

**MONROE COUNTY ROAD COMMISSION**  
 IN CO-OPERATION WITH  
**MICHIGAN DEPARTMENT OF TRANSPORTATION**

AND  
**FEDERAL HIGHWAY ADMINISTRATION**

**PLANS OF PROPOSED BRIDGE**

**REDMAN ROAD OVER N. MACON CREEK**

**FED-AID BRIDGE REPLACEMENT PROJECT NO. MICHIGAN BRO 58 (122)**

AND  
**MICHIGAN CRITICAL BRIDGE PROJECT MCS 58011**

BRIDGE ON REDMAN ROAD CROSSING N. MACON  
 CREEK 2.4 MILES WEST OF VILLAGE OF  
 MILAN, SECTION 5, T5S, R6E, MILAN  
 TOWNSHIP, MONROE COUNTY, MICHIGAN

GENERAL NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1984 EDITION.

THE DESIGN OF THIS STRUCTURE IS BASED ON THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION SPECIFICATIONS FOR THE DESIGN OF HIGHWAY BRIDGES, 1958 EDITION AND CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, HS 20-44 LOADING. CALCULATED LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED  $\frac{1}{800}$  OF SPAN LENGTH.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY INFERS THAT SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH  $\frac{3}{4}$  TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIALS OF THE FOLLOWING GRADES AND STRESSES -

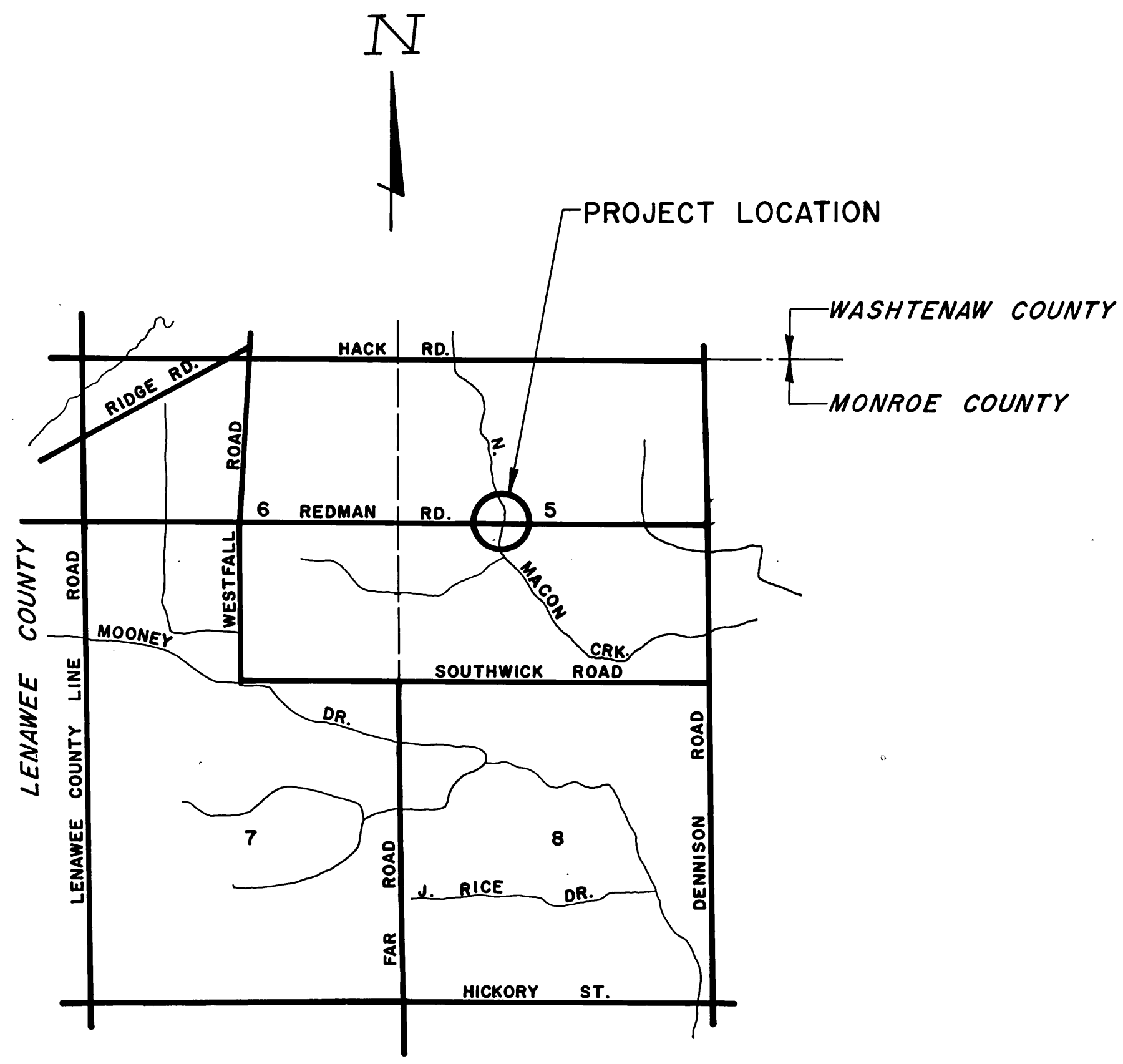
ABUTMENTS: CONCRETE GRADE 35S  $f'_c = 3,000$  P.S.I.  
 STEEL REINFORCEMENT  $f_y = 60,000$  P.S.I.  
 PRESTRESSED CONCRETE BEAM-DECK: CONCRETE  $f'_c = 5,000$  P.S.I.  
 PRESTRESSING STRANDS  $f'_s = 270,000$  P.S.I.  
 STEEL REINFORCEMENT  $f_y = 40,000$  P.S.I.

TRAFFIC SHALL BE DETOURED DURING CONSTRUCTION BY THE MONROE COUNTY ROAD COMMISSION.

STANDARD PLANS TO BE PRINTED	
SHEET NO.	DESCRIPTION

STANDARD PLANS NOT TO BE PRINTED	
SHEET NO.	DESCRIPTION
III-58H	GUARD RAIL ENDING WITH CABLE ANCHORAGE
IV-83D	UTILITY TRENCHES
V-96C	SOIL EROSION & SEDIMENTATION CONTROL MEASURES
V-100A	SODDING
VI-125F	BARRICADES, ETC.
XI-103C	Molding, Bevel, Light Std. Anchor Bolt Assy., And Name Plate Details

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN OF SITE
3	GENERAL PLAN OF STRUCTURE & LOG OF BORINGS
4	SUMMARY OF QUANTITIES & STEEL REINFORCEMENT
5	ABUTMENT DETAILS
6	SUPERSTRUCTURE DETAILS
7	CROSS SECTIONS



CONTRACT FOR: BRIDGE AND APPROACHES

MONROE COUNTY ROAD COMMISSION APPROVAL		
BY <u>Harry K. Benson</u>	CHAIRMAN	<u>8/12/86</u> DATE
BY <u>Deke Williams</u>	COMMISSIONER	<u>8/14/86</u> DATE
BY <u>Clay Taylor</u>	COMMISSIONER	<u>8/14/86</u> DATE
BY <u>Fred F. Abau</u>	COUNTY HIGHWAY ENGINEER	<u>8/11/86</u> DATE

PREPARED UNDER SUPERVISION OF  
Poland L. Jackson  
 REGISTERED PROFESSIONAL ENGINEER

REG. NO. 22413

MONROE COUNTY ROAD COMMISSION  
 ORGANIZATION  
 840 S. TELEGRAPH  
 ADDRESS

REVISION		
DESCRIPTION	DATE	BY

*REDMAN ROAD*

JOB NO. 25486A, BRO 58 (122) ITEM NO. PB 0507  
 © BI OF 58-11-10 MCS 58011

JOSEPH & VALERIE RUGGIRELLO  
3250 SALINA  
DEARBORN, MICH. 48120

STA. 8+90-20' LT. TO STA. 9+76-26' LT.  
LAY 8'-30" CLASS A CULVERT (CSP)  
AND 2'-30" CULVERT END SECTIONS.  
PLACE 3 SYD OF SLOPE PROTECTION  
PLAIN RIPRAP AS SHOWN.

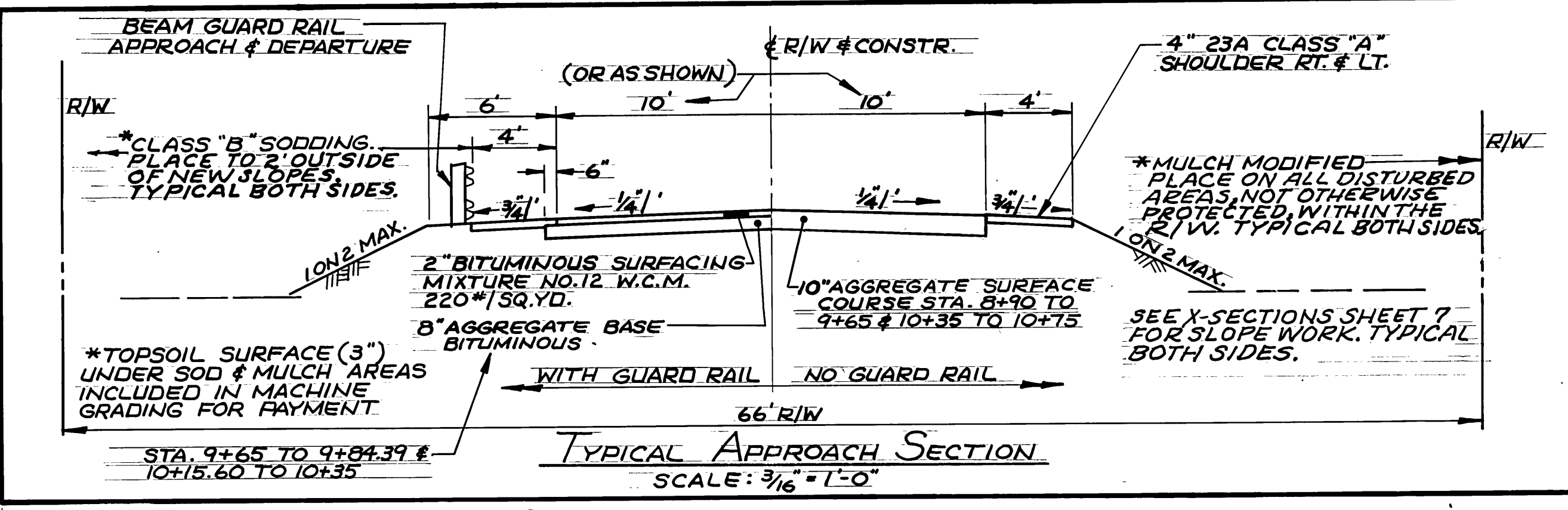
NOTE:  
FOR GUARD RAIL DETAILS SEE ALSO  
SHEETS 3 & 6.  
MACHINE GRADING APPLIES FROM  
STA. 8+90 TO 10+75

LIMITS OF SLOPE PROTECTION,  
PLAIN RIPRAP, MODIFIED (T.Y.B.)

TEMPORARY EASEMENT FOR  
CHANNEL WORK AND STONE  
SLOPE PROTECTION

NOTE  
TELEPHONE CABLE ATTACHED  
TO EXIST. BRIDGE TRUSS

PLAN  
SCALE: 1" = 20'



GENERAL NOTES

THE WORK COVERED BY THESE PLANS  
INCLUDES CLEARING, TREE REMOVAL, CHANNEL  
EXCAVATION, EARTH EXCAVATION, EMBANKMENT,  
SLOPE PROTECTION, SODDING, SEEDING, REMOVAL  
OF EXISTING BRIDGE, CONSTRUCTION OF THE  
PROPOSED BRIDGE, PLACING GRANULAR MATERIAL  
AND CONSTRUCTION OF THE APPROACHES  
TO LIMITS SHOWN.

DATUM REFERS TO U.S.G.S. DATUM.

PROPERTY OWNER'S NAMES ARE FOR  
INFORMATION ONLY AND THEIR ACCURACY IS  
NOT GUARANTEED.

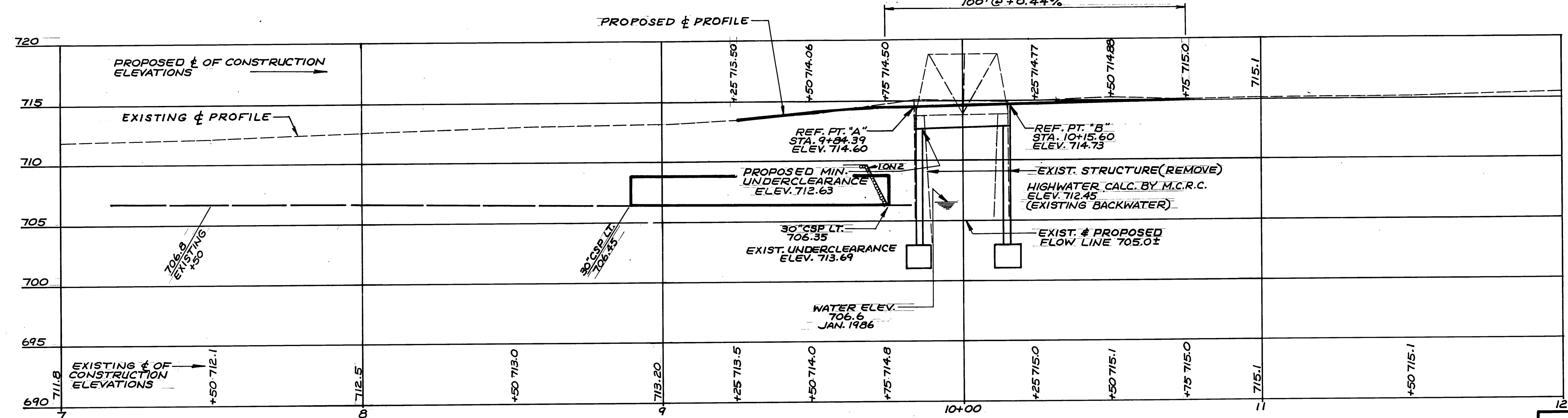
DISPOSAL OF SURPLUS AND UNSUITABLE  
MATERIAL, IN ADDITION TO MEETING THE RE-  
QUIREMENTS OF SEC. 2.08.07 SHALL BE AT AN  
UPLAND SITE WHERE IT WILL NOT ENTER ANY  
WATERCOURSE OR WETLAND AREA. DISPOSAL  
SITE SHALL BE APPROVED BY THE ENGINEER.

CEREAL RYE SEEDING SHALL BE APPLIED  
TO ALL SLOPES AND DISTURBED AREAS  
DURING CONSTRUCTION FOR TEMPORARY  
EROSION CONTROL AS REQUIRED OR AS DIRECTED  
BY THE ENGINEER. ALL DISTURBED AREAS NOT  
OTHERWISE SPECIFIED SHALL BE FERTILIZED,  
SEEDING AND MULCHED (PER ITEM "MULCH-MODIFIED.")

UTILITIES  
MICHIGAN BELL TELEPHONE CO.  
1633 TRENTON DR.  
SOUTHGATE, MICH. 48195

TRAFFIC DATA  
1981 ADT = 107  
2001 ADT = 193

DESIGN SPEED  
55 MPH



EXISTING BRIDGE DATA

HACK ROAD AT N. MACON CREEK  
1<sup>ST</sup> BRIDGE UPSTREAM 0.5 MILE  
TYPE: SINGLE SPAN PRESTRESSED  
CONCRETE BOX BEAM.  
SPAN: 33' CLEAR SPAN  
ROADWAY: 31'-1/2" OUT TO OUT  
TOTAL WATERWAY AREA: 254 SQ. FT.  
DATE BUILT: 1983

REDMAN ROAD AT N. MACON CREEK  
TYPE: SINGLE SPAN STEEL TRUSS WITH  
CONCRETE ABUTMENTS, STEEL  
STRINGERS AND FLOOR BEAM.  
PLANK DECKING REMOVED.  
SPAN: 26'-2" CLEAR AT ABUTMENT TOPS  
ABUTMENT FACES BATTERED.  
ROADWAY: 13'-10" F/F OF TRUSSES  
TOTAL WATERWAY AREA: 211 SQ. FT.

DENNISON ROAD AT N. MACON CREEK  
1<sup>ST</sup> BRIDGE DOWNSTREAM 0.85 MILE  
TYPE: SINGLE SPAN CONCRETE T-BEAM  
SPAN: 27'-9" CLEAR  
ROADWAY: 25' CURB TO CURB  
TOTAL WATERWAY AREA: 189 SQ. FT.  
CONDITION: FAIR

PROPOSED BRIDGE DATA  
TYPE: SINGLE SPAN PRESTRESSED  
CONCRETE BOX BEAM  
SPAN: 27.05' CLEAR  
ROADWAY: 28' RAIL TO RAIL  
SKIEW: 16'  
ABUTMENTS: REINFORCED CONCRETE  
WALL  
WEARING SURFACE: 2 7/8" BIT CONC.  
DESIGN LOADING: HS 20-44  
TOTAL WATERWAY AREA: 205 SQ. FT.

STREAM DATA  
DRAINAGE AREA: 15 SQ. MI.  
100 YR. Q = 1400 C.F.S.  
STREAM BED ELEVATION = 705.06

MONROE COUNTY ROAD COMMISSION

BRIDGE ON REDMAN ROAD CROSSING NORTH  
MACON CREEK 2.75 MILES WEST OF MILAN,  
SECTION 5, TOWN 5 SOUTH, RANGE 6 EAST,  
MILAN TOWNSHIP, MONROE COUNTY, MICHIGAN

GENERAL PLAN OF SITE

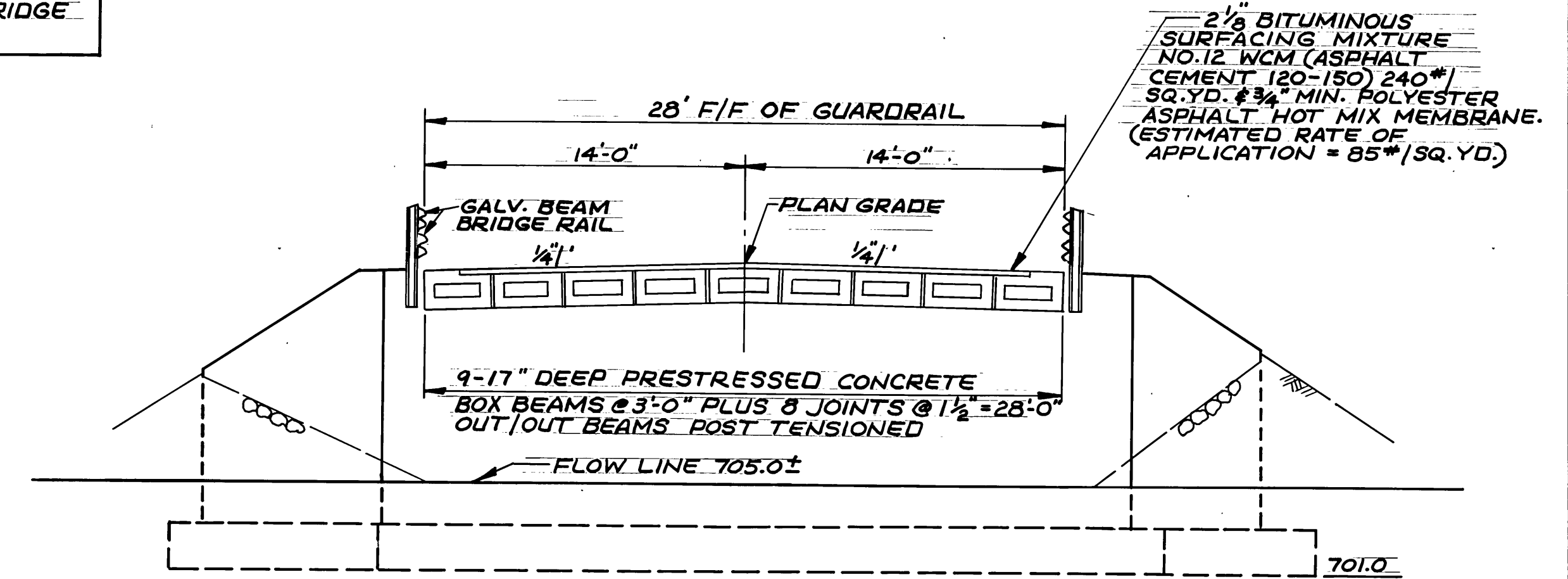
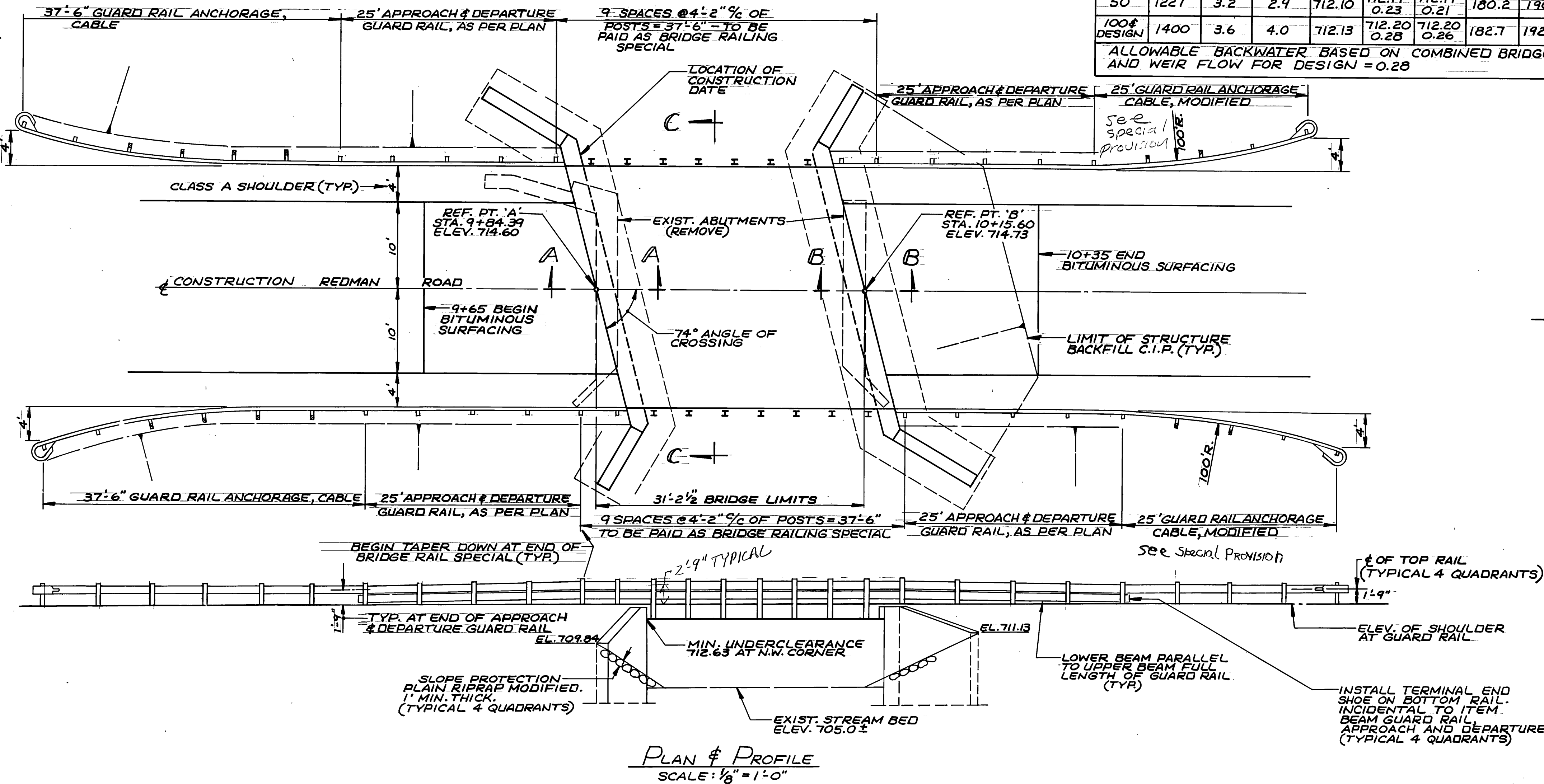
DWG. BY	B.G.	3-31-86
CHKD. BY	R.J.	



**SUMMARY OF HYDRAULIC ANALYSIS**

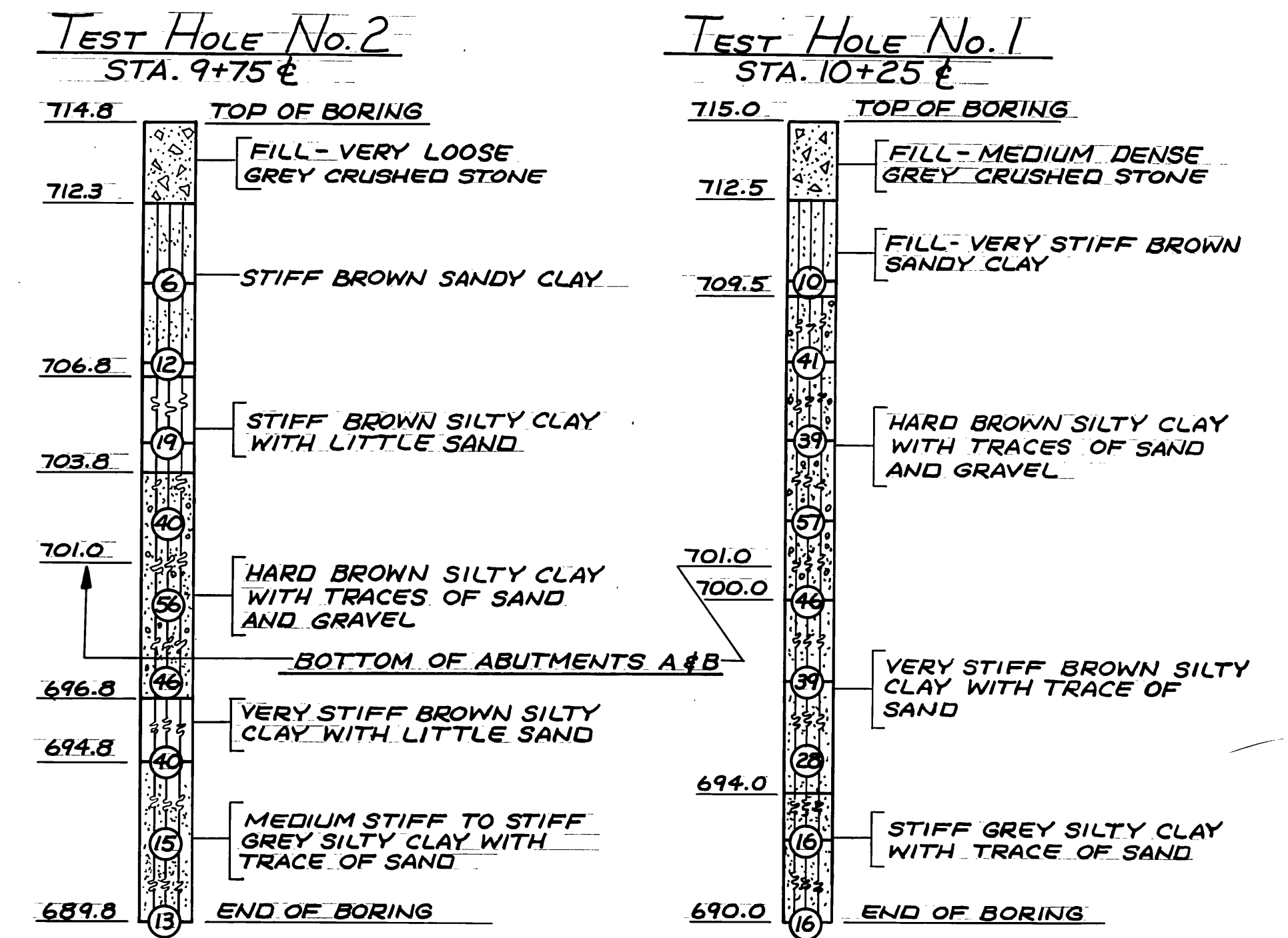
FLOOD FREQUENCY YEARS	DISCHARGE C.F.S.	VELOCITY IN UNCONSTRICTED CHANNEL F.P.S.	VELOCITY BY PROPOSED BRIDGE F.P.S.	WATER ELEV. UNCONSTRICTED CHANNEL 150' DOWNSTREAM	WATER ELEV. AT EXIST. BRIDGE AND BACKWATER	WATER ELEV. PROPOSED BRIDGE AND BACKWATER	WATERWAY AREA BRIDGE SQ. FT.	WATERWAY AREA BRIDGE POSSED BRIDGE SQ. FT.
50	1227	3.2	2.9	712.10	712.17	712.17	180.2	190.3
100# DESIGN	1400	3.6	4.0	712.13	712.20	712.20	182.7	192.4

ALLOWABLE BACKWATER BASED ON COMBINED BRIDGE AND WEIR FLOW FOR DESIGN = 0.28



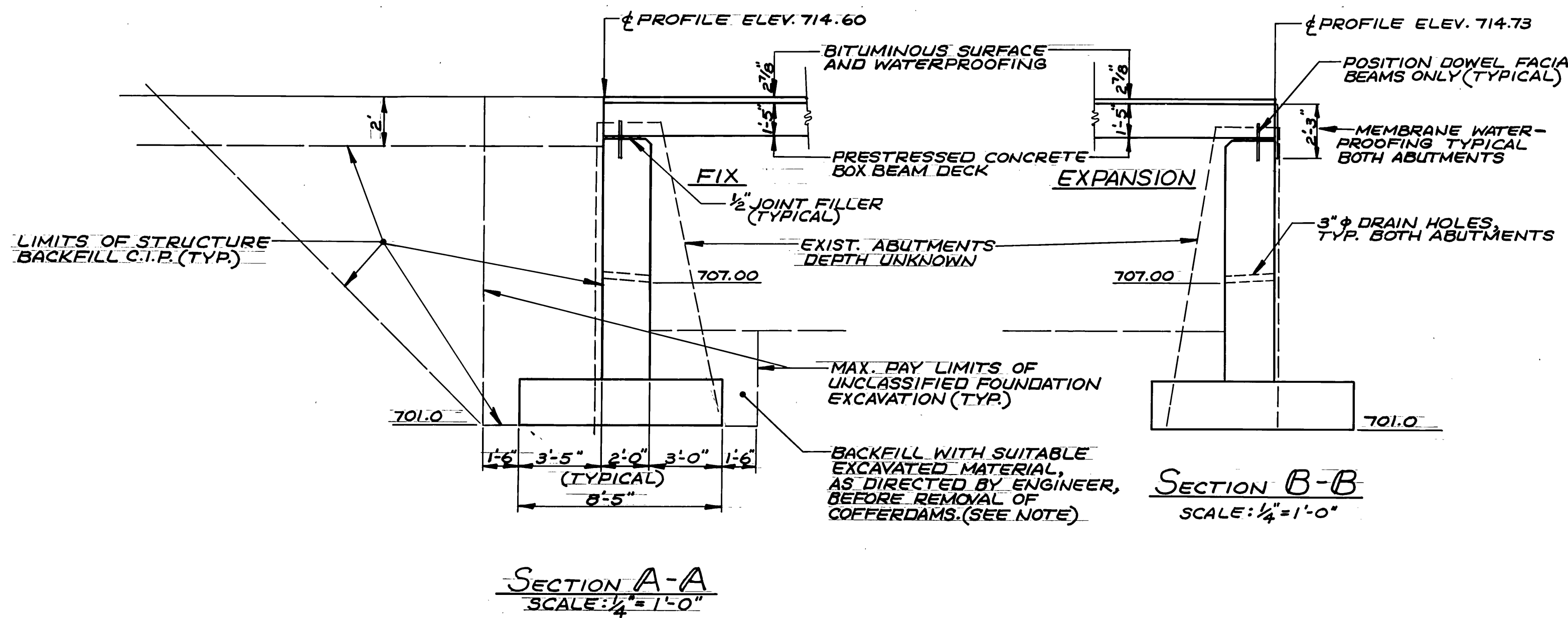
**SECTION C-C**  
SCALE: 3/8" = 1'-0"

**LOG OF BORINGS**  
VERT. SCALE: 1/4" = 1'-0"  
DATE TAKEN: MARCH 3, 1986



**NOTE:**  
 BORINGS BY TOLEDO TESTING LABORATORY - TOLEDO, OHIO. NUMBERS IN CIRCLES DENOTES NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. SPOON SAMPLER 12" USING A 140# HAMMER FALLING 30".  
 ALLOWABLE PRESSURES:  
 7,464 P.S.F. FOR D.L.  
 10,286 P.S.F. FOR D.L. + L.L.

**NOTE:**  
 PORTIONS OF EXISTING ABUTMENTS WITHIN UNCLASSIFIED FOUNDATION EXCAVATION LIMITS ARE INCLUDED IN THE ESTIMATED QUANTITIES OF UNCLASSIFIED FOUNDATION EXCAVATION.  
 BACKFILL AT FACE OF ABUTMENTS TO BE SUITABLE EXCAVATED MATERIAL AS DIRECTED BY THE ENGINEER AND INCIDENTAL TO ITEM "STRUCTURE BACKFILL (C.I.P.)". QUANTITY NOT INCLUDED IN ESTIMATED QUANTITIES FOR STRUCTURE BACKFILL.



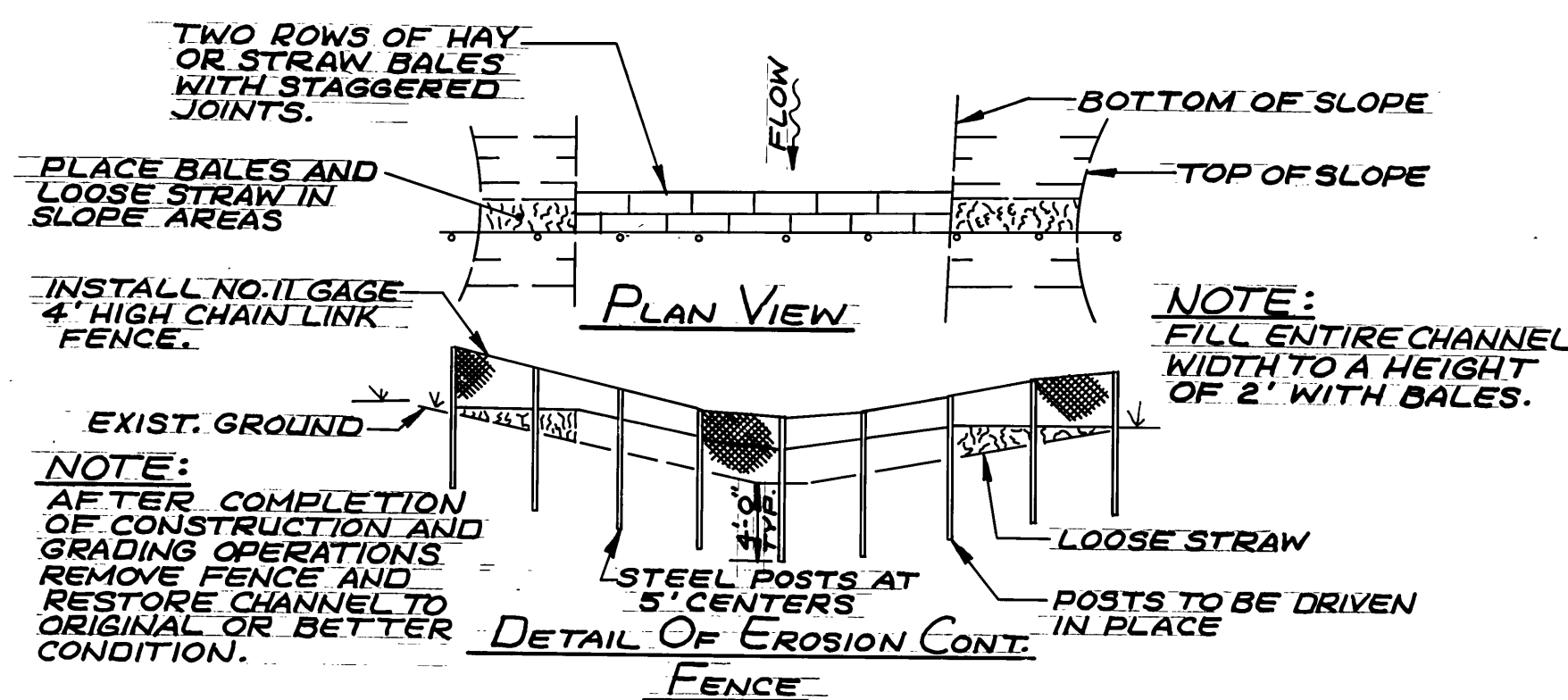
**SECTION B-B**  
SCALE: 1/4" = 1'-0"

**MONROE COUNTY ROAD COMMISSION**  
 BRIDGE ON REDMAN ROAD CROSSING NORTH MACON CREEK 2.75 MILES WEST OF MILAN, SECTION 5, TOWN 5 SOUTH, RANGE 6 EAST, MILAN TOWNSHIP, MONROE COUNTY, MICHIGAN  
**GENERAL PLAN OF STRUCTURE & LOG OF BORINGS**

DWG. BY B.G. 4-11-86  
 CHKD. BY R.J. 4-11-86

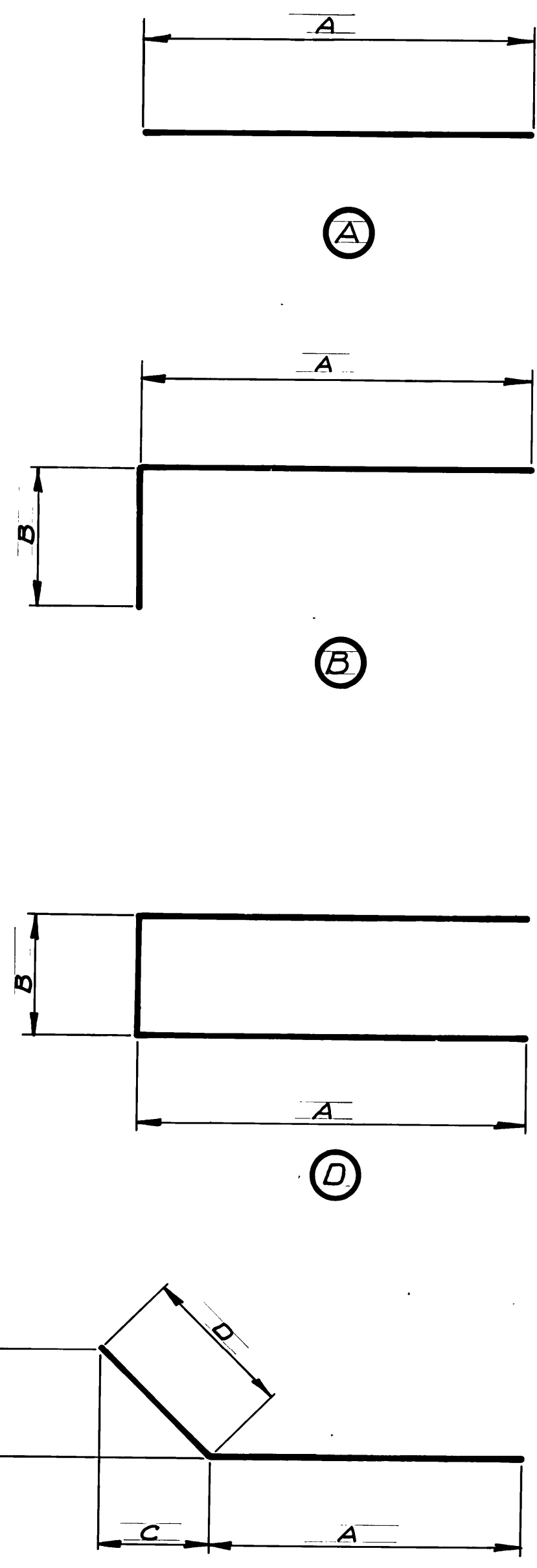
**SUMMARY OF QUANTITIES**

ITEM	UNIT	AMT.
<b>- APPROACHES -</b>		
REMOVING TREES, 8"-18"	EACH	1
REMOVING TREES, 37" OR LARGER	EACH	1
AGGREGATE BASE - BITUMINOUS (8" IN PLACE)	SYD.	91
AGGREGATE SURFACE COURSE 10"	SYD.	249
CLASS A SHOULDERS 4"	SYD.	128
BITUMINOUS SURFACING MIXTURE NO. 12 WCM	TON	10
GUARD RAIL ANCHORAGE, CABLE	EACH	2
GUARD RAIL ANCHORAGE, CABLE, MODIFIED	EACH	2
BEAM GUARDRAIL, APPROACH AND DEPARTURE	LFT	100
CLASS B SODDING	SYD.	373
WATER (FOR WETTING SOD)	UNIT	2
MACHINE GRADING, MODIFIED	L.SUM	1
MULCH MODIFIED	L.SUM	1
30" CORRUGATED STEEL SEWER CLASS A	LFT.	86
RIPRAP, PLAIN	CYD.	2
30" CULVERT END SECTION	EACH.	2
<b>- BRIDGE -</b>		
HAY OR STRAW BALES	EACH	50
EROSION CONTROL FENCE	LFT.	34
BITUMINOUS SURFACING MIXTURE NO. 12 WCM	TON	11
CONCRETE GRADE 35S - SUBFOOTING	CYD.	11.5
SUBSTRUCTURE CONCRETE	CYD.	136
STEEL REINFORCEMENT	LBS.	7758
17" PRESTRESSED CONCRETE DECK	SFT.	874
MEMBRANE WATERPROOFING	SFT.	180
POLYESTER ASPHALT HOT MIX MEMBRANE	SYD.	87
BRIDGE RAILING SPECIAL	LFT.	75
SLOPE PROTECTION, PLAIN RIPRAP, MODIFIED	SYD.	71
REMOVAL OF STRUCTURES	L.SUM	1
COFFERDAMS	L.SUM	1
UNCLASSIFIED FOUNDATION EXCAVATION	L.SUM	1
STRUCTURE BACKFILL (C.I.P.)	L.SUM	1
CHANNEL EXCAVATION	L.SUM	1
POST TENSIONING	L.SUM	1
MOBILIZATION	L.SUM	1



**STEEL REINFORCEMENT**

MARK	A	B	C	D	E	F	LENGTH	NO.	SIZE	WGT.
A1	7'-9"						7'-9"	76	5	614
A2	6'-3"						6'-3"	48	6	451
A3	19'-0"						19'-0"	22	5	436
A4	17'-4"						17'-4"	22	5	398
A5	4'-10"						4'-10"	24	6	174
A6	6'-5"						6'-5"	24	6	231
A7	8'-2"						8'-2"	76	5	647
A8	9'-6"						9'-6"	76	5	753
A9	18'-8"						18'-8"	28	4	349
A10	17'-4"						17'-4"	28	4	324
A11	11'-2"						11'-2"	2	5	23
A12	10'-11"						10'-11"	2	5	23
A13	10'-8"						10'-8"	2	5	22
A14	10'-6"						10'-6"	2	5	22
A15	10'-3"						10'-3"	2	5	22
A16	9'-11"						9'-11"	2	6	30
A17	9'-7"						9'-7"	2	6	29
A18	9'-2"						9'-2"	2	6	28
A19	8'-9"						8'-9"	2	6	26
A20	9'-11"						9'-11"	2	5	21
A21	9'-8"						9'-8"	2	5	21
A22	9'-5"						9'-5"	2	5	20
A23	9'-3"						9'-3"	2	5	19
A24	9'-0"						9'-0"	2	5	19
A25	8'-8"						8'-8"	2	6	26
A26	8'-4"						8'-4"	2	6	25
A27	7'-11"						7'-11"	2	6	24
A28	7'-6"						7'-6"	2	6	22
A29	11'-1"						11'-1"	2	5	23
A30	10'-8"						10'-8"	2	5	22
A31	10'-3"						10'-3"	2	5	21
A32	9'-9"						9'-9"	2	5	20
A33	9'-4"						9'-4"	2	5	20
A34	8'-8"						8'-8"	2	6	26
A35	8'-0"						8'-0"	2	6	24
A36	9'-10"						9'-10"	2	5	20
A37	9'-5"						9'-5"	2	5	20
A38	9'-0"						9'-0"	2	5	19
A39	8'-6"						8'-6"	2	5	18
A40	8'-1"						8'-1"	2	5	17
A41	7'-5"						7'-5"	2	6	22
A42	6'-9"						6'-9"	2	6	20
A43	5'-6"						5'-6"	2	5	11
A44	7'-3"						7'-3"	2	5	15
A45	5'-2"						5'-2"	2	5	11
A46	6'-7"						6'-7"	2	5	14
B1	4'-5"	1'-0"					5'-5"	108	6	879
B2	3'-2"	1'-0"					4'-2"	96	5	417
B3	3'-2"	1'-0"					4'-2"	12	6	75
C1	12'-11"						12'-11"	2	4	17
C2	14'-5"						14'-5"	2	4	19
C3	10'-4"						10'-4"	2	4	14
C4	11'-6"						11'-6"	2	4	15
D1	2'-6"	1'-5"					6'-5"	52	5	348
E1	13'-0"	1'-5"	1'-5"	2'-0"			15'-0"	2	5	31
E2	12'-0"	1'-5"	1'-5"	2'-0"			14'-0"	4	5	58
E3	11'-0"	1'-5"	1'-5"	2'-0"			13'-0"	4	5	54
E4	10'-0"	1'-5"	1'-5"	2'-0"			12'-0"	4	5	50
E5	9'-0"	1'-5"	1'-5"	2'-0"			11'-0"	4	5	46
E6	10'-4"	1'-5"	1'-5"	2'-0"			12'-4"	12	4	99
E7	11'-4"	1'-5"	1'-5"	2'-0"			13'-4"	12	4	107
E8	7'-2"	1'-10 3/8"	1'-10 3/8"	2'-8"			9'-10"	2	4	13
E9	6'-2"	1'-7 3/4"	1'-7 3/4"	2'-4"			8'-6"	2	4	11
E10	7'-8"	1'-5"	1'-5"	2'-0"			9'-8"	10	4	65
E11	8'-5"	1'-5"	1'-5"	2'-0"			10'-5"	10	4	70
E12	7'-1"	1'-5"	1'-5"	2'-0"			9'-1"	2	4	12
E13	7'-9"	1'-5"	1'-5"	2'-0"			9'-9"	2	4	13
E14	2'-10"	1'-3 5/8"	1'-3 5/8"	1'-10"			4'-8"	2	4	6
E15	3'-8"	1'-2 1/8"	1'-2 1/8"	1'-8"			5'-4"	2	4	7
E16	10'-4"	1'-5"	1'-5"	2'-0"			12'-4"	2	5	26
E17	9'-4"	1'-5"	1'-5"	2'-0"			11'-4"	4	5	47
E18	8'-4"	1'-5"	1'-5"	2'-0"			10'-4"	4	5	43
E19	7'-4"	1'-5"	1'-5"	2'-0"			9'-4"	4	5	39
E20	6'-4"	1'-5"	1'-5"	2'-0"			8'-4"	4	5	35
<b>TOTAL</b>										<b>7,758</b>



**NOTE:**  
 ALL DIMENSIONS SHOWN ARE OUT TO OUT.

**BAR BENDING DIAGRAMS**  
 TOLERANCES IN CUTTING AND BENDING BARS ARE AS ESTABLISHED IN MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE AND DETAILING MANUAL OF AMERICAN CONCRETE INSTITUTE.

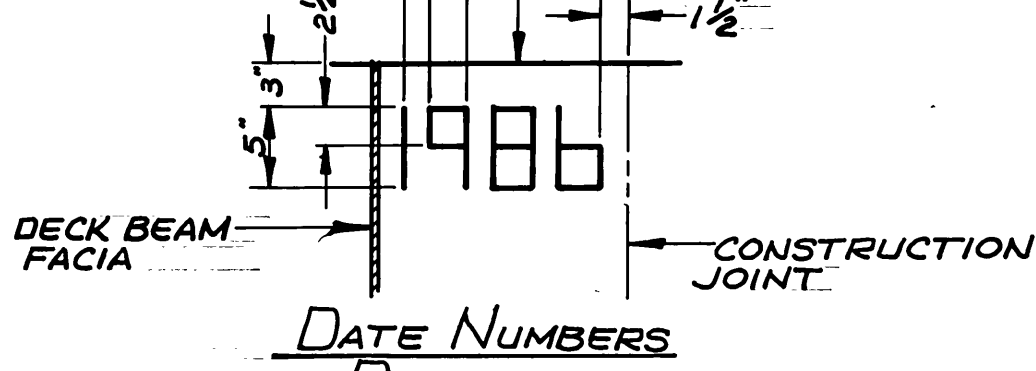
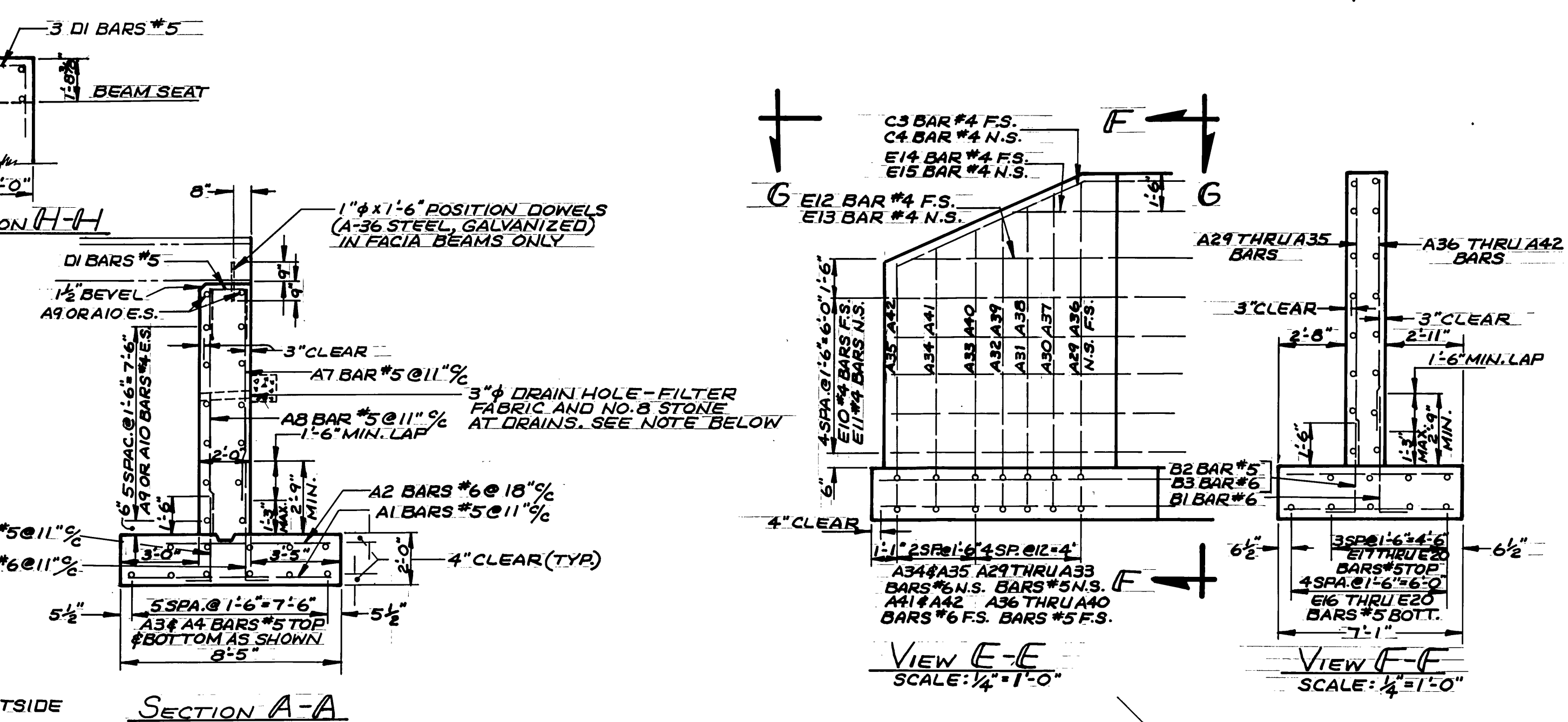
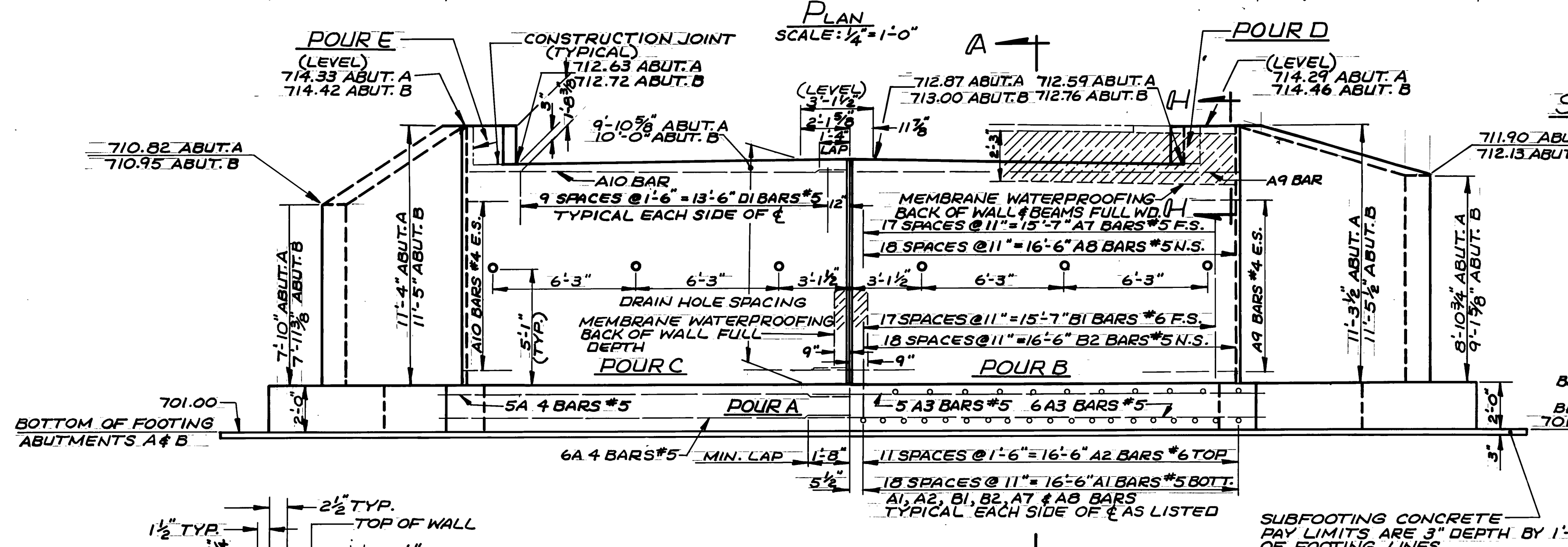
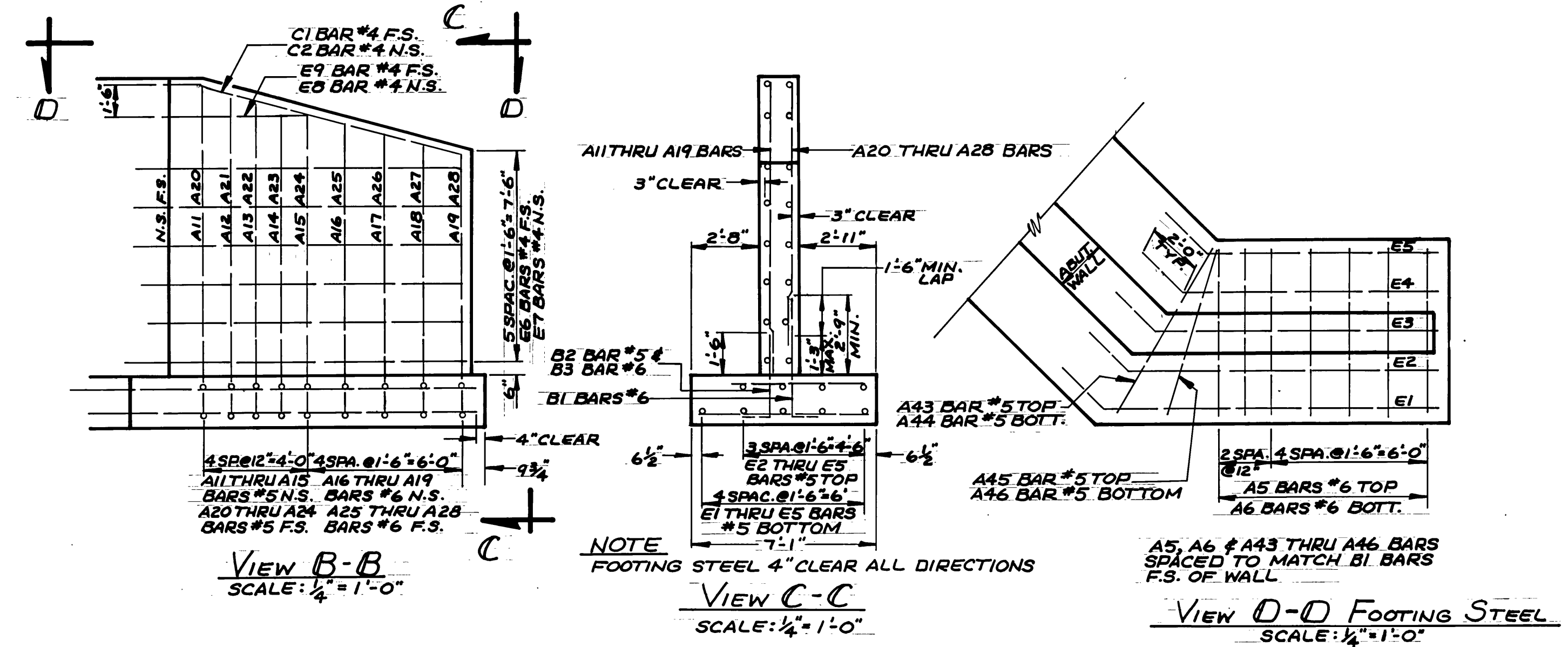
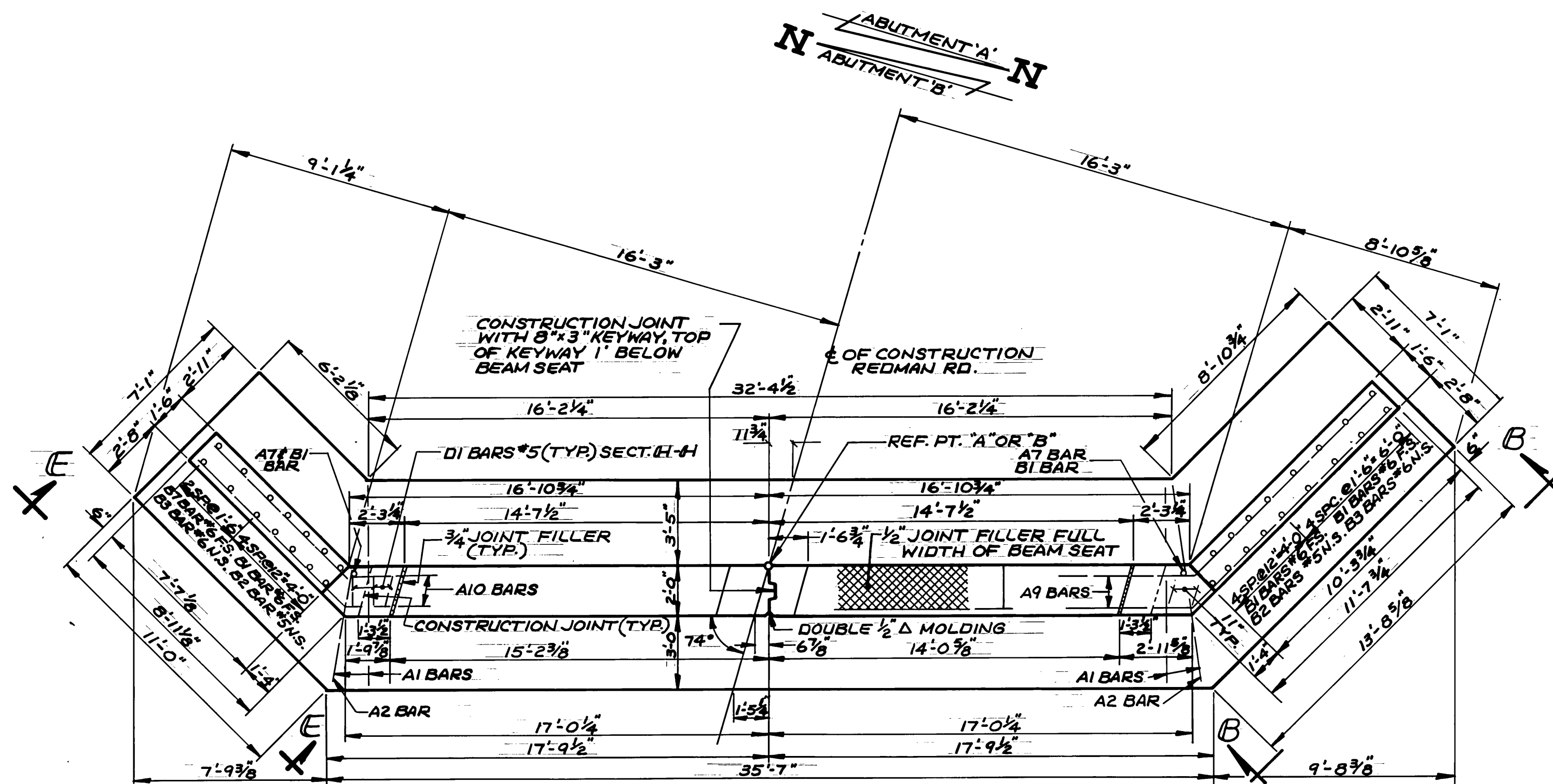
**ESTIMATED QUANTITIES FOR INFORMATION ONLY**  
 THE BID PRICE FOR ITEM "MACHINE GRADING MODIFIED" INCLUDES THE FOLLOWING ITEMS:  
 \* EXCAVATION 106 CYD.  
 EMBANKMENT 254 CYD.  
 CLEARING 2 STA.  
 3" TOPSOIL SURFACE 373 SYD.

THE BID PRICE FOR ITEM "MULCH MODIFIED" INCLUDES THE FOLLOWING ITEMS:  
 CHEMICAL FERTILIZER NUTRIENT - 8 LBS.  
 ROADSIDE SEEDING - 4 LBS.  
 MULCH - 0.07 TON  
 ANCHORING MULCH - 0.03 ACRES  
 CEREAL RYE SEEDING - 5 LBS.  
 THE BID PRICE FOR ITEM "CHANNEL EXCAVATION" INCLUDES 27 CYD. OF EXCAVATION.  
 \* EXCAVATION INCLUDES TOPSOIL WHICH MAY BE STOCKPILED FOR REUSE.

**MONROE COUNTY ROAD COMMISSION**  
 BRIDGE ON REDMAN ROAD CROSSING NORTH MACON CREEK 2.75 MILES WEST OF MILAN, SECTION 5, TOWN 5 SOUTH, RANGE 6 EAST, MILAN TOWNSHIP, MONROE COUNTY, MICHIGAN  
**SUMMARY OF QUANTITIES & STEEL REINFORCEMENT**

DWG. BY B.G. 5-86  
 CHKD. BY  
**4 OF 7**





**ELEVATION**  
SCALE: 1/4" = 1'-0"  
ABUTMENTS A AND B SYMMETRICAL BY 180° ROTATION

- NOTES**
1. N.S. DENOTES NEAR SIDE.
  2. F.S. DENOTES FAR SIDE.
  3. E.S. DENOTES EACH SIDE.
  4. POURS B AND C SHALL NOT BE MADE AT THE SAME TIME.
  5. POURS D AND E SHALL BE MADE AFTER THE DECK BEAMS ARE IN PLACE.
  6. THE FOLLOWING ITEMS ARE INCIDENTAL TO ITEM SUBSTRUCTURE CONCRETE.
    - (A) 1/2" JOINT FILLER ON BEAM SEAT.
    - (B) 3/4" JOINT FILLER BETWEEN BEAM FACIA AND ABUTMENT WALL.
    - (C) 1 SQ. FT. OF POLYPROPYLENE FILTER FABRIC AND 1 CU. FT. OF NO. 8 STONE BEHIND EACH ABUTMENT DRAIN HOLE.
  7. MAXIMUM AVERAGE FOUNDATION DEAD LOAD ONLY = 1695 P.S.F. DEAD LOAD PLUS LIVE LOAD = 1895 P.S.F.

SUBSTRUCTURE CONCRETE QUANTS			
POUR	LOCATION	ABUT. A	ABUT. B
	SUBFOOTING	5.7	5.7
A	FOOTING	31.6	31.6
B	WALL	18.6	18.9
C	WALL	16.8	17.0
D	WALL	0.2	0.2
E	WALL	0.2	0.2
TOTAL ABUT.'S. A & B		146.7	

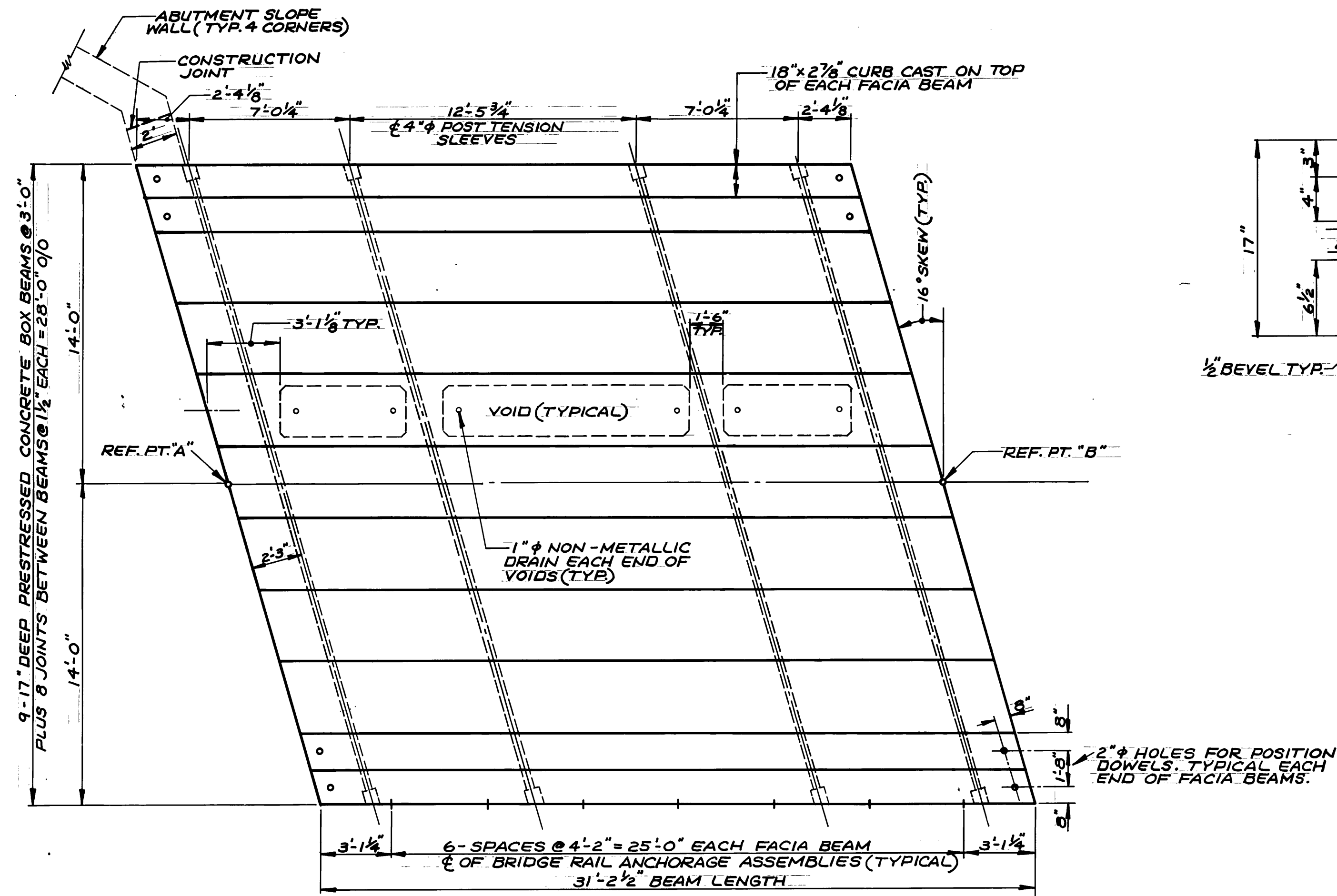
MISCELLANEOUS QUANTITIES				
ITEM	UNIT	ABUT. A	ABUT. B	TOTAL
* UNCLASSIFIED FOUNDATION EXCAVATION	CU. YD.	216	240	456
* STRUCTURE BACKFILL	CU. YD.	186	186	372
COFFERDAMS	L. SUM	1/2	1/2	1
MEMBRANE WATERPROOFING	SQ. FT.	90	90	180
* 1/2" JOINT FILLER	SQ. FT.	52	52	104
* 3/4" JOINT FILLER	SQ. FT.	7	7	14
* POLYPROPYLENE FILTER FABRIC	SQ. FT.	6	6	12
* NO. 8 STONE	CU. FT.	6	6	12

ALL SUBSTRUCTURE CONCRETE GRADE 355.

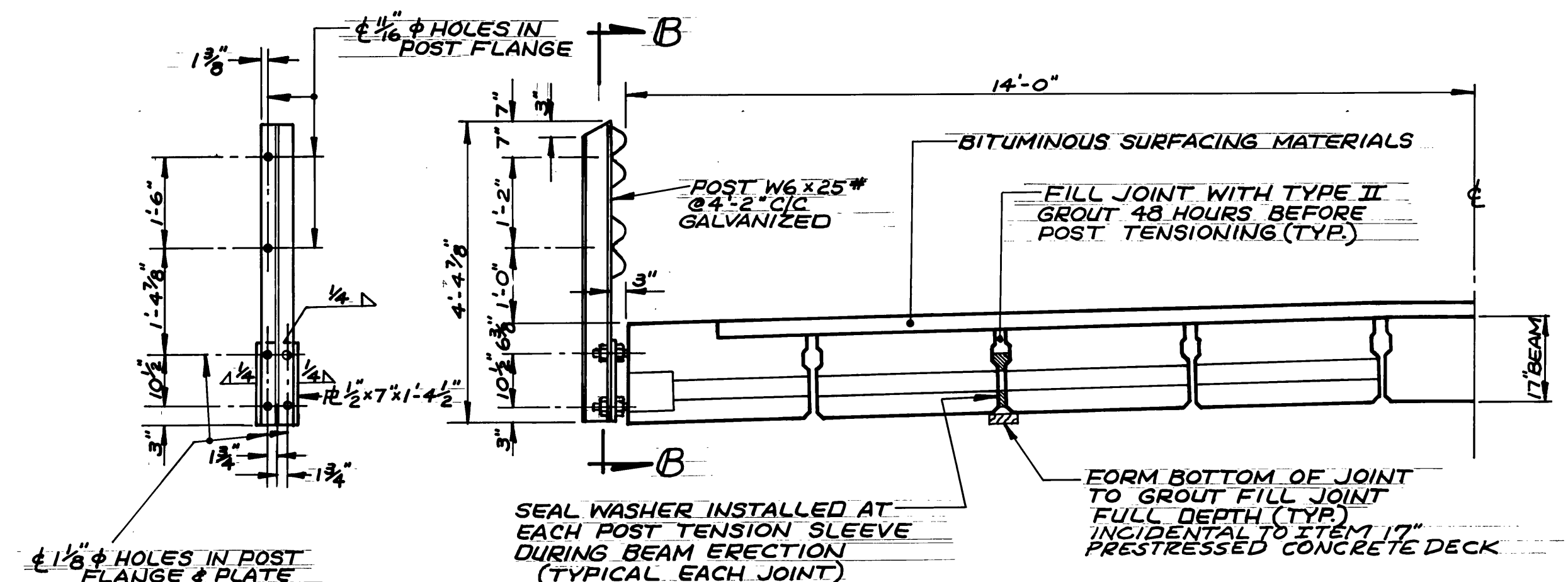
\* QUANTITIES FOR INFORMATION ONLY

**MONROE COUNTY ROAD COMMISSION**  
BRIDGE ON REDMAN ROAD CROSSING NORTH  
MACON CREEK 2.75 MILES WEST OF MILAN,  
SECTION 5, TOWN 5 SOUTH, RANGE 6 EAST,  
MILAN TOWNSHIP, MONROE COUNTY, MICHIGAN  
**ABUTMENT DETAILS**

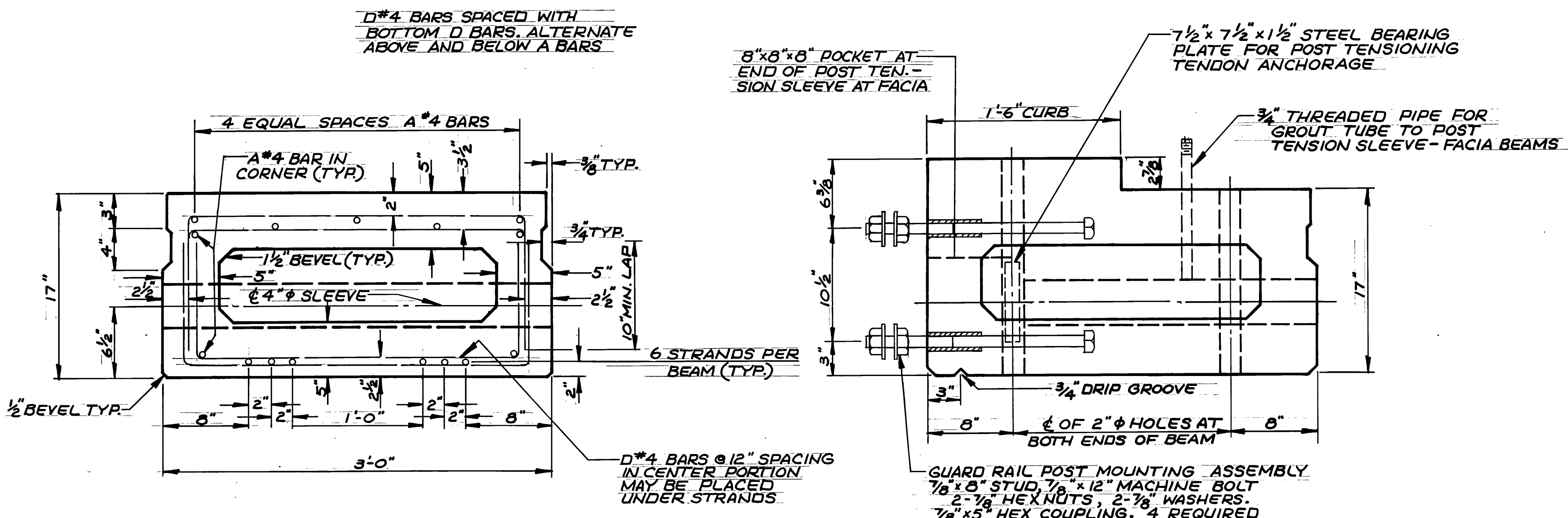
DWG. BY	B.G.	4-29-86
CHKD. BY	R.J.	



**PLAN OF DECK**  
SCALE: 1/4" = 1'-0"



**TYPICAL DECK HALF SECTION**  
SCALE: 1/2" = 1'-0"



**INTERIOR BEAM**  
SCALE: 1 1/2" = 1'-0"

**FACIA BEAM**  
SCALE: 1 1/2" = 1'-0"

**NOTE**  
DIMENSIONS AND REINFORCING STEEL NOT SHOWN ARE IDENTICAL TO INTERIOR BEAMS. MINIMUM REINFORCEMENT SHOWN.

GUARD RAIL POST MOUNTING STUDS, BOLTS, COUPLINGS, NUTS SHALL BE HIGH STRENGTH, A-325 STEEL MEETING THE REQUIREMENTS OF SECTION 8.06.06 OF THE STANDARD SPECIFICATIONS, AND SHALL BE GALVANIZED PER SECT. 3.04.22.

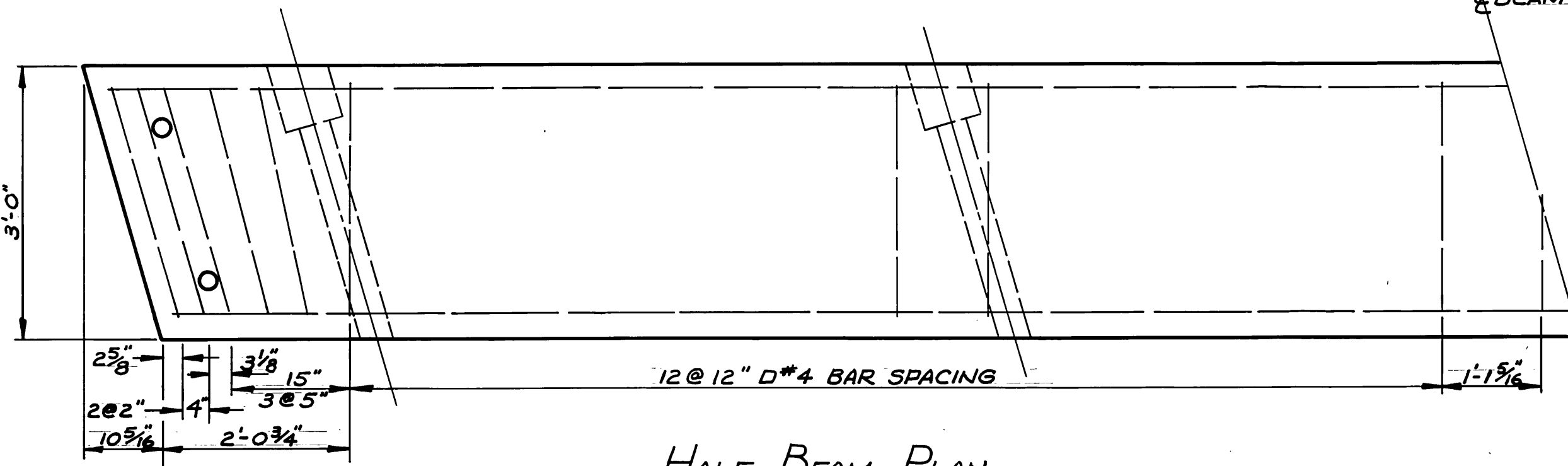
**GENERAL NOTES**

**BRIDGE RAILING SPECIAL**

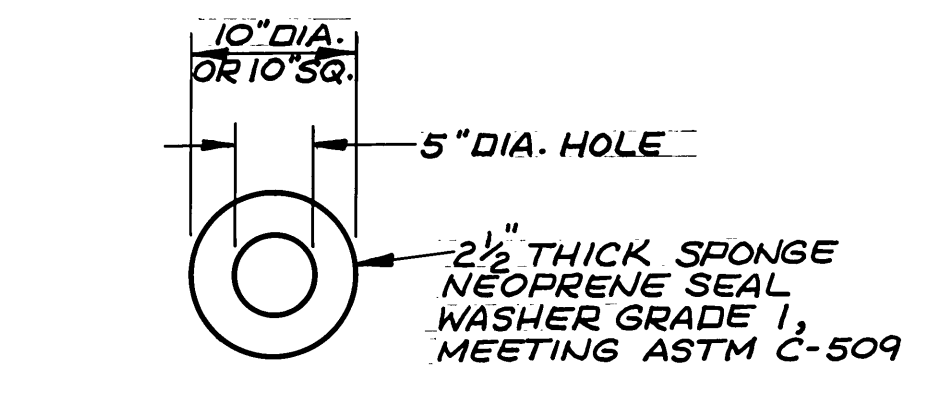
RAIL ELEMENT SHALL BE AS DETAILED ON STANDARD DRAWING III-60 F. AND SHALL BE NO. 10 U.S. STANDARD GAGE. STEEL RAILING POSTS, RAIL ELEMENTS AND BOLTS, NUTS AND WASHERS TO BE GALVANIZED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.

**PRESTRESSED CONCRETE BEAMS**

FABRICATION: MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 1984 EDITION. DESIGN: MICHIGAN DEPARTMENT OF STATE HIGHWAYS STANDARD SPECIFICATIONS FOR DESIGN OF HIGHWAY BRIDGES, 1958 EDITION AND CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS 20-44 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION SHALL NOT EXCEED 1/800 OF SPAN LENGTH. THE VALUE OF "E" USED IN CALCULATING STRAND ELONGATION SHALL BE AS RECOMMENDED BY THE STRAND MANUFACTURER. STRANDS SHALL BE PLACED SYMMETRICALLY ABOUT THE CENTERLINE OF BEAM. PRESTRESSING STRANDS TO BE 1/2" φ; NOMINAL AREA = 0.1531 IN.<sup>2</sup>; GRADE #15 = 270 K.S.I.; ULTIMATE STRENGTH = 41,300 LBS.; INITIAL PRESTRESS = 28,900 LBS. PER STRAND. THE FOLLOWING ITEMS ARE INCIDENTAL TO ITEM "17" PRESTRESSED CONCRETE DECK AS DETAILED:  
POSITION DOWELS, IN PLACE AND HOLES FILLED. TYPE II GROUTING BETWEEN BEAMS. LIFTING DEVICES. STEEL REINFORCEMENT. RAILING POST ANCHOR ASSEMBLIES. SEAL WASHERS BETWEEN BEAMS. POST TENSIONING TENDONS, BEARING PLATES AND ANCHORAGE. INITIAL POST TENSION FORCE IS 82.5K. AFTER BEAMS ARE ERECTED AND HOLES DRILLED FOR POSITION DOWELS, THE HOLES SHALL BE FILLED WITH HOT POURED RUBBER ASPHALT TYPE FILLER FOR EXPANSION END AND TYPE II GROUT FOR FIXED END. HOT POURED FILLER TO EXTEND AT LEAST 3" ABOVE POSITION DOWEL AND REMAINDER OF HOLE FILLED WITH TYPE II GROUT.



**HALF BEAM PLAN**  
SCALE: 3/4" = 1'-0"



**SEAL WASHER DETAIL**

**MONROE COUNTY ROAD COMMISSION**

BRIDGE ON REDMAN ROAD CROSSING NORTH MACON CREEK 2.75 MILES WEST OF MILAN, SECTION 5, TOWN 5 SOUTH, RANGE 6 EAST, MILAN TOWNSHIP, MONROE COUNTY, MICHIGAN

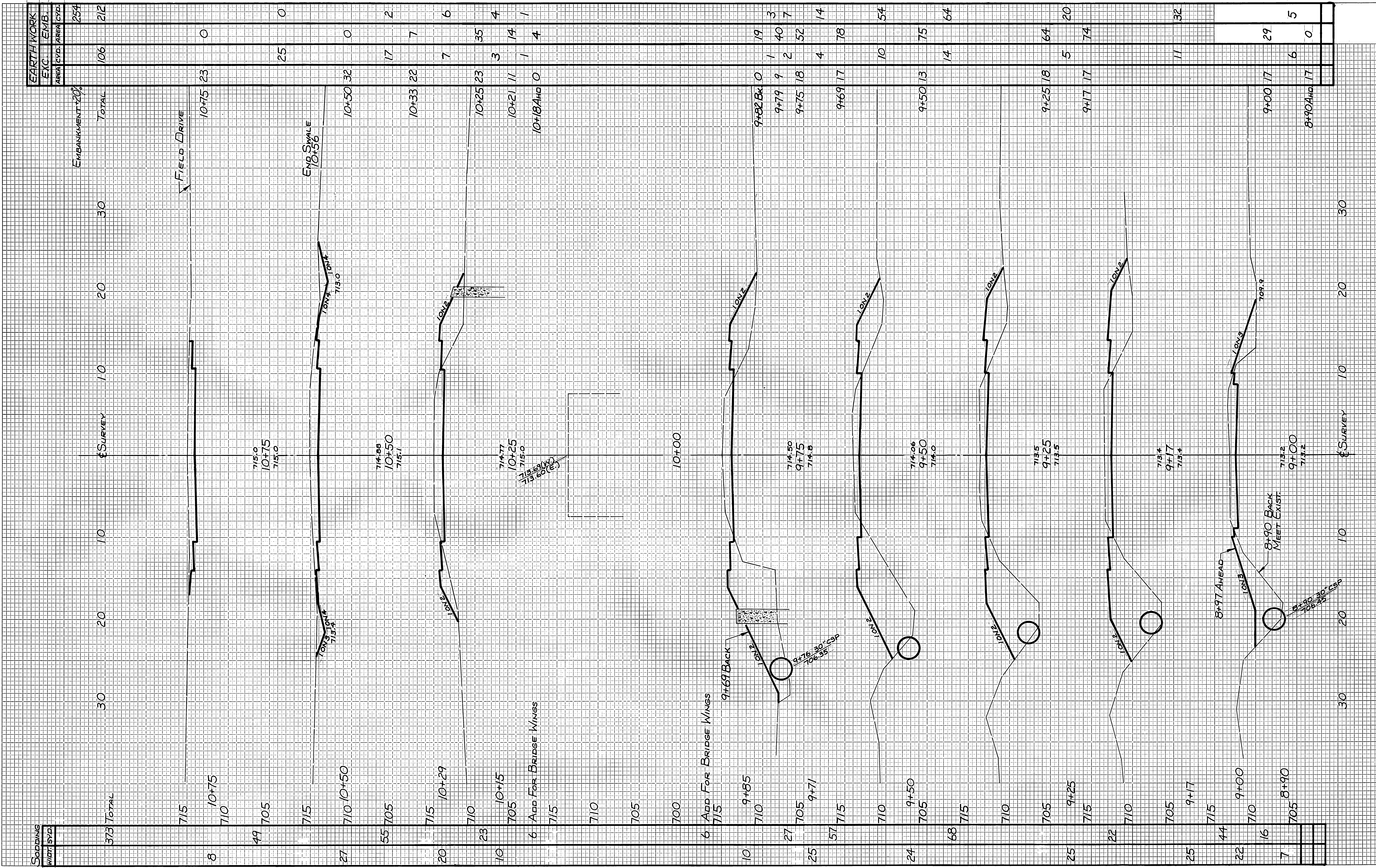
**SUPERSTRUCTURE DETAILS**

DWG. BY	B.G.	4-18-86
CHKD. BY	R.J.	



ORIGINAL SURVEY NOTE BOOK NO. \_\_\_\_\_  
 SURVEYED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

FINAL SURVEY NOTE BOOK NO. \_\_\_\_\_  
 SURVEYED BY **B. Guich** DATE **4/16**  
 TEMPLATE \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_



STATION	EARTHWORK	
	EXC.	EMB.
10+75	23	0
10+50	32	0
10+33	22	7
10+25	23	35
10+21	11	14
10+18	0	4
9+82	0	19
9+79	9	1
9+75	18	2
9+69	17	4
9+50	13	75
9+25	18	64
9+17	17	5
9+00	17	29
8+90	17	6
TOTAL	106	212

STATION	SOILS	WIDTH	SYD.
3+73	TOTAL	30	
7+15		8	
7+10		49	
7+05		27	
7+15		20	
7+10		23	
7+05		10	
7+15		6	
7+10		27	
7+05		25	
7+15		57	
7+10		24	
7+05		68	
7+15		25	
7+10		22	
7+05		25	
7+15		44	
7+10		22	
7+05		16	
7+15		7	

PLATE 3 CROSS SECTION OF P. R. S. R. C. STANDARD  
 DIETZGEN CORPORATION

STA. 9+00 TO 10+75 SH. 7 OF 7  
 BI OF 58-11-10 JOB NO. 25486A