

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 TRANSPORTATION 1990 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES HS20 LOADING LIVE LOAD PLUS IMPACT. DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH.
- THE SOIL BORING LOG REPRESENTS 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 1/2" TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.
- THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES.
 CONCRETE: GRADE 35S, 45D F'C = 3,000 PSI, 4,000
 STEEL REINFORCEMENT FY = 60,000 PSI
 STIRRUPS FOR PRESTRESSED BEAMS FY = 40,000 PSI
 STRUCTURAL STEEL: A36 FY = 36,000 PSI
 PRESTRESSED CONCRETE F'C = 5,000 PSI
 PRESTRESSED STRANDS F'S = 270,000 PSI
- FOR PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL DIAL 800-482-7171 A MINIMUM OF 72 HOURS PRIOR TO EXCAVATING IN THE VICINITY OF UTILITY LINES. ALL "MISS DIG" PARTICIPATING MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM.
- THE EXISTING ABUTMENTS SHALL BE CHECKED AT THE TIME OF STARTING CONSTRUCTION TO VERIFY THE RELATIONSHIP TO THE PROPOSED WORK AS SHOWN ON THESE PLANS. ANY DIFFERENCE REQUIRING CHANGES IN THE NEW WORK SHALL BE REPORTED TO THE DESIGN CONSULTANT.
- THE WORK COVERED BY THESE PLANS INCLUDE A TEMPORARY PEDESTRIAN BRIDGE, CONSTRUCTION OF THE NEW SUPERSTRUCTURE ON EXISTING ABUTMENTS, REMOVAL OF EXISTING BRIDGE SUPERSTRUCTURE, PLACEMENT OF SLOPE PROTECTION, AND CONSTRUCTION OF APPROACHES TO THE LIMITS SHOWN.

DESIGN SPEED: 30mph (VERTICAL)

ADT	YEAR 1990 - 490
	YEAR 2010 - 700

**CHIPPEWA
COUNTY ROAD COMMISSION**

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION

PLAN AND PROFILE OF PROPOSED

**MICHIGAN CRITICAL BRIDGE PROJECT NO.
GOGOMAIN ROAD OVER THE MUNUSCONG RIVER
FEDERAL BRIDGE REPLACEMENT PROJECT NO.**

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

FED. PROJ. NO.	COUNTY	CITY	SHEET NO.	TOTAL SHEETS
	CHIPPEWA	N/A	1	10

INDEX TO SHEETS

SHEET NO.	SHEET TITLE
1	TITLE SHEET
2	TYPICAL CROSS-SECTION /SOIL BORING DATA, DETAILS
3	GENERAL PLAN OF SITE
4	GENERAL PROFILE OF SITE
5	GENERAL PLAN OF STRUCTURE
6	BILL OF MATERIALS & GENERAL NOTES
7	EXISTING ABUTMENT MODIFICATION DETAILS
8	CENTER PIER & PILING DETAILS
9	SUPERSTRUCTURE
10	SUPERSTRUCTURE DETAILS

STANDARD PLANS NOT TO BE PRINTED

SHEET NO.	STANDARD PLAN TITLE
I-ID	DRAINAGE STRUCTURES
I-7B	COVER A
I-10B	COVER E
I-15C	COVER K
II-28G	SIDEWALK RAMP DETAILS
II-29E	DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALKS
II-30D	CONCRETE CURB AND GUTTER C-4 DETAIL
IV-83F	UTILITY TRENCHES
IV-86C	PRECAST CONCRETE END SECTION
V-96C	SOIL EROSION & SEDIMENTATION CONTROL MEASURES
VI-125G	LIGHTED ARROWS AND BARRICADES
XI-103C	NAME PLATE DETAILS

CONTRACT FOR GOGOMAIN ROAD BRIDGE REPLACEMENT OVER THE MUNUSCONG RIVER

COUNTY ROAD COMMISSION APPROVAL

<i>Donald M. Holt</i> CHAIRMAN DONALD M. HOLT	DATE 4/1/91
<i>Joseph I. Ojibway</i> VICE CHAIRMAN JOSEPH I. OJIBWAY	DATE 4/1/91
<i>James E. Badder</i> MEMBER JAMES E. BADDER	DATE 4/1/91
<i>Leslie Laitinen</i> SUPERINTENDENT - MANAGER LESLIE LAITINEN, PE.	DATE 4/1/91

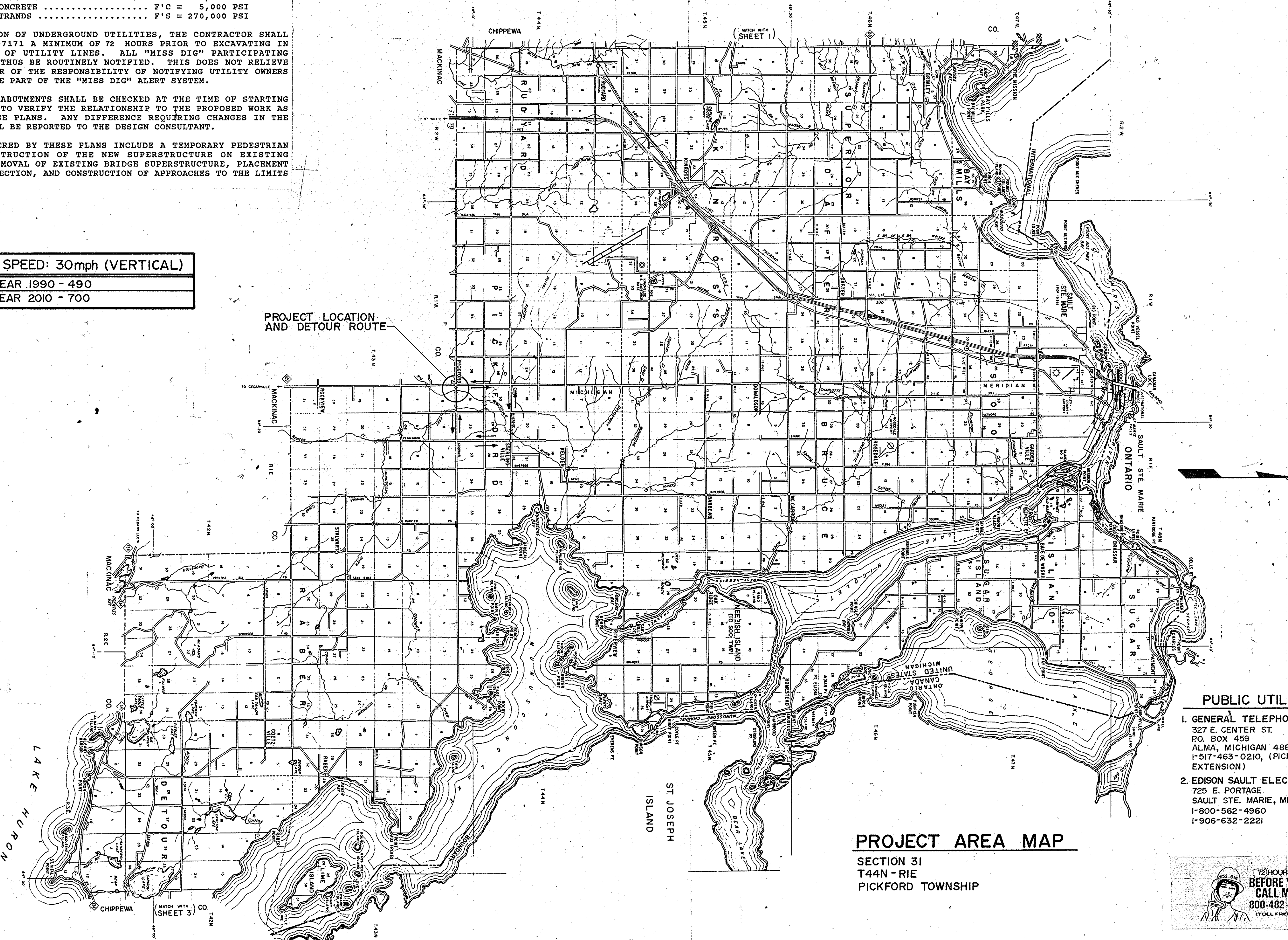
PREPARED UNDER SUPERVISION OF

DARRYLL L. SUNDBERG P.E. 26681
REGISTERED PROFESSIONAL ENGINEER REGISTRATION NO.

SUNDBERG, CARLSON AND ASSOCIATES, INC.
ORGANIZATION

914 W. BARAGA AVE, MARQUETTE, MICHIGAN 49855
ADDRESS

(SEAL)



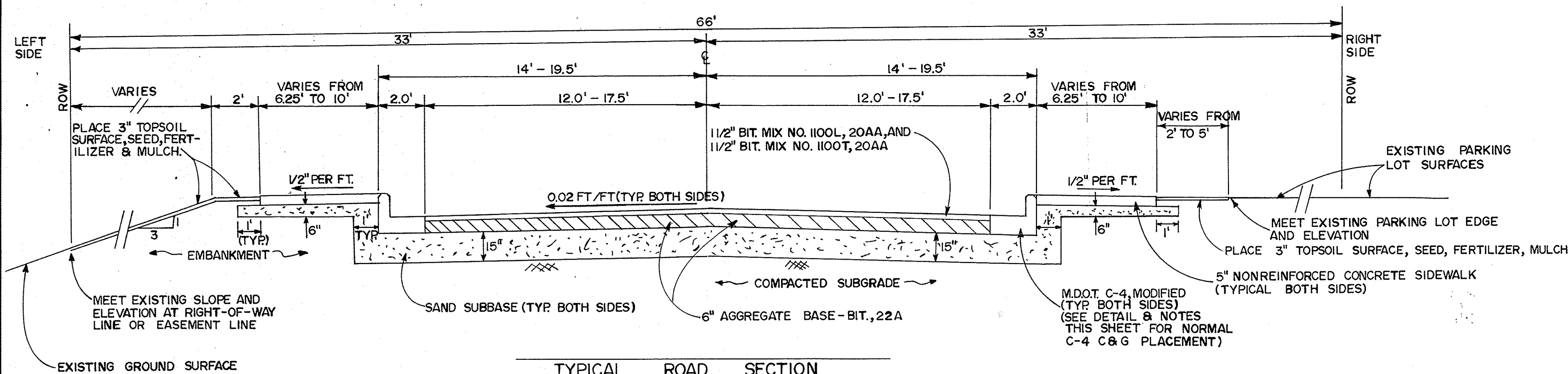
PROJECT AREA MAP

SECTION 31
T44N - R1E
PICKFORD TOWNSHIP

PUBLIC UTILITIES

- GENERAL TELEPHONE CO.
327 E. CENTER ST.
P.O. BOX 459
ALMA, MICHIGAN 48801
1-517-463-0210, (PICKFORD AREA EXTENSION)
- EDISON SAULT ELECTRIC CO.
725 E. PORTAGE
SAULT STE. MARIE, MICHIGAN
1-800-562-4960
1-906-632-2221





TYPICAL ROAD SECTION
(NOT TO SCALE)

STA. 1+80 RT. & LT. TO STA. 2+00 RT. & LT. (MODIFIED C-4 C & G)
 STA. 3+21 RT. & LT. TO STA. 3+41 RT. & LT. (MODIFIED C-4 C & G)
 STA. 1+30 RT. TO STA. 1+80 RT. (NORMAL C-4 C & G)
 STA. 1+40 LT. TO STA. 1+80 LT. (NORMAL C-4 C & G)
 STA. 3+41 RT. & LT. TO STA. 4+00 RT. & LT. (NORMAL C-4 C & G)

NOTES:

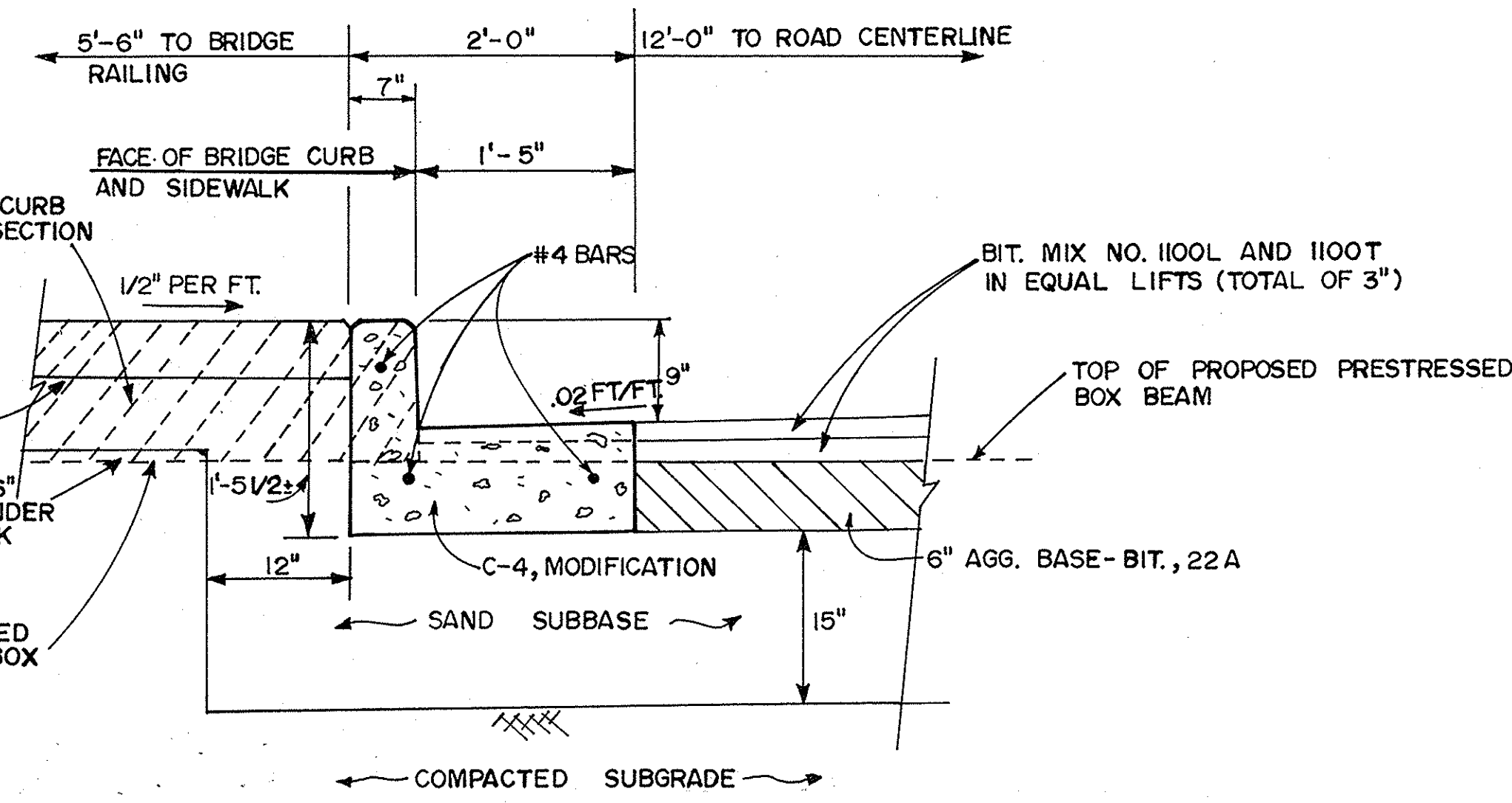
1. BITUMINOUS MIX NO. 1100L AND 1100T SHALL BE PLACED IN UNIFORM LIFTS AT A RATE OF 165 LBS PER SYD. PER LIFT. ASPHALT PENETRATION SHALL BE 200-250.
2. SEE SHEET 6 FOR QUANTITIES AND APPLICATION RATES OF CLASS A SEEDING, CHEMICAL FERTILIZER NUTRIENT, MULCH AND ANCHORING MULCH.
3. MODIFICATION TO THE C-4 CURB AND GUTTER DETAIL SHALL BE DONE BY THE CONTRACTOR TO TRANSITION THE NORMAL C-4 DETAIL TO MEET THE PROPOSED CONFIGURATION OF THE BRIDGE CURB AND SIDEWALK SECTION OF THE SUPERSTRUCTURE. REFER TO DETAIL THIS SHEET FOR MODIFICATION REQUIREMENTS. SEE SHEET 3 FOR LOCATION AND CONSTRUCTION NOTES.
4. MODIFICATION OF THE C-4 CURB AND GUTTER DETAIL SHALL BE INCLUDED IN THE UNIT PRICE PER LINEAL FOOT FOR C-4 CURB AND GUTTER PAY ITEM AND WILL NOT BE PAID FOR SEPARATELY.

FLOOD FREQUENCY (YRS.)	DISCHARGE (C.F.S.)	VELOCITY IN UNCONSTRICTED CHANNEL (F.P.S.)	WATER ELEVATION UNCONSTRICTED CHANNEL	ELEVATION CONSTRICTED BY EXISTING BRIDGE AND BACKWATER	ELEVATION CONSTRICTED BY PROPOSED BRIDGE AND BACKWATER	VELOCITY BY EXISTING BRIDGE (FPS)	VELOCITY BY PROPOSED BRIDGE (FPS)	BACKWATER EXISTING BRIDGE (FEET)	BACKWATER PROPOSED BRIDGE (FEET)
100	3,860	2.7	602.13	602.11	602.17	2.8	3.6	0.00	0.06

CONTRIBUTING DRAINAGE AREA: 97.3 SQ. MILES
 DISCHARGE: 50 YEAR = 3520 CFS 100 YEAR = 3,860 CFS
 EXISTING FLOW AREA = 3,396.9 SFT AT H.W. ELEV. OF 602.11 (UPSTREAM SIDE OF BRIDGE)
 TOTAL END AREA = 1,481.0 SFT
 PROPOSED FLOW AREA = 1,060.1 SFT AT H.W. ELEV. OF 602.17 (UPSTREAM SIDE OF BRIDGE)
 PROPOSED TOTAL END AREA = 1,190.0 SFT
 INCREASE IN BACKWATER ELEVATION AND REDUCTION IN FLOW AREA ARE DUE TO THE ADDITION OF TWO PIERS (PILES WITH CONC. CAP) OUTSIDE OF THE NORMAL FLOW STAGE AREA OF THE RIVER.

HYDRAULIC DESIGN DATA

SECTION 31, T44 N, R1E
 PICKFORD TOWNSHIP
 CHIPPEWA COUNTY



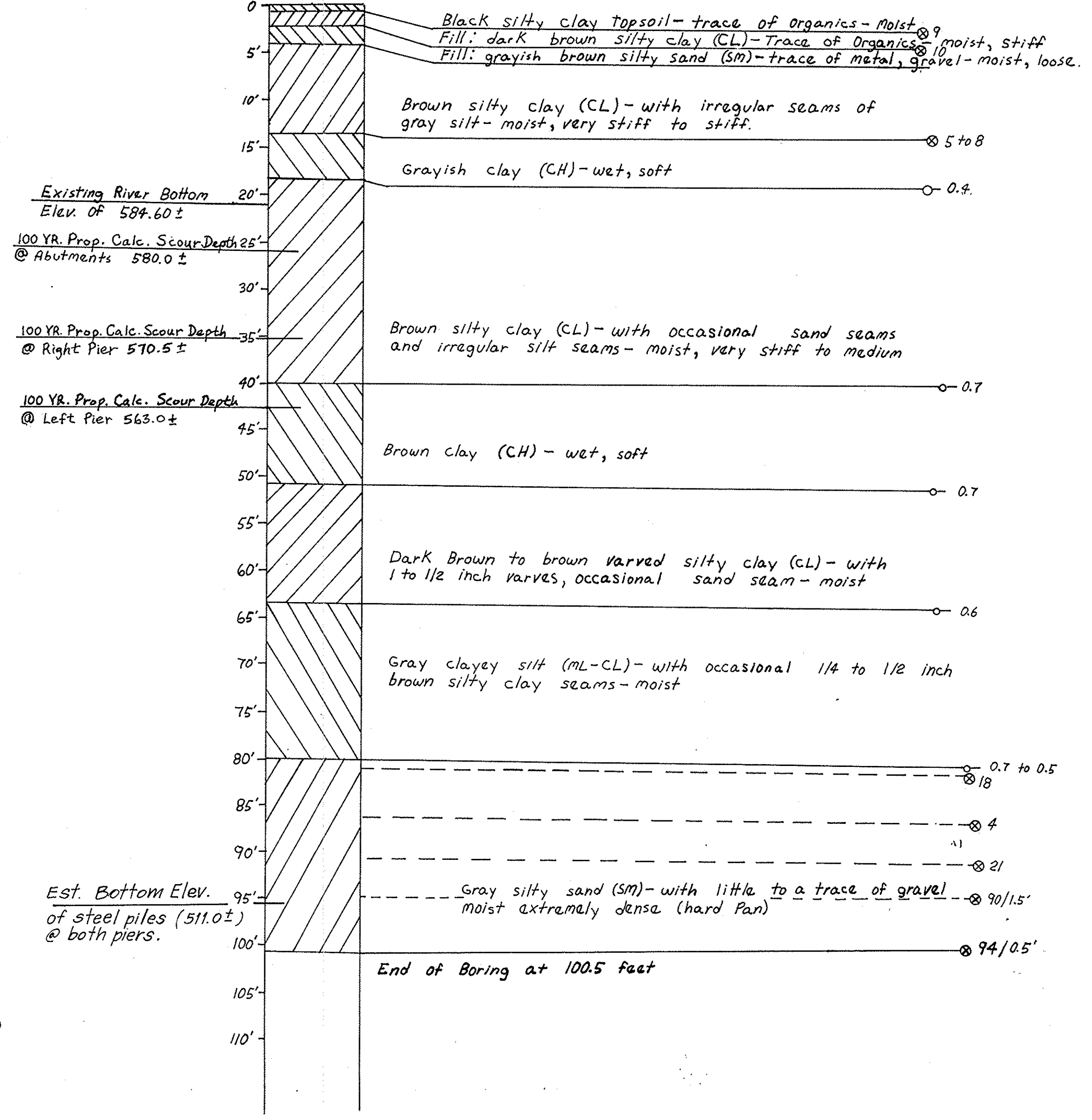
MODIFICATION DETAIL TO M.D.O.T. C-4 CURB AND GUTTER
(NOT TO SCALE)

1. MODIFICATION OF THE C-4 CURB AND GUTTER DETAIL AS SHOWN IN MDOT STANDARD PLAN II-30D SHALL BE SUCH THAT THE HEIGHT OF CURB, CURB FACE, AND GUTTER PAN MEET THE CONFIGURATION OF THE 12" HIGH CONCRETE BRIDGE CURB AND SIDEWALK SECTION, THE 9" ELEVATION DIFFERENCE BETWEEN THE TOP OF THE BRIDGE CURB AND BITUMINOUS SURFACE AT THE GUTTER, AND BITUMINOUS PAVEMENT CROSS SLOPE.
2. 1" FIBER JOINT FILLER SHALL BE PLACED AS PER MDOT STANDARD PLAN II-30D.

SOIL BORING LOG

Soil Boring No. One
 Sta. 1+90, 38' RT., Elev. = 606.4 (Surface)

- ⊙ Blows per Foot (standard penetration)
- Tons per SFT (unconfined compressive strength)



Note: Bottom elevations of existing piles at abutments are unknown. Existing bridge plans are not available.

SC Sundberg, Carlson and Associates, Inc.
 Architects · Engineers · Land Surveyors · Planners

INITIALS	DATE
DESIGN RJR / GW	12 / 17 / 90
DRAWN MR	12 / 17 / 90
CHECKED RJR	3 / 15 / 91
APPROVED	/ /

CHIPPEWA COUNTY ROAD COMMISSION
 GOGOMA IN ROAD BRIDGE REPLACEMENT
 OVER MUNUSCONG RIVER

NO.	REVISIONS	BY	DATE	CONTROL
C	ISSUED FOR DNR PERMIT MODIFICATION	RJR	6/5/91	MDNR 3/91 6/91
B	ISSUED FOR FINAL PLAN REVIEW	RJR	3/18/91	MDOT 12/90 3/91
A	ISSUED FOR GRADE INSPECTION	RJR	12/19/90	CLIENT 12/90 3/91 6/91

TYPICAL X-SECTION, DESIGN DATA, DETAILS, SOIL BORING

PROJ. NO. 90-326 REV. NO. C

QUANTITIES THIS SHEET

QTY	UNIT	WORK ITEM
565	SYD	REMOVE BITUMINOUS SURFACE
265	LFT	REMOVE CURB AND/OR GUTTER
75	SYD	REMOVE CONC. SIDEWALK
1.75	STA	MACHINE GRADING, MOD.
2.00	CYD	15" SAND SUBBASE, CIP
524	SYD	6" AGG. BASE - BIT., 22A
45	TONS	BIT. MIX NO. 1100 L, 20 AA
55	TONS	BIT. MIX NO. 1100 T, 20AA
1	L SUM	SLOPE RESTORATION, MOD.
795	SYDS	HEAVY RIPRAP
12	EACH	REMOVE TREES, MOD.

BM # 1B SPIKE IN POWER POLE
ELEV. = 609.58
STA 0+96, 24' LT.

STA 1+90 13.5' LT.
REMOVE EXISTING DRAINAGE STRUCTURE AND 18' OF 10" STORM SEWER PIPE. PLACE 2' DIA. DRAINAGE STRUCTURE WITH "K" COVER
RIM ELEV. = 606.92
12" I.E. S. = 600.70
12" I.E. N. = 600.70
PLACE 18 LFT OF 12" C-76-IX PIPE T.D.2

STA 1+90 32' LT.
REMOVE 28' OF 10" STORM SEWER PIPE AND REMAINS OF CONCRETE HEADWALL. PLACE 4' DIA. DRAINAGE STRUCTURE WITH "A" COVER
RIM ELEV. = 606.0±
12" I.E. S = 599.00
12" I.E. NE = 599.00
12" OUTLET ELEV. = 592.00
PLACE 20 LFT OF 12" C-76-IX PIPE
PLACE 1 EACH 12" CONC. END SECTION

UTILITIES TO BE RELOCATED TEMPORARILY DURING CONSTRUCTION BY UTILITY OWNERS AS A PART OF THIS CONTRACT.

BM #1 SPIKE IN BASE OF POWER POLE, ELEV. = 605.42
STA 3+35, 25' LT.

BM # 1A R.R. SPIKE IN POWER POLE
ELEV. = 606.14
STA 4+97, 23' LT.

SCALE: 1" = 20'
EXISTING CONTOURS: 2' INTERVALS

STA 3+85 20' LT.
REMOVE EXISTING DRAINAGE STRUCTURE PLACE 4' DIA. DRAINAGE STRUCTURE W/"K" COVER
RIM ELEV. = 602.8
PLACE ON EXISTING 15" STORM SEWER OUTLET PIPE CONNECT (2 EACH) EXISTING STORM SEWER PIPES E AND SE.
PROP. 12" I.E. S = 597.70
EXIST. 15" I.E. NW = 597.34
EXIST. 15" I.E. E = 597.69
EXIST. 10" I.E. SE = 597.67 (PLUG AND ABANDON)

STA 3+85 13' LT.
PLACE 2' DIA. DRAINAGE STRUCTURE W/"K" COVER.
RIM ELEV. = 603.84
12" I.E. N = 597.80
12" I.E. S = 597.80
PLACE 7 LFT OF 12" C-76-IX PIPE T.D.2

STA 4+00 TO 4+25
END FULL DEPTH SAND SUBBASE AT STA 4+25 AND TRANSITION TO ZERO THICKNESS AT STA 4+25 TRANSITION 24' PROPOSED WIDTH OF NEW PAVEMENT TO EXISTING PAVEMENT WIDTH OF 22'

STA 3+21 TO 3+41 AND STA 1+90 TO 2+00
TRANSITION AREA FOR MODIFYING C-4 C&G. TO MEET CONFIGURATION OF BRIDGE CURB AND SIDEWALK SECTION AT STA 3+21

STA 3+85 13' RT.
PLACE 2' DIA. DRAINAGE STRUCTURE W/"K" COVER
RIM ELEV. = 603.84
12" I.E. N. = 598.10
12" I.E. S. = 599.10
PLACE 27 LFT OF 12" C-76-IX PIPE T.D.2

STA 3+85 21' RT.
AT EXISTING CATCH BASIN CONNECT AND PLACE 8 LFT OF 12" C-76-IX PIPE, T.D.2
12" I.E. N. = 600.90
EX. RIM ELEV. = 602.58
PLUG AND ABANDON EXISTING 10" PIPE

CURB & GUTTER PLACEMENT = 232 LFT. SEE SHEET 2 FOR DETAIL.
STA 1+30 RT. TO 1+43 RT. (RADIUS)
STA 1+62 RT. TO 2+00 RT.
STA 1+30 LT. TO 2+00 LT.
STA 3+21.3 RT. TO 4+00 RT.
STA 3+21.3 LT. TO 4+00 LT.
TRANSITION NEW CURB & GUTTER TO MEET EXISTING CURB PROFILE AND ELEV. AT ALL POINTS OF CONNECTION WITH EXISTING CURB.

PLACE 5" CONC. SIDEWALK IN THE FOLLOWING LOCATIONS AS DIRECTED BY THE ENGINEER (861 SFT TOTAL):
STA 1+30 RT. TO 1+43 RT.
STA 1+63 RT. TO 2+00 RT.
STA 1+80 LT. TO 2+00 LT.
STA 3+21.3 RT. TO 3+41 RT.
STA 3+21.3 LT. TO 3+41 RT.

STA 1+50 LT. AND RT.
PLACE 2 EACH M.D.O.T. "M" TYPE (60 LFT) DRIVE OPENINGS AS DIRECTED BY THE ENGINEER. MATCH EXISTING CONCRETE PAVEMENT FOR DRIVE ON THE LEFT SIDE. PLACE 2" OF BIT. MIX NO. 1100T AND 6" OF AGGREGATE BASE-BIT. IN DRIVEWAY APPROACH ON THE RIGHT SIDE.

STA 1+90 13.5 RT.
REMOVE EXISTING DRAINAGE STRUCTURE AND 24' OF 10" STORM SEWER PIPE
PLACE 2' DIA. DRAINAGE STRUCTURE WITH "K" COVER
RIM ELEV. = 606.92
12" I.E. N. = 601.00
PLACE 27 LFT OF 12" C-76-IX PIPE, T.D.2

Sundberg, Carlson and Associates, Inc.
Architects · Engineers · Land Surveyors · Planners · Constructors

INITIALS	DATE
DESIGN RJR	12/18/90
DRAWN MR	12/18/90
CHECKED RJR	3/15/91
APPROVED	/ /

CHIPPEWA COUNTY ROAD COMMISSION
GOGOMAIN ROAD BRIDGE REPLACEMENT
OVER THE MUNUSCONG RIVER

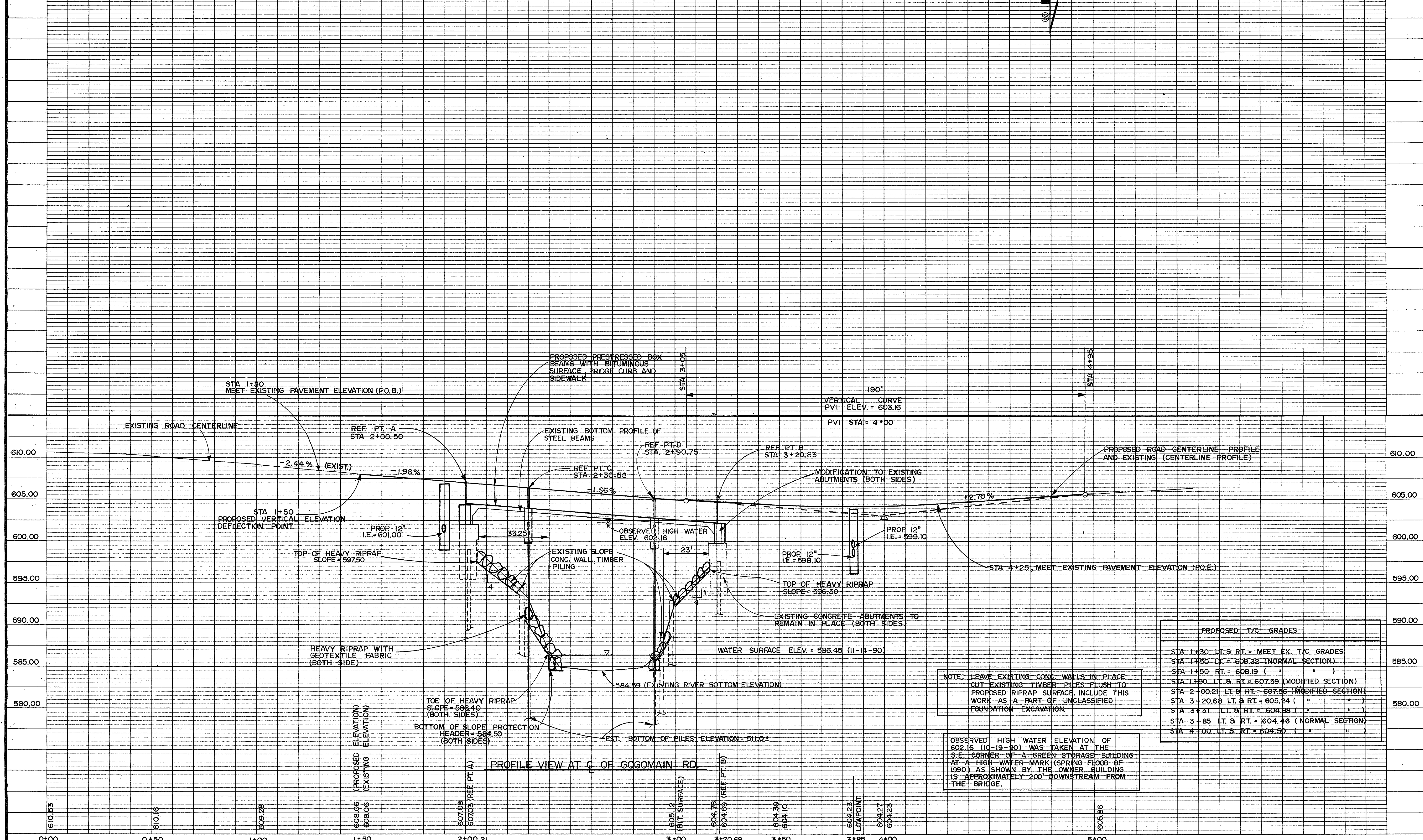
NO.	REVISIONS	BY	DATE	CONTROL
C	ISSUED FOR DNR PERMIT MODIFICATION	RJR	6-5-91	FIELD
B	ISSUED FOR FINAL PLAN REVIEW	RJR	3-19-91	CLIENT
A	ISSUED FOR GRADE INSPECTION	RJR	12-20-90	DATE TO

GENERAL PLAN OF SITE

PROJ. NO. 90-326 REV. NO. C

0+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50

SCALE: 1" = 20' HORIZONTAL
1" = 5' VERTICAL



PROPOSED T/C GRADES	
STA 1+30 LT. & RT.	= MEET EX. T/C GRADES
STA 1+50 LT.	= 608.22 (NORMAL SECTION)
STA 1+50 RT.	= 608.19 (" ")
STA 1+50 LT. & RT.	= 607.59 (MODIFIED SECTION)
STA 2+00.21 LT. & RT.	= 607.56 (MODIFIED SECTION)
STA 3+20.68 LT. & RT.	= 605.24 (" ")
STA 3+31 LT. & RT.	= 604.88 (" ")
STA 3+85 LT. & RT.	= 604.46 (NORMAL SECTION)
STA 4+00 LT. & RT.	= 604.50 (" ")

NOTE: LEAVE EXISTING CONC. WALLS IN PLACE CUT EXISTING TIMBER PILES FLUSH TO PROPOSED RIPRAP SURFACE. INCLUDE THIS WORK AS A PART OF UNCLASSIFIED FOUNDATION EXCAVATION.

OBSERVED HIGH WATER ELEVATION OF 602.16 (10-19-90) WAS TAKEN AT THE S.E. CORNER OF A GREEN STORAGE BUILDING AT A HIGH WATER MARK (SPRING FLOOD OF 1980) AS SHOWN BY THE OWNER. BUILDING IS APPROXIMATELY 200' DOWNSTREAM FROM THE BRIDGE.

PROFILE VIEW AT C OF GOGOMAIN RD.

SC Sundberg, Carlson and Associates, Inc.
Architects · Engineers · Land Surveyors · Planners

INITIALS	DATE
DESIGN RJR	12/17/90
DRAWN MR	12/17/90
CHECKED RJR	3/15/91
APPROVED	/ /

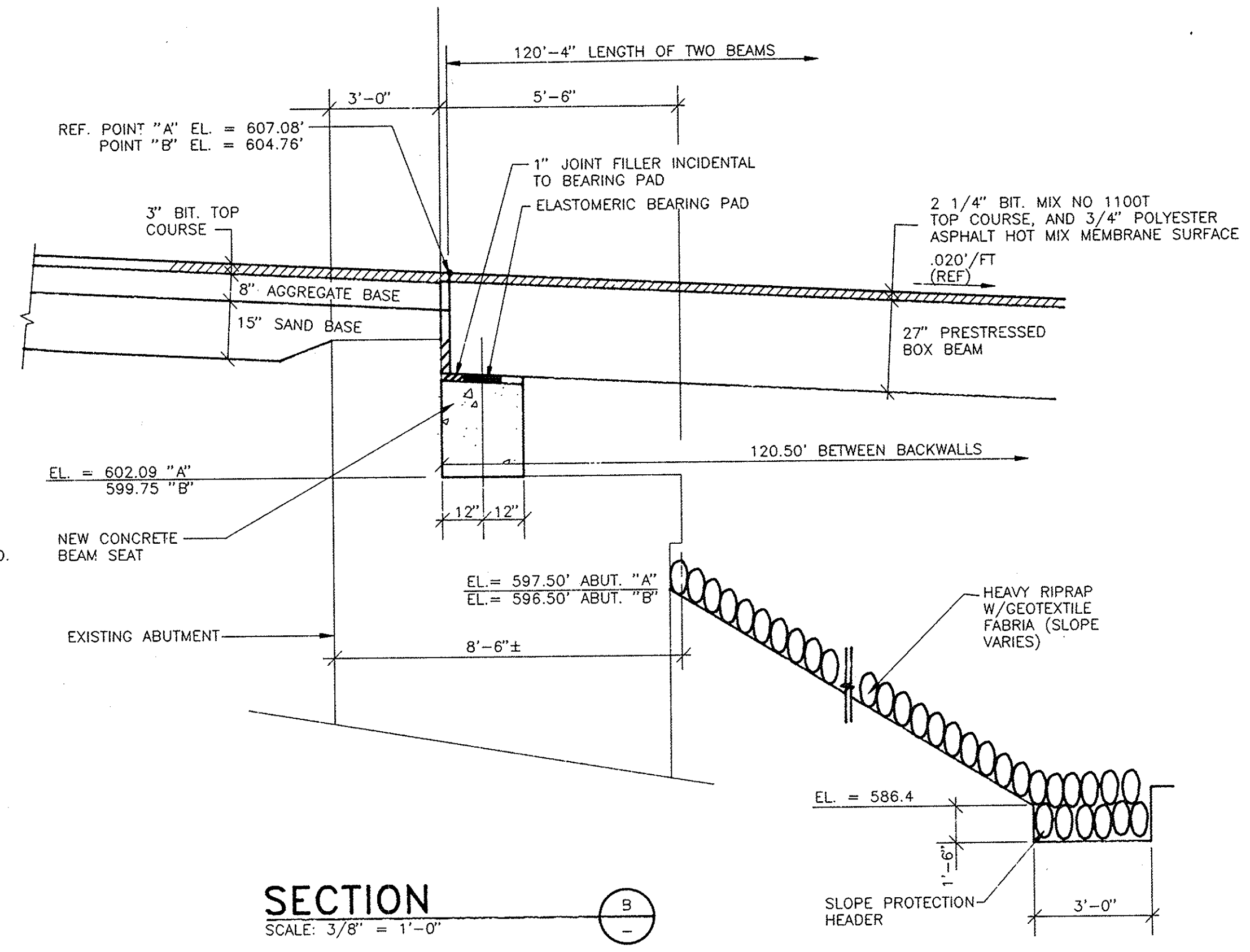
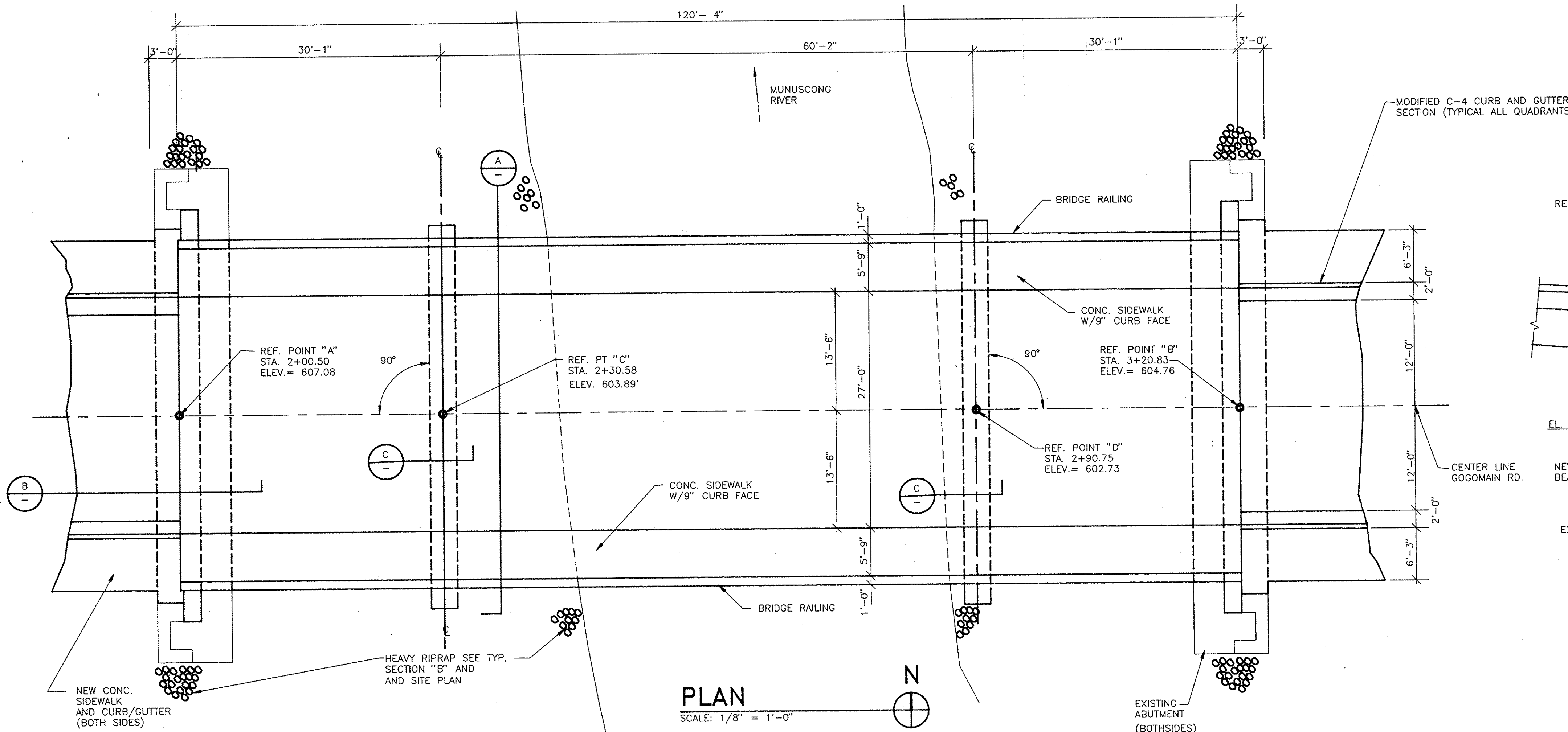
CHIPPEWA COUNTY ROAD COMMISSION
GOGOMAIN ROAD BRIDGE REPLACEMENT
OVER THE MUNUSCONG RIVER

NO.	REVISIONS	BY	DATE
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B	ISSUED FOR FINAL PLAN REVIEW	RJR	3-18-91
A	ISSUED FOR GRADE INSPECTION	RJR	12-20-90

MDNR	MDOT	FIELD	CLIENT	DATE TO	A	B	C	O	1	2	3

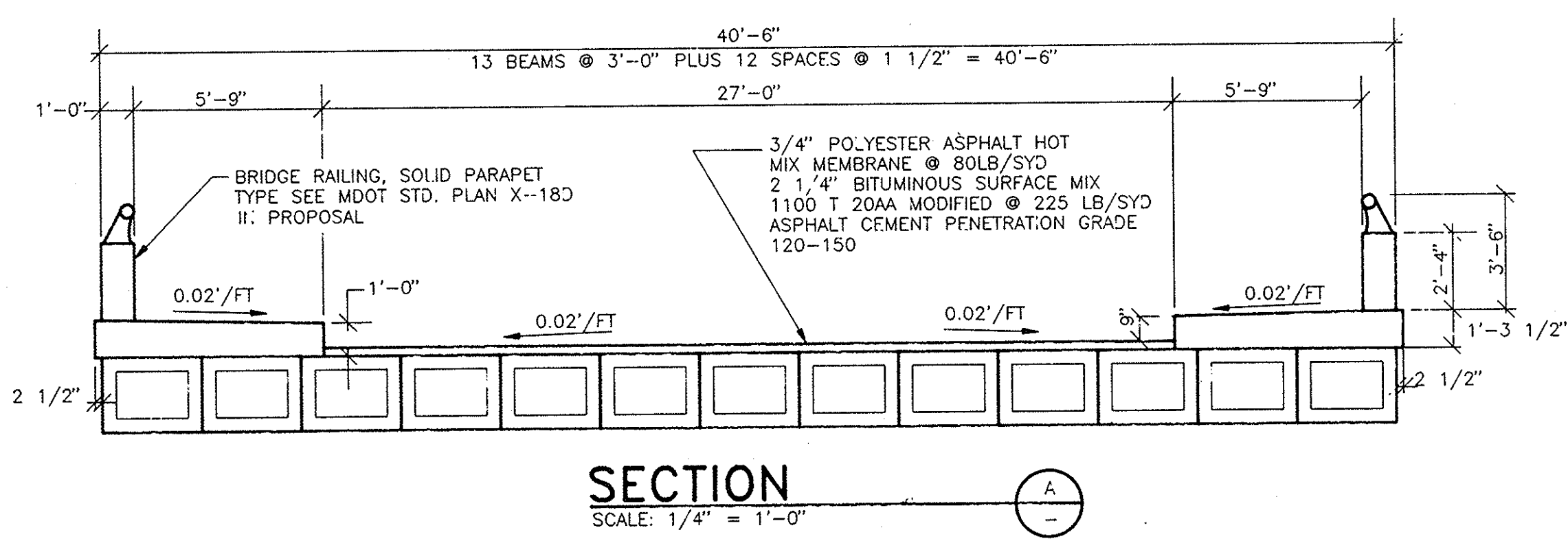
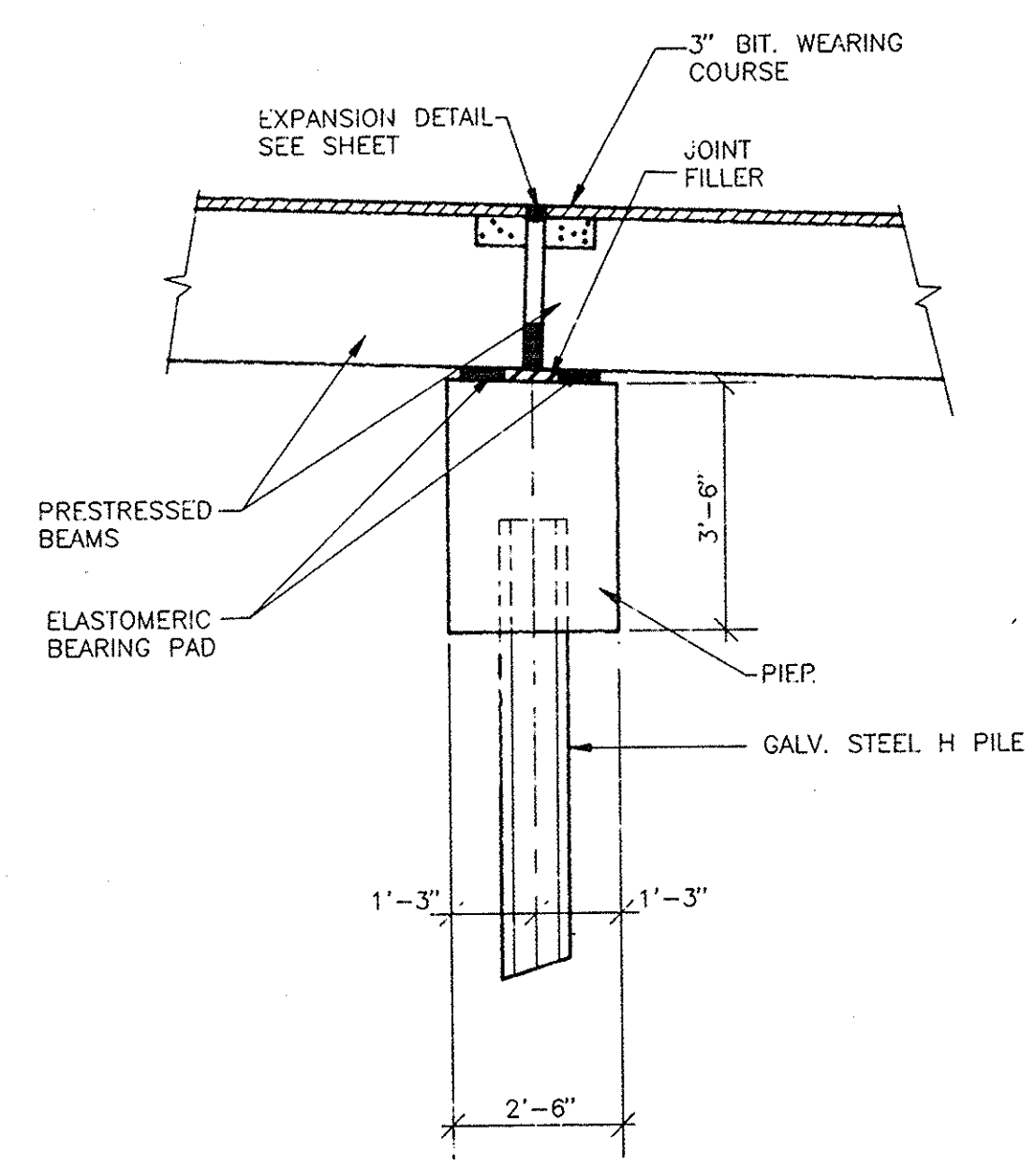
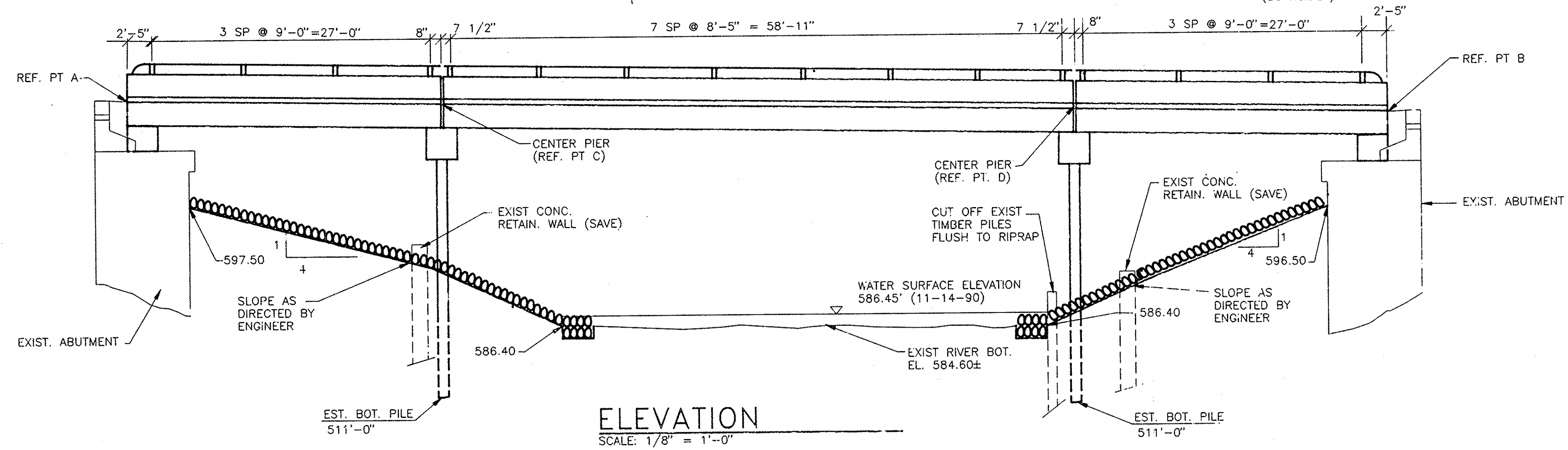
GENERAL PROFILE OF SITE
PROJ. NO. 90-326 REV. NO. C

4
10



NOTE: SLOPE PROTECTION HEADER CONSTRUCTION

1. PLACEMENT OF SLOPE PROTECTION HEADER W/GEOTEXTILE FABRIC SHALL BE DONE WHILE THE COFFER DAMS ARE IN PLACE.
2. EXCAVATION AND BACKFILLING WORK ASSOCIATED WITH PLACEMENT OF THE PROTECTION HEADERS SHALL BE INCLUDED IN THE COST OF HEAVY RIPRAP AND WILL NOT BE PAID FOR SEPARATELY.



SC Sundberg, Carlson and Associates, Inc.
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	INITIALS	DATE
DESIGN	BH, RJR	12/18/90
DRAWN	DJB	12/19/90
CHECKED	BH, RJR	12/20/90
APPROVED	/	/

CHIPPEWA COUNTY ROAD COMMISSION
GOGOMAIN ROAD BRIDGE REPLACEMENT
OVER THE MUNUSCONG RIVER

NO.	REVISIONS	BY	DATE	CONTROL
C	ISSUED FOR DNR PERMIT MODIFICATION	BH	6/10/91	FIELD
B	ISSUED FOR APPROVAL	BSH	5/19/91	CLIENT
A	ISSUED FOR GRADE INSPECTION	BH	1/17/91	DATE TO

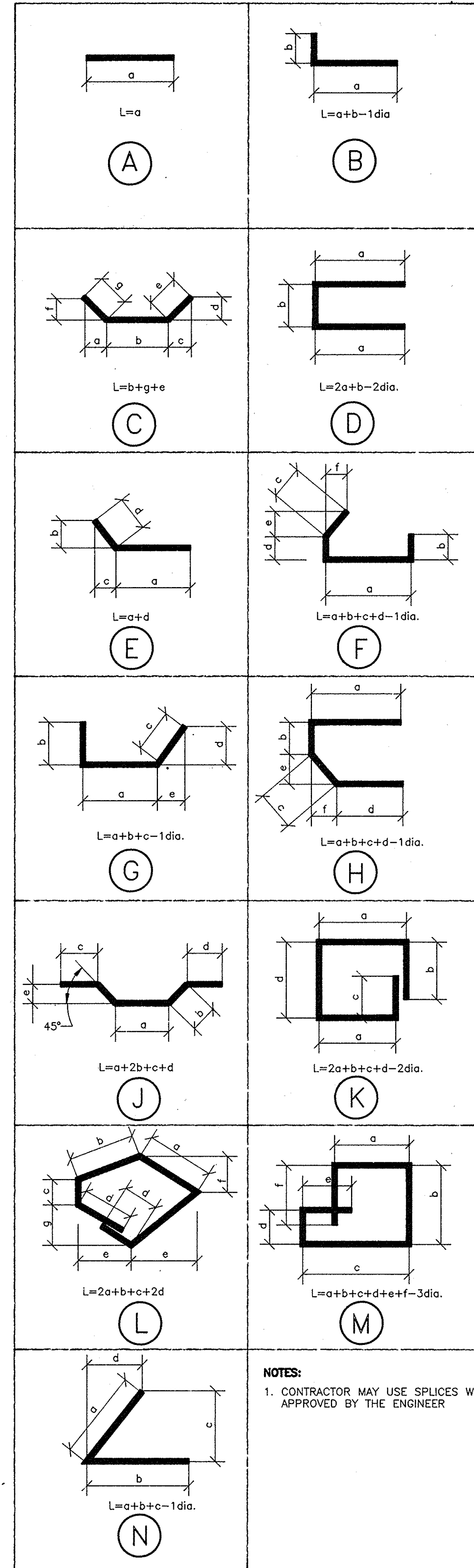
GENERAL PLAN OF STRUCTURE
PROJ. NO. 90-326 REV. NO. C

ABUTMENT REINFORCING STEEL

BAR	a	b	c	d	e	f	g	h	SIZE	LENGTH	NO. REQ'D	TOTAL WEIGHT
A1	20'-0"								#4	20'-0"	24	321
A2	9'-4"								#4	9'-4"	12	75
A3	2'-3"								#4	2'-3"	124	193
A16	45'-6"								#6	43'-6"	24	1568
D1	1'-5"	1'-6 1/2"							#4	4'-4 1/2"	124	362
D3	2'-4 1/2"	2'-1 1/2"							#4	6'-10 1/2"	154	707
D4	3'-9"	2'-1"							#4	9'-7"	8	51

SUPERSTRUCTURE REINFORCING STEEL (EPOXY COATED)

BAR	a	b	c	d	e	f	g	h	SIZE	LENGTH	NO. REQ'D	TOTAL WEIGHT
EA1	20'-0"								#4	20'-0"	48	641
EA2	29'-6"								#4	29'-6"	12	212
EA3	22'-2"								#4	22'-2"	12	146
EA4	20'-0"								#4	20'-0"	40	534
EA5	22'-4"								#4	22'-4"	10	130
EA6	29'-6"								#4	29'-6"	10	178
ED1	2'-11"	5 3/4"							#4	3'-5"	174	397
EF1	6'-0 1/2"	8"	11 1/2"	0	-	-			#4	7'-8"	158	809
EF2	6'-1"	8"	11 1/2"	0	-	-			#4	7'-8 1/2"	4	21
EF3	6'-2"	8"	11 1/2"	0	-	-			#4	7'-9 1/2"	4	21



NOTES:
1. CONTRACTOR MAY USE SPLICES WHEN APPROVED BY THE ENGINEER

APPROACHES

APPROACHES - ITEM 01 (PARTICIPATING)	QUANTITY	UNITS
REMOVE TREES, MODIFIED	12	EACH
REMOVING SEWER	70	LFT
REMOVING CURB AND GUTTER	265	LFT
REMOVING SIDEWALK	75	SYD
REMOVING CONCRETE HEADWALL	1	EACH
REMOVING DRAINAGE STRUCTURE	3	EACH
MACHINE GRADING, MODIFIED	1.75	STA
SUBBASE (C.I.P.)	265	CYDS
EROSION CONTROL FENCE	65	LFT
AGGREGATE BASE UNDER BITUMINOUS (6" IN PLACE)	584	SYD
REMOVING BITUMINOUS SURFACE	565	SYD
BITUMINOUS MIXTURE NO. 1100L, 20AA	45	TONS
BITUMINOUS MIXTURE NO. 1100T, 20AA	55	TONS
CULVERT END SECTION - CONCRETE, 12"	1	EACH
CLASS C76-1V SEWER, 12" T.D.2	107	LFT
DRAINAGE STRUCTURE, 4' DIAMETER	2	EACH
DRAINAGE STRUCTURE, 2' DIAMETER	4	EACH
DRAINAGE STRUCTURE COVERS	1575	LBS
CONCRETE CURB AND GUTTER, DETAIL C-4	232	LFT
CONCRETE DRIVEWAY OPENING, DETAIL M	94	LFT
CONCRETE SIDEWALK, 5"	861	SFT
SIDEWALK RAMP	3	EACH
BARRICADE TYPE II, LIGHTED AND FURNISHED	30	EACH
BARRICADE TYPE II, LIGHTED AND OPERATED	30	EACH
BARRICADE TYPE III, LIGHTED AND FURNISHED	4	EACH
BARRICADE TYPE III, LIGHTED AND OPERATED	4	EACH
SIGN, TYPE B TEMPORARY	226	SFT
SLOPE RESTORATION	1	LSUM
MOBILIZATION	1	LSUM
TEMPORARY PEDESTRIAN BRIDGE	1	LSUM

GENERAL NOTES

SEDIMENTATION AND SOIL EROSION CONTROL REQUIRED FOR THE PROJECT SHALL BE IN ACCORDANCE WITH THE "MICHIGAN SOIL AND SEDIMENTATION CONTROL ACT 374", M.D.O.T. SECTION 2.13.04, 1984 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MICHIGAN DEPARTMENT OF NATURAL RESOURCES PERMIT. ALL ITEMS REQUIRED FOR SOIL EROSION CONTROL WILL BE PAID AT THE CONTRACT UNIT PRICE. THOSE ITEMS NOT IN THE PROPOSAL ARE INCIDENTAL TO PROJECTS COSTS AND WILL NOT BE PAID FOR SEPARATELY.

MACHINE GRADING - MODIFIED

THE ESTIMATED QUANTITIES FOR MACHINE GRADING - MODIFIED (FOR INFORMATION ONLY) ARE AS FOLLOWS:

- CLEARING 1.75 STA
- EXCAVATION 775.0 CYDS
- EMBANKMENT (L.M.) 30.0 CYDS
- SAWCUT PAVEMENT 105.0 LFT

MACHINE GRADING, MODIFIED, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER STATION, WHICH PRICE SHALL BE PAYMENT IN FULL FOR ALL THE WORK SPECIFIED ABOVE AND IN THE SPECIAL PROVISION.

SLOPE RESTORATION - MODIFIED

THE ESTIMATED QUANTITIES FOR SLOPE RESTORATION - MODIFIED (FOR INFORMATION ONLY) ARE AS FOLLOWS:

- 3" TOPSOIL SURFACE 690.0 SYDS
- CLASS "A" SEEDING AT 100 LBS/ACRE 14.0 LBS
- CHEMICAL FERTILIZER NUTRIENT AT 240 LBS/ACRE ... 34.0 LBS
- MULCH @ 2 TONS/ACRE 0.28 TONS
- ANCHORING MULCH 0.14 ACRE

THE ITEM SLOPE RESTORATION, MODIFIED, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE, LUMP SUM, WHICH PRICE SHALL BE PAYMENT IN FULL FOR ALL THE WORK SPECIFIED ABOVE AND IN THE SPECIAL PROVISION.

CONSTRUCTION AND DETOUR SIGNING, BARRICADING

SEE SPECIAL PROVISIONS FOR DETOURING TRAFFIC AND PEDESTRIAN ACCESS, TEMPORARY PEDESTRIAN BRIDGE, CONSTRUCTION AND DETOUR SIGNING AND BARRICADING AND DETOUR SIGNING MAP FOR INFORMATION ON WORK ITEMS, DETAILS, NOTES AND QUANTITIES.

STRUCTURAL NOTES

- ONE TEST PILE ON THE PIER REQUIRED. SEE PLAN.
- ESTIMATED PILE TIP PENETRATION ELEVATION IS 511.0
- ALL PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS AS COMPUTED BY SECTION 5.02.07 OF THE MDOT STANDARD SPECIFICATION.
- STEEL PILES SHALL BE A36 HP12x53.
- PILING SHALL BE GALVANIZED FROM THE TOP TO ELEVATION 580.0 IN ACCORDANCE WITH ASTM A123.
- PILES ARE TO BE DRIVEN TO SUCH ACCURACY THAT THE ENDS OF THE PILES TO BE EMBEDDED IN CONCRETE ARE WITHIN 3' OF THE LOCATION SHOWN ON THE PLANS.
- FOR PILE SPLICE DETAIL, SEE SHEET 8.
- THE TOP OF THE PIER SHALL BE GIVEN AN APPLICATION OF PROTECTIVE SEALANT COATING FOR CONCRETE PER SECTION 5.03.21 AFTER THE ELASTOMERIC BEARINGS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE.

SC Sundberg, Carlson and Associates, Inc.
Architects · Engineers · Land Surveyors · Planners

	INITIALS	DATE
DESIGN	BH RJR	3/10/91
DRAWN	DB	3/12/91
CHECKED	BH, RJR	3/14/91
APPROVED	/ /	/ /

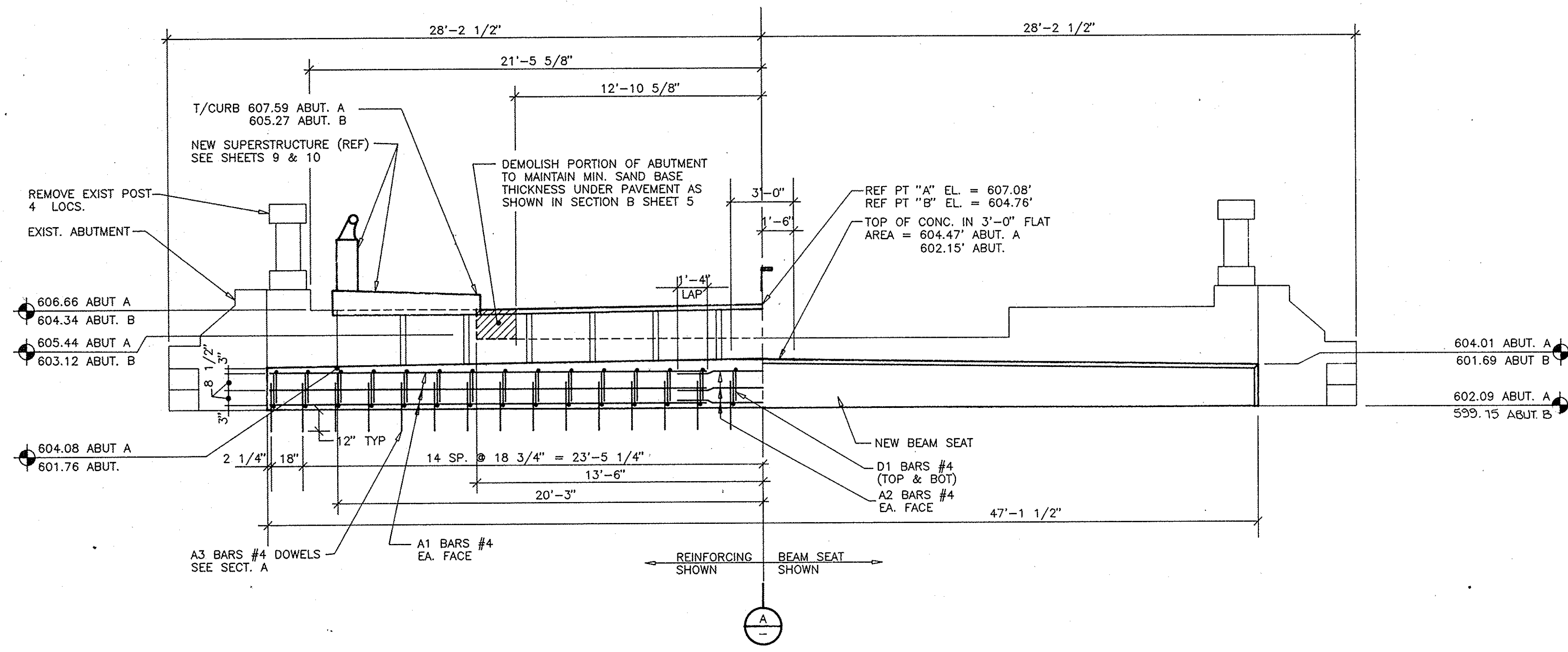
CHIPPEWA COUNTY ROAD COMMISSION
GOGOMAIN ROAD BRIDGE REPLACEMENT
OVER THE MUNUSCONG RIVER

NO.	REVISIONS	BY	DATE
B	ISSUED FOR DNR PERMIT MODIFICATION	BH	6/17/91
A	ISSUED FOR FINAL REVIEW	BH	3/14/91

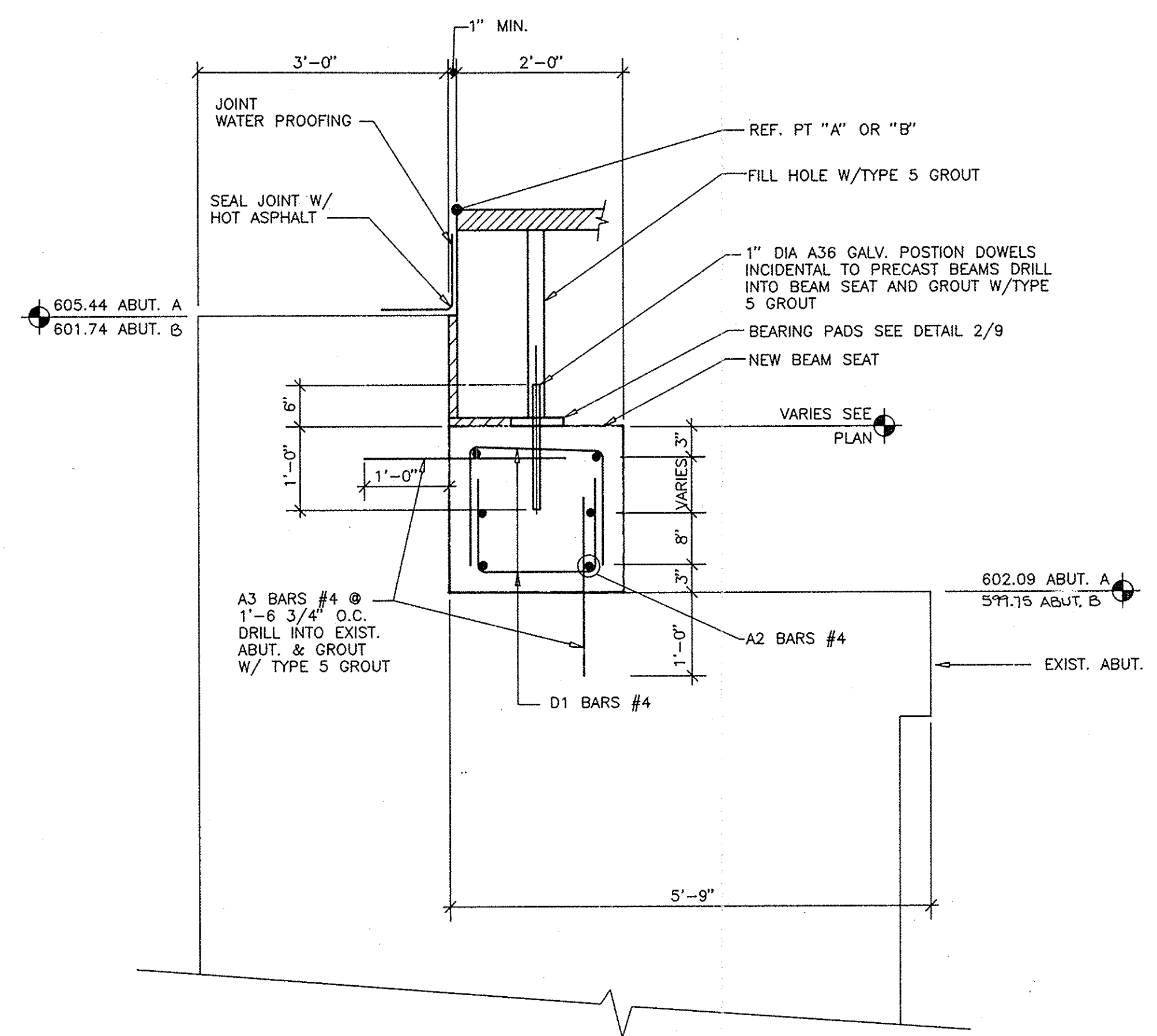
FIELD	CLIENT	DATE TO	A	B	C	O	1	2	3

BILL OF MATERIALS AND GENERAL NOTES

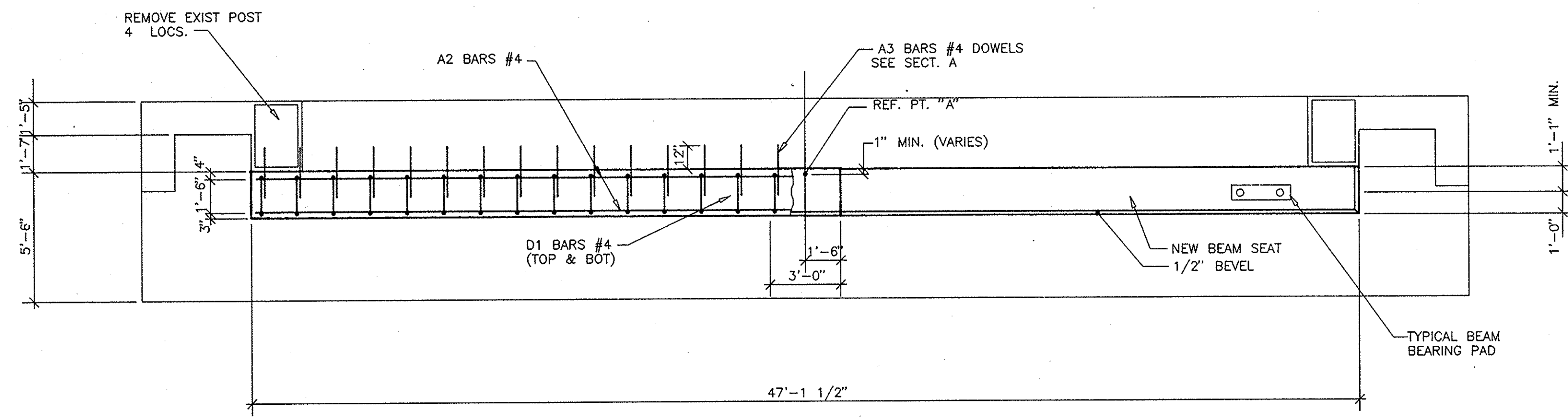
PROJ. NO. 90-326 REV. NO. B



ELEVATION AT ABUTMENT
SCALE: 1/4" = 1'-0"



SECTION
SCALE: 3/4" = 1'-0"



PLAN AT ABUTMENT A
SCALE: 1/4" = 1'-0"

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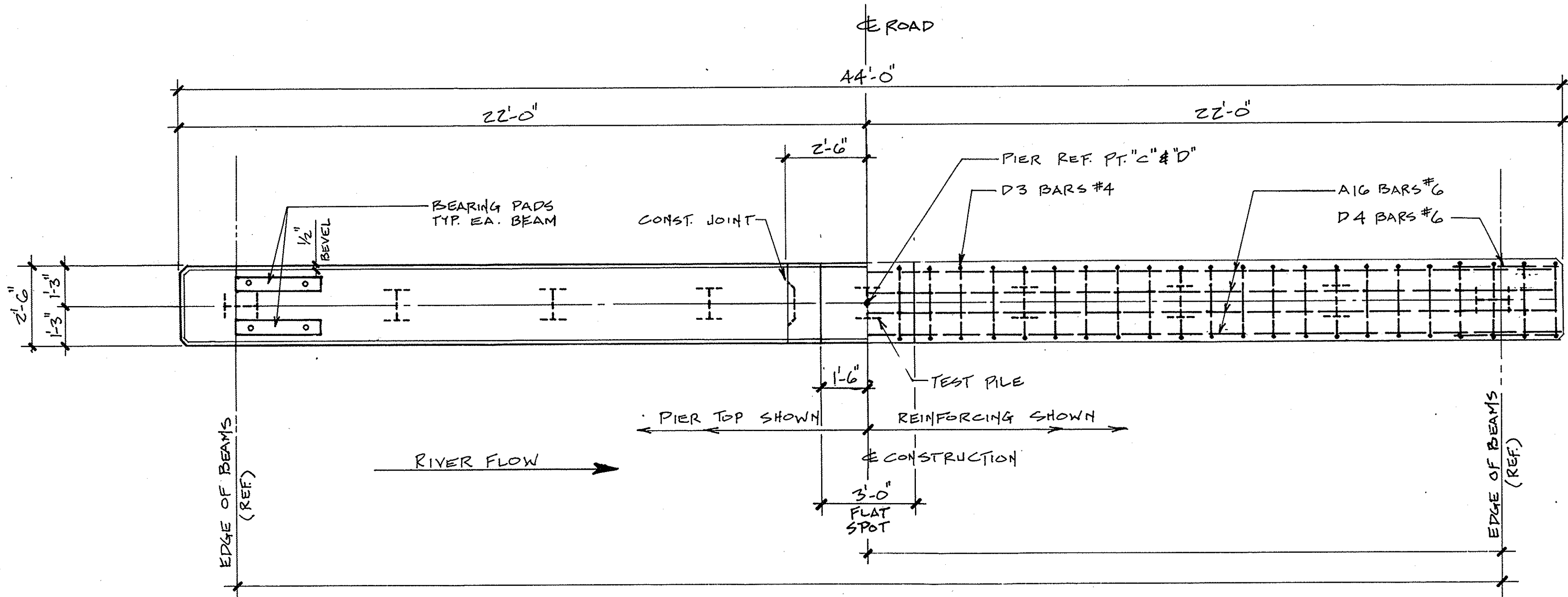
INITIALS	DATE
DESIGN BH, RJR	5/12/91
DRAWN DB	3/13/91
CHECKED BH, RJR	3/14/91
APPROVED	/ /

CHIPPEWA COUNTY ROAD COMMISSION
GOGOMAIN ROAD BRIDGE REPLACEMENT
OVER THE MUNUSCONG RIVER

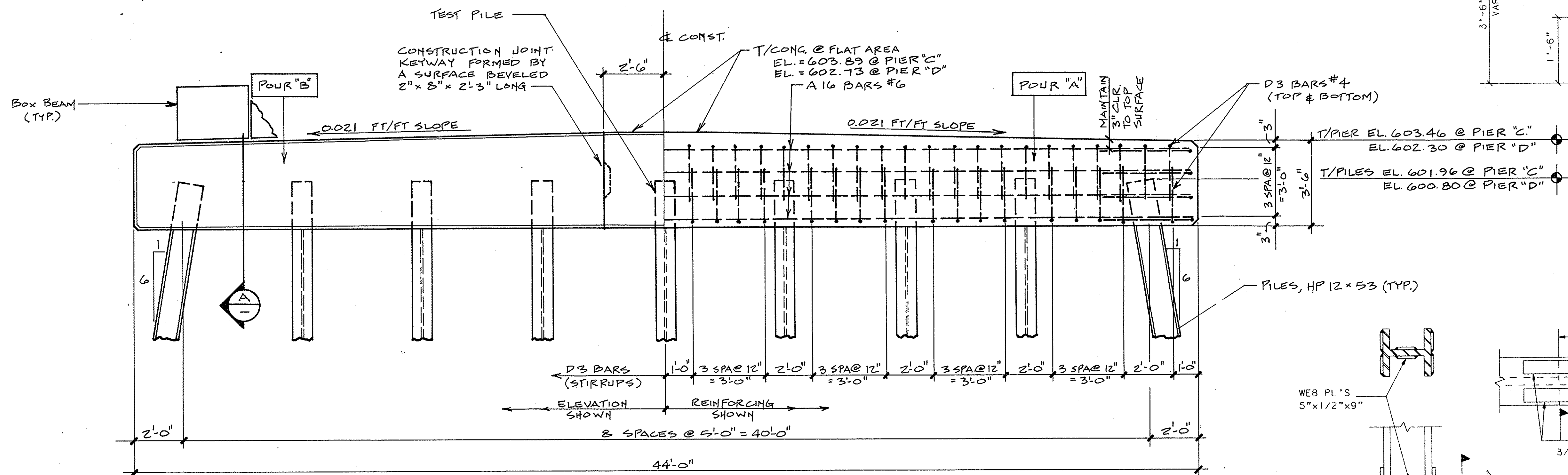
NO.	REVISIONS	BY	DATE	CONTROL
B	ISSUED FOR DNR PERMIT MODIFICATION	BH	6/11/91	FIELD
A	ISSUED FOR APPROVAL	BH	3/19/91	CLIENT

EXISTING ABUTMENT
MODIFICATION DETAILS

PROJ. NO. 90-326 REV. NO. 8

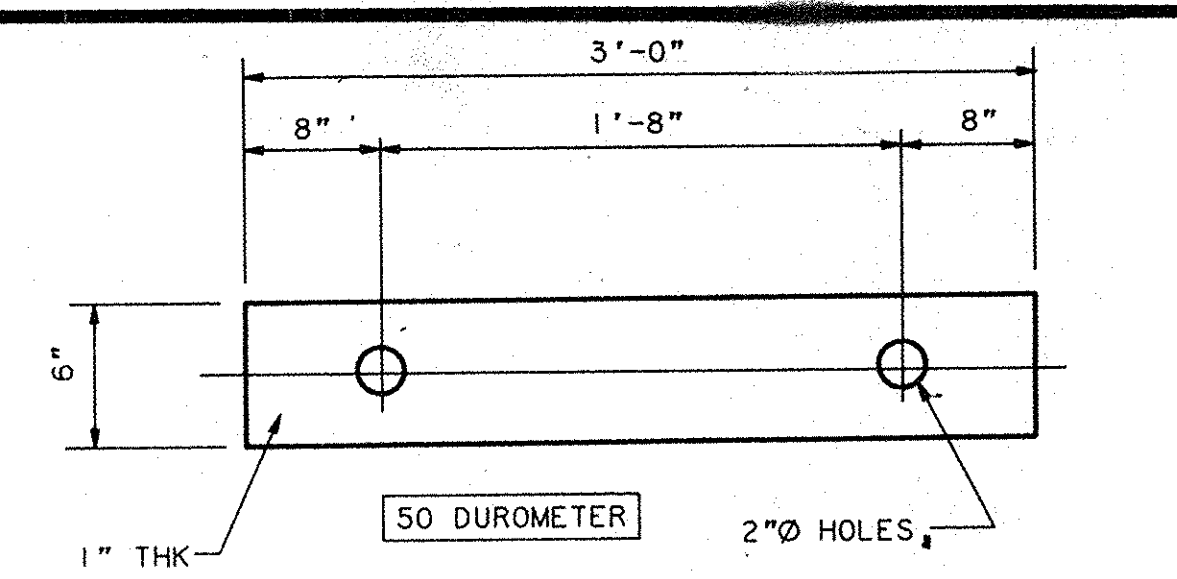


PLAN
SCALE: 3/8" = 1'-0"

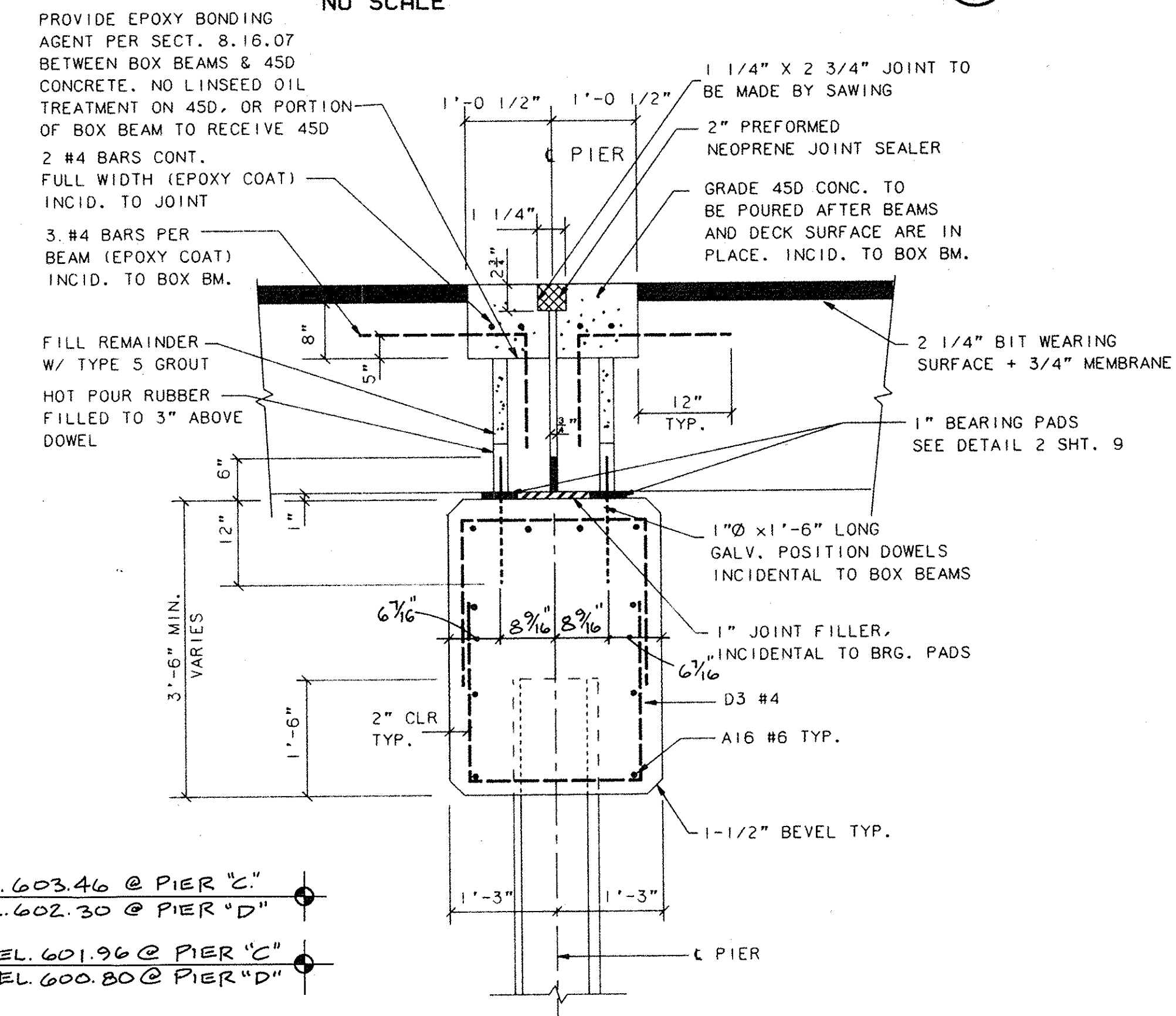


ELEVATION
SCALE: 3/8" = 1'-0"

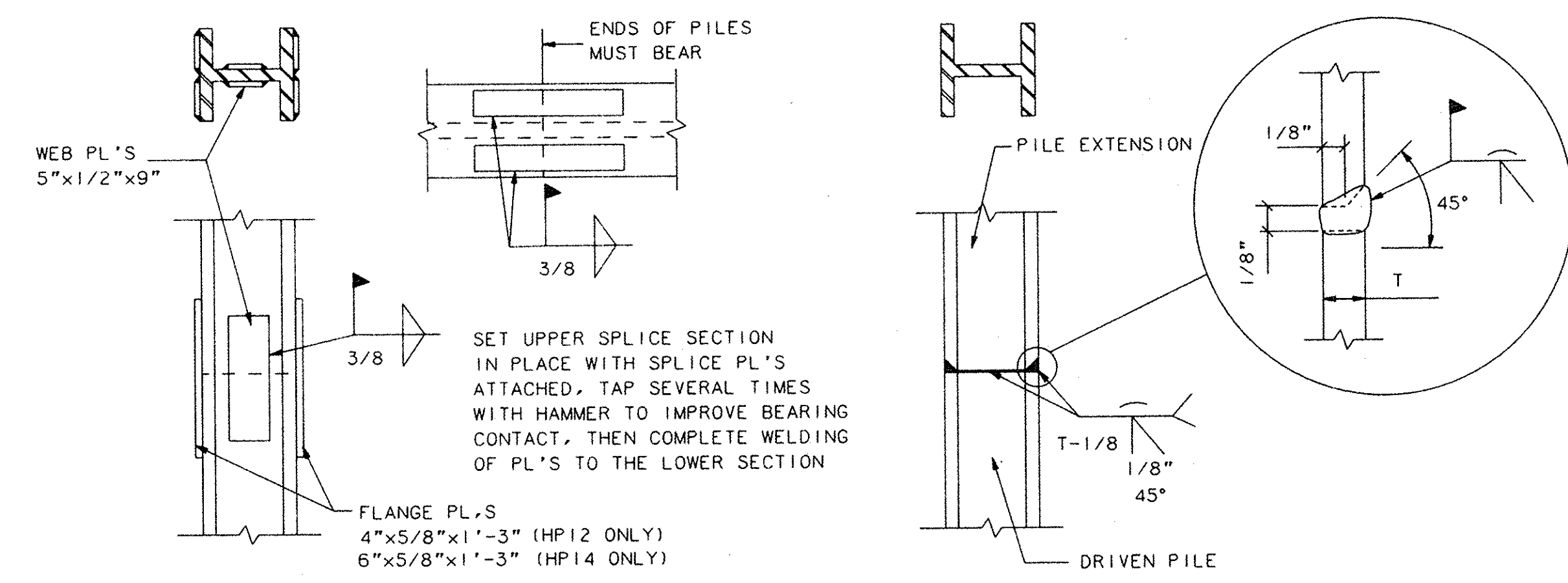
SUBSTRUCTURE CONC. QUANTITIES	
POUR	CU. YD.
A	8.4
B	6.7
TOTAL	15.1



ELASTOMERIC BRG PAD DETAIL
NO SCALE



SECTION
SCALE: 3/4" = 1'-0"



ALTERNATE PILE SPLICE DETAIL

BUTT WELD SPLICE DETAIL

H PILE SPLICE DETAIL
SCALE: 3/4" = 1'-0"

910-326 PICKERD BRIDGE

1	
2	
3	

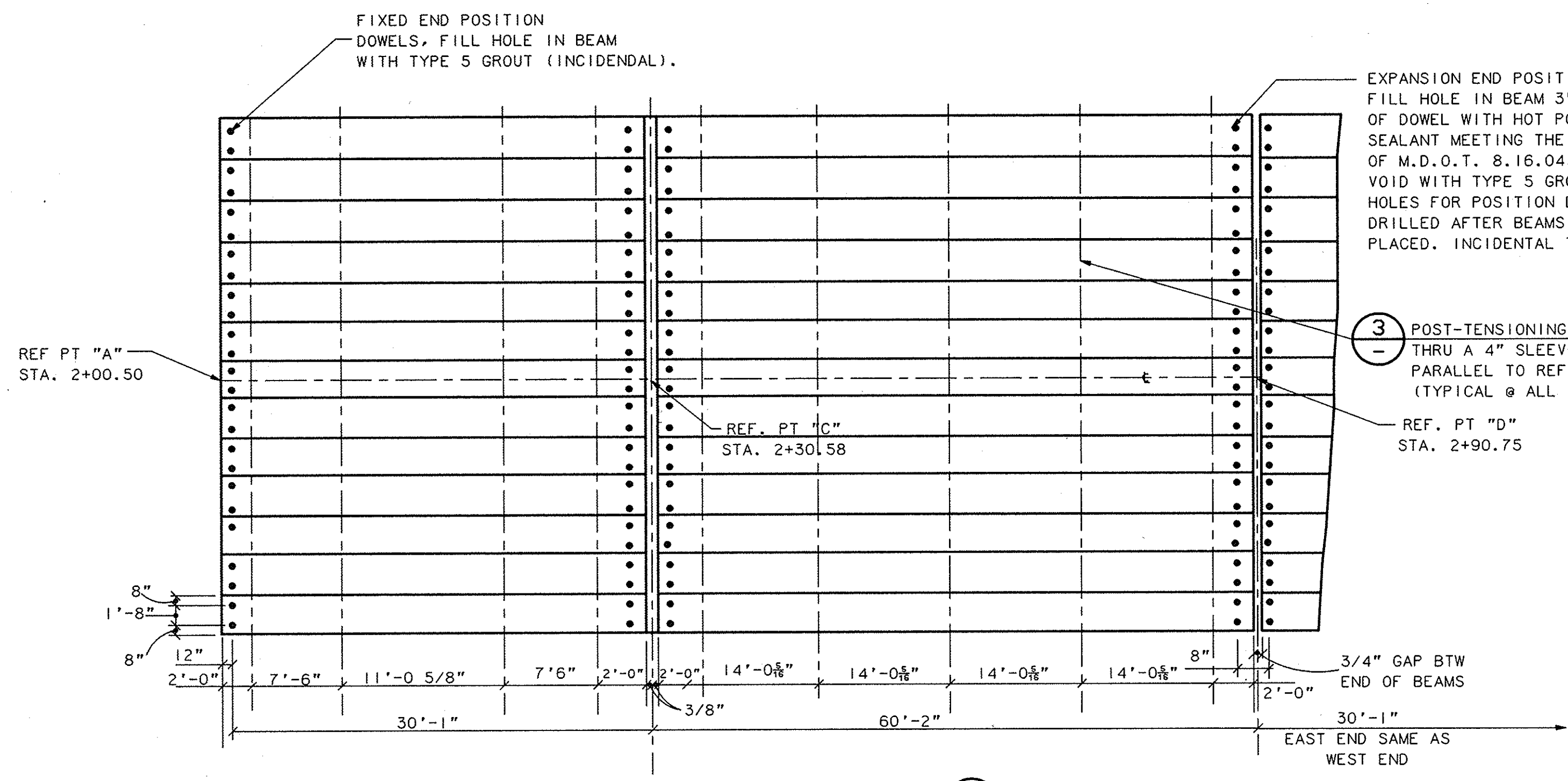
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INITIALS	DATE
DESIGN B.A.H.	3/6/91
DRAWN P.D.K./D.B.	3/7/91
CHECKED B.A.H.	3/7/91
APPROVED	/ /

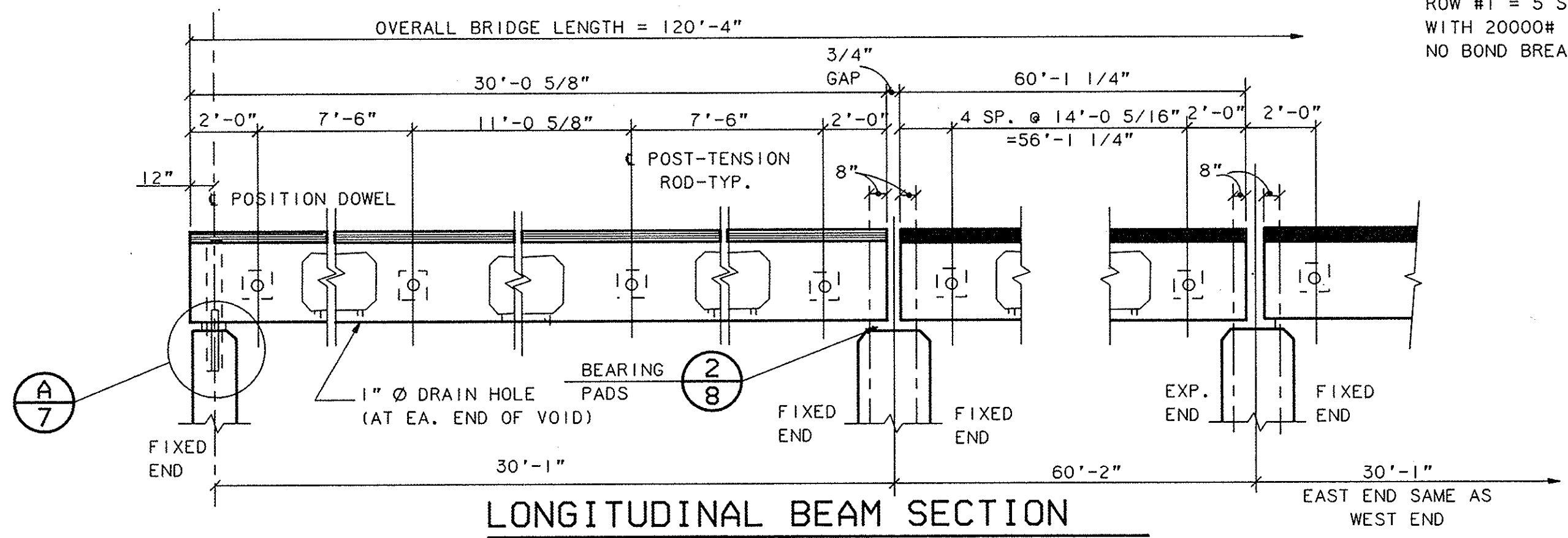
CHIPPEWA COUNTY ROAD COMMISSION
GOGOMAIN ROAD BRIDGE REPLACEMENT
OVER THE MUNUSCONG RIVER

NO.	REVISIONS	BY	DATE	CONTROL
B	ISSUED FOR DNR PERMIT MODIFICATION	B.A.H.	6-17-91	
A	ISSUED FOR APPROVAL	B.A.H.	3-19-91	

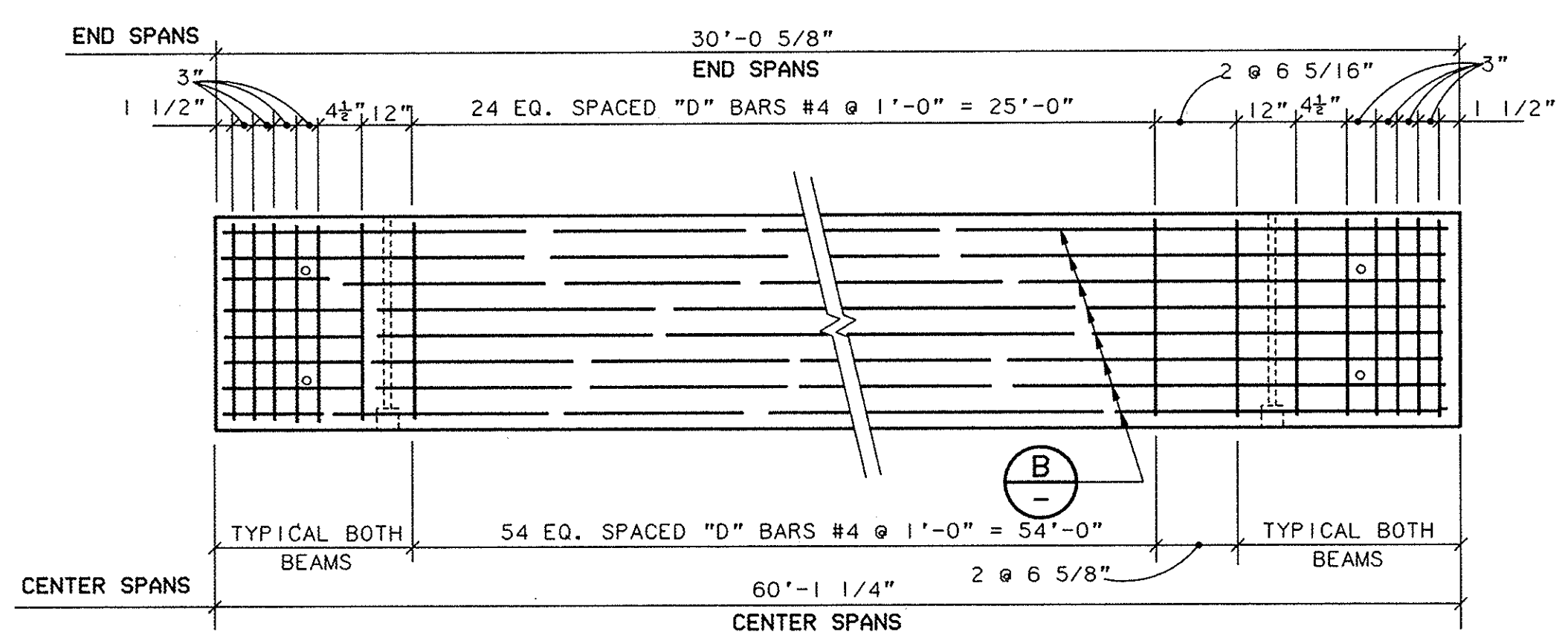
MDOT FIELD 4/1
CLIENT 3/19/91
DATE TO A B C O 1 2 3
PROJ. NO. 90-326 REV. NO. B



PLAN
NO SCALE

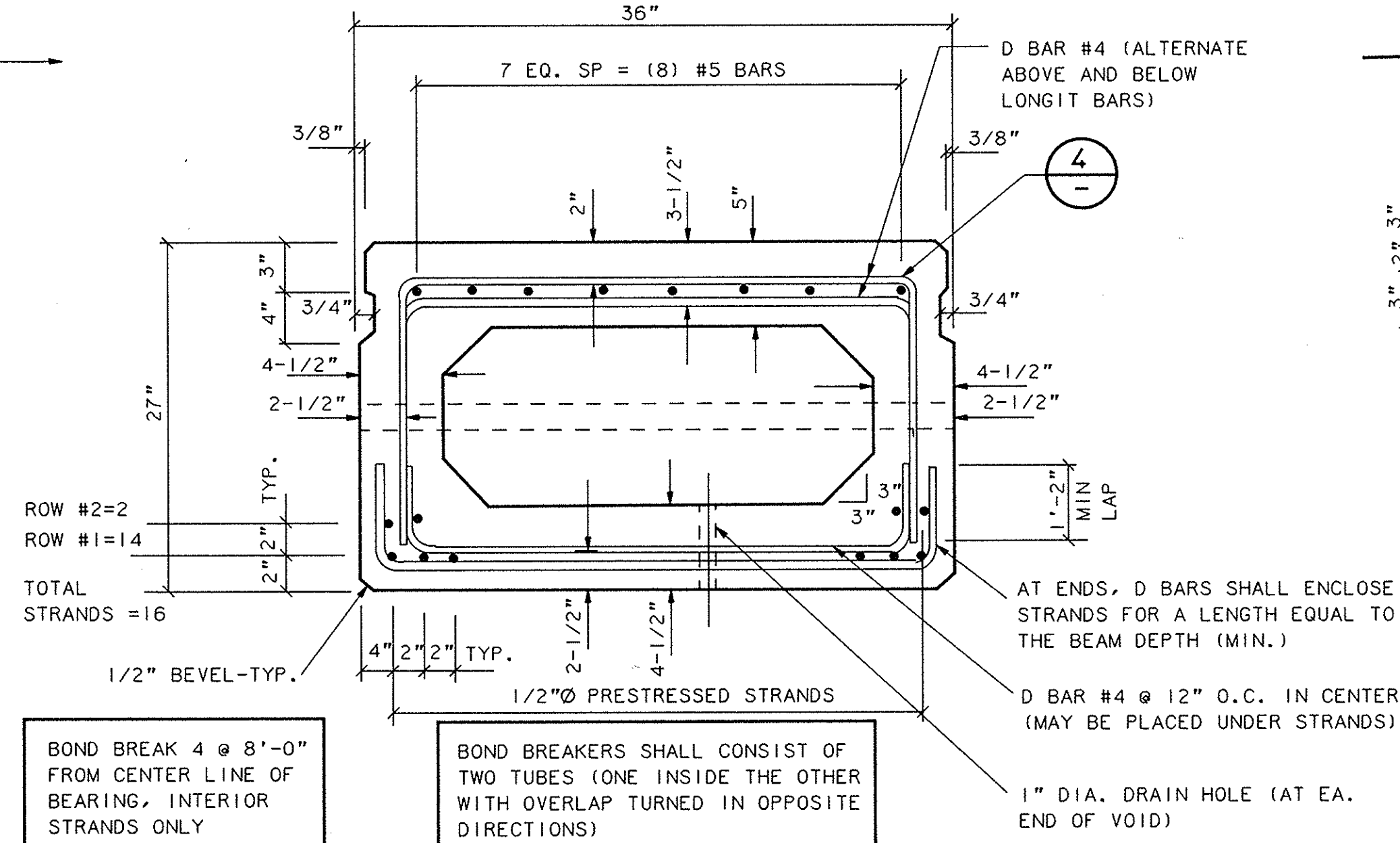


LONGITUDINAL BEAM SECTION
NO SCALE



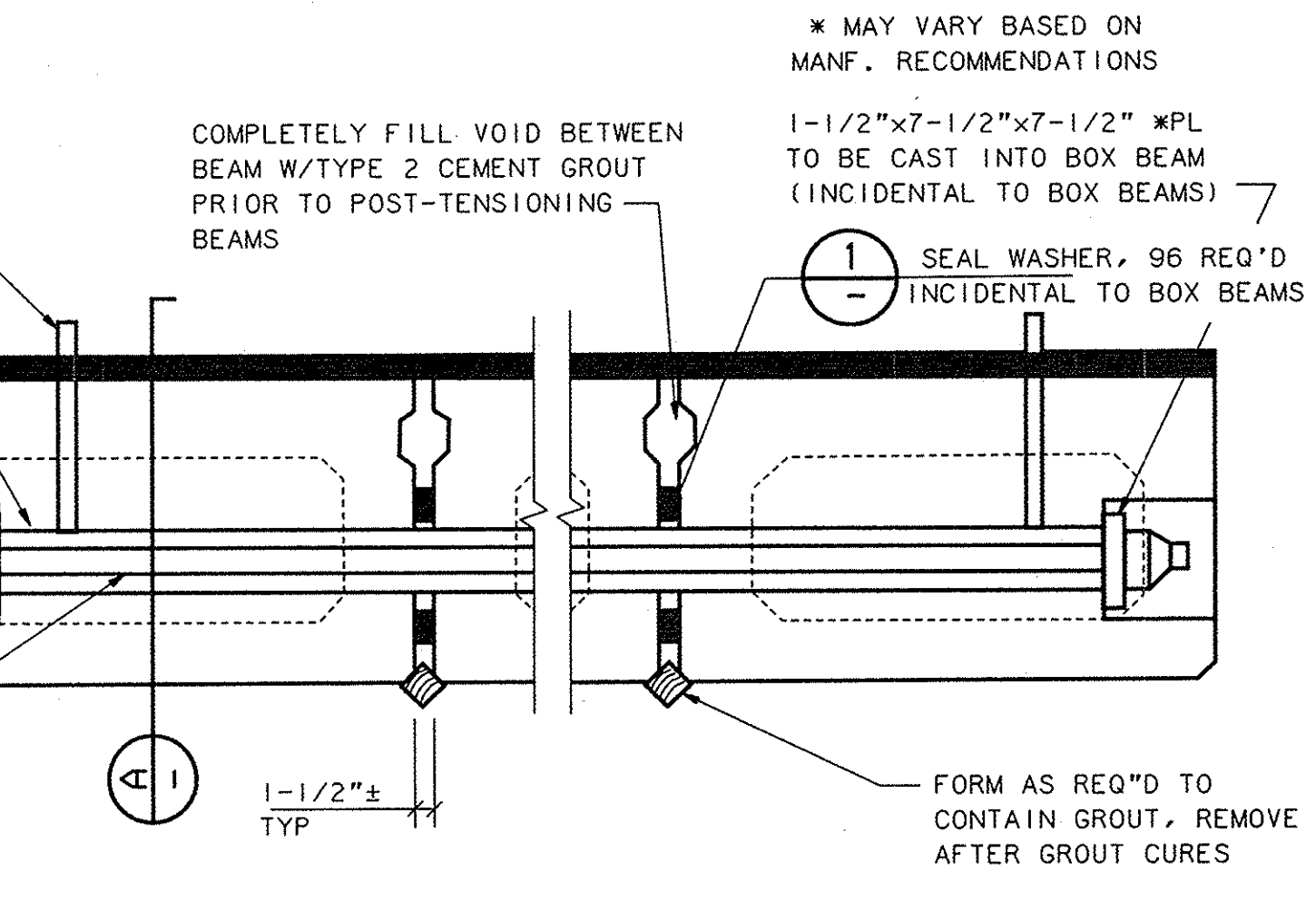
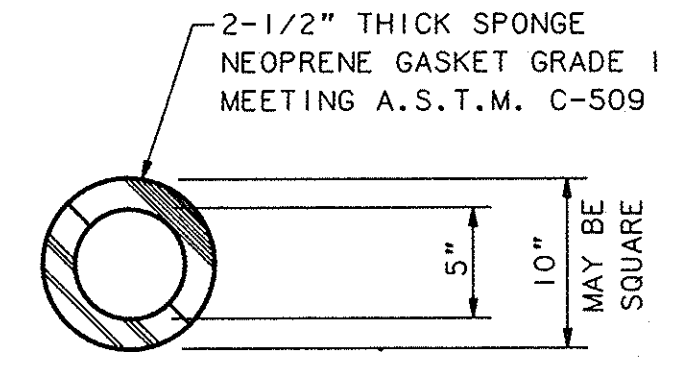
TYPICAL BAR SPACING DETAIL
NO SCALE "D" BARS

SECTION THRU BEAM
NO SCALE (INTERIOR BEAM) (END SPAN)



SECTION THRU BEAM
NO SCALE (INTERIOR BEAM, CENTER SPAN)

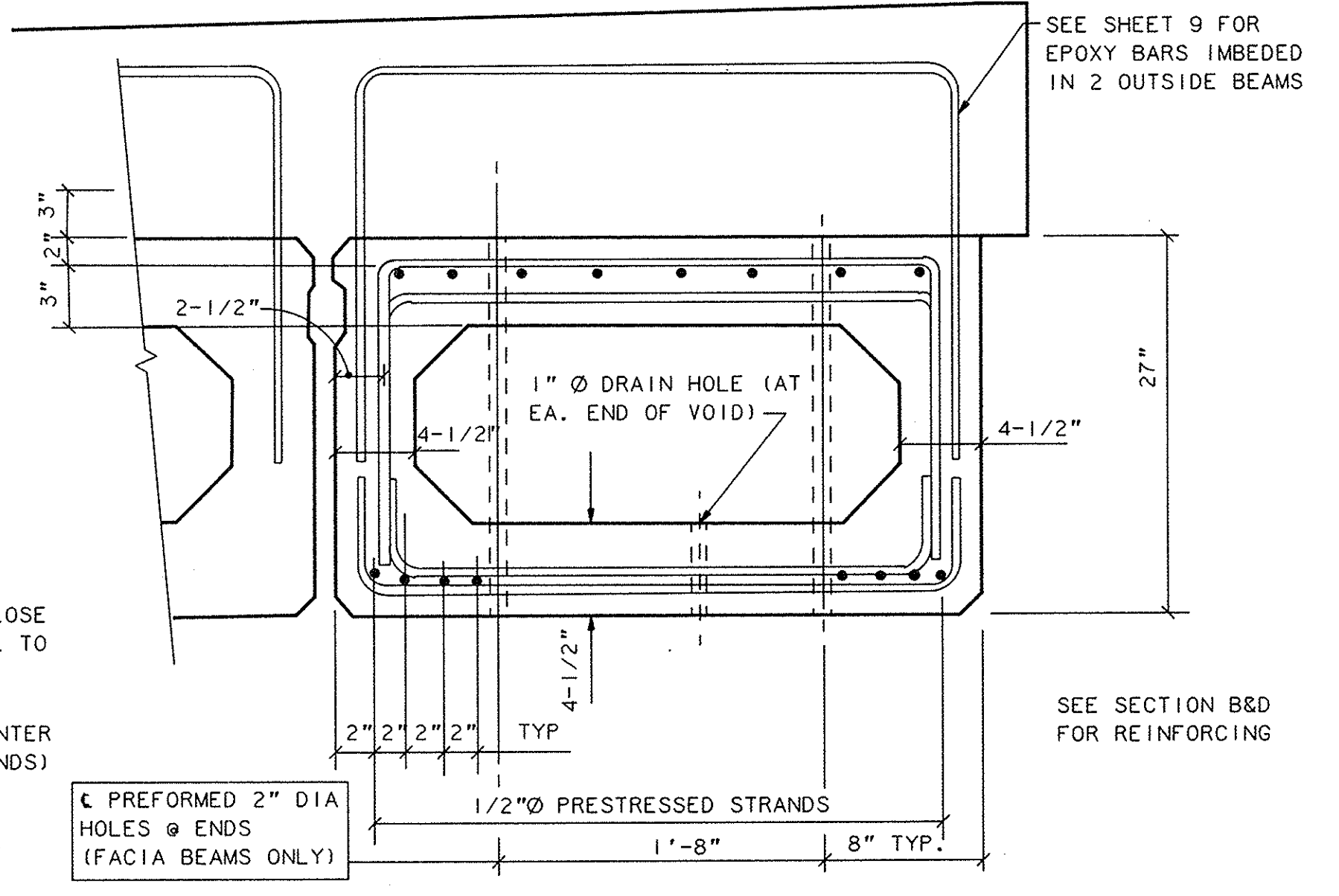
SEAL WASHER DETAIL
NO SCALE



POST-TENSIONING DETAIL
NO SCALE

PRESTRESS STRANDS SHALL BE 1/2" Ø WITH AN AREA OF 0.153 IN. AND SHALL BE GRADE 270 LOW RELAXATION STRANDS AND SHALL BE GIVEN AN INITIAL PRESTRESS OF 31000# EACH, UNLESS OTHERWISE NOTED.

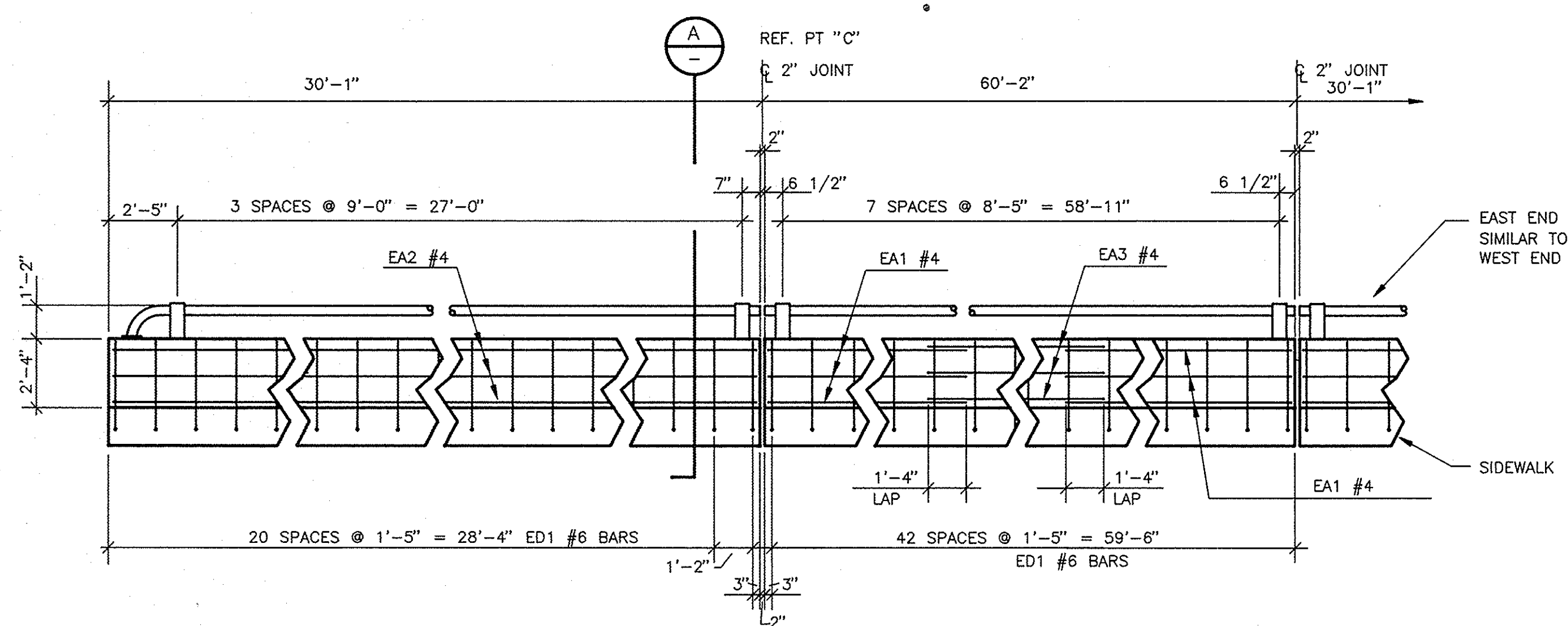
SEE SHEET 9 FOR RAILING DETAILS



SECTION THRU BEAM
NO SCALE (FASCIA BEAM)

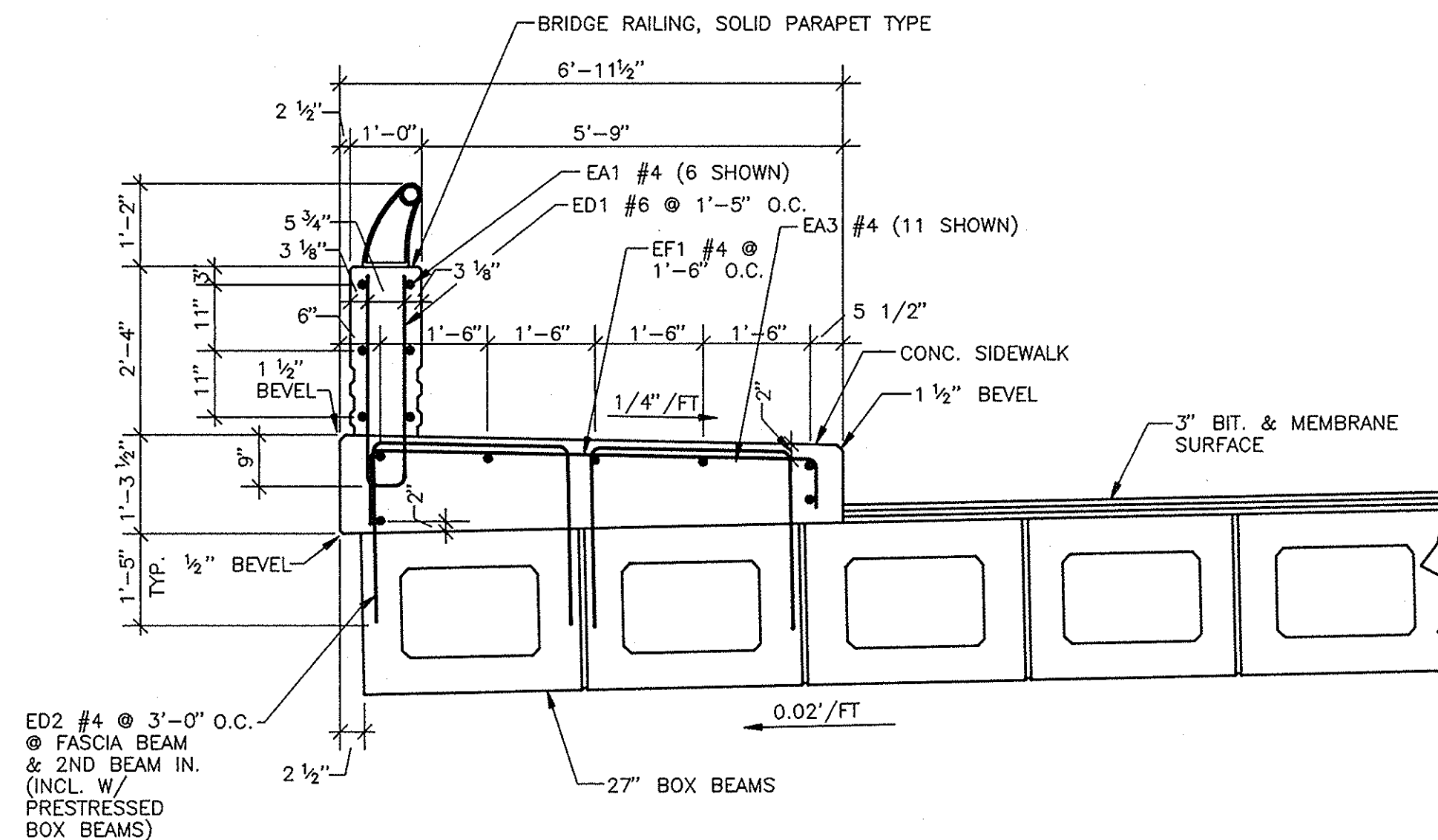
INITIALS	DATE
DESIGN BY RJE	3/10/91
DRAWN BY DB	3/12/91
CHECKED BY RJE	3/14/91
APPROVED	/ /

NO.	REVISIONS	BY	DATE	CONTROL
B	ISSUED FOR DNR PERMIT APPROVAL	RJE	4/11/91	
A	ISSUED FOR APPROVAL	RJE	3/19/91	



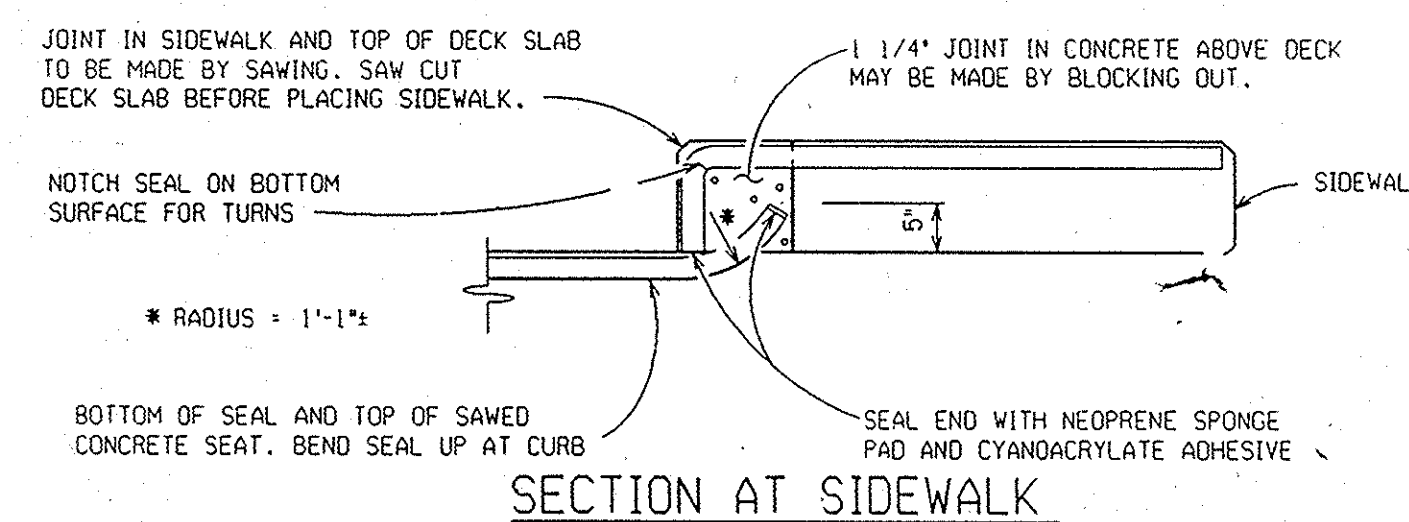
BRIDGE RAILING, SOLID PARAPET TYPE

SCALE: 1/4" = 1'-0"

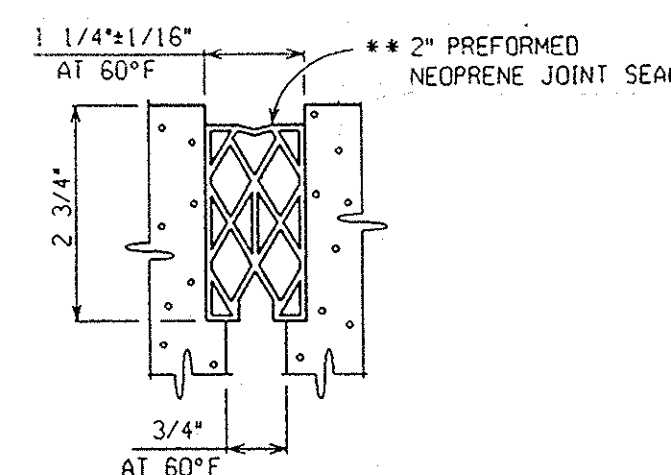


SECTION

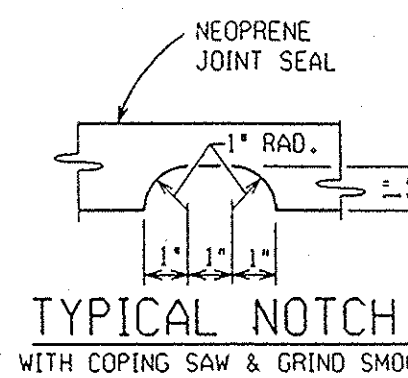
SCALE: 1/2" = 1'-0"



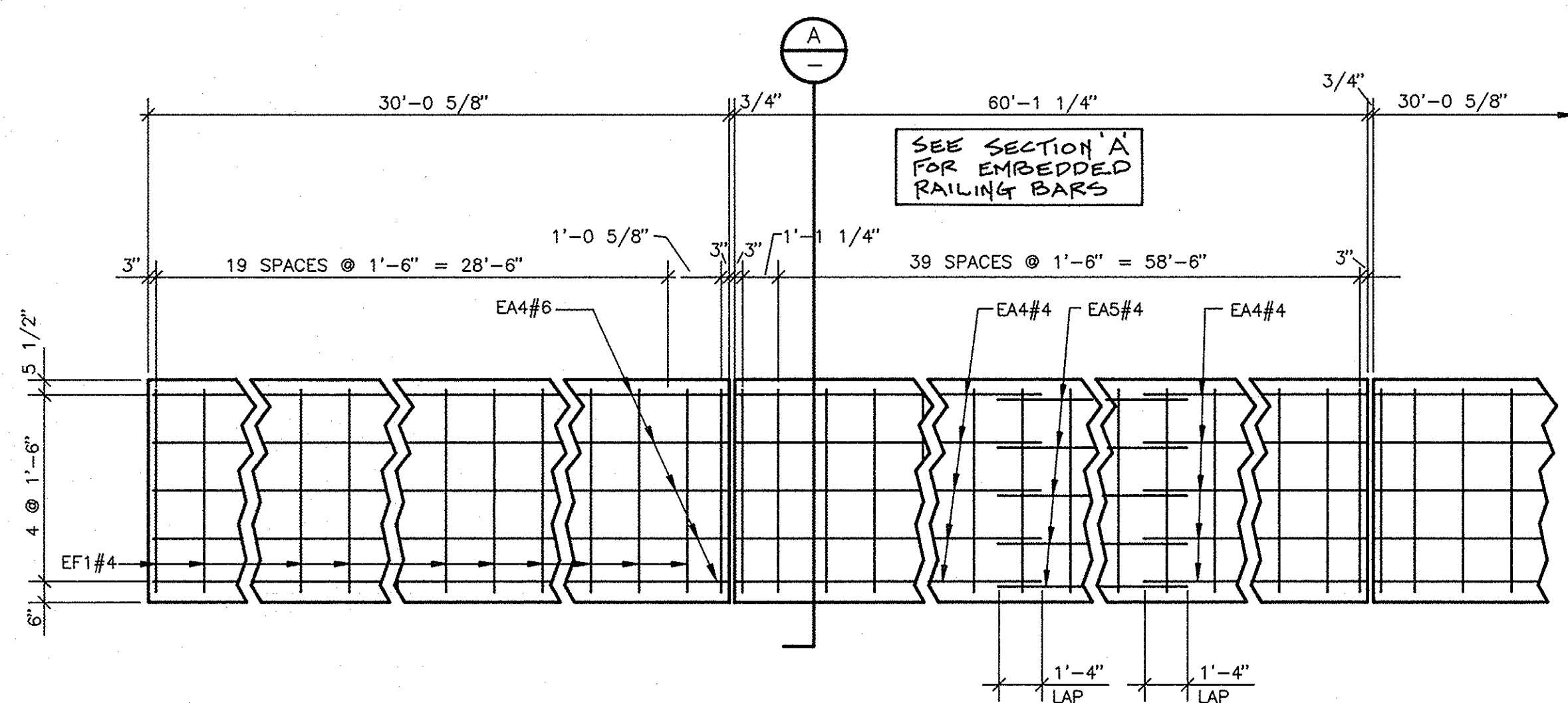
SECTION AT SIDEWALK



JOINT DETAIL

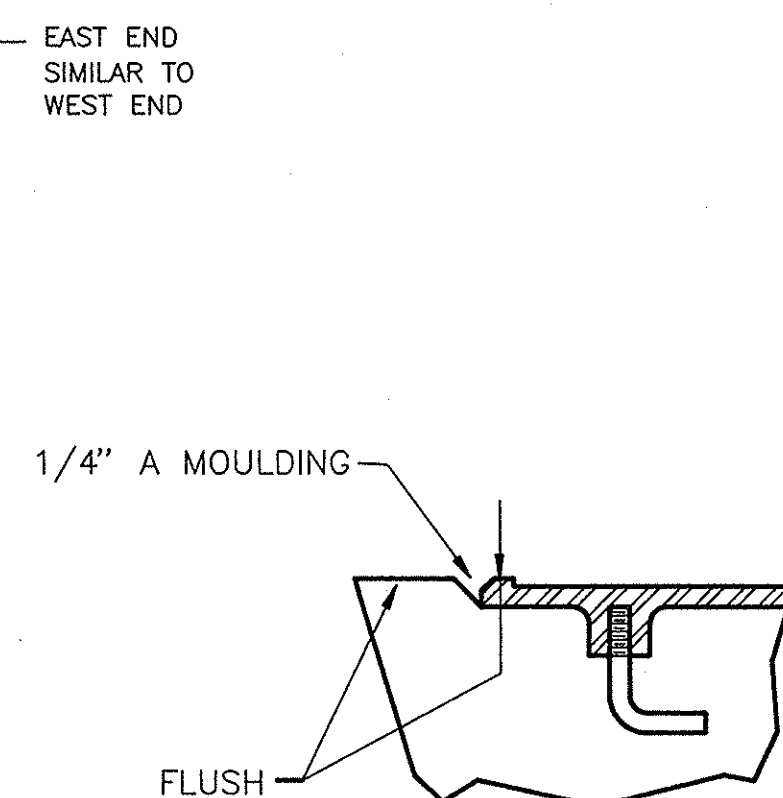


TYPICAL NOTCH



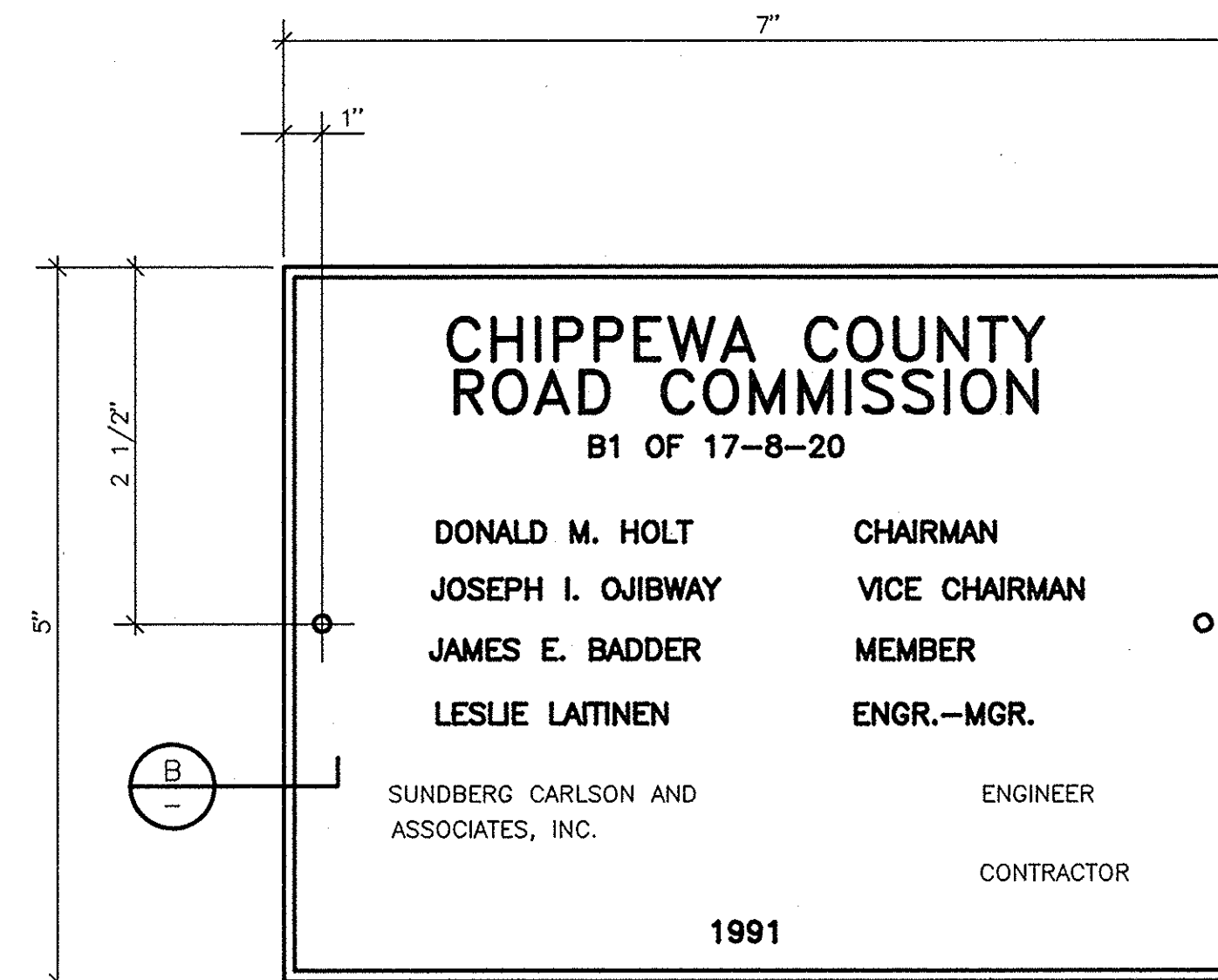
SOUTH SIDEWALK REINF. PLAN

SCALE: 1/4" = 1'-0"
(NORTH PLAN SIMILAR)



SECTION

NO SCALE



NAME PLATE DETAIL

NO SCALE

	INITIALS	DATE
DESIGN	B.A.H./R.J.R.	3/6/91
DRAWN	P.D.K.	3/7/91
CHECKED	B.A.H./R.J.R.	3/7/91
APPROVED	/ /	/ /

NO.	REVISIONS	BY	DATE	CONTROL
B	ISSUED FOR PNR PERMIT MODIFICATION	B.A.H.	6/17/91	CLIENT
A	ISSUED FOR APPROVAL	B.A.H.	3/19/91	DATE TO