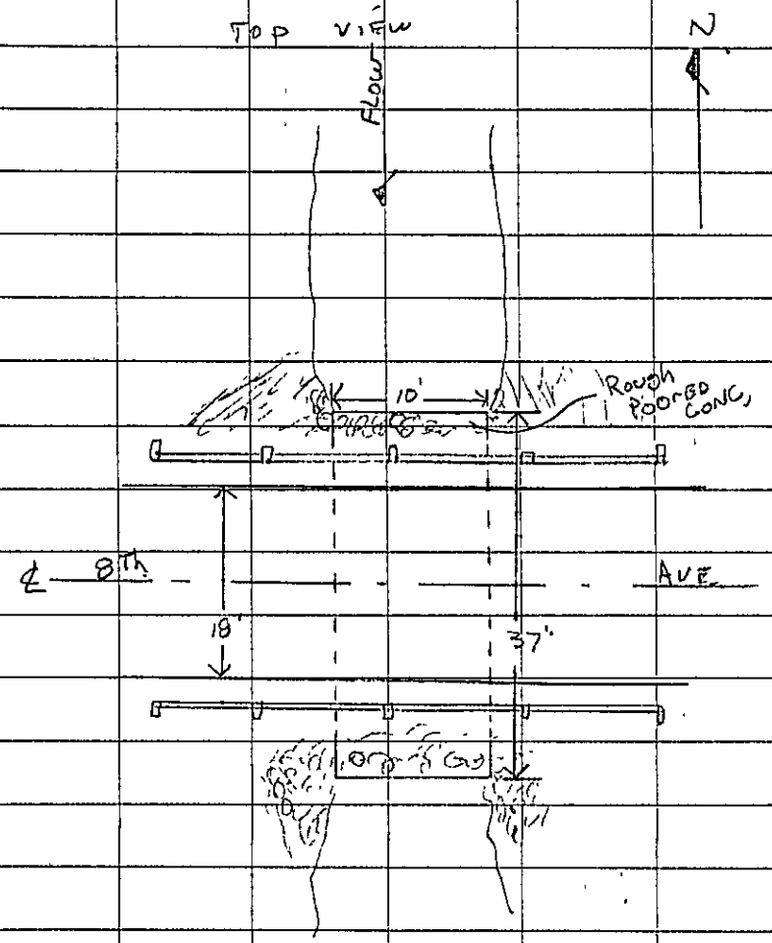
℄ Rd

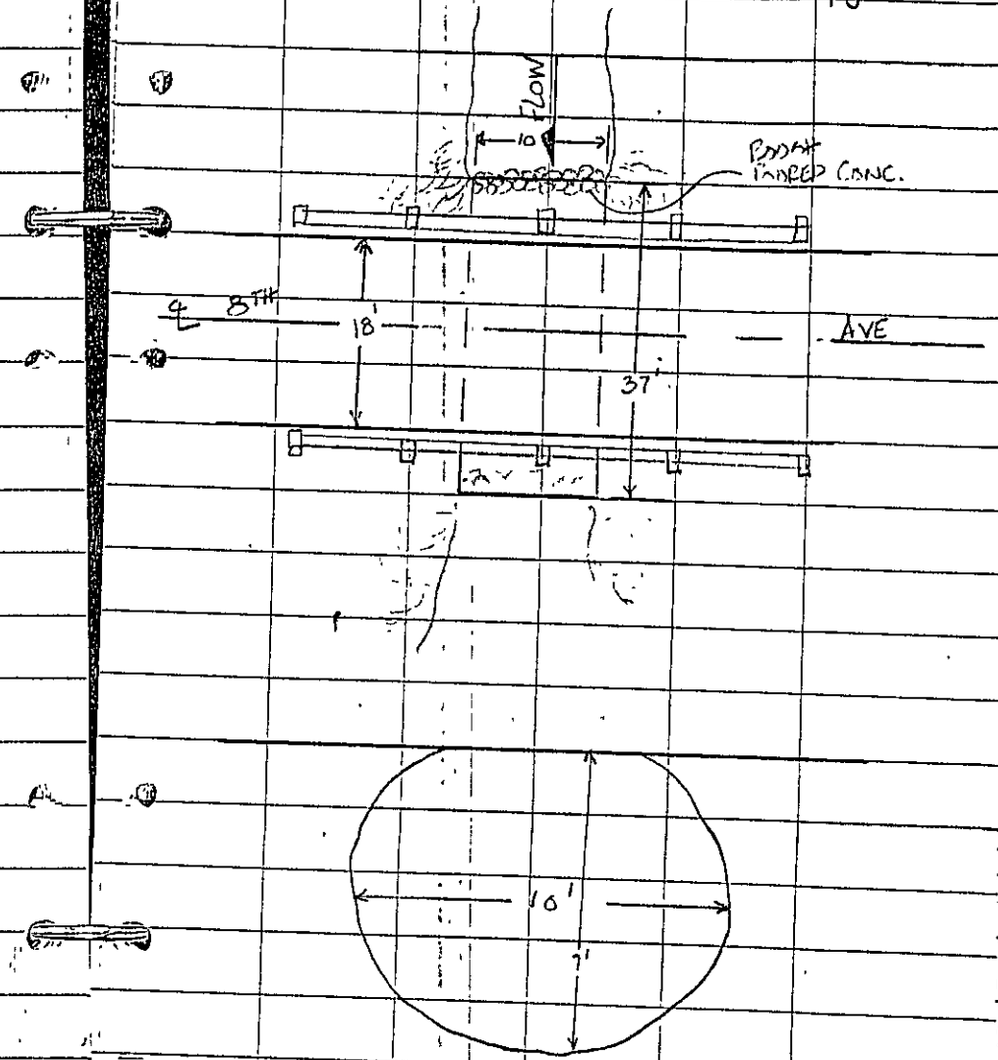


CMP STRETCH

8TH AVE & willow CR

@ 6B

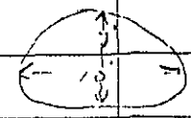

TOP VIEW
FLOW
N
10'
Rough Poured Conc.
℄ 8TH
AVE
18'
37'


FLOW
10
Broom Finished Conc.
℄ 8TH
18'
AVE
37'
10'
7'

CMP Lenght = 37'

CMP DIA. =

RD. width = 18'



VALLEY SECTION

NO. 7

	+	HI	−	ELEV.	
TBM AVB3				611.68	
	3.67	615.35			
	DIST	Rod	ELEV.		
	0'	5.1	610.3		
	9' RT	11.6	603.8		
	14' RT	1.1	602.7		SNDG
	19' RT	1.4	602.4		"
	24' RT	1.2	602.6		"
	27' RT	11.6	603.8		
	45' RT	4.2	611.2		
	70' RT	6.3	609.1		
	95' RT	7.0	608.4		
	120' RT	7.5	607.9		
	145' RT	7.2	608.2		
	170' RT	7.0	608.4		
	195' RT	6.8	608.6		
	220' RT	5.1	610.3		
	245' RT	4.4	611.0		
	270' RT	3.3	612.1		

pg-286 Levels

April 16, 94 Pg- 23

TOP LT BNK @ ⊗ section

	Desc.
	TOP LT BNK
	W/S S/L.
	SNDG
	SNDG
	SNDG
	W/S S/L
	TOP RT BNK
	GE
	TOE SLOPE
	GE
	"
	TOP SLOPE
	LAND CONT. FLAT (WOODED AREA)

	+	HI	−	ELEV.				
		615.4						
	DIST	Rod	ELEV.				DESC	
	25' LT	5.3	610.1 ✓			GE		
	50' LT	6.4	609.0 ✓			"		
	55' LT	6.4	609.0 ✓			TOP	SLOPE	
	70' LT	8.1	607.3			TOP	"	
TBM Hub 3	CK	3.67	611.68 ✓					
TBM Hub 3				611.68 ✓				
	1.03	612.71 ✓						
	100' LT	5.4	607.3 ✓			CE		
	125' LT	5.2	607.5 ✓					
	150' LT	4.2	608.5 ✓					
	175' LT	4.6	608.1 ✓					
	200' LT	5.4	607.3 ✓					
	225' LT	5.0	607.7 ✓					
	250' LT	5.3	607.4 ✓			LAND CONT	FLAT	
TBM Hub 3	CK	1.03	611.68 ✓ −					

VALLEY SECTION

NO. 8

100' D/S ST 'Hwy 2 & 41

	+	HI	-	ELEV.
TBM K				617.50
	3.13	620.63		
	DIST	ROD	ELEV.	
	0	9.2	611.4	
	25' LT	8.8	611.8	
	50' LT	8.8	611.8	
	75' LT	8.7	611.9	
	100' LT	8.5	612.1	
	125' LT	7.9	612.7	
	150' LT	8.1	612.5	
	175' LT	8.3	612.3	
	200' LT	8.6	612.0	
	225' LT	9.1	611.5	
	250' LT	9.0	611.6	
	9' RT	13.9	606.7	
	13' RT	14.9	606.2	
	13' RT	15.5	605.1	
	13' RT	1.2	603.9	

April 18, 94 Pg-26

Pg-15 Levels MDOT DISC ON N. SIDEWALK ON BRIDGE over Willow CRK

DESC

TOP LT BNK = PRIMARY

GF

LAND CONT. FLAT

TOE RT BNK = primary

TOP LT BNK SECONDARY

W/S S/L

SNDG SAND

	H.I.	—	ELEV.			
	620.6					
DIST	Rod	ELEV.			Desc	
10' RT	1.5	603.6 ✓		SNDG	SNDG	SAND
23' RT	1.6	603.5 ✓		"	"	"
26' RT	15.5	605.1 ✓			W/S S/L	
29' RT	13.5	607.1 ✓			TOP RT BNK & TOE SLOPE	
50' RT	11.1	609.5 ✓			GE ON SLOPE	
75' RT	9.4	611.2 ✓			" "	
92' RT	8.2	612.4 ✓			GE TOP SLOPE	
125' RT	7.7	612.9 ✓			GE	
150' RT	8.2	612.4				
175' RT	8.2	612.4				
200' RT	8.5	612.1 ✓				
225' RT	8.8	611.8 ✓				
250' RT	8.9	611.7 ✓				
275' RT	9.0	611.6 ✓				
TBM K	CK	3.13	617.50 ✓		LAND CONT. FLAT	

ROAD & BRIDGE SECTION
9B @ ST. HWY 2&41
OVER Willow CREEK

	+	HI	−	ELEV.
TBM K				617.50 ✓
	5.24	622.74 ✓		
DIST	Rod	ELEV.		
0'	6.04	616.70 ✓		
50' RT	6.07	616.67 ✓		
100' RT	6.27	616.47 ✓		
150' RT	6.41	616.33 ✓		
200' RT	6.57	616.17 ✓		
250' RT	6.70	616.04 ✓		
28.4' RT	5.96	616.78 ✓		
50' RT	5.97	616.77 ✓		
100' RT	6.06	616.68 ✓		
150' RT	5.98	616.76 ✓		
200' RT	5.68	617.06 ✓		
250' RT	5.59	617.15 ✓		
275' RT	5.43	617.31 ✓		

April 18, 94 pg-29

@ 152 Levels M DOT. TOP ℄ SIDEWALK ON [illegible] on Hwy 241 outer willow CRK

Desc

Top ℄ Rd @ Face LT ABUT HWY 91 & 2

Top ℄ Rd 57. HWY 91 & 2.

Rd CONT. FLAT

Top ℄ Rd HWY 91 & 2 @ Face RT ABUT.

Top ℄ Rd

"

Top ℄ Rd @ INTER HWY 91 & 2 & 30th AVE

Top ℄ Rd

Road CONT. FLAT

+	HI	−	ELEV.	
	622.74 ✓			
DIST	Rod	ELEV.		
0'	8.02	614.72 ✓		
0'	15.4	607.3 ✓		
4' RT	16.3	606.4		
9' RT	0.8	605.6 ✓	SNDG	
14' RT	1.8	604.6 ✓		
19' RT	0.8	605.6 ✓		
23' RT	16.3	606.4 ✓		
28.4' RT	15.4	607.3 ✓		
28.4 RT	7.89	614.85 ✓		
TBM K	CK	5.24	607.50 ✓	

Desc

Top LT ABUT @ FACE

BTM " " "

W/S S/L Rock

SNDG

W/S S/L

BTM RT ABUT @ FACE

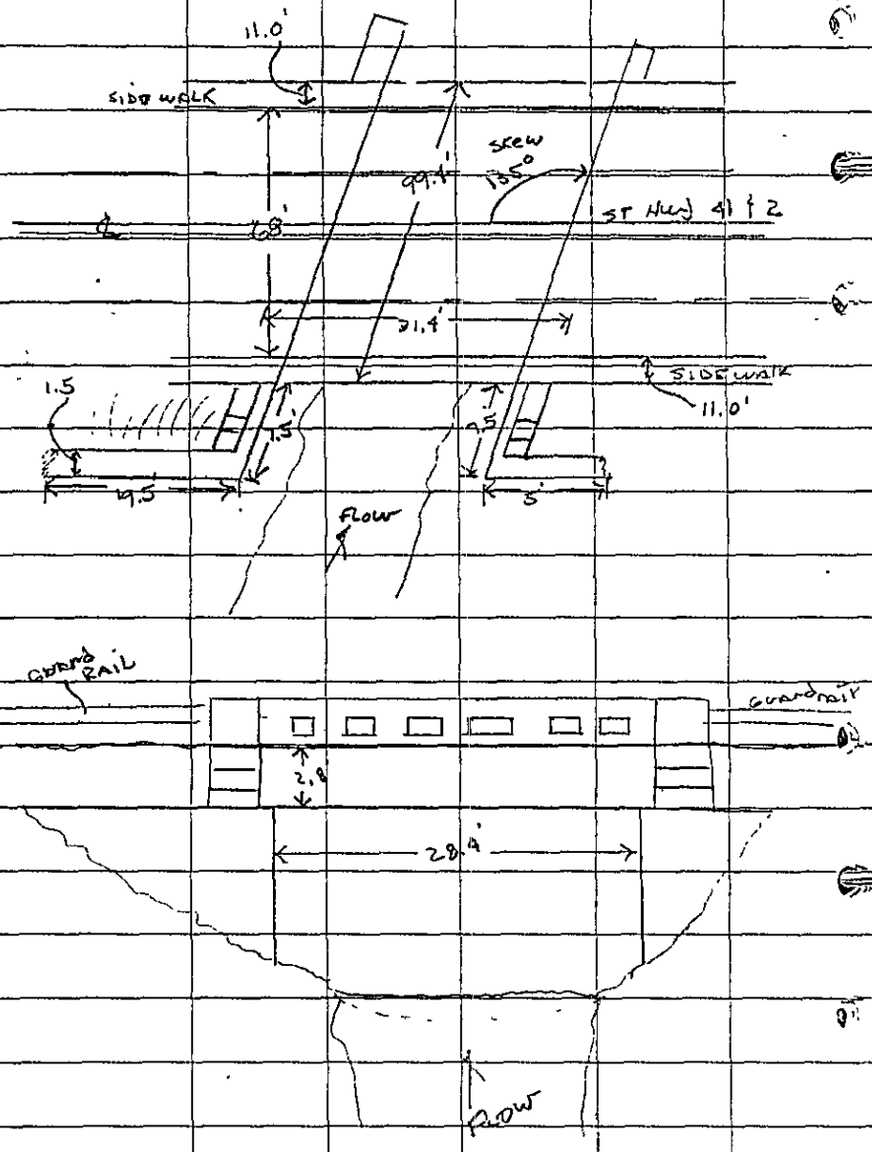
Top " " "

⊗ sec. 9B

Sketch Box Culvert

St. Hwy 41 & 2 over

Willow Cr.



SKEW : 135°

WIDTH RD = 68'

LENGHT BOX CULVERT = 99.4

SIDEWALK = 11.0'

WIDTH WINGWALL = 1.5'

LENGHT " LT = 19.5'

LENGHT " RT. = 5.0'

TOTAL LENGHT BRIDGE = 31.4'

Roads & Bridge Section

No. 10 B

@ 1st Ave & willow CRC

	+	HI	−	ELEV.
TBM J				617.18 ✓
	2.29	619.47 ✓		
	DIST	Rod	ELEV.	
	0	5.27	614.20 ✓	
	50' LT	5.49	613.98 ✓	
	100' LT	5.71	613.76 ✓	
	150' LT	5.84	613.63 ✓	
	200' LT	6.10	613.37 ✓	
	250' LT	6.37	613.10 ✓	
	20' RT	5.07	614.40	
	50' RT	4.70	614.77 ✓	
	100' RT	4.53	614.94 ✓	
	150' RT	4.67	614.80 ✓	
	200' RT	5.08	614.39 ✓	
	250' RT	5.24	614.23 ✓	

Apri 2 18, 94 PG-34

PG-15 Levels F.H.S.E CORNER 30TH Ave & 1ST Ave

	Desc
TOP ¢ 1ST Ave @ FACE LT ABUT	
TOP ¢ Rd 1ST Ave	
Rd CONT. FLAT	
TOP ¢ 1ST Ave @ FACE LT ABUT	
TOP ¢ Rd. 1ST Ave	
Rd. CONT. FLAT TO 30TH Ave	
75' ±	

	+	HI	-	ELEV.
		619.47 ✓		
	DIST	Rod	ELEV.	
1	0'	5.40	614.07 ✓	
2	0'	10.6	608.9 ✓	
3	0'	12.8	606.7 ✓	
4	0'	0.3	606.4 ✓	
5	5' RT	1.6	605.1 ✓	
6	10' RT	2.2	604.5 ✓	
7	15' RT	1.0	605.7 ✓	
8	17' RT	12.7	606.8 ✓	
9	20' RT	12.2	607.3 ✓	
10	20' RT	10.7	608.8 ✓	
11	20' RT	5.73	613.74 ✓	
12	2' RT	9.1	610.4 ✓	
13	10' RT	7.6	611.9 ✓	
14	18' RT	9.3	610.2 ✓	
TBM 5	CK	2.29	617.18 ✓	

Desc

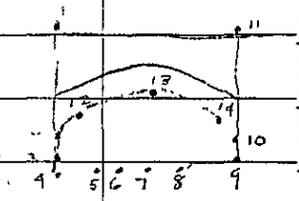
Top LT Edge CONC. Headwall

@ FACE LT ABUT @ curve

W/S S/L @ FACE LT ABUT

Rock

SNDG @ FACE LT ABUT



SNDG Rock

" "

" "

W/S S/L Rock

GE @ FACE RT ABUT

@ FACE RT ABUT @ curve

Top RT Edge CONC Headwall

L/S @ LT Top curve

L/S @ Top ℄ CONC. Pipe

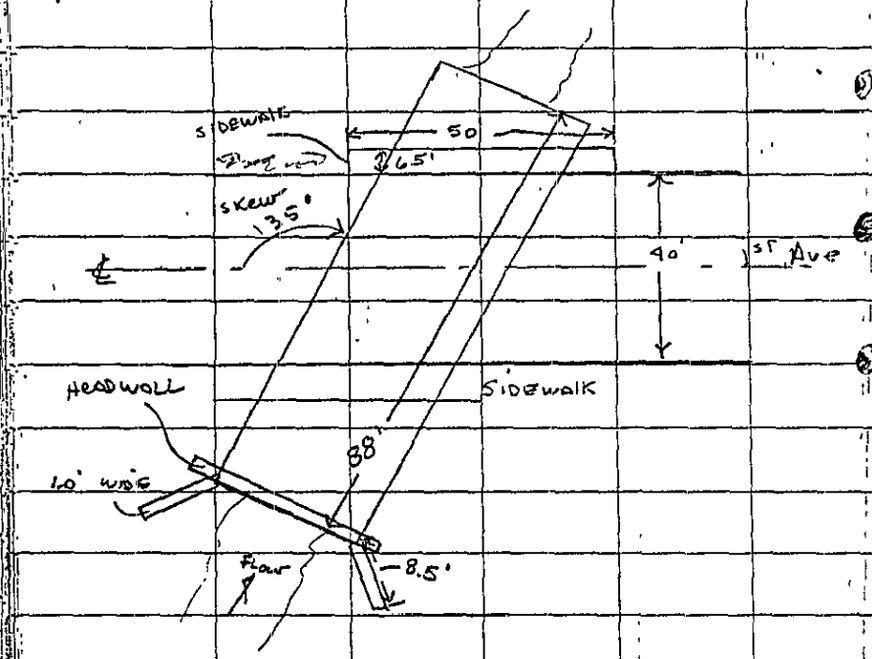
L/S @ RT Top curve

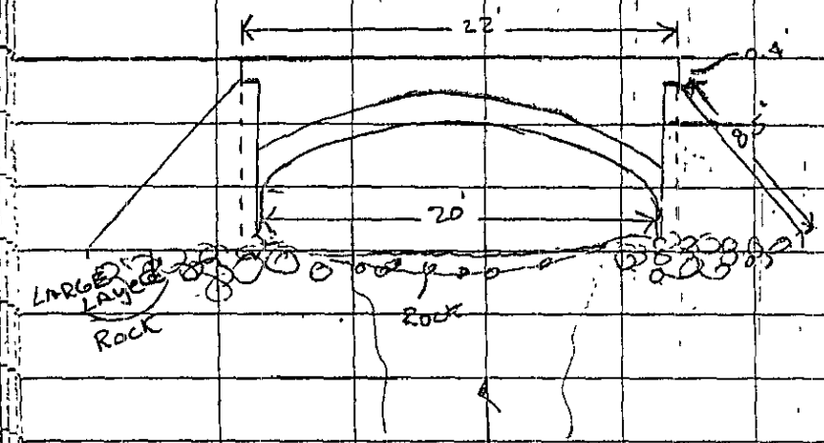
SKETCH

⊗ SECTION 10 B

CONC. OVEL PIPE @ 1ST AVE.

& WILLOW CK.





SKEW = 135°

Lenght CONC PIPE = 88'

Width RD = 40'

SIDEWALK 6.5 WIDE

Lenght SIDEWALK = 50'

WINGWALL 8.5' LONG @ 45° 1' WIDE

VALLEY SECTION

NO. 11

BET. 1ST AVE & 3rd AVE

250' D/S 3rd AVE.

Pg-32 Levels

Chiseled □ ON N.W CORNER OF Headwall N. U/S side 3rd Ave.

	+	Hi	-	ELEV.	Desc
TBM I				614.35	
	4.86	619.21			
	Dist	Rod	ELEV.		
	0'	10.7	608.5		TOP RT BNK
	7' RT	11.2	608.0		TOE of SLOPE
	25' RT	6.0	613.2		TOP of SLOPE
	50' RT	5.3	613.9		GE
	75' RT	5.9	613.3		
	100' RT	5.6	613.6		
	125' RT	6.0	613.2		
	150' RT	6.2	613.0		
	175' RT	6.0	613.2		
	200' RT	5.4	613.8		
	225' RT	5.3	613.9		
	250' RT	5.2	614.0		LAND CONT FLAT
	0'	11.8	607.4		U/S S/L
	0' LT	0.8	606.6		SNDG TOE RT BNK SAND
	5' LT	1.1	606.3		SNDG "

+	A1	—	ELEV.	DESC
	619.2			
DIST	Rod	ELEV.		
	607.4			
10' LT	1.3	606.1 ✓		SNDG SAND
11' LT	1.0	606.4 ✓		SNDG @ TOE LT BNK
11' LT	11.8	607.4 ✓		W/S S/L
13' LT	10.7	608.5 ✓		TOP LT BNK
16' LT	10.1	609.1 ✓		TOE SLOPE
30' LT	6.4	612.8 ✓		TOP SLOPE
50' LT	6.7	612.5 ✓		GE
75' LT	6.0	613.2 ✓		
100' LT	4.6	614.6 ✓		
125' LT	3.9	615.3 ✓		
150' LT	3.6	615.6 ✓		
175' LT	3.1	616.1 ✓		
200' LT	2.8	616.4 ✓		
225' LT	2.6	616.6 ✓		
250' LT	2.0	617.2 ✓		
TBM I	LK	4.86	614.35 ✓	LAND CONT FLOT

Road & Pipe Section
No. 128
2 6' Dia Conc. Pipe
@ 3rd Ave & Willow Crk

	+	HI	−	ELEV.
TBM I				614.35 ✓
	7.78	622.13 ✓		

Dist	Rod	ELEV.
0	5.42	616.71 ✓
50' RT	5.69	616.44 ✓
100' RT	6.03	616.10 ✓
150' RT	6.27	615.86 ✓
200' RT	6.58	615.55 ✓
250' RT	6.78	615.35 ✓
9' LT	5.37	616.76 ✓
50' LT	4.99	617.14 ✓
100' LT	5.06	617.07 ✓
150' LT	5.43	616.70 ✓
200' LT	5.70	616.43 ✓
250' LT	6.05	616.08 ✓

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B 32K levels chiseled □ N.W. END, N. W/S Hendrwall 3rd Ave over Willow Cr.

Desc

Top ¢ 3rd Ave & Top RT CONC. PIPE

Top ¢ RD

Rd CONT FLAT TO 30th Ave. 300' ±

Top ¢ 3rd Ave & Top ¢ LT CONC. PIPE

Top ¢ Rd

Rd CONT. FLAT

	+	HI	−	ELEV
		622.1		
	DIST	Rod	ELEV.	
1	0'	7.8	614.3	✓
2	0'	9.2	612.9	✓
3	0'	15.2	606.9	✓
4	3' RT	14.7	607.4	✓
5	6' RT	15.0	607.1	✓
6	9' RT	7.7	614.4	✓
7	9' RT	9.2	612.9	✓
8	9' RT	15.2	606.9	✓
9	12' RT	14.6	607.5	✓
10	12' RT	14.2	607.9	✓
11	30' RT	10.4	611.7	✓
12	2' RT	14.5	607.6	✓
13	3' RT	14.2	607.9	✓
14	18' RT	9.8	612.3	✓
TBM I	✓	7.78	614.35	✓

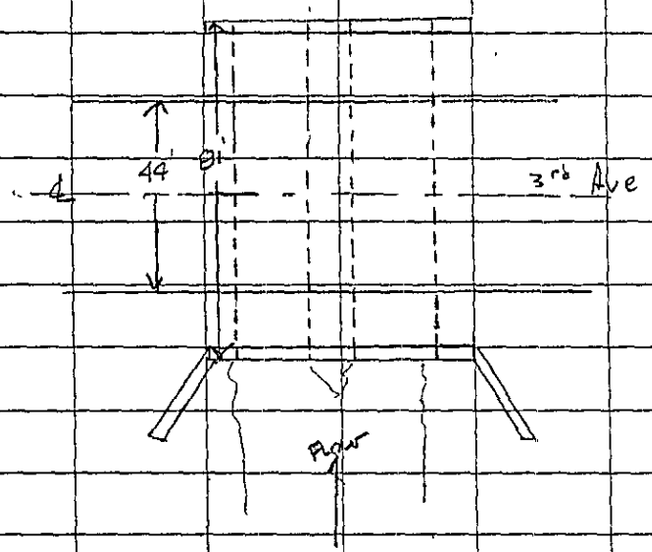
Desc

TOP CONC. Headwall & RT CONC. Pipe
L/S RT CONC. Pipe (TOP)
BTM CONC. Pipe RT.
RCL LT Edge RT CONC. Pipe
RT Edge LT CONC. Pipe
TOP CONC. Headwall & LT CONC. Pipe
L/S TOP LT CONC. Pipe
BTM LT CONC. Pipe
LT Edge LT CONC. Pipe
W/S S/L
LT TOP BNK
* W/S S/L *
RT Edge RT CONC. Pipe
TOP RT BNT

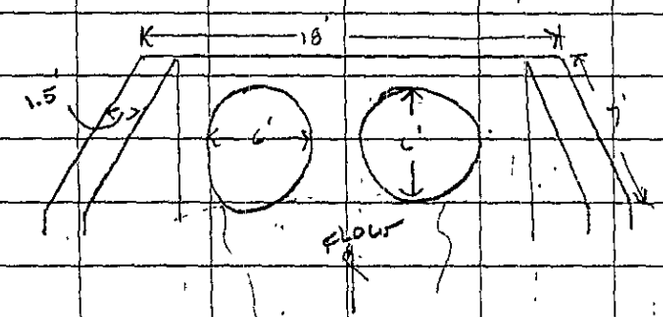
Sketch

@ Sec. 12B 3rd Ave

2.6' DIA Conc. pipes



Road surface



NO skew

Lenght pipe = 81'

Dia = 6'

WIDTH RD = 44

WIDTH Headwall = 18'

wingwall = 7' Long

" " = 1.5' wide

VALLEY SECTION
NO. 13
E. SIDE 30th Ave

	+	HI	-	ELEV.
TBM F				620.48
	2.46	622.94		

Dist	Rod	ELEV.
0'	6.0	616.9
23' LT	5.8	617.1
32' LT	4.2	618.7
50' LT	5.0	617.9
75' LT	5.7	617.2
100' LT	4.9	618.0
125' LT	5.4	617.5
150' LT	5.3	617.6
175' LT	5.2	617.7
200' LT	5.6	617.3
225' LT	5.1	617.8
250' LT	5.4	617.5
2' RT	6.4	616.5
2' RT	1.3	615.2
5' RT	2.2	614.3

April 18,94 Pg-47

chiseled + on w. END 6' cmp
w. side 30th Ave

Desc.
Top LT BNK
Toe Slope
Top Slope
GE
LAND CONT. FLAT
W/S S/L
SNDG SAND
" "

+	HI	−	ELEV.
	622.9		
DIST	Rod	ELEV.	
10' RT	2.2	614.3 ✓	
15' RT	1.6	614.9 ✓	
16' RT	6.4	616.5 ✓	
17' RT	6.0	616.9 ✓	
47' RT	5.0	617.9 ✓	
75' RT	5.0	617.9 ✓	
100' RT	5.2	617.7 ✓	
125' RT	5.1	617.8 ✓	
150' RT	5.2	617.7 ✓	
175' RT	5.2	617.7 ✓	
200' RT	5.2	617.7 ✓	
225' RT	5.0	617.9 ✓	
250' RT	5.1	617.8 ✓	
28' RT	2.7	620.2 ✓	
TBM F CA	2.46	620.48 ✓	

✓ KH

	DESC	
SNDG		SAND
SNDG		SAND
W/S S/L		
TOP RT BNK		
TOE of SLOPE @ 30TH AVE		
GB D/S ALONG Edge 30TH AVE.		
	LAND CONT FLAT	
Edge 30TH AVE		

ROAD SECTION

NO. 14B

2 6' cmps 30th Ave

	+	Hi	−	ELEV.
TBM F				620.48 ✓
	5.36	625.84 ✓		
	Dist	Rod	ELEV.	
	0'	3.95	621.89 ✓	
	50' RT	4.17	621.67 ✓	
	100' RT	4.67	621.17 ✓	
	150' RT	5.12	620.72 ✓	
	200' RT	5.42	620.42 ✓	
	250' RT	5.78	620.06 ✓	
	15' LT	3.92	621.92 ✓	
	50' LT	4.02	621.82 ✓	
	100' LT	4.42	621.42 ✓	
	150' LT	4.82	621.02 ✓	
	200' LT	5.17	620.67 ✓	
	250' LT	5.25	620.59 ✓	

Loveland Pg. 42

Chicago Int NW END of 5 CMP 30th Ave.

Desc.

TOP ¢ 30th Ave & TOP ¢ RT 6' DIA CMP ¢ 30th Ave

" "

Rd CONT. FLAT

TOP ¢ Rd ¢ LT' CMP. ¢ Rd

Rd CONT. FLAT

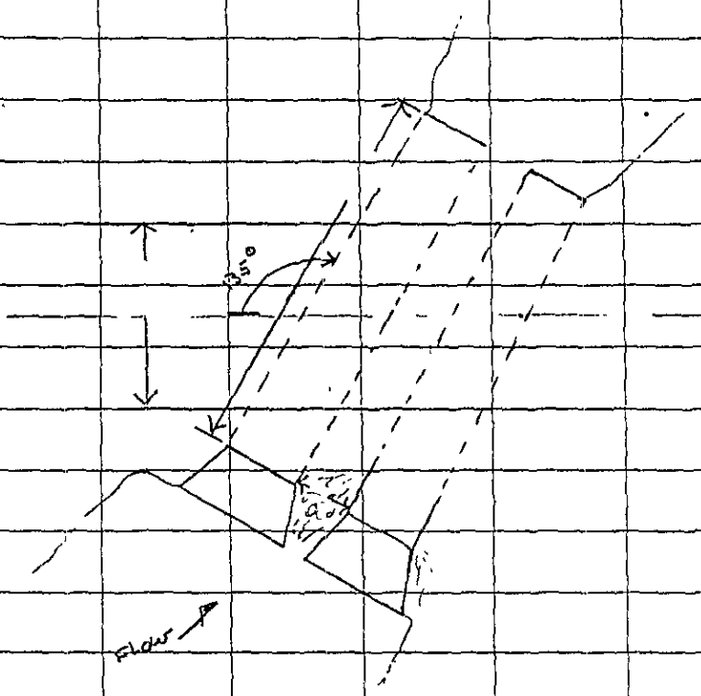
+	HI	−	ELEV.
	625.8		
DIST	Rod	ELEV.	
0'	5.4	620.4 ✓	
0'	10.0	615.8 ✓	
3' RT	9.4	616.4 ✓	
5' RT	9.5	616.3 ✓	
5' RT	8.4	617.4 ✓	
17' RT	5.5	620.3 ✓	
3' LT	9.4	616.4 ✓	
5' LT	10.2	615.6 ✓	
10' LT	9.9	615.9 ✓	
12' LT	9.9	615.9 ✓	
15' LT	5.4	620.4 ✓	
15' LT	10.2	615.6 ✓	
17' LT	10.1	615.7 ✓	
19' LT	8.5	617.3 ✓	
25' LT	8.4	617.4 ✓	
31' LT	4.7	621.1 ✓	
TBM F	✓	5.36	620.48 ✓

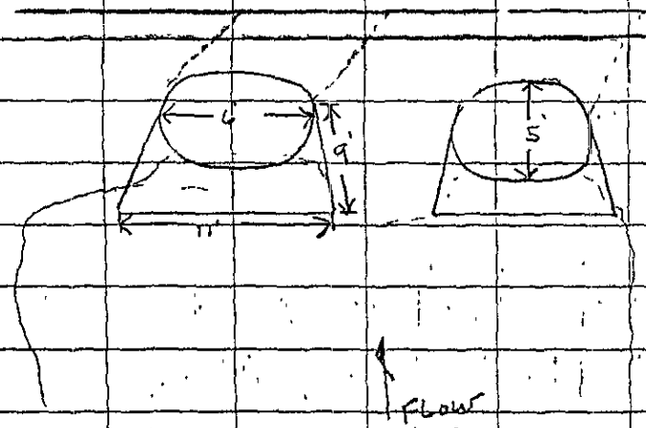
Desc.	
Top ℄ RT cmp	
BTm " " "	
RT Edge RT cmp	RCK
@ U/S RT Edge END FLARE	(RT cmp
W/S S/L	
Top RT BNK	
LT Edge RT cmp	RCK
@ U/S LT Edge END FLARE	(RT cmp
@ U/S RT Edge END FLARE	(LT cmp
RT Edge LT cmp	RCK
Top ℄ LT cmp	
BTm " " "	
LT Edge LT cmp	RCK
@ U/S LT Edge END FLARE	(LT cmp
W/S S/L	
Top LT BNK Edge 30th Ave.	

30th Ave

sketch 6' cmp's

@ SECTION

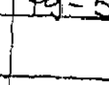




Skew 135°

Pipe Lenght = 107'

Pipe Dia 5' High
6' wide



width of Rd. 23'

Shoulder 9' wide

VALLEY SECTION
NO. 15 V

(PO-IAL LINGS) BOMT spike w. FACE P.P. E. SIDE 30Th AVE.

	T	HI	–	ELEV.
TBM E				620.10
	4.82	624.92		

DIST	Rod	ELEV	Desc
0'	5.4	619.5	TOP LT BNK
8' RT	7.4	617.5	W/S S/L
8' RT	0.2	617.3	SNDG @ TOE LT BNK
13' RT	0.6	616.9	SNDG SAND
18' RT	0.7	616.8	" "
22' RT	7.4	617.5	W/S S/L
34' RT	4.9	620.0	TOP RT BNK
59' RT	4.4	620.8	TOP SLOPE
74' RT	6.8	618.1	TOE SLOPE
100' RT	6.3	618.6	GE
125' RT	6.1	618.8	
175' RT	5.8	619.1	
200' RT	4.5	620.4	TOE SLOPE
225' RT	1.9	623.0	TOP SLOPE
250' RT	1.5	623.4	LAND CONT FLAT

	+	H.I	-	ELEV.	Desc
		624.9			
	DIST	Rod	ELEV		
	31' LT	5.7	619.2 ✓		CE @ Toe of Ditch 30th Ave
	50' LT	5.3	619.6 ✓		CE " " " D/S along 30th Ave
	100' LT	5.3	619.6 ✓		
	150' LT	5.1	619.8 ✓		
	200' LT	5.3	619.6 ✓		
	250' LT	5.2	619.7 ✓		
	55' LT	4.2	620.7 ✓		CONT FLAT.
TBM	E	CK	4.82	620.10 ✓	Top RT Edge 30th Ave

VALLEY SECTION

No. 16

T. KOENIGSKNECHT, SUNNY 40
K. DRAKE April 29, 93 pg-59

pg-14 Levels

Bent spike in E. face P.P. w. E/De 30th Ave. Anchor.

	+	HI	-	ELEV
TBM D				622.27
	6.78	629.05		

Dist	Rod	ELEV.
0'	9.1	620.0
4' RT	9.8	619.3
4' RT	0.9	618.4
9' RT	1.5	617.8
13' RT	0.5	618.8 ~~620.6~~
13' RT	9.8	619.3
26' RT	7.8	621.3
50' RT	7.8	621.3
75' RT	7.7	621.4
100' RT	8.2	620.9
125' RT	8.4	620.7
150' RT	8.6	620.5
175' RT	8.5	620.6
200' RT	8.4	620.7
225' RT	8.2	620.9
250' RT	8.0	621.1

SNDG

Desc

TOP LT BNK

W/S S/L

SNDG @ TOE LT BNK SAND

SNDG SAND

SNDG @ TOE RT BNK

W/S S/L

TOP RT BNK

GE

GE LAND [illegible] FLATOUT

	+	HI	−	ELEV
		629.1		
	Dist	Rod	ELEV	
	37' LT	8.1	621.0	
	50' LT	8.0	621.1	
	100' LT	8.3	620.8	
	150' LT	8.2	620.7	
	200' LT	8.3	620.8	
	250' LT	8.4	620.7	
	44' LT	4.9	624.2	
TBM D	CK	6.78	622.27	

	Desc.
	GE @ Toe of Slope @ Ditch 30th Ave
D/S	GE " " "
	Toe of Ditch cont. flat
	RT Edge 30th Ave Top

VALLEY SECTION

17

100' D/S of R.R. TRACKS

@

T. ROZNOWSKI
K DRAKE

Cloudy 40°
Fog.

April 13, 94

pg-62

pg-20 Levels

BOAT SPIKE E. FACE OF P.P. 200' W. OF 30TH AVE. @ P.R. SWITCH

	+	HI	−	ELEV.		Desc
TBM A				627.49 ✓		
	0.31	627.80 ✓				
	Dist	Rod	ELEV.			
	0'	5.8	622.0 ✓			GE TOP RT BNK
	25' RT	6.1	621.7 ✓			GE
	50' RT	5.9	621.9 ✓			
	75' RT	5.8	622.0 ✓			
	100' RT	5.9	621.9 ✓			
	125' RT	5.7	622.1 ✓			
	150' RT	6.1	621.7 ✓			
	200' RT	6.2	621.6 ✓			LAND CONT FLAT OUT
	1' LT	6.0	621.8 ✓		W/S	W/S S/L RT
	1' LT	0.9	620.9 ✓		SNDG	SNDG @ TOE RT BNK
	4' LT	1.9	619.9 ✓		"	SNDG @ ℄ CRK
	8' LT	1.5	620.3 ✓		"	SNDG @ TOE LT BNK
	8' LT	6.0	621.8 ✓		W/S	W/S S/L LT
	8' LT	5.7	622.1 ✓			TOP LT BNK
	25' LT	5.4	622.4 ✓			GE GE

	+	HI	−	ELEV.			Desc
		627.8					
	DIST	Rod	ELEV.				
	50' LT	5.5	622.3 ✓			GE	
	75' LT	5.4	622.4 ✓				
	100' LT	5.0	622.8 ✓				
	125' LT	5.2	622.6 ✓				
	150' LT	5.2	622.6 ✓				
	175' LT	5.4	622.4 ✓				
	200' LT	4.9	622.9 ✓				
	229' LT	5.6	622.2 ✓			GE	Toe of Slope 30th Ave
	247' LT	1.8	626.0 ✓			"	Top " " W Edge of 30th AVE.
TBM A	CR	0.31	627.49 ✓				

PIPE SECTION

3 CONC. PIPES

NO 18 B

	+	HI	−	ELEV.
TBM A				627.49 ✓
	4.07	631.56 ✓		
	DIST	Rod	ELEV.	
	0'	6.8	624.8 ✓	
	25' RT	6.3	625.3 ✓	
	50' RT	6.2	625.4 ✓	
	100' RT	5.9	625.7 ✓	
	150' RT	5.8	625.8 ✓	
	200' RT	6.1	625.5 ✓	
	250' RT	5.8	625.8 ✓	
	25' LT	6.4	625.2 ✓	
	50' LT	6.0	625.6 ✓	
	100' LT	5.7	625.9 ✓	
	150' LT	5.5	626.1 ✓	
	200' LT	5.5	626.1 ✓	
	250' LT	5.4	626.2 ✓	
	298' LT	4.9	626.7 ✓	
	310' LT	4.86	626.74 ✓	

✓ HW

April 13, 94 Pg-65

pg-20 Levels boat spike E. face P.P. 200' W. 30th Ave. @ switch

Desc

TOP & Dirt Rd & TOP & LT. CONC. PIPE & Dirt Rd

Road CONT. FLAT OUT.

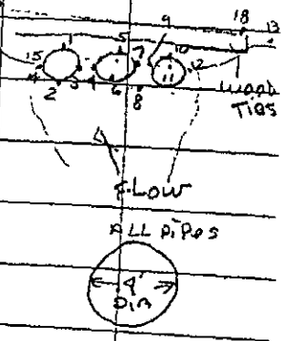
& DIRT RD.

RT Edge 30th Ave.

& INTER. 14th AVE Dirt Rd & 31st Ave.

+	HI	−	ELEV
	631.6		
Dist	Rod	ELEV	Desc
8' RT	6.5	625.1 ✓	TOP & Dirt Rd. ¢ & center CONC. AP
17' RT	6.3	625.3 ✓	" " " " RT CONC. AP
0'	5.0	626.6 ✓	TOP & R.R TRACK on Ties & TOP LT AP
5' RT	4.9	626.7 ✓	" center "
10' RT	4.9	626.7 ✓	" RT "
25' RT	4.8	626.8 ✓	
50' RT	4.7	626.9 ✓	
100' RT	4.9	626.7 ✓	
150' RT	5.0	626.6 ✓	
200' RT	4.8	626.8 ✓	
250' RT	4.5	627.1 ✓	TRACKS CONC. FLOT OUT
50' LT	4.8	626.8 ✓	TOP & R.R. Ties
100' LT	4.9	626.7 ✓	
150' LT	4.9	626.7 ✓	
200' LT	5.1	626.5 ✓	
250' LT	5.2	626.4 ✓	
310' LT	5.2	626.4	

	+	HI 631.6	-	ELEV.
	DIST	Rod	ELEV	Desc.
1	0'	8.3	623.3	Top ℄ LT CONC. PIPE
2	0'	10.9	620.7	BTM " " "
3	2' RT	10.5	621.1	RT Edge LT CONC. PIPE
4	2.5' RT	10.4	621.2	LT Edge center CONC. PIPE
5	4.5' RT	8.3	623.3	Top ℄ " " "
6	4.5' RT	10.6	621.0	BTM ℄ " " "
7	6.5' RT	11.0	620.6	RT Edge " " "
8	6.5' RT	9.7	621.9	W/S S/L
9	7' RT	9.2	622.4	LT Edge RT PIPE - ON ICE PIPE IS ICE filled
10	9' RT	8.1	623.5	Top ℄ RT PIPE
11	9' RT	9.1	622.5	BTm ℄ " " ON ICE
12	11' RT	9.0	622.6	RT Edge RT CONC. PIPE - GE
13	18' RT	5.6	626.0	TOP RT BNK GE
14	2' LT	10.4	621.2	LT Edge LT CONC. PIPE
15	2' LT	9.7	621.9	W/S S/L
16	9' LT	5.8	625.8	TOP LT BNK
17	7' LT	6.2	625.4	TOP LT END WOOD Tie Headwall
18	17' RT	6.0	625.6	" RT " " "

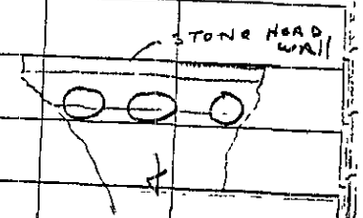


	+	HI 631.6	-	ELEV.
	DIST	Rod	ELEV.	
	0'	7.47	624.09	✓
	0'	8.3	623.3	✓
	0'	11.6	620.0	✓
	8' RT	7.31	624.25	✓
	8' RT	8.6	623.0	✓
	8' RT	11.6	620.0	✓
	17' RT	7.32	624.24	✓
	17' RT	8.5	623.1	✓
	17' RT	11.2	620.4	✓
TBM A	CK	4.07	627.49	✓

NOTE: "These shot ON D/S END of PIPES"

Desc
Top Stone Headwall & LT Pipe
Top LT Conc Pipe
Btm " " " = Dirt Fill
Top Headwall Center Pipe
Top Conc. Pipe "
Btm " " " = Dirt Fill
Top Headwall RT Pipe
Top Conc. Pipe "
Btm " " " = Dirt Fill

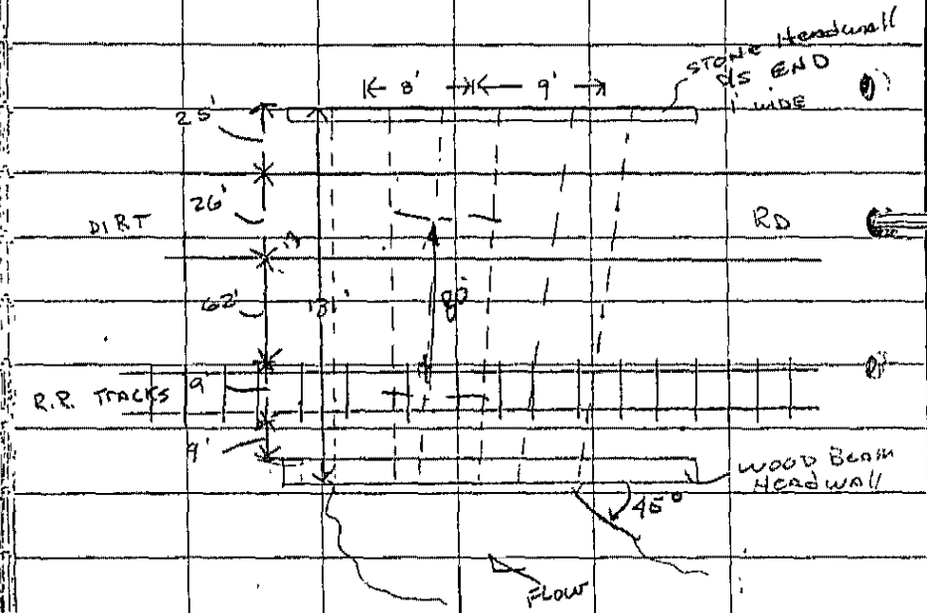
D/S END Conc. Pipes

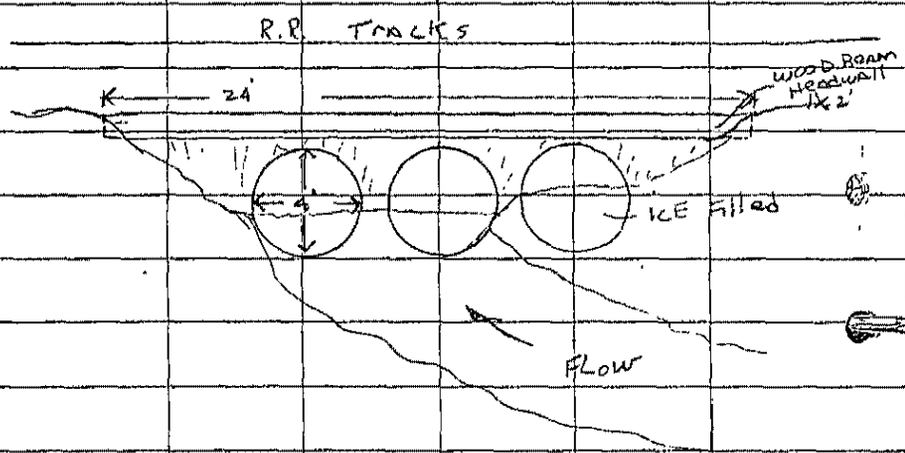


sketch @ 18 B

Three 4' DIA. CONC.

Pipes. U/S END





No skew

Conc. Pipe Lenght = 131'

4' Dia

RD width 26'

Creek enters pipes @ 45° ∡

Wood Beam Headwall = 24' long

= 2'x1'

Three Conc. Pipes 4' Dia

VALLEY SECTION

@ NO. 19

	+	HI	−	ELEV.	
TBM B				626.09 ✓	
	3.36	629.45 ✓			
	Dist	Rod	ELEV.		
	0'	6.6	622.8 ✓		
	25' RT	6.6	622.8 ✓		
	75' RT	5.1	624.3 ✓		
	100' RT	5.0	624.4 ✓		
	125' RT	4.9	624.5 ✓		
	150' RT	3.6	625.8 ✓		
	175' RT	2.9	627.0 ✓		
	200' RT	2.3	627.1 ✓		
	225' RT	2.0	627.4 ✓		
	250' RT	2.2	627.2 ✓		
	2' LT	7.5	621.9 ✓		
	6' LT	1.0	620.9 ✓	"SNDG"	
	11' LT	7.5	621.9 ✓		
	13' LT	6.2	623.2 ✓		
TBM B	CK	3.36	626.09 ✓	✓	

April 13, 94 Pg-72

Pg-3D. Pg-20L Levels

DOAT, spike E. Face R.R. W of 30th Ave @ W. CMD.

Desc

TOP RT BNK

GE

1 sec

IGE @ R.R. TRACKS

GE

LAND CONT. FLAT OUT

W/S S/L

SNDG & CRK

W/S S/L

TOP LT BNK

	+	HI	-	ELEV.							
TBM B				626.09 ✓		pg - 20b levels	bolt spike E face P.P. & amp's				
	4.13	630.22									
	DIST	Rod	ELEV.					Desc			
	25' LT	5.8	624.4 ✓				GE				
	50' LT	6.6	623.6 ✓								
	75' LT	7.6	622.6								
	100' LT	6.9	623.3 ✓								
	125' LT	7.4	622.8								
	150' LT	7.2	623.0								
	175' LT	7.4	622.8 ✓								
	200' LT	7.9	622.3 ✓								
	211' LT	7.7	622.5				TOP RT BNK	DITCH			
	213' LT	8.3	621.9				W/S S/L				
	217' LT	1.1	620.8		SNDG	SNDG	SNDG	& DITCH			
	220' LT	8.3	621.9 ✓		"		W/S S/L				
	223' LT	7.6	622.6				TOP LT BNK				
	250' LT	6.7	623.5 ✓				GE				
	275' LT	5.4	624.8 ✓								
	300' LT	4.8	625.4								

	+	HI	-	ELEV.			
		630.2					
	Dist.	Rod	ELEV.				Desc
	325' LT	4.4	625.8			GE	
	350' LT	5.1	625.1 ✓				
	375' LT	5.6	624.6				
	400' LT	5.1	625.1 ✓				
	425' LT	6.1	624.1				
TBM B	CH	4.13	626.09 ✓				LAND CONT. FLAT TO 30th AVE

⊘ SECTION 20B

2 CONC. PIPES

R.R. TRACKS & ABANDON. Rd.

	+	HI	-	ELEV.
TBM B				626.09 ✓
	4.01	630.10 ✓		

DIST	Rod	ELEV.	DESC
0'	3.2	626.9	TOP ℄ LT CONC P.P. & ~~R.R. Ties~~
50' LT	3.2	626.9	TOP ℄ Ties
100' LT	3.2	626.9	" "
150' LT	3.3	626.8	" "
200' LT	3.4	626.7	" "
226 LT	3.4	626.7	TOP ℄ P.P. Ties & TOP CONC P.P. ℄ DITCH
226 LT	6.7	623.4	TOP, CONC. P.P.
226 LT	9.3	620.8	BTM " "
226' LT	8.2	621.9 ✓	W/S
275' LT	3.4	626.7	TOP ℄ R.R. Ties
325' LT	3.4	626.7	" " " LAND CONT FLAT
℄ RT	3.2	626.9 ✓	TOP ℄ R.R. Ties & TOP & RT CONC P.P.
50' RT	3.1	627.0 ✓	TOP ℄ Ties
100' RT	3.0	627.1	" "
150' RT	3.0	627.1	" "

Pg-201 2BU2K DONT spike E. Face P.P. ℄ CMP

	+	HI	−	ELEV.	Desc
		630.10			
	DIST	Rod	ELEV.		
	200' RT	2.9	627.2		TOP ℄ R.R. TRC.
	250' RT	2.9	627.2		" " " TRACKS CONT. FLAT
TBM B	CK	4.01	626.09		
	ABANDON RD. SECTION				ABANDON ROAD SECTION
TBM B				626.09 ✓	
	4.44	630.53 ✓			
	DIST	Rod	ELEV.		Desc
	0'	4.9	625.6 ✓		TOP ℄ ~~ABANDON RD~~ & TOP ℄ LT CONC. PIPE
	50' LT	5.3	625.2 ✓		TOP ℄ ABANDON RD.
	100' LT	5.4	625.1		
	150' LT	5.4	625.1 ✓		
	183' LT	5.5	625.0 ✓		TOP ℄ ABANDON RD & TOP ℄ CONC. PIPE @ DITCH
	183' LT	7.5	623.0		TOP CONC PIPE @ DITCH
	183' LT	9.7	620.8 ✓		BTM " " " "
	183' LT	8.5	622.0		W/S " " " "
	233' LT	6.2	624.3		TOP ℄ ABANDON RD
	283' LT	6.2	624.3		" " LAND CONT FLAT.
	325' LT	6.2	624.3		

	+	HI	−	ELEV.
		630.5		
	DIST	Rod	ELEV.	
	9' RT	4.8	625.7 ✓	
	50' RT	5.5	625.0	
	100' RT	5.3	625.2 ✓	
	150' RT	4.9	625.6	
	200' RT	5.1	625.4 ✓	
	250' RT	5.2	625.3 ✓	
1	0'	5.3	625.2 ✓	
2	0'	6.7	623.8	
3	6'	9.7	620.8	
4	2' RT	9.9	620.6 ✓	
5	7' RT	9.0	621.5 ✓	
6	9' RT	5.4	625.1 ✓	
7	9' RT	6.6	623.9 ✓	
8	9' RT	9.7	620.9 ✓	
9	11' RT	8.5	622.0 ✓	
10	19' RT	8.6	621.9 ✓	

Desc

TOP ℄ ABANDON RD ℄ TOP CONC. PIPE

TOP ABANDON RD

TOP STONE Headwall

TOP ℄ LT CONC. PIPE

BTM " " "

RT Edge LT CONC PIPE

LT " RT " "

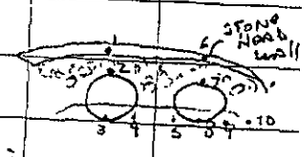
TOP ℄ CONC Headwall

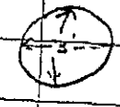
TOP ℄ RT CONC. PIPE

BTM " " " "

RT Edge RT CONC PIPE

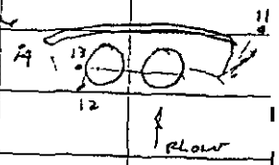
W/S S/L





	+	A1	−	ELEV.
		630.5		
	Dist	Rod	ELEV.	
11	25' RT	5.3	625.2	✓
12	2' LT	9.2	621.3	✓
13	2' LT	8.6	621.9	✓
14	5' LT	5.1	625.4	✓
TBM B	CK	4.44	626.09	✓

	Desc
TOP	RT BNK
LT Edge	LT CONC. PIPE
W/S	S/L
TOP	LT BNK

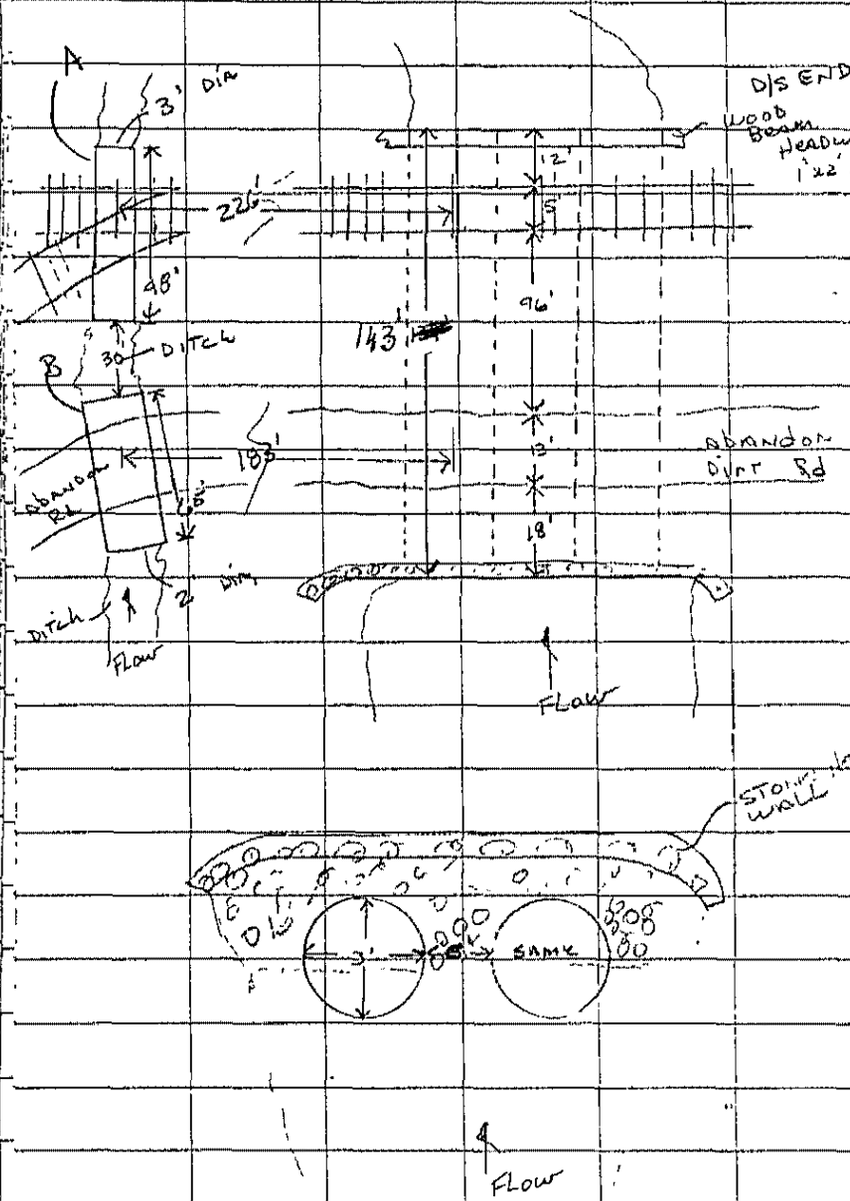


SKETCH

2 CONC. PIPES @

Willow CREEK & 2 CONC.

PIPES @ DITCH



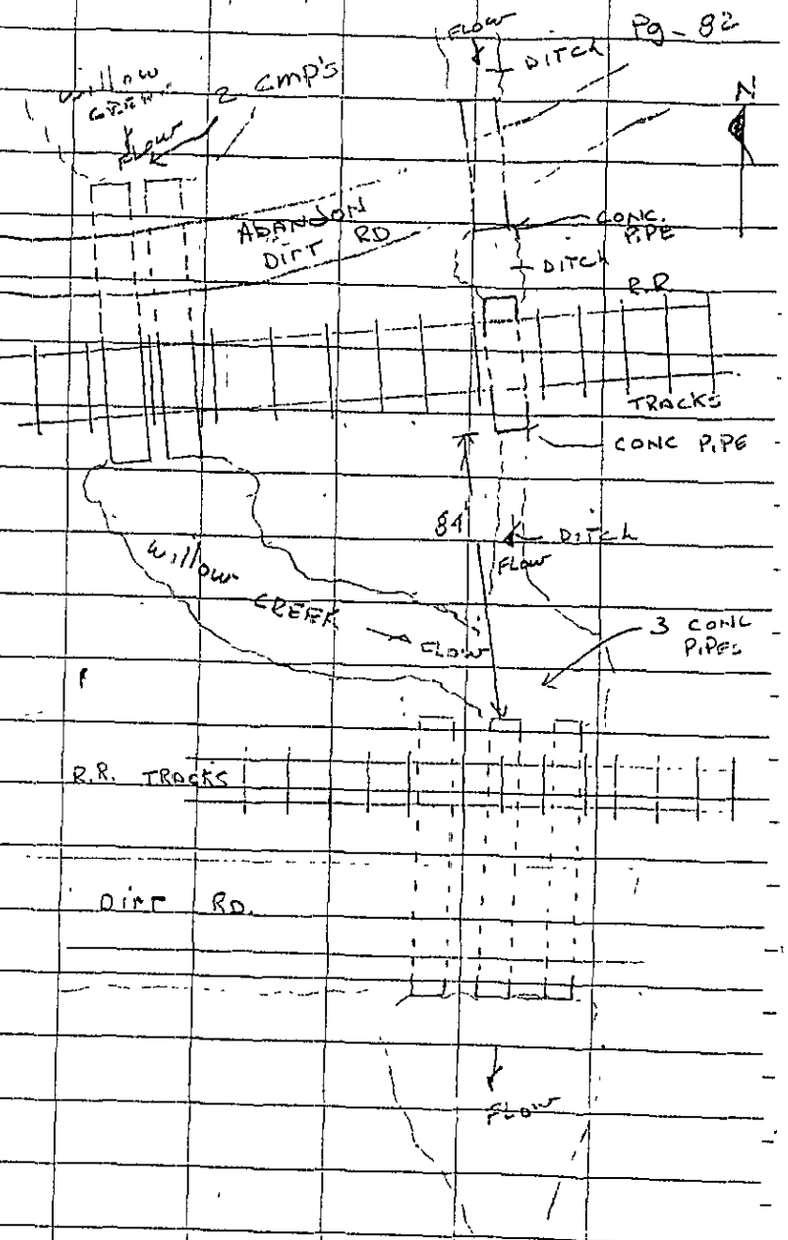
Lenght pipe =

width Abandon Rd =

Pipe A @ R.R. Tracks = Lenght Dia

Pipe B @ Abandon Rd = " "

Conc pipe = 3' Dia


FLOW
DITCH
N
Willow CREEK
2 CMP's
FLOW
ABANDON DIRT RD
CONC. PIPE
DITCH
R.R
TRACKS
CONC PIPE
84
DITCH
FLOW
Willow CREEK
FLOW
3 CONC PIPES
R.R. TRACKS
DIRT RD.
FLOW

VALLEY SECTION

@ Abandon Rd Area

NO 21V

Note:

This Area @ Abandon Rd, Roadway has been dug OUT TO ELEV. of NATURAL grnd Level. MATERIAL has been hauled OUT.

April 15 Pg -84

	+	H.I.	−	ELEV.			
TBM L				624.38 ✓		Pg-13L Level	Boat spike in N. face P.P. e abandon.
	4.74	629.12 ✓					
	Dist	Rod	ELEV.				Desc
	0'	5.3	623.8				Top LT BNK
	25' L	5.1	624.0				GE
	50' L	5.7	623.4 ✓				
	75' L	5.9	623.2 ✓				
	100' L	5.0	624.1				
	125' L	4.9	624.2				
	150' L	5.0	624.1 ✓				
	175' L	4.9'	624.2				
	200' L	5.0	624.1 ✓				
	225' L	4.9	624.2				
	250' L	4.8	624.3 ✓				LAND CONT. FLOT 100' then Rises 2' Next then is FLAT OUT.
	7' R	6.3	622.8 ✓				W/S S/L
	12' R	1.4	621.4			SOUND	SOUND & CREEK
	17' R	0.8	622.0 ✓			SOUND	"
	23' R	6.3	622.8 ✓				W/S S/L
	26' R	5.8	623.3 ✓				Top Rt BNK

	+	Hi	−	ELEV
		629.1		

DIST	ROD	ELEV
50'R	5.3	623.8 ✓
75'R	5.5	623.6 ✓
100'R	5.4	623.7 ✓
125'R	5.7	623.4 ✓
150'R	6.0	623.1 ✓
175'R	5.9	623.2 ✓
200'R	5.6	623.5 ✓
225'R	5.8	623.3 ✓
250'R	5.3	623.8 ✓
300'R	5.3	623.8
TBM L ✓	4.74	629.38

DESC

G.E

LAND CONT. FLAT NEXT 200'+ THEN RISES 2' NEXT 10' THEN FLAT OUT.

VALLEY SECTION

NO 22V

100' D/S @ 21B

℄ Rd

April 15, 94 Pg-87

	+	HI	-	ELEV							
TBM N				627.22		Pg-22L Levels	Bort ?	S. Face Rd	P.P. N. SIDE		
	2.99	630.21									
	Dist	Rod	ELEV.					Desc			
	0	5.3	624.9				TOP	RT	BNK		
	2'L	7.2	623.0				W/S	S/L			
	7'L	1.2	621.8		SNDG	SOUND			SAND		
	12'L	7.2	623.0				W/S	S/L			
	16'L	4.5	625.7				TOP	LT	BNK		
	25'L	4.3	625.9				G.E				
	50'L	4.7	625.5								
	75'L	5.2	625.0								
	100'L	4.4	625.8								
	125'L	4.2	626.0								
	150'L	4.0	626.2								
	175'L	4.4	625.8								
	200'L	4.4	625.8								
	225'L	4.6	625.6								
	250'L	4.6	625.6								
	275'L	4.6	625.6								

HAND GOODS FOR

+	HI	−	ELEV
	630.21		

DIST	ROD	ELEV	DESC
25'R	4.7	625.5	G.E
50'R	4.7	625.5	
75'R	5.5	624.7	
100'R	5.3	624.9	
125'R	5.3	624.9	
150'R	5.3	624.9	
175'R	4.9	625.3	
200'R	4.9	625.3	
225'R	4.7	625.5	
250'R	4.8	625.4	
275'R	4.7	625.5	LAND CON'T FLAT NEXT 300' ±
TBM N	V	2.99	627.22

⊗ No. 23B

ROAD SECTION & PIPE

DANFORTH ROAD

Pg-22L Levels

	+	HI	−	ELEV
TBM N				627.22
	2.99	630.21		
	DIST	ROD	ELEV	
	0'	4.55	625.66	
	50'L	4.29	625.92	
	100'L	4.32	625.89	
	150'L	4.40	625.81	
	200'L	4.50	625.71	
	250'L	4.37	625.84	
	300'L	4.56	625.65	
	50'R	4.12	626.09	
	100'R	4.06	626.15	
	150'R	3.94	626.27	
	200'R	3.99	626.22	
			626.31	
	300'R	3.85	626.36	

DESC

Top ℄ of RD ℄ of CMP DANFORTH RD

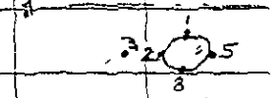
℄ of RD.

℄ of RD

	+	HI	−	ELEV
		630.21		
	DIST	ROD	ELEV	
1)	0'	7.0	623.2	
2)	1'R	8.4	621.8	
3)	2.5'R	7.2	623.0	
4)	10'R	5.1	625.1	
5)	1'L	8.3	621.9	
6)	6'L	7.2	623.0	
7)	13'L	5.2	625.0	
8)	0'	9.0	621.2 ~~622.2~~	

DESC
Top ℄ OF CMP 24" DIA
RT EDGE CMP
W/S S/L
Top OF BANK
LT EDGE CMP
W/S S/L
Top OF BANK
BTM ℄ OF CMP

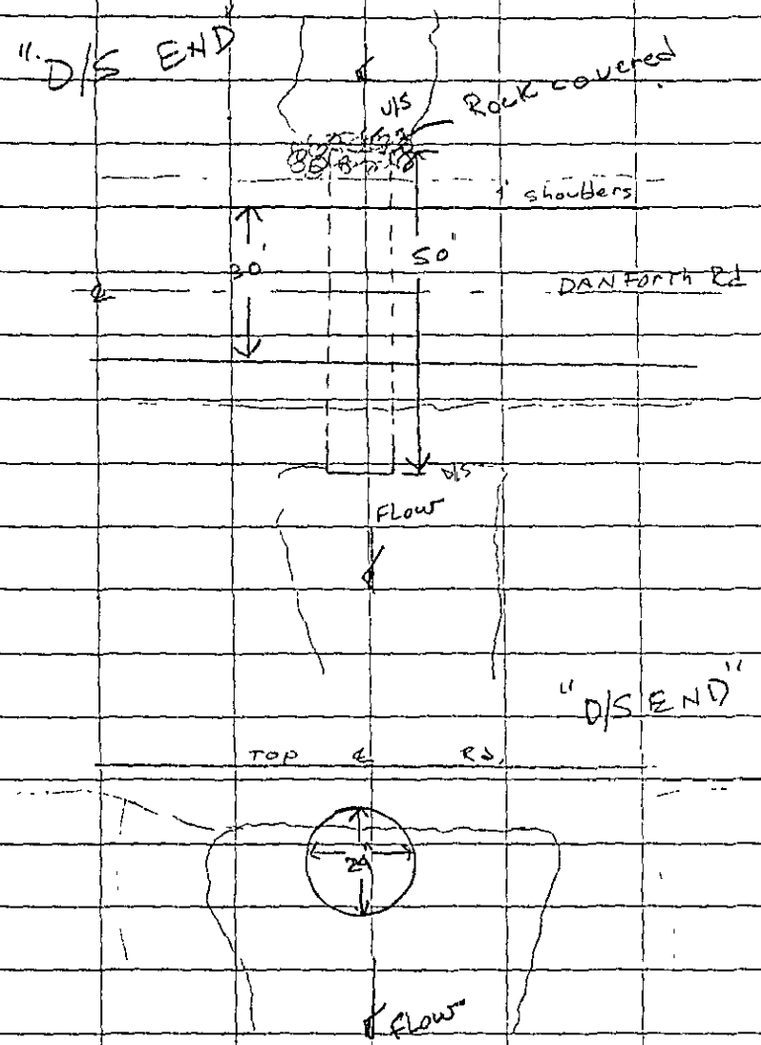
DISCH



FLO

NOTE: SECTION DONE @ D/S END OF CMP
U/S COVERED W/ 4" STONE, PIPE NOT
VISIBLE. [illegible]
BACK.

SKETCH CMP @ 23B



"D/S END"

DIAM OF PIPE = 24"

WIDTH OF RD = 30'

LENGTH OF PIPE = 50'

SHOULDER OF RD = 4'

⊗ 24 VALLEY SECTION

100' U/S DANFORTH RD

TBM N

627.22 ✓

2.00 630.21 ✓

DIST	ROD	ELEV	
0'	6.2	624.0	
3' L	7.2	623.0	
8' L	1.1	621.9	SNDG
12' L	7.2	623.0	
16' L	5.7	624.5	
50' L	6.4	623.8	
100' L	6.7	623.5	
150' L	6.7	623.5	
200' L	6.5	623.6	
250' L	6.5	623.6	
50' R	6.7	623.5	
100' R	6.2	624.0	
150' R	6.5	623.7	
200' R	6.4	623.8	
250' R	6.5	623.7	
✓	2.00	627.22	

April 15, 1994

29-95

DESC

RT BNK

S/L

TOE OF CREEK

S/L

LT BNK

00BREAK00

1) COUNTY: Delta

2) STUDY NAME: Delta County

3) WATERCOURSE: willow creek

4) DOCUMENT TYPE: 100 yr & 500 yr
natural & Encroachment

00BREAK00

FILE: DELTA10

```
1*******************************************
 *  HEC-2 WATER SURFACE PROFILES            *
 *                                          *
 *  Version   4.6.2;  May 1991              *
 *                                          *
 *  RUN DATE    26OCT94    TIME   13:21:44  *
 *******************************************
```

```
*****************************************
*  U.S. ARMY CORPS OF ENGINEERS         *
*  HYDROLOGIC ENGINEERING CENTER        *
*  609 SECOND STREET, SUITE D           *
*  DAVIS, CALIFORNIA 95616-4687         *
*          (916) 756-1104               *
*****************************************
```

```
X     X  XXXXXXX   XXXXX             XXXXX
X     X  X        X     X           X     X
X     X  X        X                       X
XXXXXXX  XXXX     X         XXXXX    XXXXX
X     X  X        X                 X
X     X  X        X     X           X
X     X  XXXXXXX   XXXXX            XXXXXXX
```

1

26OCT94 13:21:44 PAGE 1

THIS RUN EXECUTED 26OCT94 13:21:44

```
*************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
*************************************
```

```
T1      DELTA COUNTY, MICHIGAN FIS
T2      WILLOW CREEK
T3      100-YEAR FLOW

J1  ICHECK    INQ      NINV     IOIR     STRT     METRIC   HVINS    Q        WSEL     FQ

      0        2        0        0    .000946      0        0        0      584.0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN       ALLDC    IBW      CHNIM    ITRACE

      1        0       -1


J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    150

NC     .050     .050     .035      .3       .5
QT        2     580      960
          TYPICAL SECTION OF RELOCATED CREEK FROM PLANS
X1     5565        9        2       74        0        0        0
GR    590.2        0    590.0        2    589.8        4    585.5       22    583.9       28
GR    583.9       48    585.5       54    590.0       74    590.0       77

NC     .050     .050     .030      .3       .5
          D/S FACE OF AIRPORT RUNWAY CROSSING
          10.2'x6.8'ARCH PIPE EQUALS ABOUT 8.5'CIRCULAR
X1     5625       21    187.3    212.7       60       60       60
X3                          187      213
GR    592.0        0    585.7      180    585.7    187.3    584.4      188    584.0      189
GR    583.9      190    583.9    192.4    583.9      195    584.0      196    584.4      197
GR    585.7    197.5    585.7    202.5    584.4    203.2    584.0      204    583.9      205
GR    583.9    207.6    583.9      210    584.0      211    584.4    211.7    585.7    212.7
GR    592.0      300

SC     2.03       .5      2.8        0      8.5        0      740      2.1    584.6    583.9
          U/S FACE OF AIRPORT RUNWAY CROSSING
X1     6365        0        0        0      740      740      740
```

```
X2       0         0         2     590.7     592.7
X3                                   187                 213
BT      21         0     595.0         0       180     595.0                 187.3     595.0
BT     188     595.0                 189     595.0                   190     595.0                   192.4
BT   595.0                 195     595.0                   196     595.0                     197     595.0
BT             197.5     595.0                 202.5     595.0                 203.2     595.0
BT     204     595.0                 205     595.0                   207.6     595.0                     210
BT   595.0                 211     595.0                 211.7     595.0                   212.7     595.0
BT               300     595.0         0
1
   26OCT94      13:21:44                                                                                PAGE    2


NC                          .035
          CROSS SECTION A AT DELTA COUNTY AIRPORT OVER PORTAGE CREEK
X1    6380        28       250       272        15        15        15
GR   594.0         0     594.0        25     594.1        50     594.0        75     594.0       100
GR   593.9       125     594.5       150     594.4       175     593.8       200     592.7       225
GR   589.0       250     586.2       250     585.8       255     585.4       260     584.8       265
GR   585.6       270     585.8       272     588.8       272     591.4       300     591.9       325
GR   591.8       350     592.3       375     592.2       400     592.3       425     592.5       450
GR   592.7       475     592.9       500     592.9       525

X1    2.01        40      250.      273.     305.0     305.0     305.0
GR   594.5        0.     594.4       25.     594.5       50.     594.5       75.     594.2      100.
GR   594.5      125.     594.3      150.     594.0      175.     593.0      200.     591.7      225.
GR   589.2      250.     587.8      250.     586.3      250.     586.1      254.     586.0      256.
GR   586.0      259.     585.8      262.     585.6      263.     585.1      268.     585.7      271.
GR   585.9      273.     589.3      273.     591.5      299.     591.6      301.     592.3      324.
GR   592.3      326.     593.0      349.     593.0      351.     593.5      374.     593.5      376.
GR   593.6      400.     593.5      400.     593.5      425.     593.5      425.     593.5      450.
GR   593.5      450.     593.6      475.     593.7      475.     593.8      500.     593.8      500.

NC                                     .3        .5
          CROSS SECTION B OVER PORTAGE CREEK
X1    6845        28       250       274       305       305       305
GR   594.9         0     594.8        25     594.9        50     594.9        75     594.4       100
GR   595.0       125     594.0       150     593.6       175     592.3       200     590.7       225
GR   589.4       250     586.5       250     586.3       255     586.3       260     586.0       265
GR   585.4       270     586.1       274     589.7       274     591.7       300     592.7       325
GR   594.1       350     594.7       375     594.9       400     594.7       425     594.6       450
GR   594.6       475     594.7       500     595.1       525

X1    3.01        42      250.      281.     355.0     355.0     355.0
GR   597.7        0.     597.6       25.     597.6       50.     597.6       75.     597.4      100.
GR   597.7      125.     597.5      130.     596.0      150.     594.6      175.     594.2      180.
GR   593.3      200.     592.4      225.     591.5      250.     589.6      250.     588.3      256.
GR   588.1      256.     587.9      261.     587.8      261.     587.4      265.     587.2      267.
GR   587.1      269.     586.6      273.     587.1      275.     591.7      281.     593.0      307.
GR   593.1      311.     593.5      332.     593.7      335.     594.6      357.     594.6      360.
GR   595.7      383.     596.6      408.     596.7      410.     596.9      433.     596.9      434.
GR   596.9      458.     596.9      459.     597.0      483.     597.0      484.     597.2      508.
GR   597.2      509.     597.5      533.

X1    3.02        42      250.      288.     355.0     355.0     355.0
GR   600.6        0.     600.3       25.     600.4       50.     600.3       75.     600.3      100.
GR   600.4      125.     600.3      130.     598.1      150.     595.5      175.     595.0      180.
GR   594.3      200.     594.1      225.     593.6      250.     592.6      250.     590.2      256.
GR   589.9      257.     589.4      262.     589.3      263.     588.7      266.     588.5      269.
GR   588.3      271.     587.8      275.     588.5      279.     593.8      288.     594.3      314.
GR   594.3      318.     594.4      340.     594.4      343.     595.0      365.     595.1      368.
GR   596.7      390.     598.3      415.     598.4      417.     599.1      441.     599.1      442.
GR   599.1      466.     599.1      467.     599.5      491.     599.5      492.     599.7      516.
GR   599.7      517.     599.8      542.
1
   26OCT94      13:21:44                                                                                PAGE    3


          CROSS SECTION C OVER PORTAGE CREEK
X1    7910        26       250       295       355       355       355
GR   603.4         0     603.1        25     603.1        50     603.0        75     603.3       100
GR   603.0       130     595.8       180     595.3       200     595.8       225     595.7       250
GR   591.7       258     591.0       263     590.0       268     589.5       273     589.0       278
GR   590.0       283     595.8       295     595.5       325     595.2       350     595.5       375
GR   600.2       425     601.3       450     601.4       475     601.9       500     602.2       525
GR   602.2       550

QT       2       290       510
```

CROSS SECTION D OVER WILLOW CREEK

```
X1    8500        28        250       268       590       590       590
X3                                    239
GR    604.6       0         604.6     50        604.9     75        604.3     100       603.3     125
GR    603.6       150       603.1     175       602.3     202       594.7     217       597.2     239
GR    597.2       243       596.7     250       591.4     250       591.0     255       591.2     260
GR    592.4       265       594.2     268       595.1     275       596.6     300       596.7     310
GR    601.6       327       601.9     350       602.3     375       602.5     400       602.0     425
GR    601.9       450       602.0     475       602.0     500

NC    .070        .070      .035      .3        .5
X1    8.01        55        271       291       360.0     360.0     360.0
X3                                    247
GR    604.7       0.        604.5     54.       604.5     59.       604.7     81.       604.2     108.
GR    603.8       119.      603.3     134.      603.2     135.      603.4     148.      603.4     160.
GR    603.5       162.      603.3     175.      603.4     180.      603.4     183.      603.2     187.
GR    603.2       189.      603.1     193.      602.7     208.      602.5     219.      600.8     223.
GR    595.7       235.      596.1     239.      596.9     247.      597.5     252.      598.1     259.
GR    598.1       263.      597.7     271.      592.9     271.      591.8     274.      591.6     276.
GR    591.7       279.      591.9     282.      593.3     288.      593.5     288.      595.3     291.
GR    596.1       298.      597.3     319.      597.4     323.      597.4     324.      597.5     334.
GR    598.6       338.      601.9     351.      602.0     361.      602.1     374.      602.3     385.
GR    602.5       399.      602.7     424.      602.5     431.      602.2     449.      602.2     455.
GR    602.1       475.      602.1     478.      602.3     500.      602.3     502.      602.3     525.

X1    8.02        55        291.      314.      360.0     360.0     360.0
X3                                    257
GR    604.9       0.        604.4     58.       604.3     64.       604.5     87.       604.1     116.
GR    603.8       128.      603.2     144.      603.2     146.      603.3     160.      603.3     172.
GR    603.3       175.      603.2     188.      603.6     193.      603.6     197.      603.2     201.
GR    603.2       204.      603.1     208.      602.8     223.      602.6     235.      601.2     239.
GR    596.7       253.      597.1     257.      597.9     266.      598.4     271.      599.0     278.
GR    599.0       283.      598.7     291.      594.4     291.      592.5     296.      592.2     298.
GR    592.3       301.      592.7     304.      594.1     311.      594.3     311.      596.4     314.
GR    597.1       321.      598.3     343.      598.2     347.      598.1     347.      598.3     357.
GR    599.3       361.      602.2     374.      602.3     385.      602.4     398.      602.5     409.
GR    602.7       423.      602.8     448.      602.7     456.      602.5     474.      602.5     479.
GR    602.4       499.      602.4     503.      602.5     525.      602.5     526.      602.6     550.
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X1    8.03        55        312.      338.      360.0     360.0     360.0
GR    605.0       0.        604.2     62.       604.2     68.       604.4     94.       603.9     125.
GR    603.7       137.      603.2     154.      603.1     156.      603.2     171.      603.2     185.
GR    603.2       187.      603.0     202.      603.8     207.      603.7     211.      603.3     215.
GR    603.3       218.      603.2     222.      602.9     239.      602.8     252.      601.6     256.
GR    597.7       271.      598.0     276.      598.9     284.      599.4     291.      599.9     298.
GR    600.0       303.      599.7     312.      596.0     312.      593.2     317.      592.9     319.
GR    593.0       322.      593.4     326.      595.0     333.      595.2     334.      597.4     338.
GR    598.1       345.      599.2     366.      599.0     370.      598.9     371.      599.0     381.
GR    600.0       385.      602.5     398.      602.5     409.      602.6     421.      602.8     433.
GR    602.9       447.      603.0     473.      602.8     480.      602.7     498.      602.7     504.
GR    602.6       524.      602.6     527.      602.8     549.      602.8     551.      602.8     575.

X1    8.04        55        332.      361.      360.0     360.0     360.0
GR    605.2       0.        604.1     66.       604.0     73.       604.2     100.      603.8     133.
GR    603.6       146.      603.1     164.      603.1     166.      603.1     182.      603.0     197.
GR    603.0       199.      602.9     215.      603.9     221.      603.9     225.      603.3     230.
GR    603.3       233.      603.3     237.      603.0     255.      603.0     269.      601.9     273.
GR    598.6       288.      599.0     294.      599.9     303.      600.3     310.      600.8     318.
GR    600.9       323.      600.7     332.      597.5     332.      593.8     338.      593.5     341.
GR    593.6       344.      594.2     349.      595.8     356.      596.0     357.      598.5     361.
GR    599.2       368.      600.2     389.      599.7     394.      599.7     394.      599.8     404.
GR    600.6       409.      602.8     422.      602.8     433.      602.9     445.      603.0     456.
GR    603.1       471.      603.1     497.      603.0     504.      602.9     523.      602.9     528.
GR    602.8       548.      602.8     552.      603.0     574.      603.0     576.      603.1     600.

X1    8.05        55        353.      384.      360.0     360.0     360.0
GR    605.3       0.        604.0     71.       603.9     77.       604.0     106.      603.7     141.
GR    603.5       155.      603.0     174.      603.0     176.      603.0     193.      602.9     209.
GR    602.9       212.      602.8     228.      604.1     235.      604.1     239.      603.4     244.
GR    603.4       247.      603.4     252.      603.0     271.      603.1     285.      602.3     290.
GR    599.6       306.      599.9     312.      600.8     322.      601.3     329.      601.7     337.
GR    601.8       343.      601.6     353.      599.0     353.      594.5     359.      594.1     362.
GR    594.2       366.      594.9     371.      596.7     379.      596.9     380.      599.6     384.
GR    600.2       391.      601.2     413.      600.5     417.      600.5     418.      600.6     428.
GR    601.3       432.      603.0     445.      603.1     456.      603.1     469.      603.2     480.
GR    603.3       495.      603.3     521.      603.2     529.      603.2     547.      603.2     553.
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GR    603.1      573.      603.1      577.      603.3      599.      603.3      601.      603.4      625.

X1      8.06      55       374.      407.      360.0      360.0      360.0
GR    605.5       0.       603.9       75.      603.7       82.      603.8      112.      603.6      149.
GR    603.4     164.       603.0      184.      602.9      187.      602.9      205.      602.8      221.
GR    602.8     224.       602.7      242.      604.3      248.      604.3      253.      603.4      258.
GR    603.4     261.       603.4      266.      603.1      287.      603.3      302.      602.7      307.
GR    600.6     324.       600.9      330.      601.8      341.      602.3      348.      602.6      357.
GR    602.7     363.       602.6      374.      600.5      374.      595.2      380.      594.7      384.
GR    594.9     388.       595.7      393.      597.5      402.      597.7      402.      600.7      407.
GR    601.2     414.       602.1      436.      601.3      441.      601.2      441.      601.4      451.
GR    601.9     456.       603.3      469.      603.3      480.      603.4      493.      603.5      504.
GR    603.5     519.       603.4      545.      603.3      553.      603.4      571.      603.4      577.
GR    603.3     598.       603.3      601.      603.5      624.      603.6      626.      603.7      650.
1
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X1      8.07      55       394.      430.      360.0      360.0      360.0
GR    605.6       0.       603.7       79.      603.6       86.      603.6      118.      603.5      158.
GR    603.3     173.       602.9      194.      602.9      197.      602.8      216.      602.6      233.
GR    602.6     236.       602.6      255.      604.4      262.      604.5      267.      603.5      272.
GR    603.5     276.       603.5      281.      603.2      303.      603.4      318.      603.0      324.
GR    601.6     342.       601.8      348.      602.8      360.      603.2      367.      603.5      377.
GR    603.6     383.       603.6      394.      602.0      394.      595.9      401.      595.3      405.
GR    595.5     410.       596.4      415.      598.4      425.      598.6      425.      601.8      430.
GR    602.2     438.       603.1      460.      602.1      464.      602.0      465.      602.2      475.
GR    602.6     479.       603.6      493.      603.6      504.      603.6      517.      603.7      528.
GR    603.7     543.       603.6      569.      603.5      577.      603.6      596.      603.7      602.
GR    603.5     622.       603.5      626.      603.8      649.      603.8      650.      604.0      675.

X1      8.08      55       415.      453.      360.0      360.0      360.0
GR    605.8       0.       603.6       83.      603.4       91.      603.5      124.      603.3      166.
GR    603.3     182.       602.8      205.      602.8      207.      602.7      227.      602.5      246.
GR    602.5     249.       602.5      268.      604.6      276.      604.6      281.      603.5      286.
GR    603.5     290.       603.6      296.      603.3      318.      603.6      335.      603.4      341.
GR    602.6     360.       602.8      367.      603.7      378.      604.2      387.      604.5      396.
GR    604.6     403.       604.6      415.      603.6      415.      596.5      423.      596.0      427.
GR    596.1     431.       597.2      437.      599.2      447.      599.4      448.      602.8      453.
GR    603.2     461.       604.1      483.      602.9      487.      602.8      488.      602.9      498.
GR    603.3     503.       603.9      516.      603.9      527.      603.9      541.      603.9      552.
GR    603.9     567.       603.7      594.      603.7      601.      603.8      620.      603.9      626.
GR    603.8     647.       603.7      651.      604.1      673.      604.1      675.      604.2      700.

X1      8.09      55       435.      477.      360.0      360.0      360.0
GR    605.9       0.       603.5       87.      603.3       95.      603.3      131.      603.2      174.
GR    603.2     191.       602.8      215.      602.7      218.      602.6      239.      602.3      258.
GR    602.4     261.       602.4      282.      604.7      289.      604.8      295.      603.6      301.
GR    603.6     305.       603.6      310.      603.4      334.      603.8      352.      603.7      358.
GR    603.6     378.       603.7      385.      604.7      397.      605.1      406.      605.4      416.
GR    605.5     423.       605.6      435.      605.1      435.      597.2      444.      596.6      448.
GR    596.8     453.       597.9      459.      600.1      470.      600.2      471.      603.9      477.
GR    604.2     484.       605.0      506.      603.7      511.      603.5      511.      603.7      522.
GR    603.9     526.       604.2      540.      604.1      551.      604.1      564.      604.2      576.
GR    604.1     591.       603.9      618.      603.8      626.      604.1      645.      604.2      650.
GR    604.0     671.       604.0      675.      604.3      698.      604.3      700.      604.5      725.

          CROSS SECTION E
X1    12102       32        456       500       362       362       362
X3        0        0          0       440         0       500
GR    606.1        0      603.1       100     603.1       200     602.7       225     602.5       250
GR    602.2      270      602.3       295     604.9       303     605.0       309     603.6       315
GR    603.7      325      603.5       350     604.1       375     604.7       403     605.7       416
GR    606.1      425      606.6       456     597.9       465     597.2       470     597.4       475
GR    601.1      494      605.0       500     606.0       530     604.3       535     604.6       550
GR    604.4      575      604.4       600     604.0       650     604.4       675     604.2       700
GR    604.6      725      604.8       750
1
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NC                                     .5       1.0
X1    12201       29        236       267        99        99        99
X3        0        0          0       245         0       255
GR    607.8        0      607.9        25     607.9        50     608.0        75     607.9       100
GR    608.0      125      608.1       150     608.1       175     607.9       200     607.7       225
GR    606.9      236      599.5       245     599.2     245.4     598.6     246.5     598.4       250
GR    598.6    253.5      599.6     254.6     600.3       255     606.8       267     608.1       275
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GR    608.2      300      608.4      325      608.5      350      608.6      375      608.6      400
GR    608.7      425      608.8      450      609.0      475      609.1      500

NC     .050      .050      .035
          D/S FACE OF 8TH AVE.
X1    12202        0         0        0         1         1         1
X3        0        0         0      245         0       255
BT       29        0     607.8        0        25     607.9         0       50     607.9         0
BT       75    608.0         0      100     607.9         0       125    608.0         0       150
BT    608.1        0       175    608.1         0       200     607.9         0       225     607.7
BT        0      236     608.1    606.9       245     608.1     599.5     245.4     608.1     601.4
BT    246.5    608.1     603.9      250     608.1     605.1     253.5     608.1     603.9     254.6
BT    608.1    601.4       255    608.1     600.3       267     608.1     606.8       275     608.1
BT        0      300     608.2        0       325     608.4         0       350     608.5         0
BT      375    608.6         0      400     608.6         0       425     608.7         0       450
BT    608.8        0       475    609.0         0       500     609.1         0

          U/S FACE OF 8TH AVE.
X1    12239        0         0        0        37        37        37
X2                                                          1
X3        0        0         0      245         0       255

NC     .070      .070      .035       .3        .5
X1    12240        0         0        0         1         1         1
X3        0        0         0      245         0       255

          CROSS SECTION E MOVED UPSTREAM
X1    12339       32       456      500        99        99        99                  .5
X3                                 400
GR    606.1        0     603.1      100     603.1       200     602.7       225     602.5       250
GR    602.2      270     602.3      295     604.9       303     605.0       309     603.6       315
GR    603.7      325     603.5      350     604.1       375     604.7       403     605.7       416
GR    606.1      425     606.6      456     597.9       465     597.2       470     597.4       475
GR    601.1      494     605.0      500     606.0       530     604.3       535     604.6       550
GR    604.4      575     604.4      600     604.0       650     604.4       675     604.2       700
GR    604.6      725     604.8      750

X1    21.01       52      435.      480.     280.0     280.0     280.0
X3                                 289
GR    606.2       0.     605.0       44.     603.8       87.     603.5       96.     603.6      131.
GR    603.6     174.     603.6      191.     603.2      215.     603.2      218.     603.0      239.
GR    602.7     258.     602.7      261.     602.8      282.     605.1      289.     605.2      295.
GR    604.0     301.     604.1      310.     604.0      314.     604.0      334.     604.2      340.
GR    604.4     348.     604.6      358.     605.2      385.     605.8      392.     606.1      397.
GR    606.5     406.     607.0      435.     598.5      445.     598.2      446.     597.7      450.
GR    597.9     455.     598.1      456.     601.9      474.     605.6      480.     606.2      507.
1
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GR    606.3     509.     604.8      514.     605.0      529.     604.9      535.     604.8      554.
GR    604.7     562.     604.8      579.     604.7      590.     604.5      617.     604.4      628.
GR    604.7     645.     604.9      653.     604.8      672.     604.8      678.     605.2      700.
GR    605.2     702.     605.5      727.

X1    21.02       52      415.      459.     280.0     280.0     280.0
X3                                 276
GR    606.4       0.     605.3       41.     604.1       83.     604.0       91.     604.1      124.
GR    604.2     166.     604.1      182.     603.7      205.     603.6      207.     603.5      228.
GR    603.2     246.     603.2      249.     603.3      268.     605.4      276.     605.5      281.
GR    604.3     287.     604.4      296.     604.4      299.     604.5      319.     604.7      324.
GR    604.9     332.     605.1      341.     605.7      367.     606.2      373.     606.6      379.
GR    606.9     387.     607.3      415.     599.0      425.     598.7      426.     598.2      430.
GR    598.4     435.     598.6      436.     602.7      453.     606.2      459.     606.6      486.
GR    606.6     489.     605.2      493.     605.4      508.     605.3      514.     605.1      533.
GR    605.1     541.     605.1      557.     605.1      568.     604.9      595.     604.9      606.
GR    605.1     623.     605.3      631.     605.5      650.     605.4      655.     605.8      677.
GR    605.9     680.     606.3      704.

X1    21.03       52      394.      439.     280.0     280.0     280.0
X3                                 262
GR    606.5       0.     605.6       39.     604.5       79.     604.4       87.     604.6      118.
GR    604.7     158.     604.6      173.     604.2      195.     604.1      197.     604.0      216.
GR    603.7     234.     603.7      237.     603.8      255.     605.6      262.     605.7      267.
GR    604.7     272.     604.8      281.     604.8      284.     605.0      303.     605.2      308.
GR    605.4     316.     605.6      324.     606.3      349.     606.7      355.     607.0      360.
GR    607.3     368.     607.7      394.     599.6      404.     599.2      406.     598.8      410.
GR    598.9     415.     599.1      415.     603.5      433.     606.9      439.     606.9      466.
GR    606.9     468.     605.7      473.     605.8      487.     605.7      493.     605.5      511.
GR    605.4     520.     605.5      536.     605.5      547.     605.4      573.     605.3      584.
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GR    605.6     600.     605.8     609.     606.1     627.     606.1     633.     606.5     654.
GR    606.5     657.     607.0     681.

X1    21.04       52      374.     418.     280.0     280.0     280.0
X3                                 248
GR    606.6       0.     605.9      37.     604.9      75.     604.8      82.     605.1     112.
GR    605.3     150.     605.1     164.     604.6     185.     604.6     187.     604.5     205.
GR    604.2     221.     604.2     224.     604.3     242.     605.9     248.     605.9     253.
GR    605.1     258.     605.1     267.     605.1     269.     605.6     287.     605.8     292.
GR    605.9     299.     606.2     308.     606.8     330.     607.2     337.     607.5     341.
GR    607.7     349.     608.1     374.     600.2     384.     599.7     386.     599.3     390.
GR    599.5     395.     599.6     395.     604.3     413.     607.5     418.     607.2     445.
GR    607.2     447.     606.1     452.     606.2     466.     606.1     472.     605.9     490.
GR    605.8     498.     605.9     514.     605.9     525.     605.8     552.     605.8     562.
GR    606.0     578.     606.3     586.     606.7     605.     606.7     610.     607.1     632.
GR    607.2     634.     607.7     658.

X1    21.05       52      353.     398.     280.0     280.0     280.0
GR    606.7       0.     606.2      35.     605.3      71.     605.3      78.     605.6     106.
GR    605.8     141.     605.6     155.     605.1     174.     605.1     177.     604.9     194.
GR    604.7     209.     604.7     212.     604.8     229.     606.1     235.     606.1     239.
GR    605.4     244.     605.5     252.     605.5     254.     606.1     271.     606.3     276.
GR    606.4     283.     606.7     291.     607.3     312.     607.7     318.     607.9     322.
GR    608.1     329.     608.4     353.     600.8     364.     600.2     366.     599.8     370.
1
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GR    600.0     375.     600.1     375.     605.1     392.     608.1     398.     607.5     424.
GR    607.5     426.     606.6     431.     606.6     445.     606.5     451.     606.2     469.
GR    606.1     477.     606.2     493.     606.2     503.     606.2     530.     606.2     540.
GR    606.4     556.     606.7     564.     607.3     583.     607.3     588.     607.8     609.
GR    607.8     612.     608.4     635.

X1    21.06       52      333.     377.     280.0     280.0     280.0
GR    606.9       0.     606.5      33.     605.7      67.     605.7      73.     606.1     100.
GR    606.3     133.     606.1     146.     605.6     164.     605.6     166.     605.4     183.
GR    605.3     197.     605.3     200.     605.3     215.     606.3     221.     606.4     226.
GR    605.8     230.     605.9     237.     605.8     240.     606.6     256.     606.8     260.
GR    606.9     266.     607.2     274.     607.8     294.     608.2     300.     608.3     304.
GR    608.5     310.     608.8     333.     601.3     344.     600.7     345.     600.3     350.
GR    600.5     354.     600.6     355.     605.9     372.     608.7     377.     607.8     404.
GR    607.8     406.     607.1     410.     607.0     424.     606.9     430.     606.6     448.
GR    606.5     456.     606.6     472.     606.6     482.     606.7     508.     606.7     519.
GR    606.9     534.     607.2     542.     607.9     560.     607.9     566.     608.4     586.
GR    608.5     589.     609.2     613.

X1    21.07       52      312.     357.     280.0     280.0     280.0
GR    607.0       0.     606.8      31.     606.1      62.     606.1      69.     606.6      94.
GR    606.9     125.     606.6     137.     606.1     154.     606.0     156.     605.9     171.
GR    605.8     185.     605.8     187.     605.8     202.     606.6     208.     606.6     212.
GR    606.2     216.     606.2     223.     606.2     225.     607.1     240.     607.4     244.
GR    607.4     250.     607.7     257.     608.3     276.     608.6     281.     608.8     285.
GR    608.9     291.     609.2     312.     601.9     324.     601.2     325.     600.8     330.
GR    601.0     334.     601.1     335.     606.7     352.     609.3     357.     608.1     383.
GR    608.1     385.     607.5     390.     607.3     404.     607.2     409.     606.9     427.
GR    606.8     435.     607.0     450.     607.0     460.     607.1     486.     607.1     497.
GR    607.3     512.     607.7     520.     608.5     538.     608.6     543.     609.0     564.
GR    609.1     566.     609.9     590.

X1    21.08       52      292.     337.     280.0     280.0     280.0
GR    607.1       0.     607.1      29.     606.5      58.     606.6      64.     607.1      88.
GR    607.4     117.     607.1     128.     606.6     144.     606.5     146.     606.4     160.
GR    606.3     173.     606.3     175.     606.3     189.     606.8     194.     606.8     198.
GR    606.5     202.     606.6     208.     606.6     210.     607.6     224.     607.9     228.
GR    608.0     233.     608.2     240.     608.9     258.     609.1     263.     609.2     266.
GR    609.3     272.     609.5     292.     602.5     303.     601.7     305.     601.3     310.
GR    601.5     314.     601.6     315.     607.5     331.     609.9     337.     608.5     362.
GR    608.4     364.     608.0     369.     607.7     383.     607.6     388.     607.3     406.
GR    607.2     413.     607.3     429.     607.4     439.     607.5     464.     607.6     475.
GR    607.7     490.     608.2     498.     609.1     516.     609.2     521.     609.7     541.
GR    609.8     544.     610.6     567.

X1    21.09       52      271.     316.     280.0     280.0     280.0
GR    607.3       0.     607.4      27.     606.9      54.     607.0      60.     607.6      81.
GR    607.9     109.     607.6     119.     607.1     134.     607.0     136.     606.9     149.
GR    606.8     161.     606.8     163.     606.8     176.     607.1     180.     607.1     184.
GR    606.9     187.     606.9     193.     606.9     195.     608.1     208.     608.4     212.
GR    608.5     217.     608.7     223.     609.4     240.     609.6     244.     609.7     248.
GR    609.7     253.     609.9     271.     603.1     283.     602.2     285.     601.9     290.
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GR    602.0      294.     602.1     295.     608.2     311.     610.6     316.     608.8     342.
GR    608.7      344.     608.4     348.     608.1     362.     608.0     367.     607.7     384.
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GR    607.5      392.     607.7     407.     607.8     417.     608.0     443.     608.0     453.
GR    608.2      468.     608.6     476.     609.7     493.     609.8     498.     610.3     519.
GR    610.4      521.     611.3     544.

          CROSS SECTION F
X1    15150        25       250       295       291       291       291
GR    607.4         0     607.7        25     607.3        50     608.1        75     608.5       100
GR    607.5       125     607.3       150     607.3       180     609.0       195     609.0       200
GR    610.1       225     610.3       250     602.7       264     602.4       269     602.6       274
GR    611.2       295     609.1       320     608.4       345     607.9       370     608.2       395
GR    608.4       420     608.6       445     610.3       470     611.0       495     612.1       520

NC     .050      .050      .035
X1    31.01        39      250.      293.     230.0     230.0     230.0
GR    607.8        0.     608.1       25.     607.8       50.     608.5       75.     608.9      100.
GR    608.0      125.     607.8      150.     607.8      175.     607.7      180.     609.3      195.
GR    609.3      200.     610.3      225.     610.4      250.     606.3      258.     604.6      261.
GR    604.4      261.     602.8      264.     602.7      265.     602.5      269.     602.8      274.
GR    610.8      293.     609.6      313.     609.2      319.     608.9      336.     608.7      344.
GR    608.7      352.     608.4      369.     608.5      382.     608.6      394.     608.7      405.
GR    608.8      420.     608.9      428.     609.0      445.     609.3      451.     610.5      470.
GR    610.6      474.     611.1      495.     611.2      497.     612.1      520.

X1    31.02        39      250.      292.     230.0     230.0     230.0
GR    608.2        0.     608.4       25.     608.2       50.     608.9       75.     609.3      100.
GR    608.5      125.     608.2      150.     608.2      175.     608.2      180.     609.6      195.
GR    609.5      200.     610.4      225.     610.5      250.     606.3      258.     604.8      261.
GR    604.4      261.     602.9      265.     602.8      265.     602.6      270.     602.9      274.
GR    610.4      292.     609.6      311.     609.3      317.     609.1      335.     609.1      343.
GR    609.1      351.     608.8      368.     609.0      381.     609.1      394.     609.1      405.
GR    609.2      419.     609.2      428.     609.3      445.     609.6      451.     610.6      470.
GR    610.7      474.     611.1      496.     611.2      498.     612.0      521.

X1    31.03        39      250.      290.     230.0     230.0     230.0
GR    608.6        0.     608.8       25.     608.7       50.     609.3       75.     609.7      100.
GR    609.0      125.     608.7      150.     608.7      175.     608.6      180.     609.8      195.
GR    609.8      200.     610.6      225.     610.6      250.     606.4      258.     605.0      261.
GR    604.3      261.     603.0      265.     602.9      266.     602.7      270.     603.1      274.
GR    610.0      290.     609.6      310.     609.3      316.     609.4      334.     609.4      342.
GR    609.5      349.     609.3      367.     609.5      381.     609.5      393.     609.5      404.
GR    609.6      419.     609.6      427.     609.7      444.     609.9      451.     610.8      470.
GR    610.8      474.     611.2      496.     611.3      498.     612.0      521.

X1    31.04        39      250.      289.     230.0     230.0     230.0
GR    609.0        0.     609.2       25.     609.1       50.     609.7       75.     610.1      100.
GR    609.5      125.     609.2      150.     609.1      175.     609.1      180.     610.1      195.
GR    610.1      200.     610.8      225.     610.7      250.     606.4      258.     605.1      262.
GR    604.2      262.     603.1      265.     603.0      266.     602.8      271.     603.2      274.
GR    609.6      289.     609.6      309.     609.4      315.     609.6      332.     609.7      341.
GR    609.9      348.     609.8      366.     610.0      380.     609.9      392.     609.9      403.
GR    610.0      418.     610.0      427.     610.0      444.     610.2      451.     610.9      470.
GR    611.0      475.     611.3      496.     611.3      498.     611.9      522.
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X1    31.05        39      250.      287.     230.0     230.0     230.0
GR    609.5        0.     609.6       25.     609.6       50.     610.2       75.     610.5      100.
GR    610.0      125.     609.7      150.     609.6      175.     609.5      180.     610.4      195.
GR    610.4      200.     610.9      225.     610.8      250.     606.5      258.     605.3      262.
GR    604.2      262.     603.2      265.     603.1      266.     602.9      271.     603.4      274.
GR    609.2      287.     609.5      307.     609.5      313.     609.9      331.     610.1      339.
GR    610.3      347.     610.2      366.     610.4      379.     610.4      392.     610.3      403.
GR    610.4      418.     610.4      427.     610.4      444.     610.5      451.     611.1      470.
GR    611.1      475.     611.3      496.     611.4      499.     611.9      522.

X1    31.06        39      250.      286.     230.0     230.0     230.0
GR    609.9        0.     609.9       25.     610.1       50.     610.6       75.     610.9      100.
GR    610.6      125.     610.1      150.     610.0      175.     610.0      180.     610.7      195.
GR    610.6      200.     611.1      225.     610.9      250.     606.5      258.     605.5      262.
GR    604.1      262.     603.3      266.     603.2      267.     603.0      271.     603.5      274.
GR    608.8      286.     609.5      306.     609.6      312.     610.1      330.     610.4      338.
GR    610.7      346.     610.7      365.     610.9      378.     610.8      391.     610.7      402.
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GR    610.8      417.      610.8      426.      610.7      444.      610.8      451.      611.2      470.
GR    611.2      475.      611.4      497.      611.5      499.      611.8      523.

X1    31.07       39       250.       284.      230.0      230.0      230.0
GR    610.3       0.       610.3       25.      610.5       50.      611.0       75.      611.2      100.
GR    611.1      125.      610.6      150.      610.5      175.      610.4      180.      610.9      195.
GR    610.9      200.      611.3      225.      611.1      250.      606.6      259.      605.7      262.
GR    604.1      262.      603.4      266.      603.3      267.      603.2      272.      603.7      274.
GR    608.4      284.      609.5      304.      609.7      311.      610.4      329.      610.7      337.
GR    611.1      345.      611.2      364.      611.4      377.      611.2      390.      611.1      402.
GR    611.1      417.      611.2      426.      611.1      444.      611.1      450.      611.4      470.
GR    611.4      475.      611.5      497.      611.5      499.      611.8      523.

X1    31.08       39       250.       282.      230.0      230.0      230.0
GR    610.7       0.       610.7       25.      611.0       50.      611.4       75.      611.6      100.
GR    611.6      125.      611.1      150.      610.9      175.      610.9      180.      611.2      195.
GR    611.2      200.      611.4      225.      611.2      250.      606.6      259.      605.8      263.
GR    604.0      263.      603.5      266.      603.4      267.      603.3      272.      603.8      274.
GR    608.0      282.      609.5      303.      609.8      309.      610.6      328.      611.1      336.
GR    611.5      344.      611.7      363.      611.9      377.      611.7      390.      611.5      401.
GR    611.5      417.      611.6      426.      611.4      443.      611.4      450.      611.5      470.
GR    611.5      475.      611.6      497.      611.6      499.      611.7      524.

X1    31.09       39       250.       281.      230.0      230.0      230.0
GR    611.1       0.       611.1       25.      611.4       50.      611.8       75.      612.0      100.
GR    612.1      125.      611.5      150.      611.4      175.      611.3      180.      611.5      195.
GR    611.5      200.      611.6      225.      611.3      250.      606.6      259.      606.0      263.
GR    604.0      263.      603.5      267.      603.5      268.      603.4      273.      604.0      274.
GR    607.6      281.      609.5      302.      609.8      308.      610.9      326.      611.4      335.
GR    611.9      343.      612.1      362.      612.3      376.      612.1      389.      611.9      401.
GR    611.9      416.      611.9      425.      611.8      443.      611.7      450.      611.7      470.
GR    611.6      475.      611.6      497.      611.6      500.      611.7      524.
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          CROSS SECTION G
X1    17496       27       250       279       276       276       276
GR    611.6        0      611.5        25      612.0        50      612.3        75      612.5       100
GR    612.7      125      612.1       150      611.9       175      611.8       200      611.8       225
GR    611.4      250      606.7       259      606.2       263      603.9       263      603.6       268
GR    603.5      273      607.1       279      609.5       300      611.2       325      612.4       342
GR    612.9      375      612.4       400      612.4       425      612.1       450      611.8       475
GR    611.7      500      611.6       525

NC     .050     .050      .030
X1    17595       19       250      278.4        99        99        99
GR    616.0        0      616.2        50      616.3       100      616.5       150      616.7       200
GR    616.7      250      607.3       250      605.6       259      604.6       264      605.6       269
GR    606.4      273      607.3      278.4      616.8      278.4      616.8       300      616.7       350
GR    616.8      400      617.1       450      617.2       500      617.3       525

NC     .050     .050      .030        .3        .5
          D/S FACE OF HWY 2 & 41
X1    17596        0         0         0         1         1         1
BT       15        0      616.0        0        50      616.2        0       100      616.3         0
BT      150     616.5        0       200      616.7         0       250      616.7      607.3       250
BT    616.7     614.7     278.4      616.8      614.8      278.4      616.8      607.3       300     616.8
BT        0       350      616.7        0       400      616.8        0       450      617.1         0
BT      500     617.2        0       525      617.3         0

          U/S FACE OF HWY 2 & 41
X1    17695        0         0         0        99        99        99
X2        0        0         0         0         0         0         1

NC     .050     .050      .035
X1    17696        0         0         0         1         1         1

          CROSS SECTION G MOVED UPSTREAM
X1    17795       27       250       279        99        99        99                  1.0
GR    611.6        0      611.5        25      612.0        50      612.3        75      612.5       100
GR    612.7      125      612.1       150      611.9       175      611.8       200      611.8       225
GR    611.4      250      606.7       259      606.2       263      603.9       263      603.6       268
GR    603.5      273      607.1       279      609.5       300      611.2       325      612.4       342
GR    612.9      375      612.4       400      612.4       425      612.1       450      611.8       475
GR    611.7      500      611.6       525

NC     .035     .035      .025
          D/S FACE OF 1ST AVE.
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X1    18036       19      250      270      241      241      241
GR    613.1        0    613.4       50    613.6      100    613.8      150    614.0      200
GR    614.2      250    606.4      250    605.9      252    605.1      255    604.5      260
GR    605.7      265    606.5      268    607.3      270    614.4      270    614.8      300
GR    614.9      350    614.8      400    614.4      450    614.2      500
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SB        0     1.97      3.0        0       20        0    112.5        0    604.5    604.5
          U/S FACE OF 1ST AVE.
X1    18124        0        0        0       88       88       88
X2        0        0        1    611.9    614.4
BT       19        0    613.1        0       50    613.4        0      100    613.6        0
BT      150    613.8        0      200    614.0        0      250    614.2    606.4      250
BT    614.2    608.9      252    614.2    610.4      255    614.2    611.4      260    614.3
BT    611.9      265    614.3    611.4      268    614.4    610.2      270    614.4    608.8
BT      270    614.4    607.3      300    614.8        0      350    614.9        0      400
BT    614.8        0      450    614.4        0      500    614.2        0

NC     .035     .035     .030
          CROSS SECTION G MOVED UPSTREAM
X1    18224       27      250      279      100      100      100                1.0
GR    611.6        0    611.5       25    612.0       50    612.3       75    612.5      100
GR    612.7      125    612.1      150    611.9      175    611.8      200    611.8      225
GR    611.4      250    606.7      259    606.2      263    603.9      263    603.6      268
GR    603.5      273    607.1      279    609.5      300    611.2      325    612.4      342
GR    612.9      375    612.4      400    612.4      425    612.1      450    611.8      475
GR    611.7      500    611.6      525

X1    47.01       50     244.     265.    240.0    240.0    240.0
GR    614.4       0.    614.1      24.    614.1      26.    614.2      49.    614.2      51.
GR    614.2      73.    614.2      77.    614.1      97.    614.1     103.    614.0     122.
GR    613.9     128.    613.5     146.    613.3     154.    612.8     170.    612.5     180.
GR    612.3     195.    612.1     205.    612.2     219.    612.2     226.    610.3     240.
GR    610.0     244.    607.0     249.    606.5     251.    605.3     251.    605.1     252.
GR    604.9     254.    604.8     257.    605.8     261.    606.8     265.    607.8     265.
GR    607.9     271.    610.8     286.    611.5     289.    612.5     311.    612.7     314.
GR    613.0     328.    612.9     339.    613.2     361.    613.2     364.    612.8     386.
GR    612.8     389.    612.7     412.    612.7     413.    612.6     437.    612.6     438.
GR    612.8     462.    612.8     463.    612.8     487.    612.8     488.    612.8     513.

NC     .070     .070     .035
          CROSS SECTION H
X1    18704       28     237.     250.    240.0    240.0    240.0
GR    617.2        0    616.6       25    616.4       50    616.1       75    615.6      100
GR    615.3      125    614.6      150    613.2      175    612.5      200    612.8      220
GR    609.1      234    608.5      237    606.4      239    606.1      240    606.3      245
GR    606.6      250    608.5      250    608.0      257    613.2      275    613.9      300
GR    613.3      325    613.6      350    613.2      375    613.0      400    613.2      425
GR    613.8      450    613.9      475    614.0      500

NC     .070     .070     .025
          D/S FACE OF 3RD AVE.
X1    18954       26      220      268      250      250      250
GR    616.1        0    616.4       50    616.7      100    617.1      150    617.1      200
GR    611.7      220    609.9      238    607.6      239    607.1      240    606.9      241
GR    607.1      242    607.6      243    609.9      244    609.9      247    607.6      248
GR    607.1      249    606.9      250    607.1      251    607.6      252    609.9      253
GR    612.3      268    616.4      300    616.1      350    615.9      400    615.6      450
GR    615.4      500
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SC    2.025       .5      2.8        0        6        0       81      1.1    606.9    606.9
          U/S FACE OF 3RD AVE.
X1    19035        0        0        0       81       81       81
X2        0        0        2    612.9    616.8
BT       26        0    616.1        0       50    616.4        0      100    616.7        0
BT      150    617.1        0      200    617.1        0      220    616.8    611.7      238
BT    616.8    609.9      239    616.8    612.2      240    616.8    612.8      241    616.8
BT    612.9      242    616.8    612.8      243    616.8    612.2      244    616.7    609.9
BT      247    616.7    609.9      248    616.7    612.2      249    616.7    612.8      250
BT    616.7    612.9      251    616.7    612.8      252    616.7    612.2      253    616.7
BT    609.9      268    616.7    612.3      300    616.4        0      350    616.1        0
BT      400    615.9        0      450    615.6        0      500    615.4        0
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NC      .060      .060      .035
          CROSS SECTION H MOVED UPSTREAM
X1    19135        28       237       250       100       100       100                  .9
GR    617.2         0     616.6        25     616.4        50     616.1        75     615.6       100
GR    615.3       125     614.6       150     613.2       175     612.5       200     612.8       220
GR    609.1       234     608.5       237     606.4       239     606.1       240     606.3       245
GR    606.6       250     608.5       250     608.0       257     613.2       275     613.9       300
GR    613.3       325     613.6       350     613.2       375     613.0       400     613.2       425
GR    613.8       450     613.9       475     614.0       500

X1    52.01        48       238.      252.     360.0     360.0     360.0
GR    618.0        0.     617.6       24.     617.5       25.     617.3       48.     617.3       50.
GR    617.1       71.     617.1       75.     616.7       95.     616.6      101.     616.4      119.
GR    616.3      126.     615.9      143.     615.7      151.     614.9      167.     614.4      176.
GR    614.1      191.     613.9      201.     614.0      208.     614.0      216.     614.0      221.
GR    610.7      235.     610.1      238.     608.8      240.     608.0      240.     607.7      241.
GR    607.9      246.     607.9      247.     608.1      250.     610.1      252.     609.7      259.
GR    614.5      277.     614.7      284.     615.1      301.     614.8      313.     614.6      326.
GR    614.7      340.     614.8      351.     614.6      367.     614.5      376.     614.3      393.
GR    614.3      401.     614.4      420.     614.5      426.     614.9      447.     615.0      450.
GR    615.1      473.     615.1      475.     615.2      500.

X1    52.02        48       240.      253.     360.0     360.0     360.0
GR    618.0        0.     617.6       24.     617.6       25.     617.3       48.     617.3       51.
GR    617.2       72.     617.1       76.     616.8       96.     616.7      101.     616.5      120.
GR    616.5      126.     616.2      144.     615.9      152.     615.1      168.     614.8      177.
GR    614.5      192.     614.3      202.     614.4      209.     614.3      218.     614.4      222.
GR    611.4      237.     610.9      240.     609.5      241.     608.8      242.     608.4      243.
GR    608.6      247.     608.6      248.     608.9      252.     610.9      253.     610.5      260.
GR    614.8      278.     615.0      285.     615.4      303.     615.2      315.     614.9      327.
GR    615.0      341.     615.1      352.     614.9      368.     614.8      377.     614.7      394.
GR    614.6      401.     614.8      421.     614.8      426.     615.2      447.     615.3      451.
GR    615.4      474.     615.4      475.     615.5      500.

X1    52.03        48       241.      255.     360.0     360.0     360.0
GR    617.9        0.     617.6       24.     617.6       25.     617.3       48.     617.3       51.
GR    617.2       72.     617.2       76.     616.9       96.     616.8      102.     616.6      120.
GR    616.6      127.     616.4      145.     616.2      152.     615.4      169.     615.1      178.
GR    614.9      193.     614.8      203.     614.9      210.     614.7      219.     614.7      224.
GR    612.1      238.     611.6      241.     610.2      242.     609.5      243.     609.2      244.
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GR    609.3      249.     609.3      250.     609.6      253.     611.6      255.     611.3      262.
GR    615.2      280.     615.4      287.     615.7      304.     615.5      316.     615.3      329.
GR    615.4      342.     615.5      353.     615.3      369.     615.2      378.     615.1      395.
GR    615.0      402.     615.1      421.     615.2      427.     615.5      447.     615.6      451.
GR    615.7      474.     615.7      476.     615.8      500.

X1    52.04        48       242.      257.     360.0     360.0     360.0
GR    617.9        0.     617.6       24.     617.6       26.     617.3       48.     617.3       51.
GR    617.3       73.     617.3       77.     617.0       97.     616.9      102.     616.8      121.
GR    616.8      128.     616.6      145.     616.4      153.     615.6      169.     615.4      179.
GR    615.4      194.     615.3      204.     615.4      211.     615.0      220.     615.0      225.
GR    612.7      239.     612.4      242.     610.9      244.     610.3      245.     609.9      246.
GR    610.0      250.     610.0      251.     610.4      255.     612.4      257.     612.1      264.
GR    615.5      281.     615.7      288.     616.0      305.     615.8      317.     615.6      330.
GR    615.7      343.     615.8      354.     615.6      369.     615.5      378.     615.4      396.
GR    615.4      403.     615.5      422.     615.5      427.     615.8      448.     615.9      451.
GR    616.0      474.     616.0      476.     616.0      500.

X1    52.05        48       243.      258.     360.0     360.0     360.0
GR    617.8        0.     617.7       24.     617.6       26.     617.3       49.     617.3       51.
GR    617.4       73.     617.3       77.     617.1       97.     617.0      103.     616.9      122.
GR    616.9      128.     616.8      146.     616.6      154.     615.9      170.     615.8      180.
GR    615.8      195.     615.7      205.     615.9      212.     615.3      221.     615.4      226.
GR    613.4      240.     613.1      243.     611.6      245.     611.0      246.     610.6      247.
GR    610.7      252.     610.8      253.     611.1      257.     613.1      258.     613.0      265.
GR    615.9      283.     616.1      289.     616.3      307.     616.2      319.     616.0      331.
GR    616.0      344.     616.1      355.     616.0      370.     615.9      379.     615.8      396.
GR    615.8      403.     615.9      422.     615.9      428.     616.1      448.     616.2      452.
GR    616.3      474.     616.3      476.     616.3      500.

X1    52.06        48       245.      260.     360.0     360.0     360.0
GR    617.7        0.     617.7       24.     617.7       26.     617.3       49.     617.3       52.
GR    617.4       73.     617.4       77.     617.2       98.     617.1      103.     617.0      122.
GR    617.1      129.     617.1      147.     616.8      155.     616.1      171.     616.1      181.
GR    616.2      196.     616.2      206.     616.3      213.     615.7      222.     615.7      227.
GR    614.1      242.     613.8      245.     612.3      246.     611.7      247.     611.3      249.
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GR    611.4      254.      611.5      254.      611.8      258.      613.8      260.      613.8      267.
GR    616.2      284.      616.4      291.      616.6      308.      616.5      320.      616.3      332.
GR    616.3      346.      616.4      356.      616.3      371.      616.3      380.      616.2      397.
GR    616.1      404.      616.2      423.      616.2      428.      616.4      449.      616.5      452.
GR    616.6      474.      616.6      476.      616.6      500.

X1    52.07       48       246.       262.      360.0      360.0      360.0
GR    617.7       0.       617.7       25.      617.7       26.      617.3       49.      617.3       52.
GR    617.5       74.      617.5       78.      617.3       98.      617.2      104.      617.1      123.
GR    617.2      130.      617.3      148.      617.0      156.      616.4      172.      616.4      182.
GR    616.6      197.      616.7      208.      616.8      214.      616.0      223.      616.0      228.
GR    614.8      243.      614.6      246.      613.0      248.      612.5      249.      612.0      250.
GR    612.1      255.      612.2      256.      612.6      260.      614.6      262.      614.6      268.
GR    616.6      286.      616.8      292.      616.9      309.      616.9      321.      616.7      333.
GR    616.7      347.      616.7      357.      616.7      372.      616.6      381.      616.5      398.
GR    616.5      405.      616.6      423.      616.6      429.      616.7      449.      616.8      452.
GR    616.9      474.      616.9      476.      616.9      500.
1
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X1    52.08       48       247.       263.      360.0      360.0      360.0
X3        0        0          0        209          0        373
GR    617.6       0.       617.7       25.      617.7       26.      617.3       49.      617.3       52.
GR    617.6       74.      617.5       78.      617.4       99.      617.4      104.      617.2      124.
GR    617.3      130.      617.5      148.      617.3      156.      616.7      173.      616.8      183.
GR    617.0      198.      617.1      209.      617.3      216.      616.4      225.      616.3      230.
GR    615.5      244.      615.3      247.      613.7      249.      613.2      250.      612.8      252.
GR    612.8      257.      612.9      258.      613.3      261.      615.3      263.      615.4      270.
GR    616.9      287.      617.1      294.      617.2      311.      617.2      322.      617.0      334.
GR    617.0      348.      617.1      358.      617.1      373.      617.0      382.      616.9      398.
GR    616.9      405.      616.9      424.      616.9      429.      617.0      449.      617.1      453.
GR    617.2      475.      617.2      476.      617.2      500.

X1    52.09       48       249.       265.      360.0      360.0      360.0
X3        0        0          0        217
GR    617.7       0.       617.8       25.      617.7       26.      617.3       50.      617.3       52.
GR    617.6       75.      617.6       79.      617.5       99.      617.5      105.      617.4      124.
GR    617.5      131.      617.7      149.      617.5      157.      616.9      174.      617.1      184.
GR    617.4      199.      617.6      210.      617.8      217.      616.7      226.      616.7      231.
GR    616.2      245.      616.1      249.      614.4      250.      614.0      252.      613.5      253.
GR    613.5      258.      613.6      259.      614.1      263.      616.1      265.      616.2      272.
GR    617.3      289.      617.5      295.      617.6      312.      617.5      324.      617.4      336.
GR    617.3      349.      617.4      359.      617.4      374.      617.4      383.      617.3      399.
GR    617.3      406.      617.3      424.      617.3      430.      617.4      450.      617.4      453.
GR    617.6      475.      617.7      477.      617.7      500.

X1    52.10       48       250.       267.      360.0      360.0      360.0
X3        0        0          0        227          0        473
GR    618.3       0.       617.8       25.      617.8       26.      617.3       50.      617.3       53.
GR    617.7       75.      617.7       79.      617.6      100.      617.6      105.      617.5      125.
GR    617.6      132.      618.0      150.      617.7      158.      617.2      175.      617.4      184.
GR    617.8      200.      618.1      211.      618.2      218.      617.1      227.      617.0      232.
GR    616.8      247.      616.8      250.      615.1      252.      614.7      253.      614.2      255.
GR    614.2      260.      614.3      261.      614.8      265.      616.8      267.      617.0      273.
GR    617.6      290.      617.9      297.      617.9      313.      617.9      325.      617.8      337.
GR    617.7      350.      617.7      360.      617.8      375.      617.7      383.      617.6      400.
GR    617.6      407.      617.7      425.      617.7      430.      617.7      450.      617.7      453.
GR    617.9      475.      617.9      477.      618.3      500.

NC     .050      .050       .045
          CROSS SECTION I
X1    22784       26        250        267        49         49         49
X3        0        0          0        147         0        368
GR    617.5        0      617.8         25      617.3         50      617.7         75      617.6        100
GR    617.5      125      618.0        150      617.2        175      617.9        200      618.3        218
GR    617.1      227      616.9        250      615.2        252      614.3        255      614.3        260
GR    614.9      265      616.9        267      617.9        297      617.9        325      617.7        350
GR    617.8      375      617.7        400      617.7        425      617.7        450      617.9        475
GR    617.8      500
1
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NC     .050      .050       .045         .5        1.0
          CROSS SECTION I MOVED UPSTREAM
X1    23084       26        250        267        300        300        300
X3        0        0          0        229          0        300
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GR    618.9        0      618.6       25      618.1       50      618.5       75      618.4      100
GR    618.3      125      618.8      150      618.0      175      618.7      200      619.1      218
GR    617.9      227      617.7      250      616.0      252      615.1      255      615.1      260
GR    615.7      265      617.7      267      618.7      297      618.7      325      618.5      350
GR    618.6      375      618.5      400      618.5      425      618.5      450      618.7      475
GR    618.9      500

          D/S FACE OF 30TH AVE.
X1    23184       26      219      267      100      100      100
X3        0        0        0      232        0      253
GR    620.6        0      620.7       50      621.0      100      621.4      150      621.8      200
GR    621.1      219      615.7      232      615.5      233      615.4      234      615.4      235
GR    615.4      236      615.5      237      615.9      238      616.4      247      615.9      248
GR    615.5      249      615.4      250      615.5      251      615.9      252      616.4      253
GR    620.3      267      621.7      300      621.2      350      620.7      400      620.4      450
GR    620.1      500

SC    2.030       .5       3.0        0      5.5        0      107      2.1      615.4      615.4
          U/S FACE OF 30TH AVE.
X1    23291        0        0        0      107      107      107
X2        0        0        2    620.4    621.9
X3        0        0        0      232        0      253
BT       26        0    620.6        0       50    620.7        0      100      621.0        0
BT      150    621.4        0      200    621.8        0      219    621.9      621.1      232
BT    621.9    615.7      233    621.9    619.2      234    621.9    620.2        235    621.9
BT    620.4      236    621.9    620.2      237    621.9    619.2      238      621.9    615.9
BT      247    621.9    616.4      248    621.9    619.4      249    621.9      620.1      250
BT    621.9    620.4      251    621.9    620.1      252    621.9    619.4        253    621.9
BT    616.4      267    621.9    620.3      300    621.7        0      350      621.2        0
BT      400    620.7        0      450    620.4        0      500    620.1          0

          CROSS SECTION J MOVED DOWNSTREAM
X1    23391       20      250      284      100      100      100               -1.0
X3        0        0        0      139        0      322
GR    619.7        0      619.6       50      619.8      100      619.6      150      620.7      195
GR    619.6      200      619.2      219      619.5      250      617.3      258      616.9      263
GR    616.8      268      620.0      284      620.5      309      618.1      324      618.6      350
GR    618.8      375      619.1      425      620.4      450      623.0      475      623.4      500

NC     .050     .050      .035       .3       .5
          CROSS SECTION J
X1    23580       20      250      284      189      189      189
X3        0        0        0      195        0      284
GR    619.7        0      619.6       50      619.8      100      619.6      150      620.7      195
GR    619.6      200      619.2      219      619.5      250      617.3      258      616.9      263
GR    616.8      268      620.0      284      620.5      309      618.1      324      618.6      350
GR    618.8      375      619.1      425      620.4      450      623.0      475      623.4      500
1
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          CROSS SECTION K
X1    23880       21      250      276      300      300      300
X3        0        0        0      200        0      325
GR    620.7        0      620.8       50      620.9      100      620.8      150      621.1      200
GR    624.2      206      621.0      213      620.0      250      618.4      254      617.8      259
GR    618.8      263      621.3      276      621.3      300      621.4      325      620.9      350
GR    620.7      375      620.5      400      620.6      425      620.7      450      620.9      475
GR    621.1      500

X1    69.01       37     247.      267.     500.0    500.0    500.0
X3        0        0        0      203
GR    622.4       0.     621.2      19.     621.5      48.     621.5      49.     621.3      74.
GR    621.4      99.     621.4     100.     621.4     126.     621.4     148.     621.4     152.
GR    621.4     177.     621.5     197.     623.6     203.     621.4     210.     621.1     229.
GR    620.7     247.     620.1     247.     618.9     250.     618.5     254.     619.2     257.
GR    620.6     264.     621.5     267.     621.4     290.     621.4     294.     621.5     314.
GR    621.5     321.     621.2     338.     621.2     348.     621.1     362.     621.0     375.
GR    621.0     387.     621.1     402.     621.0     411.     621.0     429.     621.0     435.
GR    621.1     459.     621.3     483.

X1    69.02       37     243.      258.     500.0    500.0    500.0
X3        0        0        0      200
GR    624.1       0.     621.7      18.     622.1      48.     622.1      49.     621.8      73.
GR    622.0      97.     622.0      99.     622.0     124.     622.0     146.     622.1     149.
GR    621.9     175.     621.9     194.     623.0     200.     621.8     207.     621.7     226.
GR    621.3     243.     620.2     243.     619.5     246.     619.1     249.     619.7     251.
GR    620.7     255.     621.7     258.     621.6     280.     621.6     284.     621.7     303.
GR    621.7     310.     621.6     327.     621.6     336.     621.5     350.     621.4     362.
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GR    621.4      373.      621.5      388.      621.5      397.      621.3      414.      621.3      420.
GR    621.4      443.      621.4      466.

          CROSS SECTION L
X1    25360       23       239       247       480       480       480
X3        0        0         0       211         0       277
GR    626.0        0     622.2        18     622.9        47     622.4        72     622.6        97
GR    622.6      122     622.8       147     622.4       172     622.3       197     622.4       222
GR    622.1      239     620.3       239     619.9       243     620.9       246     622.0       247
GR    621.7      272     621.9       297     622.0       322     621.9       347     622.1       372
GR    621.7      397     621.6       447     624.0       500

NC     .070     .070      .025
QT        2      160       280
          D/S FACE OF DIRT ROAD
X1    25460       33       301       328       100       100       100
GR    626.7        0     626.7        12     626.2        60     626.1       110     626.1       160
GR    625.9      210     625.6       260     625.2       285     625.8       301     621.3       308
GR    619.6      309     619.3       310     619.6       311     621.3       312     621.3     312.5
GR    620.0      313     619.4       314     619.3     314.5     619.4       315     620.0       316
GR    621.3    316.5     621.5       317     619.8       318     619.5       319     619.8       320
GR    621.5      321     626.0       328     625.3       335     625.4       360     625.7       410
GR    625.8      460     625.5       510     625.8       560
1
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SB        0     3.87       2.8         0        13         0      37.7         0     619.3     619.3
          U/S FACE OF R.R. TRACK
X1    25591       31       301       328       131       131       131
X2        0        0         1     623.3     626.7
BT       31        0     626.4         0        60     626.4         0       110     626.5         0
BT      160    626.7         0       210     626.7         0       260     626.8         0       301
BT    626.6        0       308     626.6     621.3       309     626.6     623.0       310     626.6
BT    623.3      311     626.6     623.0       312     626.6     621.3     312.5     626.7     621.3
BT      313    626.7     622.6       314     626.7     623.2     314.5     626.7     623.3       315
BT    626.7    623.2       316     626.7     622.6     316.5     626.7     621.3       317     626.7
BT    621.5      318     626.7     623.2       319     626.7     623.5       320     626.7     623.2
BT      321    626.7     621.5       328     626.8         0       335     626.8         0       360
BT    626.9        0       410     626.7         0       460     626.6         0       510     626.8
BT        0      560     627.1         0
GR    626.4        0     626.4        60     626.5       110     626.7       160     626.7       210
GR    626.8      260     626.6       301     621.3       308     619.6       309     619.3       310
GR    619.6      311     621.3       312     621.3     312.5     620.0       313     619.4       314
GR    619.3    314.5     619.4       315     620.0       316     621.3     316.5     621.5       317
GR    619.8      318     619.5       319     619.8       320     621.5       321     626.8       328
GR    626.8      335     626.9       360     626.7       410     626.6       460     626.8       510
GR    627.1      560

NC     .080     .080      .045
          CROSS SECTION M
X1    25625       31       412       425        34        34        34
X3        0        0         0       310         0       525
GR    624.1        0     625.1        25     624.6        50     625.1        75     625.8       100
GR    625.4      125     624.8       150     623.5       175     622.6       202     620.8       208
GR    622.5      214     622.3       225     622.8       250     623.0       275     622.8       300
GR    623.3      325     622.6       350     623.6       375     624.4       400     623.2       412
GR    620.9      419     622.8       425     622.8       450     624.3       500     624.4       525
GR    624.5      550     625.8       575     627.0       600     627.1       625     627.4       650
GR    627.2      675

NC     .080     .080      .025
          D/S FACE OF R.R. TRACK
X1    25880       29       320       350       255       255       255
GR    626.7        0     626.7        50     626.7        99     626.7       125     626.8       175
GR    626.9      225     626.9       275     625.4       320     622.3     323.5     621.2       324
GR    620.8      325     621.2       326     622.3     326.5     622.4     332.5     621.3       333
GR    620.9      334     621.3       335     622.4     335.5     622.4     339.5     621.3       340
GR    620.9      341     621.3       342     622.4     342.5     625.2       350     627.0       375
GR    627.1      425     627.1       475     627.2       525     627.2       575

SB        0     5.30       2.8         0        12         0     14.14         0     620.8     620.8
          U/S FACE OF ABANDON ROAD
X1    26023       29       320       350       143       143       143
X2        0        0         1     623.8     626.9
BT       29        0     627.0         0        42     627.0         0        92     626.9         0
BT      142    626.9         0       175     626.9         0       225     626.9         0       275
BT    626.9        0       320     626.9     625.4     323.5     626.9     622.3       324     626.9
BT    623.4      325     626.9     623.8       326     626.9     623.4     326.5     626.9     622.3
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BT   332.5     626.9     622.4       333     626.9     623.5       334     626.9     623.9       335
1
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BT   626.9     623.5     335.5     626.9     622.4     339.5     626.9     622.4       340     626.9
BT   623.5       341     626.9     623.9       342     626.9     623.5     342.5     626.9     622.4
BT     350     626.9     625.2       375     626.9         0       425     626.9         0       475
BT   627.0         0       525     627.0         0       575     627.3         0
GR   624.3         0     624.3        42     624.3        92     625.0       142     625.1       175
GR   625.1       225     625.2       275     625.4       320     622.3     323.5     621.2       324
GR   620.8       325     621.2       326     622.3     326.5     622.4     332.5     621.3       333
GR   620.9       334     621.3       335     622.4     335.5     622.4     339.5     621.3       340
GR   620.9       341     621.3       342     622.4     342.5     625.2       350     625.0       375
GR   625.2       425     625.6       475     625.4       525     625.3       575

NC    .080      .080      .035
          CROSS SECTION M MOVED UPSTREAM
X1   26123        31       412       425       100       100       100
X3       0         0         0         0         0       575
GR   624.1         0     625.1        25     624.6        50     625.1        75     625.8       100
GR   625.4       125     624.8       150     623.5       175     622.6       202     620.8       208
GR   622.5       214     622.3       225     622.8       250     623.0       275     622.8       300
GR   623.3       325     622.6       350     623.6       375     624.4       400     623.2       412
GR   620.9       419     622.8       425     622.8       450     624.3       500     624.4       525
GR   624.5       550     625.8       575     627.0       600     627.1       625     627.4       650
GR   627.2       675

NC    .050      .050      .035
          CROSS SECTION N
X1   26642        24       250       276       519       519       519
GR   624.3         0     624.2        25     624.1        50     624.2        75     624.1       100
GR   624.2       125     624.1       150     623.2       175     623.4       200     624.0       225
GR   623.8       250     621.4       262     622.0       267     623.3       276     623.8       300
GR   623.6       325     623.7       350     623.4       375     623.1       400     623.1       425
GR   623.5       450     623.3       475     623.8       500     623.8       550

          CROSS SECTION O
X1   27085        27       259       275       443       443       443
GR   625.6         0     625.6        25     625.6        50     625.8        75     625.8       100
GR   626.2       125     626.0       150     625.8       175     625.0       200     625.5       225
GR   625.9       250     625.7       259     623.0       263     621.8       268     623.0       273
GR   624.9       275     625.5       300     625.5       325     624.7       350     624.9       375
GR   624.9       400     624.9       425     625.3       450     625.3       475     625.5       500
GR   625.4       525     625.5       550

NC    .050      .050      .030
X1   27182        19       287       310        97        97        97
X3       0         0         0         0         0       575
GR   625.6         0     625.8        50     625.7       100     625.8       150     625.9       200
GR   625.9       250     625.0       287     622.2       299     621.4     299.5     621.2       300
GR   621.4     300.5     622.2       301     625.1       310     626.1       350     626.2       400
GR   626.3       450     626.2       500     626.3       550     626.4       600
1
   26OCT94      13:21:44                                                                          PAGE   20

NC    .050      .050      .030        .3        .5
          D/S FACE OF DANFORTH ROAD
X1   27183         0         0         0         1         1         1
X3       0         0         0         0         0       575
BT      19         0     625.6         0        50     625.8         0       100     625.7         0
BT     150     625.8         0       200     625.9         9       250     625.9         0       287
BT   625.7     625.0       299     625.7     622.2     299.5     625.7     623.1       300     625.7
BT   623.2     300.5     625.7     623.1       301     625.7     622.2       310     625.7     625.1
BT     350     626.1         0       400     626.2         0       450     626.3         0       500
BT   626.2         0       550     626.3         0       600     626.4         0

          U/S FACE OF DANFORTH ROAD
X1   27233         0         0         0        50        50        50
X2       0         0         0         0         0         0         1

NC                           .035
X1   27234         0         0         0         1         1         1

          CROSS SECTION P
X1   27333        15       234       250        99        99        99
GR   623.6         0     623.6        50     623.5       100     623.5       150     623.8       200
GR   624.5       234     623.0       238     621.9       242     623.0       247     624.0       250
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GR   623.5       300      624.0       350      623.7       400      623.8       450      623.7       500
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 1

CCHV=     .300 CEHV=     .500
*SECNO 5565.000
          TYPICAL SECTION OF RELOCATED CREEK FROM PLANS
  5565.000      5.05    588.95       .00    584.00    589.07       .13       .00       .00    590.00
     580.0        .0     580.0        .0        .0     203.3        .0        .0        .0    590.00
       .00       .00      2.85       .00      .000      .035      .000      .000    583.90      7.56
   .000947        0.        0.        0.         0         0         8       .00     61.76     69.33


CCHV=     .300 CEHV=     .500
*SECNO 5625.000

3470 ENCROACHMENT STATIONS=      187.0     213.0  TYPE=      1  TARGET=       26.000
          D/S FACE OF AIRPORT RUNWAY CROSSING
          10.2'x6.8'ARCH PIPE EQUALS ABOUT 8.5'CIRCULAR
  5625.000      4.98    588.88       .00       .00    589.29       .41       .08       .14    585.70
     580.0        .5     579.0        .5       1.0     113.0        .9        .2        .1    585.70
       .00       .52      5.12       .52      .050      .030      .050      .000    583.90    187.00
   .001734       60.       60.       60.         2         0         0       .00     26.00    213.00


SPECIAL CULVERT

SC  CUNO      CUNV      ENTLC     COFQ      RDLEN     RISE      SPAN      CULVLN    CHRT      SCL       ELCHU     ELCHD
     2         .030       .50     2.80       .00      8.50       .00    740.00      2         1       584.60    583.90

CHART  2 - CORRUGATED METAL PIPE CULVERT
SCALE  1 - HEADWALL

5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
*SECNO 6365.000

SPECIAL CULVERT OUTLET CONTROL
EGIC =    590.671  EGOC =    593.356  PCWSE=    588.883  ELTRD=    595.000

3280 CROSS SECTION   6365.00 EXTENDED      1.25 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.13

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


SPECIAL CULVERT

     EGIC      EGOC        H4     QWEIR     QCULV       VCH     ACULV     ELTRD    WEIRLN
    590.67    593.36      4.07        0.      580.     2.586     113.5    595.00        0.


3470 ENCROACHMENT STATIONS=      187.0     213.0  TYPE=      1  TARGET=       26.000
          U/S FACE OF AIRPORT RUNWAY CROSSING
  6365.000      9.35    593.25       .00       .00    593.36       .10      4.07       .00    585.70
     580.0        .4     579.2        .4       2.3     224.0       2.3       3.1        .5    585.70
       .08       .17      2.59       .17      .050      .030      .050      .000    583.90    187.00
   .000177      740.      740.      740.         2         0         0       .00     26.00    213.00


*SECNO 6380.000
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3280 CROSS SECTION   6380.00 EXTENDED       .44 FEET

          CROSS SECTION A AT DELTA COUNTY AIRPORT OVER PORTAGE CREEK
  6380.000      8.54    593.34       .00       .00    593.38       .04       .00       .02    589.00
     580.0      47.9     343.6     188.5      66.9     172.6     323.3       3.3        .6    588.80
       .09       .72      1.99       .58      .050      .035      .050      .000    584.80    210.47
   .000194       15.       15.       15.         2         0         0       .00    314.53    525.00


*SECNO 2.010
     2.010      8.30    593.40       .00       .00    593.45       .05       .07       .01    589.20
     580.0      84.2     388.3     107.5     101.7     175.3     138.6       6.7       2.3    589.30
       .13       .83      2.22       .78      .050      .035      .050      .000    585.10    190.11
   .000252      305.      305.      305.         0         0         0       .00    179.10    369.20


CCHV=     .300 CEHV=     .500
*SECNO 6845.000
          CROSS SECTION B OVER PORTAGE CREEK
  6845.000      8.08    593.48       .00       .00    593.53       .05       .07       .00    589.40
     580.0     127.1     370.4      82.5     148.2     177.6     109.3       9.7       3.5    589.70
       .19       .86      2.09       .75      .050      .035      .050      .000    585.40    177.42
   .000231      305.      305.      305.         1         0         0       .00    161.41    338.83


*SECNO 3.010
1
   26OCT94      13:21:44                                                                                    PAGE   23


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


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .63

     3.010      6.97    593.57       .00       .00    593.69       .12       .12       .04    591.50
     580.0      50.5     500.9      28.6      59.2     170.1      39.4      12.5       4.7    591.70
       .22       .85      2.94       .73      .050      .035      .050      .000    586.60    194.05
   .000585      355.      355.      355.         0         0         0       .00    138.97    333.02


*SECNO 3.020

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .66

     3.020      6.02    593.82       .00       .00    594.04       .22       .30       .05    593.60
     580.0        .3     579.7        .0       1.2     154.4        .0      14.3       5.5    593.80
       .25       .25      3.75       .01      .050      .035      .050      .000    587.80    238.94
   .001341      355.      355.      355.         2         0         0       .00     50.15    289.10


*SECNO 7910.000
          CROSS SECTION C OVER PORTAGE CREEK
  7910.000      5.38    594.38       .00       .00    594.67       .29       .59       .03    595.70
     580.0        .0     580.0        .0        .0     134.7        .0      15.5       5.8    595.80
       .27       .00      4.31       .00      .000      .035      .000      .000    589.00    252.64
   .002129      355.      355.      355.         2         0         0       .00     39.42    292.06


*SECNO 8500.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .53


3470 ENCROACHMENT STATIONS=      239.0     500.0  TYPE=      1  TARGET=     -239.000
          CROSS SECTION D OVER WILLOW CREEK
  8500.000      4.65    595.65       .00       .00    595.88       .23      1.20       .02    596.70
     290.0        .0     279.6      10.4        .0      71.4       9.6      16.9       6.3    594.20
       .32       .00      3.91      1.09      .000      .035      .050      .000    591.00    250.00
   .001868      590.      590.      590.         2         0         0       .00     34.27    284.27


CCHV=     .300 CEHV=     .500
*SECNO 8.010
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3470 ENCROACHMENT STATIONS=      247.0      525.0  TYPE=      1  TARGET=      -247.000
     8.010      4.71     596.31       .00        .00     596.53       .22        .64        .00     597.70
     290.0        .0      287.2       2.8        .0       76.7       4.7       17.6        6.6     595.30
       .34       .00       3.75       .59       .000       .035      .070       .000     591.60     271.00
   .001698      360.       360.      360.          2          0         0        .00      30.75     301.75


*SECNO 8.020

3470 ENCROACHMENT STATIONS=      257.0      550.0  TYPE=      1  TARGET=      -257.000
     8.020      4.72     596.92       .00        .00     597.11       .19        .57        .01     598.70
     290.0        .0      289.5        .5        .0       83.2       1.4       18.3        6.9     596.40
       .37       .00       3.48       .33       .000       .035      .070       .000     592.20     291.00
   .001493      360.       360.      360.          2          0         0        .00      28.23     319.23


*SECNO 8.030
     8.030      4.58     597.48       .00        .00     597.67       .18        .55        .00     599.70
     290.0        .0      290.0        .0        .0       84.3        .0       19.0        7.1     597.40
       .40       .00       3.44       .01       .000       .035      .070       .000     592.90     312.00
   .001586      360.       360.      360.          1          0         0        .00      26.89     338.89


*SECNO 8.040
     8.040      4.55     598.05       .00        .00     598.22       .17        .55        .01     600.70
     290.0        .0      290.0        .0        .0       88.5        .0       19.7        7.3     598.50
       .43       .00       3.28       .00       .000       .035      .000       .000     593.50     332.00
   .001450      360.       360.      360.          1          0         0        .00      28.27     360.27


*SECNO 8.050
     8.050      4.48     598.58       .00        .00     598.75       .17        .53        .00     601.60
     290.0        .0      290.0        .0        .0       88.1        .0       20.4        7.5     599.60
       .46       .00       3.29       .00       .000       .035      .000       .000     594.10     353.55
   .001499      360.       360.      360.          1          0         0        .00      28.95     382.50


*SECNO 8.060
     8.060      4.43     599.13       .00        .00     599.31       .17        .56        .00     602.60
     290.0        .0      290.0        .0        .0       86.5        .0       21.1        7.8     600.70
       .49       .00       3.35       .00       .000       .035      .000       .000     594.70     375.55
   .001599      360.       360.      360.          2          0         0        .00      28.84     404.39


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


*SECNO 8.070
     8.070      4.41     599.71       .00        .00     599.88       .17        .56        .00     603.60
     290.0        .0      290.0        .0        .0       88.9        .0       21.9        8.0     601.80
       .52       .00       3.26       .00       .000       .035      .000       .000     595.30     396.64
   .001532      360.       360.      360.          1          0         0        .00      30.08     426.72


*SECNO 8.080
     8.080      4.30     600.30       .00        .00     600.47       .18        .59        .01     604.60
     290.0        .0      290.0        .0        .0       85.4        .0       22.6        8.3     602.80
       .55       .00       3.40       .00       .000       .035      .000       .000     596.00     418.73
   .001773      360.       360.      360.          1          0         0        .00      30.57     449.30


*SECNO 8.090
     8.090      4.33     600.93       .00        .00     601.09       .16        .62        .00     605.60
     290.0        .0      290.0        .0        .0       89.1        .0       23.3        8.5     603.90
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    .58       .00      3.25       .00      .000      .035      .000      .000    596.60    439.75
  .001651     360.      360.      360.         2         0         0       .00     32.43    472.18


*SECNO 12102.000

3470 ENCROACHMENT STATIONS=      440.0     500.0  TYPE=      1  TARGET=       60.000
          CROSS SECTION E
 12102.000      4.33    601.53       .00       .00    601.68       .16       .59       .00    606.60
     290.0        .0     290.0        .0        .0      91.2        .0      24.1       8.8 100000.00
       .61       .00      3.18       .00      .000      .035      .000      .000    597.20    461.25
  .001589      362.      362.      362.         2         0         0       .00     33.41    494.66


CCHV=     .500 CEHV=    1.000
*SECNO 12201.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .31


3470 ENCROACHMENT STATIONS=      245.0     255.0  TYPE=      1  TARGET=       10.000
 12201.000      3.49    601.89       .00       .00    603.18      1.28       .37      1.12 100000.00
     290.0        .0     290.0        .0        .0      31.9        .0      24.2       8.9 100000.00
       .62       .00      9.09       .00      .000      .035      .000      .000    598.40    245.00
  .016797       99.       99.       99.         2         0         0       .00     10.00    255.00


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


*SECNO 12202.000

3370 NORMAL BRIDGE, NRD=  29 MIN ELTRD=   607.70 MAX ELLC=   606.90


3470 ENCROACHMENT STATIONS=      245.0     255.0  TYPE=      1  TARGET=       10.000
          D/S FACE OF 8TH AVE.
 12202.000      3.51    601.91       .00       .00    603.28      1.37       .02       .09 100000.00
     290.0        .0     290.0        .0        .0      30.9        .0      24.2       8.9 100000.00
       .62       .00      9.39       .00      .000      .035      .000      .000    598.40    245.00
  .019088        1.        1.        1.         0         0         0     -1.11     10.00    255.00


*SECNO 12239.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.50


3370 NORMAL BRIDGE, NRD=  29 MIN ELTRD=   607.70 MAX ELLC=   606.90


3470 ENCROACHMENT STATIONS=      245.0     255.0  TYPE=      1  TARGET=       10.000
          U/S FACE OF 8TH AVE.
 12239.000      4.93    603.33       .00       .00    604.05       .73       .45       .32 100000.00
     290.0        .0     290.0        .0        .0      42.4        .0      24.2       8.9 100000.00
       .62       .00      6.83       .00      .000      .035      .000      .000    598.40    245.00
  .008481       37.       37.       37.         3         0         0     -3.76     10.00    255.00


CCHV=     .300 CEHV=     .500
*SECNO 12240.000

3470 ENCROACHMENT STATIONS=      245.0     255.0  TYPE=      1  TARGET=       10.000
 12240.000      5.16    603.56       .00       .00    604.11       .55       .01       .05 100000.00
     290.0        .0     290.0        .0        .0      48.6        .0      24.2       8.9 100000.00
       .62       .00      5.97       .00      .000      .035      .000      .000    598.40    245.00
  .005405        1.        1.        1.         2         0         0       .00     10.00    255.00
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 12339.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.74


3470 ENCROACHMENT STATIONS=      400.0     750.0  TYPE=      1  TARGET=     -400.000
          CROSS SECTION E MOVED UPSTREAM
 12339.000      6.59    604.29       .00       .00    604.33       .04       .07       .15    607.10
     290.0        .0     290.0        .0        .0     173.3        .0      24.5       8.9    605.50
       .63       .00      1.67       .00      .000      .035      .000      .000    597.70    458.91
   .000241       99.       99.       99.         2         0         0       .00     39.22    498.13


*SECNO 21.010

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      289.0     727.0  TYPE=      1  TARGET=     -289.000
    21.010      6.65    604.35       .00       .00    604.40       .04       .07       .00    607.00
     290.0       2.0     288.0        .0      13.4     174.2        .0      25.6       9.3    605.60
       .68       .15      1.65       .00      .070      .035      .000      .000    597.70    299.23
   .000236      280.      280.      280.         2         0         0       .00     86.82    477.98


*SECNO 21.020

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      276.0     704.0  TYPE=      1  TARGET=     -276.000
    21.020      6.23    604.43       .00       .00    604.48       .06       .08       .01    607.30
     290.0        .0     290.0        .0        .8     150.3        .0      26.7       9.8    606.20
       .72       .06      1.93       .00      .070      .035      .000      .000    598.20    286.39
   .000359      280.      280.      280.         0         0         0       .00     54.31    455.95


*SECNO 21.030

3470 ENCROACHMENT STATIONS=      262.0     681.0  TYPE=      1  TARGET=     -262.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


    21.030      5.74    604.54       .00       .00    604.61       .07       .12       .01    607.70
     290.0        .0     290.0        .0        .0     135.2        .0      27.6      10.1    606.90
       .76       .00      2.15       .00      .000      .035      .000      .000    598.80    397.90
   .000499      280.      280.      280.         2         0         0       .00     36.93    434.83


*SECNO 21.040

3470 ENCROACHMENT STATIONS=      248.0     658.0  TYPE=      1  TARGET=     -248.000
    21.040      5.39    604.69       .00       .00    604.79       .09       .17       .01    608.10
     290.0        .0     290.0        .0        .0     119.0        .0      28.5      10.3    607.50
       .79       .00      2.44       .00      .000      .035      .000      .000    599.30    378.31
   .000713      280.      280.      280.         2         0         0       .00     35.30    413.61
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*SECNO 21.050

3265 DIVIDED FLOW

    21.050      5.11    604.91       .00       .00    605.03       .12       .23       .01    608.40
     290.0       1.0     289.0        .0       5.2     105.2        .0      29.2      10.6    608.10
       .82       .19      2.75       .00      .070      .035      .000      .000    599.80    192.80
   .000984      280.      280.      280.         2         0         0       .00     70.05    391.37


*SECNO 21.060
    21.060      4.91    605.21       .00       .00    605.35       .14       .30       .01    608.80
     290.0        .0     290.0        .0        .0      96.9        .0      29.9      11.0    608.70
       .84       .00      2.99       .00      .000      .035      .000      .000    600.30    338.27
   .001211      280.      280.      280.         2         0         0       .00     31.51    369.78


*SECNO 21.070
    21.070      4.77    605.57       .00       .00    605.72       .16       .37       .01    609.20
     290.0        .0     290.0        .0        .0      91.3        .0      30.5      11.2    609.30
       .87       .00      3.18       .00      .000      .035      .000      .000    600.80    317.98
   .001415      280.      280.      280.         2         0         0       .00     30.58    348.55


*SECNO 21.080
    21.080      4.67    605.97       .00       .00    606.14       .17       .41       .01    609.50
     290.0        .0     290.0        .0        .0      88.1        .0      31.0      11.4    609.90
       .89       .00      3.29       .00      .000      .035      .000      .000    601.30    297.55
   .001510      280.      280.      280.         2         0         0       .00     29.30    326.85


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   26OCT94      13:21:44                                                                          PAGE    29

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


*SECNO 21.090
    21.090      4.51    606.41       .00       .00    606.58       .18       .44       .01    609.90
     290.0        .0     290.0        .0        .0      85.4        .0      31.6      11.6    610.60
       .92       .00      3.39       .00      .000      .035      .000      .000    601.90    277.17
   .001655      280.      280.      280.         2         0         0       .00     29.13    306.29


*SECNO 15150.000
          CROSS SECTION F
 15150.000      4.50    606.90       .00       .00    607.09       .19       .50       .01    610.30
     290.0        .0     290.0        .0        .0      82.6        .0      32.2      11.7    611.20
       .94       .00      3.51       .00      .000      .035      .000      .000    602.40    256.26
   .001787      291.      291.      291.         2         0         0       .00     28.23    284.50


*SECNO 31.010
    31.010      4.80    607.30       .00       .00    607.47       .17       .37       .01    610.40
     290.0        .0     290.0        .0        .0      88.1        .0      32.6      11.9    610.80
       .96       .00      3.29       .00      .000      .035      .000      .000    602.50    256.06
   .001480      230.      230.      230.         0         0         0       .00     28.62    284.68


*SECNO 31.020
    31.020      5.04    607.64       .00       .00    607.79       .14       .31       .01    610.50
     290.0        .0     290.0        .0        .0      95.3        .0      33.1      12.1    610.40
       .98       .00      3.04       .00      .000      .035      .000      .000    602.60    255.44
   .001219      230.      230.      230.         2         0         0       .00     29.94    285.38


*SECNO 31.030
    31.030      5.22    607.92       .00       .00    608.06       .13       .27       .00    610.60
     290.0        .0     290.0        .0        .0      98.5        .0      33.6      12.2    610.00
      1.00       .00      2.95       .00      .000      .035      .000      .000    602.70    255.10
   .001106      230.      230.      230.         2         0         0       .00     30.08    285.18


*SECNO 31.040
    31.040      5.38    608.18       .00       .00    608.30       .12       .24       .00    610.70
     290.0        .0     290.0        .0        .0     102.5        .0      34.1      12.4    609.60
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  1.02       .00       2.83       .00       .000       .035       .000       .000     602.80     254.68
 .001011    230.       230.      230.         1          0          0        .00      31.00     285.68
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWID    ENDST

*SECNO 31.050
   31.050     5.51    608.41       .00       .00    608.53       .12       .23       .00    610.80
    290.0       .0     290.0        .0        .0     104.0        .0      34.7      12.5    609.20
     1.05      .00      2.79       .00      .000      .035      .000      .000    602.90    254.43
  .000966     230.      230.      230.         1         0         0       .00     30.81    285.24

*SECNO 31.060
   31.060     5.63    608.63       .00       .00    608.75       .11       .21       .00    610.90
    290.0       .0     290.0        .0        .0     108.0        .0      35.2      12.7    608.80
     1.07      .00      2.68       .00      .000      .035      .000      .000    603.00    254.11
  .000882     230.      230.      230.         0         0         0       .00     31.52    285.63

*SECNO 31.070
   31.070     5.63    608.83       .00       .00    608.95       .12       .20       .00    611.10
    290.0       .0     289.4        .6        .0     105.6       1.8      35.8      12.9    608.40
     1.09      .00      2.74       .32      .000      .035      .050      .000    603.20    254.52
  .000881     230.      230.      230.         1         0         0       .00     37.50    292.01

*SECNO 31.080
   31.080     5.74    609.04       .00       .00    609.15       .12       .20       .00    611.20
    290.0       .0     285.7       4.3        .0     103.1       7.5      36.4      13.1    608.00
     1.12      .00      2.77       .57      .000      .035      .050      .000    603.30    254.23
  .000871     230.      230.      230.         0         0         0       .00     42.30    296.53

*SECNO 31.090
   31.090     5.84    609.24       .00       .00    609.35       .11       .19       .00    611.30
    290.0       .0     279.3      10.7        .0     104.6      14.8      37.0      13.3    607.60
     1.14      .00      2.67       .72      .000      .035      .050      .000    603.40    253.95
  .000774     230.      230.      230.         0         0         0       .00     45.15    299.10

*SECNO 17496.000
          CROSS SECTION G
 17496.000    5.95    609.45       .00       .00    609.55       .10       .21       .00    611.40
    290.0       .0     268.4      21.6        .0     102.4      24.4      37.8      13.6    607.10
     1.17      .00      2.62       .89      .000      .035      .050      .000    603.50    253.72
  .000719     276.      276.      276.         1         0         0       .00     45.93    299.65
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   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 17595.000
 17595.000    4.91    609.51       .00       .00    609.64       .13       .07       .02    616.70
    290.0       .0     290.0        .0        .0     100.3        .0      38.0      13.7    616.80
     1.18      .00      2.89       .00      .000      .030      .000      .000    604.60    250.00
  .000784      99.       99.       99.         1         0         0       .00     28.40    278.40

CCHV=     .300 CEHV=     .500
*SECNO 17596.000

3370 NORMAL BRIDGE, NRD=  15 MIN ELTRD=   616.00 MAX ELLC=   614.80

          D/S FACE OF HWY 2 & 41
```

```
 17596.000      4.91    609.51       .00       .00    609.64       .13       .00       .00    616.70
     290.0        .0     290.0        .0        .0     100.2        .0      38.0      13.7    616.80
      1.18       .00      2.90       .00      .000      .030      .000      .000    604.60    250.00
   .000931        1.        1.        1.         0         0         0       .00     28.40    278.40


*SECNO 17695.000

3370 NORMAL BRIDGE, NRD=  15 MIN ELTRD=   616.00 MAX ELLC=   614.80

          U/S FACE OF HWY 2 & 41
 17695.000      5.01    609.61       .00       .00    609.73       .12       .09       .00    616.70
     290.0        .0     290.0        .0        .0     102.7        .0      38.3      13.8    616.80
      1.19       .00      2.82       .00      .000      .030      .000      .000    604.60    250.00
   .000866       99.       99.       99.         1         0         0       .00     28.40    278.40


*SECNO 17696.000
 17696.000      5.01    609.61       .00       .00    609.74       .12       .00       .00    616.70
     290.0        .0     290.0        .0        .0     102.9        .0      38.3      13.8    616.80
      1.19       .00      2.82       .00      .000      .035      .000      .000    604.60    250.00
   .000987        1.        1.        1.         0         0         0       .00     28.40    278.40


*SECNO 17795.000
          CROSS SECTION G MOVED UPSTREAM
 17795.000      5.21    609.71       .00       .00    609.87       .17       .12       .02    612.40
     290.0        .0     279.2      10.8        .0      83.8      11.3      38.5      13.8    608.10
      1.20       .00      3.33       .96      .000      .035      .050      .000    604.50    255.16
   .001404       99.       99.       99.         0         0         0       .00     37.87    293.04


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


*SECNO 18036.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.50

          D/S FACE OF 1ST AVE.
 18036.000      5.42    609.92       .00       .00    610.09       .17       .22       .00    614.20
     290.0        .0     290.0        .0        .0      88.0        .0      39.0      14.0    614.40
      1.22       .00      3.29       .00      .000      .025      .000      .000    604.50    250.00
   .000628      241.      241.      241.         2         0         0       .00     20.00    270.00


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      1.97      3.00       .00     20.00       .00    112.50       .00    604.50    604.50

*SECNO 18124.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS=       .000  EGLWC=    610.091  ELLC=    611.900  PCWSE=    609.923  ELTRD=    614.400

3370 NORMAL BRIDGE, NRD=  19 MIN ELTRD=   614.40 MAX ELLC=   611.90

          U/S FACE OF 1ST AVE.
 18124.000      5.48    609.98       .00       .00    610.16       .17       .06       .00    614.20
     290.0        .0     290.0        .0        .0      87.5        .0      39.2      14.0    614.40
      1.23       .00      3.31       .00      .000      .025      .000      .000    604.50    250.00
   .000829       88.       88.       88.         2         0         0     -1.79     20.00    270.00


*SECNO 18224.000
          CROSS SECTION G MOVED UPSTREAM
 18224.000      5.63    610.13       .00       .00    610.25       .12       .08       .02    612.40
     290.0        .0     270.0      20.0        .0      94.0      17.9      39.4      14.1    608.10
      1.24       .00      2.87      1.12      .000      .030      .035      .000    604.50    254.36
   .000686      100.      100.      100.         2         0         0       .00     42.37    296.72
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*SECNO 47.010
    47.010      5.49    610.29       .00       .00    610.41       .11       .16       .00    610.00
     290.0        .2     242.9      46.9        .6      84.2      29.6      40.0      14.3    607.80
      1.26       .31      2.89      1.59      .035      .030      .035      .000    604.80    240.00
   .000650      240.      240.      240.         1         0         0       .00     43.42    283.41


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


*SECNO 18704.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52

          CROSS SECTION H
 18704.000      4.38    610.48       .00       .00    610.76       .28       .27       .08    608.50
     290.0      10.3     239.3      40.4       8.7      51.9      26.3      40.6      14.6    608.50
      1.28      1.19      4.61      1.54      .070      .035      .070      .000    606.10    228.77
   .002431      240.      240.      240.         2         0         0       .00     36.82    265.59


*SECNO 18954.000
          D/S FACE OF 3RD AVE.
 18954.000      4.32    611.22       .00       .00    611.58       .35       .78       .04    611.70
     290.0        .0     290.0        .0        .0      60.7        .0      41.0      14.8    612.30
      1.29       .00      4.78       .00      .000      .025      .000      .000    606.90    224.71
   .004127      250.      250.      250.         2         0         0       .00     36.60    261.31


SPECIAL CULVERT

SC  CUNO      CUNV      ENTLC     COFQ      RDLEN     RISE      SPAN      CULVLN    CHRT      SCL       ELCHU     ELCHD
    2          .025       .50      2.80       .00      6.00       .00     81.00     1         1        606.90    606.90

CHART  1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE  1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 19035.000

SPECIAL CULVERT OUTLET CONTROL
EGIC =    611.743  EGOC =    612.581  PCWSE=    611.223  ELTRD=    616.800


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.53

SPECIAL CULVERT

     EGIC      EGOC       H4     QWEIR     QCULV      VCH     ACULV     ELTRD    WEIRLN
    611.74    612.58     1.00        0.      290.    2.492      56.5    616.80        0.


          U/S FACE OF 3RD AVE.
 19035.000      5.58    612.48       .00       .00    612.58       .10      1.00       .00    611.70
     290.0        .3     289.7        .0       1.1     116.3        .1      41.2      14.9    612.30
      1.30       .28      2.49       .11      .070      .025      .070      .000    606.90    217.09
   .000646       81.       81.       81.         2         0         0       .00     52.35    269.44


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


*SECNO 19135.000
          CROSS SECTION H MOVED UPSTREAM
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 19135.000      5.55    612.55      .00      .00    612.66      .11      .07      .01    609.40
     290.0      21.5     208.1     60.4     20.8      67.0     46.8     41.5     15.0    609.40
      1.31      1.03      3.11     1.29     .060      .035     .060     .000   607.00    224.36
   .000784      100.      100.     100.        2         0        0      .00    45.26    269.62


*SECNO 52.010
    52.010      5.15    612.85      .00      .00    612.99      .14      .32      .01    610.10
     290.0      18.5     218.4     53.1     17.2      64.1     39.3     42.5     15.3    610.10
      1.35      1.07      3.41     1.35     .060      .035     .060     .000   607.70    225.87
   .001019      360.      360.     360.        2         0        0      .00    44.95    270.82


*SECNO 52.020
    52.020      4.86    613.26      .00      .00    613.45      .19      .44      .02    610.90
     290.0      17.5     222.3     50.2     15.0      57.0     34.0     43.5     15.7    610.90
      1.38      1.17      3.90     1.48     .060      .035     .060     .000   608.40    227.68
   .001457      360.      360.     360.        2         0        0      .00    43.90    271.57


*SECNO 52.030
    52.030      4.60    613.80      .00      .00    614.00      .20      .54      .01    611.60
     290.0      15.5     230.1     44.3     13.6      58.0     30.9     44.3     16.1    611.60
      1.41      1.14      3.97     1.44     .060      .035     .060     .000   609.20    228.85
   .001547      360.      360.     360.        2         0        0      .00    44.69    273.54


*SECNO 52.040
    52.040      4.48    614.38      .00      .00    614.59      .21      .58      .00    612.40
     290.0      16.0     234.8     39.2     14.0      58.2     27.8     45.2     16.5    612.40
      1.44      1.14      4.03     1.41     .060      .035     .060     .000   609.90    228.80
   .001690      360.      360.     360.        2         0        0      .00    46.59    275.38


*SECNO 52.050
    52.050      4.40    615.00      .00      .00    615.22      .22      .63      .00    613.10
     290.0      16.0     238.7     35.3     14.2      58.3     26.0     46.0     16.8    613.10
      1.46      1.13      4.10     1.35     .060      .035     .060     .000   610.60    228.81
   .001799      360.      360.     360.        2         0        0      .00    48.60    277.41


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


*SECNO 52.060
    52.060      4.35    615.65      .00      .00    615.88      .22      .66      .00    613.80
     290.0      17.9     239.0     33.1     16.4      57.8     25.1     46.8     17.3    613.80
      1.49      1.09      4.14     1.32     .060      .035     .060     .000   611.30    227.44
   .001848      360.      360.     360.        2         0        0      .00    52.69    280.13


*SECNO 52.070
    52.070      4.32    616.32      .00      .00    616.54      .21      .66      .00    614.60
     290.0      21.6     240.2     28.2     20.8      59.3     23.6     47.6     17.7    614.60
      1.52      1.04      4.05     1.19     .060      .035     .060     .000   612.00    219.43
   .001812      360.      360.     360.        1         0        0      .00    64.02    283.45


*SECNO 52.080

3470 ENCROACHMENT STATIONS=      209.0     373.0  TYPE=      1  TARGET=      164.000
    52.080      4.18    616.98      .00      .00    617.19      .20      .65      .00    615.30
     290.0      26.6     233.8     29.6     24.7      58.5     25.7     48.5     18.3    615.30
      1.55      1.08      4.00     1.15     .060      .035     .060     .000   612.80    219.18
   .001782      360.      360.     360.        0         0        0      .00    70.69    289.87


*SECNO 52.090

3470 ENCROACHMENT STATIONS=      217.0     500.0  TYPE=      1  TARGET=     -217.000
    52.090      4.15    617.65      .00      .00    617.80      .16      .60      .01    616.10
     290.0      32.4     213.4     44.2     30.9      58.2     68.9     49.6     19.7    616.10
      1.58      1.05      3.67      .64     .060      .035     .060     .000   613.50    218.32
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  .001561      360.      360.      360.        1        0        0      .00   257.46   475.78


*SECNO 52.100

3470 ENCROACHMENT STATIONS=      227.0     473.0  TYPE=      1  TARGET=      246.000
    52.100      4.01    618.21       .00       .00   618.32      .11      .51      .01   616.80
     290.0      30.6     192.7      66.8      29.7     58.8    107.7     51.1     21.7   616.80
      1.62      1.03      3.28       .62      .060     .035     .060     .000   614.20   227.00
   .001285      360.      360.      360.         2        0        0      .00   246.00   473.00


*SECNO 22784.000
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3280 CROSS SECTION  22784.00 EXTENDED       .54 FEET


3470 ENCROACHMENT STATIONS=      147.0     368.0  TYPE=      1  TARGET=      221.000
          CROSS SECTION I
 22784.000      4.04    618.34       .00       .00   618.40      .06      .06      .02   616.90
     290.0      82.1     153.0      54.9      80.5     59.2     65.1     51.3     22.0   616.90
      1.63      1.02      2.59       .84      .050     .045     .050     .000   614.30   147.00
   .001313       49.       49.       49.         2        0        0      .00   221.00   368.00


CCHV=     .500 CEHV=    1.000
*SECNO 23084.000
3280 CROSS SECTION  23084.00 EXTENDED       .03 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .64


3470 ENCROACHMENT STATIONS=      229.0     300.0  TYPE=      1  TARGET=       71.000
          CROSS SECTION I MOVED UPSTREAM
 23084.000      3.83    618.93       .00       .00   619.12      .19      .59      .13   617.70
     290.0      42.7     216.8      30.5      23.9     55.6     22.6     52.4     23.0   617.70
      1.66      1.79      3.90      1.35      .050     .045     .050     .000   615.10   229.00
   .003252      300.      300.      300.         2        0        0      .00    71.00   300.00


*SECNO 23184.000

3470 ENCROACHMENT STATIONS=      232.0     253.0  TYPE=      1  TARGET=       21.000
          D/S FACE OF 30TH AVE.
 23184.000      3.90    619.30       .00       .00   619.55      .25      .37      .06 100000.00
     290.0        .0     290.0        .0        .0     72.3       .0     52.6     23.1 100000.00
      1.66       .00      4.01       .00      .000     .045     .000     .000   615.40   232.00
   .004171      100.      100.      100.         2        0        0      .00    21.00   253.00


SPECIAL CULVERT

1
   26OCT94      13:21:44                                                                                PAGE   37


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


SC  CUNO      CUNV      ENTLC     COFQ      RDLEN     RISE      SPAN      CULVLN    CHRT      SCL       ELCHU     ELCHD
     2         .030       .50     3.00        .00      5.50       .00    107.00     2         1        615.40    615.40

CHART  2 - CORRUGATED METAL PIPE CULVERT
SCALE  1 - HEADWALL

*SECNO 23291.000
```

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SPECIAL CULVERT OUTLET CONTROL
EGIC =    620.462  EGOC =    621.628  PCWSE=    619.297  ELTRD=    621.900

3280 CROSS SECTION  23291.00 EXTENDED      1.44 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.09

SPECIAL CULVERT

     EGIC      EGOC        H4     QWEIR     QCULV       VCH     ACULV     ELTRD    WEIRLN
   620.46    621.63      2.08        0.      290.     2.431      47.5    621.90        0.



3470 ENCROACHMENT STATIONS=      232.0     253.0  TYPE=      1  TARGET=       21.000
          U/S FACE OF 30TH AVE.
 23291.000      6.14    621.54       .00       .00    621.63       .09      2.08       .00 100000.00
     290.0        .0     290.0        .0        .0     119.3        .0      52.8      23.2 100000.00
      1.68       .00      2.43       .00      .000      .045      .000      .000    615.40    232.00
   .000956      107.      107.      107.         2         0         0       .00     21.00    253.00


*SECNO 23391.000
3280 CROSS SECTION  23391.00 EXTENDED       .28 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  4.25


3470 ENCROACHMENT STATIONS=      139.0     322.0  TYPE=      1  TARGET=      183.000
          CROSS SECTION J MOVED DOWNSTREAM
 23391.000      5.88    621.68       .00       .00    621.69       .00       .01       .04    618.50
     290.0     143.5     106.5      40.0     325.9     159.8     102.7      53.6      23.4    619.00
      1.73       .44       .67       .39      .050      .045      .050      .000    615.80    139.00
   .000053      100.      100.      100.         2         0         0       .00    183.00    322.00


CCHV=     .300 CEHV=     .500
1
   26OCT94      13:21:44                                                                                                PAGE   38


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


*SECNO 23580.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .47


3470 ENCROACHMENT STATIONS=      195.0     284.0  TYPE=      1  TARGET=       89.000
          CROSS SECTION J
 23580.000      4.89    621.69       .00       .00    621.72       .03       .02       .01    619.50
     290.0      98.5     191.5        .0     123.7     126.1        .0      55.4      24.0 100000.00
      1.77       .80      1.52       .00      .050      .035      .000      .000    616.80    195.00
   .000244      189.      189.      189.         2         0         0       .00     89.00    284.00


*SECNO 23880.000

3265 DIVIDED FLOW

3280 CROSS SECTION  23880.00 EXTENDED       .70 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .39


3470 ENCROACHMENT STATIONS=      200.0     325.0  TYPE=      1  TARGET=      125.000
          CROSS SECTION K
 23880.000      4.00    621.80       .00       .00    621.91       .11       .15       .04    620.00
     290.0      69.0     204.3      16.7      49.2      65.6      23.1      56.8      24.7    621.30
      1.80      1.40      3.11       .72      .050      .035      .050      .000    617.80    200.00
   .001624      300.      300.      300.         2         0         0       .00    115.09    325.00
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*SECNO 69.010
3280 CROSS SECTION     69.01 EXTENDED      1.01 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.89


3470 ENCROACHMENT STATIONS=      203.0     483.0  TYPE=      1  TARGET=     -203.000
    69.010      3.81    622.31       .00       .00    622.33       .02       .39       .03    620.70
     290.0      33.9      90.8     165.3      46.8      53.9     240.4      59.5      26.9    621.50
      1.94       .72      1.68       .69      .050      .035      .050      .000    618.50    207.11
   .000454      500.      500.      500.         2         0         0       .00    275.89    483.00


1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 69.020
3280 CROSS SECTION     69.02 EXTENDED      1.18 FEET


3470 ENCROACHMENT STATIONS=      200.0     466.0  TYPE=      1  TARGET=     -200.000
    69.020      3.49    622.59       .00       .00    622.61       .02       .28       .00    621.30
     290.0      27.3      75.2     187.5      36.0      38.1     224.1      63.2      30.0    621.70
      2.07       .76      1.97       .84      .050      .035      .050      .000    619.10    202.44
   .000714      500.      500.      500.         2         0         0       .00    263.56    466.00


*SECNO 25360.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .35


3470 ENCROACHMENT STATIONS=      211.0     277.0  TYPE=      1  TARGET=       66.000
          CROSS SECTION L
 25360.000      3.32    623.22       .00       .00    623.47       .25       .75       .11    622.10
     290.0      54.1     122.2     113.7      25.8      22.7      41.8      65.3      31.8    622.00
      2.10      2.10      5.37      2.72      .050      .035      .050      .000    619.90    211.00
   .005699      480.      480.      480.         3         0         0       .00     66.00    277.00


*SECNO 25460.000
          D/S FACE OF DIRT ROAD
 25460.000      4.33    623.63       .00       .00    623.76       .14       .26       .03    625.80
     160.0        .0     160.0        .0        .0      53.7        .0      65.5      31.9    626.00
      2.11       .00      2.98       .00      .000      .025      .000      .000    619.30    304.38
   .001028      100.      100.      100.         2         0         0       .00     19.92    324.31


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      3.87      2.80       .00     13.00       .00     37.70       .00    619.30    619.30

*SECNO 25591.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.57

1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


PRESSURE FLOW
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 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD     WEIRLN
                                                              AREA
   624.71    623.77     .00        0.      160.       38.       52.      623.30    626.70        0.


         U/S FACE OF R.R. TRACK
 25591.000     5.33   624.63       .00       .00    624.71       .07       .94       .00    626.60
     160.0       .0    160.0        .0       .0      72.9        .0      65.7      32.0    626.80
      2.13      .00     2.20       .00      .000      .025      .000      .000    619.30    303.60
   .000417     131.     131.      131.         2         0         0       .00     21.54    325.14


*SECNO 25625.000

3470 ENCROACHMENT STATIONS=      310.0     525.0  TYPE=      1  TARGET=      215.000
         CROSS SECTION M
 25625.000     3.93   624.73       .00       .00    624.74       .01       .01       .02    623.20
     160.0     63.7     43.9      52.4     138.6      36.1     117.0      65.8      32.1    622.80
      2.14      .46     1.22       .45      .080      .045      .080      .000    620.80    310.00
   .000373      34.      34.       34.         2         0         0       .00    215.00    525.00


*SECNO 25880.000
         O/S FACE OF R.R. TRACK
 25880.000     4.02   624.82       .00       .00    624.90       .09       .12       .04    625.40
     160.0       .0    160.0        .0       .0      67.6        .0      66.9      32.8    625.20
      2.17      .00     2.37       .00      .000      .025      .000      .000    620.80    320.65
   .000646     255.     255.      255.         1         0         0       .00     28.34    348.99


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     .00      5.30      2.80       .00     12.00       .00      14.14      .00    620.80    620.80

*SECNO 26023.000
3280 CROSS SECTION  26023.00 EXTENDED      2.77 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  8.42

1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


PRESSURE AND WEIR FLOW,  Weir Submergence Based on TRAPEZOIDAL Shape


 EGPRS      EGLWC      H3       QWEIR      QPR       BAREA   TRAPEZOID      ELLC      ELTRD     WEIRLN
                                                              AREA
   635.35    624.90     .00       86.       74.       14.       36.      623.80    626.90      537.


         U/S FACE OF ABANDON ROAD
 26023.000     6.27   627.07       .00       .00    627.07       .00      2.17       .00    625.40
     160.0     69.7     57.9      32.5     718.2     134.7     396.8      69.0      33.8    625.20
      2.36      .10      .43       .08      .080      .025      .080      .000    620.80       .00
   .000009     143.     143.      143.         0         0         8       .00    575.00    575.00


*SECNO 26123.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.60


3470 ENCROACHMENT STATIONS=         .0     575.0  TYPE=      1  TARGET=      574.999
         CROSS SECTION M MOVED UPSTREAM
 26123.000     6.28   627.08       .00       .00    627.08       .00       .00       .00    623.20
     160.0    109.0     15.3      35.7    1339.4      66.5     465.1      72.6      35.1    622.80
      2.65      .08      .23       .08      .080      .035      .080      .000    620.80       .00
   .000004     100.     100.      100.         2         0         0       .00    575.00    575.00
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*SECNO 26642.000
3280 CROSS SECTION  26642.00 EXTENDED      3.28 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.54

          CROSS SECTION N
 26642.000      5.68    627.08       .00       .00    627.08       .00       .00       .00    623.80
     160.0      60.5      17.2      82.3     780.9     120.5     976.9      94.9      41.8    623.30
      4.29       .08       .14       .08      .050      .035      .050      .000    621.40       .00
   .000001      519.      519.      519.         0         0         0       .00    550.00    550.00


*SECNO 27085.000
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3280 CROSS SECTION  27085.00 EXTENDED      1.58 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .33

          CROSS SECTION O
 27085.000      5.28    627.08       .00       .00    627.08       .00       .00       .00    625.70
     160.0      48.8      23.5      87.7     354.7      63.9     518.9     109.3      47.4    624.90
      4.94       .14       .37       .17      .050      .035      .050      .000    621.80       .00
   .000014      443.      443.      443.         0         0         0       .00    550.00    550.00


*SECNO 27182.000
3280 CROSS SECTION  27182.00 EXTENDED       .68 FEET


3470 ENCROACHMENT STATIONS=         .0     575.0  TYPE=      1  TARGET=      574.999
 27182.000      5.88    627.08       .00       .00    627.08       .00       .00       .00    625.00
     160.0      72.5      49.1      38.4     382.4      83.7     248.7     111.1      48.7    625.10
      5.03       .19       .59       .15      .050      .030      .050      .000    621.20       .00
   .000028       97.       97.       97.         0         0         0       .00    575.00    575.00


CCHV=     .300 CEHV=     .500
*SECNO 27183.000
3280 CROSS SECTION  27183.00 EXTENDED       .68 FEET


3370 NORMAL BRIDGE, NRD=  19 MIN ELTRD=   625.60 MAX ELLC=   625.10


3470 ENCROACHMENT STATIONS=         .0     575.0  TYPE=      1  TARGET=      574.999
          D/S FACE OF DANFORTH ROAD
 27183.000      5.88    627.08       .00       .00    627.08       .00       .00       .00    625.00
     160.0      96.6      14.2      49.1     369.6      34.4     236.9     111.1      48.7    625.10
      5.03       .26       .41       .21      .050      .030      .050      .000    621.20       .00
   .000055        1.        1.        1.         0         0         0    -74.20    575.00    575.00


*SECNO 27233.000
3280 CROSS SECTION  27233.00 EXTENDED      1.48 FEET

1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    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=   625.60 MAX ELLC=   625.10

          U/S FACE OF DANFORTH ROAD
```

```
 27233.000      5.88    627.08       .00       .00    627.08       .00       .00       .00    625.00
     160.0      94.8      13.9      51.3     370.5      34.5     255.4     111.9      49.4    625.10
      5.09       .26       .40       .20      .050      .030      .050      .000    621.20       .00
   .000053       50.       50.       50.         0         0         0    -74.20    600.00    600.00


*SECNO 27234.000
3280 CROSS SECTION  27234.00 EXTENDED      1.48 FEET

 27234.000      5.88    627.08       .00       .00    627.08       .00       .00       .00    625.00
     160.0      74.8      43.2      42.0     383.7      83.8     267.6     111.9      49.4    625.10
      5.09       .19       .52       .16      .050      .035      .050      .000    621.20       .00
   .000029        1.        1.        1.         0         0         0       .00    600.00    600.00


*SECNO 27333.000
3280 CROSS SECTION  27333.00 EXTENDED      3.49 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.88

          CROSS SECTION P
 27333.000      5.19    627.09       .00       .00    627.09       .00       .00       .00    624.50
     160.0      74.8       9.7      75.5     802.3      65.8     829.2     114.7      50.6    624.00
      5.38       .09       .15       .09      .050      .035      .050      .000    621.90       .00
   .000002       99.       99.       99.         0         0         0       .00    500.00    500.00


1
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T1      DELTA COUNTY, MICHIGAN FIS
T2      WILLOW CREEK
T3      500-YEAR FLOW

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

       0        3         0         0   .000946         0         0         0     585.0

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

      15        0        -1


1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*PROF 2

CCHV=     .300 CEHV=     .500
*SECNO 5565.000
3280 CROSS SECTION   5565.00 EXTENDED      .27 FEET

          TYPICAL SECTION OF RELOCATED CREEK FROM PLANS
  5565.000      6.37    590.27       .00    585.00    590.44       .17       .00       .00    590.00
     960.0        .1     959.6        .3        .3     292.4        .8        .0        .0    590.00
       .00       .27      3.28       .36      .050      .035      .050      .000    583.90       .00
   .000946        0.        0.        0.         0         0         8       .00     77.00     77.00


CCHV=     .300 CEHV=     .500
*SECNO 5625.000

3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .67


3470 ENCROACHMENT STATIONS=      187.0     213.0  TYPE=      1  TARGET=       26.000
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        D/S FACE OF AIRPORT RUNWAY CROSSING
        10.2'x6.8'ARCH PIPE EQUALS ABOUT 8.5'CIRCULAR
  5625.000      6.19    590.09       .00       .00    590.78       .69       .08       .26    585.70
     960.0       .8     958.5        .8       1.3     143.6       1.3        .3        .1    585.70
       .00       .59      6.67       .59      .050      .030      .050      .000    583.90    187.00
   .002136      60.       60.       60.         2         0         0       .00     26.00    213.00


SPECIAL CULVERT

SC  CUNO      CUNV      ENTLC     COFQ      RDLEN     RISE      SPAN      CULVLN    CHRT      SCL       ELCHU     ELCHD
    2          .030      .50      2.80       .00      8.50       .00     740.00     2         1        584.60    583.90

CHART  2 - CORRUGATED METAL PIPE CULVERT
SCALE  1 - HEADWALL

5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
*SECNO 6365.000
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
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5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT
5140, NORMAL DEPTH EXCEEDS CULVERT HEIGHT

SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG =    595.41
3280 CROSS SECTION   6365.00 EXTENDED      3.22 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.93

SPECIAL CULVERT

     EGIC      EGOC       H4      QWEIR     QCULV      VCH     ACULV     ELTRO    WEIRLN
    593.03    599.15     4.63      222.      739.     3.500     113.5    595.00      300.


3470 ENCROACHMENT STATIONS=      187.0     213.0  TYPE=      1  TARGET=       26.000
        U/S FACE OF AIRPORT RUNWAY CROSSING
  6365.000     11.32    595.22       .00       .00    595.41       .19      4.63       .00    585.70
     960.0        .6     958.8        .6       2.9     274.0       2.8       3.9        .5    585.70
       .06       .21      3.50       .21      .050      .030      .050      .000    583.90    187.00
   .000248      740.      740.      740.         2         0         0       .00     26.00    213.00


*SECNO 6380.000
3280 CROSS SECTION   6380.00 EXTENDED      2.55 FEET

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


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.93

         CROSS SECTION A AT DELTA COUNTY AIRPORT OVER PORTAGE CREEK
 6380.000     10.65    595.45       .00       .00    595.47       .01       .00       .05    589.00
    960.0     179.7     299.3     481.0     441.2     219.1     858.5       4.2        .6    588.80
      .07       .41      1.37       .56      .050      .035      .050      .000    584.80       .00
  .000066       15.       15.       15.         2         0         0       .00    525.00    525.00


*SECNO 2.010
3280 CROSS SECTION      2.01 EXTENDED      1.68 FEET

    2.010     10.38    595.48       .00       .00    595.49       .02       .02       .00    589.20
    960.0     241.3     363.4     355.4     445.2     223.1     588.6      13.9       4.2    589.30
      .15       .54      1.63       .60      .050      .035      .050      .000    585.10       .00
  .000099      305.      305.      305.         2         0         0       .00    500.00    500.00


CCHV=     .300 CEHV=     .500
*SECNO 6845.000
3280 CROSS SECTION   6845.00 EXTENDED       .60 FEET

         CROSS SECTION B OVER PORTAGE CREEK
 6845.000     10.11    595.51       .00       .00    595.53       .02       .03       .00    589.40
    960.0     311.4     402.4     246.1     456.5     226.3     402.5      22.1       7.8    589.70
      .23       .68      1.78       .61      .050      .035      .050      .000    585.40       .00
  .000122      305.      305.      305.         0         0         0       .00    525.00    525.00


*SECNO 3.010

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .65

    3.010      8.95    595.55       .00       .00    595.62       .07       .06       .02    591.50
    960.0     204.4     586.7     168.9     206.9     231.4     188.9      29.1      10.8    591.70
      .28       .99      2.54       .89      .050      .035      .050      .000    586.60    158.12
  .000288      355.      355.      355.         0         0         0       .00    221.65    379.77


*SECNO 3.020
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  SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
  Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
  TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .66

    3.020      7.86    595.66       .00       .00    595.80       .14       .15       .04    593.60
    960.0     103.8     760.0      96.3     104.0     224.2     104.9      33.4      12.6    593.80
      .31      1.00      3.39       .92      .050      .035      .050      .000    587.80    173.48
  .000665      355.      355.      355.         2         0         0       .00    202.20    375.68


*SECNO 7910.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .63

         CROSS SECTION C OVER PORTAGE CREEK
 7910.000      6.93    595.93       .00       .00    596.24       .31       .36       .08    595.70
    960.0      12.9     917.3      29.8      21.9     200.8      38.6      36.3      14.2    595.80
      .34       .59      4.57       .77      .050      .035      .050      .000    589.00    179.08
  .001696      355.      355.      355.         2         0         0       .00    200.53    379.60


*SECNO 8500.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .52
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3470 ENCROACHMENT STATIONS=      239.0     500.0  TYPE=      1  TARGET=     -239.000
          CROSS SECTION D OVER WILLOW CREEK
  8500.000      6.00    597.00       .00       .00    597.27       .27      1.02       .01    596.70
     510.0        .2     431.7      78.1        .6      95.6      48.8      39.0      16.0    594.20
       .38       .35      4.52      1.60      .050      .035      .050      .000    591.00    245.82
   .001789      590.      590.      590.         3         0         0       .00     65.21    311.04


CCHV=     .300 CEHV=     .500
*SECNO 8.010

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      247.0     525.0  TYPE=      1  TARGET=     -247.000
     8.010      6.04    597.64       .00       .00    597.94       .30       .65       .01    597.70
     510.0       1.0     472.0      37.0       2.3     103.0      36.3      40.2      16.6    595.30
       .40       .46      4.58      1.02      .070      .035      .070      .000    591.60    247.00
   .001837      360.      360.      360.         1         0         0       .00     70.01    334.48
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


*SECNO 8.020

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      257.0     550.0  TYPE=      1  TARGET=     -257.000
     8.020      6.09    598.29       .00       .00    598.56       .27       .60       .01    598.70
     510.0       4.9     485.4      19.7       7.9     114.6      24.8      41.4      17.2    596.40
       .42       .62      4.24       .80      .070      .035      .070      .000    592.20    257.00
   .001541      360.      360.      360.         0         0         0       .00     77.76    356.48


*SECNO 8.030

3265 DIVIDED FLOW

     8.030      5.95    598.85       .00       .00    599.11       .26       .55       .00    599.70
     510.0       7.1     493.8       9.1      10.8     119.7      13.1      42.6      17.8    597.40
       .45       .66      4.12       .69      .070      .035      .070      .000    592.90    266.57
   .001517      360.      360.      360.         2         0         0       .00     64.37    359.36


*SECNO 8.040

3265 DIVIDED FLOW

     8.040      5.90    599.40       .00       .00    599.64       .24       .53       .00    600.70
     510.0       2.9     504.9       2.2       5.9     127.8       4.3      43.8      18.2    598.50
       .48       .49      3.95       .50      .070      .035      .070      .000    593.50    284.35
   .001420      360.      360.      360.         0         0         0       .00     53.93    372.25


*SECNO 8.050

3265 DIVIDED FLOW

     8.050      5.83    599.93       .00       .00    600.17       .24       .53       .00    601.60
     510.0        .4     509.5        .2       1.4     128.9        .6      44.9      18.6    599.60
       .50       .26      3.95       .25      .070      .035      .070      .000    594.10    304.04
   .001499      360.      360.      360.         0         0         0       .00     43.14    387.85
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
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  Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
  TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
  SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


*SECNO 8.060
    8.060       5.78     600.48        .00        .00     600.73        .25        .56        .00     602.60
    510.0         .0      510.0         .0         .0      128.0         .0       46.0       19.0     600.70
      .53        .00       3.98        .00       .000       .035       .000       .000     594.70     374.02
  .001616       360.       360.       360.          2          0          0        .00      32.62     406.64


*SECNO 8.070
    8.070       5.76     601.06        .00        .00     601.29        .23        .56        .00     603.60
    510.0         .0      510.0         .0         .0      132.4         .0       47.0       19.2     601.80
      .55        .00       3.85        .00       .000       .035       .000       .000     595.30     395.07
  .001500       360.       360.       360.          2          0          0        .00      33.78     428.85


*SECNO 8.080
    8.080       5.62     601.62        .00        .00     601.87        .24        .57        .01     604.60
    510.0         .0      510.0         .0         .0      128.7         .0       48.1       19.5     602.80
      .58        .00       3.96        .00       .000       .035       .000       .000     596.00     417.23
  .001656       360.       360.       360.          0          0          0        .00      34.05     451.27


*SECNO 8.090
    8.090       5.63     602.23        .00        .00     602.45        .23        .58        .01     605.60
    510.0         .0      510.0         .0         .0      133.5         .0       49.2       19.8     603.90
      .60        .00       3.82        .00       .000       .035       .000       .000     596.60     438.27
  .001562       360.       360.       360.          2          0          0        .00      36.01     474.29


*SECNO 12102.000

3470 ENCROACHMENT STATIONS=      440.0      500.0  TYPE=       1  TARGET=       60.000
          CROSS SECTION E
 12102.000       5.59     602.79        .00        .00     603.01        .22        .56        .00     606.60
    510.0         .0      510.0         .0         .0      135.8         .0       50.3       20.1 100000.00
      .63        .00       3.75        .00       .000       .035       .000       .000     597.20     459.93
  .001510       362.       362.       362.          1          0          0        .00      36.68     496.61


CCHV=     .500 CEHV=    1.000
*SECNO 12201.000

3301 HV CHANGED MORE THAN HVINS

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


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .27


3470 ENCROACHMENT STATIONS=      245.0      255.0  TYPE=       1  TARGET=       10.000
 12201.000       4.76     603.16        .00        .00     605.19       2.03        .37       1.81 100000.00
    510.0         .0      510.0         .0         .0       44.6         .0       50.5       20.2 100000.00
      .63        .00      11.43        .00       .000       .035       .000       .000     598.40     245.00
  .020948        99.        99.        99.          2          0          0        .00      10.00     255.00


*SECNO 12202.000

3370 NORMAL BRIDGE, NRD=  29 MIN ELTRD=   607.70 MAX ELLC=   606.90


3470 ENCROACHMENT STATIONS=      245.0      255.0  TYPE=       1  TARGET=       10.000
          D/S FACE OF 8TH AVE.
 12202.000       4.79     603.19     602.96        .00     605.55       2.36        .02        .33 100000.00
    510.0         .0      510.0         .0         .0       41.4         .0       50.5       20.2 100000.00
      .63        .00      12.33        .00       .000       .035       .000       .000     598.40     245.00
  .027914         1.         1.         1.          2         15          0      -3.42      10.00     255.00
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*SECNO 12239.000

3301 HV CHANGED MORE THAN HVINS


3370 NORMAL BRIDGE, NRD=  29 MIN ELTRD=   607.70 MAX ELLC=   606.90


3470 ENCROACHMENT STATIONS=      245.0     255.0  TYPE=      1  TARGET=       10.000
          U/S FACE OF BTH AVE.
 12239.000      6.94    605.34       .00       .00    606.90      1.56       .96       .40 100000.00
     510.0        .0     510.0        .0        .0      50.8        .0      50.6      20.2 100000.00
       .63       .00     10.03       .00      .000      .035      .000      .000    598.40    245.00
   .024061       37.       37.       37.         4         0         0    -15.54     10.00    255.00


CCHV=     .300 CEHV=     .500
*SECNO 12240.000
1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.20


3470 ENCROACHMENT STATIONS=      245.0     255.0  TYPE=      1  TARGET=       10.000
 12240.000      8.12    606.52       .00       .00    607.18       .66       .01       .27 100000.00
     510.0        .0     510.0        .0        .0      78.2        .0      50.6      20.2 100000.00
       .63       .00      6.52       .00      .000      .035      .000      .000    598.40    245.00
   .004971        1.        1.        1.         3         0         0       .00     10.00    255.00


*SECNO 12339.000
3280 CROSS SECTION  12339.00 EXTENDED      1.58 FEET


3301 HV CHANGED MORE THAN HVINS


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  9.32


3470 ENCROACHMENT STATIONS=      400.0     750.0  TYPE=      1  TARGET=     -400.000
          CROSS SECTION E MOVED UPSTREAM
 12339.000      9.68    607.38       .00       .00    607.40       .01       .02       .19    607.10
     510.0       9.4     330.1     170.5      53.9     304.3     591.0      51.7      20.6    605.50
       .67       .17      1.08       .29      .070      .035      .070      .000    597.70    400.00
   .000057       99.       99.       99.         2         0         0       .00    350.00    750.00


*SECNO 21.010
3280 CROSS SECTION     21.01 EXTENDED      1.90 FEET


3470 ENCROACHMENT STATIONS=      289.0     727.0  TYPE=      1  TARGET=     -289.000
    21.010      9.70    607.40       .00       .00    607.41       .01       .01       .00    607.00
     510.0      85.9     276.7     147.4     332.9     306.0     598.9      58.8      23.1    605.60
       .80       .26       .90       .25      .070      .035      .070      .000    597.70    289.00
   .000040      280.      280.      280.         2         0         0       .00    438.00    727.00


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


*SECNO 21.020
3280 CROSS SECTION     21.02 EXTENDED      1.12 FEET


3470 ENCROACHMENT STATIONS=      276.0     704.0  TYPE=      1  TARGET=     -276.000
    21.020      9.22    607.42       .00       .00    607.43       .01       .01       .00    607.30
     510.0      78.2     298.7     133.1     259.3     274.5     479.7      66.0      25.9    606.20
       .90       .30      1.09       .28      .070      .035      .070      .000    598.20    276.00
   .000065      280.      280.      280.         0         0         0       .00    428.00    704.00


*SECNO 21.030

3265 DIVIDED FLOW

3280 CROSS SECTION     21.03 EXTENDED       .43 FEET


3470 ENCROACHMENT STATIONS=      262.0     681.0  TYPE=      1  TARGET=     -262.000
    21.030      8.64    607.44       .00       .00    607.45       .02       .02       .00    607.70
     510.0      67.7     332.9     109.4     192.6     254.3     357.5      71.8      28.6    606.90
       .98       .35      1.31       .31      .070      .035      .070      .000    598.80    262.00
   .000106      280.      280.      280.         0         0         0       .00    401.16    681.00


*SECNO 21.040

3265 DIVIDED FLOW


3470 ENCROACHMENT STATIONS=      248.0     658.0  TYPE=      1  TARGET=     -248.000
    21.040      8.17    607.47       .00       .00    607.50       .03       .04       .01    608.10
     510.0      56.5     367.2      86.4     139.0     227.5     247.9      76.4      31.0    607.50
      1.04       .41      1.61       .35      .070      .035      .070      .000    599.30    248.00
   .000178      280.      280.      280.         0         0         0       .00    360.40    646.46


*SECNO 21.050

3265 DIVIDED FLOW

3280 CROSS SECTION     21.05 EXTENDED       .83 FEET

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


    21.050      7.73    607.53       .00       .00    607.54       .01       .04       .00    608.40
     510.0     207.0     257.1      45.9     565.1     204.8     178.0      81.4      33.9    608.10
      1.14       .37      1.26       .26      .070      .035      .070      .000    599.80       .00
   .000120      280.      280.      280.         2         0         0       .00    532.94    597.63


*SECNO 21.060

3265 DIVIDED FLOW

3280 CROSS SECTION     21.06 EXTENDED       .67 FEET

    21.060      7.27    607.57       .00       .00    607.59       .03       .04       .01    608.80
     510.0     180.2     298.5      31.3     416.4     182.4     111.7      86.7      37.1    608.70
      1.21       .43      1.64       .28      .070      .035      .070      .000    600.30       .00
   .000220      280.      280.      280.         0         0         0       .00    470.79    551.55


*SECNO 21.070

3265 DIVIDED FLOW

3280 CROSS SECTION     21.07 EXTENDED       .64 FEET
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 21.070      6.84    607.64       .00       .00    607.68       .05       .08       .01    609.20
  510.0     147.8     342.2      20.1     296.7     164.3      68.6      90.7      40.0    609.30
   1.26       .50      2.08       .29      .070      .035      .070      .000    600.80       .00
 .000393     280.      280.      280.         2         0         0       .00    424.71    518.76


*SECNO 21.080

3265 DIVIDED FLOW

3280 CROSS SECTION     21.08 EXTENDED       .66 FEET

  21.080      6.46    607.76       .00       .00    607.84       .08       .14       .02    609.50
  510.0     113.8     386.8       9.4     207.0     147.5      33.9      93.7      42.5    609.90
   1.29       .55      2.62       .28      .070      .035      .070      .000    601.30       .00
 .000664     280.      280.      280.         2         0         0       .00    373.87    490.97


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


*SECNO 21.090

3265 DIVIDED FLOW

3280 CROSS SECTION     21.09 EXTENDED       .66 FEET

  21.090      6.06    607.96       .00       .00    608.09       .12       .22       .02    609.90
  510.0      85.8     420.2       3.9     146.9     136.2      14.3      95.9      44.7    610.60
   1.32       .58      3.09       .27      .070      .035      .070      .000    601.90       .00
 .000982     280.      280.      280.         2         0         0       .00    311.88    438.39


*SECNO 15150.000

3265 DIVIDED FLOW

3280 CROSS SECTION  15150.00 EXTENDED       .87 FEET

         CROSS SECTION F
15150.000      5.87    608.27       .00       .00    608.43       .16       .33       .02    610.30
  510.0      73.0     434.6       2.4     115.2     125.4       9.4      97.7      46.6    611.20
   1.35       .63      3.47       .26      .070      .035      .070      .000    602.40       .00
 .001294     291.      291.      291.         2         0         0       .00    255.45    404.05


*SECNO 31.010

3265 DIVIDED FLOW

3280 CROSS SECTION     31.01 EXTENDED       .77 FEET

  31.010      6.07    608.57       .00       .00    608.73       .16       .29       .00    610.40
  510.0      67.5     442.0        .6      89.1     128.0       2.5      98.9      47.9    610.80
   1.37       .76      3.45       .22      .050      .035      .050      .000    602.50       .00
 .001260     230.      230.      230.         2         0         0       .00    222.18    389.82


*SECNO 31.020

3265 DIVIDED FLOW

3280 CROSS SECTION     31.02 EXTENDED       .65 FEET

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

31.020	6.25	608.85	.00	.00	609.01	.17	.28	.00	610.50
510.0	48.1	461.9	.0	71.6	134.6	.2	100.1	49.0	610.40
1.39	.67	3.43	.01	.050	.035	.050	.000	602.60	.00
.001214	230.	230.	230.	1	0	0	.00	187.90	371.43

*SECNO 31.030

3265 DIVIDED FLOW

3280 CROSS SECTION 31.03 EXTENDED .53 FEET

31.030	6.42	609.12	.00	.00	609.31	.18	.28	.01	610.60
510.0	24.6	485.4	.0	45.9	137.8	.0	101.1	49.9	610.00
1.41	.54	3.52	.00	.050	.035	.000	.000	602.70	.00
.001251	230.	230.	230.	1	0	0	.00	169.05	287.97

*SECNO 31.040

3265 DIVIDED FLOW

3280 CROSS SECTION 31.04 EXTENDED .41 FEET

31.040	6.60	609.40	.00	.00	609.59	.18	.28	.00	610.70
510.0	10.7	499.3	.0	26.3	143.5	.0	102.0	50.8	609.60
1.43	.41	3.48	.01	.050	.035	.000	.000	602.80	.00
.001202	230.	230.	230.	0	0	0	.00	151.14	315.45

*SECNO 31.050

3265 DIVIDED FLOW

3280 CROSS SECTION 31.05 EXTENDED .18 FEET

31.050	6.77	609.67	.00	.00	609.85	.18	.27	.00	610.80
510.0	1.5	504.9	3.6	7.0	145.9	8.4	102.9	51.6	609.20
1.45	.21	3.46	.43	.050	.035	.050	.000	602.90	.00
.001123	230.	230.	230.	1	0	0	.00	149.76	321.03

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

*SECNO 31.060

3265 DIVIDED FLOW

3280 CROSS SECTION 31.06 EXTENDED .04 FEET

31.060	6.93	609.93	.00	.00	610.10	.16	.24	.01	610.90
510.0	.1	495.9	14.0	1.0	151.0	20.1	103.8	52.2	608.80
1.47	.10	3.28	.70	.050	.035	.050	.000	603.00	.00
.000947	230.	230.	230.	0	0	0	.00	102.18	324.17

*SECNO 31.070

31.070	6.95	610.15	.00	.00	610.31	.16	.21	.00	611.10
510.0	.0	481.7	28.3	.0	146.4	31.0	104.7	52.7	608.40
1.49	.00	3.29	.91	.000	.035	.050	.000	603.20	251.87
.000922	230.	230.	230.	1	0	0	.00	71.06	322.93

*SECNO 31.080

31.080	7.07	610.37	.00	.00	610.52	.15	.21	.00	611.20
510.0	.0	463.8	46.2	.0	141.8	42.2	105.7	53.1	608.00
1.51	.00	3.27	1.09	.000	.035	.050	.000	603.30	251.63
.000894	230.	230.	230.	0	0	0	.00	70.90	322.52

*SECNO 31.090

```
 31.090      7.19    610.59       .00       .00    610.72       .14       .19       .01    611.30
  510.0        .0     446.3      63.7        .0     142.7      53.2     106.7      53.4    607.60
   1.53       .00      3.13      1.20      .000      .035      .050      .000    603.40    251.38
 .000792     230.      230.      230.         0         0         0       .00     69.40    320.78


*SECNO 17496.000
        CROSS SECTION G
17496.000      7.31    610.81       .00       .00    610.94       .12       .21       .00    611.40
  510.0        .0     423.2      86.8        .0     138.6      65.7     107.9      53.9    607.10
   1.56       .00      3.05      1.32      .000      .035      .050      .000    603.50    251.11
 .000741     276.      276.      276.         0         0         0       .00     68.31    319.42


*SECNO 17595.000
17595.000      6.25    610.85       .00       .00    611.06       .21       .08       .04    616.70
  510.0        .0     510.0        .0        .0     138.1        .0     108.3      54.0    616.80
   1.56       .00      3.69       .00      .000      .030      .000      .000    604.60    250.00
 .000925      99.       99.       99.         2         0         0       .00     28.40    278.40


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


CCHV=     .300 CEHV=     .500
*SECNO 17596.000

3370 NORMAL BRIDGE, NRD=  15 MIN ELTRD=   616.00 MAX ELLC=   614.80

        D/S FACE OF HWY 2 & 41
17596.000      6.25    610.85       .00       .00    611.06       .21       .00       .00    616.70
  510.0        .0     510.0        .0        .0     138.2        .0     108.3      54.0    616.80
   1.56       .00      3.69       .00      .000      .030      .000      .000    604.60    250.00
 .001176       1.        1.        1.         0         0         0       .00     28.40    278.40


*SECNO 17695.000

3370 NORMAL BRIDGE, NRD=  15 MIN ELTRD=   616.00 MAX ELLC=   614.80

        U/S FACE OF HWY 2 & 41
17695.000      6.38    610.98       .00       .00    611.18       .20       .11       .00    616.70
  510.0        .0     510.0        .0        .0     141.8        .0     108.6      54.0    616.80
   1.57       .00      3.60       .00      .000      .030      .000      .000    604.60    250.00
 .001096      99.       99.       99.         2         0         0       .00     28.40    278.40


*SECNO 17696.000
17696.000      6.38    610.98       .00       .00    611.18       .20       .00       .00    616.70
  510.0        .0     510.0        .0        .0     141.8        .0     108.7      54.0    616.80
   1.57       .00      3.60       .00      .000      .035      .000      .000    604.60    250.00
 .001165       1.        1.        1.         0         0         0       .00     28.40    278.40


*SECNO 17795.000
        CROSS SECTION G MOVED UPSTREAM
17795.000      6.60    611.10       .00       .00    611.30       .20       .12       .00    612.40
  510.0        .0     449.2      60.8        .0     118.9      40.4     109.0      54.1    608.10
   1.58       .00      3.78      1.51      .000      .035      .050      .000    604.50    252.49
 .001301      99.       99.       99.         1         0         0       .00     56.29    308.78


*SECNO 18036.000
        D/S FACE OF 1ST AVE.
18036.000      6.81    611.31       .00       .00    611.61       .30       .26       .05    614.20
  510.0        .0     510.0        .0        .0     115.8        .0     109.8      54.4    614.40
   1.60       .00      4.40       .00      .000      .025      .000      .000    604.50    250.00
 .000888     241.      241.      241.         2         0         0       .00     20.00    270.00


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

SPECIAL BRIDGE

SB XK	XKOR	COFQ	RDLEN	BWC	BWP	BAREA	SS	ELCHU	ELCHD
.00	1.97	3.00	.00	20.00	.00	112.50	.00	604.50	604.50

*SECNO 18124.000

6070,LOW FLOW BY NORMAL BRIDGE

EGPRS= .000 EGLWC= 611.611 ELLC= 611.900 PCWSE= 611.309 ELTRD= 614.400

3370 NORMAL BRIDGE, NRD= 19 MIN ELTRD= 614.40 MAX ELLC= 611.90

U/S FACE OF 1ST AVE.

18124.000	6.89	611.39	.00	.00	611.74	.35	.11	.03	614.20
510.0	.0	510.0	.0	.0	106.9	.0	110.0	54.4	614.40
1.60	.00	4.77	.00	.000	.025	.000	.000	604.50	250.00
.001730	88.	88.	88.	2	0	0	-10.49	20.00	270.00

*SECNO 18224.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 1.82

CROSS SECTION G MOVED UPSTREAM

18224.000	7.28	611.78	.00	.00	611.90	.12	.09	.07	612.40
510.0	.0	409.1	100.9	.0	137.5	64.3	110.3	54.5	608.10
1.61	.00	2.97	1.57	.000	.030	.035	.000	604.50	251.18
.000520	100.	100.	100.	2	0	0	.00	67.69	318.88

*SECNO 47.010

47.010	7.10	611.90	.00	.00	612.02	.12	.12	.00	610.00
510.0	17.0	367.2	125.8	16.4	117.7	66.4	111.4	54.9	607.80
1.64	1.04	3.12	1.89	.035	.030	.035	.000	604.80	228.24
.000486	240.	240.	240.	2	0	0	.00	69.48	297.72

*SECNO 18704.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .50

CROSS SECTION H

18704.000	5.91	612.01	.00	.00	612.33	.31	.21	.09	608.50
510.0	38.7	370.4	100.9	25.8	71.9	54.4	112.4	55.2	608.50
1.65	1.50	5.15	1.86	.070	.035	.070	.000	606.10	222.95
.001964	240.	240.	240.	0	0	0	.00	47.97	270.92

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

*SECNO 18954.000

D/S FACE OF 3RD AVE.

18954.000	5.63	612.53	.00	.00	612.81	.29	.48	.01	611.70
510.0	.6	509.3	.0	1.3	118.3	.2	113.2	55.5	612.30
1.67	.50	4.30	.21	.070	.025	.070	.000	606.90	216.94
.001882	250.	250.	250.	3	0	0	.00	52.84	269.77

SPECIAL CULVERT

SC CUNO	CUNV	ENTLC	COFQ	RDLEN	RISE	SPAN	CULVLN	CHRT	SCL	ELCHU	ELCHD
2	.025	.50	2.80	.00	6.00	.00	81.00	1	1	606.90	606.90

CHART 1 - CONCRETE PIPE CULVERT; NO BEVELED RING ENTRANCE
SCALE 1 - SQUARE EDGE ENTRANCE WITH HEADWALL

*SECNO 19035.000

SPECIAL CULVERT INLET CONTROL
EGIC = 614.311 EGOC = 614.278 PCWSE= 612.527 ELTRD= 616.800

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 2.43

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
614.31	614.28	1.50	0.	510.	2.507	56.5	616.80	0.

U/S FACE OF 3RD AVE.

19035.000	7.32	614.22	.00	.00	614.31	.10	1.50	.00	611.70
510.0	5.1	499.7	5.2	11.7	199.3	14.3	113.5	55.6	612.30
1.68	.43	2.51	.37	.070	.025	.070	.000	606.90	210.68
.000318	81.	81.	81.	2	0	0	.00	72.26	282.95

*SECNO 19135.000

3265 DIVIDED FLOW

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .70

CROSS SECTION H MOVED UPSTREAM

19135.000	7.25	614.25	.00	.00	614.37	.12	.04	.01	609.40
510.0	72.8	306.9	130.3	73.8	89.1	99.2	114.1	55.9	609.40
1.69	.99	3.44	1.31	.060	.035	.060	.000	607.00	172.37
.000658	100.	100.	100.	2	0	0	.00	179.16	431.14

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

*SECNO 52.010

3265 DIVIDED FLOW

52.010	6.80	614.50	.00	.00	614.65	.15	.26	.02	610.10
510.0	64.8	327.2	117.9	61.3	87.1	81.6	116.1	57.3	610.10
1.72	1.06	3.76	1.45	.060	.035	.060	.000	607.70	174.27
.000822	360.	360.	360.	2	0	0	.00	152.16	425.77

*SECNO 52.020

3265 DIVIDED FLOW

52.020	6.42	614.82	.00	.00	615.01	.19	.35	.02	610.90
510.0	66.1	326.8	117.0	56.2	77.2	73.0	117.9	58.5	610.90
1.75	1.18	4.23	1.60	.060	.035	.060	.000	608.40	176.31
.001143	360.	360.	360.	2	0	0	.00	154.76	427.20

*SECNO 52.030

3265 DIVIDED FLOW

52.030	6.04	615.24	.00	.00	615.45	.21	.43	.01	611.60
510.0	61.7	340.8	107.5	53.4	78.2	69.9	119.6	59.8	611.60
1.78	1.15	4.36	1.54	.060	.035	.060	.000	609.20	173.66
.001250	360.	360.	360.	2	0	0	.00	163.92	429.98

*SECNO 52.040

3265 DIVIDED FLOW

52.040	5.81	615.71	.00	.00	615.92	.21	.47	.00	612.40
510.0	64.9	343.7	101.4	56.7	78.3	75.1	121.3	61.4	612.40
1.81	1.14	4.39	1.35	.060	.035	.060	.000	609.90	166.77
.001352	360.	360.	360.	2	0	0	.00	224.46	441.79

*SECNO 52.050

1

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

3265 DIVIDED FLOW

52.050	5.62	616.22	.00	.00	616.43	.21	.50	.00	613.10
510.0	69.8	337.4	102.8	62.9	76.6	89.5	123.1	63.5	613.10
1.84	1.11	4.41	1.15	.060	.035	.060	.000	610.60	162.76
.001449	360.	360.	360.	2	0	0	.00	275.49	455.71

*SECNO 52.060

3280 CROSS SECTION 52.06 EXTENDED .17 FEET

52.060	5.47	616.77	.00	.00	616.93	.16	.50	.01	613.80
510.0	81.7	307.3	121.0	79.2	74.5	135.0	125.3	66.1	613.80
1.88	1.03	4.12	.90	.060	.035	.060	.000	611.30	155.69
.001308	360.	360.	360.	2	0	0	.00	344.31	500.00

*SECNO 52.070

3265 DIVIDED FLOW

3280 CROSS SECTION 52.07 EXTENDED .37 FEET

52.070	5.26	617.26	.00	.00	617.40	.14	.46	.01	614.60
510.0	89.3	289.5	131.2	93.3	74.4	160.9	127.8	69.1	614.60
1.92	.96	3.89	.82	.060	.035	.060	.000	612.00	100.07
.001231	360.	360.	360.	0	0	0	.00	392.82	500.00

*SECNO 52.080

3280 CROSS SECTION 52.08 EXTENDED .55 FEET

3470 ENCROACHMENT STATIONS= 209.0 373.0 TYPE= 1 TARGET= 164.000

52.080	4.95	617.75	.00	.00	617.96	.21	.53	.04	615.30
510.0	73.5	321.2	115.3	52.0	70.8	100.8	130.1	71.4	615.30
1.95	1.41	4.53	1.14	.060	.035	.060	.000	612.80	209.00
.001779	360.	360.	360.	2	0	0	.00	164.00	373.00

*SECNO 52.090

1

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

3280 CROSS SECTION 52.09 EXTENDED .69 FEET

3470 ENCROACHMENT STATIONS= 217.0 500.0 TYPE= 1 TARGET= -217.000

52.090	4.89	618.39	.00	.00	618.48	.09	.48	.04	616.10
510.0	64.0	238.1	207.9	54.8	70.2	243.7	132.5	73.3	616.10
1.99	1.17	3.39	.85	.060	.035	.060	.000	613.50	217.00
.001040	360.	360.	360.	2	0	0	.00	283.00	500.00

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*SECNO 52.100
3280 CROSS SECTION     52.10 EXTENDED       .48 FEET


3470 ENCROACHMENT STATIONS=      227.0     473.0  TYPE=      1  TARGET=      246.000
    52.100      4.59    618.79       .00       .00    618.89       .10       .41       .01    616.80
     510.0      54.6     243.4     212.1      42.9      68.6     226.1     135.4      75.5    616.80
      2.04      1.27      3.55       .94      .060      .035      .060      .000    614.20    227.00
   .001228      360.      360.      360.         2         0         0       .00    246.00    473.00


*SECNO 22784.000
3280 CROSS SECTION  22784.00 EXTENDED      1.11 FEET


3470 ENCROACHMENT STATIONS=      147.0     368.0  TYPE=      1  TARGET=      221.000
          CROSS SECTION I
 22784.000      4.61    618.91       .00       .00    618.96       .06       .06       .01    616.90
     510.0     179.5     187.2     143.3     138.6      68.8     122.1     135.8      75.7    616.90
      2.05      1.30      2.72      1.17      .050      .045      .050      .000    614.30    147.00
   .001191       49.       49.       49.         2         0         0       .00    221.00    368.00


CCHV=     .500 CEHV=    1.000
*SECNO 23084.000
3280 CROSS SECTION  23084.00 EXTENDED       .61 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .54


3470 ENCROACHMENT STATIONS=      229.0     300.0  TYPE=      1  TARGET=       71.000
          CROSS SECTION I MOVED UPSTREAM
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


 23084.000      4.41    619.51       .00       .00    619.78       .27       .61       .21    617.70
     510.0      94.5     321.9      93.7      36.1      65.4      41.8     137.5      76.7    617.70
      2.07      2.62      4.92      2.24      .050      .045      .050      .000    615.10    229.00
   .004152      300.      300.      300.         2         0         0       .00     71.00    300.00


*SECNO 23184.000

3470 ENCROACHMENT STATIONS=      232.0     253.0  TYPE=      1  TARGET=       21.000
          D/S FACE OF 30TH AVE.
 23184.000      4.65    620.05       .00       .00    620.57       .52       .54       .25 100000.00
     510.0        .0     510.0        .0        .0      88.0        .0     137.7      76.8 100000.00
      2.07       .00      5.79       .00      .000      .045      .000      .000    615.40    232.00
   .007169      100.      100.      100.         2         0         0       .00     21.00    253.00


SPECIAL CULVERT

SC  CUNO      CUNV      ENTLC     COFQ      RDLEN     RISE      SPAN      CULVLN    CHRT      SCL       ELCHU     ELCHD
     2         .D3D      .50      3.00       .00      5.50       .00     107.00     2         1        615.40    615.40

CHART  2 - CORRUGATED METAL PIPE CULVERT
SCALE  1 - HEADWALL

*SECNO 23291.000
5155, 20 TRIALS OF QWEIR NOT ENOUGH; POSSIBLY INVALID
FINAL QWEIR + QCULV =      1398. DOES NOT EQUAL ACTUAL Q =       510.


SPECIAL CULVERT OUTLET CONTROL + WEIR FLOW EG =    621.81
3280 CROSS SECTION  23291.00 EXTENDED      1.43 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.55
```

SPECIAL CULVERT

EGIC	EGOC	H4	QWEIR	QCULV	VCH	ACULV	ELTRD	WEIRLN
623.56	624.59	1.24	1075.	323.	4.281	47.5	621.90	421.

3470 ENCROACHMENT STATIONS= 232.0 253.0 TYPE= 1 TARGET= 21.000
U/S FACE OF 30TH AVE.

23291.000	6.13	621.53	.00	.00	621.81	.28	1.24	.00	100000.00
510.0	.0	510.0	.0	.0	119.1	.0	138.0	76.9	100000.00
2.08	.00	4.28	.00	.000	.045	.000	.000	615.40	232.00
.002970	107.	107.	107.	2	0	0	.00	21.00	253.00

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

*SECNO 23391.000
3280 CROSS SECTION 23391.00 EXTENDED .57 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = 4.88

3470 ENCROACHMENT STATIONS= 139.0 322.0 TYPE= 1 TARGET= 183.000
CROSS SECTION J MOVED DOWNSTREAM

23391.000	6.17	621.97	.00	.00	621.98	.01	.03	.14	618.50
510.0	256.9	180.6	72.5	358.1	169.7	113.7	138.8	77.1	619.00
2.11	.72	1.06	.64	.050	.045	.050	.000	615.80	139.00
.000125	100.	100.	100.	2	0	0	.00	183.00	322.00

CCHV= .300 CEHV= .500
*SECNO 23580.000

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .47

3470 ENCROACHMENT STATIONS= 195.0 284.0 TYPE= 1 TARGET= 89.000
CROSS SECTION J

23580.000	5.19	621.99	.00	.00	622.05	.07	.04	.03	619.50
510.0	182.5	327.5	.0	140.1	136.2	.0	140.8	77.7	100000.00
2.14	1.30	2.40	.00	.050	.035	.000	.000	616.80	195.00
.000556	189.	189.	189.	2	0	0	.00	89.00	284.00

*SECNO 23880.000

3265 DIVIDED FLOW

3280 CROSS SECTION 23880.00 EXTENDED 1.13 FEET

3302 WARNING: CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE, KRATIO = .49

3470 ENCROACHMENT STATIONS= 200.0 325.0 TYPE= 1 TARGET= 125.000
CROSS SECTION K

23880.000	4.43	622.23	.00	.00	622.41	.18	.30	.06	620.00
510.0	134.2	317.1	58.6	66.9	76.8	44.3	142.4	78.4	621.30
2.16	2.01	4.13	1.32	.050	.035	.050	.000	617.80	200.00
.002309	300.	300.	300.	2	0	0	.00	116.88	325.00

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	L-BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	R-BANK ELEV
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA

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  SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID    ENDST

*SECNO 69.010
3280 CROSS SECTION     69.01 EXTENDED      1.57 FEET

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.27

3470 ENCROACHMENT STATIONS=      203.0     483.0  TYPE=      1  TARGET=     -203.000
    69.010      4.37    622.87       .00       .00    622.89       .02       .43       .05    620.70
     510.0      63.7     124.0     322.3      69.7      65.1     361.8     146.4      80.7    621.50
      2.29       .91      1.90       .89      .050      .035      .050      .000    618.50    205.32
   .000450      500.      500.      500.         2         0         0       .00    277.68    483.00

*SECNO 69.020
3280 CROSS SECTION     69.02 EXTENDED      1.73 FEET

3470 ENCROACHMENT STATIONS=      200.0     466.0  TYPE=      1  TARGET=     -200.000
    69.020      4.04    623.14       .00       .00    623.17       .03       .27       .00    621.30
     510.0      56.9      99.5     353.6      59.0      46.3     338.1     151.8      83.8    621.70
      2.40       .96      2.15      1.05      .050      .035      .050      .000    619.10    200.00
   .000652      500.      500.      500.         2         0         0       .00    266.00    466.00

*SECNO 25360.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .30

3470 ENCROACHMENT STATIONS=      211.0     277.0  TYPE=      1  TARGET=       66.000
          CROSS SECTION L
 25360.000      3.81    623.71       .00       .00    624.08       .37       .74       .17    622.10
     510.0     121.8     179.0     209.2      39.4      26.6      56.3     154.9      85.6    622.00
      2.43      3.09      6.73      3.71      .050      .035      .050      .000    619.90    211.00
   .007244      480.      480.      480.         3         0         0       .00     66.00    277.00

*SECNO 25460.000
          D/S FACE OF DIRT ROAD
 25460.000      4.91    624.21       .00       .00    624.49       .28       .39       .03    625.80
     280.0        .0     280.0        .0        .0      66.0        .0     155.1      85.7    626.00
      2.43       .00      4.25       .00      .000      .025      .000      .000    619.30    303.47
   .001757      100.      100.      100.         2         0         0       .00     21.75    325.22

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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN     SSTA
    SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IOC       ICONT     CORAR     TOPWIO    ENOST

SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
      .00      3.87      2.80       .00     13.00       .00     37.70       .00    619.30    619.30

*SECNO 25591.000

3265 DIVIDED FLOW

3280 CROSS SECTION  25591.00 EXTENDED       .18 FEET

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.38

PRESSURE AND WEIR FLOW,  Weir Submergence Based on TRAPEZOIDAL Shape

 EGPRS     EGLWC     H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD     WEIRLN
                                                                AREA
   627.53    624.51       .00       41.      241.       38.       52.     623.30    626.70      224.
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          U/S FACE OF R.R. TRACK
 25591.000      7.28    626.58       .00       .00    626.66       .08      2.17       .00    626.60
     280.0       2.0     278.0        .0      18.3     119.9        .0     155.4      86.0    626.80
      2.45       .11      2.32       .00      .070      .025      .000      .000    619.30       .00
   .000311      131.      131.      131.         2         0         6       .00    157.07    327.71


*SECNO 25625.000

3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  2.01


3470 ENCROACHMENT STATIONS=      310.0     525.0  TYPE=      1  TARGET=      215.000
          CROSS SECTION M
 25625.000      5.89    626.69       .00       .00    626.69       .00       .00       .02    623.20
     280.0     121.2      48.7     110.1     338.2      61.5     312.7     155.7      86.1    622.80
      2.47       .36       .79       .35      .080      .045      .080      .000    620.80    310.00
   .000077       34.       34.       34.         2         0         0       .00    215.00    525.00


*SECNO 25880.000
1
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    SECNO      DEPTH      CWSEL      CRIWS      WSELK      EG         HV         HL         OLOSS      L-BANK ELEV
    Q          QLOB       QCH        QROB       ALOB       ACH        AROB       VOL        TWA        R-BANK ELEV
    TIME       VLOB       VCH        VROB       XNL        XNCH       XNR        WTN        ELMIN      SSTA
    SLOPE      XLOBL      XLCH       XLOBR      ITRIAL     IDC        ICONT      CORAR      TOPWID     ENDST


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .54

          D/S FACE OF R.R. TRACK
 25880.000      5.89    626.69       .00       .00    626.76       .07       .03       .03    625.40
     280.0       5.7     270.5       3.8      24.9     123.1      15.4     158.3      87.0    625.20
      2.50       .23      2.20       .25      .080      .025      .080      .000    620.80    281.34
   .000269      255.      255.      255.         2         0         0       .00     89.33    370.67


SPECIAL BRIDGE

SB  XK        XKOR      COFQ      RDLEN     BWC       BWP       BAREA     SS        ELCHU     ELCHD
     .00       5.30      2.80       .00     12.00       .00     14.14       .00    620.80    620.80

*SECNO 26023.000
3280 CROSS SECTION  26023.00 EXTENDED      2.92 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.41

PRESSURE AND WEIR FLOW,  Weir Submergence Based on TRAPEZOIDAL Shape


 EGPRS      EGLWC      H3        QWEIR     QPR       BAREA     TRAPEZOID     ELLC      ELTRD     WEIRLN
                                                                  AREA
    658.96    626.76       .00      244.       36.       14.       36.      623.80    626.90      562.


          U/S FACE OF ABANDON ROAD
 26023.000      6.42    627.22       .00       .00    627.22       .00       .46       .00    625.40
     280.0     123.4      97.4      59.2     766.1     139.2     430.5     160.8      88.1    625.20
      2.62       .16       .70       .14      .080      .025      .080      .000    620.80       .00
   .000023      143.      143.      143.         0         0         9       .00    575.00    575.00


*SECNO 26123.000
3280 CROSS SECTION  26123.00 EXTENDED      .03 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.57


3470 ENCROACHMENT STATIONS=         .0     575.0  TYPE=      1  TARGET=      574.999
1
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          CROSS SECTION M MOVED UPSTREAM
 26123.000      6.43    627.23       .00       .00    627.23       .00       .00       .00    623.20
     280.0     191.0      26.2      62.8    1403.6      68.6     488.4     164.5      89.4    622.80
      2.80       .14       .38       .13      .080      .035      .080      .000    620.80       .00
   .000009      100.      100.      100.         1         0         0       .00    575.00    575.00


*SECNO 26642.000
3280 CROSS SECTION  26642.00 EXTENDED      3.43 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  1.54

          CROSS SECTION N
 26642.000      5.83    627.23       .00       .00    627.23       .00       .00       .00    623.80
     280.0     106.6      29.6     143.8     819.9     124.6    1019.6     187.9      96.1    623.30
      3.78       .13       .24       .14      .050      .035      .050      .000    621.40       .00
   .000004      519.      519.      519.         0         0         0       .00    550.00    550.00


*SECNO 27085.000
3280 CROSS SECTION  27085.00 EXTENDED      1.73 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =   .35

          CROSS SECTION O
 27085.000      5.43    627.23       .00       .00    627.23       .00       .00       .00    625.70
     280.0      88.9      38.3     152.8     394.7      66.4     561.4     203.1     101.7    624.90
      4.19       .23       .58       .27      .050      .035      .050      .000    621.80       .00
   .000032      443.      443.      443.         0         0         0       .00    550.00    550.00


*SECNO 27182.000
3280 CROSS SECTION  27182.00 EXTENDED       .83 FEET


3470 ENCROACHMENT STATIONS=         .0     575.0  TYPE=      1  TARGET=      574.999
 27182.000      6.04    627.24       .00       .00    627.24       .00       .00       .00    625.00
     280.0     129.0      78.0      72.9     427.1      87.2     290.0     205.1     103.0    625.10
      4.25       .30       .89       .25      .050      .030      .050      .000    621.20       .00
   .000061       97.       97.       97.         0         0         0       .00    575.00    575.00


CCHV=     .300 CEHV=     .500
*SECNO 27183.000
3280 CROSS SECTION  27183.00 EXTENDED       .84 FEET

1
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    SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS     L-BANK ELEV
    Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA       R-BANK ELEV
    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=   625.60 MAX ELLC=   625.10


3470 ENCROACHMENT STATIONS=         .0     575.0  TYPE=      1  TARGET=      574.999
          D/S FACE OF DANFORTH ROAD
 27183.000      6.04    627.24       .00       .00    627.24       .00       .00       .00    625.00
     280.0     165.5      23.8      90.7     414.5      38.0     278.3     205.2     103.0    625.10
      4.25       .40       .63       .33      .050      .030      .050      .000    621.20       .00
   .000111        1.        1.        1.         0         0         0    -74.20    575.00    575.00


*SECNO 27233.000
3280 CROSS SECTION  27233.00 EXTENDED      1.64 FEET


3370 NORMAL BRIDGE, NRD=  19 MIN ELTRD=   625.60 MAX ELLC=   625.10

          U/S FACE OF DANFORTH ROAD
 27233.000      6.04    627.24       .00       .00    627.25       .00       .01       .00    625.00
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*    280.0     161.8      23.2      94.9     416.4      38.2     301.7     206.0     103.7    625.10
      4.28       .39       .61       .31      .050      .030      .050      .000    621.20       .00
   .000105       50.       50.       50.         0         0         0    -74.20    600.00    600.00


*SECNO 27234.000
3280 CROSS SECTION  27234.00 EXTENDED      1.64 FEET

 27234.000      6.04    627.24       .00       .00    627.25       .00       .00       .00    625.00
     280.0     132.2      68.1      79.6     429.7      87.5     314.1     206.0     103.7    625.10
      4.29       .31       .78       .25      .050      .035      .050      .000    621.20       .00
   .000063        1.        1.        1.         0         0         0       .00    600.00    600.00


*SECNO 27333.000
3280 CROSS SECTION  27333.00 EXTENDED      3.65 FEET


3302 WARNING:  CONVEYANCE CHANGE OUTSIDE OF ACCEPTABLE RANGE,  KRATIO =  3.51

          CROSS SECTION P
 27333.000      5.35    627.25       .00       .00    627.25       .00       .00       .00    624.50
     280.0     130.8      16.8     132.5     840.7      68.5     870.3     209.0     104.9    624.00
      4.46       .16       .24       .15      .050      .035      .050      .000    621.90       .00
   .000005       99.       99.       99.         0         0         0       .00    500.00    500.00


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                                                                    THIS RUN EXECUTED 26OCT94    13:22:13
************************************
 HEC-2 WATER SURFACE PROFILES

 Version   4.6.2;  May 1991
************************************


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


100-YEAR FLOW

SUMMARY PRINTOUT TABLE  150

      SECNO      XLCH      ELTRD      ELLC      ELMIN       Q       CWSEL     CRIWS      EG       10*KS     VCH      AREA      .01K

    5565.000       .00        .00       .00     583.90  580.00    588.95       .00    589.07      9.47     2.85    203.26    188.50
    5565.000       .00        .00       .00     583.90  960.00    590.27       .00    590.44      9.46     3.28    293.58    312.07

    5625.000     60.00        .00       .00     583.90  580.00    588.88       .00    589.29     17.34     5.12    114.90    139.28
*   5625.000     60.00        .00       .00     583.90  960.00    590.09       .00    590.78     21.36     6.67    146.25    207.72

*   6365.000    740.00     595.00    590.70     583.90  580.00    593.25       .00    593.36      1.77     2.59    228.48    435.43
*   6365.000    740.00     595.00    590.70     583.90  960.00    595.22       .00    595.41      2.48     3.50    279.68    609.25

    6380.000     15.00        .00       .00     584.80  580.00    593.34       .00    593.38      1.94     1.99    562.73    416.28
*   6380.000     15.00        .00       .00     584.80  960.00    595.45       .00    595.47       .66     1.37   1518.80   1177.89

       2.010    305.00        .00       .00     585.10  580.00    593.40       .00    593.45      2.52     2.22    415.57    365.15
       2.010    305.00        .00       .00     585.10  960.00    595.48       .00    595.49       .99     1.63   1256.87    965.76

    6845.000    305.00        .00       .00     585.40  580.00    593.48       .00    593.53      2.31     2.09    435.19    381.33
    6845.000    305.00        .00       .00     585.40  960.00    595.51       .00    595.53      1.22     1.78   1085.25    869.68

*      3.010    355.00        .00       .00     586.60  580.00    593.57       .00    593.69      5.85     2.94    268.67    239.81
*      3.010    355.00        .00       .00     586.60  960.00    595.55       .00    595.62      2.88     2.54    627.24    566.03

*      3.020    355.00        .00       .00     587.80  580.00    593.82       .00    594.04     13.41     3.75    155.64    158.39
*      3.020    355.00        .00       .00     587.80  960.00    595.66       .00    595.80      6.65     3.39    433.11    372.39

    7910.000    355.00        .00       .00     589.00  580.00    594.38       .00    594.67     21.29     4.31    134.71    125.71
*   7910.000    355.00        .00       .00     589.00  960.00    595.93       .00    596.24     16.96     4.57    261.29    233.10

*   8500.000    590.00        .00       .00     591.00  290.00    595.65       .00    595.88     18.68     3.91     81.03     67.10
*   8500.000    590.00        .00       .00     591.00  510.00    597.00       .00    597.27     17.89     4.52    144.98    120.57
```

8.010	360.00	.00	.00	591.60	290.00	596.31	.00	596.53	16.98	3.75	81.39	70.37
8.010	360.00	.00	.00	591.60	510.00	597.64	.00	597.94	18.37	4.58	141.58	118.98

1

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
8.020	360.00	.00	.00	592.20	290.00	596.92	.00	597.11	14.93	3.48	84.55	75.04
8.020	360.00	.00	.00	592.20	510.00	598.29	.00	598.56	15.41	4.24	147.28	129.93
8.030	360.00	.00	.00	592.90	290.00	597.48	.00	597.67	15.86	3.44	84.32	72.82
8.030	360.00	.00	.00	592.90	510.00	598.85	.00	599.11	15.17	4.12	143.63	130.93
8.040	360.00	.00	.00	593.50	290.00	598.05	.00	598.22	14.50	3.28	88.54	76.17
8.040	360.00	.00	.00	593.50	510.00	599.40	.00	599.64	14.20	3.95	137.96	135.33
8.050	360.00	.00	.00	594.10	290.00	598.58	.00	598.75	14.99	3.29	88.14	74.90
8.050	360.00	.00	.00	594.10	510.00	599.93	.00	600.17	14.99	3.95	130.92	131.74
8.060	360.00	.00	.00	594.70	290.00	599.13	.00	599.31	15.99	3.35	86.53	72.51
8.060	360.00	.00	.00	594.70	510.00	600.48	.00	600.73	16.16	3.98	127.98	126.89
8.070	360.00	.00	.00	595.30	290.00	599.71	.00	599.88	15.32	3.26	88.93	74.09
8.070	360.00	.00	.00	595.30	510.00	601.06	.00	601.29	15.00	3.85	132.45	131.69
8.080	360.00	.00	.00	596.00	290.00	600.30	.00	600.47	17.73	3.40	85.41	68.87
8.080	360.00	.00	.00	596.00	510.00	601.62	.00	601.87	16.56	3.96	128.67	125.33
8.090	360.00	.00	.00	596.60	290.00	600.93	.00	601.09	16.51	3.25	89.13	71.37
8.090	360.00	.00	.00	596.60	510.00	602.23	.00	602.45	15.62	3.82	133.47	129.02
12102.000	362.00	.00	.00	597.20	290.00	601.53	.00	601.68	15.89	3.18	91.20	72.76
12102.000	362.00	.00	.00	597.20	510.00	602.79	.00	603.01	15.10	3.75	135.84	131.23
* 12201.000	99.00	.00	.00	598.40	290.00	601.89	.00	603.18	167.97	9.09	31.92	22.38
* 12201.000	99.00	.00	.00	598.40	510.00	603.16	.00	605.19	209.48	11.43	44.61	35.24
12202.000	1.00	607.70	606.90	598.40	290.00	601.91	.00	603.28	190.88	9.39	30.90	20.99
12202.000	1.00	607.70	606.90	598.40	510.00	603.19	602.96	605.55	279.14	12.33	41.37	30.53
* 12239.000	37.00	607.70	606.90	598.40	290.00	603.33	.00	604.05	84.81	6.83	42.44	31.49
12239.000	37.00	607.70	606.90	598.40	510.00	605.34	.00	606.90	240.61	10.03	50.83	32.88
12240.000	1.00	.00	.00	598.40	290.00	603.56	.00	604.11	54.05	5.97	48.59	39.45
* 12240.000	1.00	.00	.00	598.40	510.00	606.52	.00	607.18	49.71	6.52	78.17	72.33
* 12339.000	99.00	.00	.00	597.70	290.00	604.29	.00	604.33	2.41	1.67	173.26	186.83
* 12339.000	99.00	.00	.00	597.70	510.00	607.38	.00	607.40	.57	1.08	949.26	673.83
21.010	280.00	.00	.00	597.70	290.00	604.35	.00	604.40	2.36	1.65	187.54	188.61
21.010	280.00	.00	.00	597.70	510.00	607.40	.00	607.41	.40	.90	1237.80	804.87
21.020	280.00	.00	.00	598.20	290.00	604.43	.00	604.48	3.59	1.93	151.12	153.07
21.020	280.00	.00	.00	598.20	510.00	607.42	.00	607.43	.65	1.09	1013.43	631.53
21.030	280.00	.00	.00	598.80	290.00	604.54	.00	604.61	4.99	2.15	135.16	129.78
21.030	280.00	.00	.00	598.80	510.00	607.44	.00	607.45	1.06	1.31	804.40	494.89

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SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
21.040	280.00	.00	.00	599.30	290.00	604.69	.00	604.79	7.13	2.44	119.01	108.61
21.040	280.00	.00	.00	599.30	510.00	607.47	.00	607.50	1.78	1.61	614.43	381.93
21.050	280.00	.00	.00	599.80	290.00	604.91	.00	605.03	9.84	2.75	110.39	92.45
21.050	280.00	.00	.00	599.80	510.00	607.53	.00	607.54	1.20	1.26	947.89	465.53
21.060	280.00	.00	.00	600.30	290.00	605.21	.00	605.35	12.11	2.99	96.89	83.32
21.060	280.00	.00	.00	600.30	510.00	607.57	.00	607.59	2.20	1.64	710.50	343.88
21.070	280.00	.00	.00	600.80	290.00	605.57	.00	605.72	14.15	3.18	91.32	77.09
21.070	280.00	.00	.00	600.80	510.00	607.64	.00	607.68	3.93	2.08	529.59	257.19
21.080	280.00	.00	.00	601.30	290.00	605.97	.00	606.14	15.10	3.29	88.10	74.63

21.080	280.00	.00	.00	601.30	510.00	607.76	.00	607.84	6.64	2.62	388.33	197.94
21.090	280.00	.00	.00	601.90	290.00	606.41	.00	606.58	16.55	3.39	85.42	71.29
21.090	280.00	.00	.00	601.90	510.00	607.96	.00	608.09	9.82	3.09	297.35	162.75
15150.000	291.00	.00	.00	602.40	290.00	606.90	.00	607.09	17.87	3.51	82.56	68.59
15150.000	291.00	.00	.00	602.40	510.00	608.27	.00	608.43	12.94	3.47	249.93	141.78
31.010	230.00	.00	.00	602.50	290.00	607.30	.00	607.47	14.80	3.29	88.14	75.38
31.010	230.00	.00	.00	602.50	510.00	608.57	.00	608.73	12.60	3.45	219.55	143.67
31.020	230.00	.00	.00	602.60	290.00	607.64	.00	607.79	12.19	3.04	95.25	83.06
31.020	230.00	.00	.00	602.60	510.00	608.85	.00	609.01	12.14	3.43	206.42	146.38
31.030	230.00	.00	.00	602.70	290.00	607.92	.00	608.06	11.06	2.95	98.47	87.18
31.030	230.00	.00	.00	602.70	510.00	609.12	.00	609.31	12.51	3.52	183.62	144.20
31.040	230.00	.00	.00	602.80	290.00	608.18	.00	608.30	10.11	2.83	102.51	91.19
31.040	230.00	.00	.00	602.80	510.00	609.40	.00	609.59	12.02	3.48	169.83	147.10
31.050	230.00	.00	.00	602.90	290.00	608.41	.00	608.53	9.66	2.79	103.98	93.29
31.050	230.00	.00	.00	602.90	510.00	609.67	.00	609.85	11.23	3.46	161.19	152.20
31.060	230.00	.00	.00	603.00	290.00	608.63	.00	608.75	8.82	2.68	108.05	97.62
31.060	230.00	.00	.00	603.00	510.00	609.93	.00	610.10	9.47	3.28	172.20	165.71
31.070	230.00	.00	.00	603.20	290.00	608.83	.00	608.95	8.81	2.74	107.36	97.70
31.070	230.00	.00	.00	603.20	510.00	610.15	.00	610.31	9.22	3.29	177.34	167.95
31.080	230.00	.00	.00	603.30	290.00	609.04	.00	609.15	8.71	2.77	110.67	98.24
31.080	230.00	.00	.00	603.30	510.00	610.37	.00	610.52	8.94	3.27	184.01	170.58
31.090	230.00	.00	.00	603.40	290.00	609.24	.00	609.35	7.74	2.67	119.45	104.22
31.090	230.00	.00	.00	603.40	510.00	610.59	.00	610.72	7.92	3.13	195.93	181.19
17496.000	276.00	.00	.00	603.50	290.00	609.45	.00	609.55	7.19	2.62	126.74	108.15
17496.000	276.00	.00	.00	603.50	510.00	610.81	.00	610.94	7.41	3.05	204.31	187.41

SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
17595.000	99.00	.00	.00	604.60	290.00	609.51	.00	609.64	7.84	2.89	100.34	103.58
17595.000	99.00	.00	.00	604.60	510.00	610.85	.00	611.06	9.25	3.69	138.14	167.68
17596.000	1.00	616.00	614.80	604.60	290.00	609.51	.00	609.64	9.31	2.90	100.15	95.05
17596.000	1.00	616.00	614.80	604.60	510.00	610.85	.00	611.06	11.76	3.69	138.16	148.75
17695.000	99.00	616.00	614.80	604.60	290.00	609.61	.00	609.73	8.66	2.82	102.73	98.53
17695.000	99.00	616.00	614.80	604.60	510.00	610.98	.00	611.18	10.96	3.60	141.75	154.04
17696.000	1.00	.00	.00	604.60	290.00	609.61	.00	609.74	9.87	2.82	102.94	92.31
17696.000	1.00	.00	.00	604.60	510.00	610.98	.00	611.18	11.65	3.60	141.79	149.39
17795.000	99.00	.00	.00	604.50	290.00	609.71	.00	609.87	14.04	3.33	95.09	77.40
17795.000	99.00	.00	.00	604.50	510.00	611.10	.00	611.30	13.01	3.78	159.27	141.42
* 18036.000	241.00	.00	.00	604.50	290.00	609.92	.00	610.09	6.28	3.29	88.02	115.77
18036.000	241.00	.00	.00	604.50	510.00	611.31	.00	611.61	8.88	4.40	115.79	171.17
18124.000	88.00	614.40	611.90	604.50	290.00	609.98	.00	610.16	8.29	3.31	87.51	100.72
18124.000	88.00	614.40	611.90	604.50	510.00	611.39	.00	611.74	17.30	4.77	106.89	122.61
18224.000	100.00	.00	.00	604.50	290.00	610.13	.00	610.25	6.86	2.87	111.98	110.71
* 18224.000	100.00	.00	.00	604.50	510.00	611.78	.00	611.90	5.20	2.97	201.80	223.76
47.010	240.00	.00	.00	604.80	290.00	610.29	.00	610.41	6.50	2.89	114.35	113.70
47.010	240.00	.00	.00	604.80	510.00	611.90	.00	612.02	4.86	3.12	200.48	231.27
* 18704.000	240.00	.00	.00	606.10	290.00	610.48	.00	610.76	24.31	4.61	86.83	58.82
* 18704.000	240.00	.00	.00	606.10	510.00	612.01	.00	612.33	19.64	5.15	152.06	115.07
18954.000	250.00	.00	.00	606.90	290.00	611.22	.00	611.58	41.27	4.78	60.69	45.14
18954.000	250.00	.00	.00	606.90	510.00	612.53	.00	612.81	18.82	4.30	119.78	117.55
* 19035.000	81.00	616.80	612.90	606.90	290.00	612.48	.00	612.58	6.46	2.49	117.53	114.14
* 19035.000	81.00	616.80	612.90	606.90	510.00	614.22	.00	614.31	3.18	2.51	225.35	285.77

	19135.000	100.00	.00	.00	607.00	290.00	612.55	.00	612.66	7.84	3.11	134.60	103.60
*	19135.000	100.00	.00	.00	607.00	510.00	614.25	.00	614.37	6.58	3.44	262.06	198.77
	52.010	360.00	.00	.00	607.70	290.00	612.85	.00	612.99	10.19	3.41	120.58	90.85
	52.010	360.00	.00	.00	607.70	510.00	614.50	.00	614.65	8.22	3.76	230.00	177.85
	52.020	360.00	.00	.00	608.40	290.00	613.26	.00	613.45	14.57	3.90	105.98	75.97
	52.020	360.00	.00	.00	608.40	510.00	614.82	.00	615.01	11.43	4.23	206.45	150.82
	52.030	360.00	.00	.00	609.20	290.00	613.80	.00	614.00	15.47	3.97	102.47	73.73
	52.030	360.00	.00	.00	609.20	510.00	615.24	.00	615.45	12.50	4.36	201.56	144.22
	52.040	360.00	.00	.00	609.90	290.00	614.38	.00	614.59	16.90	4.03	100.12	70.55
	52.040	360.00	.00	.00	609.90	510.00	615.71	.00	615.92	13.52	4.39	210.10	138.69

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
	52.050	360.00	.00	.00	610.60	290.00	615.00	.00	615.22	17.99	4.10	98.53	68.37
	52.050	360.00	.00	.00	610.60	510.00	616.22	.00	616.43	14.49	4.41	228.96	133.98
	52.060	360.00	.00	.00	611.30	290.00	615.65	.00	615.88	18.48	4.14	99.36	67.45
	52.060	360.00	.00	.00	611.30	510.00	616.77	.00	616.93	13.08	4.12	288.72	141.02
	52.070	360.00	.00	.00	612.00	290.00	616.32	.00	616.54	18.12	4.05	103.60	68.13
	52.070	360.00	.00	.00	612.00	510.00	617.26	.00	617.40	12.31	3.89	328.66	145.37
	52.080	360.00	.00	.00	612.80	290.00	616.98	.00	617.19	17.82	4.00	108.94	68.70
	52.080	360.00	.00	.00	612.80	510.00	617.75	.00	617.96	17.79	4.53	223.63	120.93
	52.090	360.00	.00	.00	613.50	290.00	617.65	.00	617.80	15.61	3.67	157.96	73.40
	52.090	360.00	.00	.00	613.50	510.00	618.39	.00	618.48	10.40	3.39	368.63	158.13
	52.100	360.00	.00	.00	614.20	290.00	618.21	.00	618.32	12.85	3.28	196.17	80.90
	52.100	360.00	.00	.00	614.20	510.00	618.79	.00	618.89	12.28	3.55	337.62	145.53
	22784.000	49.00	.00	.00	614.30	290.00	618.34	.00	618.40	13.13	2.59	204.72	80.02
	22784.000	49.00	.00	.00	614.30	510.00	618.91	.00	618.96	11.91	2.72	329.42	147.76
*	23084.000	300.00	.00	.00	615.10	290.00	618.93	.00	619.12	32.52	3.90	102.02	50.85
*	23084.000	300.00	.00	.00	615.10	510.00	619.51	.00	619.78	41.52	4.92	143.32	79.15
	23184.000	100.00	.00	.00	615.40	290.00	619.30	.00	619.55	41.71	4.01	72.28	44.91
	23184.000	100.00	.00	.00	615.40	510.00	620.05	.00	620.57	71.69	5.79	88.03	60.23
*	23291.000	107.00	621.90	620.40	615.40	290.00	621.54	.00	621.63	9.56	2.43	119.31	93.78
*	23291.000	107.00	621.90	620.40	615.40	510.00	621.53	.00	621.81	29.70	4.28	119.14	93.59
*	23391.000	100.00	.00	.00	615.80	290.00	621.68	.00	621.69	.53	.67	588.33	398.34
*	23391.000	100.00	.00	.00	615.80	510.00	621.97	.00	621.98	1.25	1.06	641.52	456.62
*	23580.000	189.00	.00	.00	616.80	290.00	621.69	.00	621.72	2.44	1.52	249.75	185.79
*	23580.000	189.00	.00	.00	616.80	510.00	621.99	.00	622.05	5.56	2.40	276.36	216.29
*	23880.000	300.00	.00	.00	617.80	290.00	621.80	.00	621.91	16.24	3.11	137.88	71.96
*	23880.000	300.00	.00	.00	617.80	510.00	622.23	.00	622.41	23.09	4.13	188.08	106.12
*	69.010	500.00	.00	.00	618.50	290.00	622.31	.00	622.33	4.54	1.68	341.09	136.10
*	69.010	500.00	.00	.00	618.50	510.00	622.87	.00	622.89	4.50	1.90	496.70	240.38
	69.020	500.00	.00	.00	619.10	290.00	622.59	.00	622.61	7.14	1.97	298.18	108.55
	69.020	500.00	.00	.00	619.10	510.00	623.14	.00	623.17	6.52	2.15	443.43	199.79
*	25360.000	480.00	.00	.00	619.90	290.00	623.22	.00	623.47	56.99	5.37	90.39	38.41
*	25360.000	480.00	.00	.00	619.90	510.00	623.71	.00	624.08	72.44	6.73	122.32	59.92
	25460.000	100.00	.00	.00	619.30	160.00	623.63	.00	623.76	10.28	2.98	53.70	49.90
	25460.000	100.00	.00	.00	619.30	280.00	624.21	.00	624.49	17.57	4.25	65.95	66.80

	SECNO	XLCH	ELTRD	ELLC	ELMIN	Q	CWSEL	CRIWS	EG	10*KS	VCH	AREA	.01K
*	25591.000	131.00	626.70	623.30	619.30	160.00	624.63	.00	624.71	4.17	2.20	72.89	78.39
*	25591.000	131.00	626.70	623.30	619.30	280.00	626.58	.00	626.66	3.11	2.32	138.18	158.84

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	25625.000	34.00	.00	.00	620.80	160.00	624.73	.00	624.74	3.73	1.22	291.62	82.84
*	25625.000	34.00	.00	.00	620.80	280.00	626.69	.00	626.69	.77	.79	712.47	318.48
	25880.000	255.00	.00	.00	620.80	160.00	624.82	.00	624.90	6.46	2.37	67.58	62.94
*	25880.000	255.00	.00	.00	620.80	280.00	626.69	.00	626.76	2.69	2.20	163.42	170.74
*	26023.000	143.00	626.90	623.80	620.80	160.00	627.07	.00	627.07	.09	.43	1249.75	529.83
*	26023.000	143.00	626.90	623.80	620.80	280.00	627.22	.00	627.22	.23	.70	1335.84	581.75
*	26123.000	100.00	.00	.00	620.80	160.00	627.08	.00	627.08	.04	.23	1870.98	849.33
*	26123.000	100.00	.00	.00	620.80	280.00	627.23	.00	627.23	.09	.38	1960.54	912.57
*	26642.000	519.00	.00	.00	621.40	160.00	627.08	.00	627.08	.01	.14	1878.34	1310.94
*	26642.000	519.00	.00	.00	621.40	280.00	627.23	.00	627.23	.04	.24	1964.08	1409.90
*	27085.000	443.00	.00	.00	621.80	160.00	627.08	.00	627.08	.14	.37	937.55	432.15
*	27085.000	443.00	.00	.00	621.80	280.00	627.23	.00	627.23	.32	.58	1022.51	494.17
	27182.000	97.00	.00	.00	621.20	160.00	627.08	.00	627.08	.28	.59	714.81	304.34
	27182.000	97.00	.00	.00	621.20	280.00	627.24	.00	627.24	.61	.89	804.34	359.24
	27183.000	1.00	625.60	625.10	621.20	160.00	627.08	.00	627.08	.55	.41	640.89	214.81
	27183.000	1.00	625.60	625.10	621.20	280.00	627.24	.00	627.24	1.11	.63	730.74	265.46
	27233.000	50.00	625.60	625.10	621.20	160.00	627.08	.00	627.08	.53	.40	660.44	220.00
	27233.000	50.00	625.60	625.10	621.20	280.00	627.24	.00	627.25	1.05	.61	756.27	273.60
	27234.000	1.00	.00	.00	621.20	160.00	627.08	.00	627.08	.29	.52	735.11	296.69
	27234.000	1.00	.00	.00	621.20	280.00	627.24	.00	627.25	.63	.78	831.32	354.12
*	27333.000	99.00	.00	.00	621.90	160.00	627.09	.00	627.09	.02	.15	1697.34	1151.25
*	27333.000	99.00	.00	.00	621.90	280.00	627.25	.00	627.25	.05	.24	1779.52	1244.66

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100-YEAR FLOW

SUMMARY PRINTOUT TABLE 150

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
	5565.000	580.00	588.95	.00	.00	4.95	61.76	.00
	5565.000	960.00	590.27	1.32	.00	5.27	77.00	.00
	5625.000	580.00	588.88	.00	-.07	.00	26.00	60.00
*	5625.000	960.00	590.09	1.21	-.18	.00	26.00	60.00
*	6365.000	580.00	593.25	.00	4.37	.00	26.00	740.00
*	6365.000	960.00	595.22	1.97	5.13	.00	26.00	740.00
	6380.000	580.00	593.34	.00	.09	.00	314.53	15.00
*	6380.000	960.00	595.45	2.12	.23	.00	525.00	15.00
	2.010	580.00	593.40	.00	.06	.00	179.10	305.00
	2.010	960.00	595.48	2.08	.02	.00	500.00	305.00
	6845.000	580.00	593.48	.00	.08	.00	161.41	305.00
	6845.000	960.00	595.51	2.02	.03	.00	525.00	305.00
*	3.010	580.00	593.57	.00	.09	.00	138.97	355.00
*	3.010	960.00	595.55	1.98	.04	.00	221.65	355.00
*	3.020	580.00	593.82	.00	.25	.00	50.15	355.00
*	3.020	960.00	595.66	1.84	.11	.00	202.20	355.00
	7910.000	580.00	594.38	.00	.56	.00	39.42	355.00
*	7910.000	960.00	595.93	1.55	.27	.00	200.53	355.00
*	8500.000	290.00	595.65	.00	1.28	.00	34.27	590.00
*	8500.000	510.00	597.00	1.34	1.07	.00	65.21	590.00
	8.010	290.00	596.31	.00	.66	.00	30.75	360.00
	8.010	510.00	597.64	1.32	.64	.00	70.01	360.00
	8.020	290.00	596.92	.00	.61	.00	28.23	360.00
	8.020	510.00	598.29	1.37	.65	.00	77.76	360.00

8.030	290.00	597.48	.00	.56	.00	26.89	360.00
8.030	510.00	598.85	1.37	.56	.00	64.37	360.00
8.040	290.00	598.05	.00	.57	.00	28.27	360.00
8.040	510.00	599.40	1.35	.55	.00	53.93	360.00
8.050	290.00	598.58	.00	.53	.00	28.95	360.00
8.050	510.00	599.93	1.34	.52	.00	43.14	360.00
8.060	290.00	599.13	.00	.55	.00	28.84	360.00
8.060	510.00	600.48	1.35	.56	.00	32.62	360.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
8.070	290.00	599.71	.00	.58	.00	30.08	360.00
8.070	510.00	601.06	1.35	.58	.00	33.78	360.00
8.080	290.00	600.30	.00	.59	.00	30.57	360.00
8.080	510.00	601.62	1.33	.56	.00	34.05	360.00
8.090	290.00	600.93	.00	.63	.00	32.43	360.00
8.090	510.00	602.23	1.30	.60	.00	36.01	360.00
12102.000	290.00	601.53	.00	.60	.00	33.41	362.00
12102.000	510.00	602.79	1.27	.57	.00	36.68	362.00
* 12201.000	290.00	601.89	.00	.37	.00	10.00	99.00
* 12201.000	510.00	603.16	1.27	.37	.00	10.00	99.00
12202.000	290.00	601.91	.00	.02	.00	10.00	1.00
12202.000	510.00	603.19	1.28	.02	.00	10.00	1.00
* 12239.000	290.00	603.33	.00	1.42	.00	10.00	37.00
12239.000	510.00	605.34	2.01	2.15	.00	10.00	37.00
12240.000	290.00	603.56	.00	.23	.00	10.00	1.00
* 12240.000	510.00	606.52	2.96	1.18	.00	10.00	1.00
* 12339.000	290.00	604.29	.00	.73	.00	39.22	99.00
* 12339.000	510.00	607.38	3.10	.86	.00	350.00	99.00
21.010	290.00	604.35	.00	.07	.00	86.82	280.00
21.010	510.00	607.40	3.05	.02	.00	438.00	280.00
21.020	290.00	604.43	.00	.07	.00	54.31	280.00
21.020	510.00	607.42	2.99	.01	.00	428.00	280.00
21.030	290.00	604.54	.00	.11	.00	36.93	280.00
21.030	510.00	607.44	2.90	.02	.00	401.16	280.00
21.040	290.00	604.69	.00	.16	.00	35.30	280.00
21.040	510.00	607.47	2.77	.03	.00	360.40	280.00
21.050	290.00	604.91	.00	.22	.00	70.05	280.00
21.050	510.00	607.53	2.62	.06	.00	532.94	280.00
21.060	290.00	605.21	.00	.29	.00	31.51	280.00
21.060	510.00	607.57	2.36	.04	.00	470.79	280.00
21.070	290.00	605.57	.00	.36	.00	30.58	280.00
21.070	510.00	607.64	2.07	.07	.00	424.71	280.00
21.080	290.00	605.97	.00	.40	.00	29.30	280.00
21.080	510.00	607.76	1.79	.12	.00	373.87	280.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
21.090	290.00	606.41	.00	.44	.00	29.13	280.00
21.090	510.00	607.96	1.56	.20	.00	311.88	280.00
15150.000	290.00	606.90	.00	.49	.00	28.23	291.00

* 15150.000	510.00	608.27	1.37	.31	.00	255.45	291.00
31.010	290.00	607.30	.00	.40	.00	28.62	230.00
31.010	510.00	608.57	1.26	.29	.00	222.18	230.00
31.020	290.00	607.64	.00	.34	.00	29.94	230.00
31.020	510.00	608.85	1.20	.28	.00	187.90	230.00
31.030	290.00	607.92	.00	.28	.00	30.08	230.00
31.030	510.00	609.12	1.20	.27	.00	169.05	230.00
31.040	290.00	608.18	.00	.26	.00	31.00	230.00
31.040	510.00	609.40	1.22	.28	.00	151.14	230.00
31.050	290.00	608.41	.00	.23	.00	30.81	230.00
31.050	510.00	609.67	1.26	.27	.00	149.76	230.00
31.060	290.00	608.63	.00	.22	.00	31.52	230.00
31.060	510.00	609.93	1.30	.26	.00	102.18	230.00
31.070	290.00	608.83	.00	.20	.00	37.50	230.00
31.070	510.00	610.15	1.32	.22	.00	71.06	230.00
31.080	290.00	609.04	.00	.20	.00	42.30	230.00
31.080	510.00	610.37	1.34	.22	.00	70.90	230.00
31.090	290.00	609.24	.00	.20	.00	45.15	230.00
31.090	510.00	610.59	1.35	.22	.00	69.40	230.00
17496.000	290.00	609.45	.00	.22	.00	45.93	276.00
17496.000	510.00	610.81	1.36	.23	.00	68.31	276.00
17595.000	290.00	609.51	.00	.06	.00	28.40	99.00
17595.000	510.00	610.85	1.34	.04	.00	28.40	99.00
17596.000	290.00	609.51	.00	.00	.00	28.40	1.00
17596.000	510.00	610.85	1.34	.00	.00	28.40	1.00
17695.000	290.00	609.61	.00	.10	.00	28.40	99.00
17695.000	510.00	610.98	1.37	.13	.00	28.40	99.00
17696.000	290.00	609.61	.00	.00	.00	28.40	1.00
17696.000	510.00	610.98	1.37	.00	.00	28.40	1.00
17795.000	290.00	609.71	.00	.09	.00	37.87	99.00
17795.000	510.00	611.10	1.40	.12	.00	56.29	99.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
* 18036.000	290.00	609.92	.00	.22	.00	20.00	241.00
18036.000	510.00	611.31	1.39	.21	.00	20.00	241.00
18124.000	290.00	609.98	.00	.06	.00	20.00	88.00
18124.000	510.00	611.39	1.40	.08	.00	20.00	88.00
18224.000	290.00	610.13	.00	.14	.00	42.37	100.00
* 18224.000	510.00	611.78	1.66	.39	.00	67.69	100.00
47.010	290.00	610.29	.00	.17	.00	43.42	240.00
47.010	510.00	611.90	1.61	.12	.00	69.48	240.00
* 18704.000	290.00	610.48	.00	.19	.00	36.82	240.00
* 18704.000	510.00	612.01	1.53	.11	.00	47.97	240.00
18954.000	290.00	611.22	.00	.74	.00	36.60	250.00
18954.000	510.00	612.53	1.30	.51	.00	52.84	250.00
* 19035.000	290.00	612.48	.00	1.26	.00	52.35	81.00
* 19035.000	510.00	614.22	1.73	1.69	.00	72.26	81.00
19135.000	290.00	612.55	.00	.06	.00	45.26	100.00
* 19135.000	510.00	614.25	1.70	.03	.00	179.16	100.00
52.010	290.00	612.85	.00	.31	.00	44.95	360.00
52.010	510.00	614.50	1.64	.25	.00	152.16	360.00

52.020	290.00	613.26	.00	.41	.00	43.90	360.00
52.020	510.00	614.82	1.56	.33	.00	154.76	360.00
52.030	290.00	613.80	.00	.53	.00	44.69	360.00
52.030	510.00	615.24	1.45	.42	.00	163.92	360.00
52.040	290.00	614.38	.00	.58	.00	46.59	360.00
52.040	510.00	615.71	1.33	.47	.00	224.46	360.00
52.050	290.00	615.00	.00	.62	.00	48.60	360.00
52.050	510.00	616.22	1.22	.51	.00	275.49	360.00
52.060	290.00	615.65	.00	.65	.00	52.69	360.00
52.060	510.00	616.77	1.12	.55	.00	344.31	360.00
52.070	290.00	616.32	.00	.67	.00	64.02	360.00
52.070	510.00	617.26	.94	.49	.00	392.82	360.00
52.080	290.00	616.98	.00	.66	.00	70.69	360.00
52.080	510.00	617.75	.77	.49	.00	164.00	360.00
52.090	290.00	617.65	.00	.66	.00	257.46	360.00
52.090	510.00	618.39	.74	.64	.00	283.00	360.00

SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
52.100	290.00	618.21	.00	.56	.00	246.00	360.00
52.100	510.00	618.79	.58	.40	.00	246.00	360.00
22784.000	290.00	618.34	.00	.13	.00	221.00	49.00
22784.000	510.00	618.91	.56	.12	.00	221.00	49.00
* 23084.000	290.00	618.93	.00	.59	.00	71.00	300.00
* 23084.000	510.00	619.51	.58	.61	.00	71.00	300.00
23184.000	290.00	619.30	.00	.37	.00	21.00	100.00
23184.000	510.00	620.05	.75	.54	.00	21.00	100.00
* 23291.000	290.00	621.54	.00	2.24	.00	21.00	107.00
* 23291.000	510.00	621.53	-.01	1.48	.00	21.00	107.00
* 23391.000	290.00	621.68	.00	.14	.00	183.00	100.00
* 23391.000	510.00	621.97	.29	.44	.00	183.00	100.00
* 23580.000	290.00	621.69	.00	.01	.00	89.00	189.00
* 23580.000	510.00	621.99	.30	.02	.00	89.00	189.00
* 23880.000	290.00	621.80	.00	.11	.00	115.09	300.00
* 23880.000	510.00	622.23	.43	.24	.00	116.88	300.00
* 69.010	290.00	622.31	.00	.51	.00	275.89	500.00
* 69.010	510.00	622.87	.56	.64	.00	277.68	500.00
69.020	290.00	622.59	.00	.28	.00	263.56	500.00
69.020	510.00	623.14	.55	.27	.00	266.00	500.00
* 25360.000	290.00	623.22	.00	.64	.00	66.00	480.00
* 25360.000	510.00	623.71	.48	.57	.00	66.00	480.00
25460.000	160.00	623.63	.00	.40	.00	19.92	100.00
25460.000	280.00	624.21	.59	.51	.00	21.75	100.00
* 25591.000	160.00	624.63	.00	1.01	.00	21.54	131.00
* 25591.000	280.00	626.58	1.95	2.37	.00	157.07	131.00
25625.000	160.00	624.73	.00	.10	.00	215.00	34.00
* 25625.000	280.00	626.69	1.96	.11	.00	215.00	34.00
25880.000	160.00	624.82	.00	.08	.00	28.34	255.00
* 25880.000	280.00	626.69	1.87	.00	.00	89.33	255.00
* 26023.000	160.00	627.07	.00	2.26	.00	575.00	143.00
* 26023.000	280.00	627.22	.15	.53	.00	575.00	143.00
* 26123.000	160.00	627.08	.00	.00	.00	575.00	100.00
* 26123.000	280.00	627.23	.15	.00	.00	575.00	100.00

	SECNO	Q	CWSEL	DIFWSP	DIFWSX	DIFKWS	TOPWID	XLCH
*	26642.000	160.00	627.08	.00	.00	.00	550.00	519.00
*	26642.000	280.00	627.23	.15	.00	.00	550.00	519.00
*	27085.000	160.00	627.08	.00	.00	.00	550.00	443.00
*	27085.000	280.00	627.23	.15	.00	.00	550.00	443.00
	27182.000	160.00	627.08	.00	.00	.00	575.00	97.00
	27182.000	280.00	627.24	.16	.00	.00	575.00	97.00
	27183.000	160.00	627.08	.00	.00	.00	575.00	1.00
	27183.000	280.00	627.24	.16	.00	.00	575.00	1.00
	27233.000	160.00	627.08	.00	.00	.00	600.00	50.00
	27233.000	280.00	627.24	.16	.01	.00	600.00	50.00
	27234.000	160.00	627.08	.00	.00	.00	600.00	1.00
	27234.000	280.00	627.24	.16	.00	.00	600.00	1.00
*	27333.000	160.00	627.09	.00	.00	.00	500.00	99.00
*	27333.000	280.00	627.25	.16	.00	.00	500.00	99.00

SUMMARY OF ERRORS AND SPECIAL NOTES

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WARNING SECNO=   5625.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6365.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   6365.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   6380.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.010  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.010  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=      3.020  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=      3.020  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   7910.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=   8500.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=   8500.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  12201.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  12201.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  12239.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  12240.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  12339.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  12339.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  18036.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  18224.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  18704.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  18704.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  19035.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  19035.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  19135.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  23084.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  23084.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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WARNING SECNO=  23291.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  23291.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  23391.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  23391.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  23580.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  23580.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
1
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WARNING SECNO=  23880.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  23880.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=     69.010  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=     69.010  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  25360.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  25360.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  25591.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  25591.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  25625.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  25880.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  26023.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  26023.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  26123.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  26123.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  26642.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  26642.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  27085.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  27085.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE

WARNING SECNO=  27333.000  PROFILE=  1  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
WARNING SECNO=  27333.000  PROFILE=  2  CONVEYANCE CHANGE OUTSIDE ACCEPTABLE RANGE
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