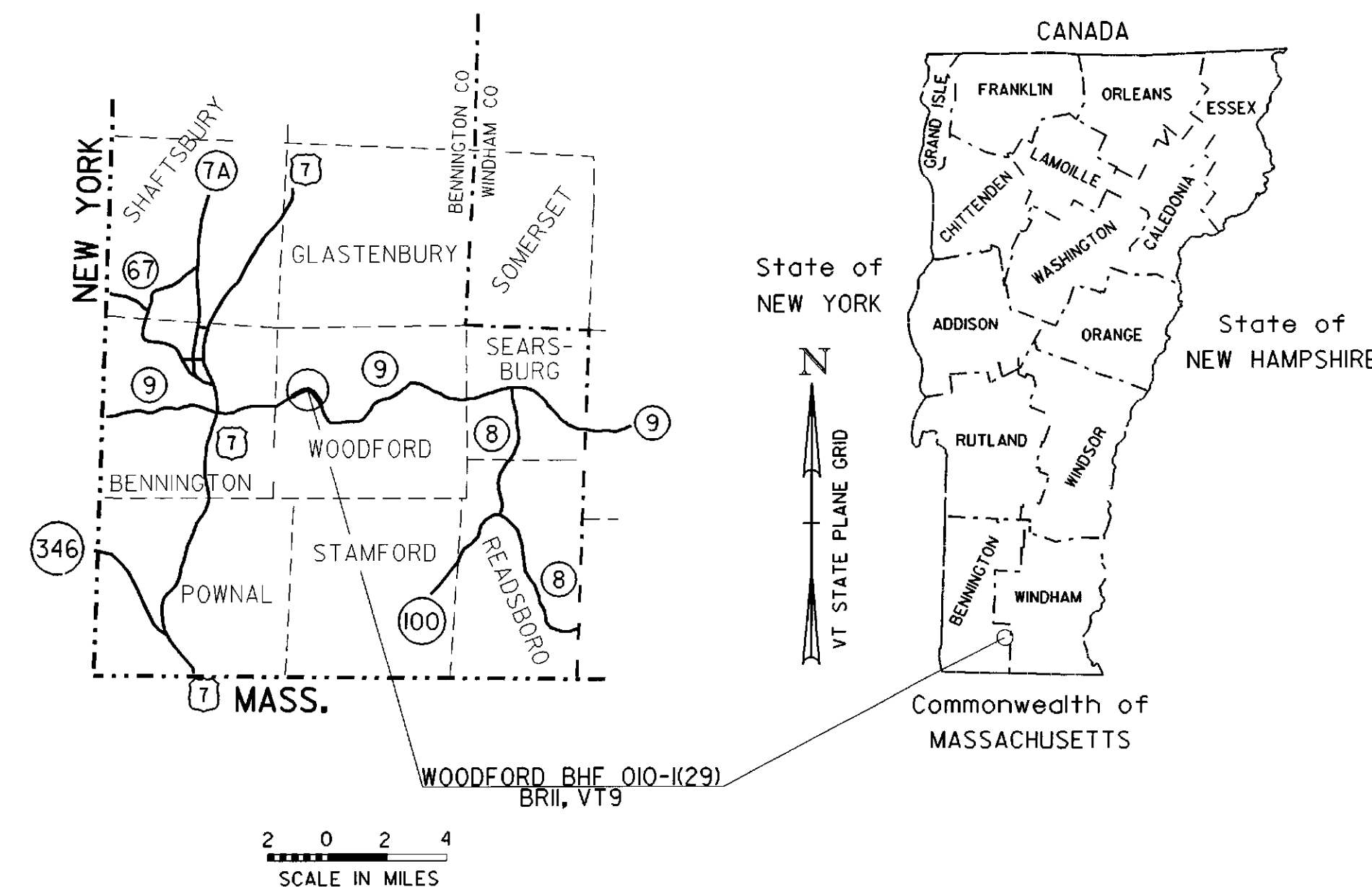


SEE SHEET 2 FOR
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STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT TOWN OF WOODFORD COUNTY OF BENNINGTON VT. ROUTE 9 - PRINCIPAL ARTERIAL



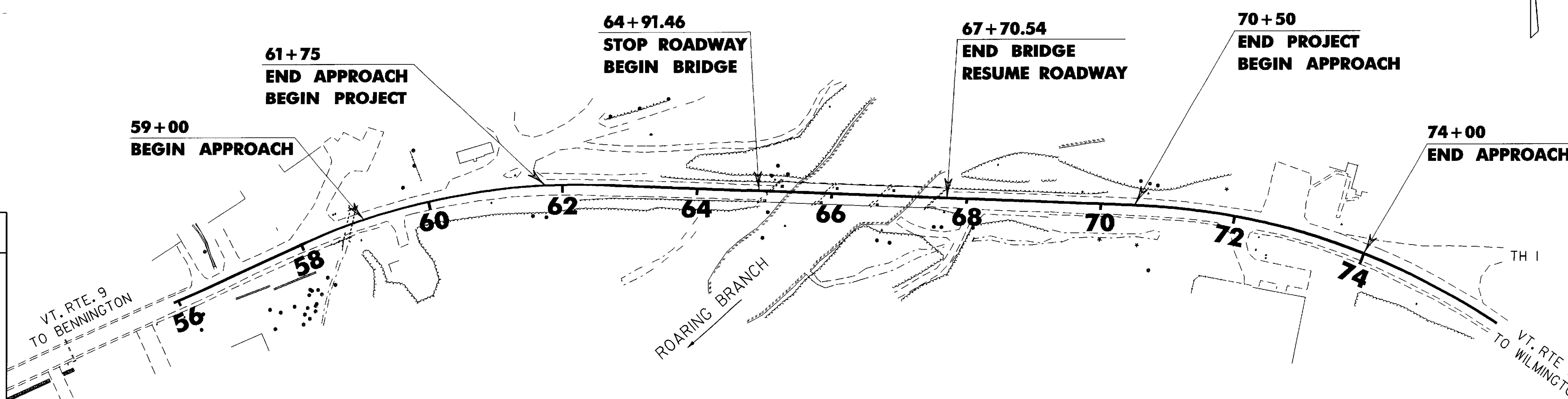
RECORD PLANS	
CONTRACTOR	RENAUD BROTHERS, INC - VERNON, VT
RESIDENT ENGINEER	RON LEMAIRE
CONSTRUCTION BEGAN	JANUARY 9, 2006
CONSTRUCTION COMPLETE	JULY 2, 2008
RECORD PLANS BY	R. LEMAIRE, N. GARBACIK
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN	
BY	RESIDENT ENGINEER
DATE	10/07/09
NOTE Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives	

PROJECT LOCATION : BEGINNING AT A POINT 1.163 MILES EAST OF THE BENNINGTON - WOODFORD TOWN LINE AND EXTENDING EASTERLY 0.166 MILES.

PROJECT DESCRIPTION : WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT AND WIDENING OF BRIDGE NO. 11 OVER THE ROARING BRANCH OF THE WALLOOMSAC RIVER AND NECESSARY APPROACH WORK GENERALLY ALONG EXISTING ALIGNMENT.

LENGTH OF ROADWAY = 595.92 FEET = 0.113 MILES
 LENGTH OF BRIDGE = 279.08 FEET = 0.053 MILES
 LENGTH OF PROJECT = 875.00 FEET = 0.166 MILES

	TRAFFIC DATA	
	2002	2022
ADT	5000	6700
DHV	N/A	1100
ADTT	490	790
TZ	8	10
DZ	N/A	51
V	50 MPH	
ESAL'S (2002-2022)	6,672,000	
ESAL'S (2002-2042)	17,913,000	



CONVENTIONAL SYMBOLS	
COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY : MOREAU
 SURVEYED DATE : DEC 1988
 DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.
 CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

de039t1t.1 03-OCT-2005

DIRECTOR OF PROGRAM DEVELOPMENT
 APPROVED DATE 10-3-05
 PROJECT MANAGER : M. EVANS-MONGEON
 PROJECT NAME : **WOODFORD**
 PROJECT NUMBER : **BHF 010-1(29)**
 SHEET 1 OF 106 SHEETS

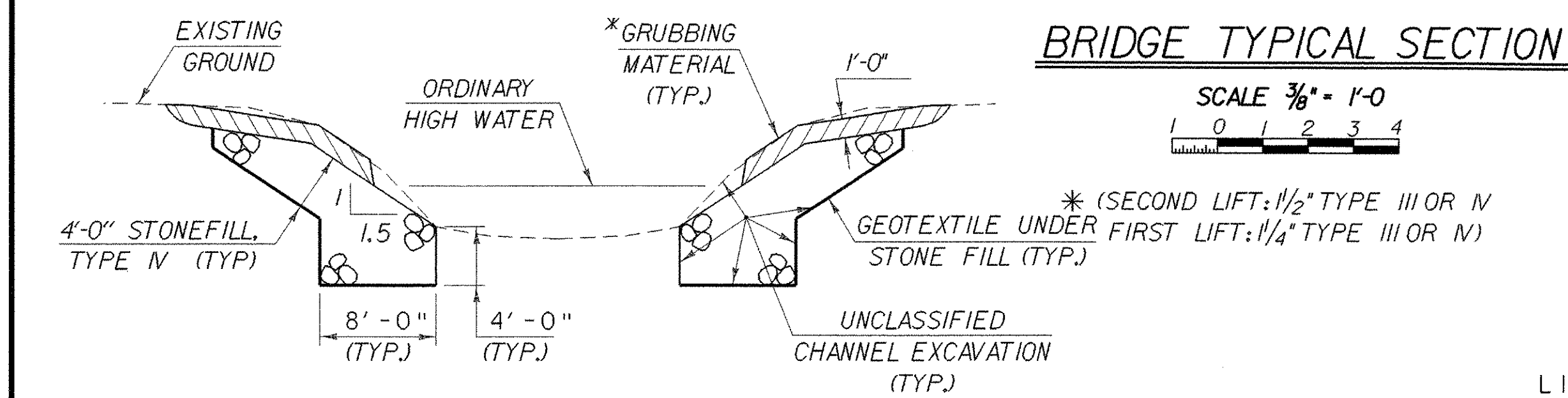
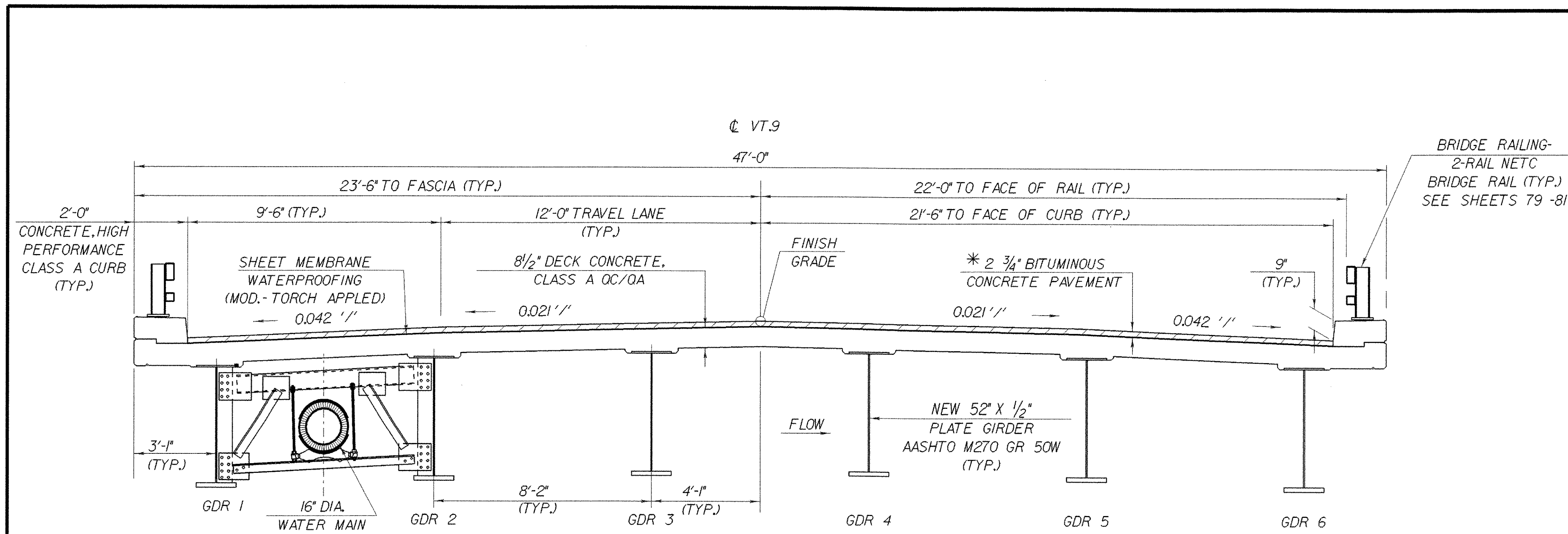
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STANDARDS

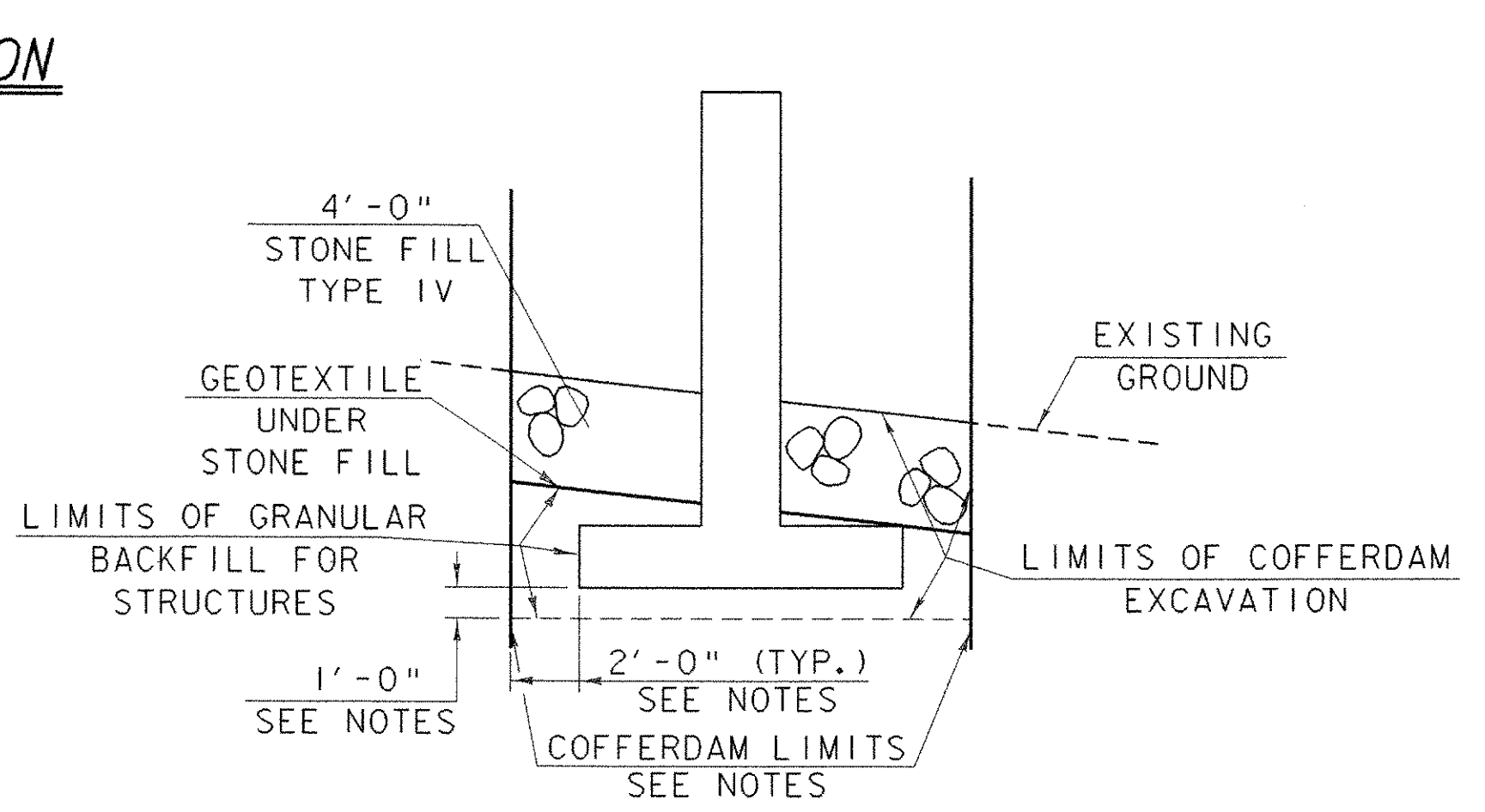
B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/1994
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J-1	PROJECT AND BOUNDARY MARKERS	6/1/1994

PROJECT NAME:	WOODFORD		
PROJECT NUMBER:	BHF 010-1(29)		
FILE NAME:	84e039/se039ind.xls	PLOT DATE:	6/21/2005
PROJECT LEADER:	84e039/se039ind.xls	DRAWN BY:	R. PELLETT
DESIGNED BY:	M. EVANS-MONGEON	CHECKED BY:	EVANS-MONGEON
INDEX OF SHEETS #1		SHEET	2 OF 106



TYPICAL CHANNEL SECTION
(NOT TO SCALE)

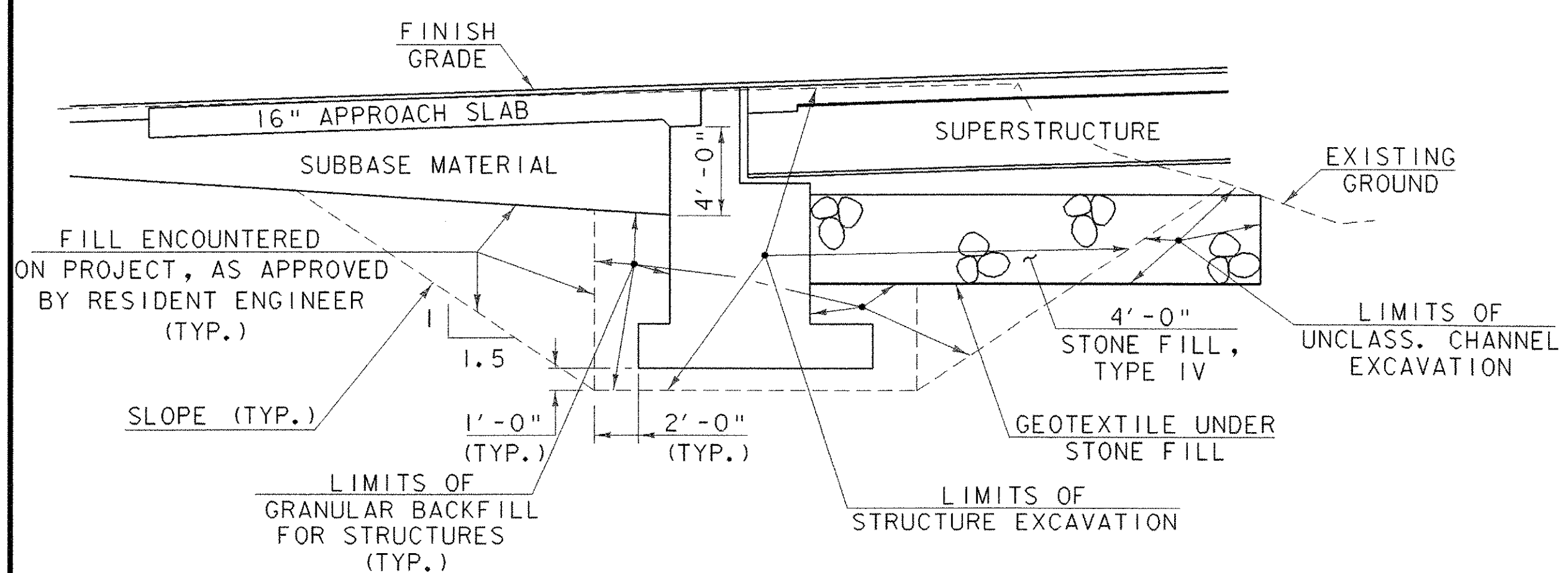
*GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.



TYPICAL PIER SECTION
NOT TO SCALE

PIER COFFERDAM NOTES

- PIER COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
- FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF COFFERDAM AT THE PIERS HAVE BEEN ASSUMED TO BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING.
- ONE FOOT UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.
- IF A COFFERDAM IS CONSTRUCTED WHICH IS MORE THAN THE INDICATED MINIMUM DISTANCE OUTSIDE THE FOOTING LIMITS, NO PAYMENT WILL BE MADE FOR MATERIAL REMOVED OR MATERIAL PLACED OUTSIDE THE 2'-0" LIMITS.
- FOR PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE EXCAVATION WITHIN THE COFFERDAM HAS BEEN ASSUMED TO BE 80 PERCENT ROCK AND 20 PERCENT EARTH. FINAL QUANTITIES WILL BE BASED ON MATERIAL ACTUALLY REMOVED.



TYPICAL ABUTMENT SECTION
NOT TO SCALE

NOTE : NO PAYMENT WILL BE MADE FOR ANY COFFERDAM AT ABUTMENTS #1 OR #2.

EXISTING STRUCTURE

STRUCTURE TYPE	THREE SPAN STEEL BEAM BRIDGE	OVERALL LENGTH	252 FT	INVENTORY RATING	NA
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	THREE SPANS: 81'-6" - 81'-11" - 81'-6"				
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	THREE SPANS @ 55 FT = 165 FT				
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	2000 SQ FT	VERTICAL CLEARANCE ABOVE STREAMBED	11 FT		
5. WATER SURFACE ELEVATION @ 0.233	1132.4	WATER SURFACE ELEVATION @ 0.50	1134.5		
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD	NA	YEAR	NA	ESTIMATED DISCHARGE	NA
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES/IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR?	N/A				
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL	REMOVE				
9. DISPOSITION OF STRUCTURE	REMOVE				

NEW STRUCTURE

STRUCTURE GEOMETRY:	NEW THREE SPAN CONTINUOUS PLATE GIRDER BRIDGE	OVERALL LENGTH	279.08 FT
1. STRUCTURE TYPE	SPAN ONE: 79'-0" SPAN TWO: 114'-0" SPAN THREE: 79'-0"		
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	10 FT		
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER	3 SPANS, 53' + 77' + 53' = 183' TOTAL		
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	2200 SQ FT		
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	YES		
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?			

HYDRAULIC DATA:

1. Q	2.33	2400 CFS	WATER ELEVATION	1132.4	VELOCITY	10.4 FPS	
0	10	4000 CFS	WATER ELEVATION	1133.7	VELOCITY	10.6 FPS	
0	25	5000 CFS	WATER ELEVATION	1134.1	VELOCITY	11.4 FPS	
0	50	6000 CFS	WATER ELEVATION	1134.5	VELOCITY	12.1 FPS	
0	100	7000 CFS	WATER ELEVATION	1134.9	VELOCITY	12.7 FPS	
2. DRAINAGE AREA	37.7 SQ MI CHARACTER OF TERRAIN: HILLY TO MOUNTAINOUS, MOSTLY FORESTED						
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM?	NO						
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY?	YES IS ORDINARY RISE RAPID? YES						
5. NATURE OF NATURAL STREAMBED	WELL ARMORED WITH MEDIUM TO LARGE COBBLES AND BOULDERS						
6. ESTIMATED SCOUR DEPTH	1 FT COMMENT ON: DRIFT MODERATE ICE SLIGHT						
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES/IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR?	N/A						
8. VERTICAL CLEARANCE ABOVE Q ₁₀₀	4.2 FT						
9. ALLOWABLE WATER SURFACE ELEVATION	1139.1 LIMITED BY: MINIMUM BOTTOM OF LOW GIRDER ELEVATION						
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO/IF YES, DESCRIBE	NO						
11. ORDINARY LOW WATER	40 CFS	DEPTH	0.5 FT	ORDINARY HIGH WATER	1150 CFS	DEPTH	3.0 FT
12. AVERAGE DAILY FLOW	80 CFS	STREAMBANK OR CHANNEL PROTECTION REQUIRED: STONE FILL, TYPE IV, RETAIN AS MUCH EXISTING STONE FILL AS POSSIBLE					
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE	NA SPAN NA WATERWAY AREA OF FULL OPENING NA 0 NA						
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE	1.7 MI SPAN 209 FT WATERWAY AREA OF FULL OPENING NA 0 NA						

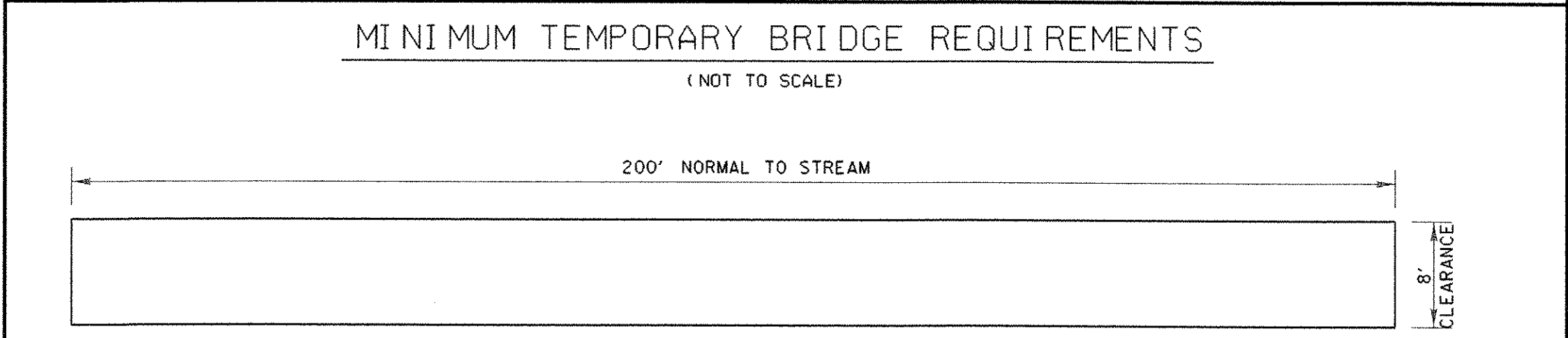
ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO	HS-25-44					
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL	SEE SHEET 49 NOTE # 8 ON LEDGE NA					
3. ALLOWABLE LOAD FOR PILING	N/A TYPE N/A ESTIMATED LENGTH N/A					
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO	M270 G50W TENSION 27000 PSI					
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60	TENSION 24000 PSI COMPRESSION 20000 PSI					
6. ALLOWABLE STRESS FOR CONCRETE CLASS A (HPC - A)	f _c 4000 PSI		f _c 1600 PSI			
	CLASS B (HPC - B)		f _c 3500 PSI			

TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED? YES/IF YES, ON EXISTING STRUCTURE NO/OR ON TEMPORARY BRIDGE YES	YES					
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED NA	NA					
MINIMUM CLEAR SPAN	200 FT		MINIMUM CLEAR HEIGHT	8 FT		
MINIMUM WATERWAY AREA	800 SQ FT					
ARE SIDEWALKS REQUIRED? NO/IF SO, ON WHAT SIDE	N/A					

NOTE: NA = INFORMATION NOT AVAILABLE N/A = INFORMATION NOT APPLICABLE



NOTE: ONE PIER IN THE CHANNEL IS ACCEPTABLE. PIER MUST BE A MAX WIDTH OF 4' AND PROPERLY ALIGNED WITH THE CHANNEL.

LOAD RATING (TONS)

STRESS LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	46	52	85	67	69	79	
0.55 Fy _s	52	73	85	67	69	79	
0.67 Fy _s							
OPERATING	87	101	116				
0.75 Fy _s							

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town of **WOODFORD** Bridge No. **11**

Highway No. **VT. 9** Log Sta.

Surv. Sta.

VT. 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER

PRELIMINARY INFORMATION

Designed By **M. EVANS-MONGEON** Drawn By **M. EVANS-MONGEON**

Checked By Date Bridge Design Supervisor

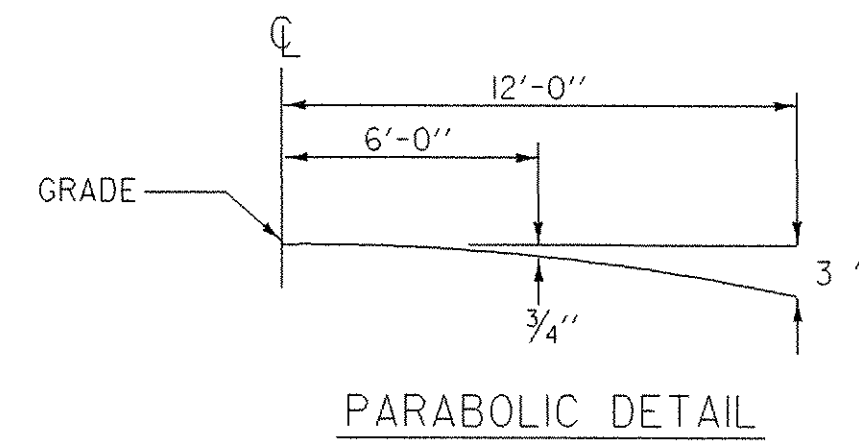
A. PORT ALUPT Date

PROJECT **WOODFORD** PROJECT NO. **BHF 010-(29)**

I.G.C. Info. **/B4e039/structures/se039pl.dgn** se039plj

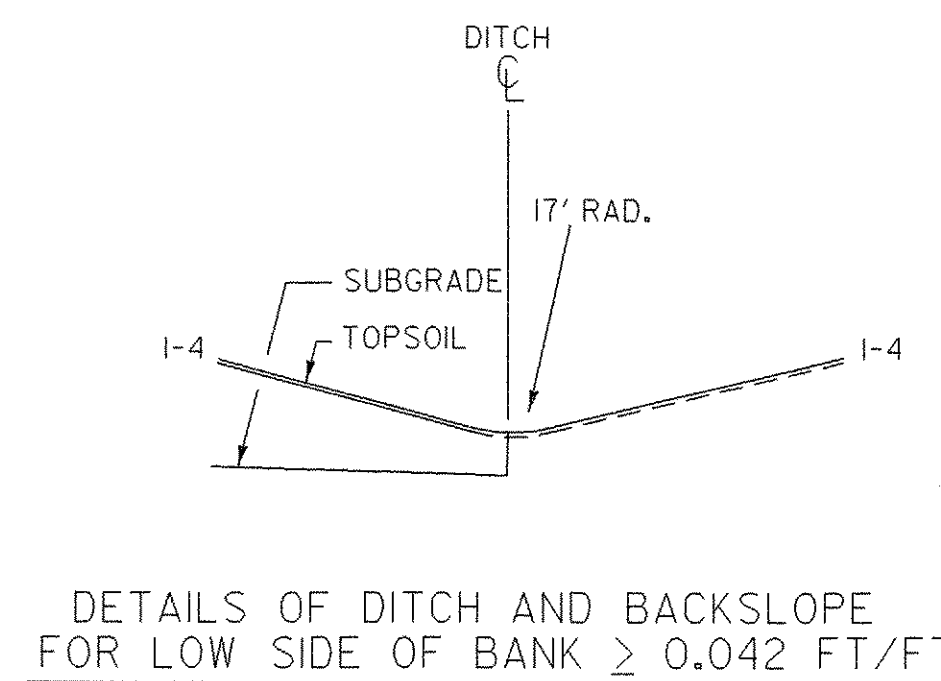
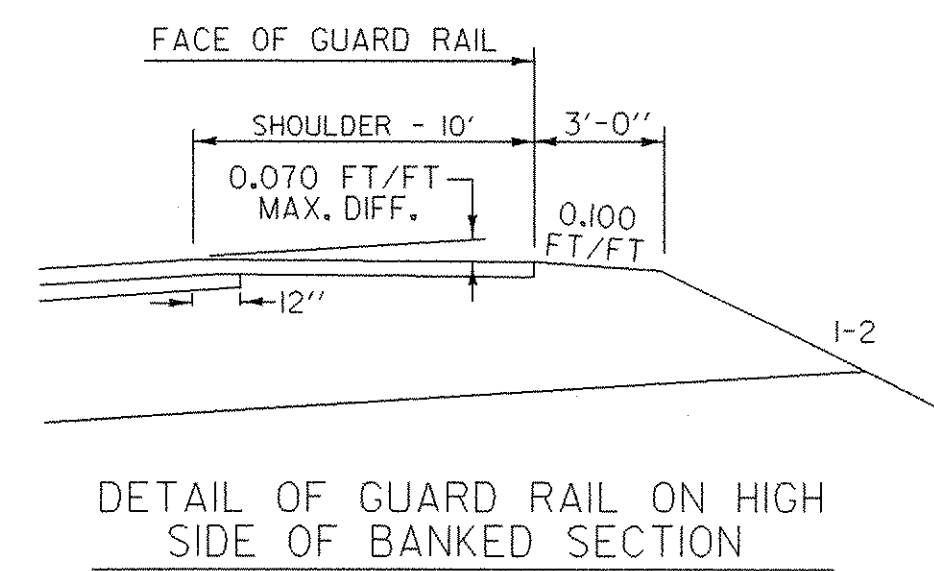
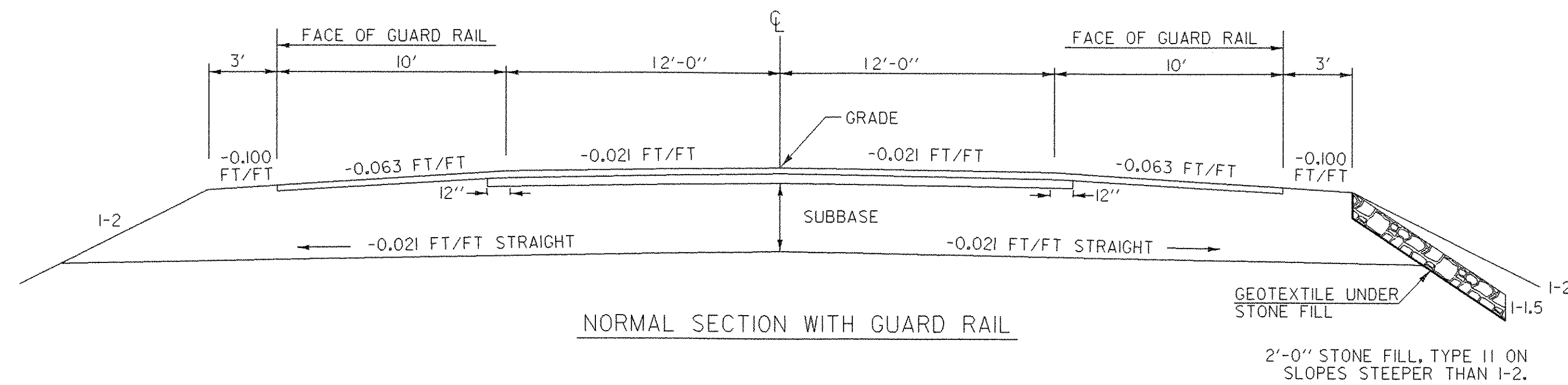
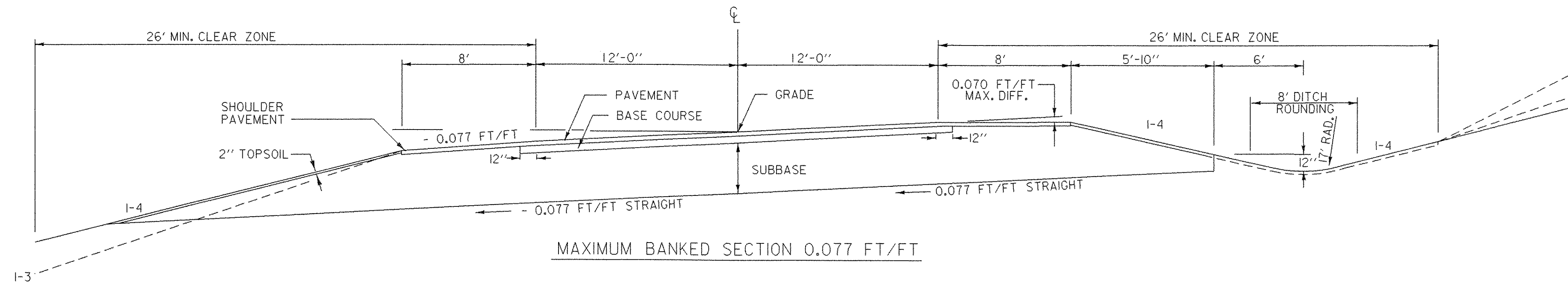
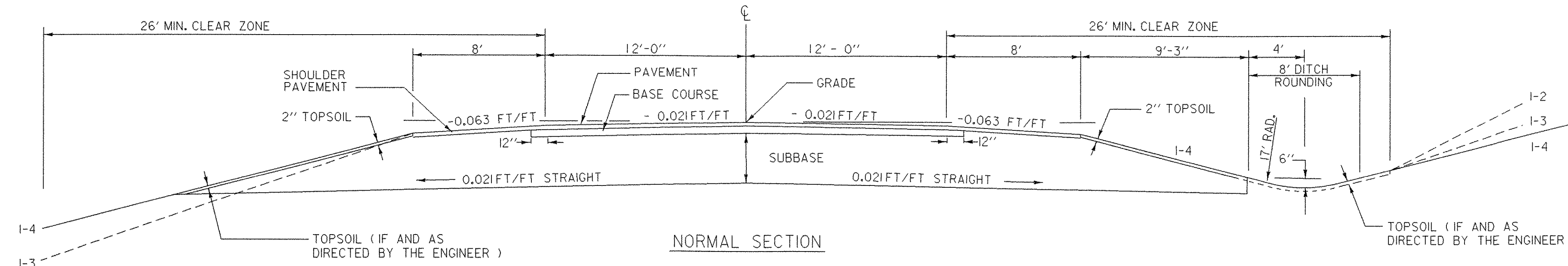
Bridge Sheet No. **3** of **106**

MATERIAL ITEM	THICKNESS TOLERANCE
PAVEMENT (TOTAL DEPTH)	± 1/4"
SUBBASE	± 1"



TYPICAL SECTIONS

1 1/2" BITUMINOUS CONCRETE PAVEMENT, TYPE III (PG 58-28)
 2" BITUMINOUS CONCRETE PAVEMENT, TYPE III (PG 58-28)
 5" BITUMINOUS CONCRETE PAVEMENT, TYPE II (PG 58-28) (TWO LIFTS OF 2 1/2")
 36" SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
 SHOULDERS : 3 1/2" BITUMINOUS CONCRETE PAVEMENT (1 1/2" TYPE III (PG 58-28) OVER 2" TYPE II (PG 58-28))
 DETOUR : 3 1/2" BITUMINOUS CONCRETE PAVEMENT (2 LIFTS, 2" TYPE II OVER 1 1/2" TYPE III)



SEEDING FORMULA URBAN AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
42.5	34.0	CREeping RED FESCUE	98	85
10.0	8.0	PERENNIAL RYE GRASS	95	90
42.5	34.0	KENTUCKY BLUE GRASS	85	85
5.0	4.0	ANNUAL RYE GRASS	95	85
100.00	80.0			

SEEDING FORMULA RURAL AREAS

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREeping RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

GENERAL NOTES

- SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
- SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.
- FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
- AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
- HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.
- TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- MARKER POSTS: TO BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.
- SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.
- PAY LIMITS OF SAND BORROW: WHEN USED IN CONJUNCTION WITH UNDERDRAIN - SEE STANDARD SHEET D - 2.
- TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.

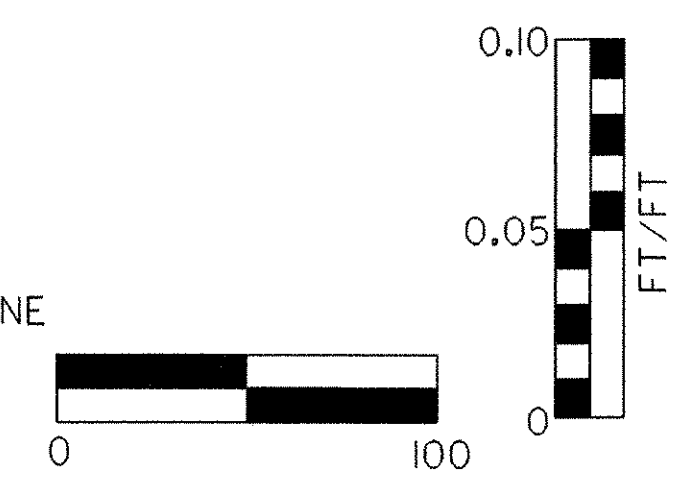
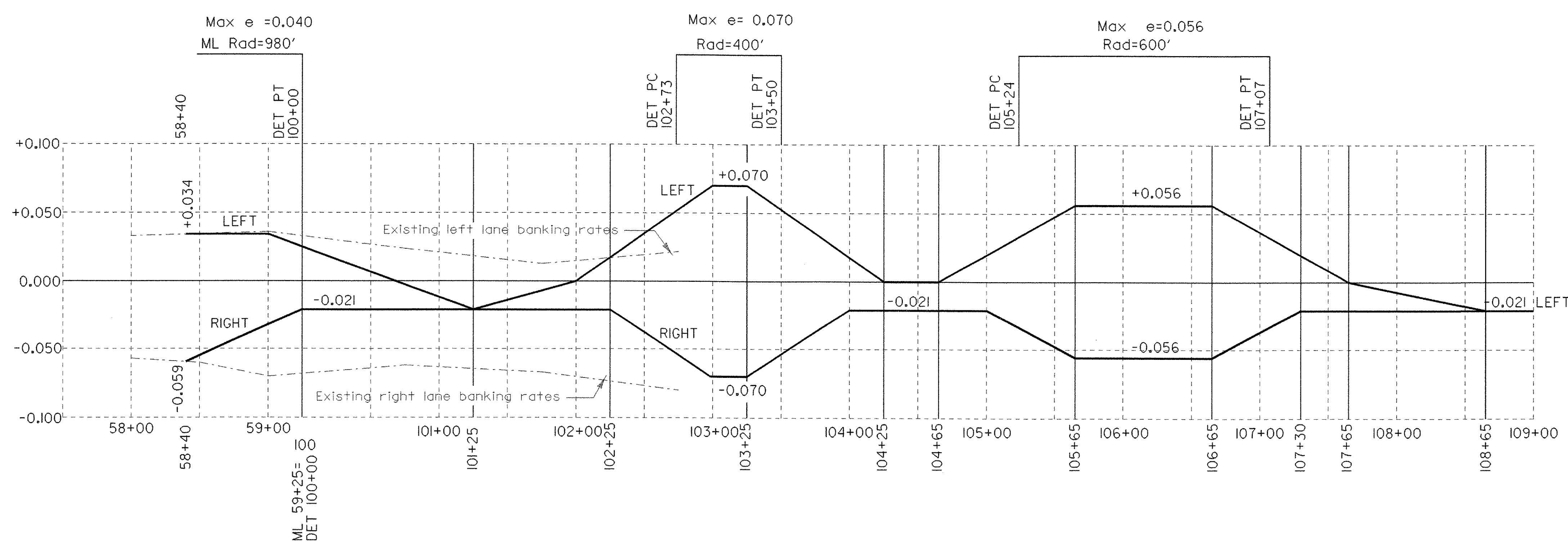
TYPICAL SECTIONS

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

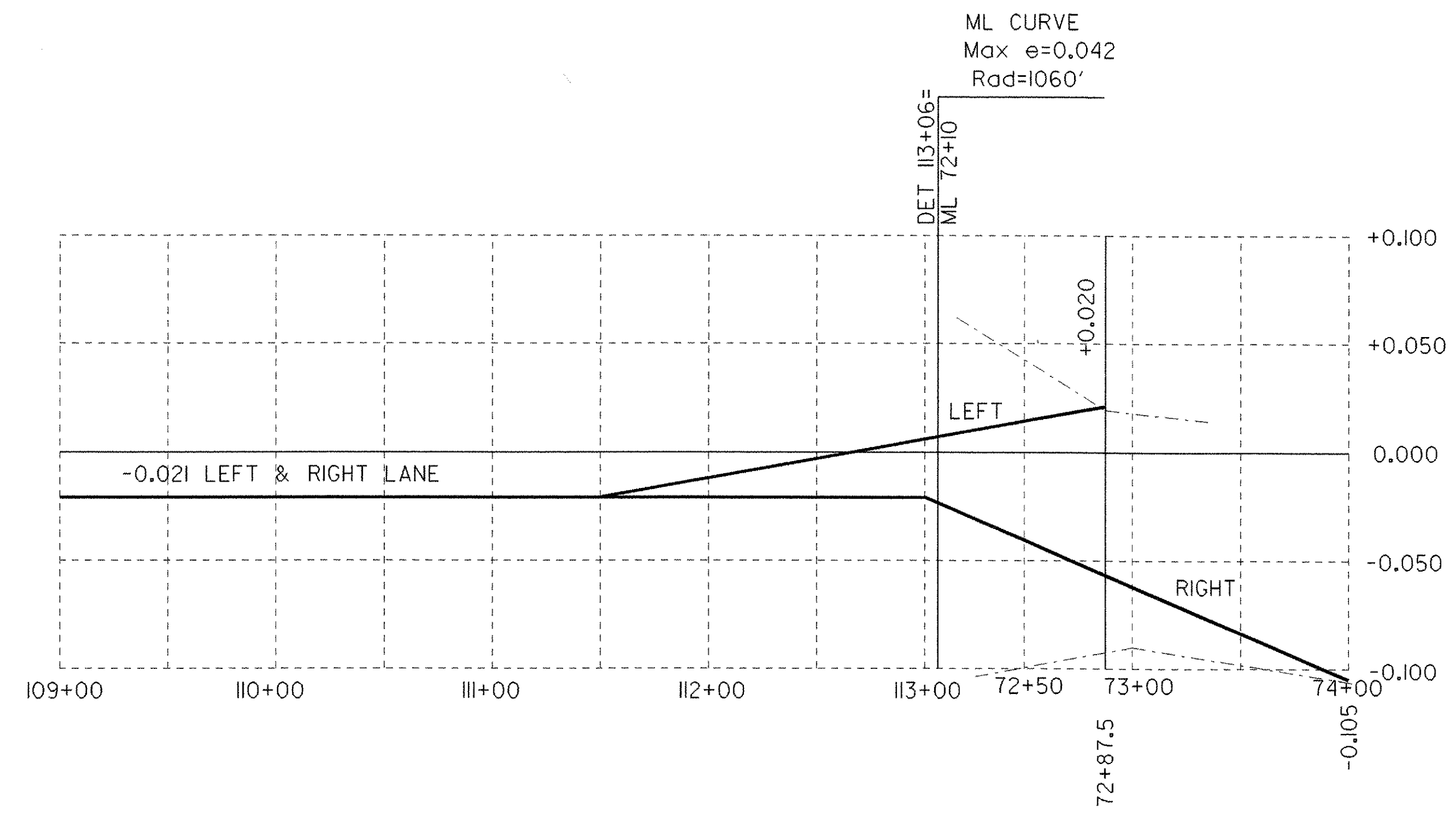
PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /84e039/structures/de039frm.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039typ.1	SURVEY DATE: 12/88
SURVEYED BY: MOREAU	DRAWN BY: KJR
SQUAD LEADER: PORTALUPI	SHEET: 4 OF 106

N.T.S.

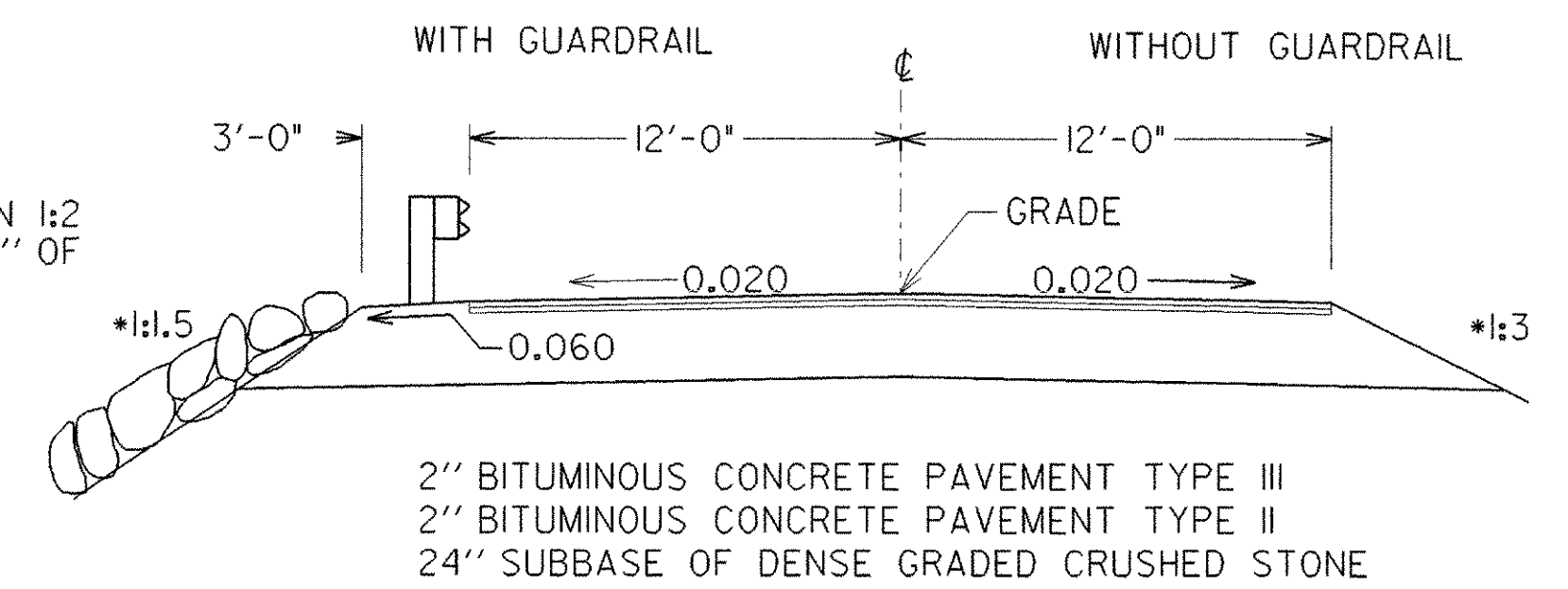
DETOUR BANKING DIAGRAM



Note: Detour Speed is to be 30 MPH.



* ANY SLOPES GREATER THAN 1:2 SHALL BE BLANKETED WITH 24" OF TYPE II STONE FILL.



DETOUR TYPICAL SECTION
N.T.S

DETOUR BANKING AND TYPICAL SHEET

PROJECT NAME: WOODFORD	
PROJECT NUMBER: BHF 010-1(29)	
FILE NAME: /84e039/de039det.dgn	PLOT DATE: 03-OCT-2005
PROJECT LEADER: PORTALUPI	DRAWN BY: J. GEORGE
DESIGNED BY: G. SHANGRAW	CHECKED BY: EVANS-MONGEON
DETOUR SHEET: de039det.1	SHEET 5 OF 106

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES														TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES				
APPR SLAB NO 1	ABUT NO 1	PIER NO. 1	DECK	PIER NO. 2	ABUT NO 2	APPR SLAB NO. 2			DETOUR	UTILITIES	TRAINING	FULL E&C ITEMS	EROSION CONTROL	ROADWAY	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
															1		1		LS	CLEARING AND GRUBBING (INCLUDING INDIVIDUAL TREES AND STUMPS, 0.55 ACRES)	201.10			
															3390		3390		CY	COMMON EXCAVATION	203.15	3364	CY	MAINLINE
															1500		1500		CY	SOLID ROCK EXCAVATION	203.16	30	CY	DRMES
																			CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	6	CY	ROUNDING
	245				12										257		257		CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27	3390	CY	TOTAL
															5900		5900		SY	FINE GRADING-SUBGRADE	203.40			
									165				50	80			295		CY	TRENCH EXCAVATION OF EARTH	204.20	5112	CY	MAINLINE
														80		80		CY	TRENCH EXCAVATION OF ROCK	204.21	66	CY	DRMES	
																			CY	STRUCTURE EXCAVATION	204.25	250	CY	EROSION CONTROL
	820				880										1680		1680		CY	STRUCTURE EXCAVATION	204.25	22	CY	ROUNDING
	170	300		350	170										990		990		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	5450	CY	TOTAL
		105		105											210		210		CY	COFFERDAM EXCAVATION, EARTH	208.30	660	TON	BASE COURSE
		415		435											850		850		CY	COFFERDAM EXCAVATION, ROCK	208.35	476	TON	BINDER COURSE
		1													1		1		LS	COFFERDAM @ PIER NO. 1	208.40	523	TON	TOP COURSE
				1											1		1		LS	COFFERDAM @ PIER NO. 2	208.40	109	TON	BRIDGE
															550		550		SY	COLD PLANING-BIT PAVEMENT	210.10	23	TON	DRMES
													250	5200		5450		CY	SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)	301.25	38	TON	ROUNDING	
														9		9		CWT	EMULSIFIED ASPHALT	404.65	1829	TON	TOTAL	
	17		75		17									1720	109	1829		TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-28)	406.25	737	TON	SEPARATE QUANTITY INCLUDED IN ITEM 528.11 DETOUR (3 1/2")	
	4		356		4									364		364		CY	CONCRETE, CLASS A (QC/QA)	501.221				
			40											40		40		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33				
	54	117	220	239	130	54								814		814		CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34				
			375027						5355					375027		380382		LB	STRUCTURAL STEEL(PLATE GIRDER)	506.55				
	6545	10107	14409	15099	11054	6545								63759		63759		LB	REINFORCING STEEL	507.15				
		1315		110707		1364								113386		113386		LB	EPOXY COATED REINFORCING STEEL	507.17				
				1										1		1		LS	SHEAR CONNECTORS (3876 - 7/8" X 7")	508.15				
				1										1		1		LS	STRUCTURAL PAINTING,SHOP APPLIED (17 TONS)	513.25				
				1										1		1		LS	SURFACE PREPARATION,SHOP (17 TONS)	513.40				
	4	15	21	15	5									60		60		GAL	WATER REPELLENT (MOD. SILANE)	514.10				
	67				67									134		134		LF	BRIDGE EXPANSION JOINT (VERMONT)	516.10				
	122		1333		122									1577		1577		SY	SHEET MEMBRANE WATERPROOFING (MOD. - TORCH APPLIED)	519.20				
			547											547		547		LF	BRIDGE RAILING - NETC - 2 RAIL	525.33				
									1								1		LS	TWO-WAY TEMPORARY BRIDGE (7200SF)(MOD.)	528.11			
														810		810		SY	REMOVAL OF BRIDGE PAVEMENT	529.10				
														1		1		EACH	REMOVAL OF STRUCTURE (12300SF)	529.15				
	6				6									12		12		EACH	BEARING DEVICE ASSEMBLY(ELASTOMERIC)(ABUTMENT)	531.10				
		6		6										12		12		EACH	BEARING DEVICE ASSEMBLY(ELASTOMERIC)(PIER)	531.10				
													5	5		10		HR	BULLDOZER RENTAL, TYPE I	608.10				
														10		10		HR	POWER GRADER RENTAL	608.15				
													10	15		25		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25				
														10		10		HR	POWER BROOM RENTAL	608.30				
														10		10		HR	TRUCK RENTAL	608.37				

PROJECT NAME: **WOODFORD**
 PROJECT NUMBER: **BHF 010-1(29)**
 FILE NAME: /84e039/se039qs.xls
 PROJECT LEADER: **A. PORTALUPI**
 DESIGNED BY: **EVANS-MONGEON**
 PLOT DATE: **8/2/2005**
 DRAWN BY: **G. SHANGRAW**
 CHECKED BY: **M.E.M.**
 QUANTITY SHEET #1 SHEET **6** OF **106**

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES														TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES				
APPR SLAB NO.	ABUT NO. 1	PIER NO. 1	DECK	PIER NO. 2	ABUT NO. 2	APPR SLAB NO.			DETOUR	UTILITIES	TRAINING	FULL E&C ITEMS	EROSION CONTROL	ROADWAY	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
														10			10		HR	LOADER RENTAL, TYPE I	608.40			
													173				173		MGAL	DUST CONTROL WITH WATER (MOD.)	609.10			
														1			1		TON	DUST & ICE CONTROL WITH CALCIUM CHLORIDE	609.15			
													25				25		CY	STONE FILL, TYPE I	613.10			
													20				20		CY	STONE FILL, TYPE I (MOD- CONSTRUCTION ENTRANCE)	613.10			
														330			330		CY	STONE FILL, TYPE II	613.11			
	440	140		140	150											870	870		CY	STONE FILL, TYPE IV	613.13			
																180	180		LF	CAST-IN-PLACE CEMENT CONCRETE CURB, TYPE B	616.28			
																2050	2050		LF	SNOW FENCE (MOD - PDF)	620.70			
																40	40		LF	SNOW FENCE (MOD -TREE PROTECTION)	620.70			
																750	750		LF	HEAVY DUTY STEEL BEAM GUARD RAIL (GALVANIZED)	621.21			
																3	3		EACH	MANUFACTURED TERMINAL SECTION (FLARED)	621.505			
																1	1		EACH	MANUFACTURED TERMINAL SECTION (TANGENT)	621.505			
																4	4		EACH	GUARD RAIL APPR. SECTION.NETC 2 RAIL	621.72			
																733	733		LF	REMOVAL AND DISP OF GUARD RAIL	621.80			
									0.2								0.2		MFBM	INSULATION BOARD	622.10			
									70								70		LF	DUCTILE IRON PIPE, CEM LINED (CL 52, 16")	629.24			
									2								2		EACH	GATE VALVE (16")	629.26			
									225								225		LF	PLASTIC WATER PIPE, RIGID (12" - CLASS 200)	629.33			
									2								2		EACH	TAPPING SLEEVE & VALVE WITH VALVE BOX (12")	629.35			
									1								1		LS	TRANSFER TO NEW SYSTEM-WATER SYSTEM	629.42			
									250								250		LF	PIPE INSULATION	629.44			
									200								200		TON	CRUSHED STONE BEDDING	629.54			
									1								1		LS	WATER MAIN ON BRIDGE (TEMPORARY) (12")	629.60			
									1								1		LS	WATER MAIN ON BRIDGE (PERMANENT) (16")	629.60			
																250	250		HR	UNIFORMED TRAFFIC OFFICERS	630.10			
																250	250		HR	FLAGGERS	630.15			
													1				1		LS	FIELD OFFICE-ENGINEERS	631.10			
													1				1		LS	TESTING EQUIPMENT - CONCRETE	631.16			
													1				1		LS	TESTING EQUIPMENT - BITUMINOUS	631.17			
													1				1		LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25			
										520							520		HR	EMPLOYEE TRAINEESHIP	634.10			
																1	1		LS	MOBILIZATION/ DEMOBILIZATION	635.11			
																1	1		LS	TRAFFIC CONTROL	641.10			
																2700	2700		LF	DURABLE 4" WHITE LINE	646.40			
																2700	2700		LF	DURABLE 4" YELLOW LINE	646.41			
																55	55		EACH	LINE STRIPING TARGETS	646.76			
	504	66		66	197											508	833	1339	SY	GEOTEXTILE UNDER STONE FILL	649.31			
													1100				1100		SY	GEOTEXTILE FOR SILT FENCE	649.51			
													70				70		LB	SEED	651.15			
													20				20		LB	SEED-WINTER RYE	651.17			

PROJECT NAME: **WOODFORD**
 PROJECT NUMBER: **BHF 010-1(29)**
 FILE NAME: /84e039/se039qs.xls PLOT DATE: 8/2/2005
 PROJECT LEADER: A. PORTALUPI DRAWN BY: G. SHANGRAW
 DESIGNED BY: EVANS-MONGEON CHECKED BY: M.E.M.
 QUANTITY SHEET #2 SHEET 7 OF 106

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES																TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
APPR SLAB NO. 1	ABUT NO. 1	PIER NO. 1	DECK	PIER NO. 2	ABUT NO. 2	APPR SLAB NO. 2			DETOUR	UTILITIES	TRAINING	FULL E&C ITEMS	EROSION CONTROL	ROADWAY	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
													600				600		LB	FERTILIZER	651.18			
													29				29		LB	FERTILIZER (MOD.)-(MYCORRHIZAL PRODUCT)	651.18			
													2.3				2		TON	AGRICULTURAL LIMESTONE	651.20			
													2.3				2		TON	HAYMULCH	651.25			
													50				50		EACH	HAYBALES FOR EROSION CONTROL	651.26			
													13				13		CY	CEDAR BARK MULCH (MOD.)	651.27			
													35	83			118		CY	TOPSOIL	651.35			
													19				19		CY	TOPSOIL (MOD.)-(COMPOST)	651.35			
														112			112		SY	GRUBBING MATERIAL	651.40			
													1				1		LS	EROSION PREVENTION AND SEDIMENT CONTROL PLAN	652.10			
													100				100		HR	MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN	652.20			
													1				1		LU	FIELD MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL PLAN (N.A.B.I.)	652.30			
													300				300		SY	EROSION MATTING (JUTE MATTING)	654.10			
													21				21		EACH	EVERGREEN SEEDLINGS (WHITE PINE- 1.0-2.0' MINIMUM HEIGHT, 1 GALLON CONTAINER)	656.15			
													7				7		EACH	EVERGREEN TREES (WHITE PINE- 5.0-6.0' MINIMUM HEIGHT, CONTAINER/ B&B)	656.20			
													3				3		EACH	DECIDUOUS TREES (SUGAR MAPLE- 1.5-2.0" CALIPER, CONTAINER/ B&B)	656.30			
													2				2		EACH	DECIDUOUS TREES (PAPER BIRCH, CLUMP OF 3- 8.0-10.0' MINIMUM HEIGHT, CONTAINER/ B&B)	656.30			
													48				48		EACH	DECIDUOUS TREES (GRAY BIRCH- 4.0-5.0' MINIMUM HEIGHT, 1 GALLON CONTAINER)	656.30			
													42				42		EACH	DECIDUOUS TREES (WHITE ASH- 4.0-5.0' MINIMUM HEIGHT, CONTAINER B&B)	656.30			
													34				34		EACH	DECIDUOUS TREES (BLACK CHERRY- 1.0" CALIPER, 1 GALLON CONTAINER)	656.30			
													28				28		EACH	DECIDUOUS TREES (CHOKO CHERRY- 1.0" CALIPER, 1 GALLON CONTAINER)	656.30			
													350				350		EACH	DECIDUOUS SHRUBS (BLACK CHOKEBERRY- 18.0" MINIMUM HEIGHT, 1 GALLON CONTAINER)	656.35			
													196				196		EACH	DECIDUOUS SHRUBS (GRAY DOGWOOD- 18.0" MINIMUM HEIGHT, 1 GALLON CONTAINER)	656.35			
													112				112		EACH	DECIDUOUS SHRUBS (STREAMCO WILLOW- 18.0" MINIMUM HEIGHT, 1 GALLON CONTAINER)	656.35			
													112				112		EACH	DECIDUOUS SHRUBS (NANNYBERRY- 18.0" MINIMUM HEIGHT, 1 GALLON CONTAINER)	656.35			
														34			34		SF	TRAFFIC SIGNS, TYPE A	675.20			
														88			88		LF	FLANGED CHANNEL SIGN POST	675.301			
														2			2		EACH	REMOVING SIGNS	675.50			

PROJECT NAME: **WOODFORD**
 PROJECT NUMBER: **BHF 010-1(29)**
 FILE NAME: /84e039/se039qs.xls
 PROJECT LEADER: **A. PORTALUPI**
 DESIGNED BY: **EVANS-MONGEON**
 PLOT DATE: **8/2/2005**
 DRAWN BY: **G. SHANGRAW**
 CHECKED BY: **M.E.M.**
 QUANTITY SHEET #3 SHEET **8** OF **106**

<p>TRAV. PT. 1 N = 10000.0000 E = 50000.0000</p>	<p>TRAV. PT. 2 N = 10093.0008 E = 50347.5962</p>	<p>TRAV. PT. 3 N = 10085.5514 E = 50732.2625</p>	<p>TRAV. PT. 4 N = 10036.1265 E = 50983.7253</p>
<p>TRAV. PT. 5 N = 10063.8445 E = 51286.9591</p>	<p>TRAV. PT. 6 N = 10016.8350 E = 51574.5709</p>	<p>TRAV. PT. 100 N = 10015.7323 E = 50747.0379</p>	<p>TRAV. PT. 101 N = 10009.1417 E = 50891.2049</p>

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

NOT TO SCALE

TIE SHEET

PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /str5/84e039/de039nul.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039tie.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: MGN
SQUAD LEADER: PORTALUPI	SHEET: 9 OF 106

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

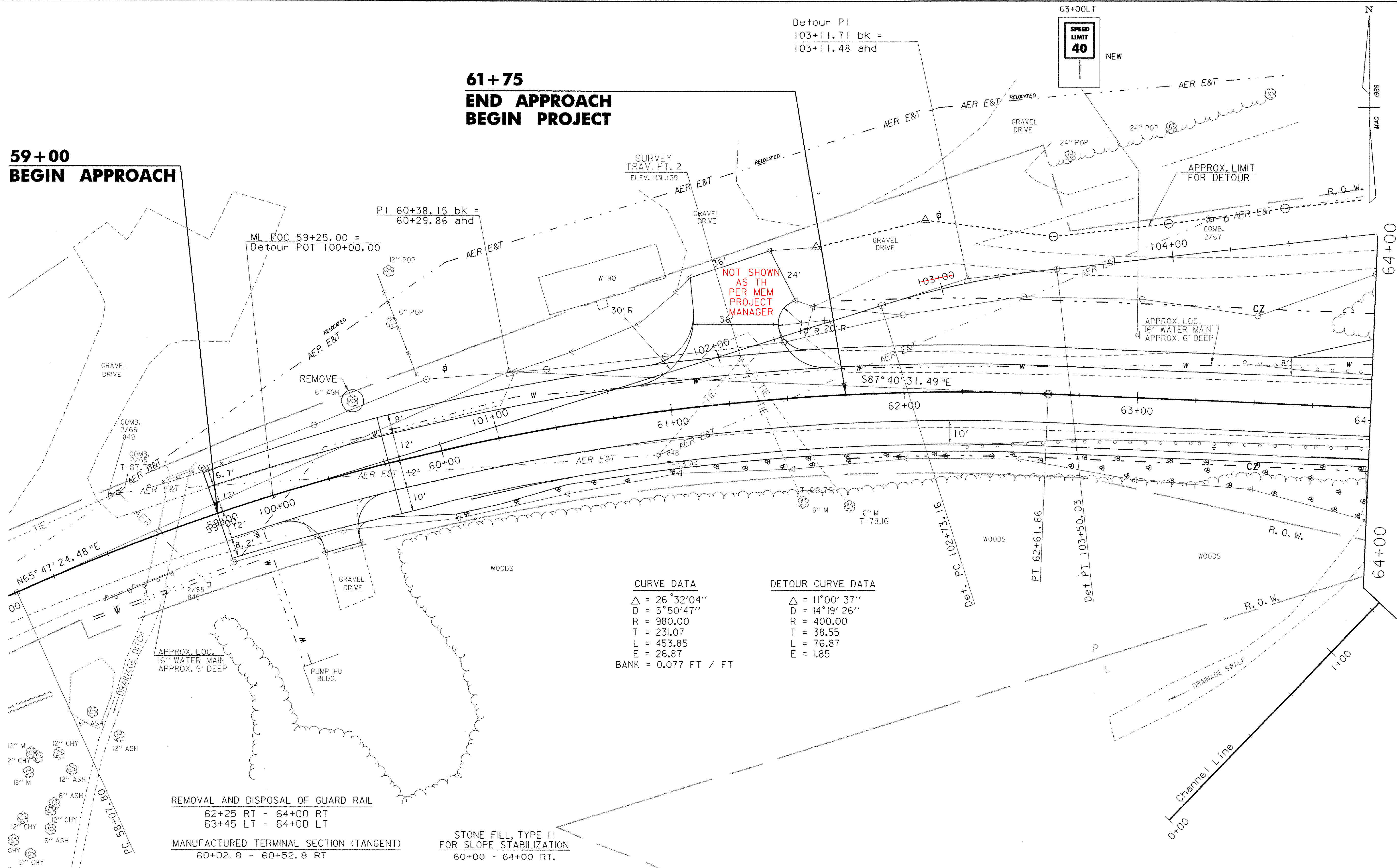
																				SUMMARY AND BALANCES								
STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK		ROCK EXCAVATION		EMBANKMENT				STATION	DIST	TOTAL EXCAVATION EARTH AND ROCK		ROCK EXCAVATION		EMBANKMENT				STATION TO STATION	TOT EXC. EARTH & ROCK C.Y.	ROCK EXCAV C.Y.	EMBANK C.Y.	EXCESSES		ACUMULATIVE EXCESSES		
		AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME			AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	CUT	FILL					CUT	FILL			
	FT.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.		FT.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.	S.F.	C.Y.									
58+50		0				0														58+50	60+00							
59+00	50	0	0			0														60+00	65+00	2577	287	2270		2270		
59+50	50	0	0			0														65+00	70+00	1545	212	1301		3571		
60+00	50	0	0			0														70+00	72+50	732	113	602		4173		
60+50	50	105	97			0														MANLINE TOTALS				4854	593	4172		
61+00	50	149	235			0														DRIVES				30	0	30		4203
61+50	50	154	281			0														TOTALS				4884	593			
62+00	50	154	285			2	2																					
62+19	19	154	108			2	2																					
62+50	31	152	176			4	12																					
63+00	50	154	284			17	41	CUT	2577																			
63+50	50	153	272			27	43	ROCK	0																			
64+00	50	141	286			19	88	R.FAC	495																			
64+28	28	168	170			76	56	FILL	267																			
64+50	22	159	142			32	17	F.FAC	1.15																			
64+93	43	189	242			9	7	EX. C	2270																			
64+93	115					0																						
64+92.96	STOP ROADWAY - BEGIN BRIDGE																											
67+67.97	END BRIDGE - RESUME ROADWAY																											
67+68		99				0																						
68+00	32	309	242			0	27																					
68+50	50	128	405			57	53	CUT	1545																			
69+00	50	151	258			43	93	ROCK	0																			
69+50	50	177	304			0	40	R.FAC	495																			
69+80	30	182	199			0	0	FILL	212																			
70+00	20	188	137			0	0	F.FAC	1.15																			
70+09	9	190	63			0	7	EX. C	1301																			
70+50	41	185	285			40	54																					
71+00	50	149	309			24	41																					
71+50	50	0	0			0	0	CUT	732																			
72+00	50	0	0			0	0	ROCK	0																			
72+50	50	0	0			0	0	R.FAC	495																			
								FILL	113																			
								F.FAC	1.15																			
								EX. C	602																			

REMARKS	
EARTH AND ROCK EXCAVATION	
SOLID ROCK EXCAVATION	1500
EARTH EXCAVATION	3384
PLANIMETERED FILL	593
LESS FACTORED SOLID ROCK	0
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0
NET PLANIMETERED FILL	593
FACTOR	89
PLANIMETERED FILL INCLUDING FACTOR	682
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	4884
CHANNEL EXCAVATION	257
UNDERDRAIN EXCAVATION	0
STRUCTURE EXCAVATION	1680
TOTAL MATERIAL AVAILABLE FOR FILL	6821
TOTAL FILL INCLUDING FACTOR	682
TOTAL MATERIAL FOR FILL	6821
BORROW	
EXCESS EXCAVATION	6139

PROJECT NAME: **WOODFORD**
PROJECT NUMBER: **BHF 010-1(29)**
FILE NAME: /84e039/se039ew3.xls PLOT DATE: 11/22/2002
PROJECT LEADER: Portalupi DRAWN BY: R. PELLETT
DESIGNED BY: Evans-Mongeon CHECKED BY: M.E.M.
EARTHWORK SHEET #1 SHEET 11 OF 106

**59+00
BEGIN APPROACH**

**61+75
END APPROACH
BEGIN PROJECT**



CURVE DATA

Δ	= 26°32'04"
D	= 5°50'47"
R	= 980.00
T	= 231.07
L	= 453.85
E	= 26.87
BANK	= 0.077 FT / FT

DETOUR CURVE DATA

Δ	= 11°00'37"
D	= 14°19'26"
R	= 400.00
T	= 38.55
L	= 76.87
E	= 1.85

- REMOVAL AND DISPOSAL OF GUARD RAIL
62+25 RT - 64+00 RT
63+45 LT - 64+00 LT
- MANUFACTURED TERMINAL SECTION (TANGENT)
60+02.8 - 60+52.8 RT
- HEAVY DUTY STEEL BEAM GUARD RAIL
60+52.8 - 64+00 RT

- STONE FILL, TYPE II FOR SLOPE STABILIZATION
60+00 - 64+00 RT.
- TOPSOIL, GRADE AND SEED.
60+50-61+08 LT (EX. DRIVE)
61+50-62+20 LT (EX. DRIVE)

- CONSTRUCT DRIVE
59+48 RT (16' GRAVEL) w/5' PAVED APRON
61+31 LT (36' GRAVEL) w/5' PAVED APRON

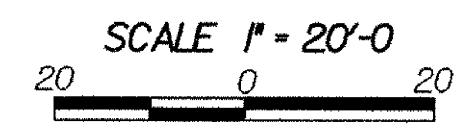
• NOTES: 1) CLEAR ZONE SHALL BE CLEARED TO LIMIT SHOWN ON THE PLANS.
2) USE URBAN SEEDING FORMULA FOR ALL LAWN AREAS.

DATUM

VERTICAL	NGVD 1929
HORIZONTAL	N/A

PLAN SHEET #1

PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /84e039/structures/de039nul.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039iol.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 12 OF 106



SPEED LIMIT 40
NEW

N
MAG 1988

**64+91.46
END ROADWAY
BEGIN BRIDGE
F.G. 1144.79**

**67+70.54
END BRIDGE
RESUME ROADWAY
F.G. 1151.04**

**70+50
END PROJECT
BEGIN APPROACH**

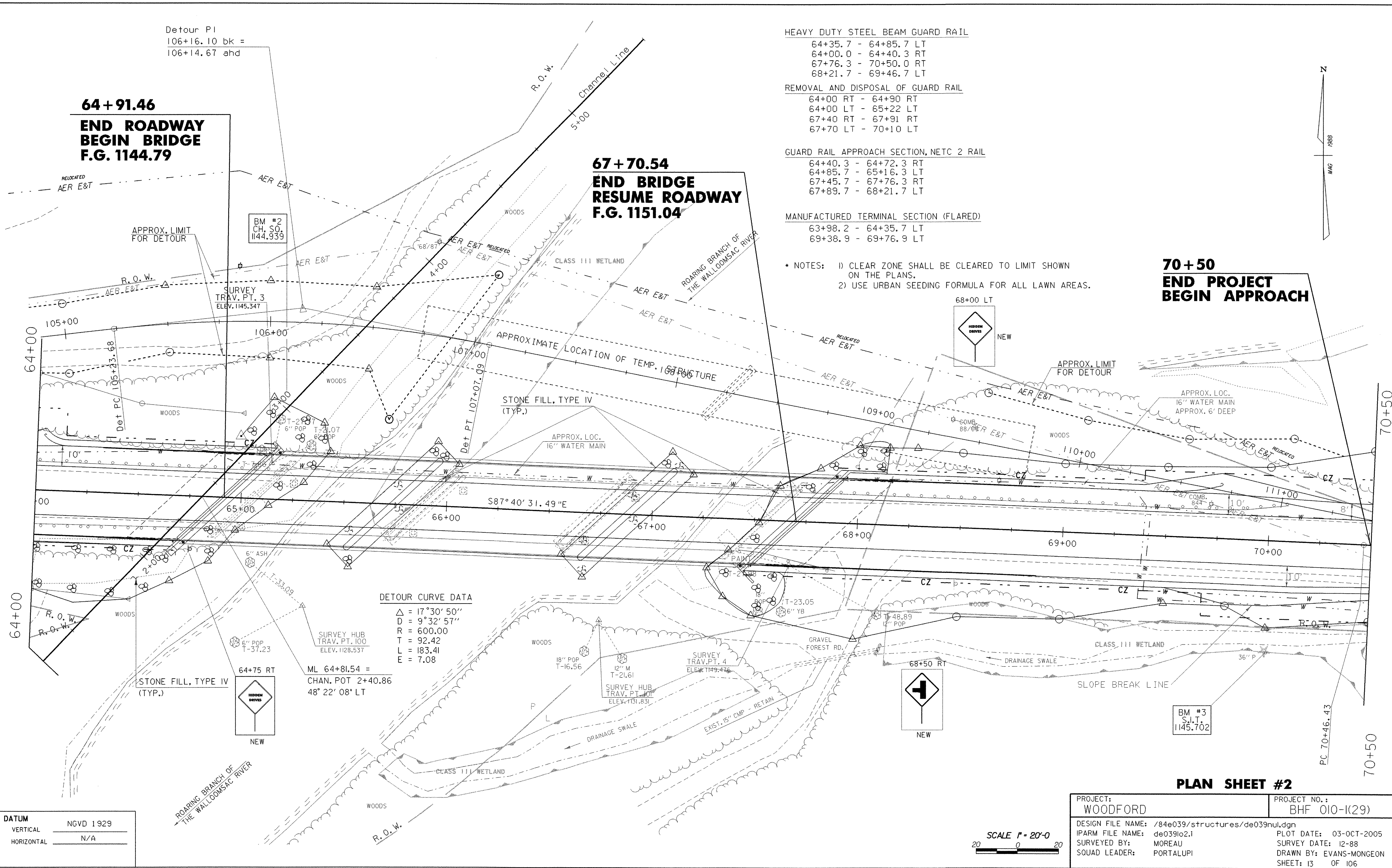
HEAVY DUTY STEEL BEAM GUARD RAIL
64+35.7 - 64+85.7 LT
64+00.0 - 64+40.3 RT
67+76.3 - 70+50.0 RT
68+21.7 - 69+46.7 LT

REMOVAL AND DISPOSAL OF GUARD RAIL
64+00 RT - 64+90 LT
64+00 LT - 65+22 LT
67+40 RT - 67+91 LT
67+70 LT - 70+10 LT

GUARD RAIL APPROACH SECTION, NETC 2 RAIL
64+40.3 - 64+72.3 RT
64+85.7 - 65+16.3 LT
67+45.7 - 67+76.3 RT
67+89.7 - 68+21.7 LT

MANUFACTURED TERMINAL SECTION (FLARED)
63+98.2 - 64+35.7 LT
69+38.9 - 69+76.9 LT

- NOTES: 1) CLEAR ZONE SHALL BE CLEARED TO LIMIT SHOWN ON THE PLANS.
2) USE URBAN SEEDING FORMULA FOR ALL LAWN AREAS.



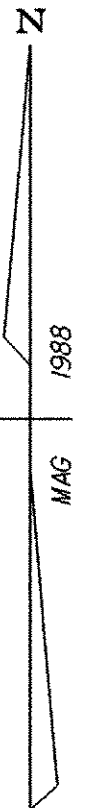
DETOUR CURVE DATA
 $\Delta = 17^{\circ}30'50''$
 $D = 9^{\circ}32'57''$
 $R = 600.00$
 $T = 92.42$
 $L = 183.41$
 $E = 7.08$

ML 64+81.54 =
CHAN. POT 2+40.86
48° 22' 08" LT

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

SCALE 1" = 20'-0"
0 20

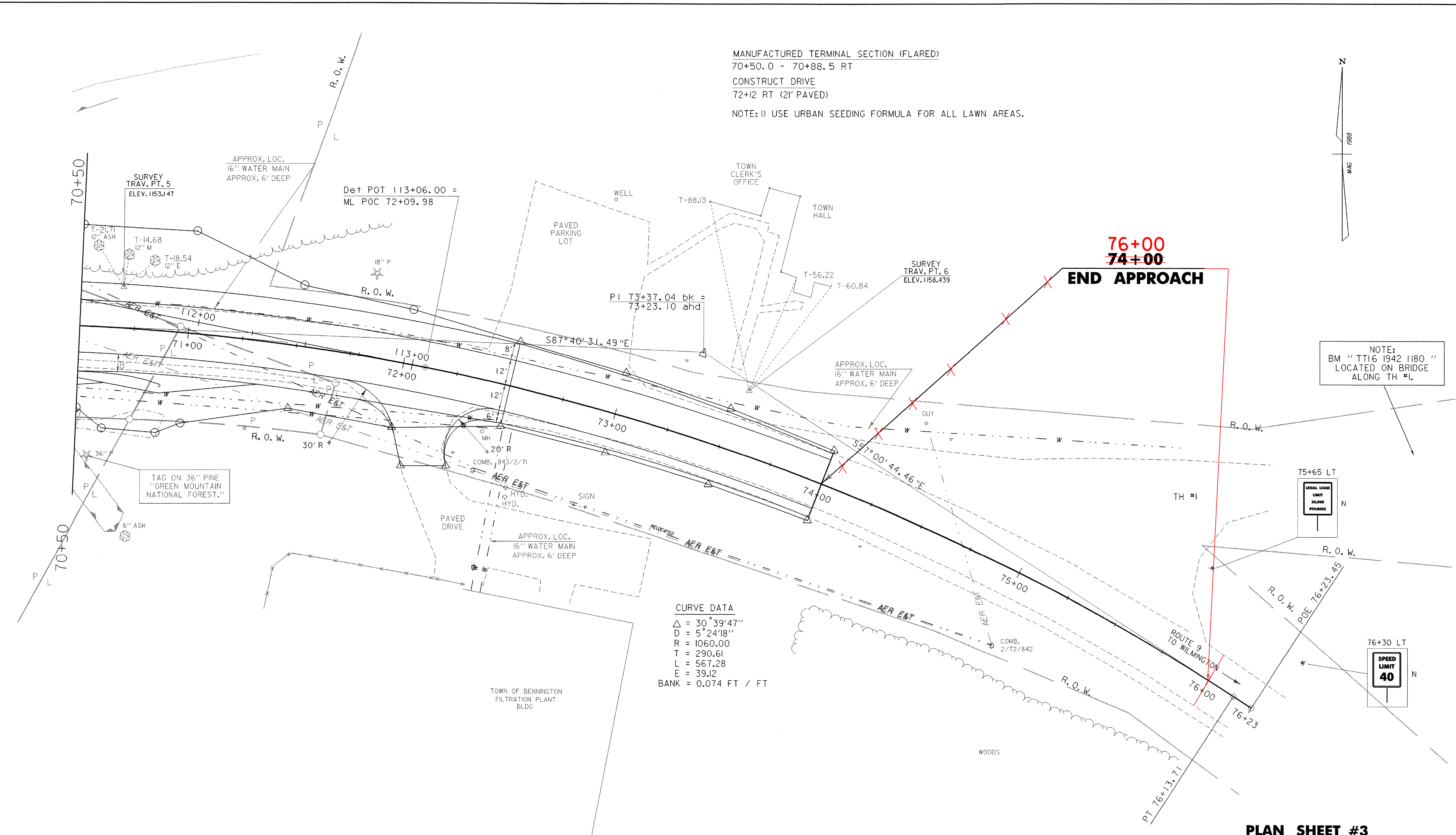
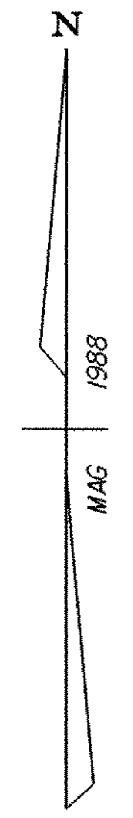
PROJECT: WOODFORD		PROJECT NO.: BHF 010-1(29)	
DESIGN FILE NAME: /84e039/structures/de039nul.dgn		PLOT DATE: 03-OCT-2005	
IPARM FILE NAME: de039lo2.1		SURVEY DATE: 12-88	
SURVEYED BY: MOREAU		DRAWN BY: EVANS-MONGEON	
SQUAD LEADER: PORTALUPI		SHEET: 13 OF 106	



70+50
PC 70+46.43

MANUFACTURED TERMINAL SECTION (FLARED)
 70+50.0 - 70+88.5 RT
 CONSTRUCT DRIVE
 72+12 RT (21' PAVED)

NOTE: 1) USE URBAN SEEDING FORMULA FOR ALL LAWN AREAS.



76+00
~~74+00~~
END APPROACH

NOTE:
 BM "TT16 1942 1180"
 LOCATED ON BRIDGE
 ALONG TH #1.

CURVE DATA
 $\Delta = 30^\circ 39' 47''$
 $D = 5^\circ 24' 18''$
 $R = 1060.00$
 $T = 290.61$
 $L = 567.28$
 $E = 39.12$
 $BANK = 0.074 \text{ FT} / \text{ FT}$

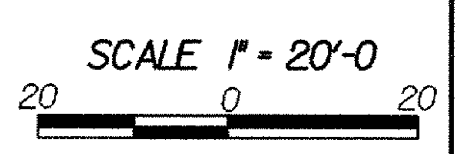
TAG ON 36" PINE
 "GREEN MOUNTAIN
 NATIONAL FOREST."

75+65 LT
 LEGAL LOAD
 LIMIT
 24,000
 POUNDS

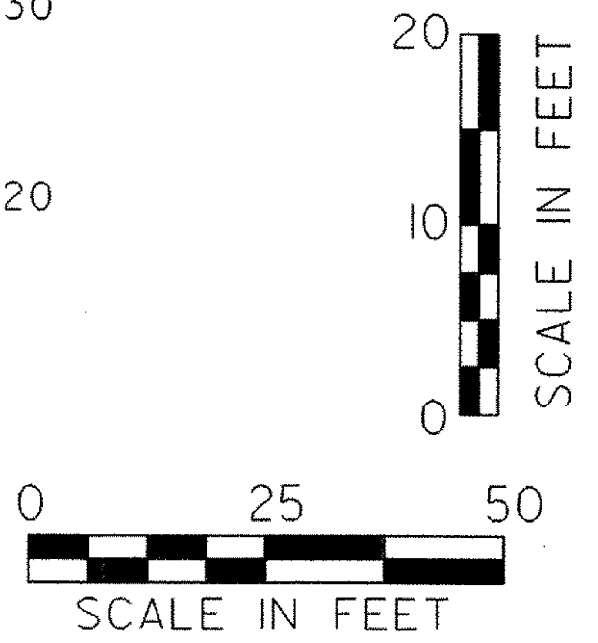
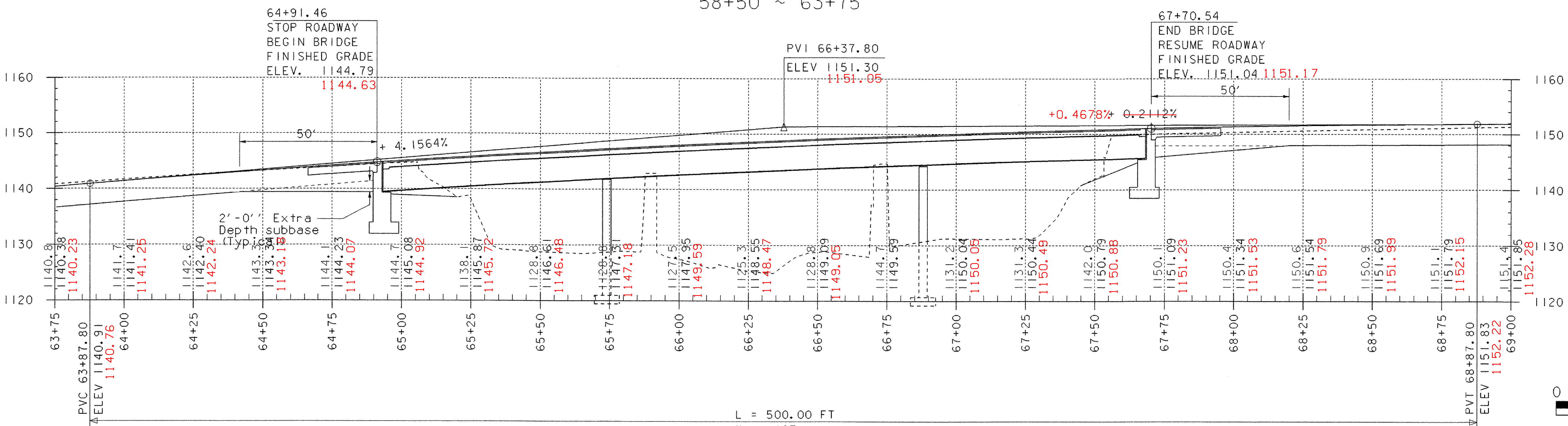
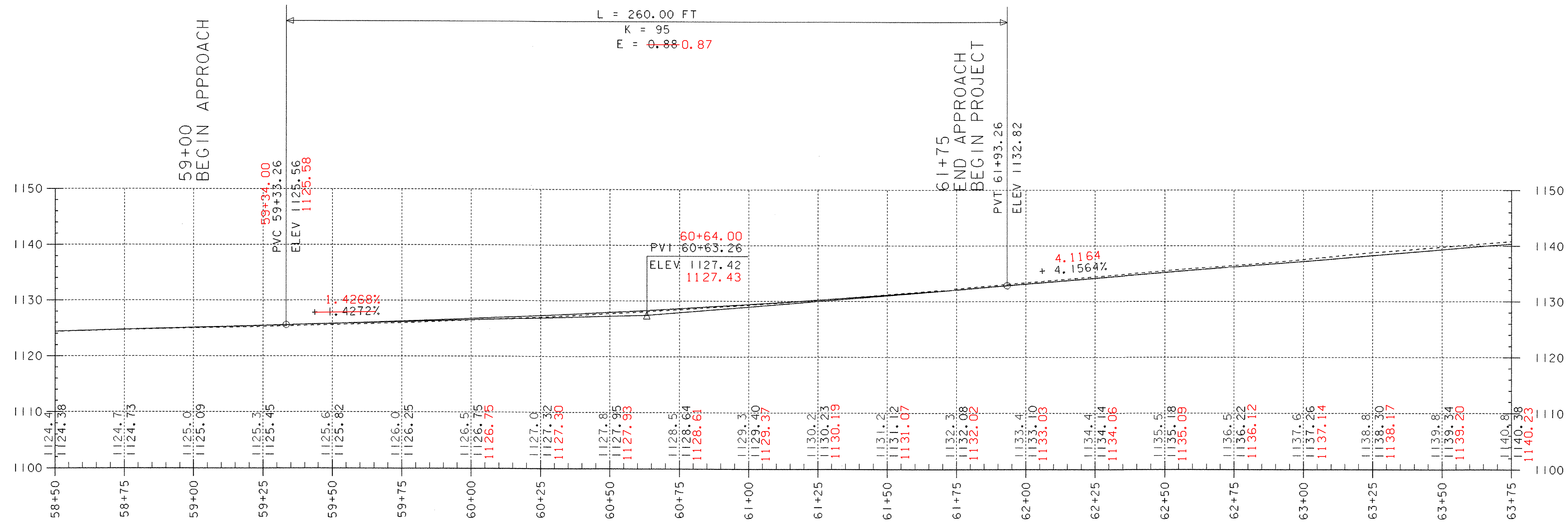
76+30 LT
 SPEED
 LIMIT
 40

PLAN SHEET #3

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /84e039/structures/de039mul.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039lo3.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 14 OF 106



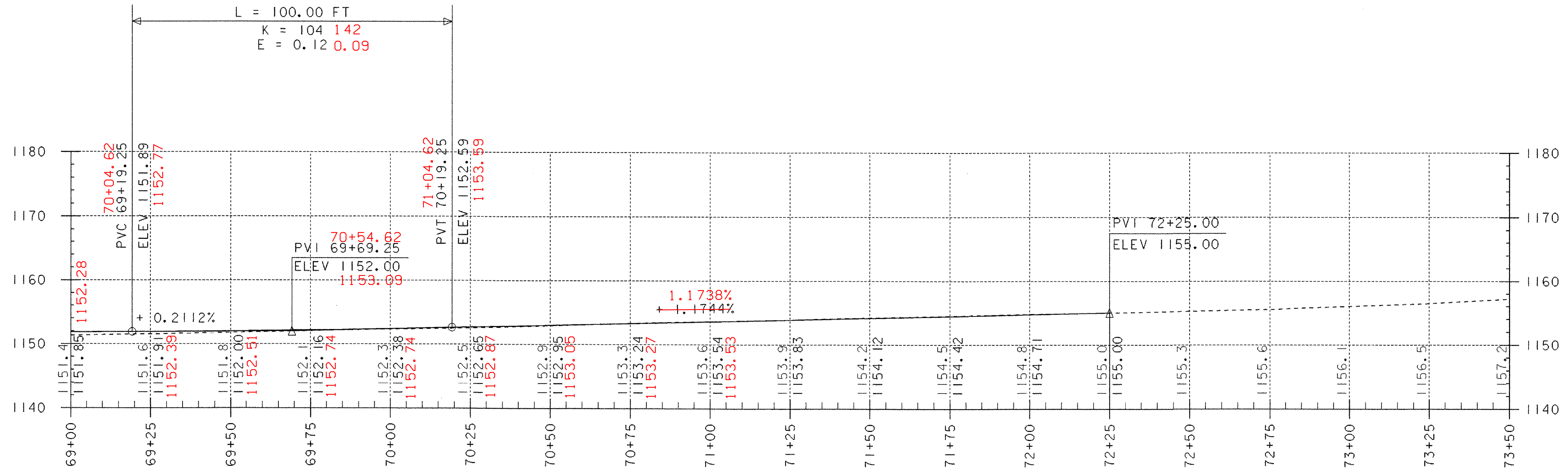
PROFILE #1 STATION 58+50 ~ 69+00

PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/structures/de039bdr.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: DE039PRI.I	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 15 OF 106

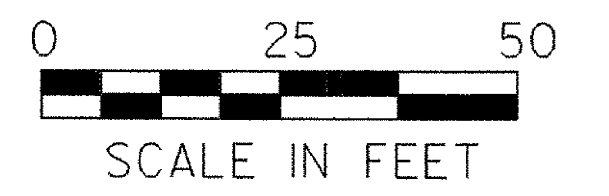
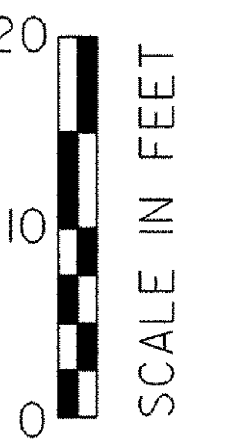
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

63+75 ~ 69+00

58+50 ~ 63+75



69+00 ~ 73+50



PROFILE #2 STATION 69+00 ~ 73+50

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

PROJECT:	WOODFORD	PROJECT NO.:	BHF 010-1(29)
DESIGN FILE NAME:	/84e039/structures/de039bdr.dgn		
IPARM FILE NAME:	DE039PR2.1	PLOT DATE:	03-OCT-2005
SURVEYED BY:	MOREAU	SURVEY DATE:	12-88
SQUAD LEADER:	PORTALUPI	DRAWN BY:	EVANS-MONGEON
		SHEET:	16 OF 106

**STATE OF VERMONT
AGENCY OF TRANSPORTATION
RIGHT OF WAY PLANS
DETAIL SHEET**

TABLE OF PROJECT PROPERTY ACQUISITION

PARCEL NO.	GRANTOR	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKING	REM.	RIGHTS	TITLE TAKEN	DATE	TOWN OR CITY RECORDED	BK.	PG.	REMARKS	REVISION NO.	SHEET	DESCRIPTION OF REVISION	DATE	MADE BY	APPROVED BY
1	WRIGHT, RONALD F.	9	59+48 RT.										16' GRAVEL MM 0113	1	8,10 11	PARCEL NO. 3 U.S. FOREST SERVICE. DELETE TAKING IN FEE OF 0.56A±. PER C.O. 8968.	05-28-98	M. J. R.	L. W. B.
2	SMITH, PHYLLIS L.	9	61+31 LT.										36' GRAVEL MM 0116	2	8,9	PARCEL NO. 1 WRIGHT. REMOVE THE PROPOSED 86' OPTION PIPE. REMOVE SLOPE (P) AT STA. 61+25 RT. ~ 61+53 RT. REMOVE CUL., DIT. & DR. (P) AT STA. 61+28 RT. CHANGE THE AREA OF CONST. (T) AT STA. 59+58 RT. ~ 64+28 RT. FROM 3590 S.F.± TO 1990 S.F.±. PER C.O. 8994.	09-09-98	M. J. R.	L. W. B.
3	UNITED STATES OF AMERICA U.S. FOREST SERVICE (DEPT. OF AGRICULTURE)	10,11	67+27 RT. 67+64 RT. 69+71 RT. 69+96 RT.	69+29 RT. 69+03 RT. 70+73 RT. 70+76 RT.			CONST. (T) 1640 S.F.± SLOPE (P) 680 S.F.± CONST. (T) 900 S.F.± SLOPE (P) 400 S.F.±							3	8,9	PARCEL NO. 2 SMITH. ADD THE DESIGN OF A 290' OPTION PIPE. CHANGE CULVERT (P) AT STA. 58+94 LT. ~ 58+97 LT. TO STA. 58+94 LT. ~ 59+20 LT. PER C.O. 8995.	09-09-98	M. J. R.	L. W. B.
4	STATE OF VERMONT	11	70+76 RT. 70+69 RT. 70+73 RT. 72+12 RT.	71+70 RT. 71+31 RT. 71+07 RT.	0.06A±			QCD	04-26-99	WOODFORD	33	6&7	2830 S.F.± (FORMERLY TOWN OF BENNINGTON) 21' PAVED MM 0137	4	8,11	PARCEL NO. 4 TOWN OF BENNINGTON. CHANGE OWNER TO STATE OF VERMONT. PER C.O. 9119	05-15-00	S. L. D.	R. P. D.
5	ADVENT CHRISTIAN CHURCH OF WOODFORD (LESSOR) TOWN OF WOODFORD - (LESSEE)	11	71+35 LT. 71+38 LT.	72+76 LT. 72+39 LT.			SLOPE (T) 160 S.F.± CONST. (T) 860 S.F.±							5	1,8 9,10	PARCEL NO. 1 WRIGHT. PROJECT ENVELOPE CHANGED RESULTING IN REDUCTION OF TAKE AND RIGHTS NEEDED. ELIMINATE ALL TAKE AND RIGHTS. LEAVE DRIVE STATIONING AND REMARKS ON DETAIL SHEET. PER C.O. 9146.	09-06-00	S. L. D.	R. P. D.
6	CENTRAL VERMONT PUBLIC SERVICE CORP.												UTILITY	6	1,8 9,10	PARCEL NO. 2 SMITH. PROJECT ENVELOPE CHANGED RESULTING IN NO RIGHTS NEEDED. ELIMINATE ALL RIGHTS. LEAVE DRIVE STATIONING AND REMARKS ON DETAIL SHEET. PER C.O. 9147.	09-06-00	S. L. D.	R. P. D.
7	BELL ATLANTIC - NEW ENGLAND												UTILITY						
8	ADELPHIA CABLE T.V.												UTILITY						
9	TOWN OF BENNINGTON - WATER												UTILITY						

ELECTRONIC FILES TO STRUCTURES 4-12-02

ACCT_r.drown
IP_PWP\dms06030\re039d.dgn
DATE PLOTTED 03-OCT-2005

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

LEGEND
--- C&T (P) --- CLEARING & TRIMMING
... C&T (P) ... CLEAR ZONE
--- CONST. (T) --- CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P PROPERTY LINE
△ TOP OF CUT
○ TOE OF SLOPE

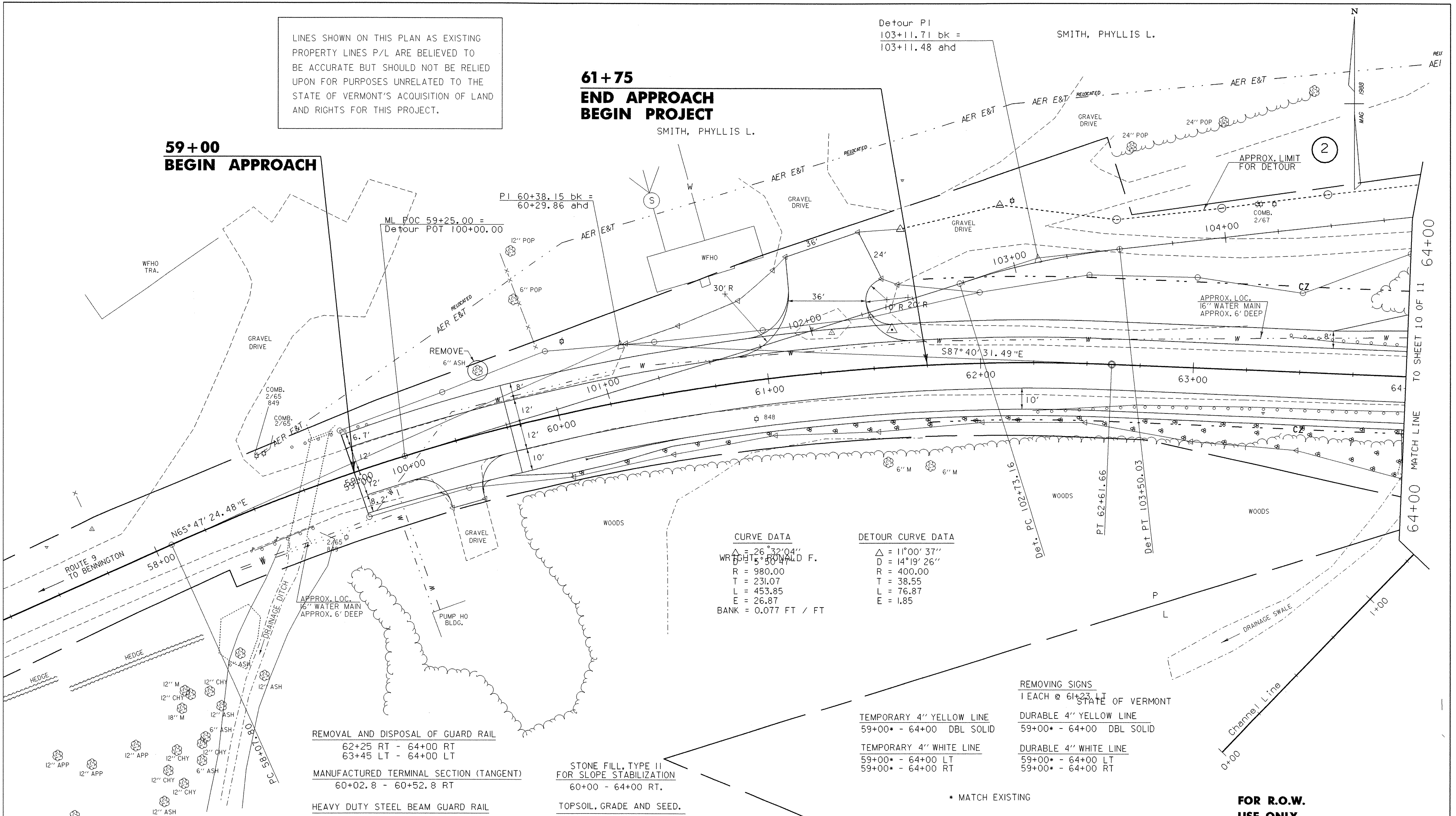
--- UE (P) --- PERMANENT UTILITY EASEMENT
APPROVED: LAWRENCE W. BLISS DATE: 06-10-97
CHIEF, PLANS & TITLES

R. O. W. PLANS
WOODFORD
BHF 010-1 (29)
R. O. W. SHEET 8 OF 11 SHEETS
SHEET 17 OF 106

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

**61+75
END APPROACH
BEGIN PROJECT**

**59+00
BEGIN APPROACH**



CURVE DATA

WRIGHT, RONALD F.

Δ	= 26°32'04"
R	= 980.00
T	= 231.07
L	= 453.85
E	= 26.87
BANK	= 0.077 FT / FT

DETOUR CURVE DATA

Δ	= 11°00'37"
D	= 14°19'26"
R	= 400.00
T	= 38.55
L	= 76.87
E	= 1.85

- REMOVAL AND DISPOSAL OF GUARD RAIL
62+25 RT - 64+00 RT
63+45 LT - 64+00 LT
- MANUFACTURED TERMINAL SECTION (TANGENT)
60+02.8 - 60+52.8 RT
- HEAVY DUTY STEEL BEAM GUARD RAIL
60+52.8 - 64+00 RT

- STONE FILL, TYPE II FOR SLOPE STABILIZATION
60+00 - 64+00 RT.
- TOPSOIL, GRADE AND SEED.
60+50-61+08 LT (EX. DRIVE)
61+50-62+20 LT (EX. DRIVE)

- CONSTRUCT DRIVE
59+48 RT (16' GRAVEL) w/5' PAVED APRON
61+31 LT (36' GRAVEL) w/5' PAVED APRON

- REMOVING SIGNS
1 EACH @ 61+23 LT
- | | |
|--------------------------|--------------------------|
| TEMPORARY 4" YELLOW LINE | 59+00* - 64+00 DBL SOLID |
| TEMPORARY 4" WHITE LINE | 59+00* - 64+00 LT |
| | 59+00* - 64+00 RT |
| DURABLE 4" YELLOW LINE | 59+00* - 64+00 DBL SOLID |
| DURABLE 4" WHITE LINE | 59+00* - 64+00 LT |
| | 59+00* - 64+00 RT |

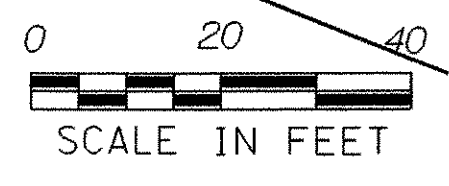
* MATCH EXISTING

**FOR R.O.W.
USE ONLY**

DATUM

VERTICAL	NGVD 1929
HORIZONTAL	N/A

- * NOTES: 1) CLEAR ZONE SHALL BE CLEARED TO LIMIT SHOWN ON THE PLANS.
- 2) USE URBAN SEEDING FORMULA FOR ALL LAWN AREAS.



PROJECT: WOODFORD	PROJECT NO.: BHF 010-K(29)
DESIGN FILE NAME: /prop/84e039/re039zzz.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: re039llr.i	SURVEYED BY: 12-88
SURVEYED BY: MOREAU	DRAWN BY: PJR/MGN
SQUAD LEADER: NYQUIST	
R. O. W. SHEET 9 OF 11 SHEETS	18 OF 106 SHEETS

Detour PI
106+16.10 bk =
106+14.67 ahd

64+91.46
END ROADWAY
BEGIN BRIDGE
F.G. 1144.79

SMITH, PHYLLIS L.

67+70.54
END BRIDGE
RESUME ROADWAY
F.G. 1151.04

70+50
END PROJECT
BEGIN APPROACH

HEAVY DUTY STEEL BEAM GUARD RAIL

64+35.7 - 64+85.7 LT
64+00.0 - 64+40.3 RT
67+76.3 - 70+50.0 RT
68+21.7 - 69+46.7 LT

REMOVAL AND DISPOSAL OF GUARD RAIL

64+00 RT - 64+90 RT
64+00 LT - 65+22 LT
67+40 RT - 67+91 RT
67+70 LT - 70+10 LT

GUARD RAIL APPROACH SECTION, NETC 2 RAIL

64+40.3 - 64+72.3 RT
64+85.7 - 65+16.3 LT
67+45.7 - 67+76.3 RT
67+89.7 - 68+21.7 LT

MANUFACTURED TERMINAL SECTION (FLARED)

63+98.2 - 64+35.7 LT
69+38.9 - 69+76.9 LT

TEMPORARY 4" YELLOW LINE

64+00 - 70+50 DBL SOLID

TEMPORARY 4" WHITE LINE

64+00 - 70+50 LT
64+00 - 70+50 RT

DURABLE 4" YELLOW LINE

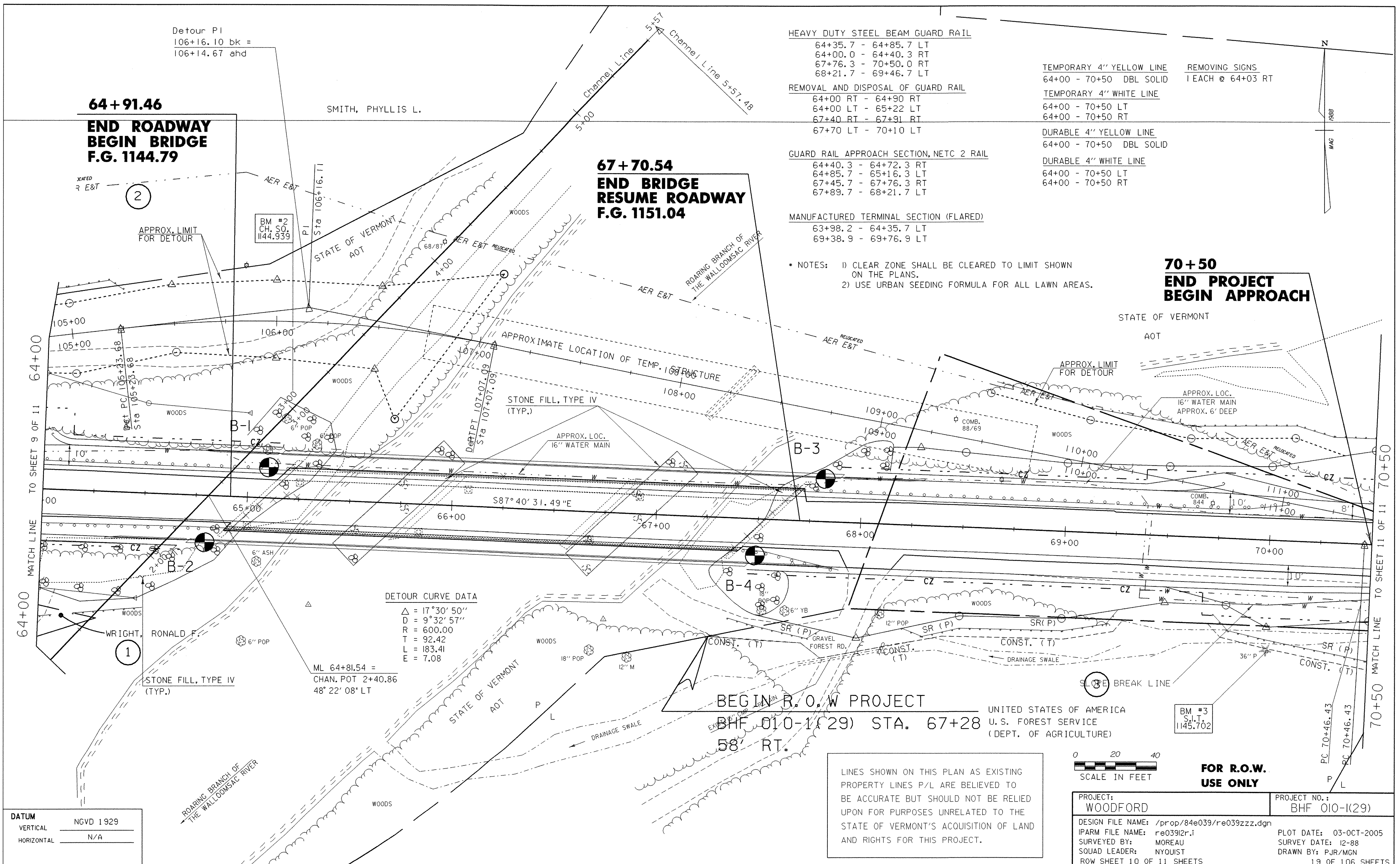
64+00 - 70+50 DBL SOLID

DURABLE 4" WHITE LINE

64+00 - 70+50 LT
64+00 - 70+50 RT

REMOVING SIGNS
1 EACH @ 64+03 RT

- * NOTES: 1) CLEAR ZONE SHALL BE CLEARED TO LIMIT SHOWN ON THE PLANS.
2) USE URBAN SEEDING FORMULA FOR ALL LAWN AREAS.



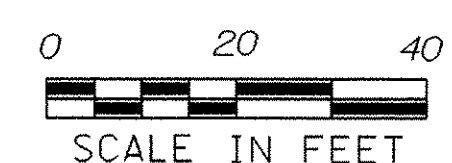
DETOUR CURVE DATA
 Δ = 17°30'50"
 D = 9°32'57"
 R = 600.00
 T = 92.42
 L = 183.41
 E = 7.08

ML 64+81.54 =
CHAN. POT 2+40.86
48° 22' 08" LT

BEGIN R.O.W PROJECT
BHF 010-1(29) STA. 67+28
58' RT.

UNITED STATES OF AMERICA
 U. S. FOREST SERVICE
 (DEPT. OF AGRICULTURE)

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.



FOR R.O.W. USE ONLY

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A

PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /prop/84e039/re039zzz.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: re03912r.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: PJR/MGN
SQUAD LEADER: NYQUIST	
ROW SHEET 10 OF 11 SHEETS	19 OF 106 SHEETS

TEMPORARY 4" YELLOW LINE
70+50 - 72+50• DBL SOLID

DURABLE 4" YELLOW LINE
70+50 - 72+50• DBL SOLID

TEMPORARY 4" WHITE LINE
70+50 - 72+50• RT.
70+50 - 72+50• LT.

DURABLE 4" WHITE LINE
70+50 - 72+50• RT.
70+50 - 72+50• LT.

* MATCH EXISTING

MANUFACTURED TERMINAL SECTION (FLARED)
70+50.0 - 70+88.5 RT

CONSTRUCT DRIVE
70+50 - 72+50 (PAVED)
ADVENT CHRISTIAN CHURCH OF WOODFORD

(LESSOR)
NOTE: USE URBAN SEEDING FORMULA FOR ALL LAWN AREAS.
TOWN OF WOODFORD
(LESSEE)

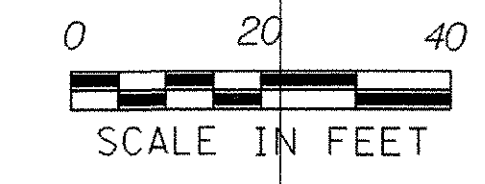
END R.O.W PROJECT
BHF 010-1(29) STA. 72+39 27' LT.

74+00
END APPROACH

NOTE:
BM " TT16 1942 1180 " LOCATED ON BRIDGE ALONG TH #1.

CURVE DATA
Δ = 30° 39' 47"
D = 5° 24' 18"
R = 1060.00
T = 290.61
L = 567.28
E = 39.12
BANK = 0.074 FT / FT

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.



FOR R.O.W.
USE ONLY

DATUM NGVD 1929
VERTICAL N/A
HORIZONTAL N/A

PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /prop/84e039/re039zzz.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: re03913r.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: PJR/MGN
SQUAD LEADER: NYQUIST	
ROW SHEET 11 OF 11 SHEETS	20 OF 106 SHEETS

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION

THIS PROJECT IS LOCATED ON VT ROUTE 9 BEGINNING AT A POINT APPROXIMATELY 1.163 MILES EAST OF THE BENNINGTON - WOODFORD TOWN LINE, AND EXTENDING EASTERLY ALONG VT ROUTE 9 FOR 0.166 MILES. THE PURPOSE OF THE PROJECT IS TO REPLACE AND WIDEN BRIDGE #10 OVER THE ROARING BRANCH OF THE WALLOOMSAC RIVER. A TWO-WAY TEMPORARY BRIDGE WILL BE UTILIZED TO CARRY TRAFFIC DURING CONSTRUCTION.

THIS PROJECT INCLUDES THE REMOVAL OF THE OLD BRIDGE AND RAILING, GRADING, DRAINAGE, SUB-BASE, PAVEMENT, INSTALLATION OF GUARDRAILS, LANDSCAPING, SIGNAGE, STRIPING AND NECESSARY APPROACH WORK. THE TOTAL DISTURBED AREA EXCLUDING WASTE, BORROW AND STAGING AREAS, IS 2.4 ACRES.

SITE INVENTORY AND ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS

THERE EXIST UNLINED DRAINAGE DITCHES ALONG THE SIDES OF VT ROUTE 9. THE BANKS SLOPE STEEPLY IN THE VICINITY OF THE BRIDGE AND SOUTH WEST OF THE BRIDGE. THE VEGETATION IN THE IMMEDIATE VICINITY OF THE BRIDGE, AND A SHORT DISTANCE EAST AND WEST OF THE BRIDGE, IS PRIMARILY DENSE WOODED COVER.

DRAINAGE, WATERWAYS, BODIES OF WATER

THE ROARING BRANCH OF THE WALLOOMSAC RIVER FLOWS UNDER THE EXISTING THREE SPAN ROLLED-BEAM BRIDGE. THERE ARE SEVERAL DRAINAGE WAYS IN THE PROJECT AREA THAT CARRY RUNOFF FROM THE ROAD TO THE RIVER, BUT THERE ARE NO KNOWN EPHEMERAL STREAMS OR PONDS WITHIN THE PROJECT SITE.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE TERRAIN HAS MODERATE TO STEEP SLOPES IN THE VICINITY OF THE PROJECT SITE. VT ROUTE 9 IS A PAVED STATE HIGHWAY. DEVELOPMENT ALONG VT ROUTE 9 CONSISTS OF A MIX OF PERMANENT RESIDENCES AND MUNICIPAL BUILDINGS LYING ON THE OUTSKIRTS OF THE PROJECT LIMITS. THE EXISTING CABLE, TELEPHONE, AND ELECTRICAL UTILITIES EXIST WITHIN THE PROJECT SITE AND WILL BE RELOCATED AERIALLY BY THEIR RESPECTIVE OWNERS. A MUNICIPAL WATER MAIN CURRENTLY TRAVELS ACROSS THE NORTH SIDE OF THE EXISTING BRIDGE AND WILL BE RELOCATED TO THE TEMPORARY BRIDGE DURING CONSTRUCTION AND THEN FINALLY ONTO THE NEW BRIDGE.

VEGETATION

THE PROJECT SITE CONTAINS A MIXTURE OF RESIDENTIAL AND FORESTED LANDS. IN THE RESIDENTIAL AREAS, THERE ARE SCATTERED TREES CONSISTING OF SOME ASH, CHERRY, MAPLE, POPLAR, APPLE, BIRCH AND PINE. THERE ARE ALSO SOME SHRUBS AND GRASSY LAWNS IN THE RESIDENTIAL AREA.

IN ORDER TO PLACE THE TEMPORARY BRIDGE ON THE UPSTREAM SIDE OF THE EXISTING BRIDGE, A NUMBER OF TREES, SHRUBS AND OTHER MISCELLANEOUS GROUND COVER WILL NEED TO BE REMOVED. DETAILED LANDSCAPE PLANS WERE DEVELOPED AND ARE INCLUDED IN THE EROSION AND SEDIMENT CONTROL FINAL CONDITIONS SITE PLAN TO DETERMINE HOW TO REPLACE THIS REMOVED VEGETATION ONCE THE TEMPORARY DETOUR AND ASSOCIATED TEMPORARY FILLS ARE REMOVED.

SOILS

THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS COLTON GRAVELLY LOAMY SAND. THIS SOIL TYPE IS DESCRIBED AS VERY DEEP, EXCESSIVELY DRAINED SOIL FORMED IN GLACIOFLUVIAL DEPOSITS. THEY ARE ON TERRACES, KAMES, ESKERS, AND OUTWASH PLAINS. PERMEABILITY IS MODERATELY RAPID TO VERY RAPID IN THE SOLUM AND VERY RAPID IN THE SUBSTRATUM. SLOPES RANGE FROM 0 TO 50 PERCENT. THE "K" VALUE FOR THIS SOIL IS 0.17, WHICH HAS LOW ERODABILITY.

SENSITIVE RESOURCE AREAS

CLASS III WETLANDS WERE IDENTIFIED IN THE PROJECT AREA. THERE WILL BE SOME IMPACT TO THE WETLANDS ALTHOUGH EVERY ATTEMPT SHOULD BE MADE TO MINIMIZE OR ELIMINATE ANY IMPACT WITH THIS SITE.

NO THREATENED AND ENDANGERED SPECIES, PRIME AGRICULTURAL LAND, OR CRITICAL HABITATS HAVE BEEN IDENTIFIED WITHIN THE PROJECT AREA.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE REMOVAL OF THE EXISTING STRUCTURE, CONSTRUCTION AND REMOVAL OF THE TEMPORARY BRIDGE AND CONSTRUCTION OF THE NEW BRIDGE WILL TAKE PLACE ON THE BANKS AND OVER THE ROARING BRANCH OF THE WALLOOMSAC RIVER.

GENERAL EROSION AND SEDIMENT CONTROL GUIDELINES

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT TO CONTROL EROSION AND MINIMIZE THE SEDIMENTATION OF RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORM WATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE ECONOMICAL, EFFECTIVE AND CONTINUOUS EROSION AND SEDIMENT CONTROL SHALL BE COORDINATED. TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS SHALL BE EMPLOYED. THE CONTRACTOR WILL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001.

THE RESIDENT ENGINEER MAY DIRECT THE INSTALLATION OF CERTAIN EROSION CONTROL MEASURES IN ORDER TO AVOID POTENTIAL EROSION PROBLEMS, OR TO RESPOND TO STORM EVENTS OR DAMAGE BY CONSTRUCTION OPERATIONS.

INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EROSION CONTROL PLAN OR AS DIRECTED BY THE RESIDENT ENGINEER. DO NOT MODIFY THE TYPE, SIZE OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT APPROVAL OF THE RESIDENT ENGINEER. ANY CHANGES SHALL BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT, AND REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER. INSPECT ALL CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT. REPAIR OR REPLACE ANY DAMAGED MEASURES.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. PERIMETER CONTROL MEASURES SHALL BE INSTALLED FOLLOWING CLEARING, BUT PRIOR TO THE START OF ANY GRUBBING OR GRADING ACTIVITY, INSTALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS.

MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE. IN GENERAL, PRESERVE EXISTING GRASSES, SHRUBS, AND TREES WHEREVER POSSIBLE.

CONTROL ONLY SEDIMENT-LADEN RUNOFF GENERATED BY THE PROJECT SITE. COLLECT AND ROUTE CLEAN OFFSITE RUNOFF AROUND OR THROUGH THE PROJECT SITE USING DIVERSION BERMS, DIVERSION CHANNELS, CULVERTS AND/OR TEMPORARY PIPES.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE ON THE DOWN SLOPE SIDE OF PERIMETER CONTROL MEASURES.

ALL IN-STREAM CONSTRUCTION SHALL TAKE PLACE IN A DRY CHANNEL BETWEEN JUNE 1 AND OCTOBER 1.

THIS WILL BE A MULTI-SEASON PROJECT AND WILL REQUIRE SEASONAL EROSION CONTROL MEASURES. IT IS RECOMMENDED THAT THOSE EROSION CONTROL MEASURES TO ESTABLISH VEGETATION TAKE PLACE BY SEPTEMBER 15TH OF EACH SEASON.

SPECIFIC GUIDELINES

PERIMETER EROSION CONTROLS

PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE PROJECT DEMARCATION FENCING (PDF) SHALL BE PLACED ALONG THE PERIMETER OF THE PROJECT AS SHOWN ON THE EROSION CONTROL PLANS. THE INSTALLATION OF THE PDF WILL BE PERFORMED SUCH THAT NO VEGETATION ON THE OUTSIDE OF THE FENCING IS DISTURBED.

PRIOR TO ANY CONSTRUCTION OR STAGING, THE CONTRACTOR WILL INSTALL STABILIZED CONSTRUCTION ENTRANCES LEADING TO STAGING AREAS AND THE PROJECT SITE TO PREVENT THE TRACKING OF SILTS AND SEDIMENTS OFFSITE. COARSE STONE FILL OVER FILTER FABRIC SHOULD BE UTILIZED WHERE AN ALREADY ESTABLISHED STABLE ENTRANCE DOES NOT EXIST. THE CRUSHED STONE PRODUCT USED FOR THE CONSTRUCTION OF THE STABILIZED ENTRANCES SHALL BE MONITORED FOR SEDIMENT ACCUMULATION AND REPLACED AS NECESSARY AS DIRECTED BY THE RESIDENT ENGINEER. STABILIZED CONSTRUCTION ENTRANCES SHALL ALSO BE ESTABLISHED AND MAINTAINED AT ALL OFFSITE WASTE AND BORROW AREAS. THE MINIMUM SIZE OF A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 12 FEET WIDE BY 50 FEET LONG.

CONSTRUCT PERIMETER CONTROLS TO ENSURE THAT ANY DISTURBED SEDIMENT DOES NOT LEAVE THE SITE AFTER THE CLEARING OF TREES AND SHRUBS, BUT PRIOR TO ANY GRUBBING AND EXCAVATION, SEDIMENT TRAPS/BASINS, WHERE WATER HAS BEEN ADEQUATELY TREATED, MAY BE DIRECTED TO NEARBY UNDISTURBED STREAMS OR SWALES.

INSTALL PERIMETER SILT FENCE IN AREAS OF PROPOSED WORK AS SHOWN ON THE PLANS PRIOR TO GRUBBING AND ADDITIONAL SILT FENCING. IN AREAS OF EXPOSED LEDGE, STONE CHECK DAMS WILL BE UTILIZED.

AFTER GRUBBING OPERATIONS, ALL AREAS OF EXPOSED SOILS SHALL BE TEMPORARILY STABILIZED WITH SEEDING AND MULCHING, EROSION MATTING, OR STRAW MATTING AS SOON AS PRACTICABLE AND BEFORE ANY PREDICTED RAINFALL EVENT. THESE TEMPORARY EROSION CONTROL MEASURES CAN BE PLACED IN ANY COMBINATION IN AREAS OF POTENTIAL EROSION AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.

AFTER PERIMETER CONTROLS ARE IN PLACE, AND PRIOR TO GRADING OPERATIONS, CONSTRUCT TEMPORARY ONSITE SEDIMENT TRAPS WHERE NECESSARY. GRADE DISTURBED AREAS TO DRAIN TOWARDS THE SEDIMENT TRAPS WHERE POSSIBLE.

ANY MATERIAL STOCKPILES, INCLUDING BUT NOT LIMITED TO, GRUBBING MATERIAL, SAND BORROW, EARTH BORROW, GRANULAR BORROW, TOPSOIL, AND ANY EXCAVATED WASTE PILES SHALL BE MULCHED AND SHALL ALSO HAVE SILT FENCE INSTALLED AROUND THE BASE OF THE STOCKPILE.

ANY OFF-SITE AREAS WHERE BORROW OR EXCAVATED MATERIALS WILL BE STOCKPILED AND ANY WASTE DISPOSAL AREAS WILL HAVE TWO INSTALLATIONS OF SILT FENCE, 2 FEET APART AROUND THE BASE OF EACH STOCKPILE. SEEDING AND MULCHING SHALL BE PERFORMED IMMEDIATELY AFTER FINAL GRADING. REMOVAL OF THE SILT FENCES AROUND THE WASTE AREAS SHALL BE PERFORMED ONLY AFTER APPROVAL FROM THE RESIDENT ENGINEER IS OBTAINED.

EROSION CONTROL NARRATIVE #1

PROJECT NAME: WOODFORD
PROJECT NUMBER: BHF 010-1(29)

FILE NAME: 84e039/structures/84e039erobdr.dgn PLOT DATE: 03-OCT-2005
PROJECT LEADER: M EVANS-MONGEON DRAWN BY: W FARLEY
DESIGNED BY: W FARLEY CHECKED BY:
IPARM: epscnarr1j SHEET 23 OF 106

EROSION CONTROL NARRATIVE

TEMPORARY DETOUR EROSION CONTROLS

ON PARTIALLY COMPLETED FILL AND CUT SLOPES, ALL EXPOSED SLOPES WILL BE STABILIZED WITH STRAW MATTING AT THE END OF EACH WORKING DAY. IN ANY AREA ON THE DETOUR ROADWAY WHERE CONCENTRATED FLOWS MAY TEND TO COLLECT, TEMPORARY FLEXIBLE SLOPE PIPES WILL BE USED TO CHANNEL THE ANTICIPATED RUNOFF INTO SETTLING BASINS OR DETENTION PONDS, NO ROADWAY RUNOFF WILL BE ALLOWED TO BE CHanneled DIRECTLY INTO THE ROARING BRANCH OF THE WALLOOMSAC RIVER WITHOUT BEING TREATED FOR SEDIMENT. ONCE THE DETOUR FILL SLOPES ARE COMPLETED, THE ENTIRE DETOUR, INCLUDING ALL FILL AND CUT SLOPES (EXCEPT THE PAVED SURFACES), SHALL BE ENTIRELY COVERED WITH STRAW MATTING.

BRIDGE EROSION

THE NEW PIER SUBSTRUCTURES WILL BE CONSTRUCTED IN THE DRY, AND WILL REQUIRE THE USE OF COFFERDAMS. THE COFFERDAMS WILL BE USED AS A BARRIER TO PREVENT SEDIMENTS FROM THE SUBSTRUCTURE EXCAVATION FROM ENTERING THE STREAM. CONSTRUCTION OF THE SUBSTRUCTURES MAY REQUIRE DEWATERING OF THE COFFERDAMS. ALL WATER PUMPED FROM THE SUBSTRUCTURE AND OTHER EXCAVATION AREAS WILL BE PUMPED TO EITHER A DIRT BAG SILT CONTAINMENT DEVICE, OR AN EXCAVATED SEDIMENT BASIN. THE FIRST PUMPING OF THE EXCAVATIONS WILL CONTAIN THE GREATEST VOLUME OF WATER WITH THE HIGHEST SEDIMENT LOAD. IT MAY BE NECESSARY TO CONSTRUCT ADDITIONAL SETTLING STRUCTURES, OR TO CONTROL THE RATE OF DRAWDOWN OF THE EXCAVATIONS.

AFTER COMPLETION OF THE SUBSTRUCTURES, ALL COLLECTED SEDIMENTS SHOULD BE REMOVED FROM THE SETTLING STRUCTURES AND THE GROUND SHAPED TO ITS FINAL GRADE AND SLOPE. DISPOSE OF THE COLLECTED SEDIMENTS IN AN UPLAND PORTION OF THE PROJECT, OR IN A MANNER APPROVED BY THE RESIDENT ENGINEER THAT WILL NOT RESULT IN SEDIMENTS OR POLLUTANTS ENTERING THE STREAM.

ROADWAY EROSION CONTROLS

ANY NEW FILL SLOPES THAT ARE DESIGNED WITH STONE FILL BLANKETS FOR SLOPE STABILIZATION SHALL BE CONSTRUCTED WITH THE STONE FILL BEING PLACED AS THE FILL SLOPE EMBANKMENT CONSTRUCTION PROGRESSES.

ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED FOLLOWING FINAL GRADING ACTIVITIES. ALL AREAS THAT ARE GRADED OUTSIDE OF THE GROWING SEASON SHALL BE TREATED WITH SLOPE STABILIZATION UNTIL SEEDING AND MULCHING CAN BE PERFORMED.

DETOUR REMOVAL AND FINAL EROSION CONTROLS

REMOVE TEMPORARY DETOUR FILL MATERIAL TO ORIGINAL GROUND.

AS THE TEMPORARY DETOUR FILLS ARE REMOVED, ALL EXPOSED SOIL SURFACES WILL BE STABILIZED WITH STRAW MATTING AND/OR SEED AND MULCH. ON PARTIALLY REMOVED TEMPORARY FILL SLOPES, ALL EXPOSED WILL BE STABILIZED AT THE END OF EACH WORK DAY.

THE CHANNEL STONE FILL SLOPES WILL BE COMPLETED, AND GRUBBING MATERIAL WILL BE APPLIED TO STONE FILLED AREAS AROUND EACH ABUTMENT. THE GRUBBING MATERIAL SHALL NOT BE PLACED BENEATH THE NEW STRUCTURE OR BELOW THE ORDINARY HIGH WATER ELEVATION. REFER TO THE HYDRAULICS INFORMATION ON THE PRELIMINARY INFORMATION SHEET.

THE NEWLY PLACED GRUBBING MATERIAL SHALL BE STABILIZED WITH STRAW MATTING AND/OR SEED AND MULCH AS DIRECTED BY THE RESIDENT ENGINEER.

REMOVAL OF SILT FENCE SHALL COMMENCE ONLY AFTER ALL UP-SLOPE AREAS ARE STABILIZED AND WELL ESTABLISHED, AND THE RESIDENT ENGINEER HAS APPROVED THE REMOVAL.

REMOVE ALL REMAINING TEMPORARY EROSION CONTROL MEASURES, RE-GRADE ANY AREAS IF NECESSARY, TREAT ALL RE-GRADED AREAS WITH STRAW MATTING AND/OR SEED AND MULCH, AND ESTABLISH ANY FINAL EROSION CONTROL DEVICES AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.

SEDIMENT SETTLING BASIN SIZING CRITERIA

PUMP FLOW RATE		REQUIRED SURFACE AREA		LENGTH / WIDTH = 2:1			
Q(gpm)	Q(m ³ /s)	FT ²	M ²	L(ft)	W(ft)	L(m)	W(m)
50	0.0032	595	55	35.0	17.0	10.6	5.3
100	0.0063	1200	111	49.0	24.5	15.0	7.5
150	0.0095	1776	165	59.6	29.8	18.2	9.1
200	0.0126	2368	220	68.8	34.4	21.0	10.5
250	0.0158	2970	276	77.0	38.5	23.4	11.7
300	0.0189	3560	330	84.4	42.2	25.8	12.9
350	0.0221	4155	386	91.2	45.6	27.8	13.9

LANDSCAPE NOTES

TREE PROTECTION NOTES:

PRIOR TO CONSTRUCTION: SITE WORK MAY NOT COMMENCE UNTIL THE CONTRACTOR MEETS ON-SITE WITH THE RESIDENT ENGINEER TO COMPLETE A PRE-CONSTRUCTION WALK-THROUGH TO REVIEW AND MAP ALL CONSTRUCTION AND WORK PROCEDURES, ACCESS ROUTES, STORAGE AND TREE PROTECTION AREAS RELATING TO THE PROTECTION OF TREES MARKED "TREE PROTECTION ZONE: NO CONSTRUCTION ACTIVITY WITHIN THIS FENCED TREE PROTECTION ZONE (TPZ), EXCEPT FOR THE INSTALLATION OF EROSION CONTROL MEASURES. (AS APPLICABLE)". ALSO AT THIS TIME ALL UNDERGROUND UTILITIES AND DRAIN OR IRRIGATION LINES SHALL BE ROUTED OUTSIDE THE TREE PROTECTION ZONE. IF LINES MUST TRAVERSE THE PROTECTION AREA, THEY SHALL BE TUNNELED OR BORED UNDER THE TREE AT SPECIFIED DEPTHS.

DURING CONSTRUCTION: PROTECT TREES TO BE SAVED BY ERECTING ORANGE SNOW FENCE JUST AT LIMIT OF CONSTRUCTION AS INDICATED (PLEASE SEE EPSC PLANS AND TREE PROTECTION DETAIL). INSTALL SIGNAGE AT EACH PROTECTION ZONE WHICH CLEARLY READS: "TREES ARE BEING PROTECTED. NO UNAUTHORIZED TRESPASS IS ALLOWED".

AVOID CUTTING ROOTS OF TREES WHENEVER POSSIBLE. WHEN AVOIDANCE IS NOT POSSIBLE, CUT ROOTS FLUSH (SAW THOSE ROOTS GREATER THAN 1IN WIDE), WHICH WILL ENCOURAGE NEW ROOT GROWTH. DO NOT RIP ROOTS WITH EXCAVATOR OR OTHER HEAVY EQUIPMENT.

BACKFILL AS SOON AS POSSIBLE; KEEP ROOT ENDS MOIST WITH WET BURLAP OR SIMILAR MATERIAL UNTIL ABLE TO BACKFILL. ADD A ROOT STIMULATOR SUCH AS MYCORRHIZAL FUNGIPER MANUFACTURER'S INSTRUCTIONS, AND WATER (PER APPROVED WATERING SPECIFICATIONS) THE ENTIRE BACKFILL AREA WITHIN 24 HOURS.

USE TUNNELING TO PRESERVE TREE ROOTS. IT IS BEST TO TUNNEL 1-2 FT ON EITHER SIDE OF THE TREE'S CENTER SO AS TO MISS THE TAP ROOT IF THERE IS ONE. TREES UNDER 1FT DIAMETER CAN TYPICALLY BE TUNNELED AT A DEPTH OF 3 FT; TREES 1FT DIAMETER OR MORE SHOULD BE TUNNELED AT A DEPTH OF 4 FT OR GREATER. FOR TREES 6 IN DBH IN DIAMETER OR LESS, TRENCHING TO INITIATE TUNNELING SHOULD COME NO CLOSER TO THE TREE THAN THE DRIPLINE.

FOR TREES OVER 150 MM DBH:

6-9 IN DBH -5 FT DISTANCE FROM BOTH SIDES OF TREE
10-14 IN DBH -10 FT DISTANCE FROM BOTH SIDES OF TREE
15-19 IN DBH -12 FT DISTANCE FROM BOTH SIDES OF TREE
OVER 19 IN DBH -15 FT DISTANCE FROM BOTH SIDES OF TREE

NO EXCAVATED OR BACKFILL MATERIAL SHALL BE PILED IN TREE PROTECTION ZONE; NO EQUIPMENT SHALL BE STORED, PILED OR CLEANED IN ANY TREE PROTECTION ZONE.

IF A PROTECTED TREE IS DAMAGED DUE TO THE CONTRACTOR'S NEGLIGENCE AND IS NOT REPAIRABLE (AS DETERMINED BY THE ENGINEER OR VAOT LANDSCAPE ARCHITECT), THEN THE CONTRACTOR SHALL REPLACE THE TREE (AT THE CONTRACTOR'S EXPENSE AND ACCORDING TO APPROVED PLANTING TECHNIQUES) WITH THE SAME TREE OF EQUAL VALUE, OR TWO OR MORE TREES WITH A TOTAL VALUE EQUAL TO THAT OF THE DAMAGED TREE. IN ADDITION, ALL TREE PROTECTION MEASURES, INCLUDING FENCING, SIGNAGE, ROOT PRUNING, ROOT STIMULATORS, WATERING AND OTHER MATERIALS WILL NOT BE PAID SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO ALL OTHER CONTRACT ITEMS.

THE FOLLOWING SIGNIFICANT TREES WITHIN THE R.O.W. ARE INDICATED TO BE SAVED; ABSOLUTELY NO CONSTRUCTION WITHIN THIS FENCED TREE PROTECTION ZONE AS INDICATED:

SHEET NO	STATION	TREE
30	STA 71+82	18" WHITE PINE

EROSION CONTROL NARRATIVE #2

PROJECT NAME: WOODFORD
PROJECT NUMBER: BHF 010-1(29)

FILE NAME: 84e039/structures/84e039erobdr.dgn PLOT DATE: 03-OCT-2005
PROJECT LEADER: M EVANS-MONGEON DRAWN BY: W FARLEY
DESIGNED BY: W FARLEY CHECKED BY:
IPARM: epsconarr2.i SHEET 24 OF 106

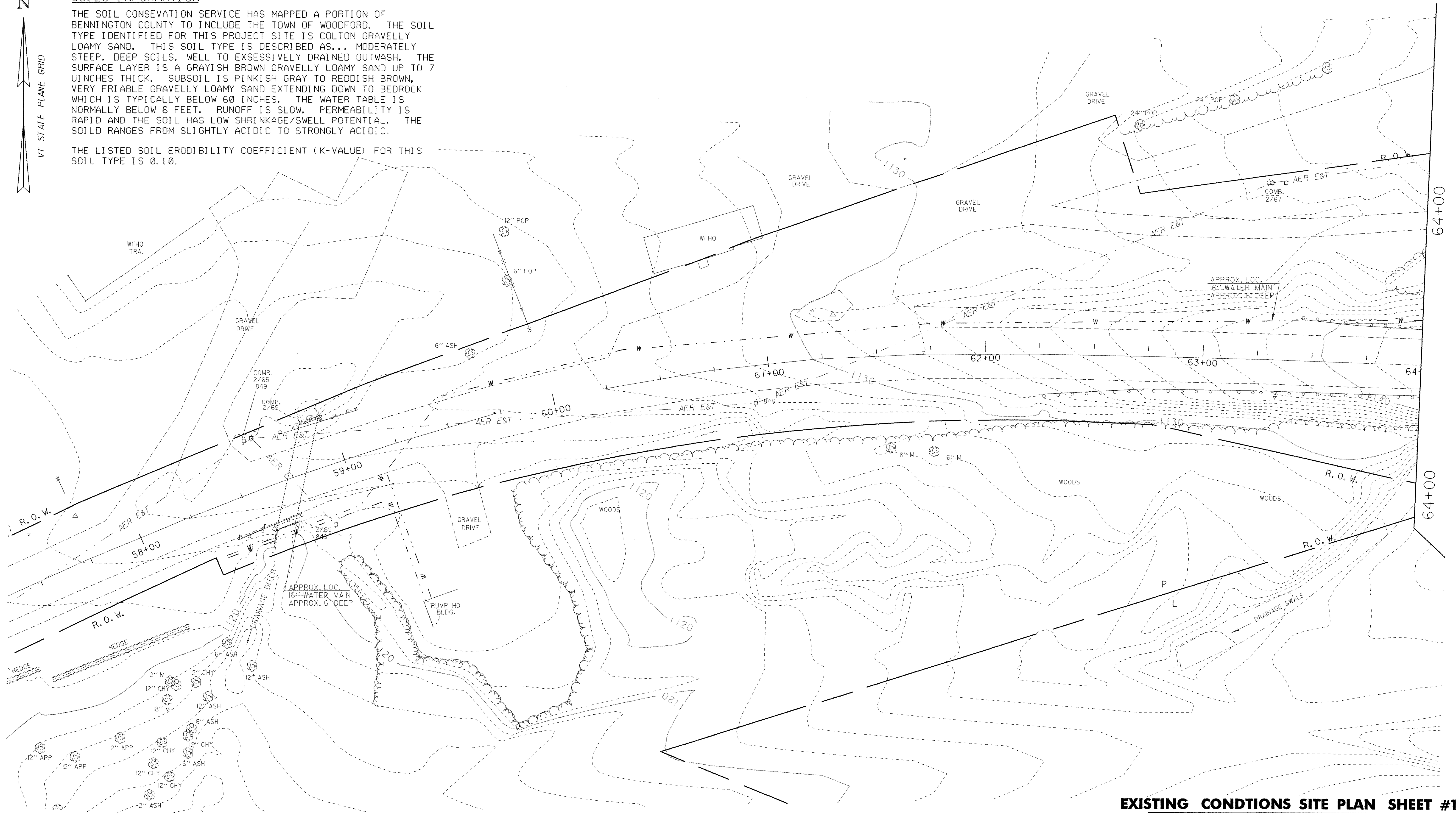
N

VT STATE PLANE GRID

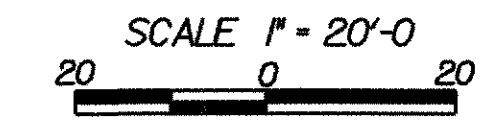
SOILS INFORMATION

THE SOIL CONSERVATION SERVICE HAS MAPPED A PORTION OF BENNINGTON COUNTY TO INCLUDE THE TOWN OF WOODFORD. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS COLTON GRAVELLY LOAMY SAND. THIS SOIL TYPE IS DESCRIBED AS... MODERATELY STEEP, DEEP SOILS, WELL TO EXCESSIVELY DRAINED OUTWASH. THE SURFACE LAYER IS A GRAYISH BROWN GRAVELLY LOAMY SAND UP TO 7 INCHES THICK. SUBSOIL IS PINKISH GRAY TO REDDISH BROWN, VERY FRIABLE GRAVELLY LOAMY SAND EXTENDING DOWN TO BEDROCK WHICH IS TYPICALLY BELOW 60 INCHES. THE WATER TABLE IS NORMALLY BELOW 6 FEET. RUNOFF IS SLOW. PERMEABILITY IS RAPID AND THE SOIL HAS LOW SHRINKAGE/SWELL POTENTIAL. THE SOILD RANGES FROM SLIGHTLY ACIDIC TO STRONGLY ACIDIC.

THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.10.



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



EXISTING CONDITIONS SITE PLAN SHEET #1

PROJECT NAME:	WOODFORD	FILE NAME:	84e039/structures/84e039erobdr.dgn	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	BHF 010-1(29)	PROJECT LEADER:	M EVANS-MONGEON	DRAWN BY:	W FARLEY
		DESIGNED BY:	W FARLEY	CHECKED BY:	
		IPARM:	epscest1.l	SHEET	25 OF 106

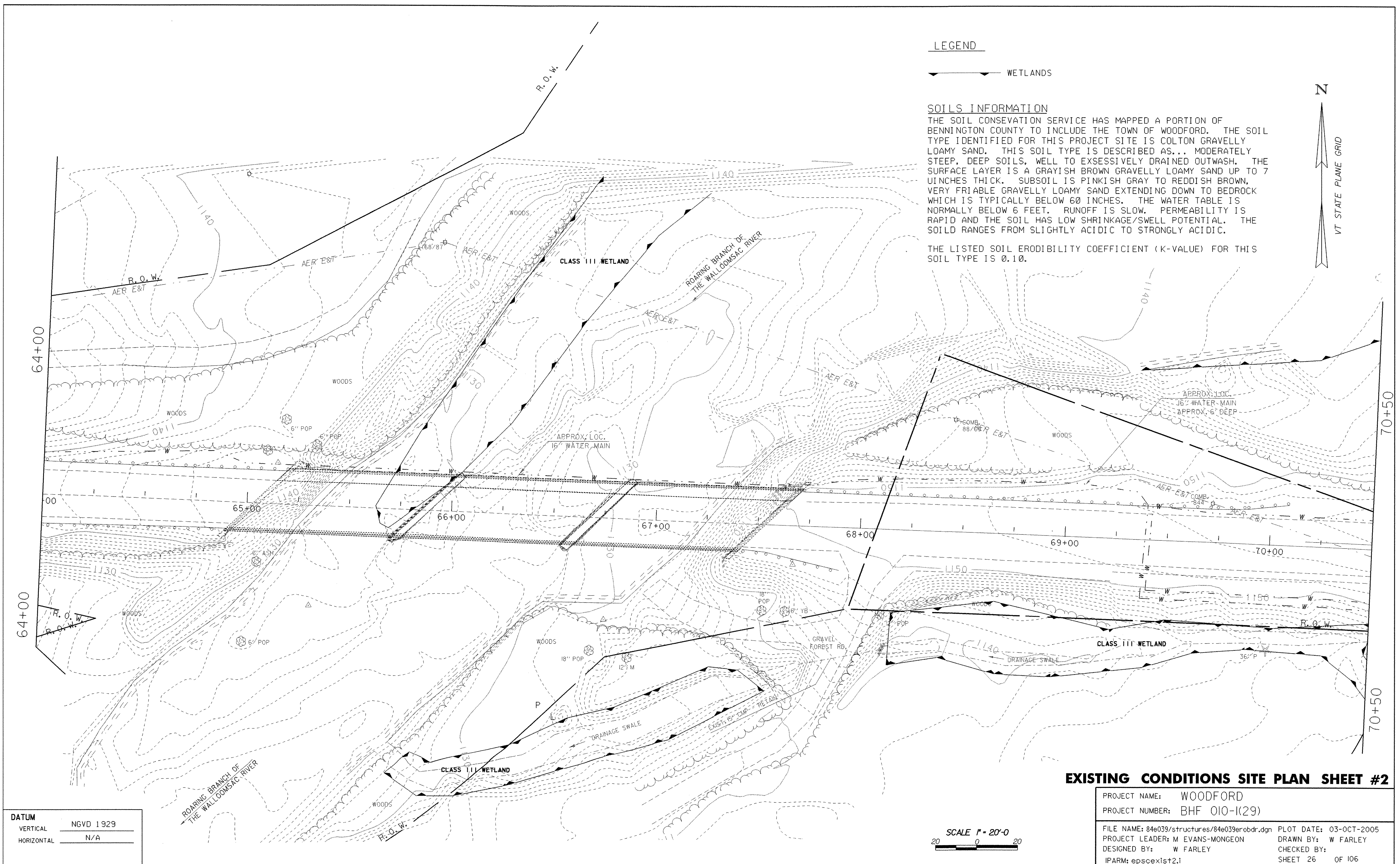
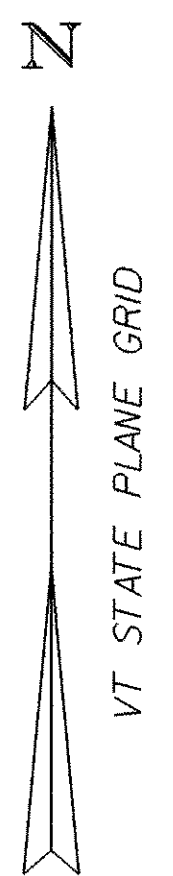
LEGEND

WETLANDS

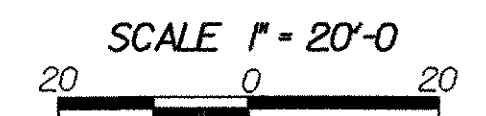
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THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.10.

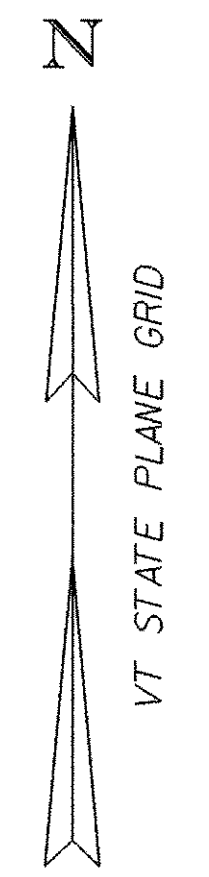


DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



EXISTING CONDITIONS SITE PLAN SHEET #2

PROJECT NAME:	WOODFORD	FILE NAME:	84e039/structures/84e039erobdr.dgn	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	BHF 010-I(29)	PROJECT LEADER:	M EVANS-MONGEON	DRAWN BY:	W FARLEY
		DESIGNED BY:	W FARLEY	CHECKED BY:	
		IPARM:	epsxcx1st2.i	SHEET	26 OF 106



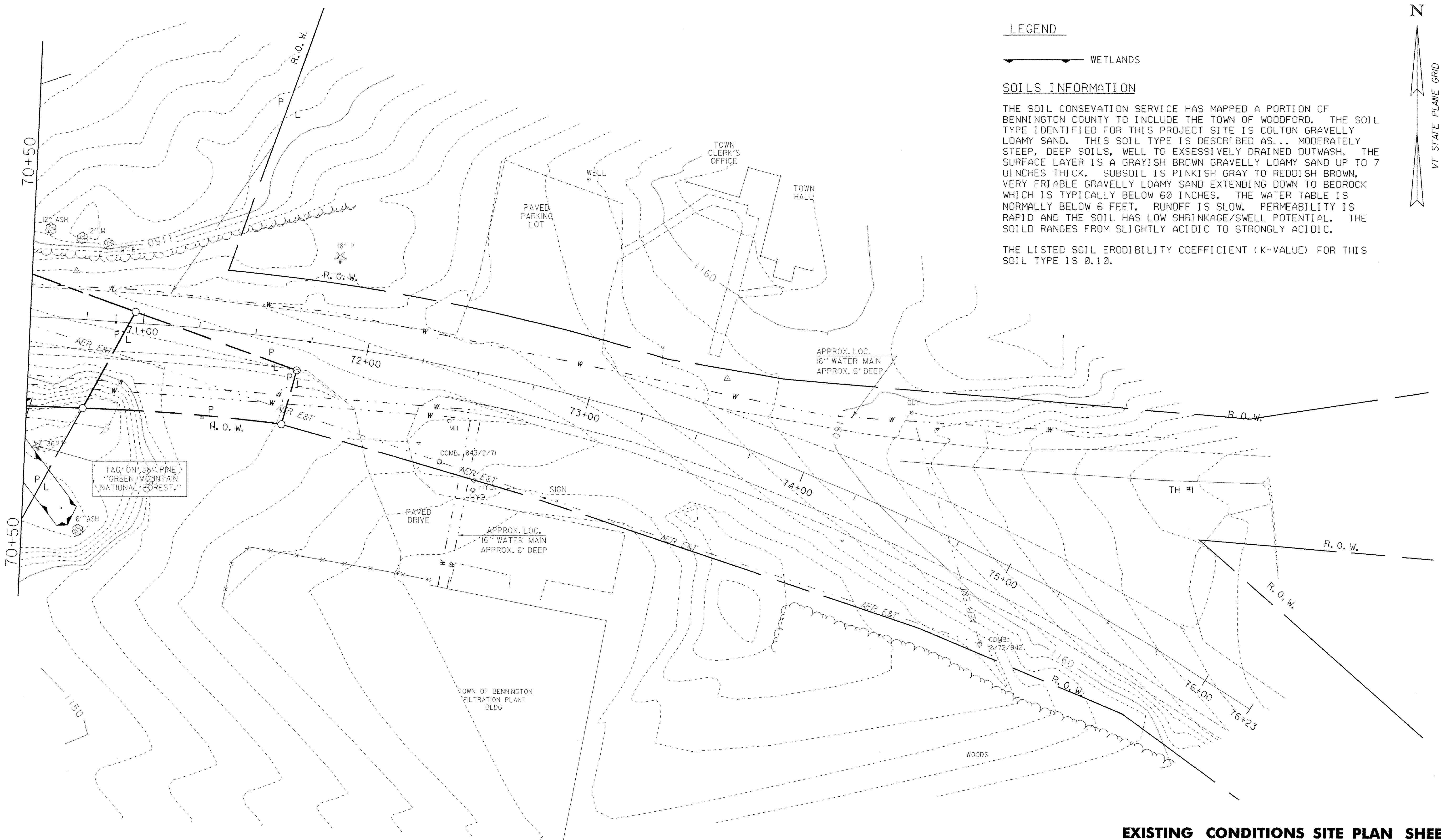
LEGEND

WETLANDS

SOILS INFORMATION

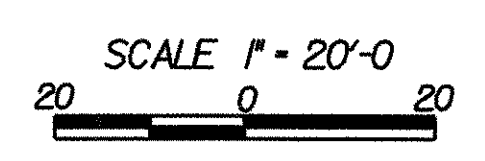
THE SOIL CONSERVATION SERVICE HAS MAPPED A PORTION OF BENNINGTON COUNTY TO INCLUDE THE TOWN OF WOODFORD. THE SOIL TYPE IDENTIFIED FOR THIS PROJECT SITE IS COLTON GRAVELLY LOAMY SAND. THIS SOIL TYPE IS DESCRIBED AS... MODERATELY STEEP, DEEP SOILS, WELL TO EXCESSIVELY DRAINED OUTWASH. THE SURFACE LAYER IS A GRAYISH BROWN GRAVELLY LOAMY SAND UP TO 7 INCHES THICK. SUBSOIL IS PINKISH GRAY TO REDDISH BROWN, VERY FRIABLE GRAVELLY LOAMY SAND EXTENDING DOWN TO BEDROCK WHICH IS TYPICALLY BELOW 60 INCHES. THE WATER TABLE IS NORMALLY BELOW 6 FEET. RUNOFF IS SLOW. PERMEABILITY IS RAPID AND THE SOIL HAS LOW SHRINKAGE/SWELL POTENTIAL. THE SOIL RANGES FROM SLIGHTLY ACIDIC TO STRONGLY ACIDIC.

THE LISTED SOIL ERODIBILITY COEFFICIENT (K-VALUE) FOR THIS SOIL TYPE IS 0.10.



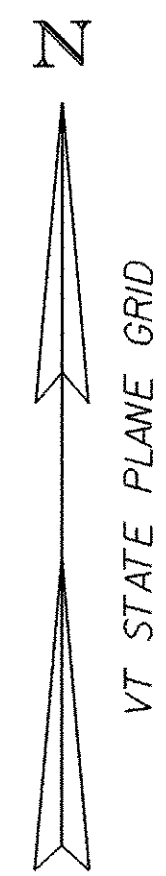
TAG ON 36" PINE
"GREEN MOUNTAIN
NATIONAL FOREST."

DATUM	NGVD 1929
VERTICAL	
HORIZONTAL	N/A

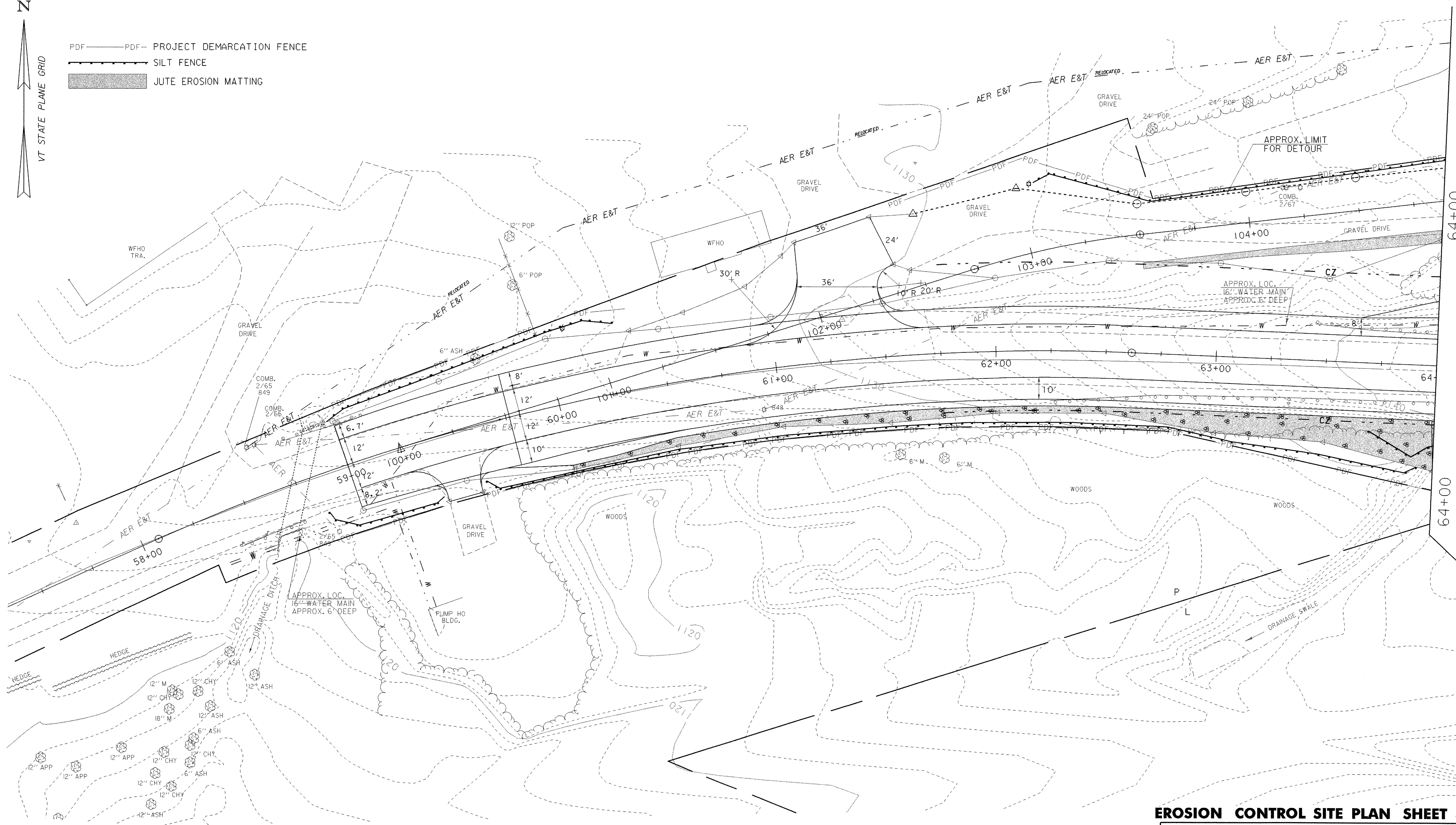


EXISTING CONDITIONS SITE PLAN SHEET #3

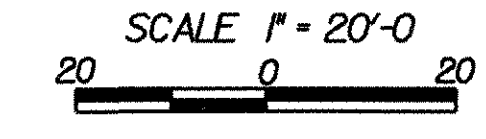
PROJECT NAME:	WOODFORD	FILE NAME:	84e039/structures/84e039erobdr.dgn	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	BHF 010-I(29)	PROJECT LEADER:	M EVANS-MONGEON	DRAWN BY:	W FARLEY
		DESIGNED BY:	W FARLEY	CHECKED BY:	
		IPARM:	epscxist3.i	SHEET	27 OF 106



- PDF — PDF — PROJECT DEMARCATION FENCE
- SILT FENCE
- JUTE EROSION MATTING

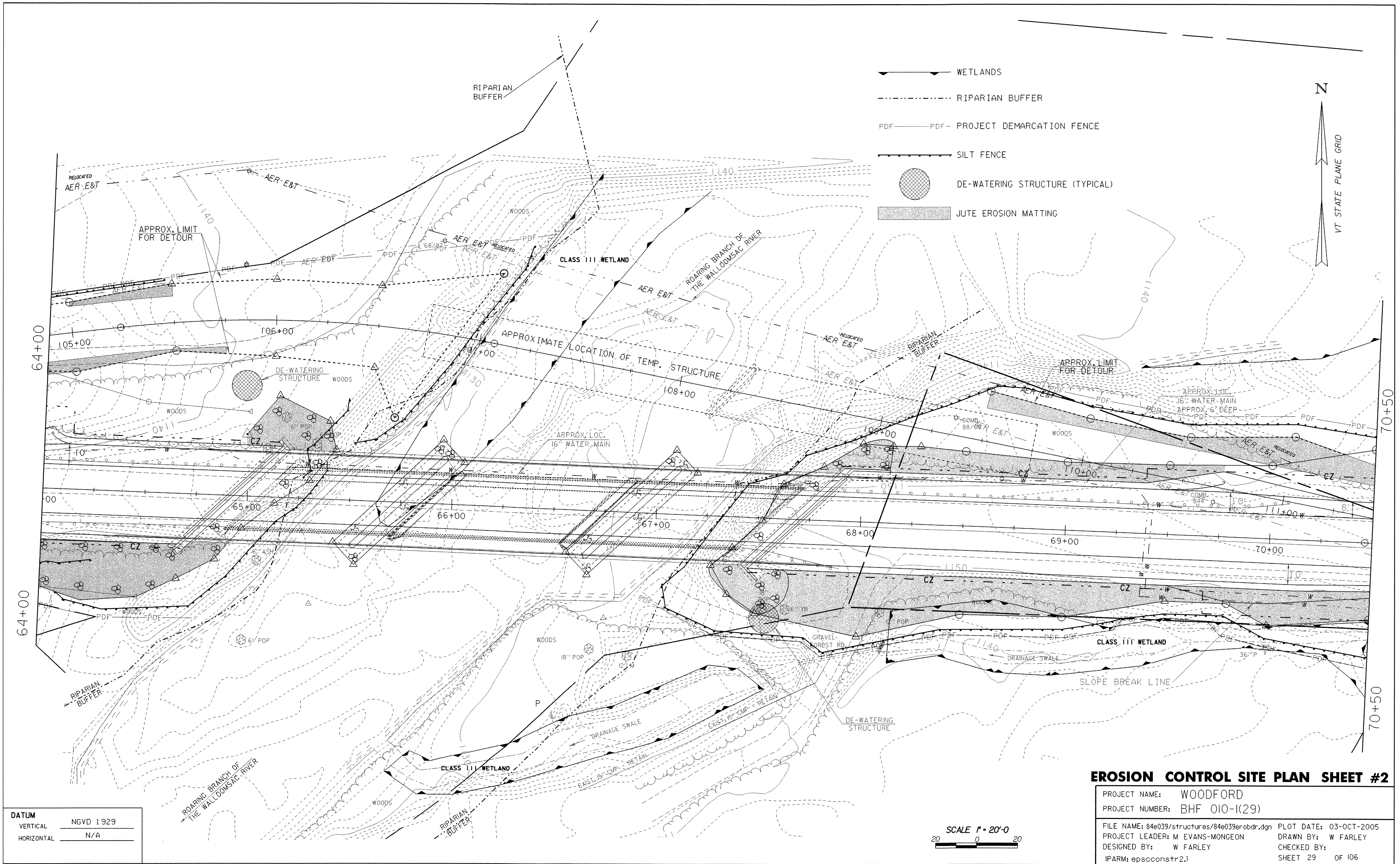


DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

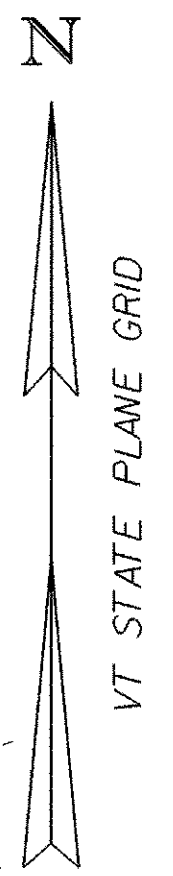


EROSION CONTROL SITE PLAN SHEET #1

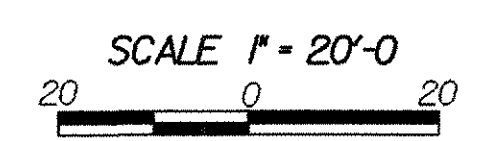
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PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PLOT DATE:	03-OCT-2005
PROJECT LEADER:	M EVANS-MONGEON
DRAWN BY:	W FARLEY
DESIGNED BY:	W FARLEY
CHECKED BY:	
IPARM:	epsconstr11
	SHEET 28 OF 106



- WETLANDS
- RIPARIAN BUFFER
- PDF - PDF - PROJECT DEMARCATION FENCE
- SILT FENCE
- DE-WATERING STRUCTURE (TYPICAL)
- JUTE EROSION MATTING

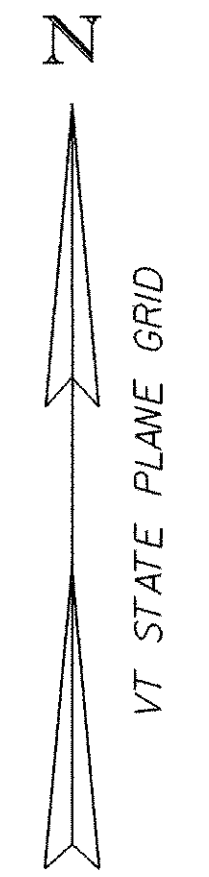


DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

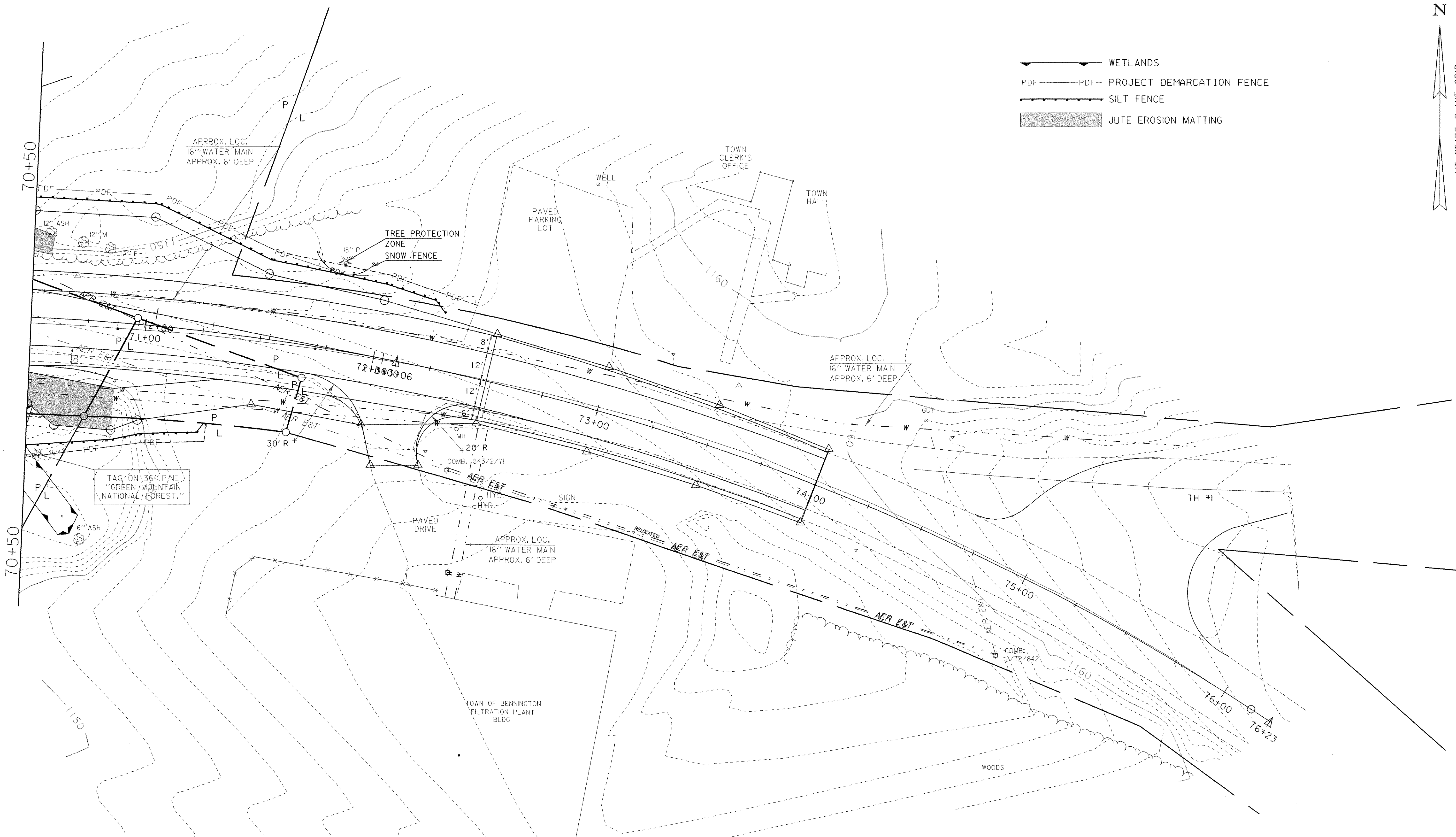


EROSION CONTROL SITE PLAN SHEET #2

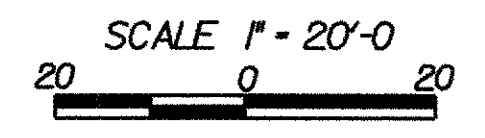
PROJECT NAME:	WOODFORD	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	BHF 010-I(29)	DRAWN BY:	W FARLEY
FILE NAME:	84e039/structures/84e039erobdr.dgn	DESIGNED BY:	W FARLEY
PROJECT LEADER:	M EVANS-MONGEON	CHECKED BY:	
IPARM:	epsconstr2.i	SHEET	29 OF 106



- WETLANDS
- PROJECT DEMARCATION FENCE
- SILT FENCE
- JUTE EROSION MATTING



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A








EROSION CONTROL SITE PLAN SHEET #3

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PROJECT LEADER:	M EVANS-MONGEON
DESIGNED BY:	W FARLEY
IPARM:	epsconstr3.i
PLOT DATE:	03-OCT-2005
DRAWN BY:	W FARLEY
CHECKED BY:	
SHEET	30 OF 106



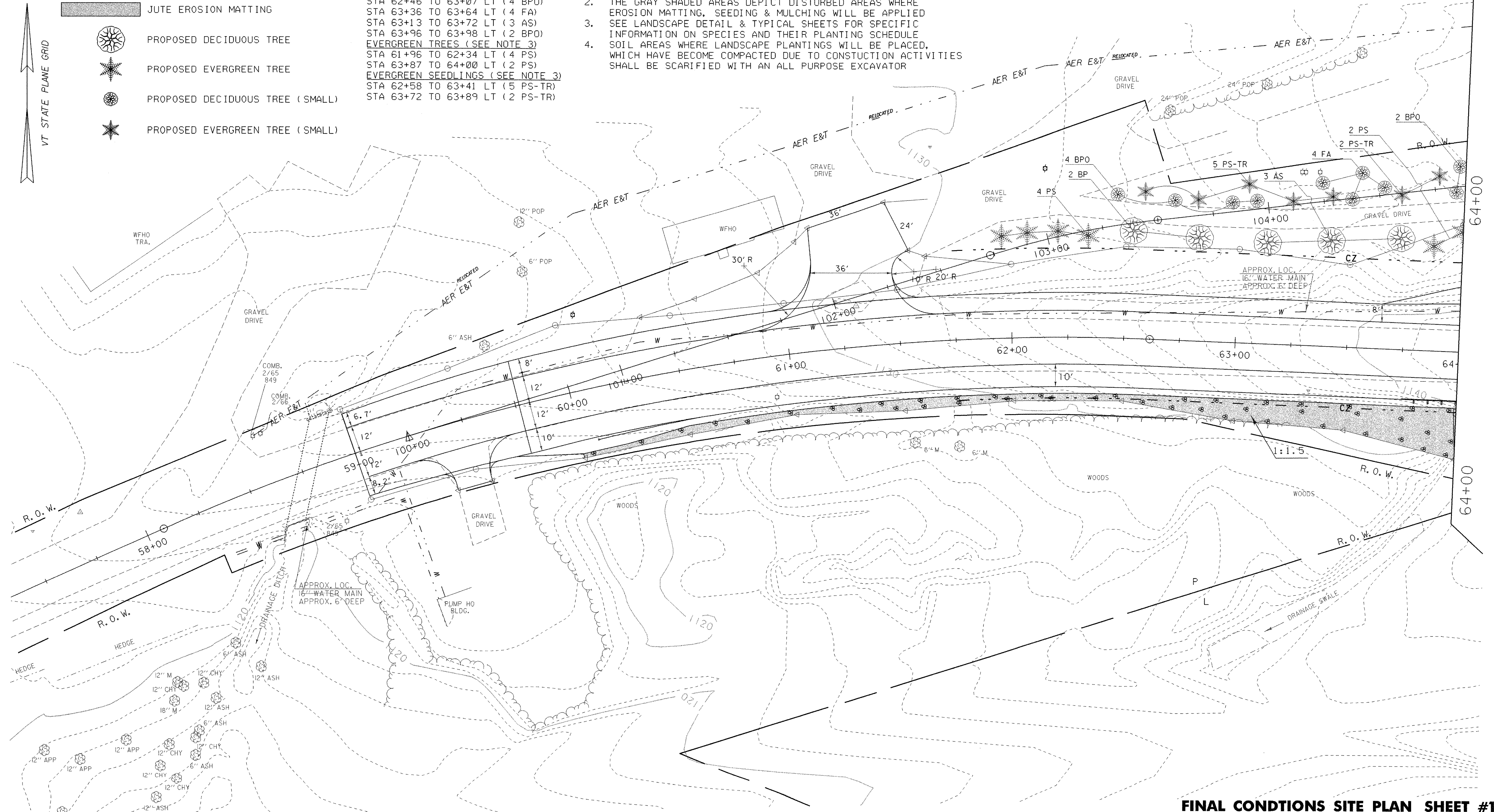
LEGEND

-  JUTE EROSION MATTING
-  PROPOSED DECIDUOUS TREE
-  PROPOSED EVERGREEN TREE
-  PROPOSED DECIDUOUS TREE (SMALL)
-  PROPOSED EVERGREEN TREE (SMALL)

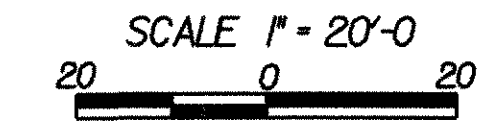
DECIDUOUS TREES (SEE NOTE 3)
 STA 62+53 TO 62+82 LT (2 BP)
 STA 62+46 TO 63+07 LT (4 BPO)
 STA 63+36 TO 63+64 LT (4 FA)
 STA 63+13 TO 63+72 LT (3 AS)
 STA 63+96 TO 63+98 LT (2 BPO)
EVERGREEN TREES (SEE NOTE 3)
 STA 61+96 TO 62+34 LT (4 PS)
 STA 63+87 TO 64+00 LT (2 PS)
EVERGREEN SEEDLINGS (SEE NOTE 3)
 STA 62+58 TO 63+41 LT (5 PS-TR)
 STA 63+72 TO 63+89 LT (2 PS-TR)

NOTES:

1. REFER TO CROSS SECTIONS FOR FINAL GROUND ELEVATIONS
2. THE GRAY SHADED AREAS DEPICT DISTURBED AREAS WHERE EROSION MATTING, SEEDING & MULCHING WILL BE APPLIED
3. SEE LANDSCAPE DETAIL & TYPICAL SHEETS FOR SPECIFIC INFORMATION ON SPECIES AND THEIR PLANTING SCHEDULE
4. SOIL AREAS WHERE LANDSCAPE PLANTINGS WILL BE PLACED, WHICH HAVE BECOME COMPACTED DUE TO CONSTRUCTION ACTIVITIES SHALL BE SCARIFIED WITH AN ALL PURPOSE EXCAVATOR



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



FINAL CONDITIONS SITE PLAN SHEET #1

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-I(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PROJECT LEADER:	M EVANS-MONGEON
DESIGNED BY:	W FARLEY
IPARM:	epscfinal.i
PLOT DATE:	03-OCT-2005
DRAWN BY:	W FARLEY
CHECKED BY:	
SHEET	31 OF 106






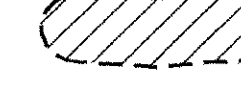




DECIDUOUS TREES (SEE NOTE 3)
 STA 64+23 TO 64+73 LT (5 BPO)
 STA 64+92 TO 65+44 LT (6 FA)
 STA 70+49 LT (1 FA)
 EVERGREEN TREES (SEE NOTE 3)
 STA 64+14 LT (1 PS)
 EVERGREEN SEEDLINGS (SEE NOTE 3)
 STA 64+06 TO 65+32 LT (9 PS-TR)

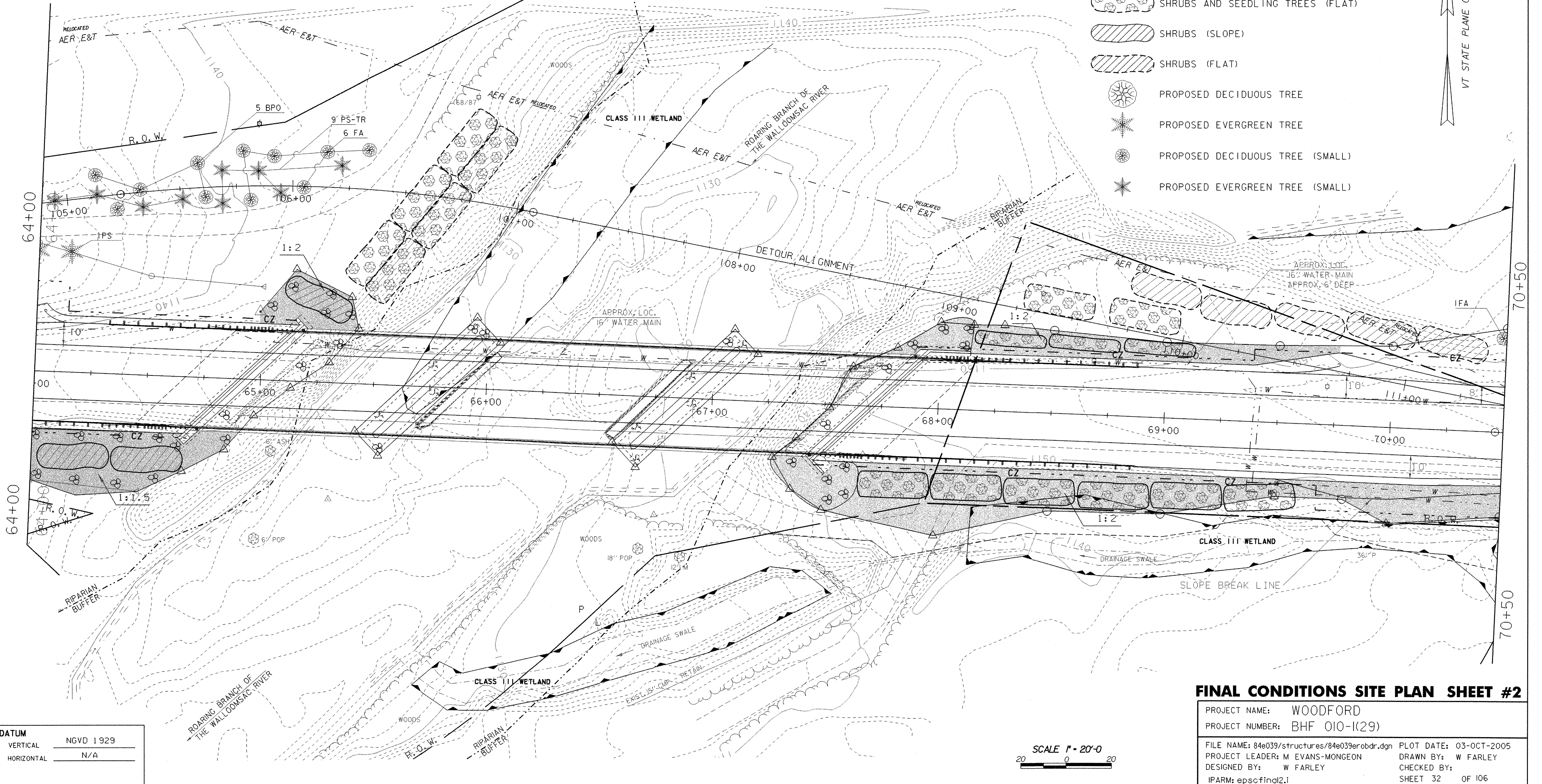
EMBANKMENT GROUPINGS (SEE NOTE 3)
 STA 64+02 TO 64+67 RT (2 GROUPS)
 STA 65+09 TO 65+40 LT (1 GROUP)
 STA 67+65 TO 69+59 RT (6 GROUPS)
 STA 68+15 TO 69+13 LT (3 GROUPS) (SEE NOTE 4)
 FLAT GROUND GROUPINGS (SEE NOTE 3)
 STA 65+36 TO 66+09 LT (6 GROUPS)
 STA 68+36 TO 69+06 LT (2 GROUPS)
 STA 68+83 TO 70+42 LT (5 GROUPS)

NOTES:

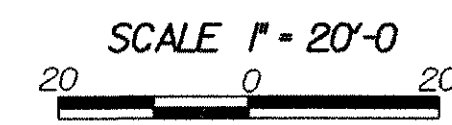
1. REFER TO CROSS SECTIONS FOR FINAL GROUND ELEVATIONS
2. THE GRAY SHADED AREAS DEPICT DISTURBED AREAS WHERE EROSION MATTING, SEEDING & MULCHING WILL BE APPLIED
3. SEE LANDSCAPE DETAIL & TYPICAL SHEETS FOR SPECIFIC INFORMATION ON SPECIES AND THEIR PLANTING SCHEDULE
4. THESE GROUPS WILL UTILIZE THE UPPER PORTION OF THE GROUPING AS SHOWN ON THE LANDSCAPE DETAIL SHEETS
5. SOIL AREAS WHERE LANDSCAPE PLANTINGS WILL BE PLACED, WHICH HAVE BECOME COMPACTED DUE TO CONSTRUCTION ACTIVITIES SHALL BE SCARIFIED WITH AN ALL PURPOSE EXCAVATOR

LEGEND

-  JUTE EROSION MATTING
-  WETLANDS
-  SHRUBS AND SEEDLING TREES (SLOPE)
-  SHRUBS AND SEEDLING TREES (FLAT)
-  SHRUBS (SLOPE)
-  SHRUBS (FLAT)
-  PROPOSED DECIDUOUS TREE
-  PROPOSED EVERGREEN TREE
-  PROPOSED DECIDUOUS TREE (SMALL)
-  PROPOSED EVERGREEN TREE (SMALL)



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

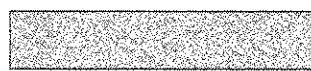





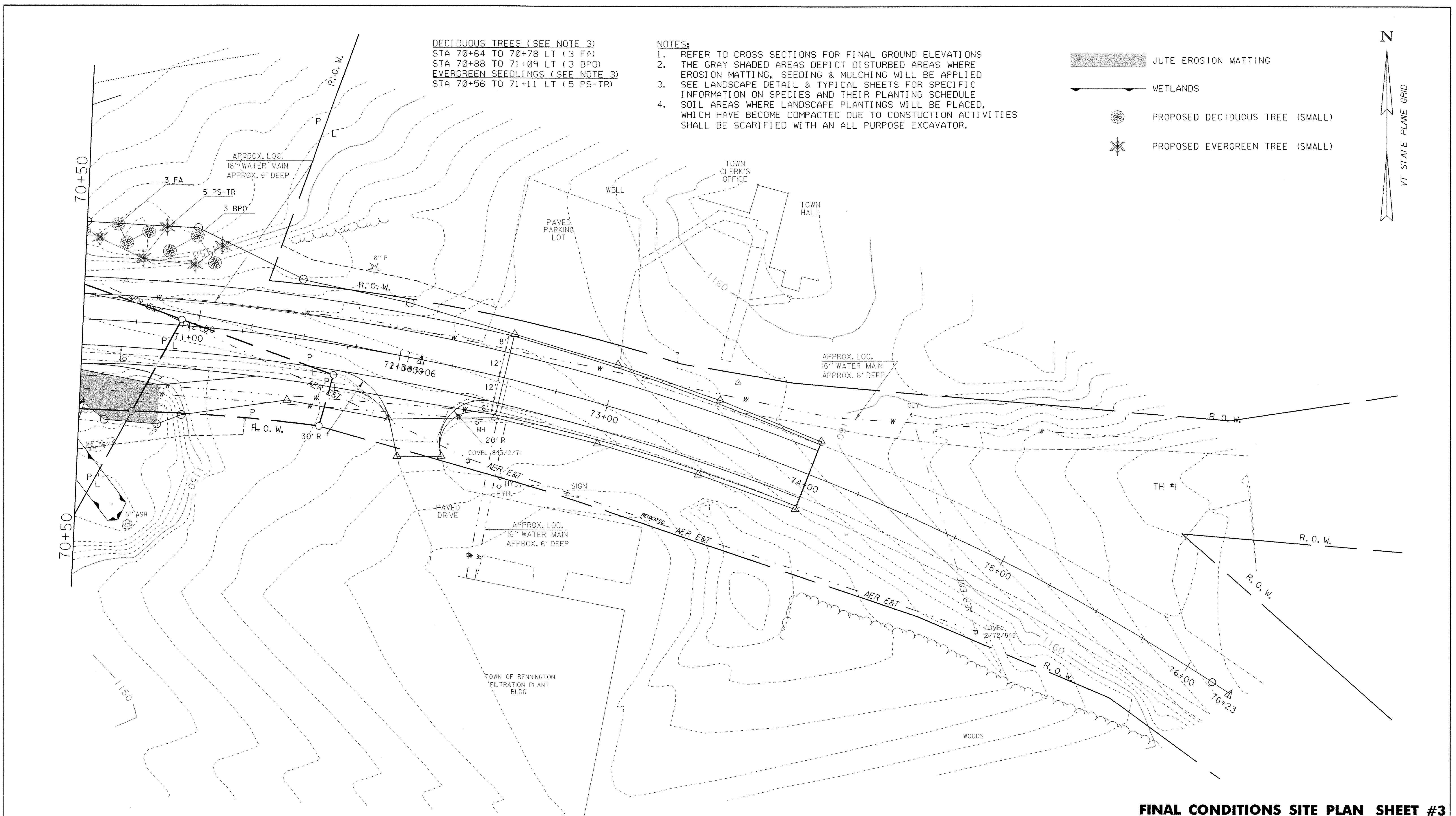
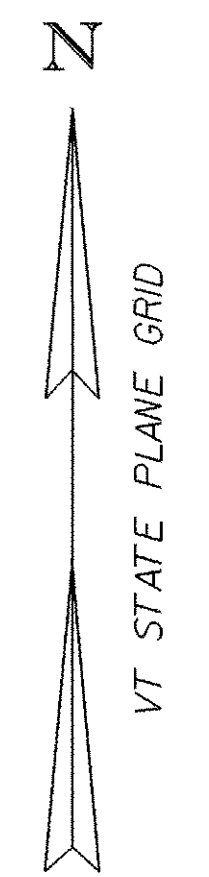
FINAL CONDITIONS SITE PLAN SHEET #2

PROJECT NAME:	WOODFORD	FILE NAME:	84e039/structures/84e039erobdr.dgn	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	BHF 010-(29)	PROJECT LEADER:	M EVANS-MONGEON	DRAWN BY:	W FARLEY
		DESIGNED BY:	W FARLEY	CHECKED BY:	
		IPARM:	epscfind2.i	SHEET	32 OF 106

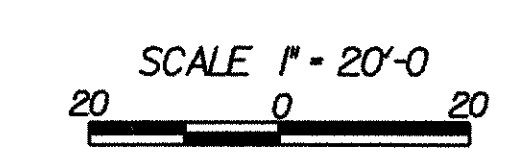
DECIDUOUS TREES (SEE NOTE 3)
 STA 70+64 TO 70+78 LT (3 FA)
 STA 70+88 TO 71+09 LT (3 BPO)
 EVERGREEN SEEDLINGS (SEE NOTE 3)
 STA 70+56 TO 71+11 LT (5 PS-TR)

- NOTES:
1. REFER TO CROSS SECTIONS FOR FINAL GROUND ELEVATIONS
 2. THE GRAY SHADED AREAS DEPICT DISTURBED AREAS WHERE EROSION MATTING, SEEDING & MULCHING WILL BE APPLIED
 3. SEE LANDSCAPE DETAIL & TYPICAL SHEETS FOR SPECIFIC INFORMATION ON SPECIES AND THEIR PLANTING SCHEDULE
 4. SOIL AREAS WHERE LANDSCAPE PLANTINGS WILL BE PLACED, WHICH HAVE BECOME COMPACTED DUE TO CONSTRUCTION ACTIVITIES SHALL BE SCARIFIED WITH AN ALL PURPOSE EXCAVATOR.

-  JUTE EROSION MATTING
-  WETLANDS
-  PROPOSED DECIDUOUS TREE (SMALL)
-  PROPOSED EVERGREEN TREE (SMALL)



DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



FINAL CONDITIONS SITE PLAN SHEET #3

PROJECT NAME:	WOODFORD	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	BHF 010-I(29)	DRAWN BY:	W FARLEY
FILE NAME:	84e039/structures/84e039erobdr.dgn	DESIGNED BY:	W FARLEY
PROJECT LEADER:	M EVANS-MONGEON	CHECKED BY:	
IPARM:	epscfinal3.i	SHEET 33	OF 106

SILT FENCE

APPLICATION NOTES:

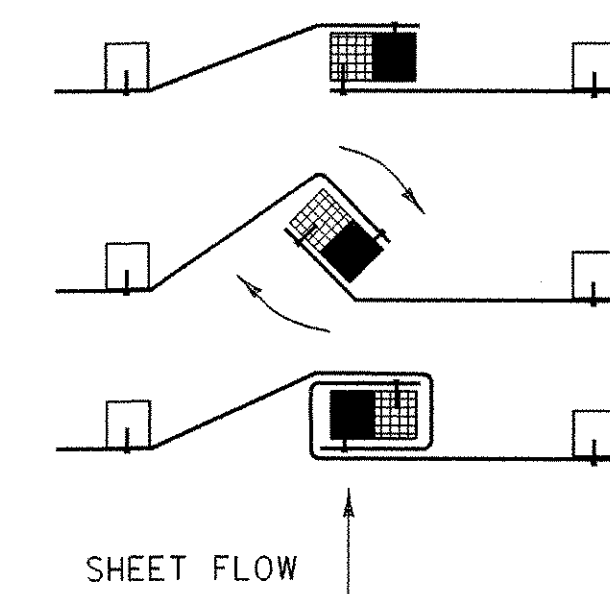
- THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.
- SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.
- SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

- SILT FENCE SHALL GENERALLY BE PLACED A MINIMUM OF 5 FEET BEYOND TOE OF SLOPE, 10 FEET PREFERRED, TO PROVIDE ADEQUATE AREA FOR SEDIMENT STORAGE AND FACILITATE MAINTENANCE OF SEDIMENT CONTAINMENT AREA.
- ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
- IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
- THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYS IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
- MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.
- THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

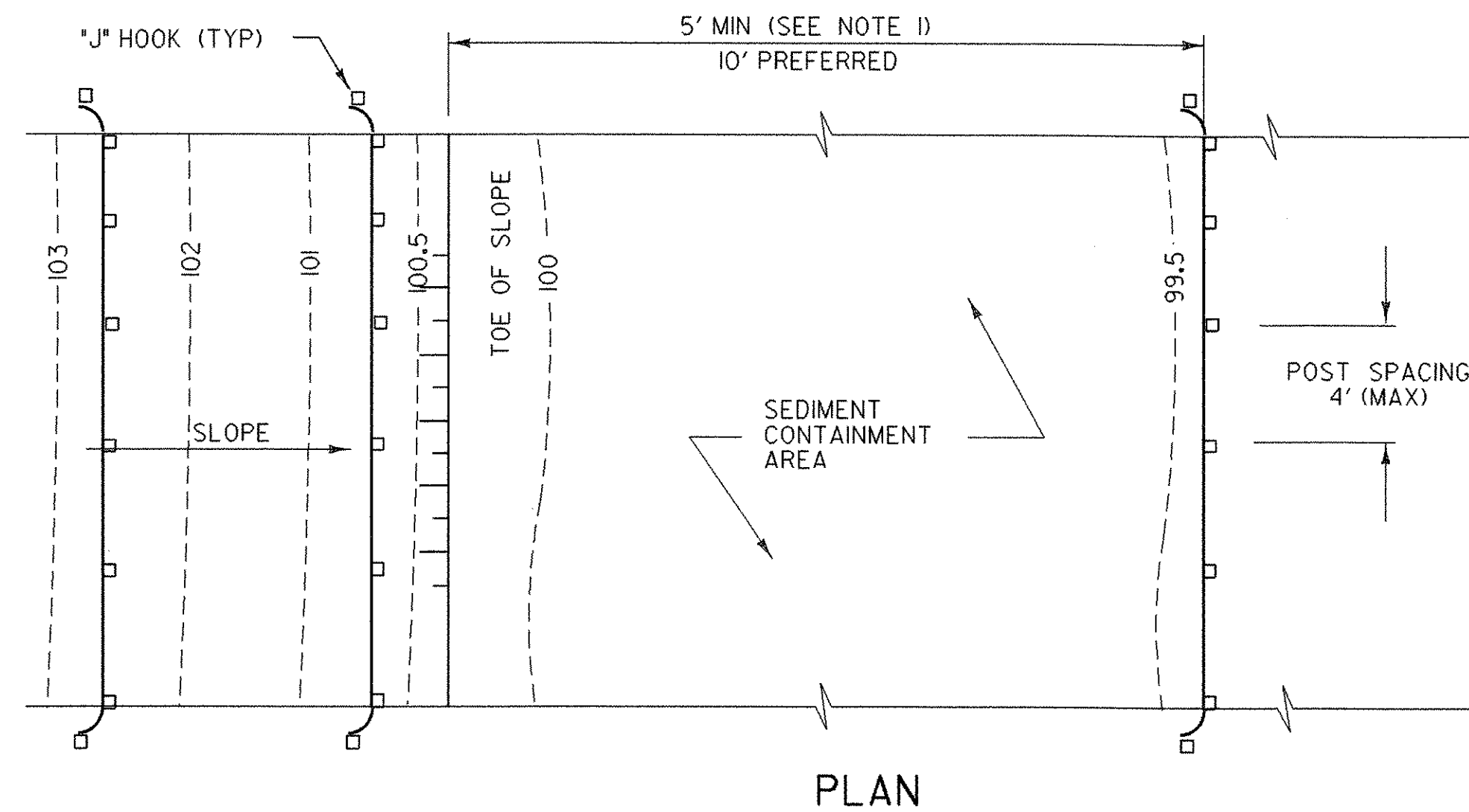
CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 : 1	80	75
4 : 1	130	125
5 : 1	200	200
> 5 : 1	250	250

- MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
- MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.
- SILT FENCE SHALL BE REMOVED WHEN THE AREA HAS BEEN STABILIZED. AT TIME OF REMOVAL OF THE SILT FENCE, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
- PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
- PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
- PAYMENT FOR MAINTAINING SILT FENCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

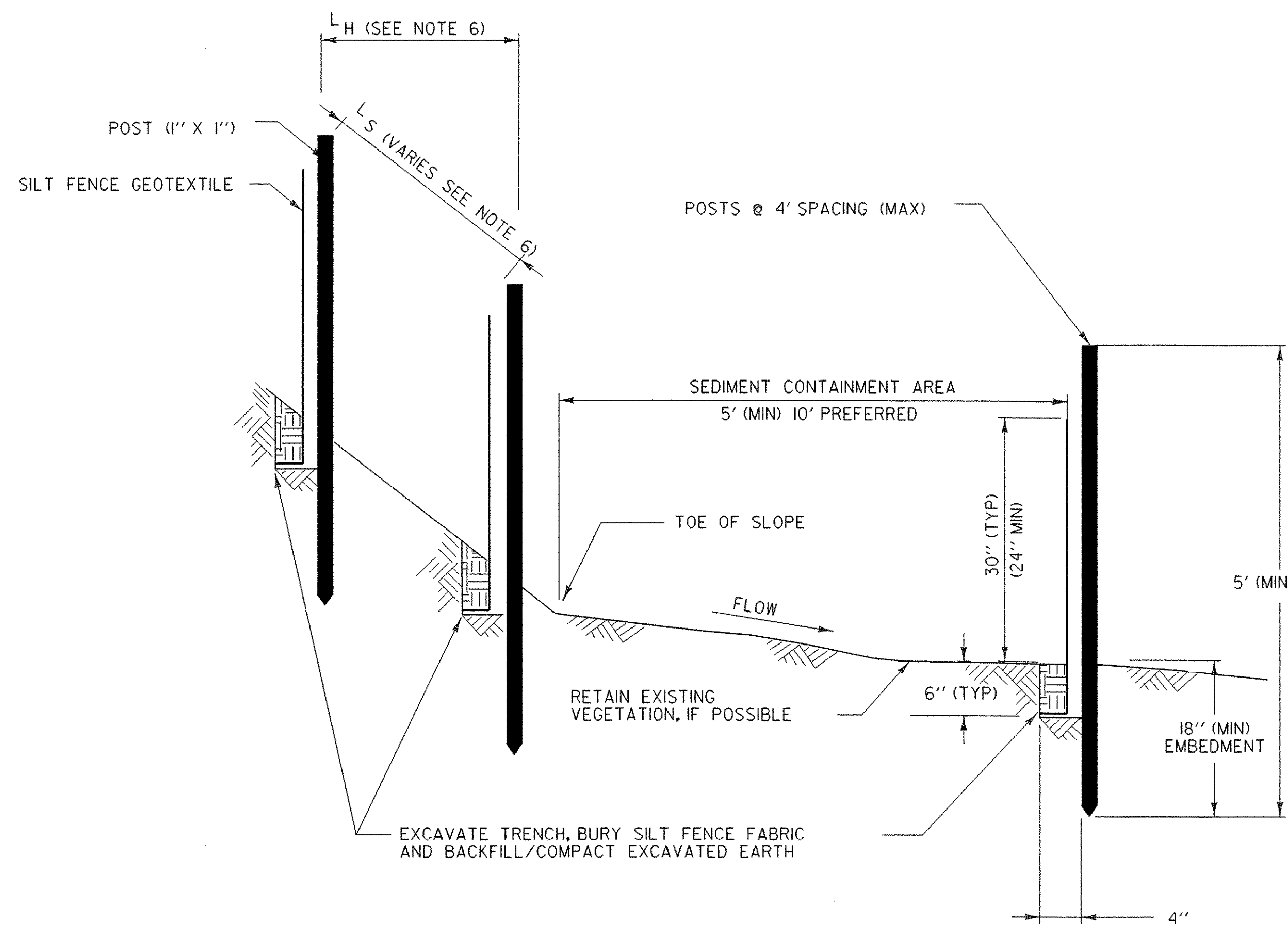


- PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
- ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
- DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPLICING DETAIL



PLAN

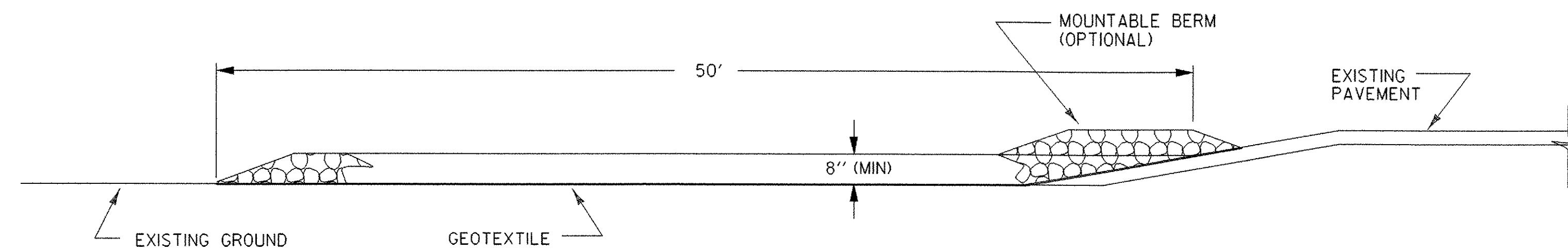


SECTION
SILT FENCE - TEMPORARY

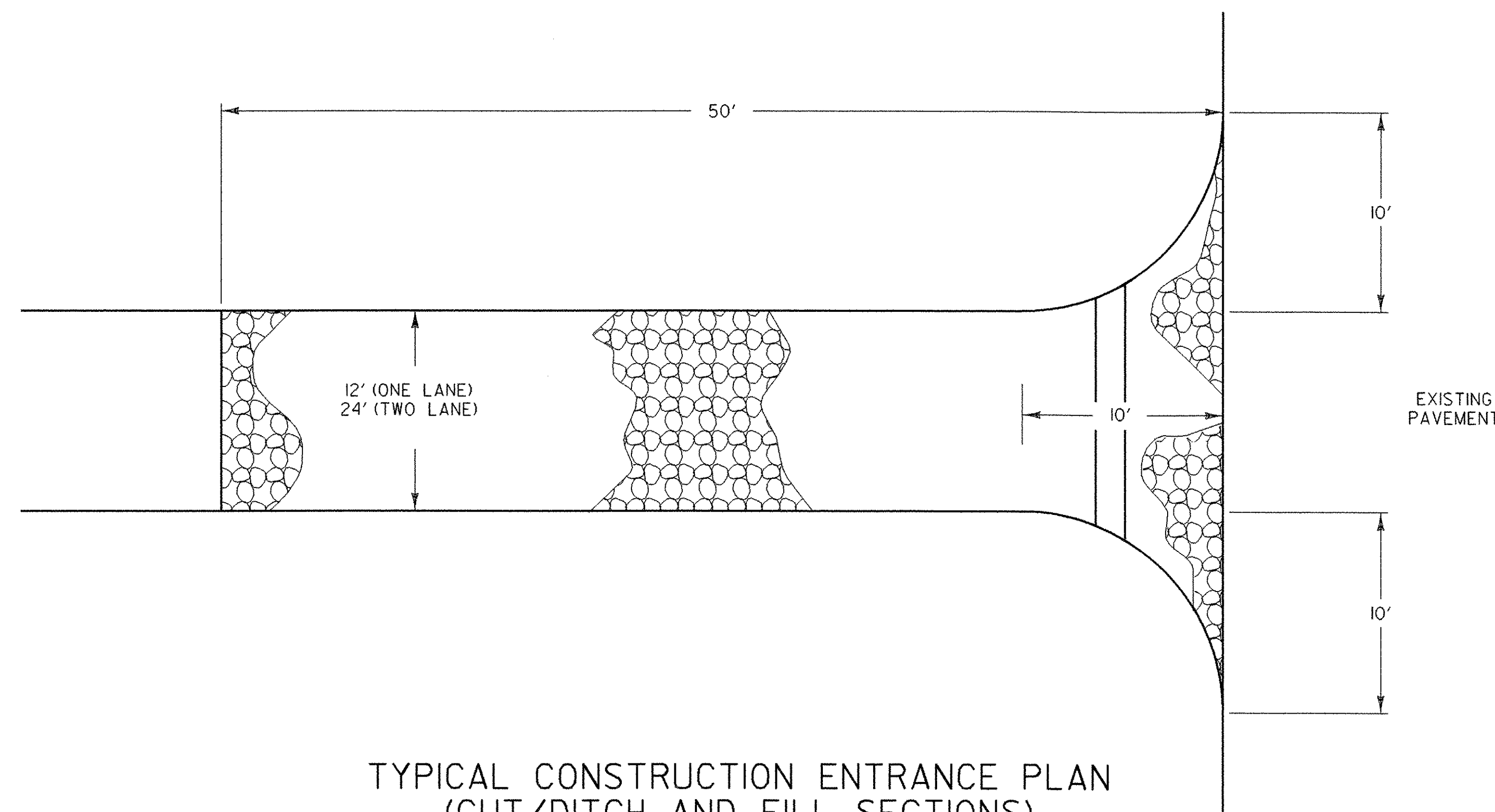
EROSION PREVENTION & SEDIMENT CONTROL DETAILS SILT FENCE

PROJECT NAME:	WOODFORD	PLOT DATE:	03-OCT-2005
PROJECT NUMBER:	NHF 010-1(29)	DRAWN BY:	EROSION
FILE NAME:	84e039/structures/84e039erobdr.dgn	DESIGNED BY:	EROSION
PROJECT LEADER:	M EVANS-MONGEON	CHECKED BY:	
IPARM:	epsdet1i	SHEET	34 OF 106

STABILIZED CONSTRUCTION ENTRANCE



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



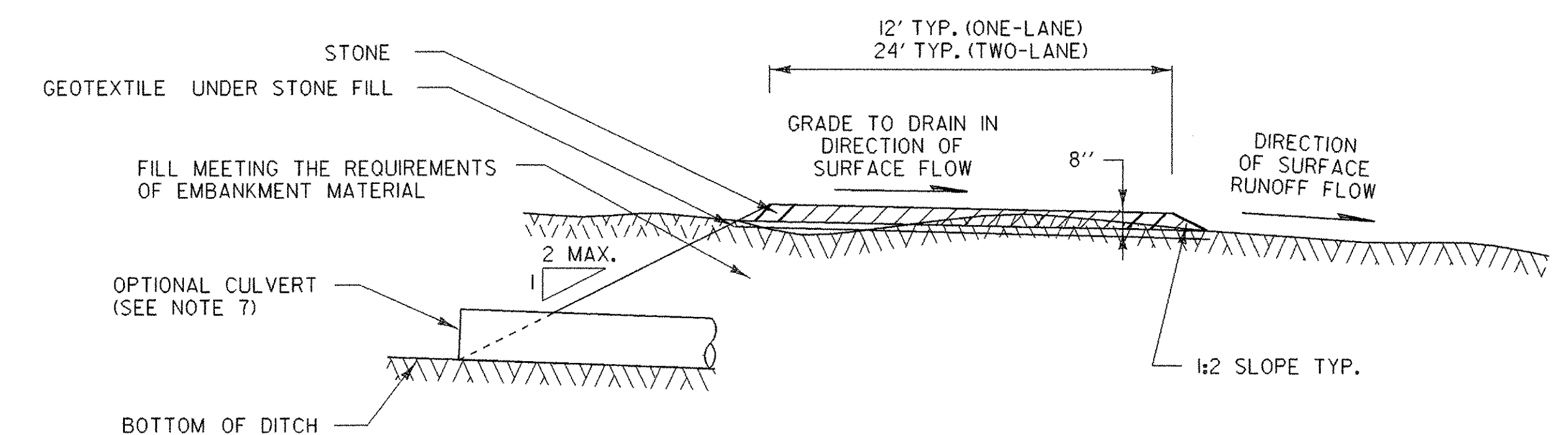
TYPICAL CONSTRUCTION ENTRANCE PLAN
(CUT/DITCH AND FILL SECTIONS)

APPLICATION NOTES:

A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

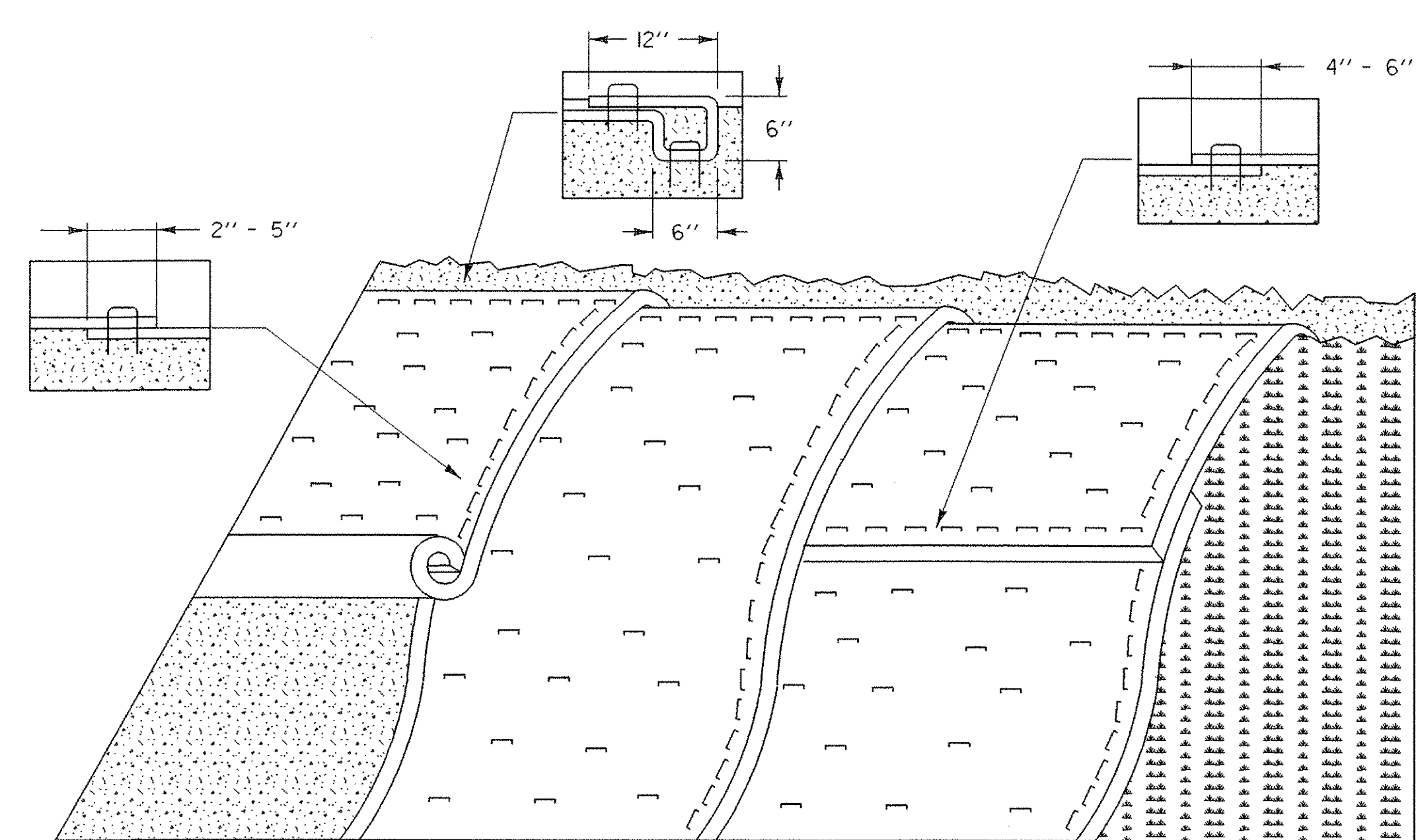
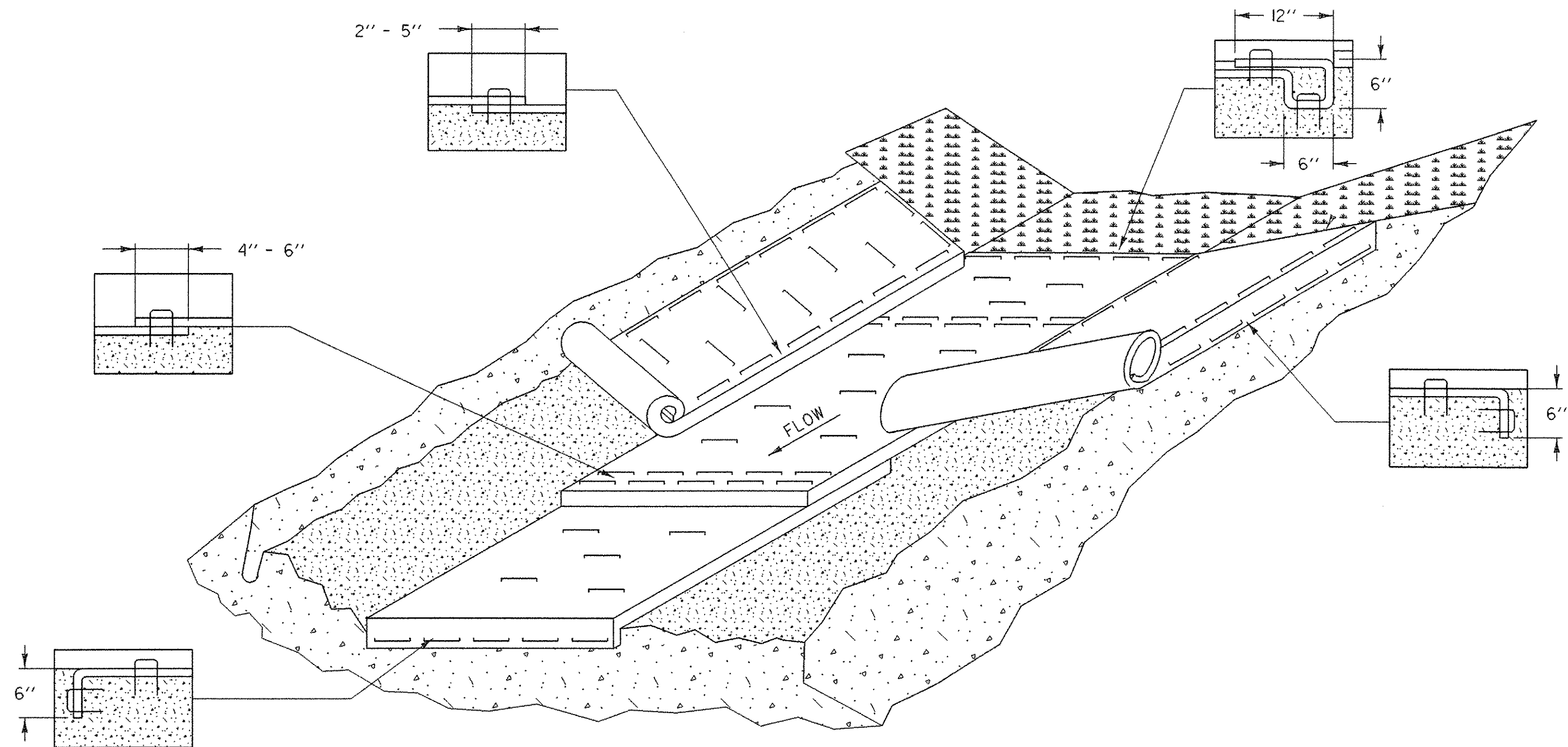
1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES .
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 8 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING THE CONSTRUCTION ENTRANCE SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



TYPICAL CONSTRUCTION ENTRANCE SECTION

EROSION PREVENTION & SEDIMENT CONTROL DETAILS CONSTRUCTION ENTRANCE

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PROJECT LEADER:	M EVANS-MONGEON
DESIGNED BY:	EROSION
IPARM:	epscode+4.i
PLOT DATE:	03-OCT-2005
DRAWN BY:	EROSION
CHECKED BY:	
SHEET	35 OF 106



EROSION PROTECTION FOR DITCHES

APPLICATION NOTES:

- A. THE PURPOSE OF LINING THE DITCH WITH EROSION MATTING IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION AT LOW VELOCITIES.
- B. THE FOLLOWING CHARTS SHALL BE USED TO DETERMINE THE APPROPRIATE EROSION CONTROL MEASURE:

DITCH AND CHANNEL PROTECTION	
SLOPE	LINING
< 1%	GRASS
1% TO 4%	EROSION MATTING
4% TO 10%	STONE FILL, TYPE I
> 10%	STONE FILL, TYPE II

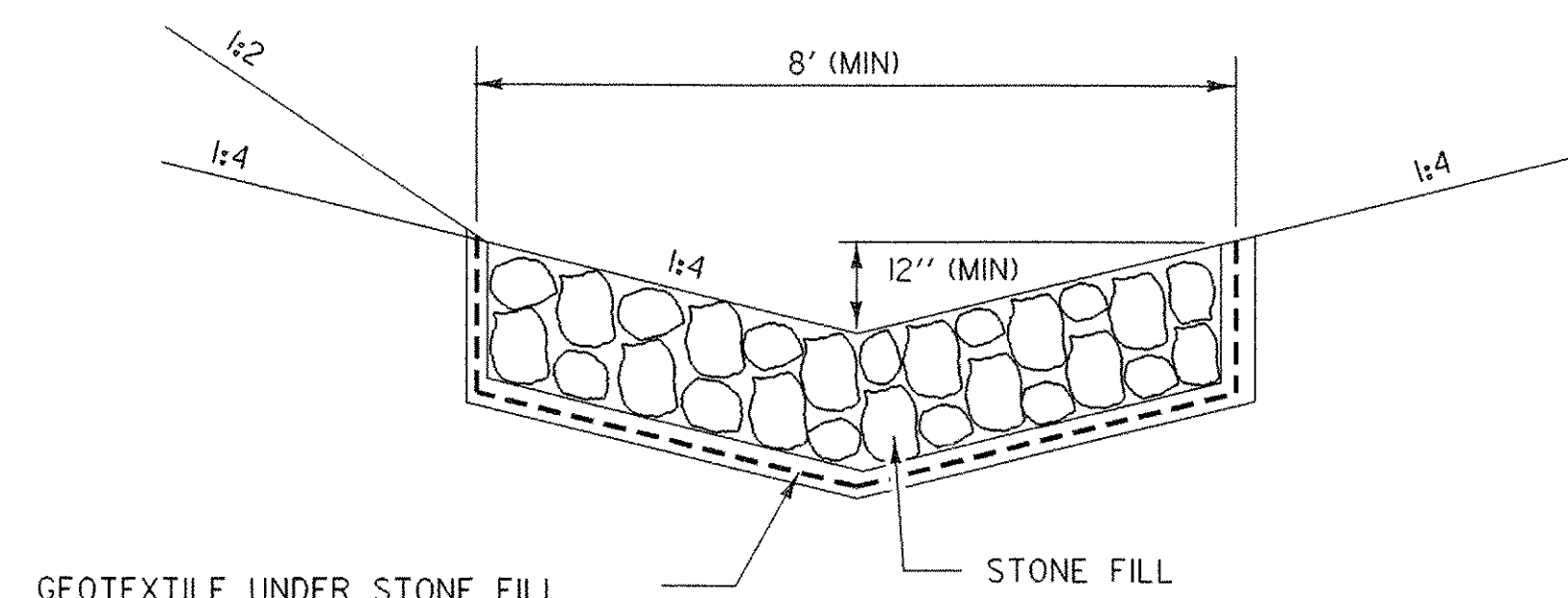
STONE FILL THICKNESS	
STONE FILL TYPE	THICKNESS
TYPE I	1 FT
TYPE II	2 FT

GENERAL NOTES:

1. WATER MAY NEED TO BE DIVERTED TO ALLOW PROPER MATTING INSTALLATION.
2. GRADE AND SMOOTH CHANNEL TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
3. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
4. INSTALL MATTING IN THE CENTER OF THE CHANNEL, IN THE DIRECTION OF THE WATER FLOW.
5. INSTALL MATTING ON THE SIDE SLOPES OF THE CHANNEL, OVERLAPPING THE CENTER MAT.
6. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
8. MEASURES SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
9. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
10. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
11. PAYMENT FOR MAINTAINING DITCH PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

REVISIONS AND CORRECTIONS

MAY 18, 2004 N. GARBACK



TEMPORARY
STONE LINED
DITCH

EROSION PREVENTION FOR SIDE SLOPES

APPLICATION NOTES:

- A. THE PURPOSE OF MATTING ON SIDE SLOPES IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION
- B. EROSION CONTROL MATTING SHALL BE USED FOR THE FOLLOWING REASONS:
 - SIDE SLOPES > 3:1 (H:V)
 - AREAS WHERE SEED AND MULCH WILL NOT STAY IN PLACE ALONE
 - WHERE SEEDING IS OUTSIDE THE GROWING SEASON.

GENERAL NOTES:

1. GRADE AND SMOOTH THE SLOPE TO PROVIDE GOOD MATTING TO SOIL SURFACE CONTACT.
2. APPLY FERTILIZER, LIME, AND SEED PRIOR TO PLACING MATTING.
3. ANCHOR MATTING AS SHOWN, UTILIZING ANCHOR STAPLES. STAPLE PLACEMENT SHALL BE DETERMINED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4. UNROLL MATTING VERTICALLY DOWN SLOPE IN THE DIRECTION OF WATER FLOW.
5. OVERLAP UPPER MATTING OVER LOWER MATTING AS SHOWN.
6. OVERLAP ADJACENT MATTING AS SHOWN.
7. CUT EXCESS MATTING AT END OF SLOPE AND ANCHOR THE END.
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
9. MATTING SHALL BE REPAIRED AND RESTAPLED AS NECESSARY TO ENSURE PROPER FUNCTION.
10. PAYMENT FOR INSTALLATION OF MATTING SHALL BE MADE UNDER THE EROSION CONTROL WITH MATTING ITEM.
11. PAYMENT FOR MONITORING EROSION CONTROL MATTING SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
12. PAYMENT FOR MAINTAINING SLOPE PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

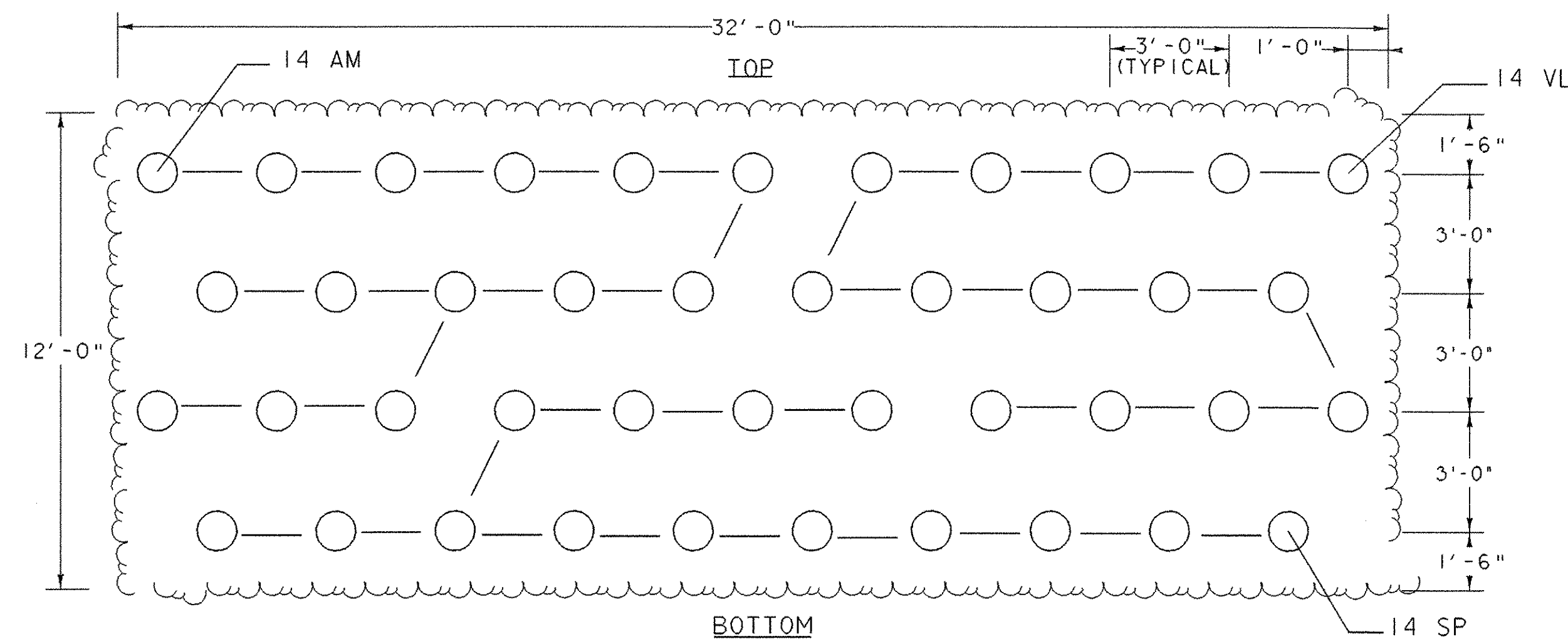
EROSION PREVENTION & SEDIMENT CONTROL DETAILS DITCH & SLOPE PROTECTION

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PROJECT LEADER:	M EVANS-MONGEON
DESIGNED BY:	EROSION
IPARM:	epsdct+5.1
PLOT DATE:	03-OCT-2005
DRAWN BY:	EROSION
CHECKED BY:	
SHEET	36 OF 106

PLANT AND TREE LIST

QUANTITY	UNIT	KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS	ITEM #
EVERGREEN SEEDLING								
21	EA	PS-TR	PINUS STROBUS	WHITE PINE	1-2' MINIMUM HT	6' OC	1 GALLON CONTAINER	656.15
EVERGREEN TREES								
7	EA	PS	PINUS STROBUS	WHITE PINE	5-6' MINIMUM HT	12' OC	CONTAINER/ B&B	656.20
DECIDUOUS TREES								
3	EA	AS	ACER SACCHARUM	SUGAR MAPLE	1.5-2.0" CAL	30' OC	CONTAINER/ B&B	656.30
2	EA	BP	BETULA PAPYRIFERA	PAPER BIRCH (CLUMP OF 3)	8-10' MINIMUM HT	30' OC	CONTAINER/ B&B	656.30
48	EA	BPO	BETULA POPULIFOLIA	GRAY BIRCH	4-5' MINIMUM HT	6' OC	2 GALLON CONTAINER	656.30
42	EA	FA	FRAXINUS AMERICANA	WHITE ASH	4-5' MINIMUM HT	35' OC	2 GALLON CONTAINER	656.30
34	EA	PRS	PRUNUS SEROTINA	BLACK CHERRY	4-5' MINIMUM HT	6' OC	2 GALLON CONTAINER	656.30
28	EA	PV	PRUNUS VIRGINIANA	CHOKE CHERRY	4-5' MINIMUM HT	6' OC	2 GALLON CONTAINER	656.30
DECIDUOUS SHRUBS								
350	EA	AM	ARONIA MELANOCARPA	BLACK CHOKEBERRY	18" MINIMUM HT	3' OC	1 GALLON CONTAINER	656.35
196	EA	CR	CORNUS RACEMOSA	GRAY DOGWOOD	18" MINIMUM HT	3' OC	1 GALLON CONTAINER	656.35
112	EA	SP	SALIX PURPUREA	STREAMCO WILLOW	18" MINIMUM HT	3' OC	1 GALLON CONTAINER	656.35
112	EA	VL	VIBURNUM LENTAGO	NANNYBERRY	18" MINIMUM HT	3' OC	1 GALLON CONTAINER	656.35

WOODY SHRUBS GROUPINGS



TYPICAL PLANT LIST FOR ONE WOODY SHRUBS DETAIL

QTY	KEY	COMMON NAME	BOTANICAL NAME
14	VL	NANNY BERRY	VIBURNUM LENTAGO
14	AM	BLACK CHOKEBERRY	ARONIA MELANOCARPA
14	SP	STREAMCO WILLOW	SALIX PURPUREA

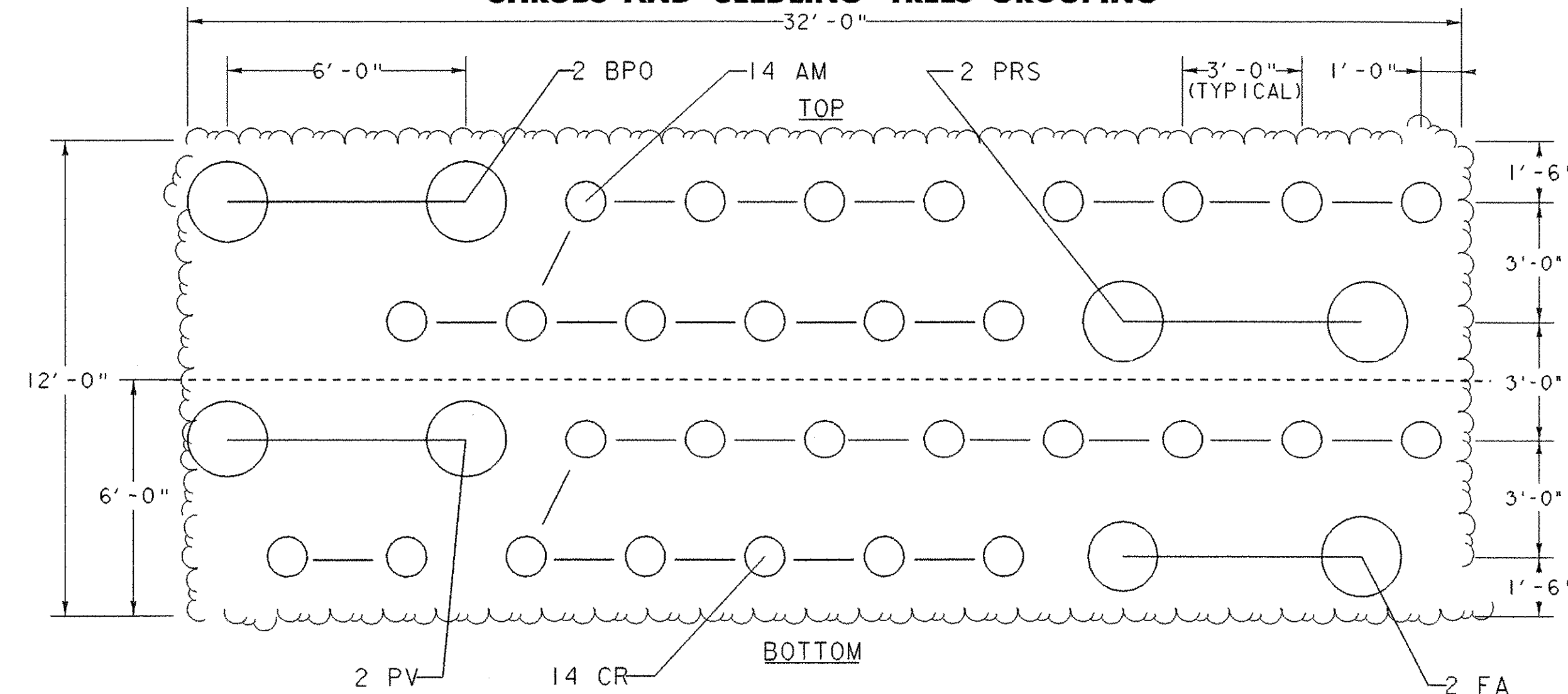
LOCATION OF WOODY SHRUBS PLANTING LAYOUTS AND LENGTHS

STA 64+02 TO STA 64+67 RT (64' X 12') REPEAT 2 X ON SLOPED GROUND
 STA 65+09 TO STA 65+40 LT (32' X 12') REPEAT 1 X ON SLOPED GROUND
 STA 68+83 TO STA 70+42 LT (160' X 12') REPEAT 5 X ON FLAT GROUND

NOTES:

1. LOCATIONS AND BED SHAPES ARE APPROXIMATE AND MAY VARY DUE TO SLOPE. FINAL LOCATION AND ELEVATIONS TO BE DETERMINED BY THE ENGINEER BASED ON ACTUAL SLOPE CONDITIONS.
2. SEE EPSC PLAN SHEETS FOR ACTUAL GROUPING LOCATIONS.
3. GROUPING SHAPES ARE TO BE STAKED AND LAID OUT TO GIVE A NATURAL APPEARANCE.
4. TYPICAL GROUPING LAYOUTS SHOWN ARE FOR FLAT AND STEEP SLOPES OF PROJECT WHERE THERE IS NO STONE FILL.
5. WATER ALL SHRUBS AND SEEDLING TREES AT TIME OF PLANTING. EACH SHRUB AND SEEDLING TREE SHALL RECEIVE A MINIMUM OF 5 GALLONS OF WATER TWICE A WEEK.
6. SEE SPECIAL PROVISIONS FOR 651.18 FERTILIZER (*MOD*), THE APPLICATION OF MYCORRHIZAL FUNGI PER MANUFACTURER'S RECOMMENDATIONS AND 651.35 TOPSOIL *MOD*, THE APPLICATION OF COMPOST.

SHRUBS AND SEEDLING TREES GROUPING



TYPICAL PLANT LIST FOR ONE SHRUBS AND SEEDLING TREES DETAIL

QTY	KEY	COMMON NAME	BOTANICAL NAME
2	BPO	GRAY BIRCH	BETULA POPULIFOLIA
2	PRS	BLACK CHERRY	PRUNUS SEROTINA
2	FA	WHITE ASH	FRAXINUS AMERICANA
2	PV	CHOKE CHERRY	PRUNUS VIRGINIANA
14	AM	BLACK CHOKEBERRY	ARONIA MELANOCARPA
14	CR	GRAY DOGWOOD	CORNUS RACEMOSA

LOCATION OF SHRUBS AND SEEDLING TREES PLANTING LAYOUTS AND LENGTHS

STA 67+65 TO STA 69+59 RT (192' X 12') REPEAT 6 X ON SLOPED GROUND
 STA 65+36 TO STA 66+09 LT (96' X 24') REPEAT 6 X ON FLAT GROUND
 STA 68+36 TO STA 69+06 LT (64' X 12') REPEAT 2 X ON FLAT GROUND

UTILIZE PART A FOR THE FOLLOWING STATIONS:

STA 68+15 TO STA 69+13 LT (96' X 6') REPEAT 3 X ON SLOPED GROUND

UTILIZE PART B FOR THE FOLLOWING STATIONS:

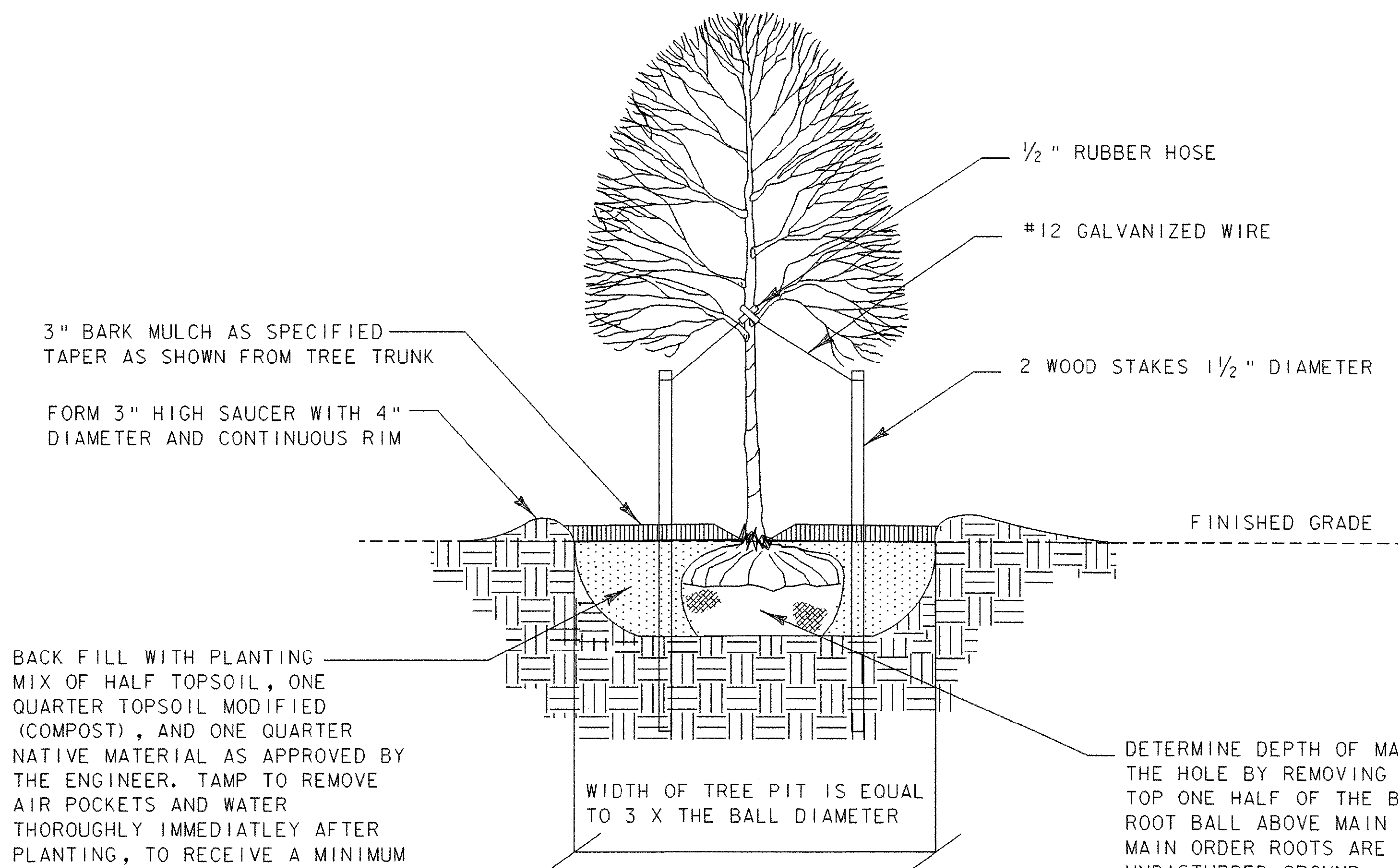
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LANDSCAPE GROUPING DETAIL & PLANT LIST

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PLOT DATE:	03-OCT-2005
PROJECT LEADER:	M EVANS-MONGEON
DRAWN BY:	L GOLDSTEIN
DESIGNED BY:	J BROWN
CHECKED BY:	
IPARM:	epsclspdet1.j
SHEET	37 OF 106

NOT TO SCALE

NOT TO SCALE



3" BARK MULCH AS SPECIFIED
TAPER AS SHOWN FROM TREE TRUNK

FORM 3" HIGH SAUCER WITH 4" DIAMETER AND CONTINUOUS RIM

BACK FILL WITH PLANTING MIX OF HALF TOPSOIL, ONE QUARTER TOPSOIL MODIFIED (COMPOST), AND ONE QUARTER NATIVE MATERIAL AS APPROVED BY THE ENGINEER. TAMP TO REMOVE AIR POCKETS AND WATER THOROUGHLY IMMEDIATELY AFTER PLANTING, TO RECEIVE A MINIMUM OF 10 GALLONS AT EACH WATERING, A MINIMUM OF TWICE WEEKLY DURING THE ESTABLISHMENT PERIOD.

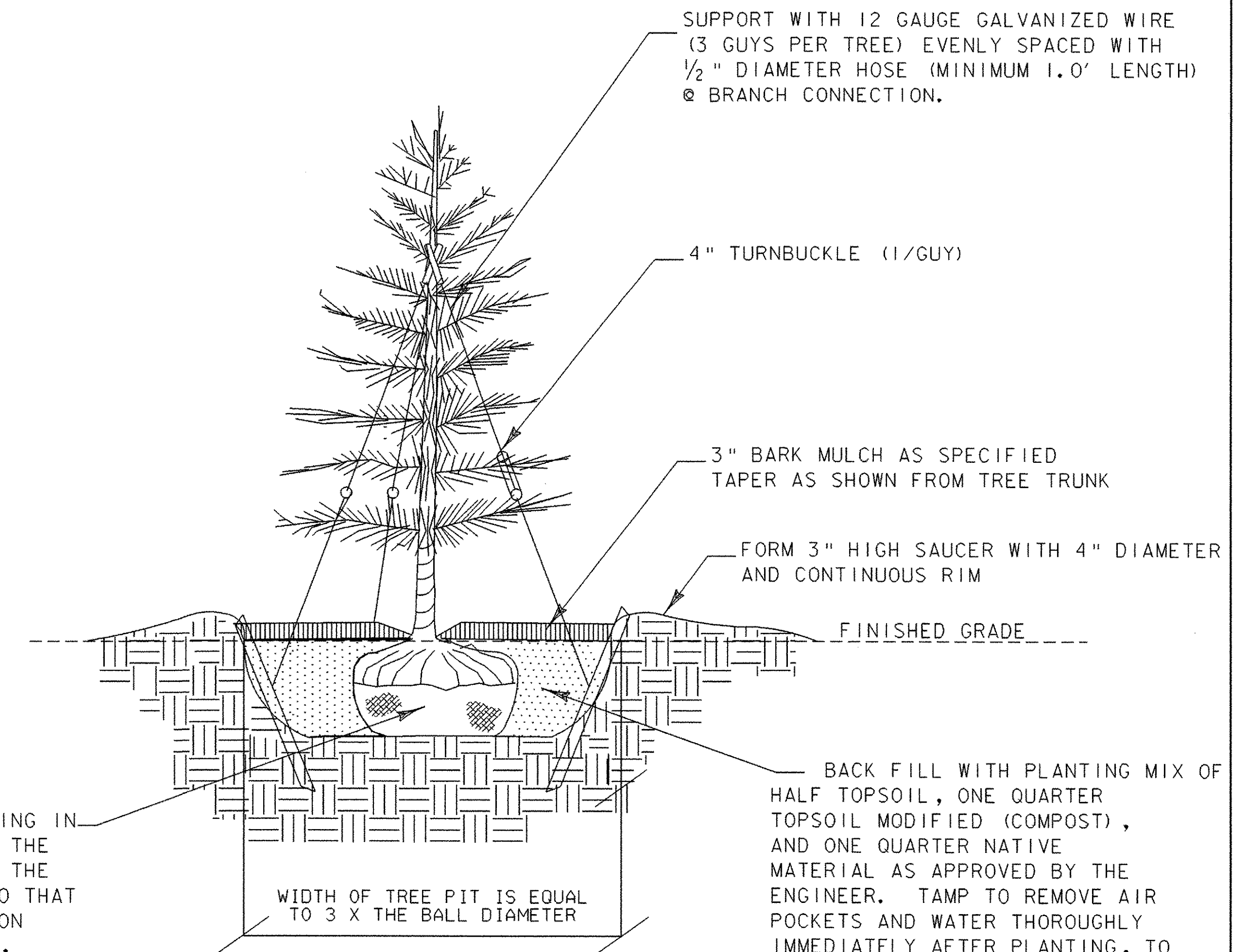
DECIDUOUS TREE PLANTING DETAIL

NOTES:

1. STAKE ONLY THOSE TREES PLANTED IN WINDY, EXPOSED LOCATIONS, WHERE THEY MIGHT BE BLOWN OVER OR VANDALIZED.
2. COMPLETELY REMOVE ALL GUY WIRES, RUBBER HOSE, AND STAKES ONE YEAR AFTER PLANTING.

DETERMINE DEPTH OF MAIN ORDER ROOTS IN THE BALL BEFORE PLACING IN THE HOLE BY REMOVING ALL TWINE AND BURLAP FROM THE STEM AND THE TOP ONE HALF OF THE BALL. REMOVE ANY EXCESS SOIL ON TOP OF THE ROOT BALL ABOVE MAIN ORDER ROOTS. PLACE TREE IN THE HOLE SO THAT MAIN ORDER ROOTS ARE AT FINISHED GRADE, AND ROOT BALL SITS ON UNDISTURBED GROUND. IF PLANT IS BALLED IN SYNTHETIC BURLAP, REMOVE COMPLETELY. CUT ANY WIRE BASKETS AND REMOVE ENTIRE SIDES. SEE NOTES FOR BACKFILL INFORMATION.

WIDTH OF TREE PIT IS EQUAL TO 3 X THE BALL DIAMETER



EVERGREEN TREE PLANTING DETAIL

NOTES:

1. ANTI-DESICCANT SPRAY IS TO BE APPLIED TO ALL EVERGREENS PER MANUFACTURER SPECIFICATIONS.
2. COMPLETELY REMOVE ALL GUY-WIRES AND TURNBUCKEL ONE YEAR AFTER PLANTING.

BACK FILL WITH PLANTING MIX OF HALF TOPSOIL, ONE QUARTER TOPSOIL MODIFIED (COMPOST), AND ONE QUARTER NATIVE MATERIAL AS APPROVED BY THE ENGINEER. TAMP TO REMOVE AIR POCKETS AND WATER THOROUGHLY IMMEDIATELY AFTER PLANTING, TO RECEIVE A MINIMUM OF 10 GALLONS AT EACH WATERING, A MINIMUM OF TWICE WEEKLY DURING THE ESTABLISHMENT PERIOD.

WIDTH OF TREE PIT IS EQUAL TO 3 X THE BALL DIAMETER

GENERAL LANDSCAPE NOTES:

1. FOLLOW STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 656.
2. SEE SPECIAL PROVISIONS FOR 651.18 FERTILIZER (MOD), THE APPLICATION OF MYCORRHIZAL FUNGI PER MANUFACTURER'S RECOMMENDATIONS AND 651.35 TOPSOIL (MOD), THE APPLICATION OF COMPOST.
3. TREE AND SHRUB SEEDLINGS FOR EROSION CONTROL AND RIPARIAN ZONE PLANTINGS ARE SPECIAL ORDER ITEMS. THE FOLLOWING ARE AMONG THE SOURCES FOR THIS SPECIFIC PLANT MATERIAL.

NEW ENGLAND WETLAND PLANTS, INC.
800 MAIN ST.
AMHERST, MA 01002
820 WEST ST. NURSERY
AMHERST, MA 01002
TEL: (413) 256-1752

HIGH REACH FARM
2847 TAMPICO ROAD
DANVILLE, VT 05828
TEL: (802) 748-3512

COBBLE CREEK NURSERY
991 TYLER BRIDGE ROAD
BRISTOL, VT 05443
TEL: (802) 453-3889
COBCREEK@MADRIVER.COM

HORSFORD GARDENS & NURSERY
2111 GREENBUSH ROAD
CHARLOTTE, VT 05445
TEL: (802) 425-2811
FAX: (802) 425-2797

NORTHERN NURSERIES, INC.
WHOLESALE DISTRIBUTOR (OUT OF CT)
P.O. BOX 1048
WHITE RIVER JCT. VT 05001
TEL: (802) 295-2117
FAX: (802) 295-4889

HOP RIVER NURSERY
251 HOP RIVER ROAD
ROUTE 6
BOLTON, CT 06043
TEL. & FAX: (860) 646-7099

BIGELOW NURSERIES
P.O. BOX 718
NORTHBOROUGH, MA 01532
TEL: (508) 845-2143
FAX: (508) 842-9245

PIERSON NURSERIES, INC.
24 BUZZELL ROAD
BIDDEFORD, MAINE 04005
TEL: (207) 499-2994
FAX: (207) 499-2912

**SEEDING FORMULA
RURAL AREAS**

% WT.	LBS./A.	NAME	PUR %	GERM %
37.5	22.5	CREeping RED FESCUE	98	85
37.5	22.5	TALL FESCUE	95	90
5.0	3.0	RED TOP	95	90
15.0	9.0	BIRDSFOOT TREFOIL	98	85
5.0	3.0	ANNUAL RYEGRASS	95	85
100.0	60.0			

GENERAL NOTES

1. SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
2. SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER. FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 500 LBS./ACRE. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
3. AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 2 TONS/ACRE OR AS DIRECTED BY THE ENGINEER. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER.

LANDSCAPE TREE PLANTING DETAIL

PROJECT NAME: WOODFORD
PROJECT NUMBER: BHF 010-1(29)

FILE NAME: 48e039/structures/84e039erobdr.dgn PLOT DATE: 03-OCT-2005
PROJECT LEADER: M EVENS-MONGEON DRAWN BY: SOUAD B
DESIGNED BY: J BROWN CHECKED BY:
IPARM: epsclspdet2.l SHEET 38 OF 106

NOT TO SCALE

NOTE:
SHRUBS SHALL BE MULCHED ONLY
ON FLAT GROUND OR DISCRETION
OF ENGINEER.

2" BARK MULCH AS SPECIFIED.
TAPER AT BASE AS SHOWN.

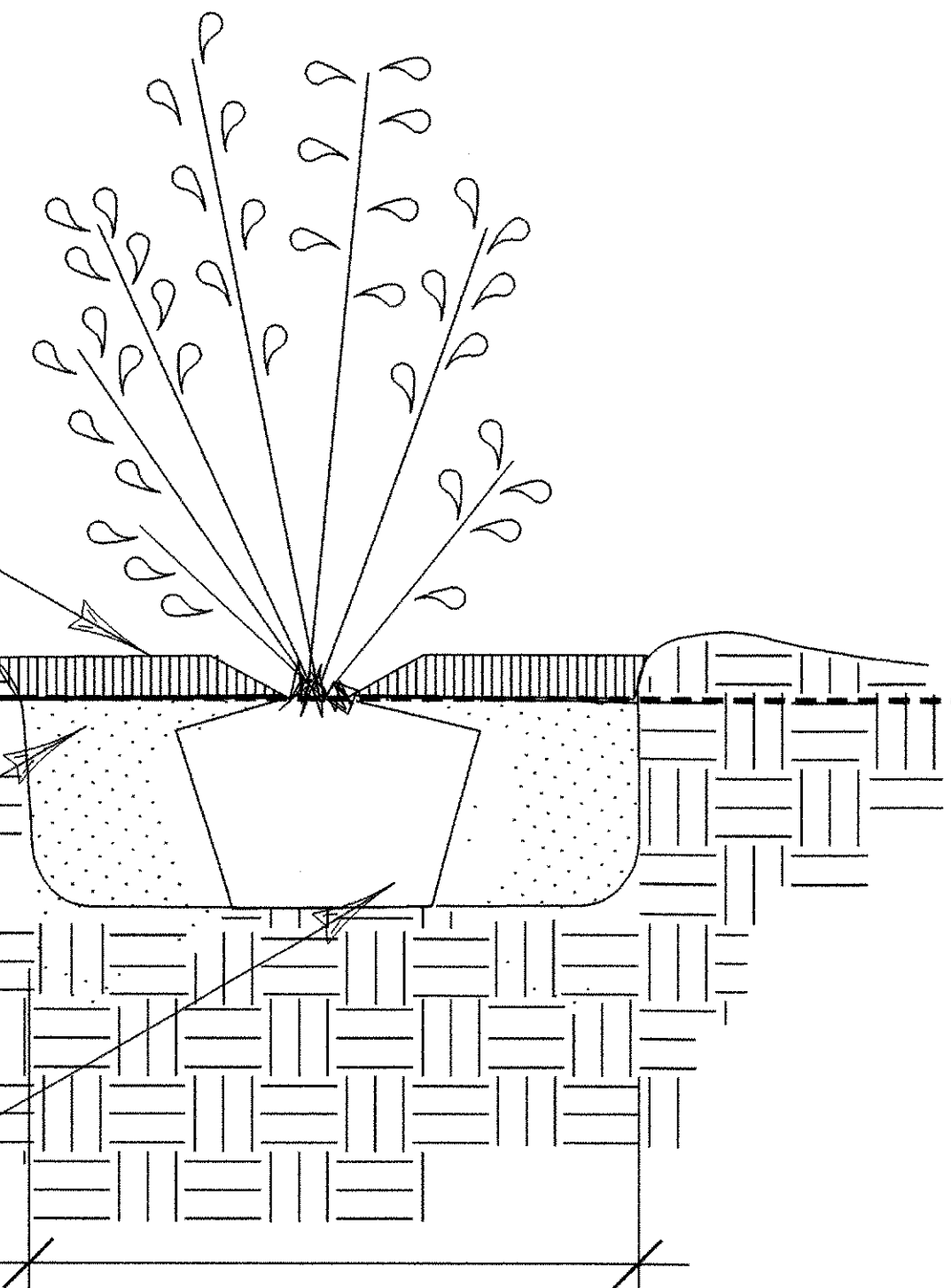
FORM SAUCER WITH 3" HIGH BY 3"
WIDE CONTINUOUS RIM.

EXISTING GRADE

FINISHED GRADE

BACK FILL MIX CONSISTS OF 1/2
TOPSOIL, 1/4 COMPOST, AND 1/4
NATIVE MATERIAL AS APPROVED BY
THE ENGINEER. TAMP TO REMOVE
AIR POCKETS AND WATER
THOROUGHLY AT TIME OF PLANTING.

PLACE SHRUB IN THE HOLE SUCH
THAT BARE ROOT BALL RESTS ON
UNDISTURBED GROUND. AVOID
PLANTING TOO DEEP. TOP OF
ROOTBALL SHOULD BE AT FINISHED
GRADE.



PLANTING HOLE SHALL BE AT
LEAST 3 X THE WIDTH OF
THE ROOT BALL.

SHRUB AND SEEDLING TREE PLANTING DETAIL

2" BARK MULCH AS SPECIFIED.
TAPER AT BASE AS SHOWN.

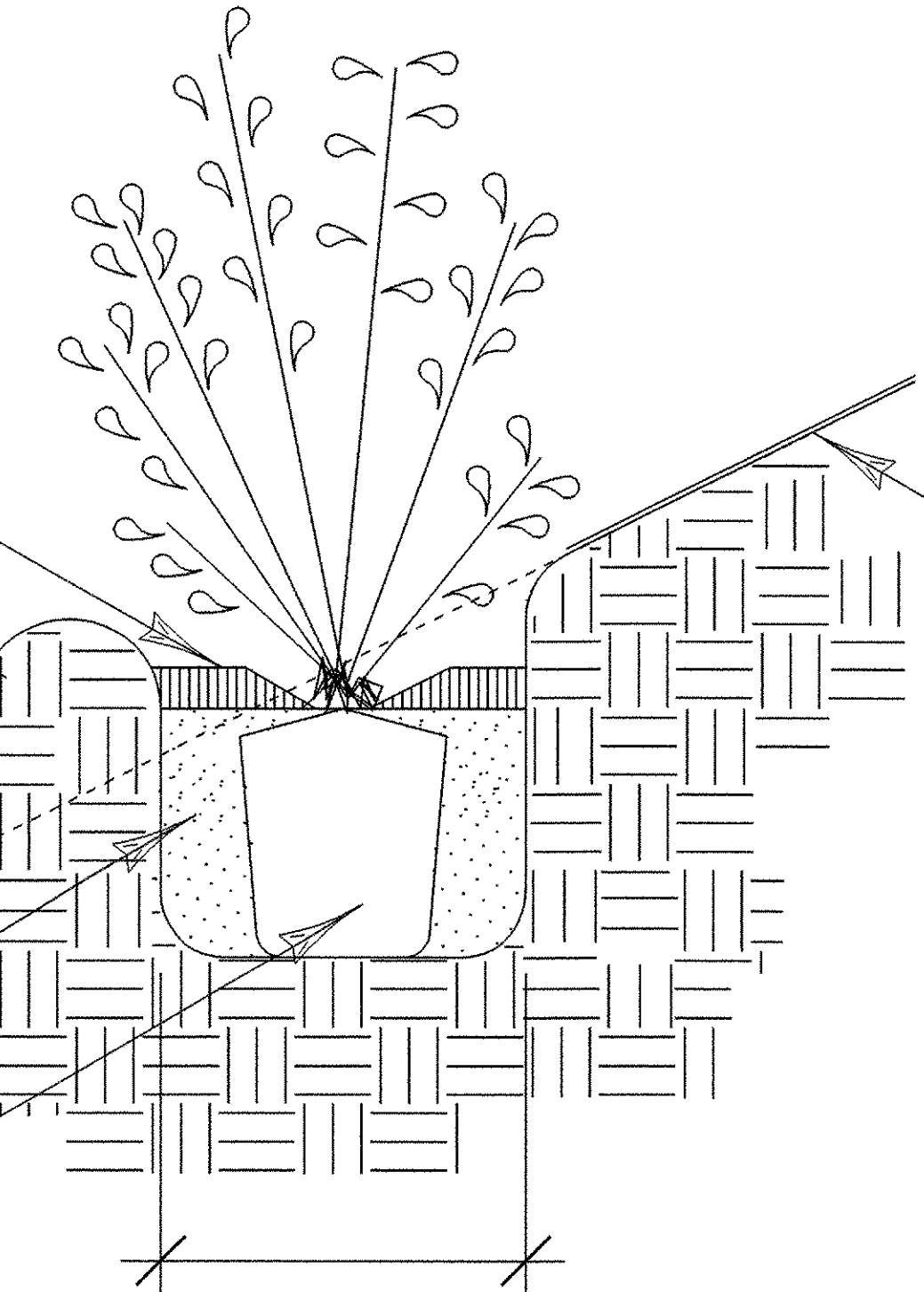
MAINTAIN MINIMUM 3" HIGH BY 3" WIDE
CONTINUOUS RIM ON LOWER SIDES OF
PLANTING TO RETAIN WATER.

ORIGINAL GROUND

BIODEGRADABLE
JUTE MESH

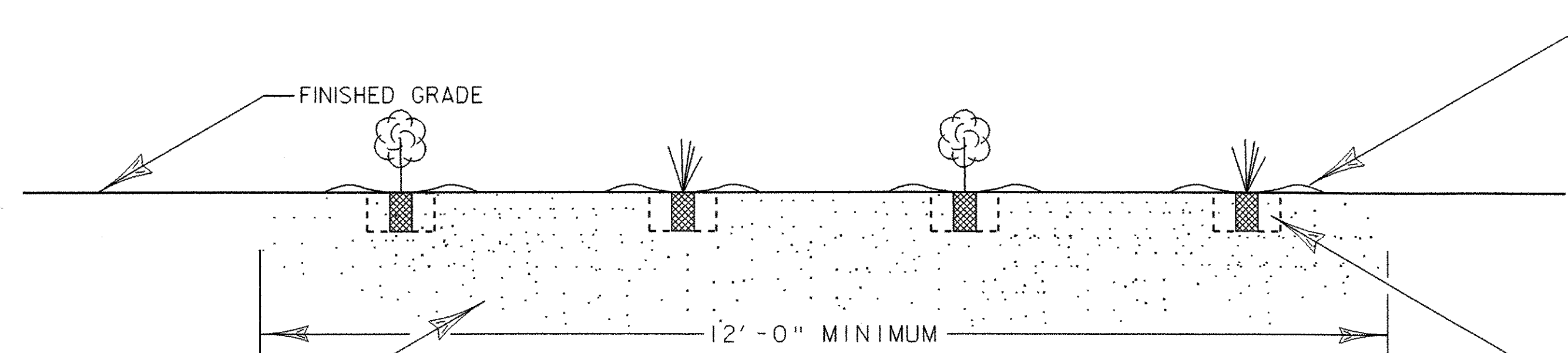
BACK FILL MIX CONSISTS OF 1/2 TOPSOIL,
1/4 COMPOST, AND 1/4 NATIVE MATERIAL AS
APPROVED BY THE ENGINEER. TAMP TO
REMOVE AIR POCKETS AND WATER THOROUGHLY
AT TIME OF PLANTING.

PLACE SHRUB IN THE HOLE SUCH THAT BARE
ROOT BALL RESTS ON UNDISTURBED GROUND.
AVOID PLANTING TOO DEEP. TOP OF ROOTBALL
SHOULD BE AT FINISHED GRADE.



PLANTING HOLE SHALL BE AT
LEAST 2 X THE WIDTH OF
THE ROOT BALL.

SHRUB AND SEEDLING TREE PLANTING ON SLOPES DETAIL



FORM 3" HIGH BY 3" WIDE LIP
SAUCER WITH CONTINUOUS RIM OF
2" BARK MULCH TAPERING AT BASE
AS SPECIFIED.

NOTE:
SEE SHRUB AND SEEDLING TREE PLANTING DETAIL.
SHRUBS SHALL BE MULCHED ON FLAT GROUND ONLY OR AT
DISCRETION OF ENGINEER.

BACK FILL MIX CONSISTS OF 1/2
TOPSOIL, 1/4 COMPOST, AND 1/4
NATIVE MATERIAL AS APPROVED BY
THE ENGINEER.

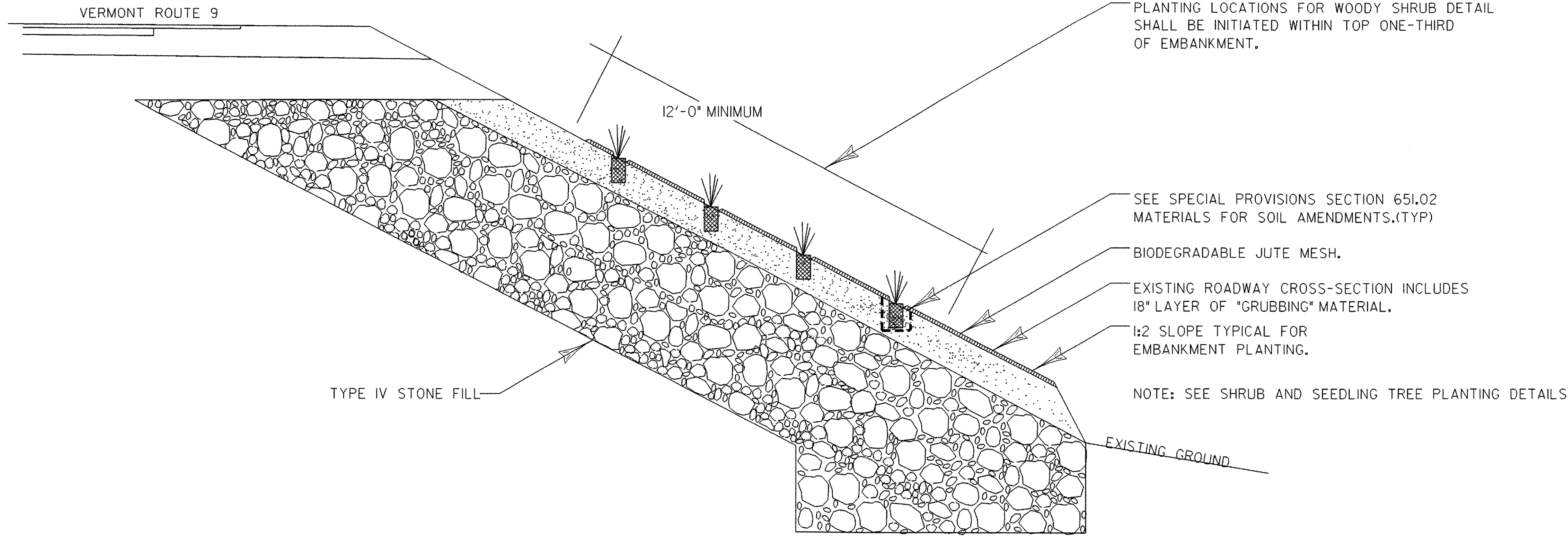
TAMP TO REMOVE AIR POCKETS AND
WATER THOROUGHLY AT TIME OF
PLANTING.

SHRUBS AND SEEDLING TREE GROUPINGS CROSS SECTION
(FOR FLAT GROUND)

LANDSCAPE GROUP AND SHRUB CROSS-SECTION

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PROJECT LEADER:	M EVANS-MONGEON
DESIGNED BY:	J BROWN
IPARM:	epsclspdet3.1
PLOT DATE:	03-OCT-2005
DRAWN BY:	L GOLDSTEIN
CHECKED BY:	
SHEET	39 OF 106

NOT TO SCALE



PLANTING LOCATIONS FOR WOODY SHRUB DETAIL SHALL BE INITIATED WITHIN TOP ONE-THIRD OF EMBANKMENT.

SEE SPECIAL PROVISIONS SECTION 651.02 MATERIALS FOR SOIL AMENDMENTS.(TYP)

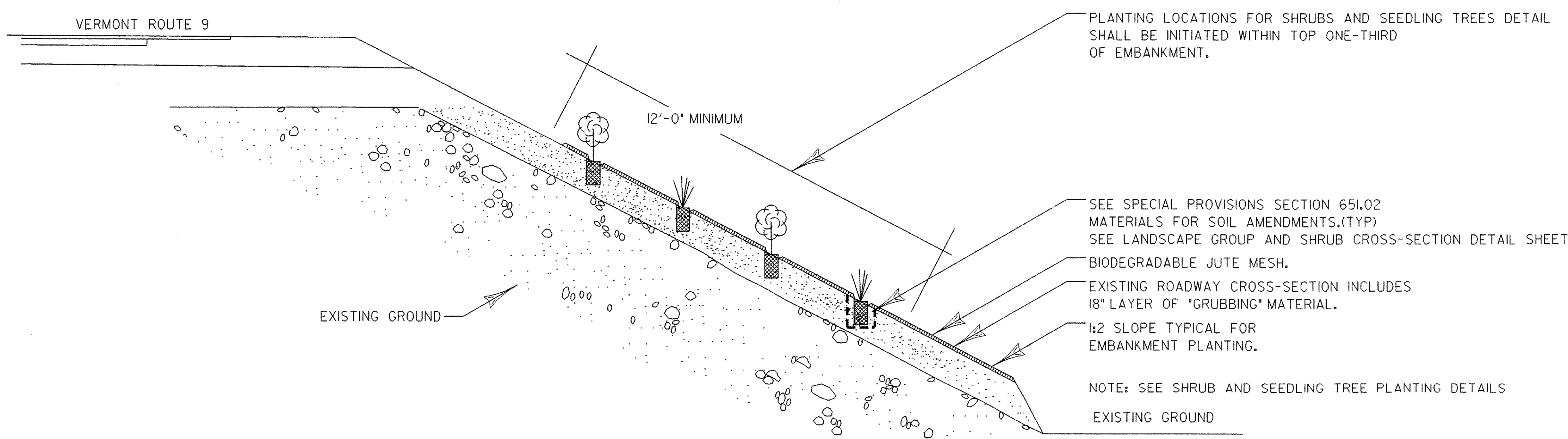
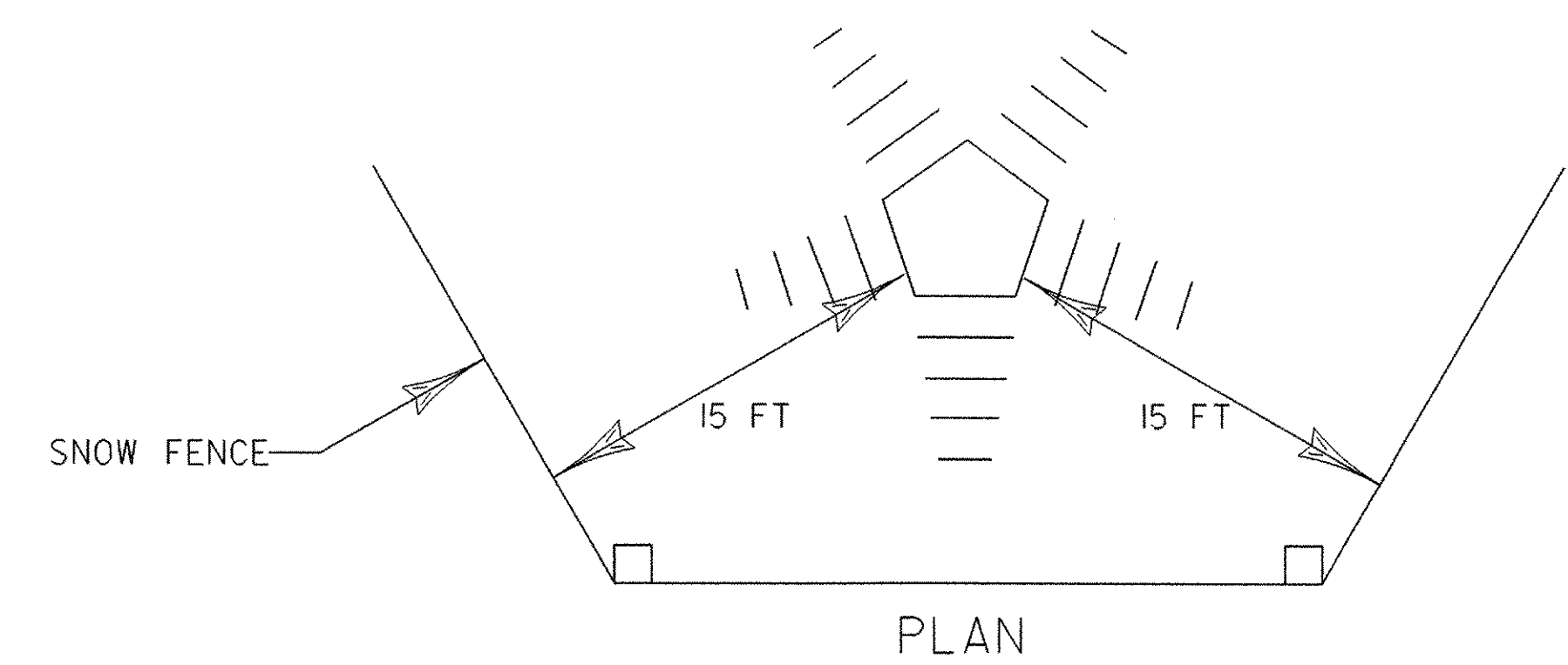
BIODEGRADABLE JUTE MESH.

EXISTING ROADWAY CROSS-SECTION INCLUDES 18" LAYER OF "GRUBBING" MATERIAL.

1:2 SLOPE TYPICAL FOR EMBANKMENT PLANTING.

NOTE: SEE SHRUB AND SEEDLING TREE PLANTING DETAILS

WOODY SHRUB GROUPING CROSS SECTION
(FOR SIDE SLOPES WITH STONE FILL)



PLANTING LOCATIONS FOR SHRUBS AND SEEDLING TREES DETAIL SHALL BE INITIATED WITHIN TOP ONE-THIRD OF EMBANKMENT.

SEE SPECIAL PROVISIONS SECTION 651.02 MATERIALS FOR SOIL AMENDMENTS.(TYP)
SEE LANDSCAPE GROUP AND SHRUB CROSS-SECTION DETAIL SHEET

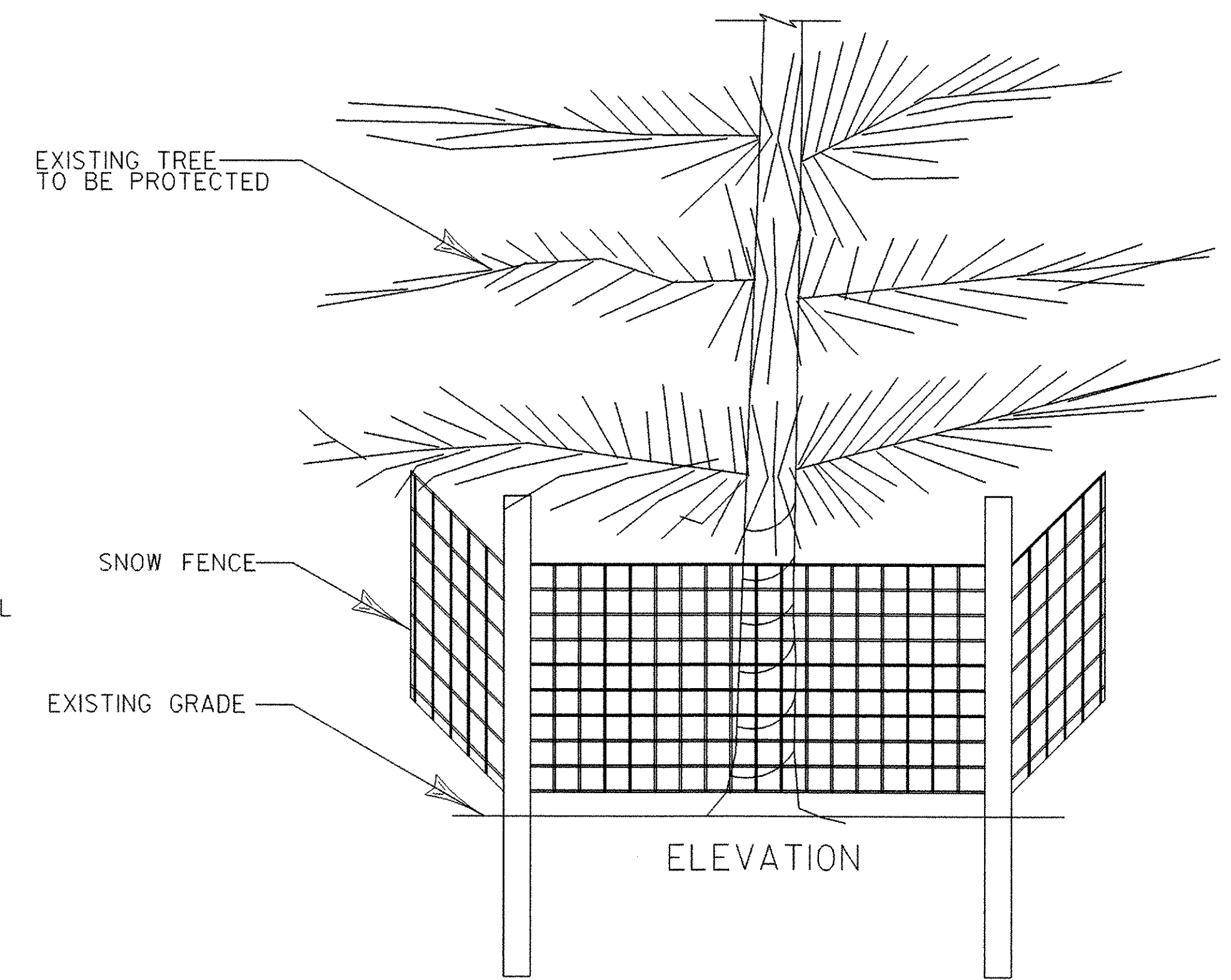
BIODEGRADABLE JUTE MESH.

EXISTING ROADWAY CROSS-SECTION INCLUDES 18" LAYER OF "GRUBBING" MATERIAL.

1:2 SLOPE TYPICAL FOR EMBANKMENT PLANTING.

NOTE: SEE SHRUB AND SEEDLING TREE PLANTING DETAILS

SHRUBS AND SEEDLING TREE GROUPINGS CROSS SECTION
(FOR SIDE SLOPES WITH SOIL)



TREE PROTECTION DETAIL
SEE SECTION 620.04 (MOD) FOR DIMENSIONS

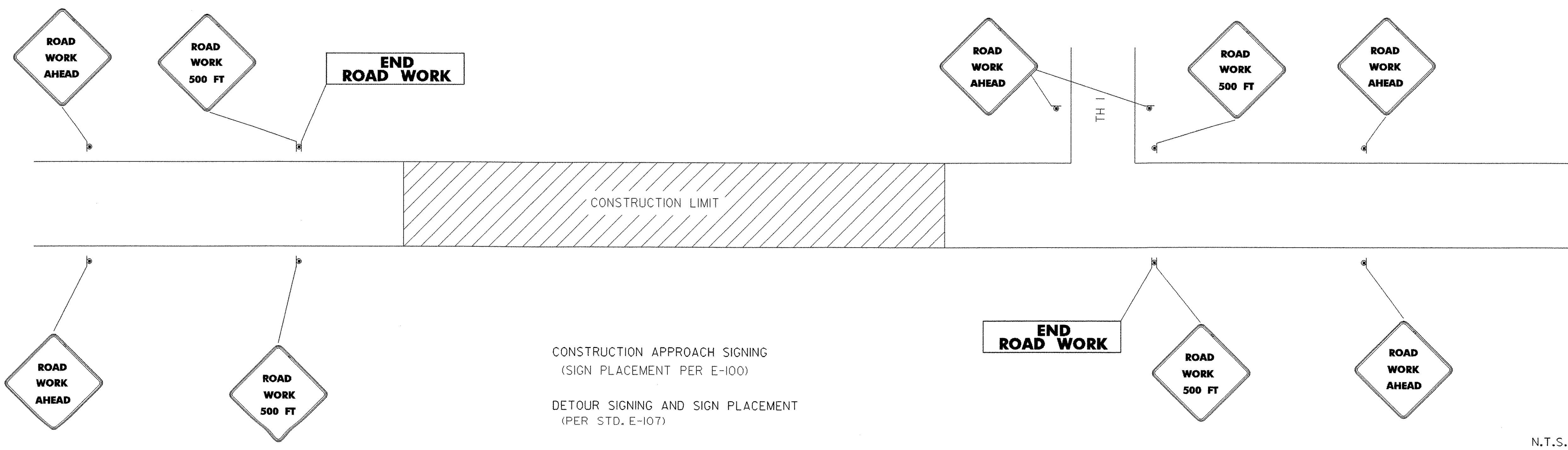
LANDSCAPE SLOPED GROUP CROSS-SECTION

PROJECT NAME:	WOODFORD
PROJECT NUMBER:	BHF 010-1(29)
FILE NAME:	84e039/structures/84e039erobdr.dgn
PROJECT LEADER:	M EVANS MONGEON
DESIGNED BY:	J BROWN
IPARM:	epsclspdet+4.1
PLOT DATE:	03-OCT-2005
DRAWN BY:	L GOLDSTEIN
CHECKED BY:	
SHEET	40 OF 106

NOT TO SCALE

TRAFFIC SIGN SUMMARY SHEET

MILEMARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS		NEW & SALVAGED SIGNS				EXISTING POST NO. OF POSTS	NEW SIGN POSTS																REMARKS	SIGN DETAIL			
		E A	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN		SALV TIS	FLANGED CHANNEL			SQUARE STEEL (in)			TUBULAR ALUMINUM Ø (in)			TUBULAR STEEL Ø (in)				W-SHAPE STEEL			DETAIL ON SHEET NUMBER	STD. SHEET NUMBER		
										lb/ft			lb/ft			lb/ft			FOUND- ATION	lb/ft				FTG. SIZE				WEIGHT	POST SIZE
										1.12	2.0	3.0	1.75	2.0	2.5	3.0	4.0	4.0 MOD		3.0	3.5	4.0	5.0						
63+00 LT			24"	30"	5.00			1			X												R2-1	E-142					
64+75 RT			30"	30"	6.25			1			X												VW-060	E-154					
68+00 LT			30"	30"	6.25			1			X												VW-060	E-154					
68+50 RT			30"	30"	6.25			1			X												W2-2M	E-155					
75+65 LT			24"	30"	5.00			1			X												VR-017	E-141					
76+30 LT			24"	30"	5.00			1			X												R2-1	E-142					



N.T.S.

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC & SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

TOTALS	SF	SF	EA.	SF																			
	33.75																						

PROJECT NAME: WOODFORD
PROJECT NUMBER: BHF 010-1(29)

FILE NAME: /84e039/structures/de039frm.dgn PLOT DATE: 03-OCT-2005
PROJECT LEADER: PORTALUPI DRAWN BY: GRAW
DESIGNED BY: CHECKED BY: EVANS-MONGEON
TRAFFIC SIGN SUMMARY HALF SHEET SHEET 43 OF 106

DE039TSS.1

SOIL CLASSIFICATION

AASHTO

A1	Gravel and Sand
A3	Fine Sand
A2	Silty or Clayey Gravel and Sand
A4	Silty Soil - Low Compressibility
A5	Silty Soil - Highly Compressible
A6	Clayey Soil - Low Compressibility
A7	Clayey Soil - Highly Compressible

ROCK QUALITY DESIGNATION

R.O.D. (%)	ROCK DESCRIPTION
<25	Very Poor
25 to 50	Poor
51 to 75	Fair
76 to 90	Good
>90	Excellent

SHEAR STRENGTH

UNDRAINED SHEAR STRENGTH IN P.S.F.	CONSISTENCY
<250	Very Soft
250-500	Soft
500-1000	Med. Stiff
1000-2000	Stiff
2000-4000	Very Stiff
>4000	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

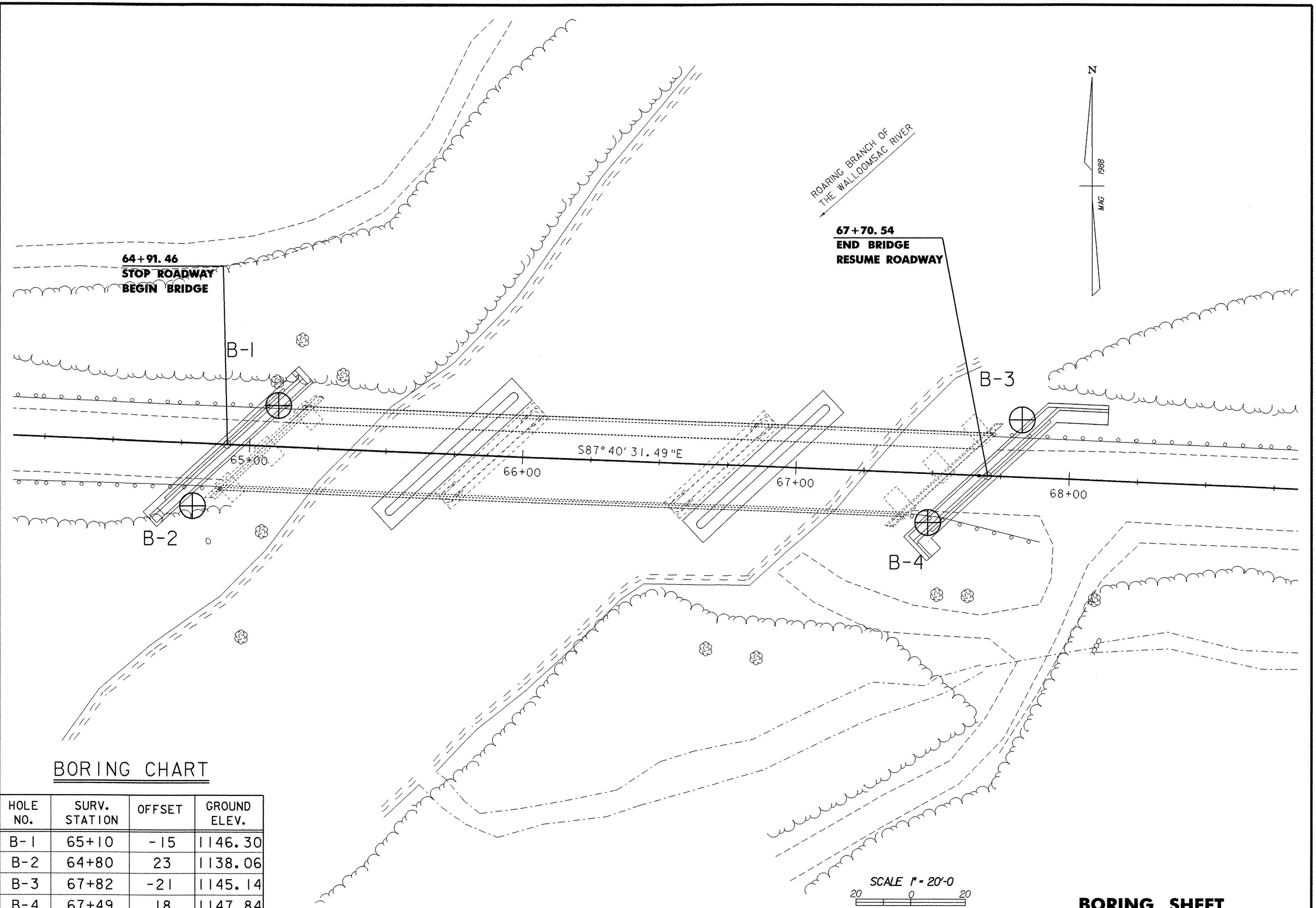
DENSITY (GRANULAR SOILS)		CONSISTENCY (COHESIVE SOILS)	
N	DESCRIPTIVE TERM	N	DESCRIPTIVE TERM
<5	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-24	Med. Dense	5-8	Med. Stiff
25-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		31-60	Hard
		>60	Very Hard

COMMONLY USED SYMBOLS

- ▽ Water Elevation
- ⊕ Standard Penetration Boring
- ⊕ Auger Boring
- ⊙ Rod Sounding
- S Sample
- N Standard Penetration Test
- Blow Count Per Foot For:
- 2" O. D. Sampler
- 1 3/8" I. D. Sampler
- Hammer Weight Of 140 Lbs.
- Hammer Fall Of 30"
- VS Field Vane Shear Test
- US Undisturbed Soil Sample
- B Blast
- DC Diamond Core
- MD Mud Drill
- WA Wash Ahead
- HSA Hollow Stem Auger
- AX Core Size 1 1/8"
- BX Core Size 1 3/8"
- NX Core Size 2 1/8"
- M Double Tube Core Barrel Used
- LL Liquid Limit
- PL Plastic Limit
- PI Plasticity Index
- NP Non Plastic
- w Moisture Content (Dry Wgt. Basis)
- D Dry
- M Moist
- MTW Moist To Wet
- W Wet
- Sat Saturated
- Bo Boulder
- Gr Gravel
- Sa Sand
- SI Silt
- Cl Clay
- HP Hardpan
- Le Ledge
- NLTD No Ledge To Depth
- CNPF Can Not Penetrate Further
- TLOB To Ledge Or Boulder
- NR No Recovery
- Rec. Recovery
- %Rec. Percent Recovery
- ROD Rock Quality Designation
- CBR California Bearing Ratio
- < Less Than
- > Greater Than
- R Refusal (N > 100)

COLOR

bk	Black	pnk	Pink
bl	Blue	pu	Purple
brn	Brown	rd	Red
dk	Dark	tn	Tan
gry	Gray	wh	White
gn	Green	yel	Yellow
lt	Light	mitc	Multicolored
or	Orange		



BORING CHART

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.
B-1	65+10	-15	1146.30
B-2	64+80	23	1138.06
B-3	67+82	-21	1145.14
B-4	67+49	18	1147.84

DEFINITIONS (AASHTO)

- BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.
- BOULDER** - A rock fragment with an average dimension > 12 inches.
- COBBLE** - Rock fragments with an average dimension between 3 and 12 inches.
- GRAVEL** - Rounded particles of rock < 3" and > 0.075" (#10 sieve).
- SAND** - Particles of rock < 0.075" (#10 sieve) and > 0.0025" (#200 sieve).
- SILT** - Soil < 0.0025" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.
- CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.
- VARVED** - Alternate layers of silt and clay.
- HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.
- MUCK** - Soft organic soil (containing > 10% organic material).
- MOISTURE CONTENT** - Weight of water divided by dry weight of soil.
- FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.
- STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.
- DIP** - Inclination of bed with a horizontal plane.

GENERAL NOTES

- The subsurface explorations shown herein were made between 10/29/1996 and 12/02/1996 by the Agency.
- Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
- Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
- Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
- Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
- Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

BORING SHEET

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOOMSAC			
BORING INFORMATION SHEET			
Designed By	M. EVANS-MONGEON	Drawn By	R. PELLETT
Checked By		Bridge Design Supervisor	A. PORTALUPI
		Date	
PROJECT	WOODFORD	PROJECT NO.	BHF 010-1 (29)
I.G.C. Info. /84e039/structures/de039bor.dgn			
Bridge Sheet No.		Sheet	44 of 106

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO.: B-1 SHEET 1 OF 1 DATE STARTED: 12/2/96 DATE COMPLETED: 0/0/0		PROJECT NAME: WOODFORD SITE NAME: BRIDGE #11 STATION: 65+10.00 GROUND EL.: 1146.30		PROJECT NUMBER: BHF 010-(129) SITE NO.: ROUTE 9 OFFSET: -15.00 G.W. DEPTH:		BORING CREW CREW CHIEF: MCGLYNN DRILLER: CHABOT E J LOGGER:		BORING RIG: TRUCK BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL	
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI		
5		No Rec., Boulders									
		BXDC, 7.0'-10.0', Rec. = 2.1'									
10		No Rec.	46								
		BXDC, 12.0'-15.0', Rec. = 1.6'									
15		No Rec.	46								
		BXDC, 17.0'-20.0', Rec. = 3.0', Boulders									
20		A-1-b, GrSa, br, MTW, Rec. = 0.4'	R	13.2	40.6	50	9.4				
		BXDC, 21.0'-25.0', Rec. = 1.5'									
25		A-1-b, GrSa, br, MTW, Rec. = 1.0'	R	11.3	35.8	56.8	7.4				
		BXDC, 26.5'-30.0', Rec. = 1.5'									
30		A-1-b, GrSa, br, MTW, Rec. = 0.9'	R	12.2	35.7	56.2	8.1				
		BXDC, 31.5'-35.0', Rec. = 1.6'									
35		A-1-b, GrSa, br, MTW, Rec. = 1.7'	R	12.4	45.8	46.6	7.6				
			Hole stopped @ 37.0'		in SaGr + Bo						
40											
45											

* BOTTOM OF FOOTING ABUT. 1 - 1132.00

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO.: B-2 SHEET 1 OF 1 DATE STARTED: 11/14/96 DATE COMPLETED: 11/21/96		PROJECT NAME: WOODFORD SITE NAME: BRIDGE #11 STATION: 64+80.00 GROUND EL.: 1138.06		PROJECT NUMBER: BHF 010-(129) SITE NO.: ROUTE 9 OFFSET: 23.00 G.W. DEPTH:		BORING CREW CREW CHIEF: MCGLYNN DRILLER: CHABOT E J LOGGER:		BORING RIG: TRUCK BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL	
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI		
5		BXDC, 0.0'-5.0', Rec. = 4.1'									
		BXDC, 5.0'-10.0', Rec. = 3.2'									
10		No Rec., Boulders	R								
		BXDC, 11.5'-14.0', Rec. = 2.1'									
15		No Rec., Boulders	R								
		BXDC, 16.0'-20.0', Rec. = 1.6'									
20		A-1-a, SaGr, br, MTW, Rec. = 0.4'	R	11.6	51.7	39.8	8.5				
		BXDC, 21.5'-25.0', Rec. = 1.5'									
25		A-1-a, SaGr, br, MTW, Rec. = 0.5'	R	16.3	67.5	24.4	8.1				
		BXDC, 27.0'-30.0', Rec. = 3.0'									
30		A-1-a, SaGr, br, MTW, Rec. = 0.5'	R	12.5	60.8	29.8	9.4				
		BXDC, 31.0'-35.0', Rec. = 1.7'									
35		A-1-b, SaGr, br, MTW, Rec. = 0.5'	R	9.3	49.4	34.9	15.7				
			Hole stopped @ 37.0'		in Gr, HP+ Bo						
40											
45											

* BOTTOM OF FOOTING ABUT. 1 - 1132.00

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO.: B-3 SHEET 1 OF 1 DATE STARTED: 0/0/0 DATE COMPLETED: 0/0/0		PROJECT NAME: WOODFORD SITE NAME: BRIDGE #11 STATION: 67+82.00 GROUND EL.: 1145.14		PROJECT NUMBER: BHF 010-(129) SITE NO.: ROUTE 9 OFFSET: -21.00 G.W. DEPTH:		BORING CREW CREW CHIEF: MCGLYNN DRILLER: CHABOT E J LOGGER:		BORING RIG: TRUCK BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL	
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI		
5		BXDC, 3.0'-6.0', No Rec., Boulders									
10		No Rec., Gravelly Material with Boulders	41								
		BXDC, 12.0'-14.0', Boulders									
15		A-1-a, SaGr, br, Wet, Rec. = 0.4'	39	15.9	71.7	23.7	4.6				
		BXDC, 18.0'-20.0', Rec. = 1.4', Boulders									
20		A-1-a, SaGr, br, MTW, Rec. = 1.1'	29	11.7	56.6	33.3	10.1				
		BXDC, 22.0'-24.0', Rec. = 1.5', Boulders									
25		A-1-a, SaGr, br, MTW, Rec. = 0.5'	R	10.8	55	37.1	7.9				
		BXDC, 27.0'-29.0', Rec. = 1.6', Boulders									
30		A-1-a, SaGr, br, MTW, Rec. = 0.5'	R	12.6	53.3	38.3	8.4				
		BXDC, 32.0'-33.5', Rec. = 1.1', Boulders									
35		A-1-a, SaGr, br, MTW, Rec. = 0.4'	R	14.7	59.3	33.3	7.4				
			Hole stopped @ 37.0'		in Sa, Gr + Bo						
40											
45											

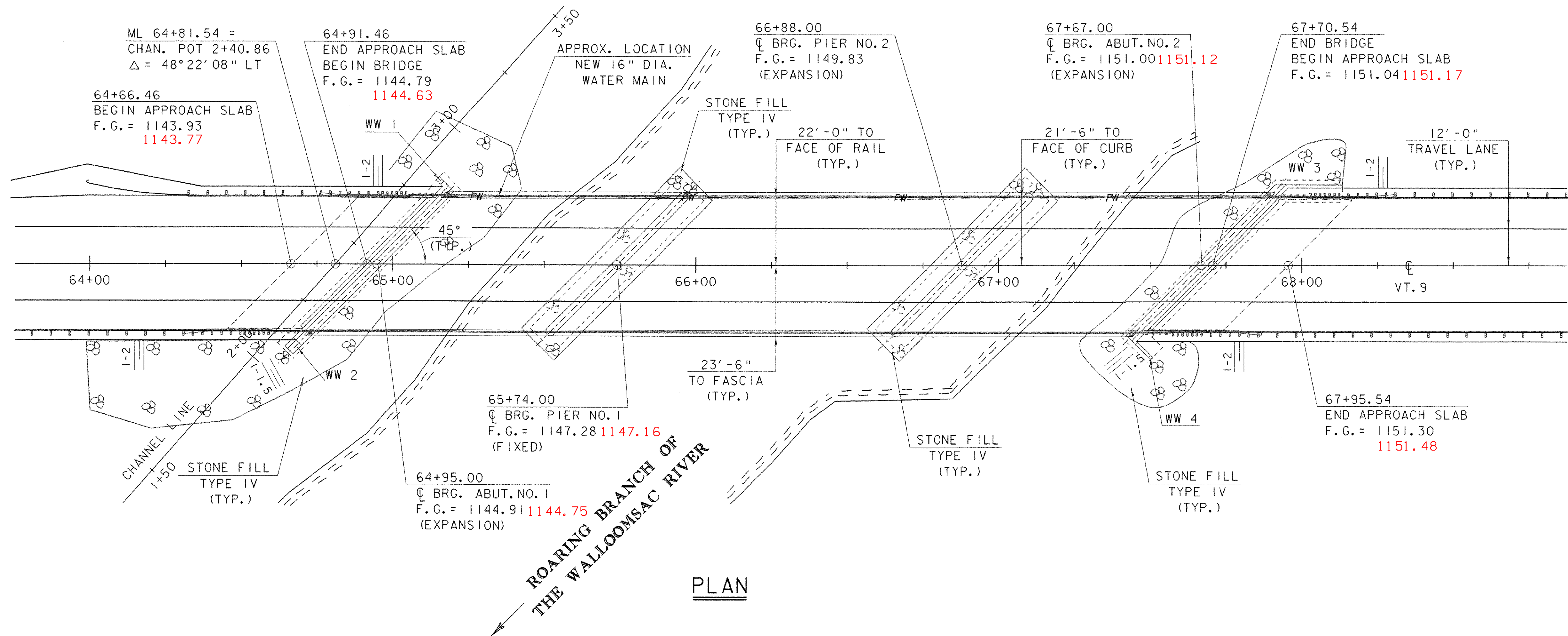
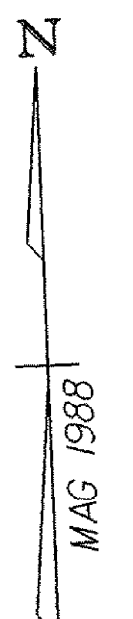
* BOTTOM OF FOOTING ABUT. 2 - 1138.50

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION		HOLE NO.: B-4 SHEET 1 OF 1 DATE STARTED: 10/29/96 DATE COMPLETED: 11/1/96		PROJECT NAME: WOODFORD SITE NAME: BRIDGE #11 STATION: 67+49.00 GROUND EL.: 1147.84		PROJECT NUMBER: BHF 010-(129) SITE NO.: ROUTE 9 OFFSET: 18.00 G.W. DEPTH:		BORING CREW CREW CHIEF: MCGLYNN DRILLER: CHABOT E J LOGGER:		BORING RIG: TRUCK BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL	
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI		
5		No Rec., On Boulder	R								
		BXDC, 5.2'-7.4', Boulders									
10		A-1-a, SaGr, br, Moist, Rec. = 0.5'	22	16.7	73.1	20.4	6.5				
15		A-1-a, Gr, br, Moist, Rec. = 0.2'	R	N/A	87.2	10.2	2.6				
		No Rec., Boulders									
20		A-1-b, SaGr, br, Wet, Rec. = 0.8'	49	12.8	46.9	37.2	15.9				
25		A-1-a, SaGr, br, MTW, Rec. = 1.2'	39	11.6	52	33.5	14.5				
30		A-1-a, SaGr, br, Moist, Rec. = 1.4'	72	10.4	53.9	31.6	14.5				
35		A-1-a, SaGr, br, Moist, Rec. = 0.6'	R	9.6	51.2	38	10.8				
40		No Rec., Boulders	R								
		BXDC, 40.4'-43.0', Boulders									
			Hole stopped @ 43.0'								
45											

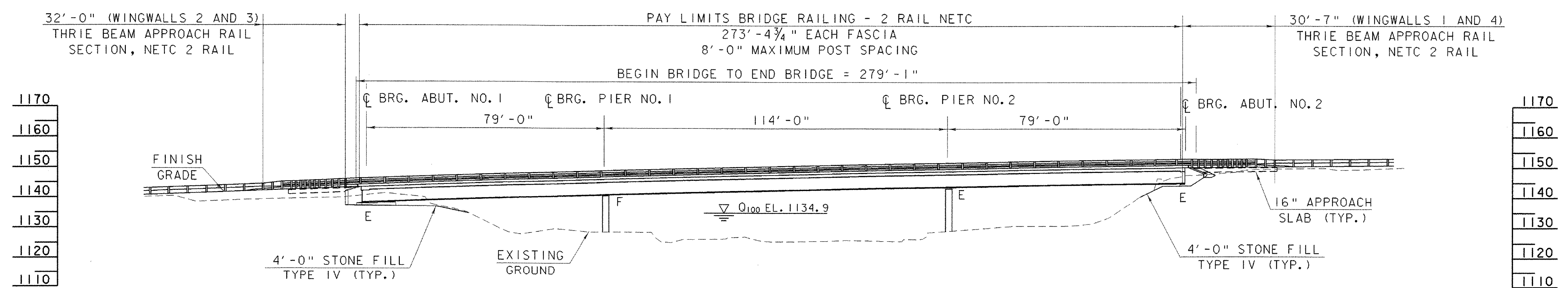
* BOTTOM OF FOOTING ABUT. 2 - 1138.50

BORING LOG SHEET

SURVEYED BY: J. TOUCHETTE DATE: 04/97
 DRAWN BY: C.C. BENDA
 SQUAD LEADER: C.C. BENDA
 DESIGN FILE NO.: /matres/84e039/me039bor.dgn
 IPARM FILE: de039bo2.i DATE PLOTTED: 03-OCT-2005
 PROJ. NAME: WOODFORD
 PROJ. NO.: BHF 010-(129)
 SHEET 45 OF 106 SHEETS



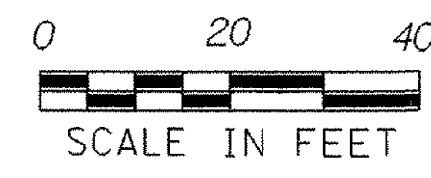
PLAN



ELEVATION

PLAN AND ELEVATION SHEET

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/structures/se039pe.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039pe.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 48 OF 106
PLAN AND ELEVATION	

GENERAL NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SIXTEENTH EDITION, AND ITS LATEST REVISIONS.
2. BRIDGE IS DESIGNED FOR HS 25 LIVE LOAD WITH NO ALLOWANCE FOR FUTURE PAVEMENT.
3. THE CONTRACTOR SHALL ERECT, MAINTAIN, REMOVE AND/OR RESET AS REQUIRED ALL ON PROJECT SIGNS AND BARRICADES. THE COST OF ON-PROJECT SIGNS AND BARRICADES REQUIRED SHALL BE PAID FOR UNDER THE ITEM 641.10, TRAFFIC CONTROL.
4. TWO-WAY TRAFFIC WILL BE MAINTAINED ON THE TEMPORARY STRUCTURE, ALTHOUGH DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR MAY, AT TIMES, USE ONE-WAY TRAFFIC WITH FLAGGERS. THE TEMPORARY BRIDGE AND TEMPORARY DETOUR SHALL BE MAINTAINED IN GOOD CONDITION AT ALL TIMES, PAYMENT FOR THIS WORK WILL BE UNDER ITEM 528.11, TWO-WAY TEMPORARY BRIDGE.
5. ACCESS TO ALL DRIVES WILL BE MAINTAINED AT ALL TIMES, DURING THE CONSTRUCTION OF THIS PROJECT.
6. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F UNLESS OTHERWISE NOTED.
7. THE STONE FILL TYPE IV UNDER THE BRIDGE SHALL BE PLACED BEFORE THE BEAMS ARE SET. AS MUCH OF THE EXISTING STONE FILL AROUND THE ABUTMENTS AS POSSIBLE SHALL BE RETAINED.
8. THE FOLLOWING TABLE OF ALLOWABLE STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

STRUCTURAL STEEL, AASHTO M270/M270 GRADE 50W	
F _y = 50,000 PSI	
CONCRETE, CLASS A (QA/QC):	f'c = 4,000 PSI f _c = 1,600 PSI
CONCRETE, HIGH PERFORMANCE CLASS A:	f'c = 4,000 PSI f _c = 1,600 PSI
CONCRETE, HIGH PERFORMANCE CLASS B:	f'c = 3,500 PSI f _c = 1,400 PSI
REINFORCING STEEL:	Ft 24,000 PSI GRADE 60
SOIL: UNIT WEIGHT	140 PCF
FOOTING PRESSURE DESIGN:	
ABUTMENT NO. 1	6.2 KSF
PIER NO. 1	3.1 KSF
PIER NO. 2	3.1 KSF
ABUTMENT NO. 2	6.2 KSF
9. TACK COAT: EMULSIFIED ASPHALT IS TO BE APPLIED AT A RATE OF 0.015 GAL/SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.
10. THE BRIDGE PLAQUE AND BENCH MARK SHALL BE FURNISHED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN ON THE PLANS. ALL COSTS SHALL BE INCLUDED IN ITEM 501.25, CONCRETE CLASS HPC-B.
11. THE ITEM 529.15 REMOVAL OF STRUCTURE SHALL CONSIST OF REMOVING THE FOLLOWING PARTS OF THE EXISTING STRUCTURE. THE EXISTING SUPERSTRUCTURE SHALL BE REMOVED IN ITS ENTIRETY. THE TWO PIERS SHALL ALSO BE REMOVED, DOWN TO STREAMBED ELEVATION. THE WEST ABUTMENT SHALL BE REMOVED ABOVE ELEVATION 1135.00. THE EAST ABUTMENT SHALL BE REMOVED ABOVE ELEVATION 1139.00.
12. THE EXISTING STRUCTURAL STEEL TO BE REMOVED UNDER THE ITEM 529.15 "REMOVAL OF STRUCTURE" IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. ALL STEEL REMOVED UNDER THIS ITEM IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR MAY DISPENSE OF IT OR RETAIN IT FOR FUTURE USE. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.
13. PAYMENT FOR REMOVAL OF EXISTING BITUMINOUS CONCRETE PAVEMENT ON THE BRIDGE SHALL BE MADE UNDER THE ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT". THE MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY AT AN OFF-SITE LOCATION.
14. PAYMENT FOR REMOVING THE PAVEMENT THAT IS USED ON THE TEMPORARY DETOUR WILL BE MADE UNDER ITEM 203.28, EXCAVATION OF SURFACES AND PAVEMENTS.

CONCRETE

15. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL WIDTH OF THE JOINT. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
16. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
17. JOINTS AND SCOREMARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
18. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
19. REINFORCING PLACEMENT TOLERANCES SHALL BE:

SPACING ± 1"
CLEARANCE ± ¼"
20. ALL REINFORCING STEEL IN THE DECK, CURBS, AND THE TOPS OF THE BACKWALLS, SHALL BE EPOXY COATED AND PAID AS 507.17, EPOXY COATED REINFORCING STEEL. EPOXY COATED REINFORCING STEEL IS DESIGNATED IN REINFORCING STEEL SCHEDULE WITH A PREFIX OF "E".
21. MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO INCHES (2") ALONG THE BACK FACES OF WALLS AGAINST EARTH, TWO AND ONE-HALF INCHES (2 ½") ALONG THE TOP SURFACE OF THE DECK, ONE AND ONE-HALF INCHES (1 ½") ALONG THE BOTTOM SURFACE OF THE DECK AND THREE INCHES (3") ELSEWHERE, UNLESS OTHERWISE NOTED.
22. NO CONCRETE IN THE ABUTMENTS OR WINGWALLS SHALL BE PLACED ABOVE THE BRIDGE SEAT ELEVATIONS UNTIL THE BEAMS/GIRDERS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED.
23. FOR BRIDGE DECK POURS, THE MAXIMUM TIME LIMIT FOR ANY COMBINATION OF POURS DONE IN ANY ONE DAY SHALL BE EIGHT HOURS. THERE SHALL BE A MINIMUM OF 96 HOURS BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF OTHER ADJACENT POURS. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END OF THE BRIDGE. THE SEQUENCE OF DECK POURS SHALL BE AS SHOWN ON SHEET 51.
24. ALL SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, HIGH PERFORMANCE CLASS B UNLESS OTHERWISE NOTED.
25. THE DECK SHALL BE CONCRETE, CLASS A QC/QA.
26. THE CURB SHALL BE CONCRETE, HIGH PERFORMANCE CLASS A.
27. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL, OTHER BRIDGE SEAT AREAS SHALL BE SLOPED ¼" PER FOOT TOWARDS MID-SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
28. NO TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28 DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
29. WATER REPELLENT (MOD. SILANE) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP BEADS.

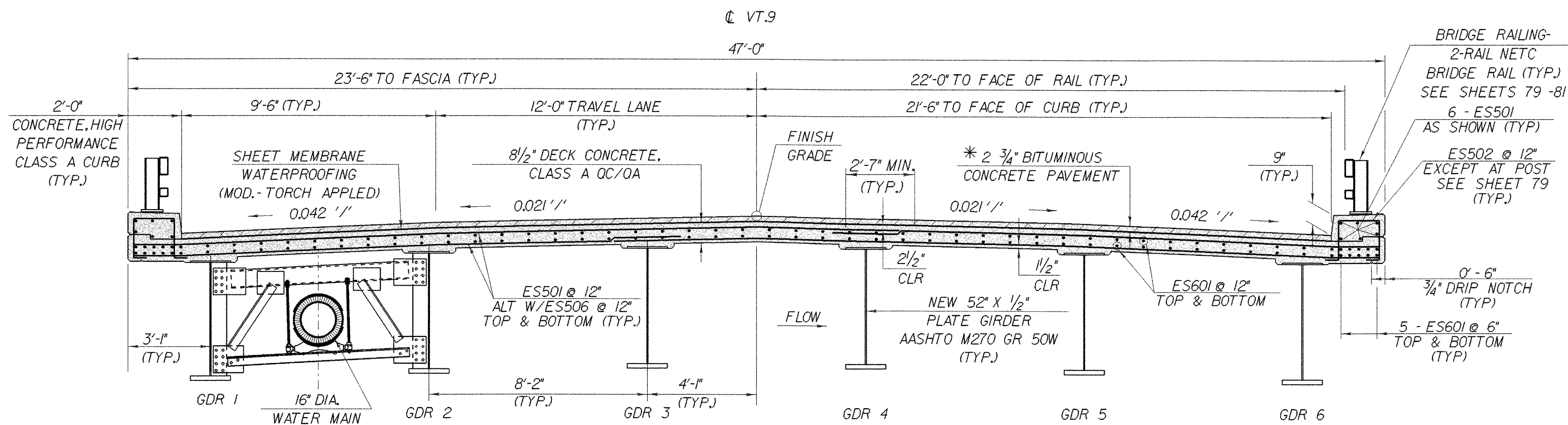
STRUCTURAL STEEL

30. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
31. ITEM 506.55 - STRUCTURAL STEEL, PLATE GIRDER, SHALL INCLUDE THE PLATE GIRDERS, DOWNSPOUTS, CONNECTION PLATES, CROSSFRAMES AND BEARING STIFFENERS, ALONG WITH ALL REQUIRED FASTNERS.
32. SHEAR CONNECTORS SHALL BE FIELD WELDED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT AND SHALL BE PAID AS ITEM 508.15, SHEAR CONNECTORS.
33. THE ENDS OF THE GIRDERS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
34. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
35. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF VERMONT SPECIFICATION 506.10.
36. ANY HOLES IN THE WEBS OF THE FASCIA BEAMS/GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH VERMONT SPECIFICATION 506.19.

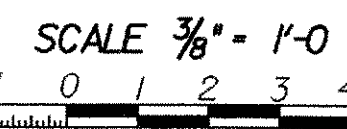
37. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER ASTM DESIGNATION A-325 TYPE III BOLTS IN 15/16" DIAMETER HOLES.
38. THE DESIGN OF THE FLEMING BRACKETS OR SIMILAR FALSEWORK WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE PLACED AT A MAXIMUM SPACING OF 4'-0".
39. AFTER THE SUPERSTRUCTURE HAS BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE BEAMS/GIRDERS, AS DIRECTED BY THE RESIDENT ENGINEER, FOR USE IN DETERMINING THE FINISHED GRADE.
40. ALL STRUCTURAL STEEL INCLUDING GIRDERS, CROSSFRAMES AND CONNECTION PLATES, WITHIN A DISTANCE OF 10'-0" FROM THE EXPANSION END OF EACH GIRDER, WILL BE COATED WITH A PROTECTIVE PAINT SYSTEM AS PER VT SPECIFICATION 513. THE FINAL COLOR SHALL BE DARK BROWN, TO BLEND WITH THE COLOR OF THE WEATHERING STEEL. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEMS 513.25 AND 513.40, "STRUCTURAL PAINTING, SHOP APPLIED", AND "SURFACE PREPARATION".

PROJECT NAME: WOODFORD
PROJECT NUMBER: BHF 010-1(29)

FILE NAME: se039gen.xls	PLOT DATE: 8/3/2005
PROJECT LEADER: A. Portalupi	DRAWN BY: R. PELLETT
DESIGNED BY: EVANS-MONGEON	CHECKED BY: M.E.M
GENERAL NOTES SHEET #1	SHEET 49 OF 106



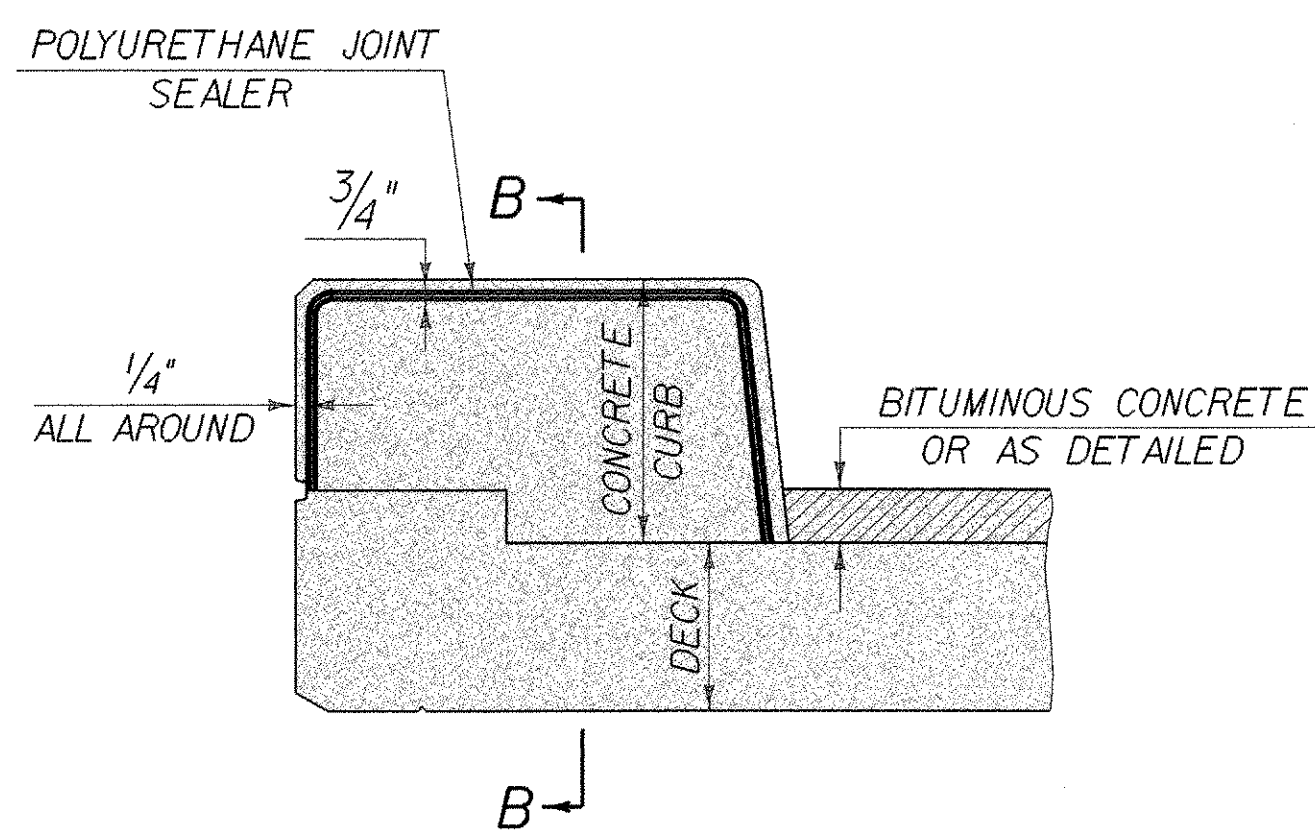
BRIDGE TYPICAL SECTION



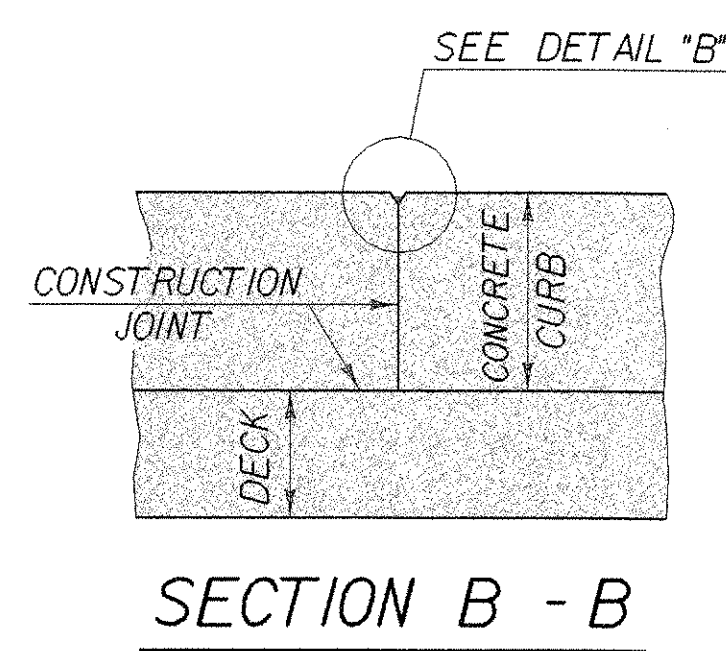
* (SECOND LIFT: 1/2" TYPE III OR IV
FIRST LIFT: 1/4" TYPE III OR IV)

NOTE:

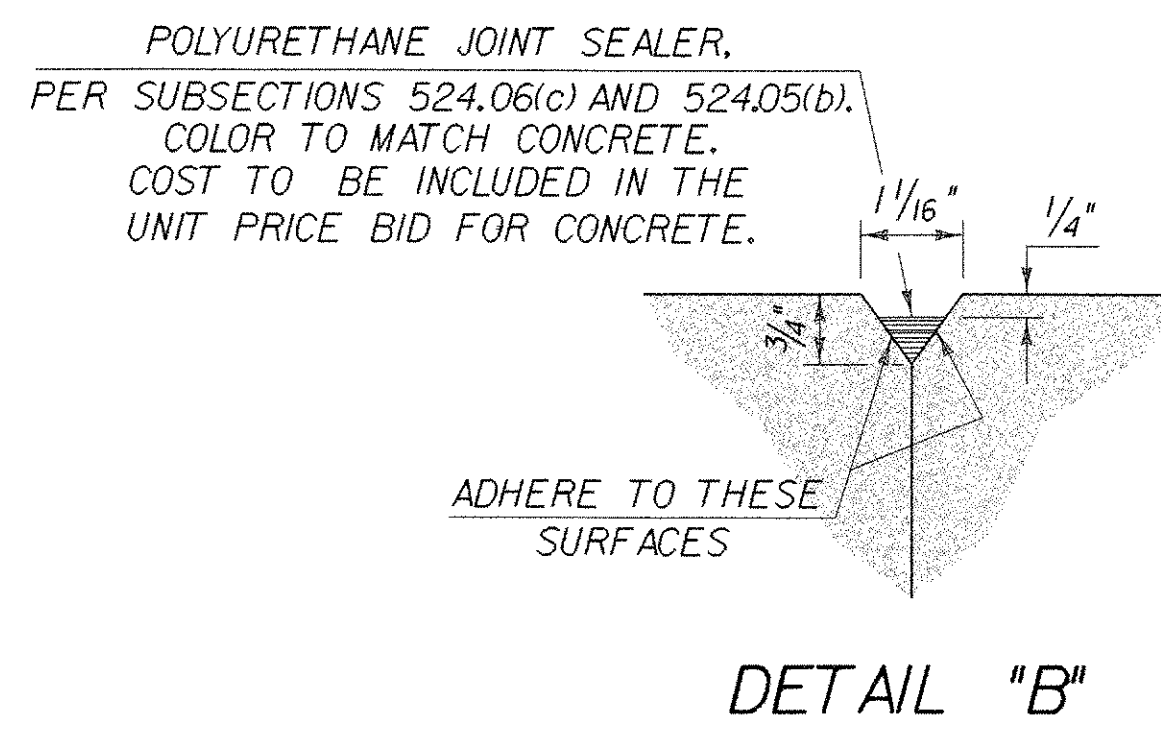
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.



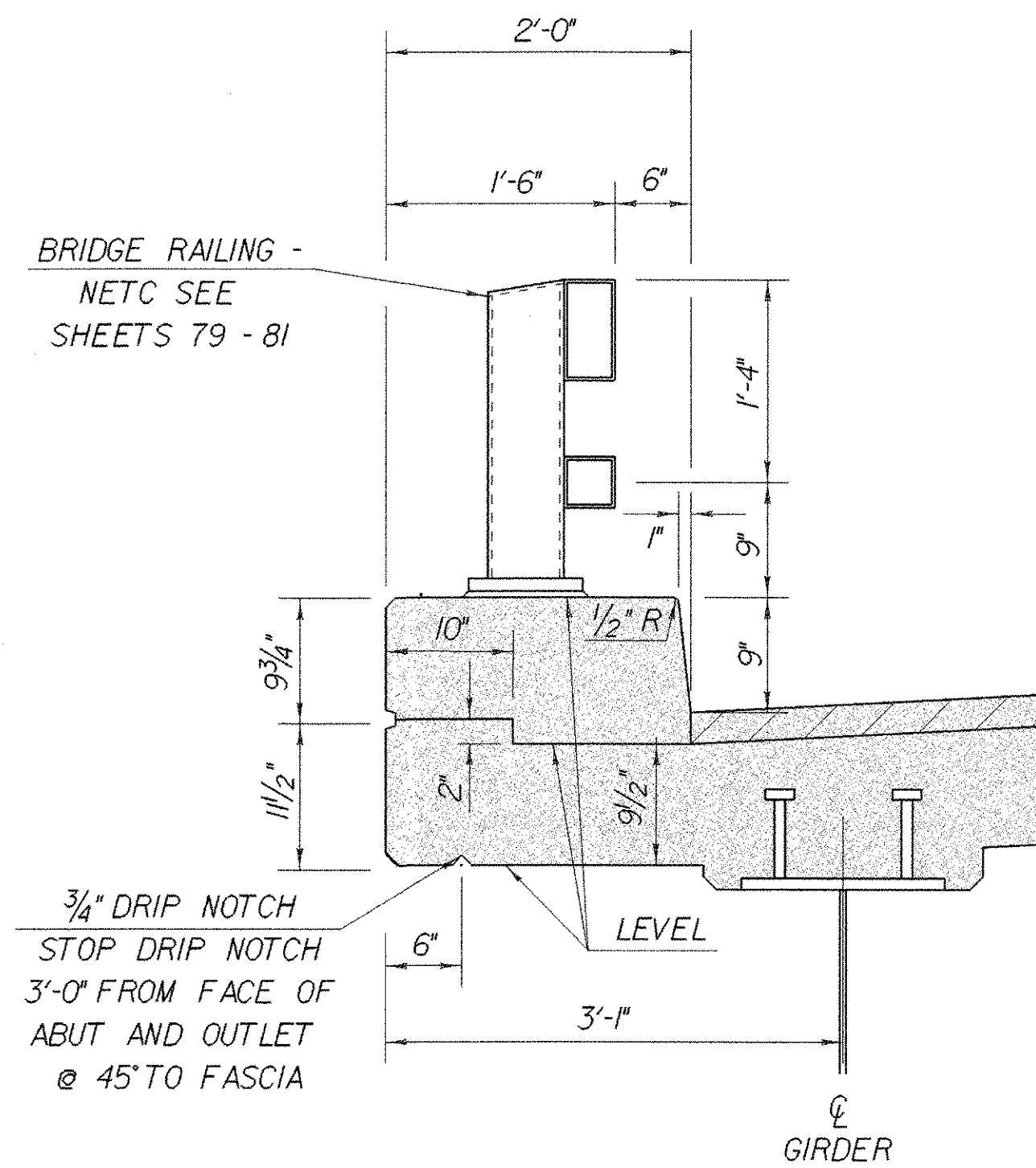
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT



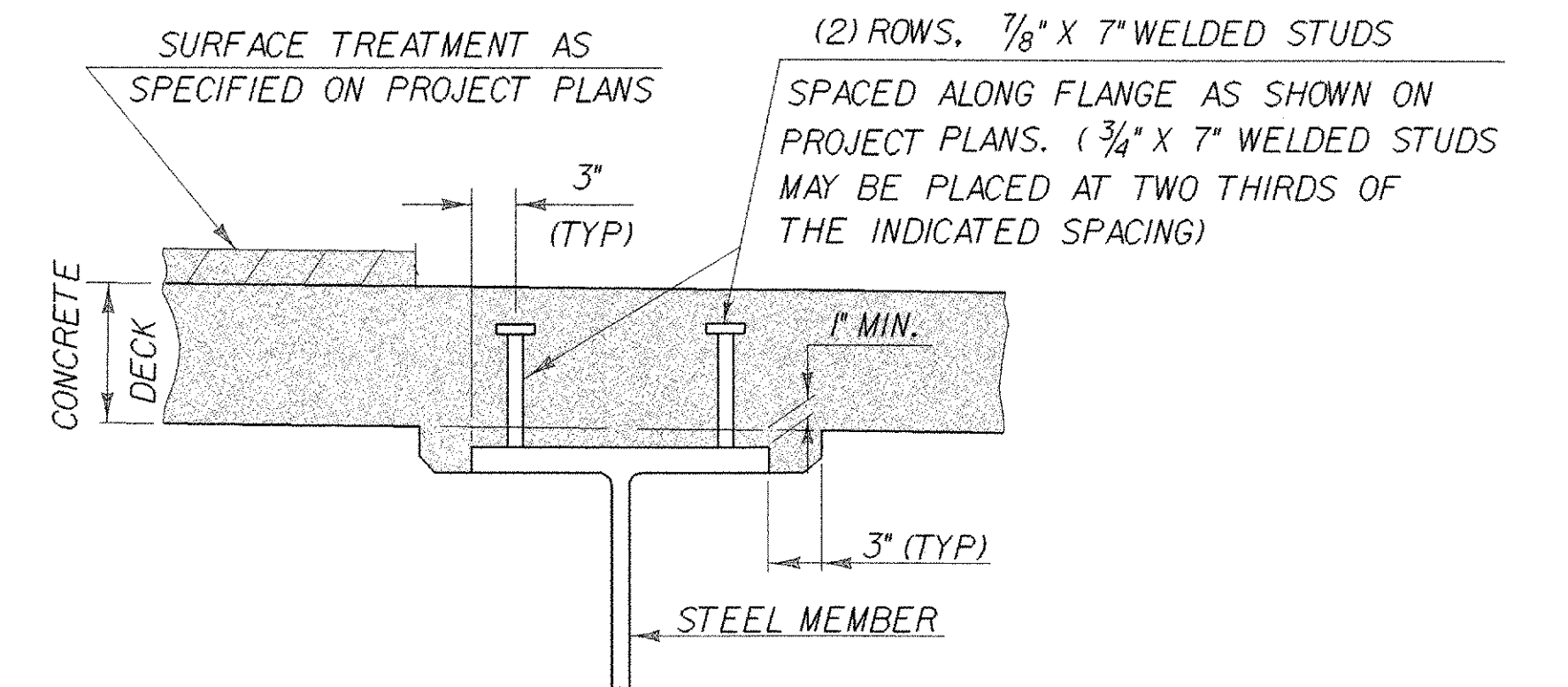
NOTES: 1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 15'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.



DETAIL "B"

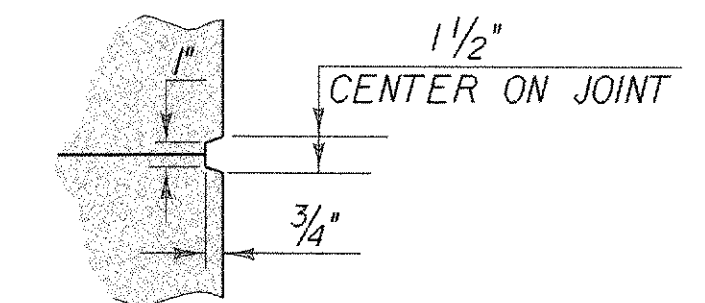


CURB SECTION
SCALE: 2" = 1'-0"



HAUNCH AND SHEAR CONNECTOR DETAILS

SCALE: 1" = 1'-0"

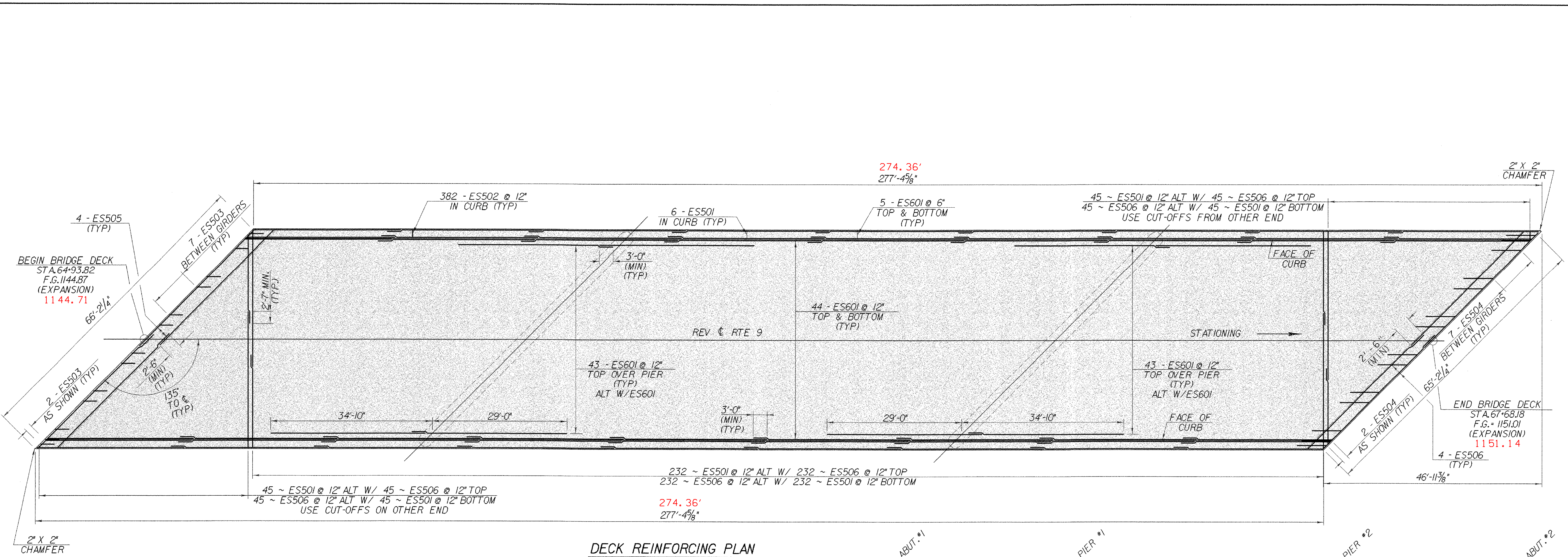


SCORE MARK DETAIL

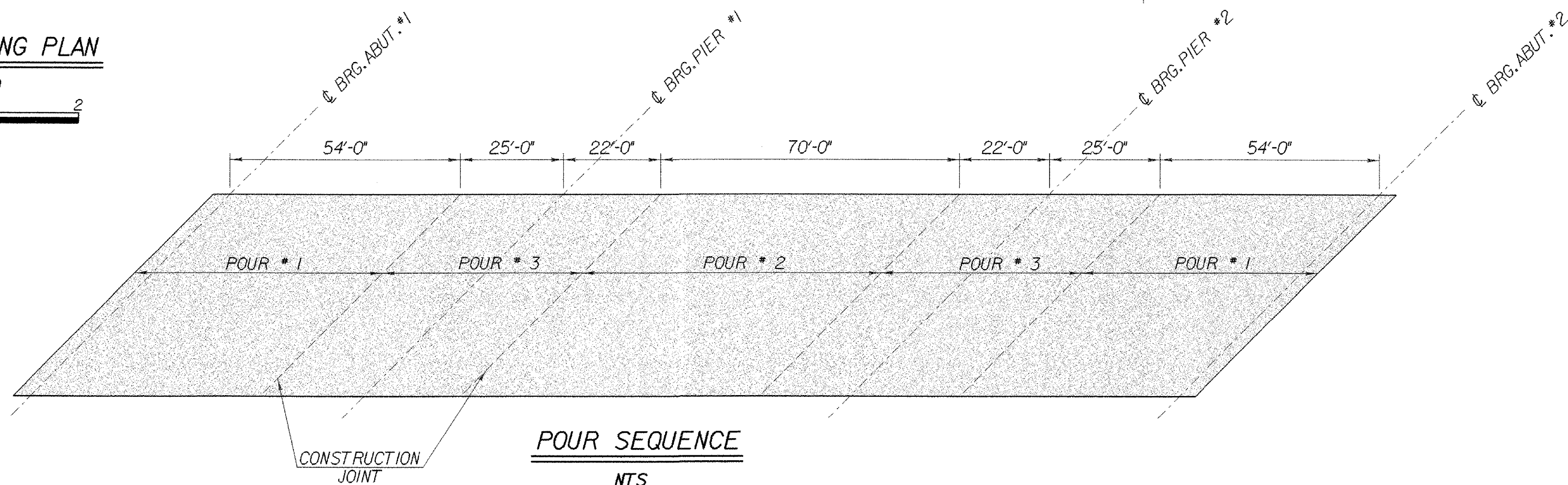
DECK TYPICAL SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log. Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH			
DECK TYPICAL AND DETAILS			
Designed By	M.EVANS-MONGEON	Drawn By	R.PELLETT
Checked By	M.EVANS-MONGEON	Bridge Design Supervisor	A.PORTALUPI
PROJECT	WOODFORD	PROJECT NO.	BHF 010-(129)
I.G.C. Info.	/84e039/se039sup.dgn		se039dck1
Bridge Sheet No.		Sheet 50	of 106



DECK REINFORCING PLAN

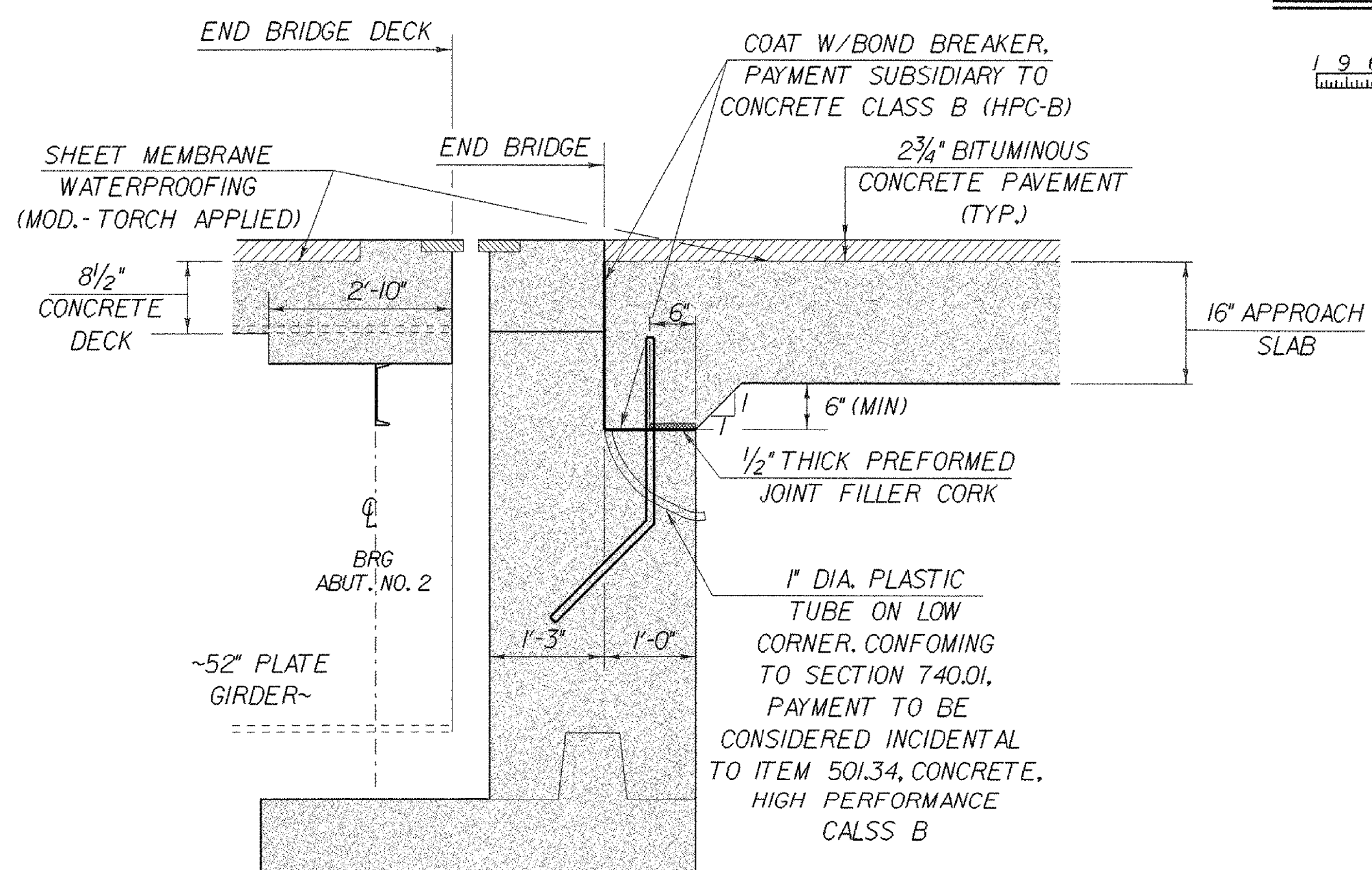


NOTES

1. IF APPROVED BY THE ENGINEER, BOTH POUR NO. 1 SECTIONS AND/OR BOTH POUR NO. 3 SECTIONS MAY BE POURED THE SAME DAY, PROVIDED THAT THE MAXIMUM TIME SPAN OF THE POUR IS EIGHT HOURS. THE INDICATED POURING SEQUENCE SHALL BE FOLLOWED AND A RETARDING ADMIXTURE USED SO THAT THE DECK CONCRETE WILL NOT SET UP UNTIL ALL THE POUR HAS BEEN MADE. THE RETARDING ADMIXTURE SHALL BE INCIDENTAL TO ITEM 501.221, CONCRETE, CLASS A QC/OA.
2. TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINTS, AS SHOWN ON THIS SHEET, SHALL BE USED BETWEEN ADJACENT DECK POURS.
3. ALL INDIVIDUAL DECK POURS SHALL START FROM THE LOW END (RELATIVE TO GRADE).
4. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS BETWEEN POURS.
5. ANY POURING SEQUENCE OTHER THAN INDICATED SHALL BE SUBMITTED, IN WRITING, TO THE STRUCTURES ENGINEER FOR APPROVAL.

DECK PLAN SHEET

PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /84e039/se039sup.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039dre.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: MEM
SQUAD LEADER: PORTALUPI	SHEET: 51 OF 106

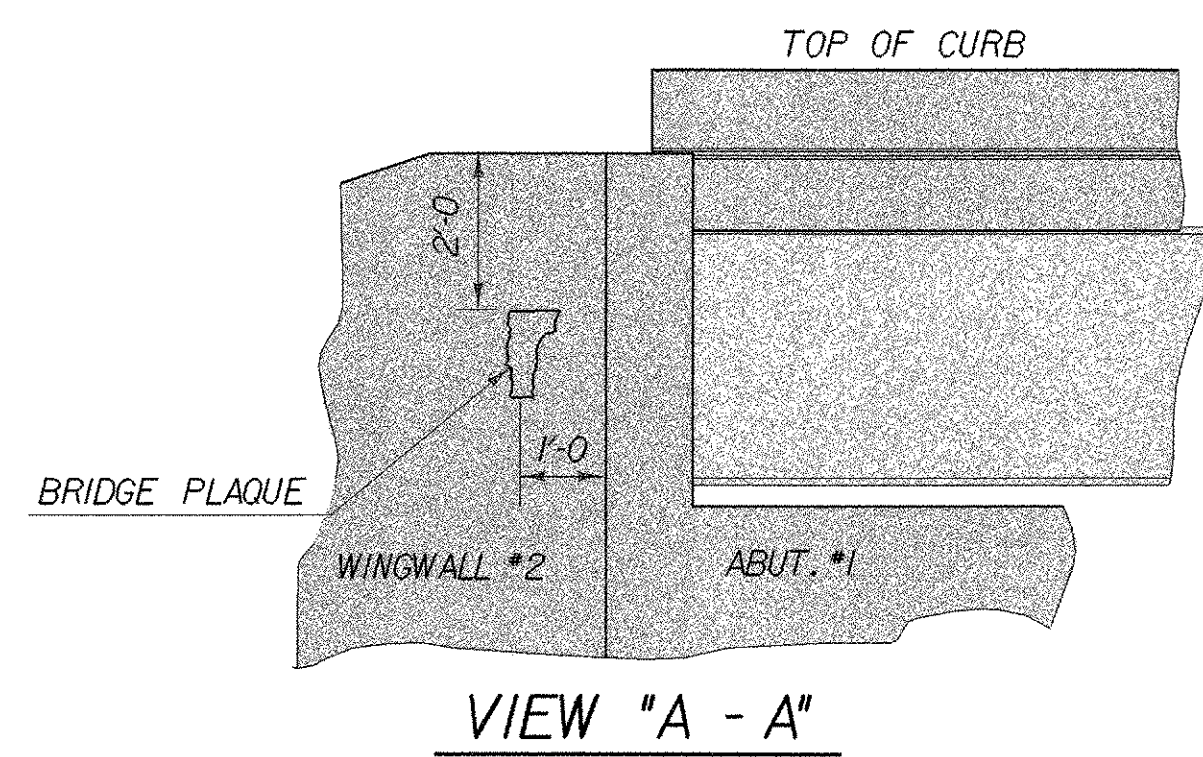
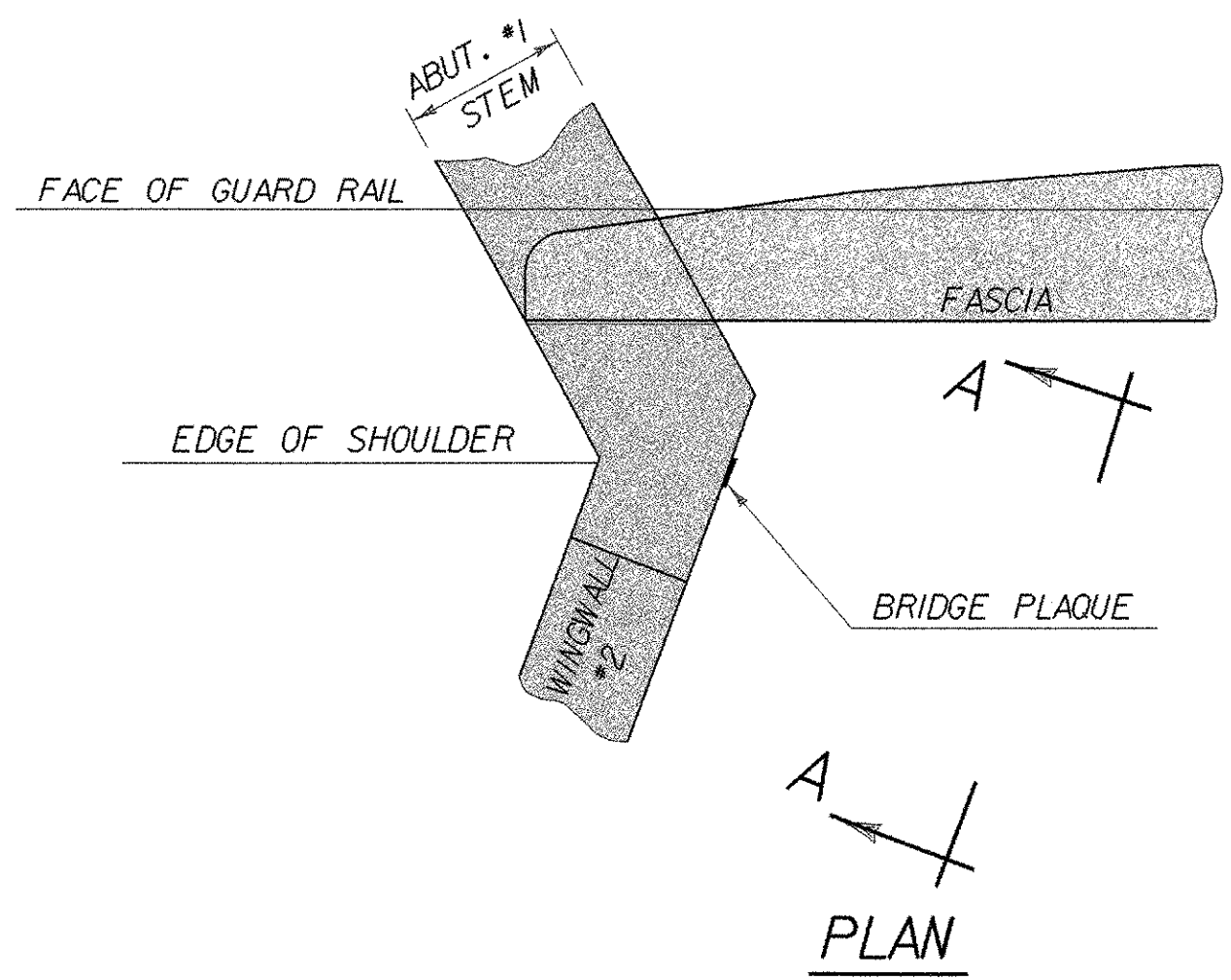


**END DETAIL @ ABUTMENT
NORMAL TO BEARING**

SCALE: 3/4\"/>

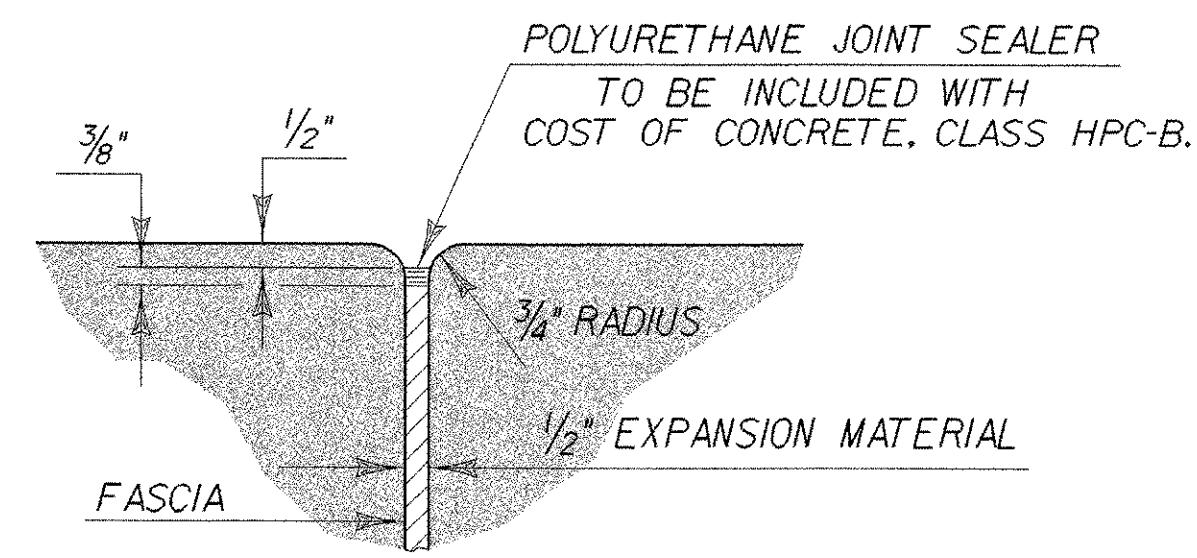
FOR ADDITIONAL DETAIL
AND REINFORCING
SEE SHEET 63
EXPANSION JOINT DETAIL

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

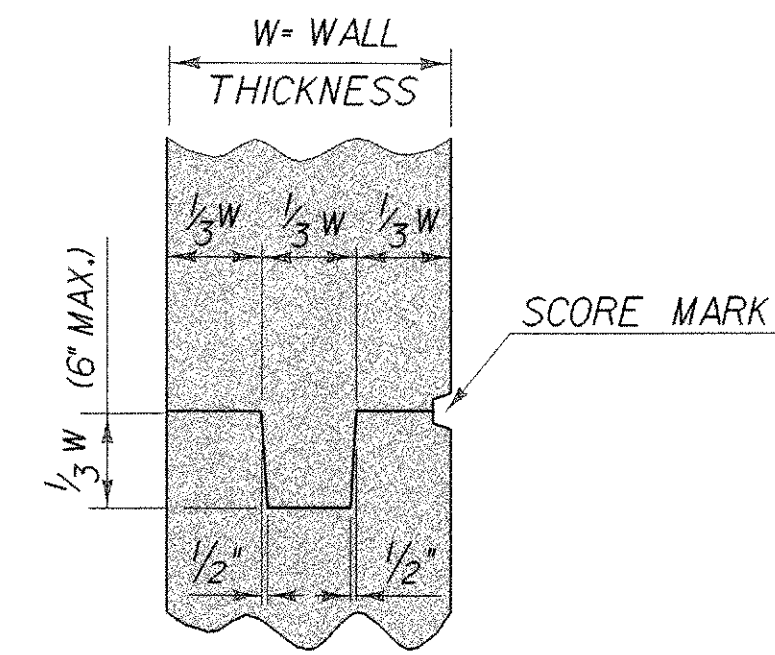


LOCATE BRIDGE PLAQUE

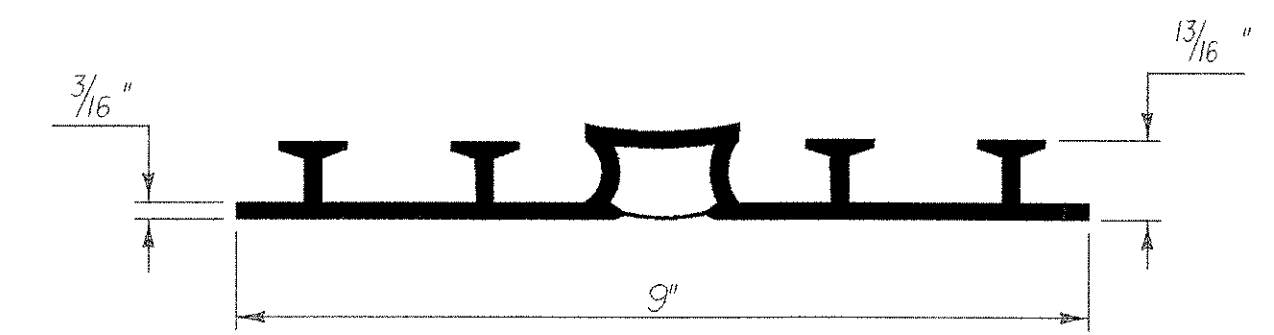
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT #1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.



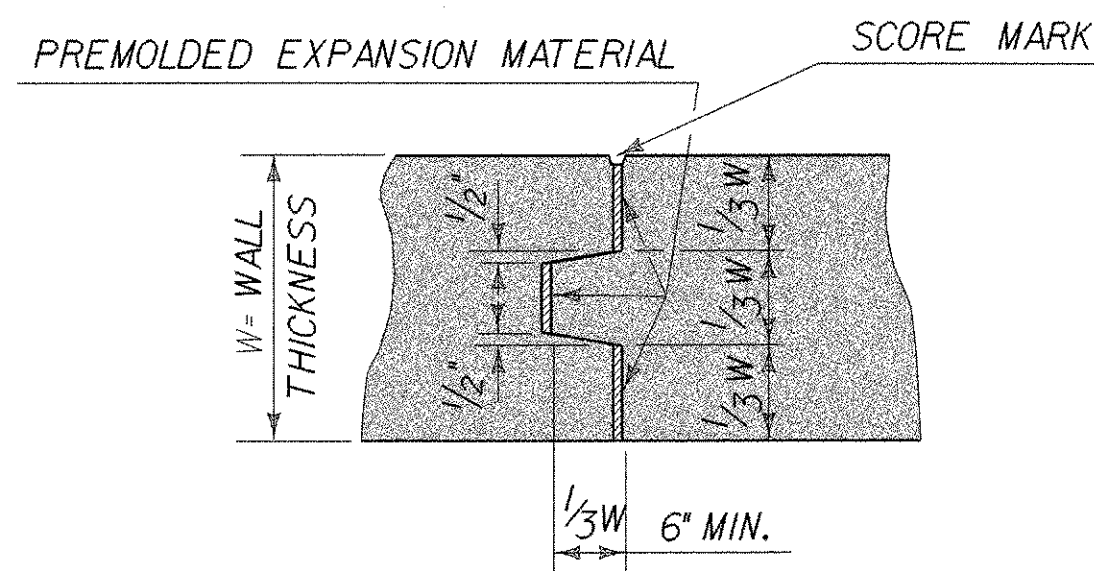
JOINT BETWEEN FASCIA
AND WINGWALL



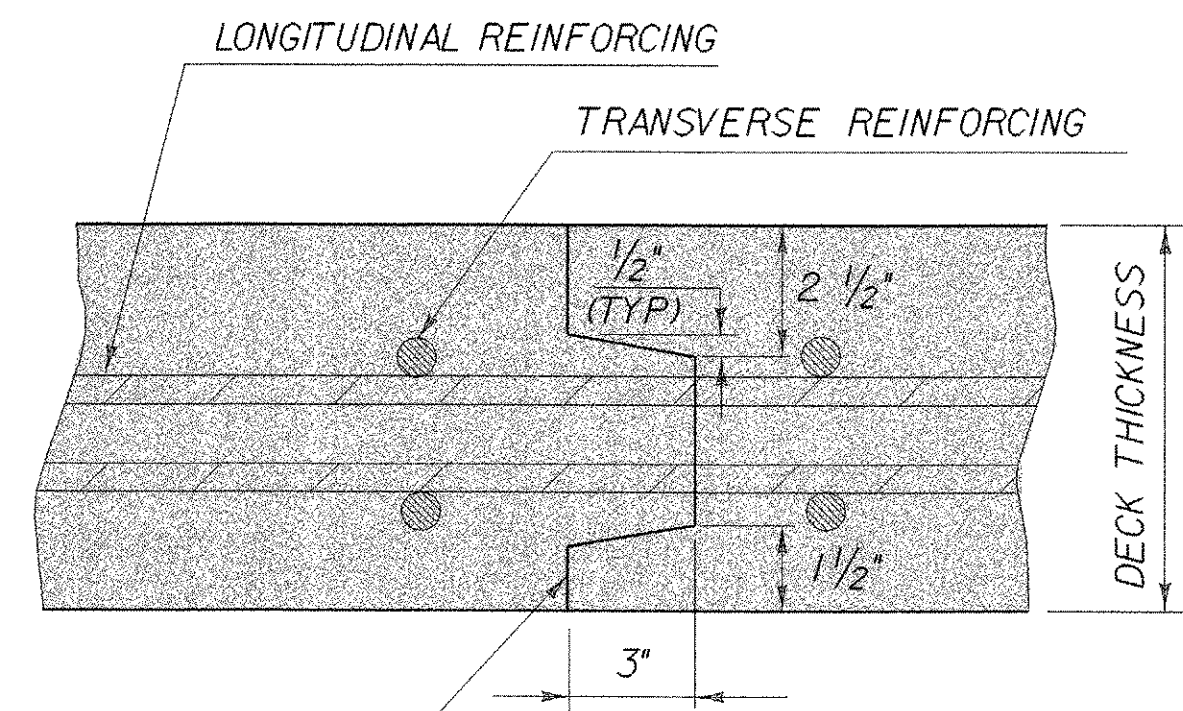
TYPICAL CONCRETE CONSTRUCTION JOINT



P.V.C. WATERSTOP FOR EXPANSION JOINTS
THE COSTS FOR P.V.C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.



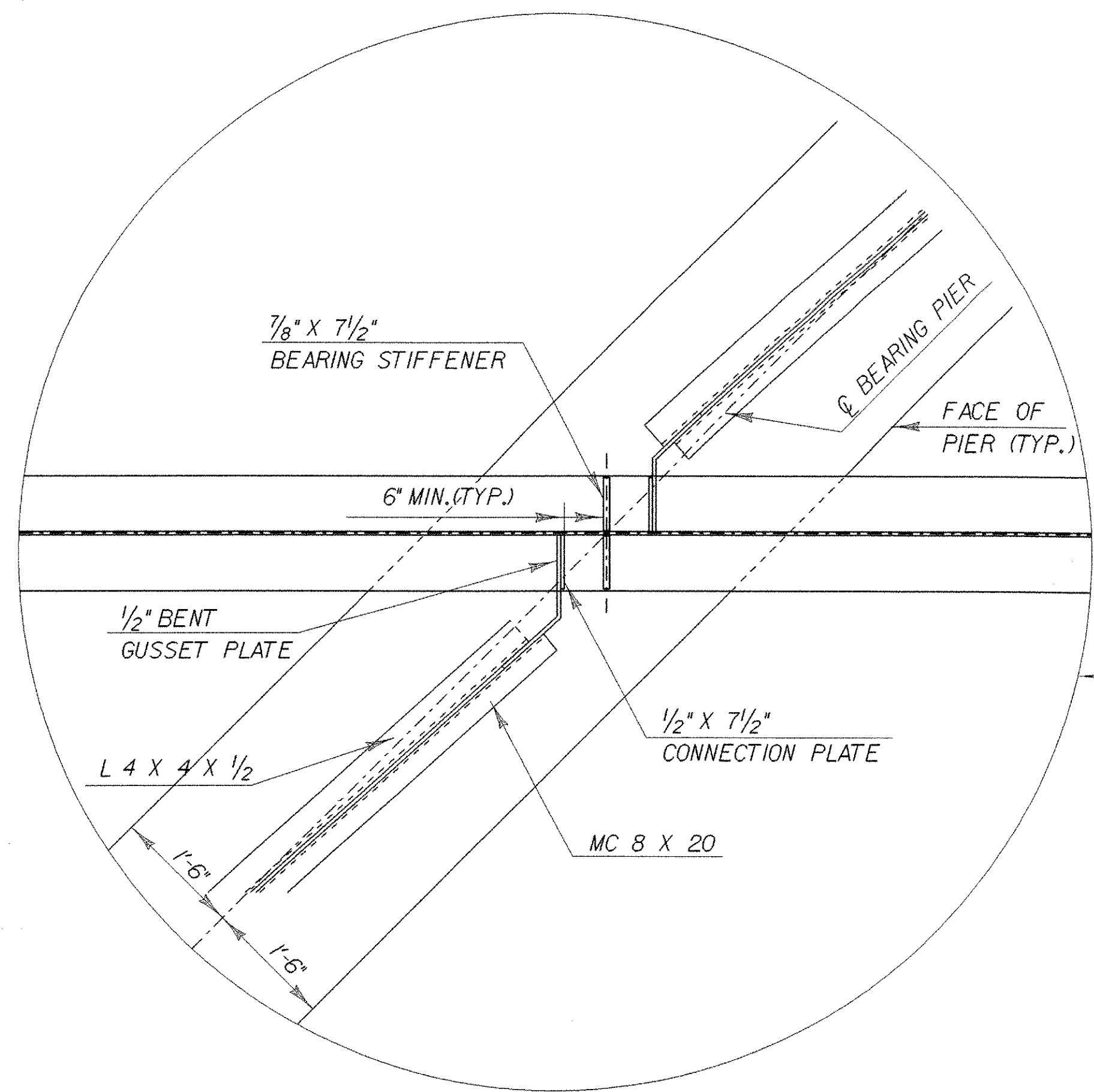
TYPICAL CONCRETE EXPANSION JOINT



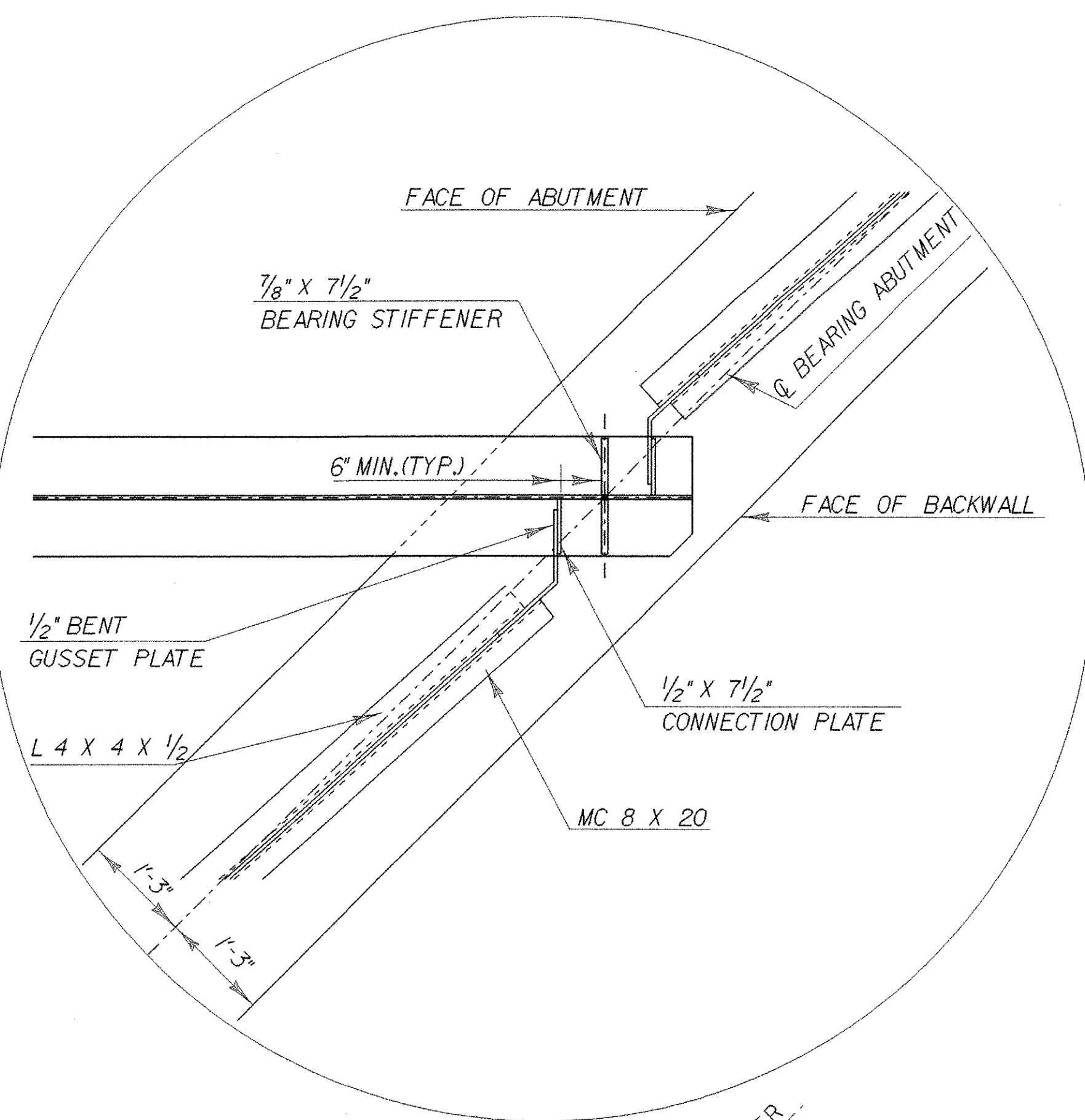
APPLY EPOXY BONDING COMPOUND
BEFORE PLACING NEW CONCRETE.
INCLUDE WITH COST BID FOR CONCRETE.

TRANSVERSE BRIDGE SLAB
CONSTRUCTION JOINT DETAILS

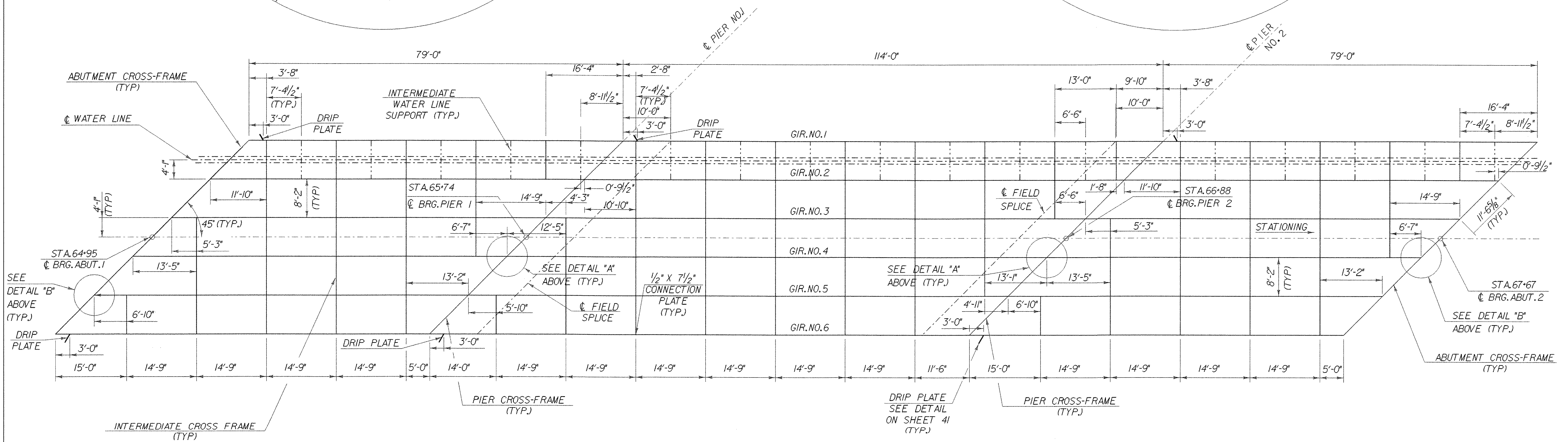
STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOOMSAC			
MISCELLANEOUS CONCRETE DETAILS			
Designed By	M. EVANS-MONGEON	Drawn By	R. PELLETT
Checked By	Date	Bridge Design Supervisor	Date
	M. EVANS-MONGEON	A. PORTALUPI	Date
PROJECT	WOODFORD	PROJECT NO.	BHF 010-1(29)
I.G.C. Info.	/84e039/se039sub.dgn		se039mscj
Bridge Sheet No.		Sheet 52	of 106



DETAIL "A"
SCALE 3/4" = 1'-0"



DETAIL "B"
SCALE 3/4" = 1'-0"



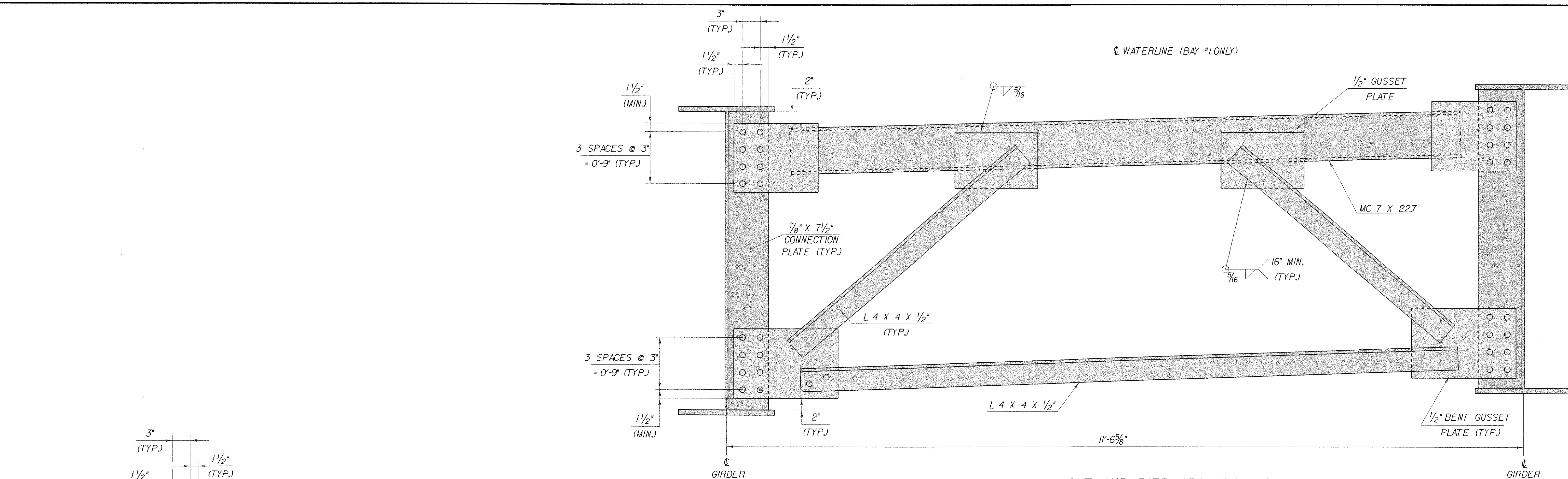
FRAMING PLAN
SCALE 1" = 1'-0"

DATUM

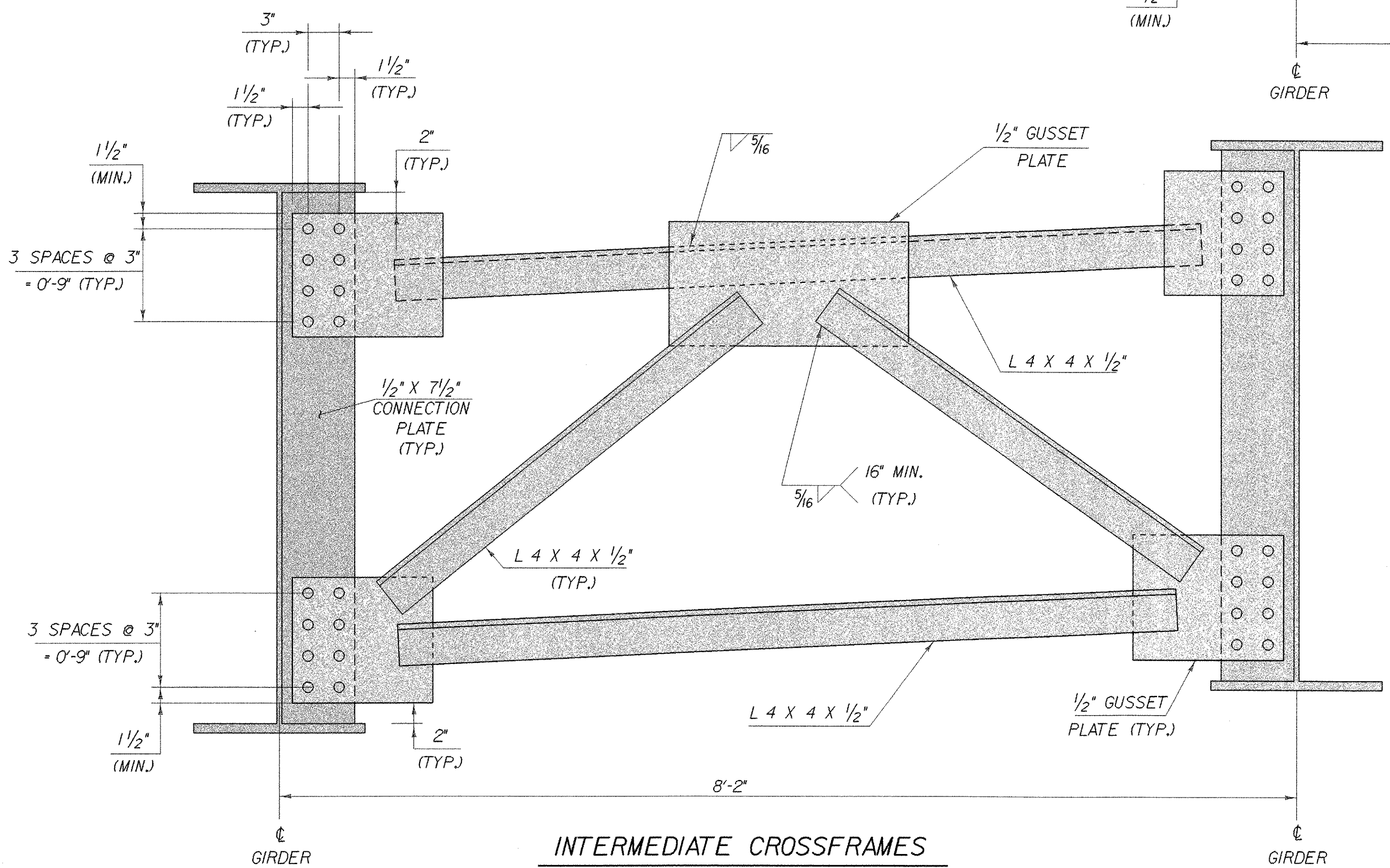
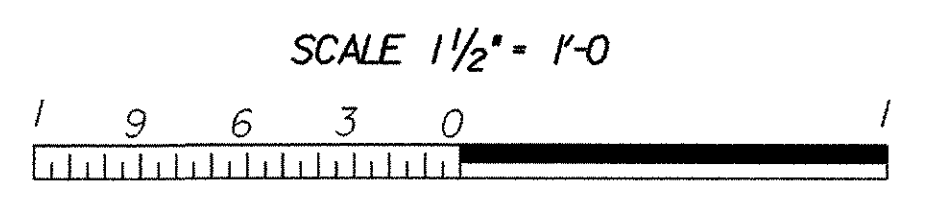
VERTICAL	_____
HORIZONTAL	_____

FRAMING PLAN

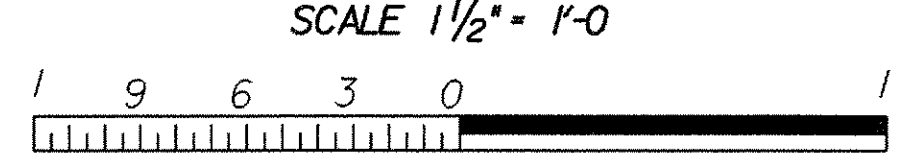
PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/structures/se039sup.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039frm.1	SURVEY DATE: 12-88
DESIGNED BY: M. EVANS-MONGEON	DRAWN BY: RVH
SQUAD LEADER: PORTALUPI	SHEET: 54 OF 106



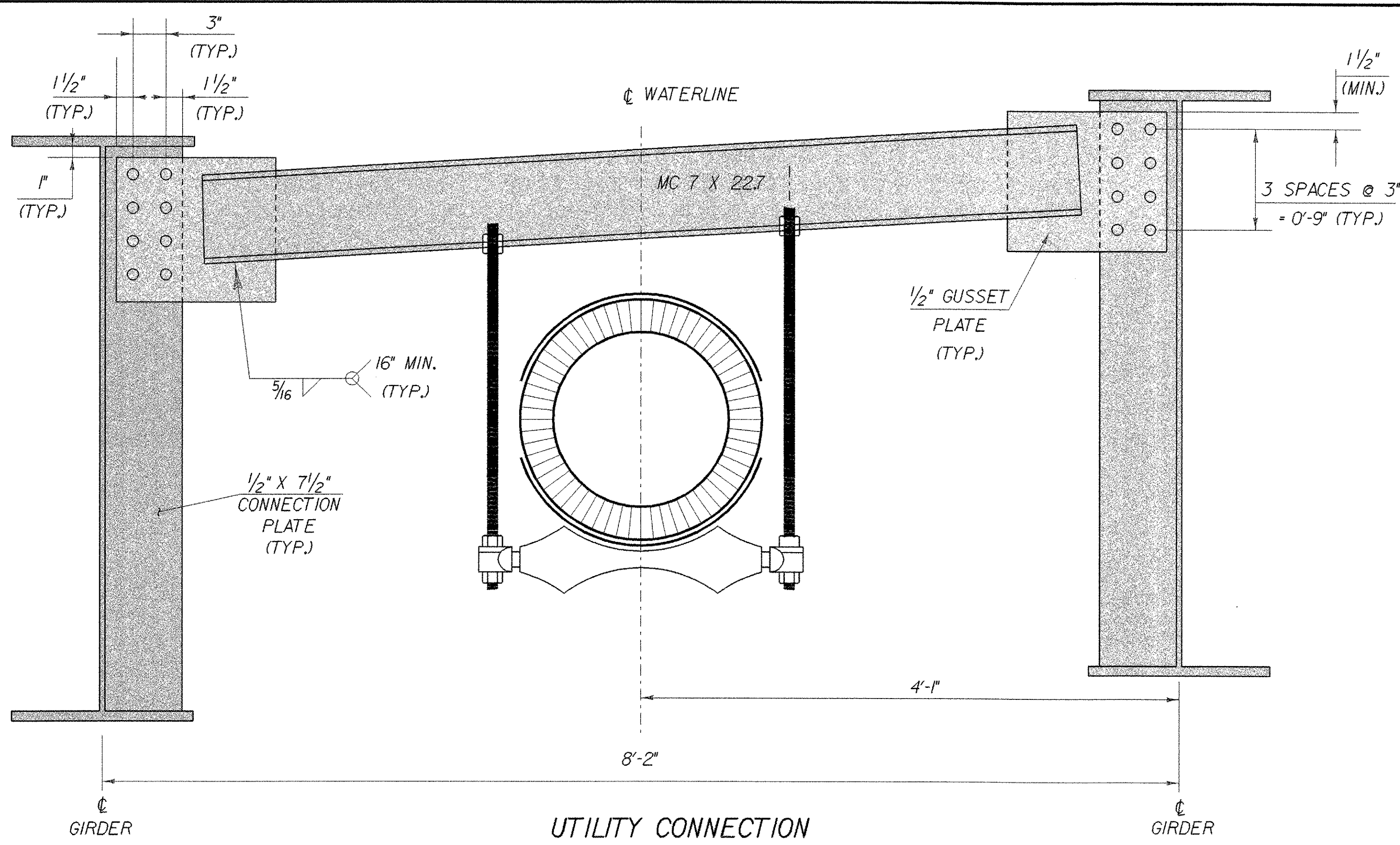
ABUTMENT AND PIER CROSSFRAMES
(BAYS 2 THRU 4)



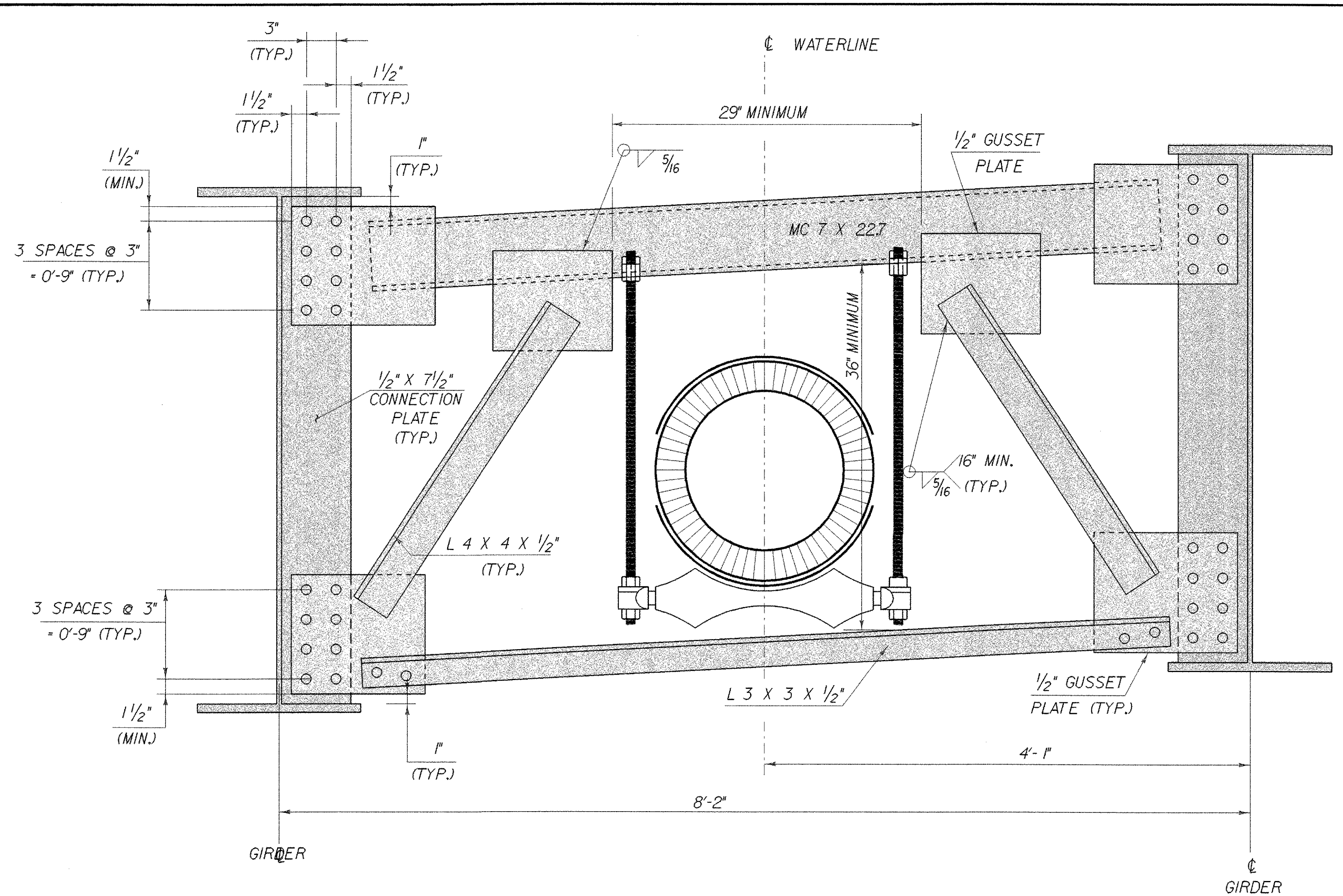
INTERMEDIATE CROSSFRAMES
(BAYS 2 THRU 4)



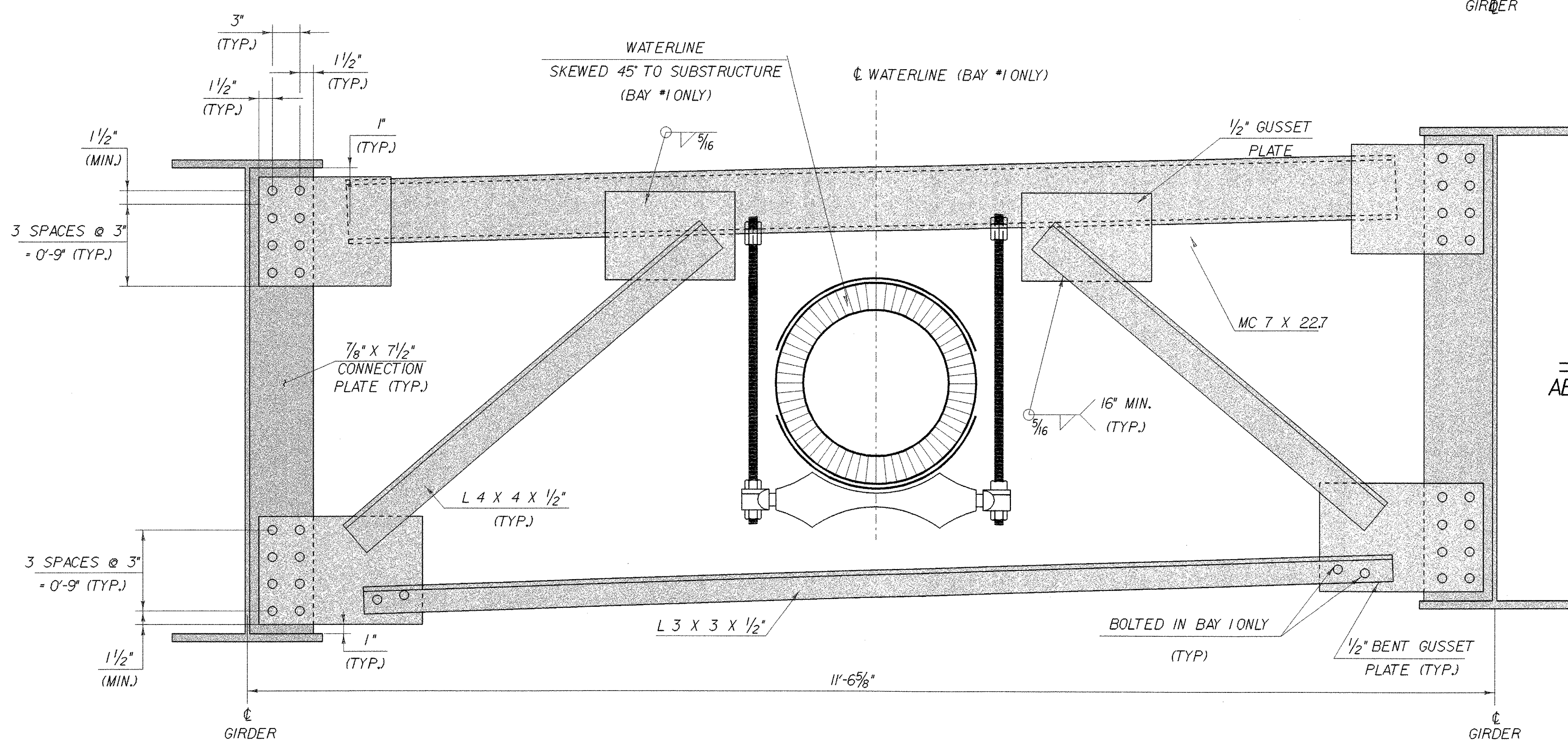
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR11
Highway No. VT 9	Log Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC	
CROSSFRAME DETAILS	
Designed By M.EVANS-MONGEON	Drawn By M.EVANS-MONGEON
Checked By _____ Date _____	Bridge Design Supervisor A.PORTALUPI Date _____
PROJECT WOODFORD	PROJECT NO. BRF 010-(29)
I.G.C. Info. /84e039/structures/se039supdgn	se039xfr1
Bridge Sheet No. _____	Sheet 55 of 106



UTILITY CONNECTION
(BETWEEN CROSSFRAMES IN BAY #1)
SCALE 1 1/2" = 1'-0"
1 9 6 3 0 1

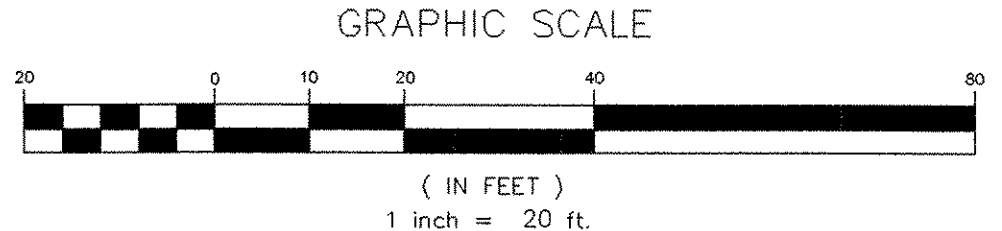
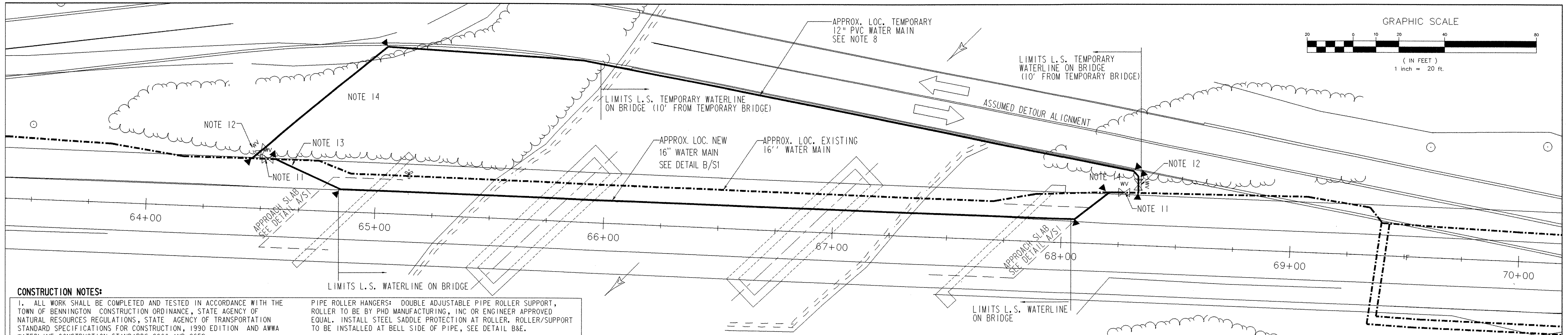


INTERMEDIATE CROSSFRAMES
(IN BAY #1 ONLY)
SCALE 1 1/2" = 1'-0"
1 9 6 3 0 1



BAY #1
ABUTMENT AND PIER CROSSFRAMES
SCALE 1 1/2" = 1'-0"
1 9 6 3 0 1

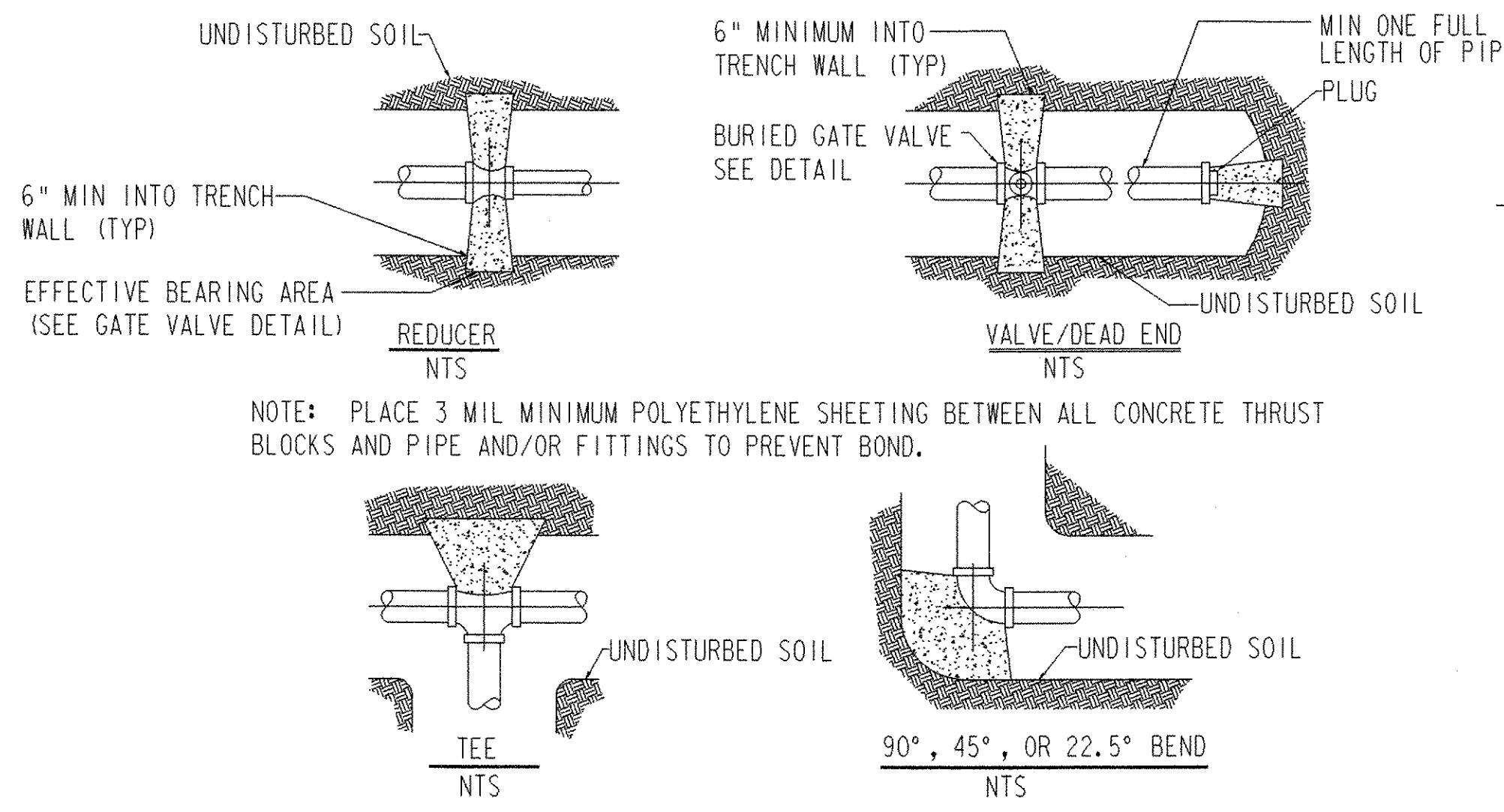
STATE OF VERMONT	
AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR11
Highway No. VT 9	Log Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC	
UTILITY CONNECTIONS	
Designed By M.EVANS-MONGEON	Drawn By M.EVANS-MONGEON
Checked By 	Bridge Design Supervisor
A.PORTALUPI	
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /84e039/structures/se039sup.dgn se039utcl	
Bridge Sheet No. 	Sheet 56 of 106



CONSTRUCTION NOTES:

- ALL WORK SHALL BE COMPLETED AND TESTED IN ACCORDANCE WITH THE TOWN OF BENNINGTON CONSTRUCTION ORDINANCE, STATE AGENCY OF NATURAL RESOURCES REGULATIONS, STATE AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 1990 EDITION AND AWWA WATERLINE CONSTRUCTION STANDARDS C600 AND C652.
 - EXISTING UTILITIES ARE APPROXIMATE ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS PRIOR TO THE PLACEMENT OF PIPE. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL CONTACT 'DIG SAFE' (800.225.4977) PRIOR TO ANY CONSTRUCTION.
 - THE CONTRACTOR SHALL PROTECT AND SUPPORT EXISTING UTILITIES (I.E. POWER POLES, SEWER LINES, ETC.) AS NECESSARY DURING CONSTRUCTION. UTILITY COMPANIES SHALL BE CONTACTED BY THE CONTRACTOR WHEN CONSTRUCTION IS INITIATED IN THE VICINITY OF THEIR UTILITIES. THE CONTRACTOR SHALL COMPACT ALL MATERIAL UNDER EXISTING UTILITIES TO PREVENT SETTLEMENT. SPECIAL CARE AND COORDINATION SHALL BE OBSERVED WHILE WORKING NEAR POWER POLE. CONTRACTOR TO COORDINATE AND PAY FOR ANY NECESSARY UTILITY COMPANY CHARGES FOR TEMPORARY BRACING OF POLE.
 - THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL FOUNDATIONS, ROADS, TREES AND VEGETATION DURING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR/RESTORE ALL DAMAGE TO EXISTING UTILITIES, ROADS/DRIVES, WALKWAYS AND WALLS AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION AT NO COST TO THE OWNER.
 - INSTALL EXPANSION JOINT NEAR BRIDGE WEST END ABUTMENT TO ALLOW FOR MAINTENANCE ACCESS. JOINT TO BE "EX-TEND 200" SINGLE BALL TYPE AS MANUFACTURED BY EBAA IRON SALES (817-629-1731) OR ENGINEER APPROVED EQUAL. SUPPORT JOINT TO MANUFACTURES INSTALLATION RECOMMENDATIONS.
 - PIPING MATERIALS TO BE ATLANTIC STATES OR APPROVED EQUAL, CLASS 52 MECHANICAL JOINT DUCTILE IRON PIPE WITH MEGALUG RESTRAINTS. ALL PIPE TO BE MECHANICALLY RESTRAINED AT JOINTS.
- PIPE INSULATION: 2" THICKNESS POLYSOCYANURATE, 'TRYMER 2000'
- PIPE INSULATION JACKET: 'PERMA-JAC SX' PVC JACKET ON MAIN PIPE AND CORRUGATED ALUMINUM JACKET AT BRIDGE DIAPHRAGM LOCATIONS.

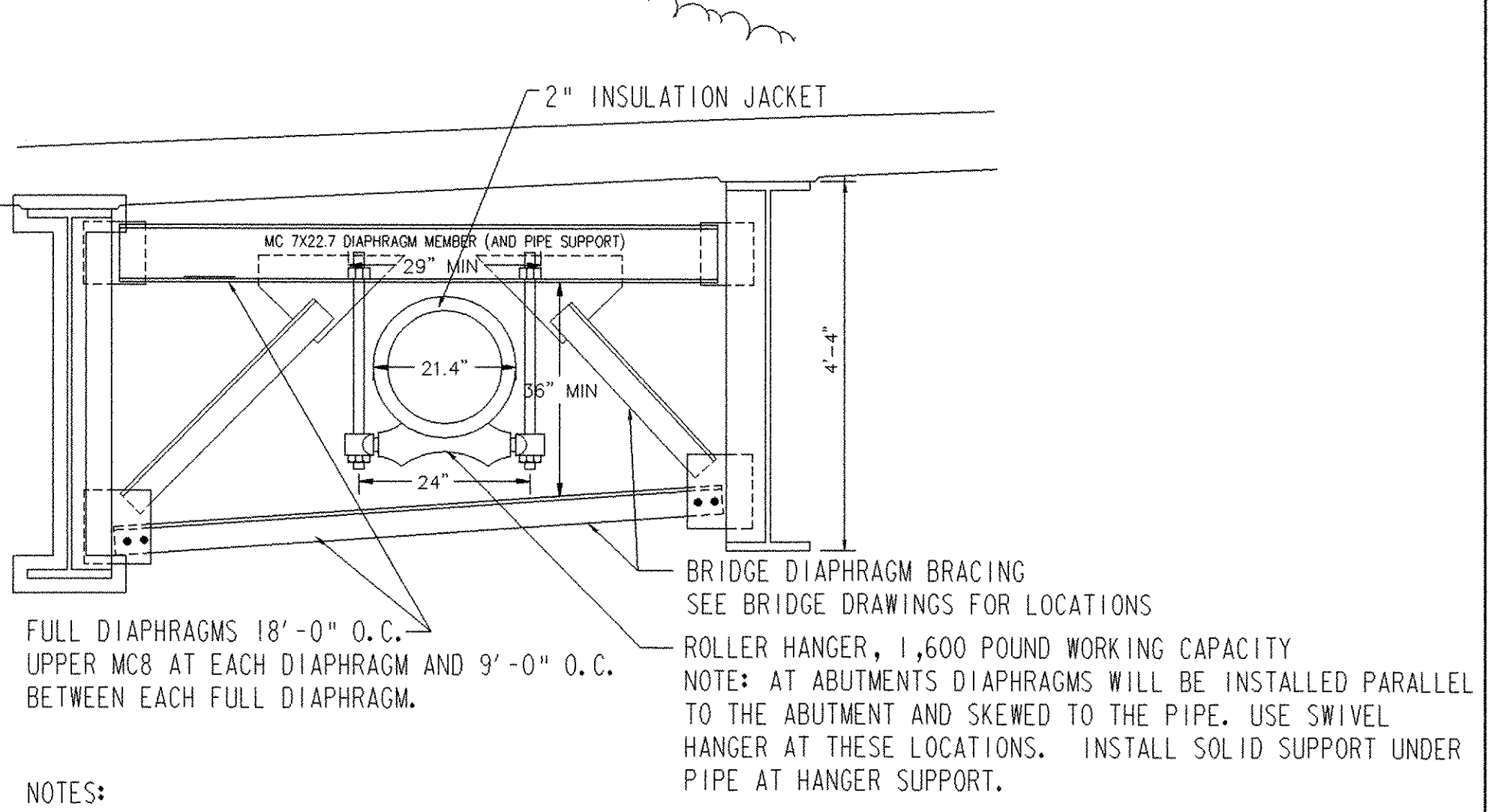
- PIPE ROLLER HANGERS: DOUBLE ADJUSTABLE PIPE ROLLER SUPPORT, ROLLER TO BE BY PHD MANUFACTURING, INC OR ENGINEER APPROVED EQUAL. INSTALL STEEL SADDLE PROTECTION AT ROLLER. ROLLER/SUPPORT TO BE INSTALLED AT BELL SIDE OF PIPE, SEE DETAIL B&E.
- IF THERE ARE ANY CONFLICTS OR INCONSISTENCIES WITH THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION BEFORE WORK CONTINUES ON THE ITEM IN QUESTION.
 - CONTRACTOR TO DESIGN PVC WATERLINE AS PART OF TEMPORARY BRIDGE PROJECT. DESIGN WILL BE IN ACCORDANCE WITH TOWN OF BENNINGTON; STATE AGENCY OF NATURAL RESOURCES AND AMERICAN WATER WORKS ASSOCIATION STANDARDS. TOWN ENGINEER TO APPROVE DESIGN PRIOR TO CONSTRUCTION. TEMPORARY WATERLINE TO BE INSULATED IF CONTRACTOR INTENDS TO MAINTAIN WATERLINE OVER WINTER. LUMP SUMP FOR WATERLINE ON BRIDGE TO START AND STOP 10' OFF TEMPORARY BRIDGE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE TOWN OF BENNINGTON OF ALL WORK WITHIN THE STREET RIGHT-OF-WAY. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN FOR ALL STREET EXCAVATIONS AND WATER LINE CONNECTIONS. STATE-CERTIFIED FLAG PERSONS SHALL BE UTILIZED AT ALL TIMES WHENEVER WORK IS TO BE PERFORMED WITHIN ROADWAY LIMITS.
 - CONTRACTOR SHALL CHLORINATE AND PRESSURE TEST NEW SEGMENT OF WATER PIPE PRIOR TO FINAL CONNECTION OF SYSTEM. TESTING SHALL BE IN ACCORDANCE WITH AWWA STANDARDS C600 AND C652.
 - INSTALL IN LINE VALVE. INSTALLATION TO BE DONE LIVE. CONTRACTOR TO INSTALL ALL NEW PIPING FROM NEW IN LINE VALVE.
 - INSTALL STAINLESS STEEL TAPPING SLEEVE AND 12" VALVE. NEW SLEEVE TO BE MODEL 3490AS BY POWER SEAL OR ENGINEER APPROVED EQUAL. AFTER PROJECT IS COMPLETED/TESTED/APPROVED BY TOWN CONTRACTOR TO INSTALL CAP ON VALVE AND ROD BACK TO SLEEVE/VALVE ASSEMBLY AND CLOSE VALVE.
 - INSTALL "T" AND VALVE FOR FLUSHING. AFTER COMPLETION OF TESTING AND ACCEPTANCE BY TOWN/STATE CAP AND THRUST BLOCK "T".
 - INSTALL TAPS FOR TESTING AND CLORINATION AS REQUIRED. REVIEW LOCATIONS WITH TOWN PRIOR TO INSTALLATION.



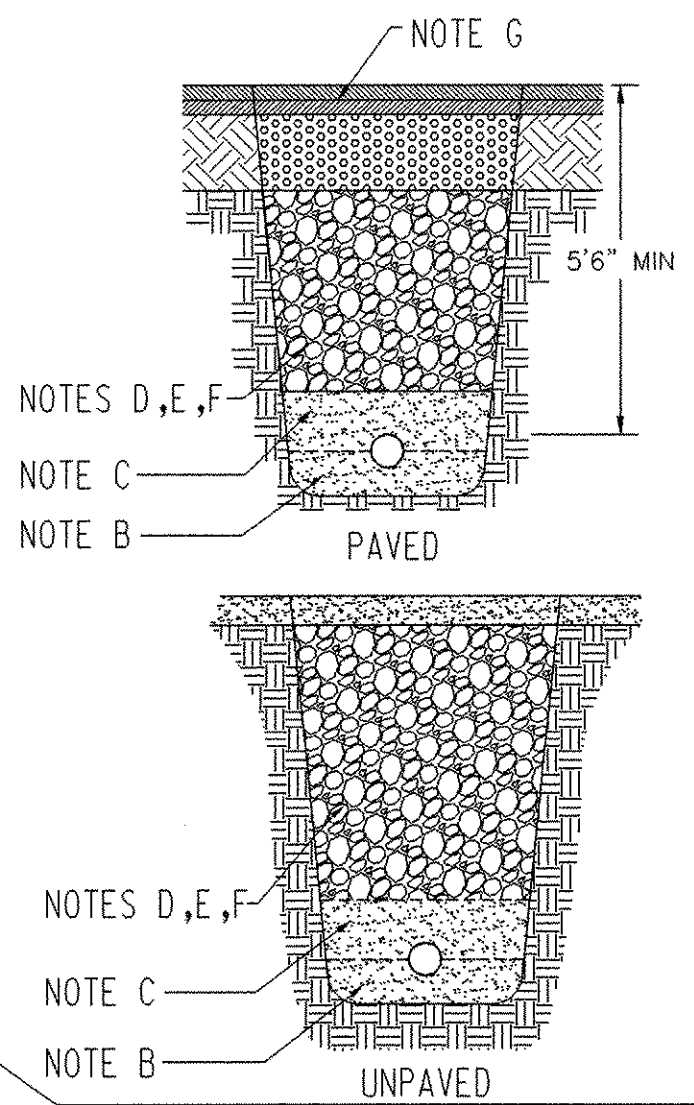
MINIMUM BEARING SURFACE AREA OF CONCRETE THRUST BLOCKS (IN SQUARE FEET)

ENDS & TEES	4"			6"			8"			12"			SOIL CONDITION	SAFE BEARING LOAD (PSF)			
	90° ELB	45° ELB	225° ELB	90° ELB	45° ELB	225° ELB	90° ELB	45° ELB	225° ELB	90° ELB	45° ELB	225° ELB					
0.5	1.0	0.5	0.5	1.0	1.5	1.0	0.5	2.0	2.5	1.5	1.0	4.0	5.5	3.0	1.5	SOUND SHALE	10000
1.5	2.0	1.0	0.5	3.0	4.0	2.0	1.0	4.5	6.5	3.5	2.0	10.0	14.0	7.5	2.0	CEMENTED GRAVEL AND SAND	4000
2.0	2.5	1.5	1.0	3.5	5.0	3.0	1.5	6.0	8.5	5.0	2.5	13.0	18.5	10.0	5.0	COARSE AND FINE COMPACT SAND	3000
2.5	3.5	2.0	1.0	5.5	7.5	4.0	2.0	9.0	13.0	7.0	3.5	20.0	27.5	15.0	8.0	MEDIUM CLAY (CAN BE SPADED)	2000
5.0	7.0	4.0	2.0	10.5	15.0	8.0	4.0	18.0	25.0	14.0	7.0	39.0	55.0	30.0	15.0	SOFT CLAY	1000

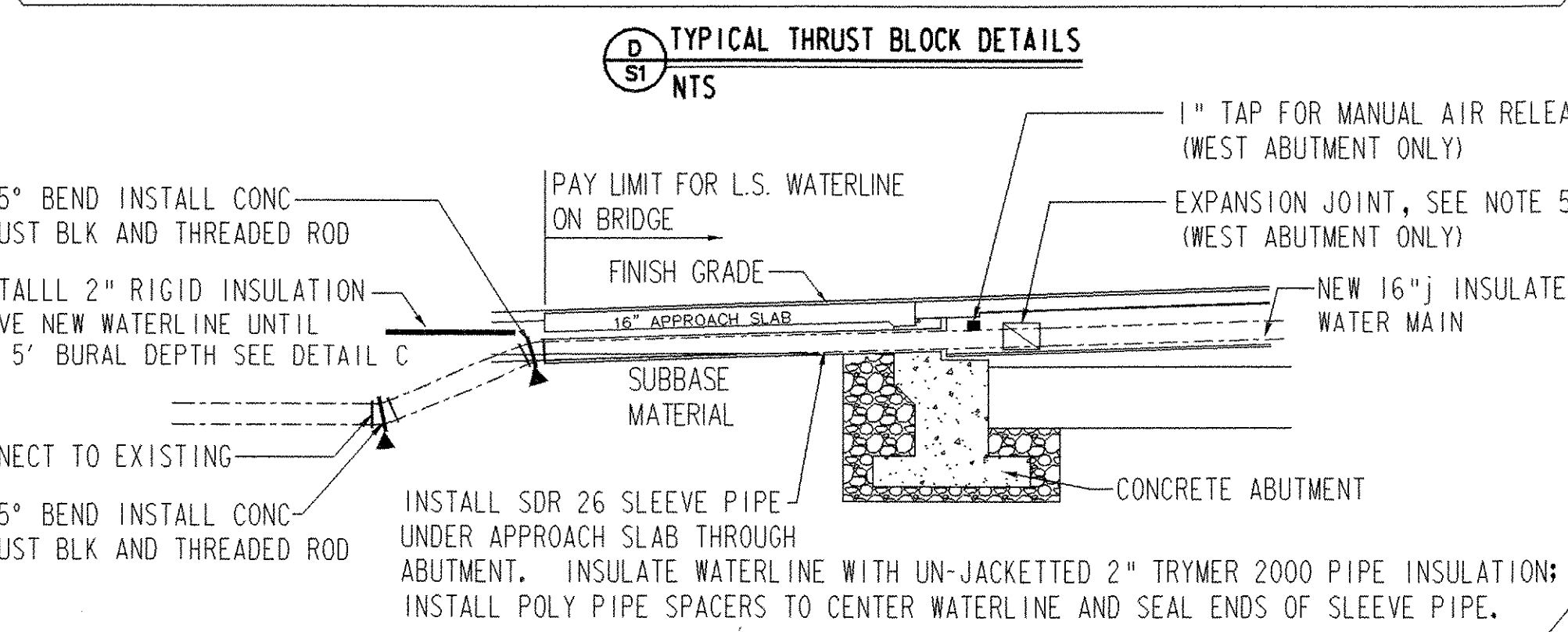
MAX WATER PRESSURE 300 PSI NOTE: REDUCER BEARING AREA = 45° BEND, ONE SIZE LARGER PIPE



- NOTES:
- PROVIDE MC7X22.7 PIPE SUPPORT BEAMS AND ROLLER HANGERS 9'-0" ON CENTER. DIAPHRAGM AND INTERMEDIATE MC8X20 LOCATIONS WILL BE INDICATED ON THE BRIDGE SHOP DRAWINGS. SUBMIT BRIDGE SHOP DRAWINGS TO MSK ENGINEERING. FOR FINAL COORDINATION OF PIPE SUPPORTS.
 - THE BRIDGE DIAPHRAGM BRACING WILL ALLOW CLEARANCE FOR A 24". OVERALL PIPE AND JACKET DIMENSION. COORDINATE THE FINAL LOCATION OF THE PIPE WITH THE BRIDGE DIAPHRAGM BRACING. REMOVE AND RE-INSTALL THE BOTTOM DIAPHRAGM MEMBER AS REQUIRED TO INSTALL THE PIPE.



- INSTALLATION SPECIFICATIONS:**
- MINIMUM BURIAL DEPTH 5'6" (4'-0" FOR SEWER) IF CONDITIONS PREVENT MINIMUM BURIAL DEPTH, ALL SECTIONS OF LINE LESS THAN MIN. DEPTH SHALL BE INSULATED WITH 1" THICKNESS RIGID FOAM INSULATION PER FOOT LESS THAN MINIMUM.
 - BED PIPE IN 6" OF CRUSHED STONE (PASSING 1/2" BUT RETAINED ON #4 SIEVE) IF IN WET CONDITIONS. PIPE SHALL NOT BE LAID IN UNCOMPACTED SOIL OR IN WATER. IF IN LEDGE CONDITIONS, BED PIPE IN A MINIMUM OF 6" OF CLEAN SAND. DO NOT REST PIPE ON LEDGE ROCK.
 - BACKFILL OVER PIPE W/ 12" MINIMUM SAND, COMPACTED ENTIRE WIDTH OF TRENCH. BACKFILL WITH BEDDING STONE TO 12" DEPTH IF IN WATER.
 - REMAINDER OF BACKFILL TO BE SELECT EARTH OR BANK RUN GRAVEL NOT GREATER THAN 6" IN LARGEST DIMENSION. BACKFILL TO BE COMPACTED IN 6" LIFTS UNDER ROADS AND PAVED AREAS.
 - BACKFILL SHALL CONSIST OF SUITABLE MATERIAL REMOVED FROM EXCAVATION, AND SHALL BE FREE OF CLODS, DEBRIS, FROZEN CHUNKS, PAVEMENT PIECES, LARGE STONES, ORGANIC MATERIAL OR ANY OTHER MATERIAL DEEMED UNSUITABLE BY THE ENGINEER.
 - BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY IN ALL TRENCH EXCAVATIONS.
 - EDGES OF PAVEMENT SHALL BE CUT PRIOR TO EXCAVATION TO PREVENT LIFTING OF REMAINING PAVEMENT, AND FOLLOWING EXCAVATION PRIOR TO PAVEMENT PATCHING. PAVEMENT PATCH TO CONSIST OF 2" BASE, 1" TOPCOAT OVER COMPACTED BACKFILL.



LEGEND:

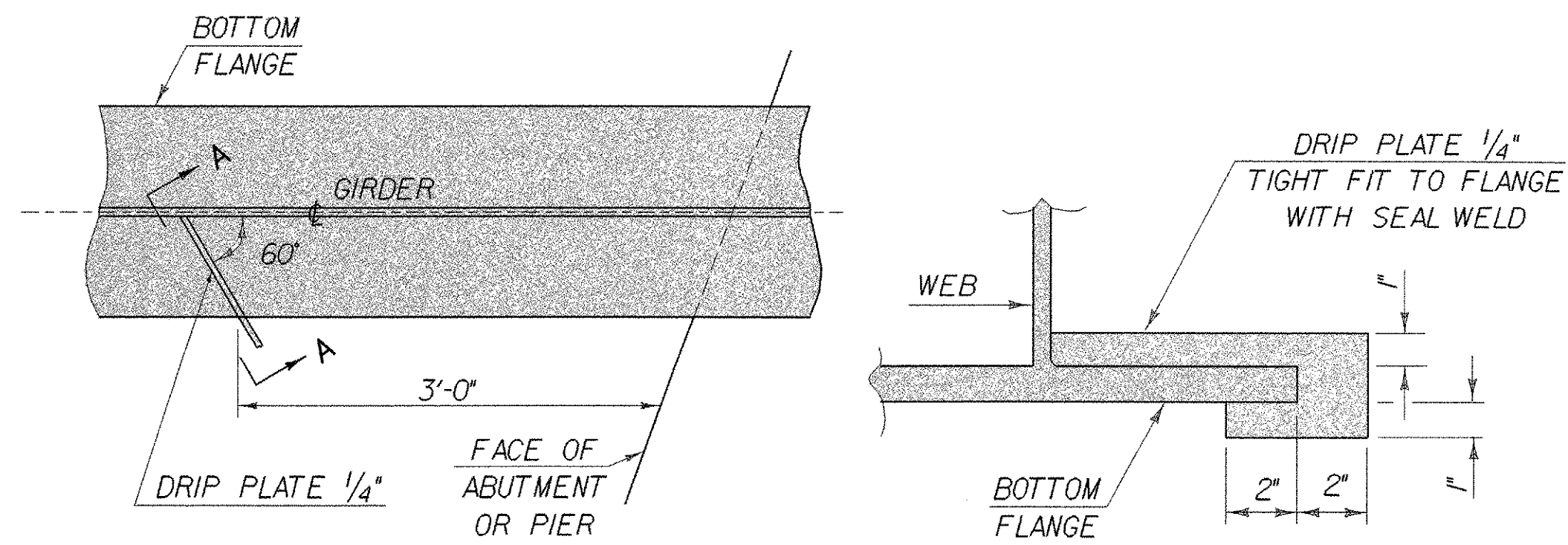
RESILIENT-WEDGE VALVE, OPEN RIGHT KENNEDY OR APPROVED EQUAL WITH MUELLER CURB SERVICE BOX ROD TYPE, TWO HOLE COVER.
NOTE: SEE CONSTRUCTION NOTES 11&12

APPROXIMATE LOCATION CONCRETE THRUST BLOCKS

REVISED SECTION B/S1 BASED ON AOT COMMENTS	JMD	07/22/02
REVISED PER STATE AOT COMMENTS	JMD	07/15/2002
REV. DESCRIPTION	BY	DATE

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 168, HARWOOD HILL, BENNINGTON, VT 05201
PH: (802) 447-3340 FAX: (802) 447-0702

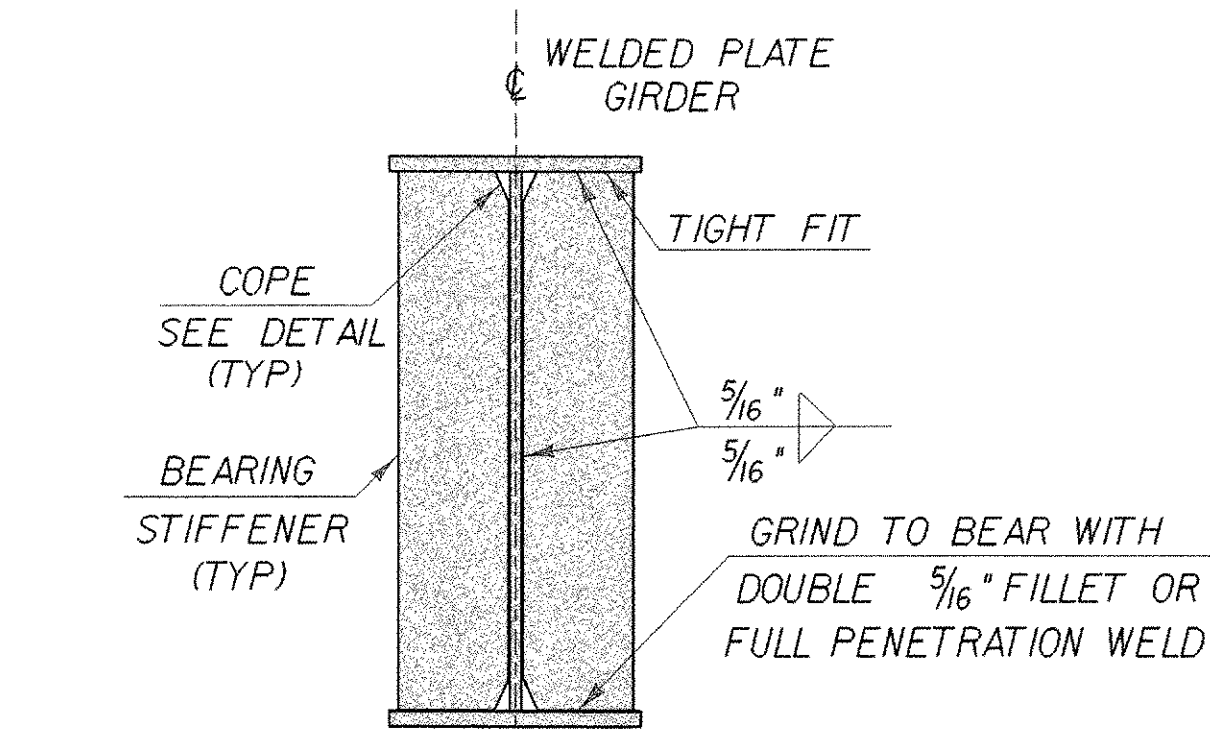
WOODFORD WATER LINE BRIDGE CROSSING AT TREATMENT PLANT WOODFORD, VERMONT	DRAWN BY: JFE	CHECKED BY: JRS
	SCALE: 1" = 20'	
	DATE: 11-13-00	
DESCRIPTION: WATERLINE PLAN	rt9water.dwg	SHEET 57 OF 106 S-1



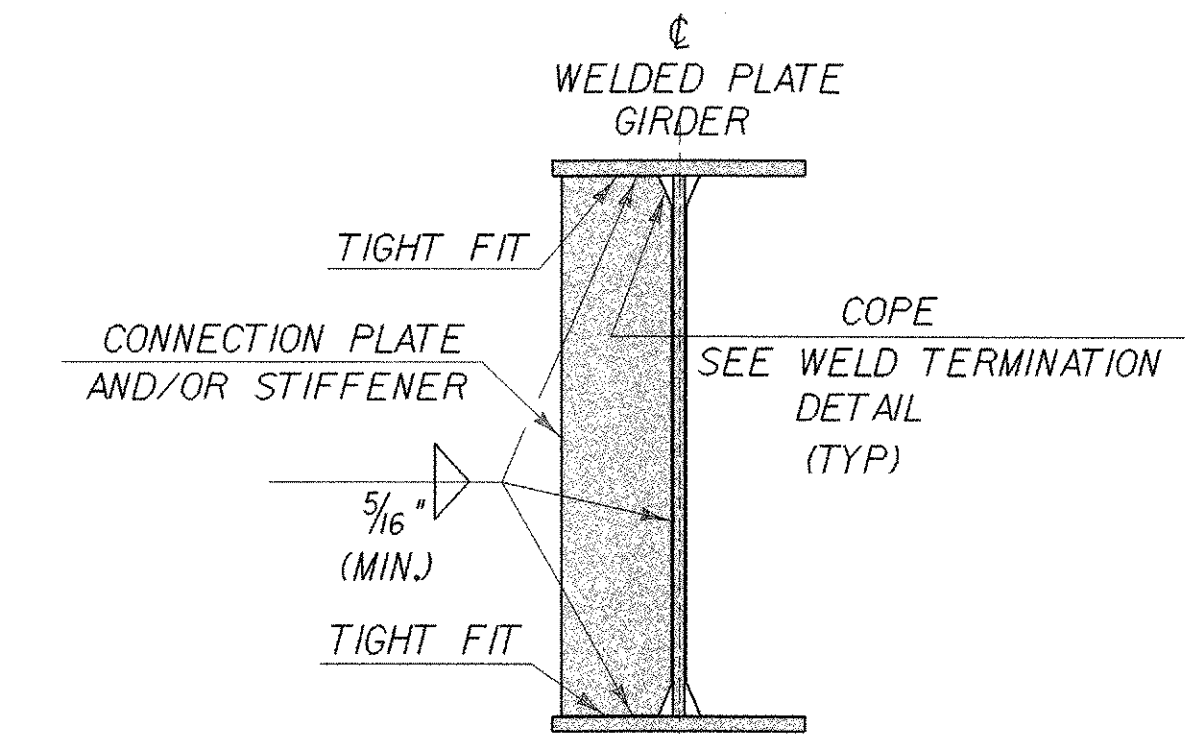
PLAN DRIP PLATE

SECTION A - A

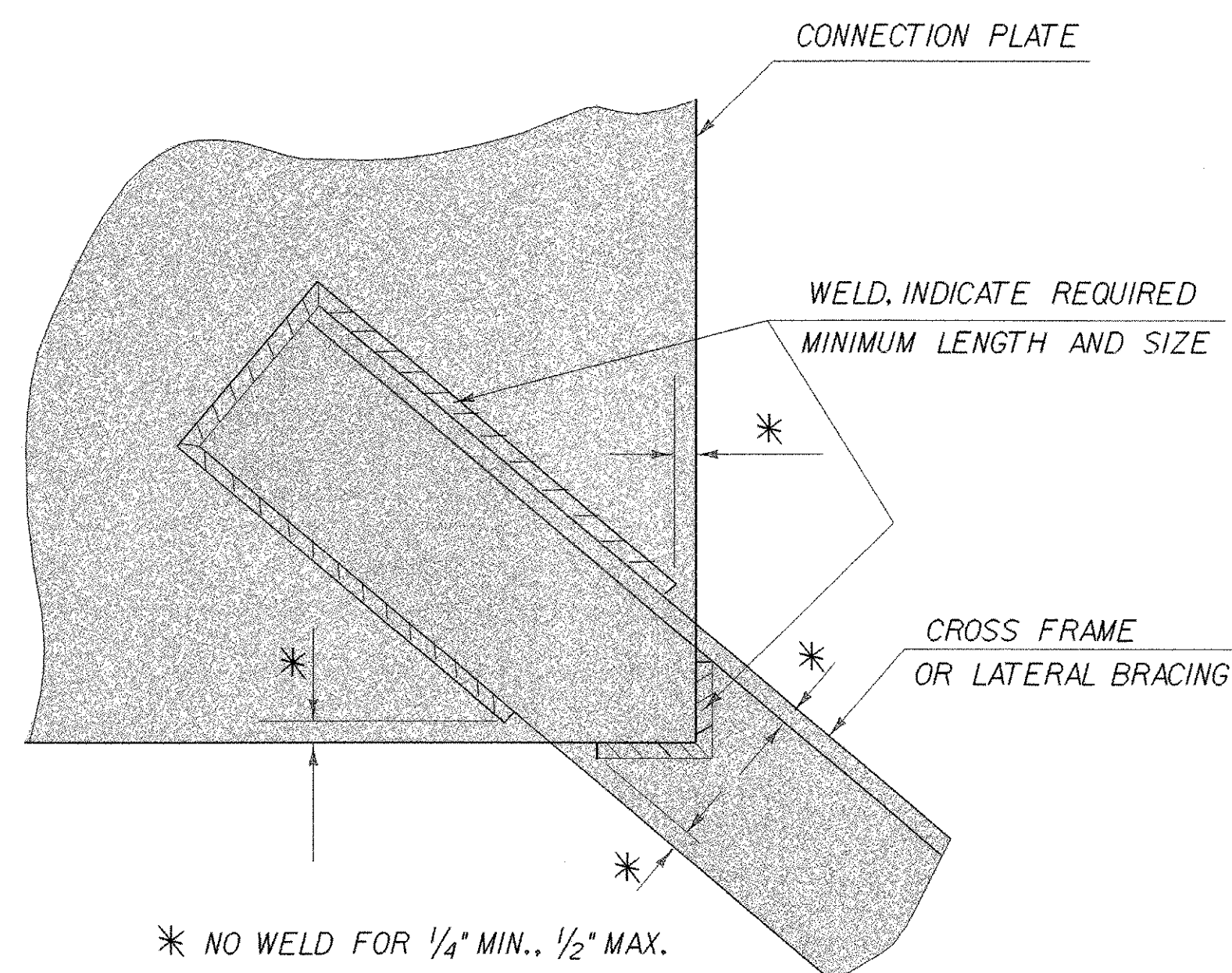
NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.



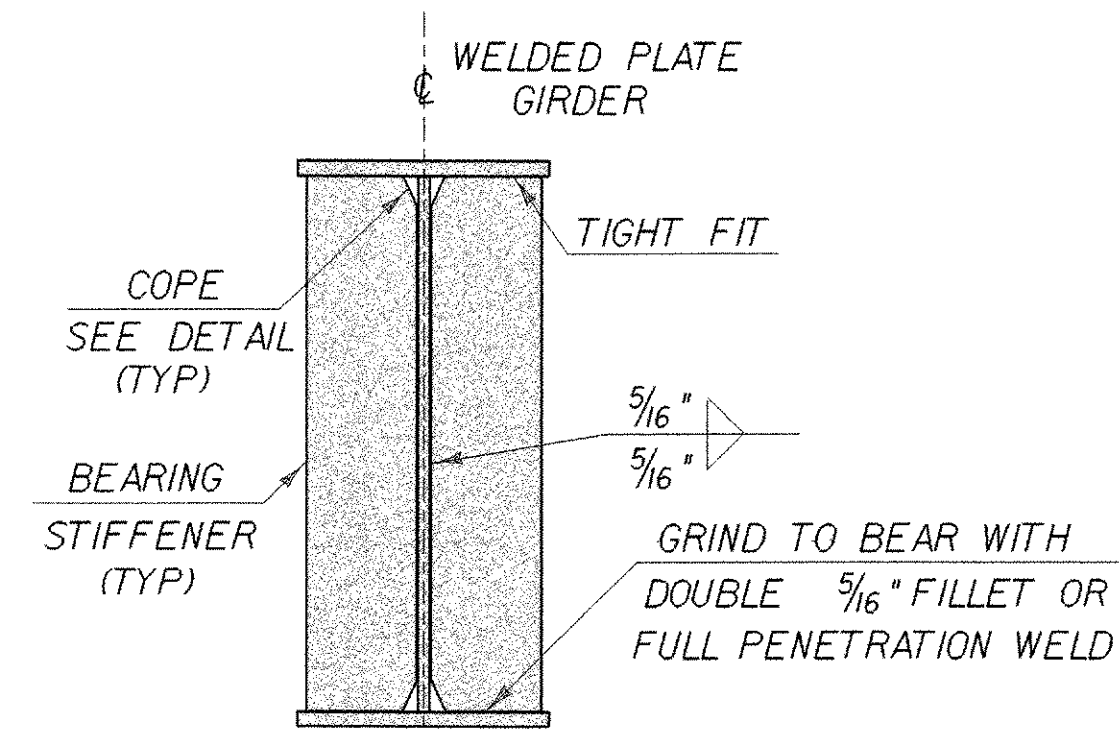
ABUTMENT BEARING STIFFENERS FOR WELDED PLATE GIRDERS



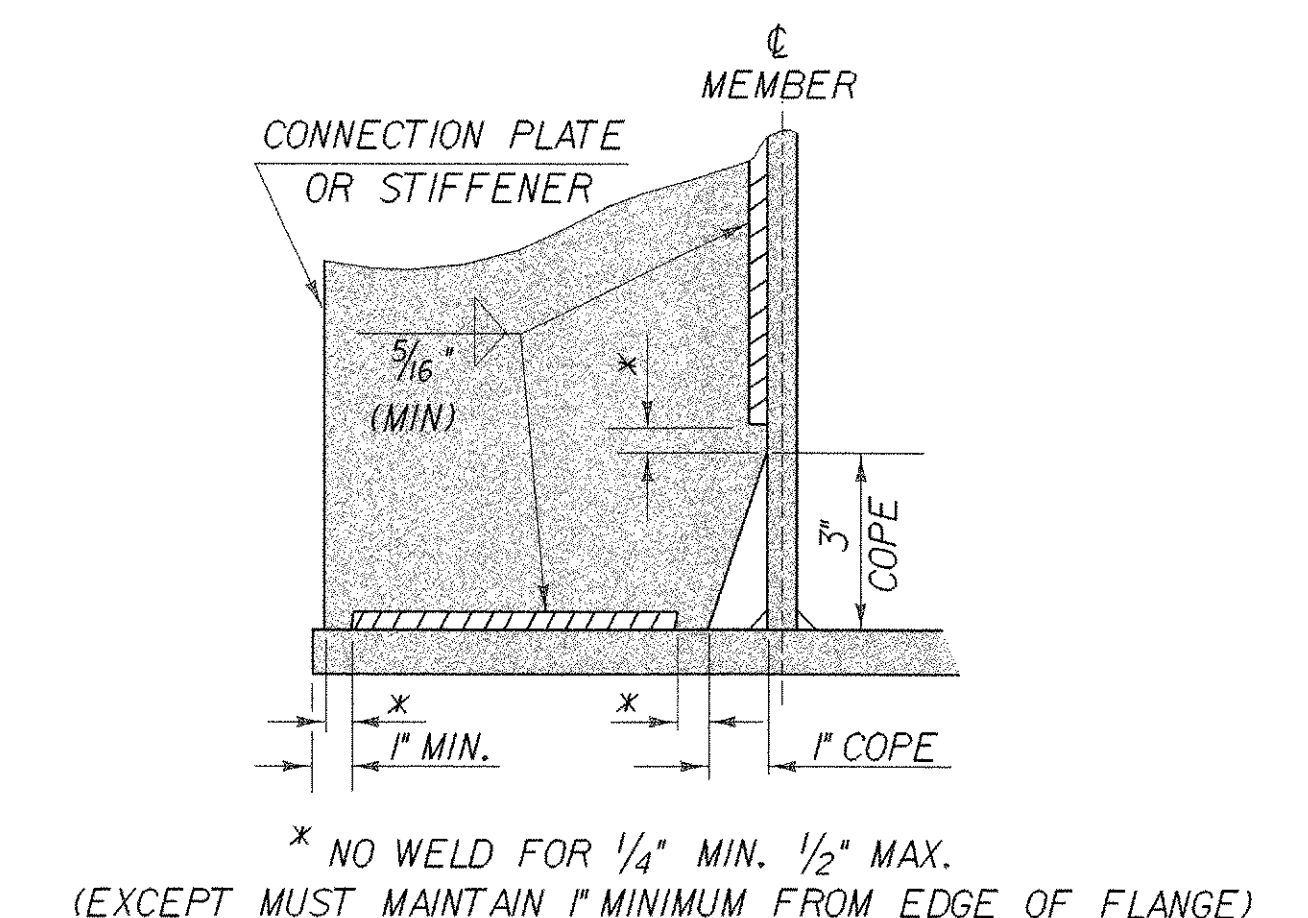
INTERMEDIATE CONNECTION PLATES AND/OR STIFFENERS FOR WELDED PLATE GIRDERS



WELD LOCATION DETAIL AT CROSS FRAMES AND LATERAL BRACING

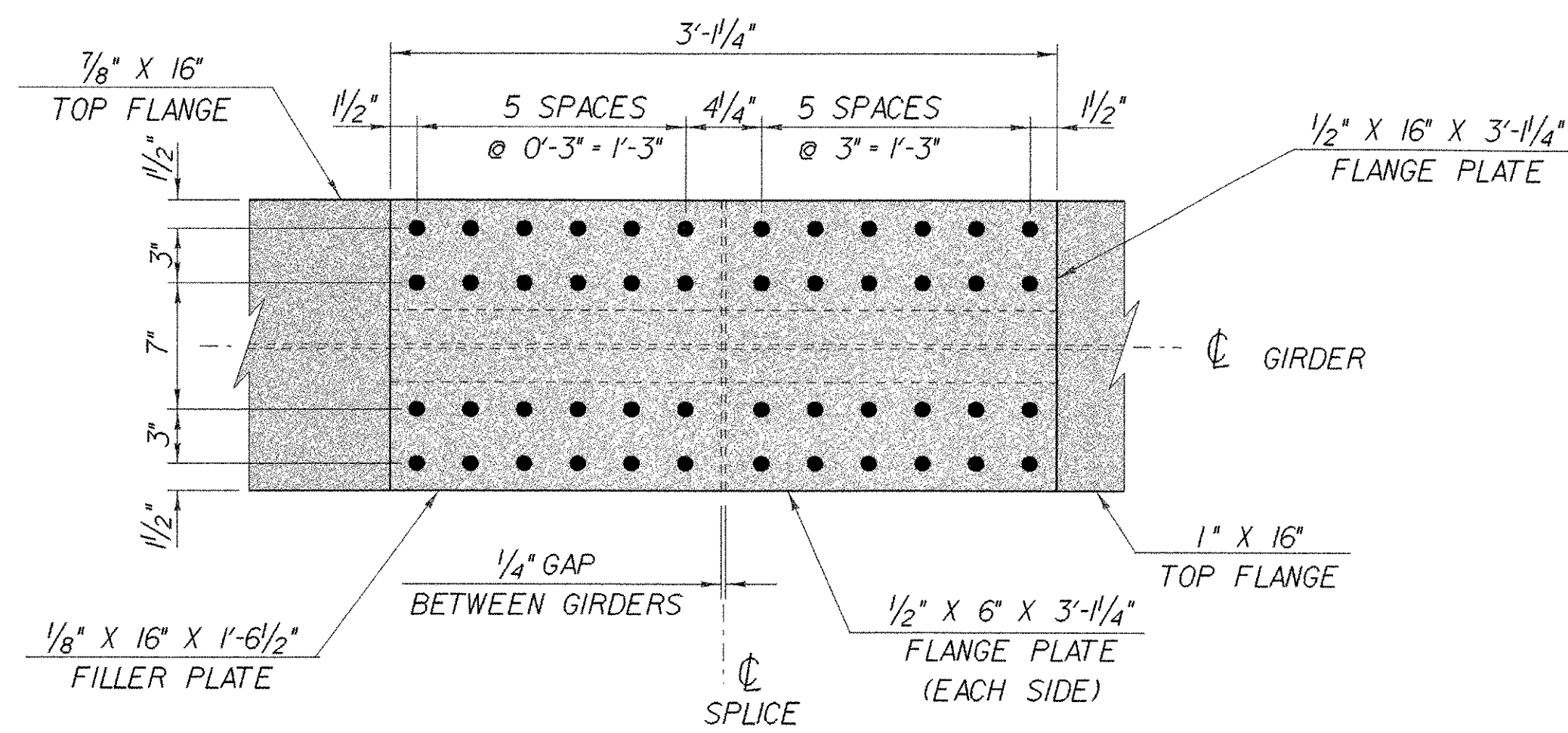


PIER BEARING STIFFENERS FOR WELDED PLATE GIRDERS

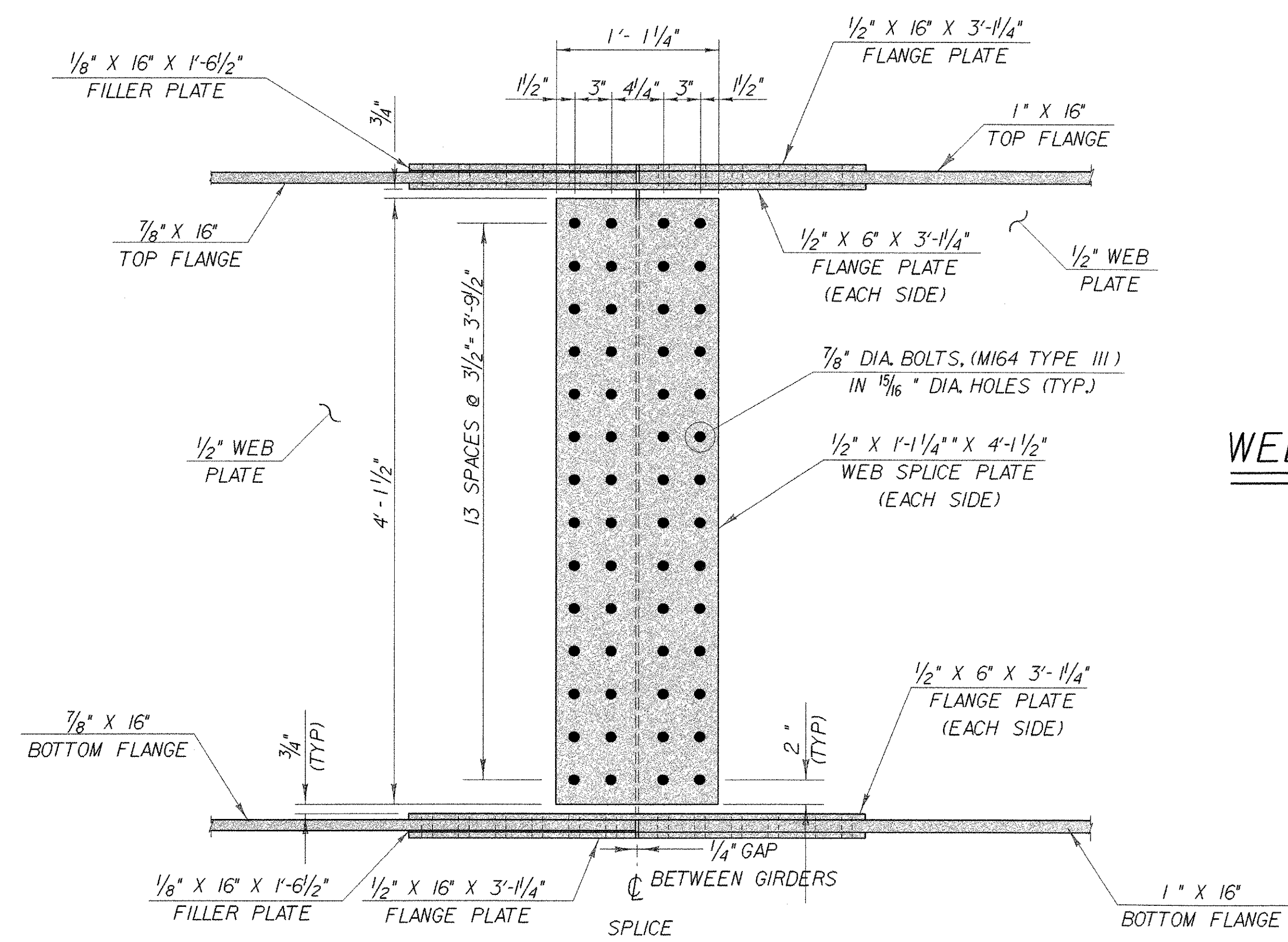


WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

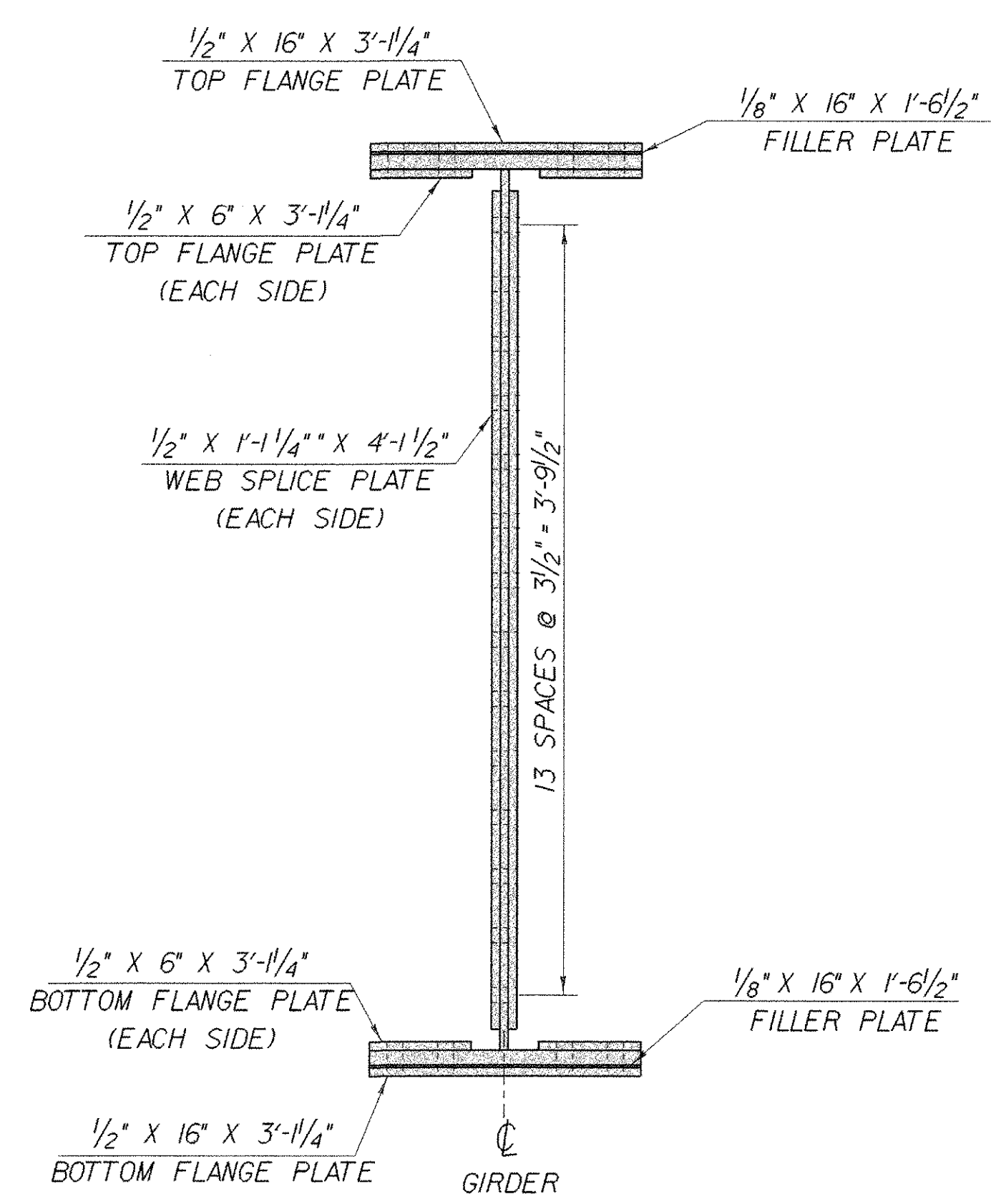
STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOOMSAC			
MISCELLANEOUS STEEL DETAILS			
Designed By	M.EVANS-MONGEON	Drawn By	R.VANHAMBURG
Checked By	Date	Bridge Design Supervisor	Date
		A.PORTALUPI	Date
PROJECT	WOODFORD	PROJECT NO.	BHF 010-(129)
I.G.C. Info.	/846039//structures/se039supdgn		se039msd1
Bridge Sheet No.		Sheet	60 of 106



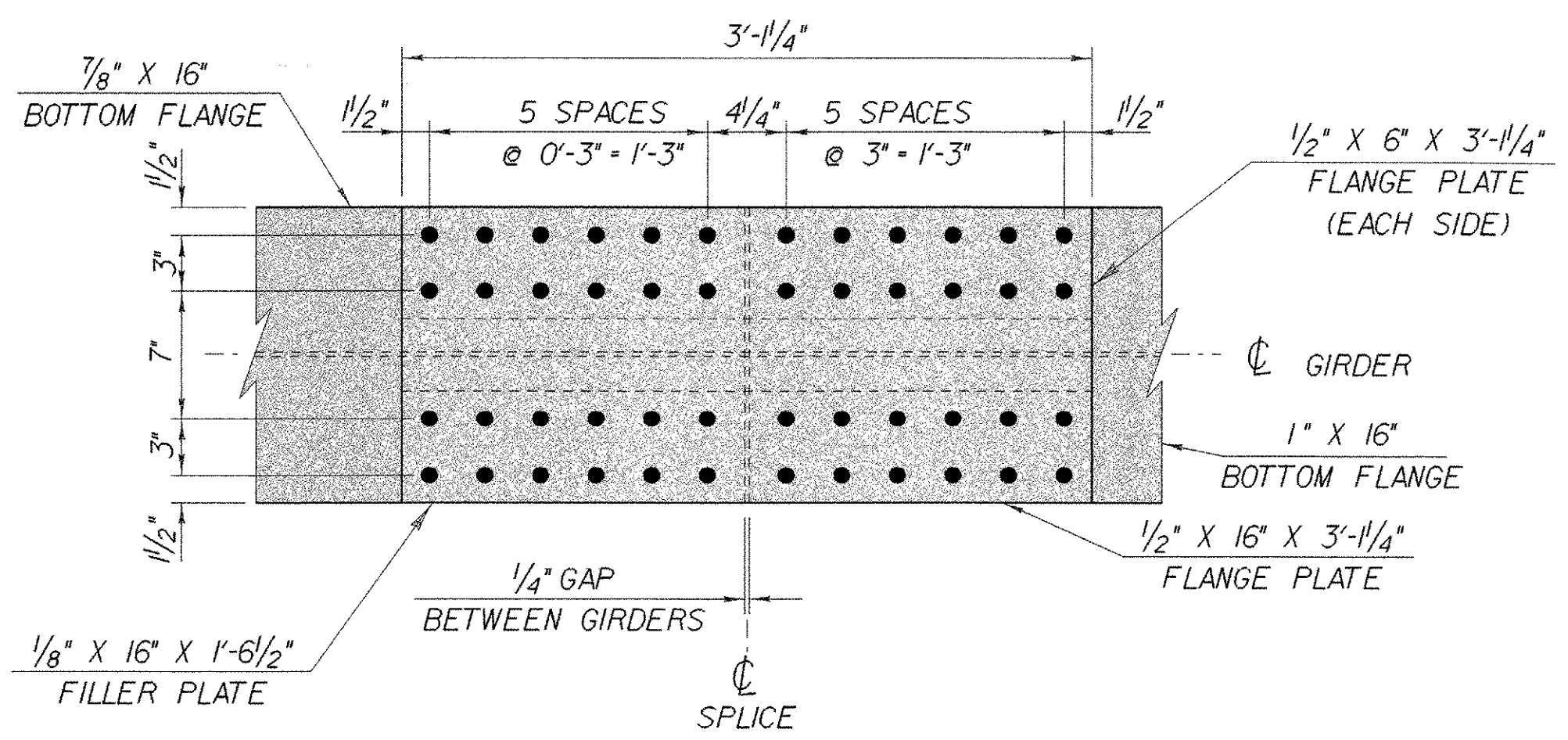
TOP FLANGE PLAN



WEB ELEVATION

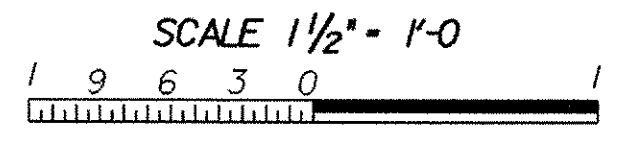


WEB SECTION



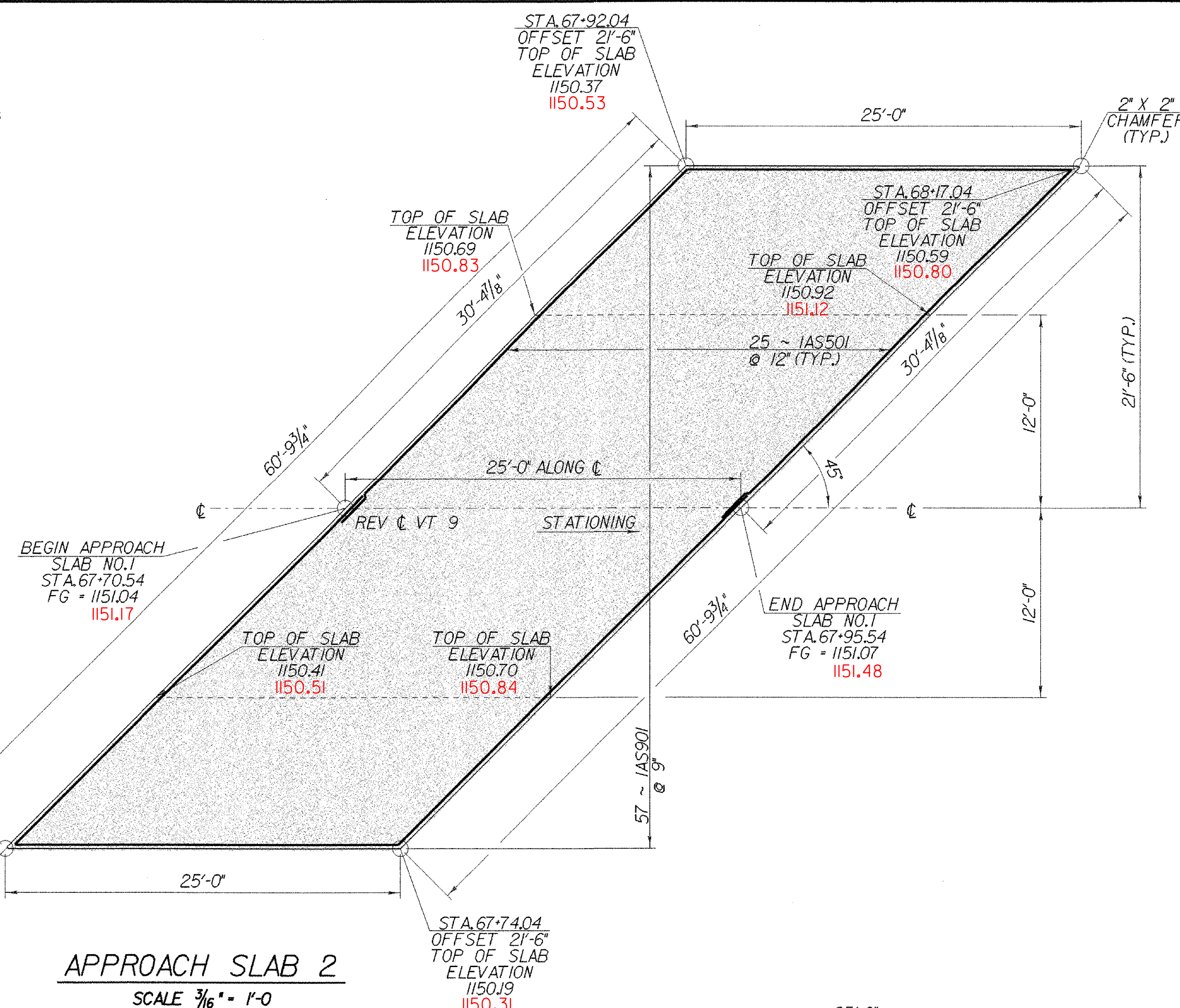
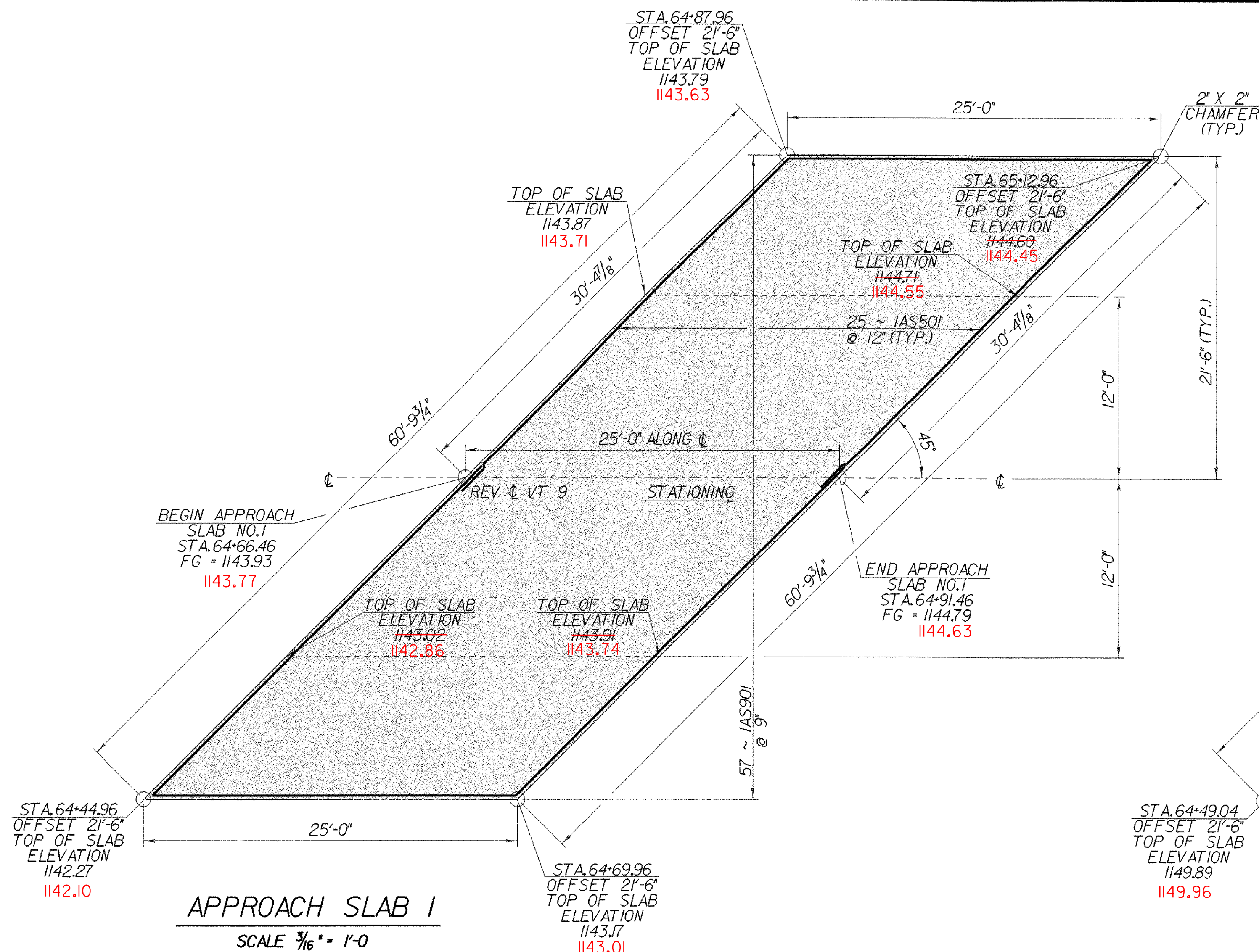
BOTTOM FLANGE PLAN

NOTE: ALL SPLICE PLATES WILL BE CVN TESTED.



SPLICE DETAIL SHEET

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. 11
Highway No. VT.9	Log Sta. Surv. Sta.
VT.9 OVER ROARING BRANCH SPLICE DETAIL SHEET	
Designed By M.EVANS-MONGEON	Drawn By M.EVANS-MONGEON
Checked By Date	Bridge Design Supervisor A.PORTALUPI Date
PROJECT WOODFORD	PROJECT NO. BHF 010 -1 (29)
I.G.C. Info. /84e039/structures/se039sup.dgn	se039spl1
Bridge Sheet No.	Sheet 61 of 106

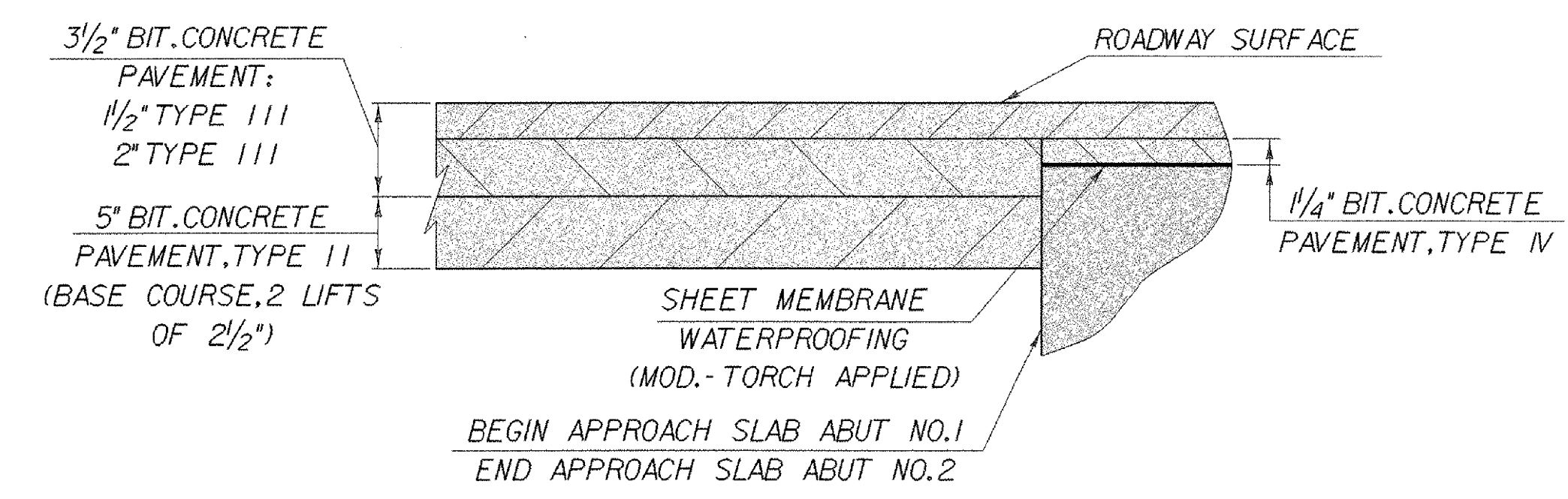


APPROACH SLAB 1

SCALE 3/16" = 1'-0"

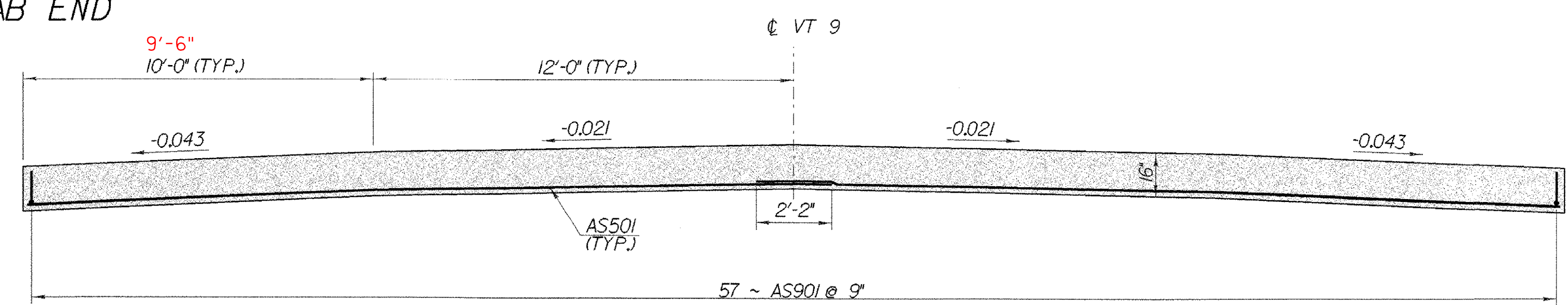
APPROACH SLAB 2

SCALE 3/16" = 1'-0"



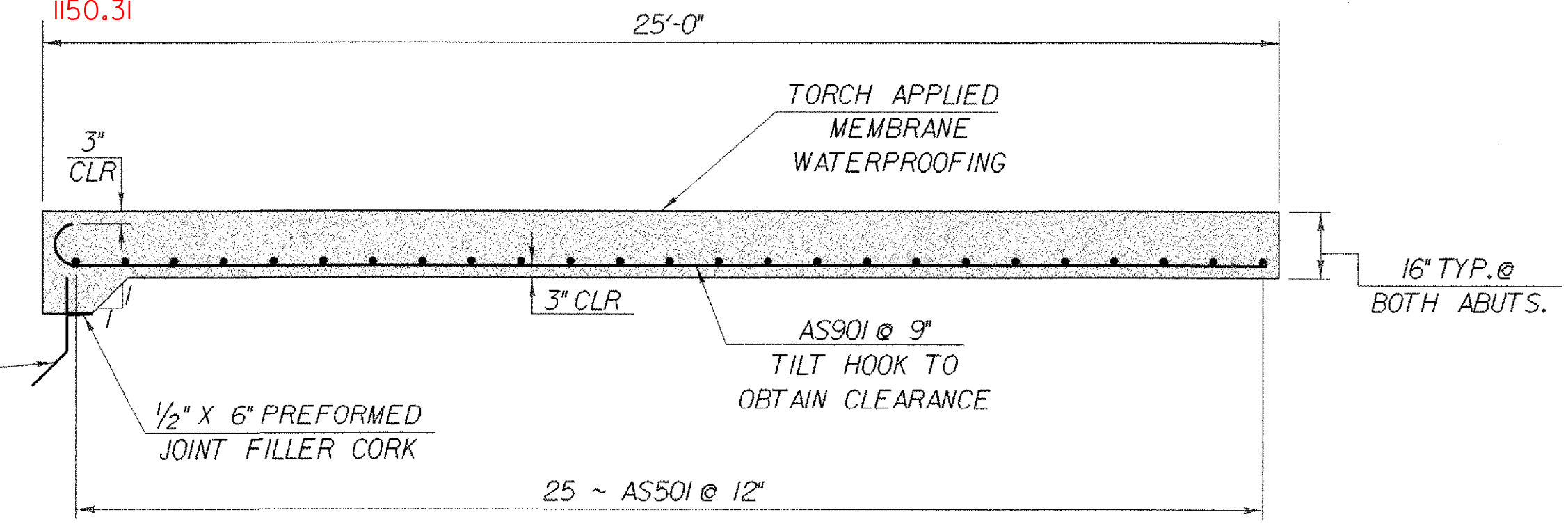
DETAIL FOR SHEET MEMBRANE AT APPROACH SLAB END

NTS



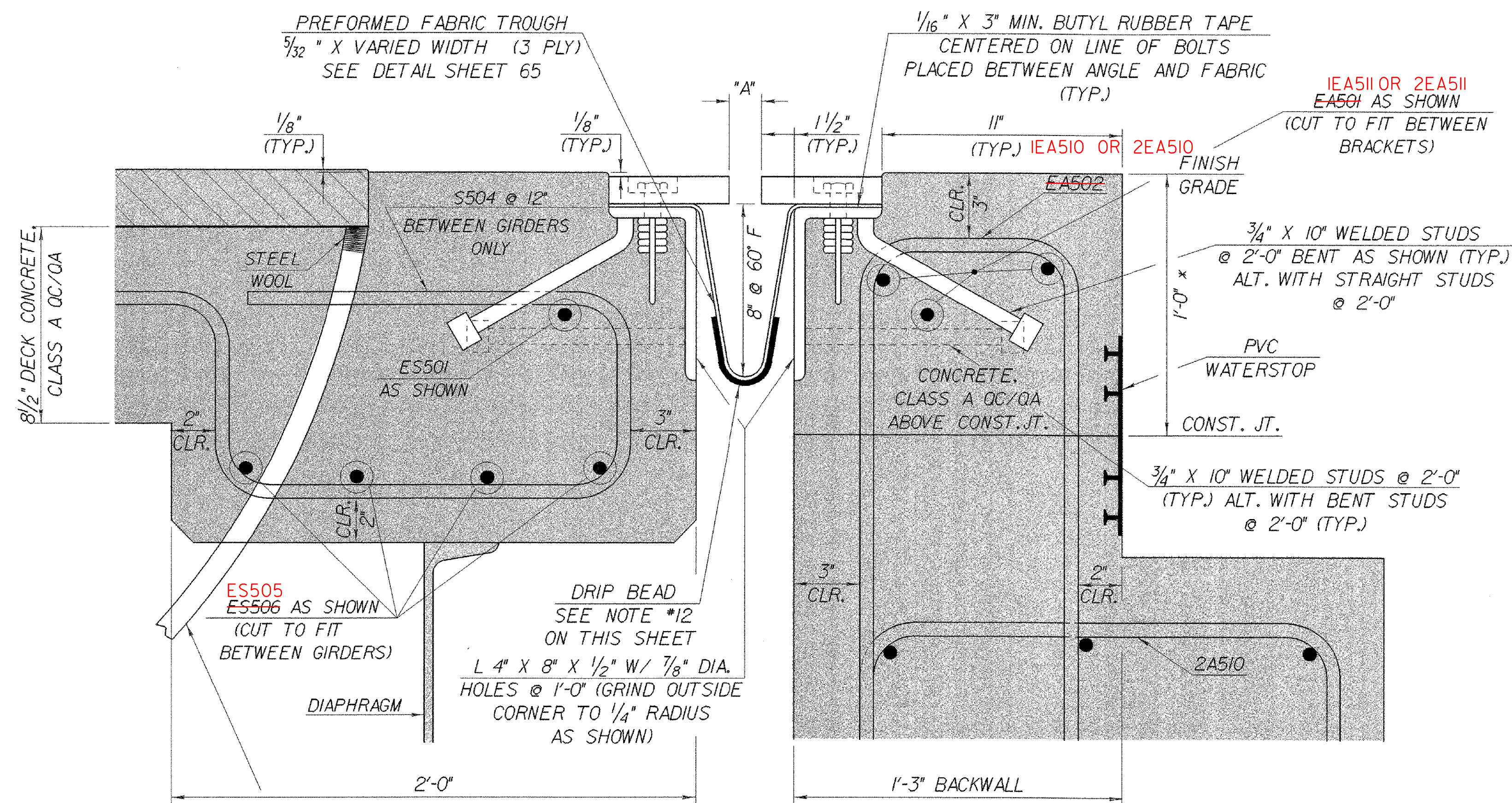
APPROACH SLAB TYPICAL SECTION

SCALE 3/8" = 1'-0"



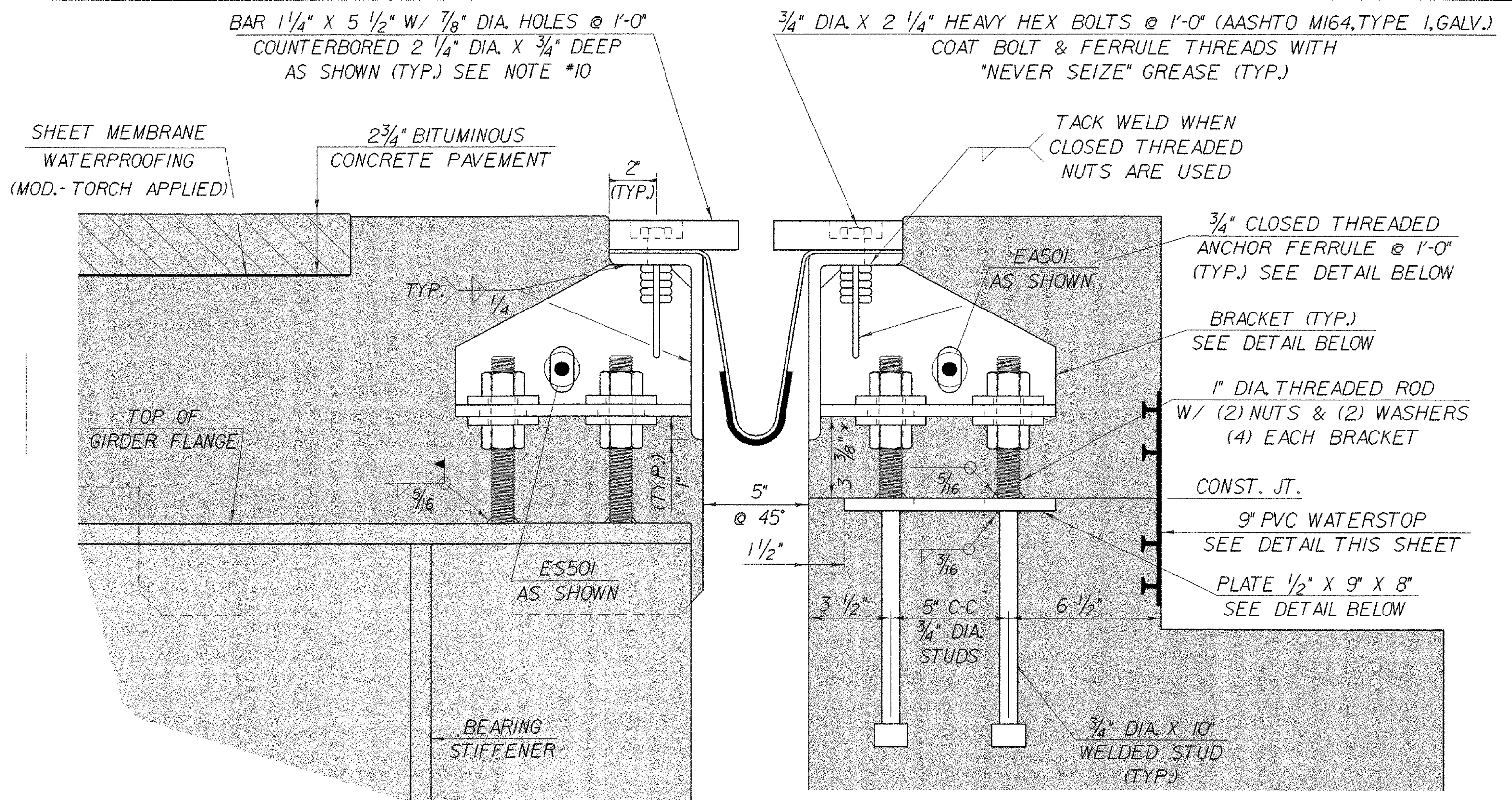
SCALE 3/8" = 1'-0"

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. 2
Highway No. VT RTE 9	Log Sta.
VT RTE.9 OVER ROARING BRANCH	
APPROACH SLAB DETAILS	
Designed By R.PELLETT	Drawn By R.PELLETT
Checked By M.EVANS-MONGEON	Date Bridge Design Supervisor A.PORTALUPI
PROJECT WOODFORD	PROJECT NO. BHF 010-1129
I.G.C. Info. /846039/structures/se039supdgn se039aps.j	
Bridge Sheet No. 	Sheet 62 of 106



TYPICAL SECTION BETWEEN GIRDERS

SCALE: 3\"/>



TYPICAL SECTION AT GIRDERS

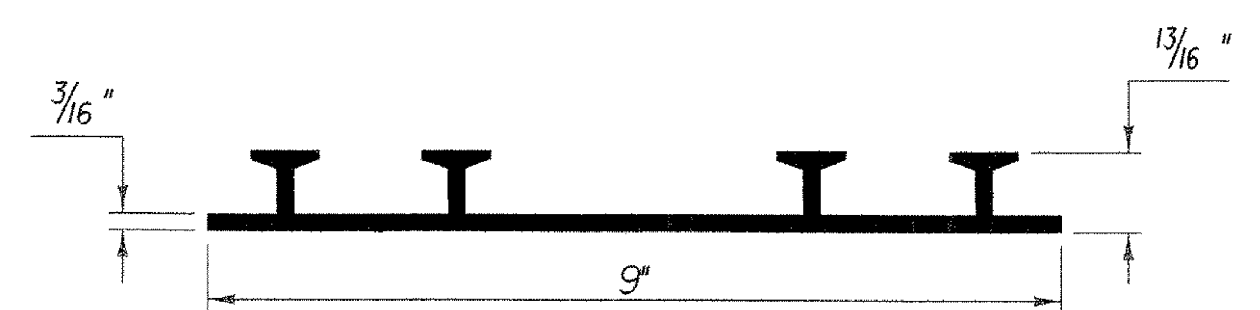
SCALE: 3\"/>

*THESE DIMENSIONS ARE THEORETICAL AND MAY CHANGE DEPENDING UPON THE OUTCOME OF THE BEAM PROFILES.

1\"/>

1. DETAILS ON THIS SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINT".
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07 OF THE STANDARD SPECIFICATIONS.
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE B.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36, THREADED ROD SHALL CONFORM TO AASHTO AND NUTS SHALL CONFORM TO AASHTO M291, GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 (a) OR (b) OF THE STANDARD SPECIFICATION, AS MODIFIED BY THE GENERAL SPECIAL PROVISIONS UNLESS OTHERWISE SPECIFIED.
6. THE ITEM "BRIDGE EXPANSION JOINT" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL JOINT.
7. THE 4\"/>

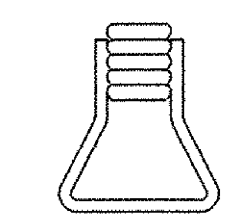
11. PAYMENT FOR WATERSTOP SHALL BE SUBSIDIARY TO CONCRETE PAY ITEM.
12. A DRIP BEAD OF 1/4\"/>



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

THE COSTS FOR P.V.C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

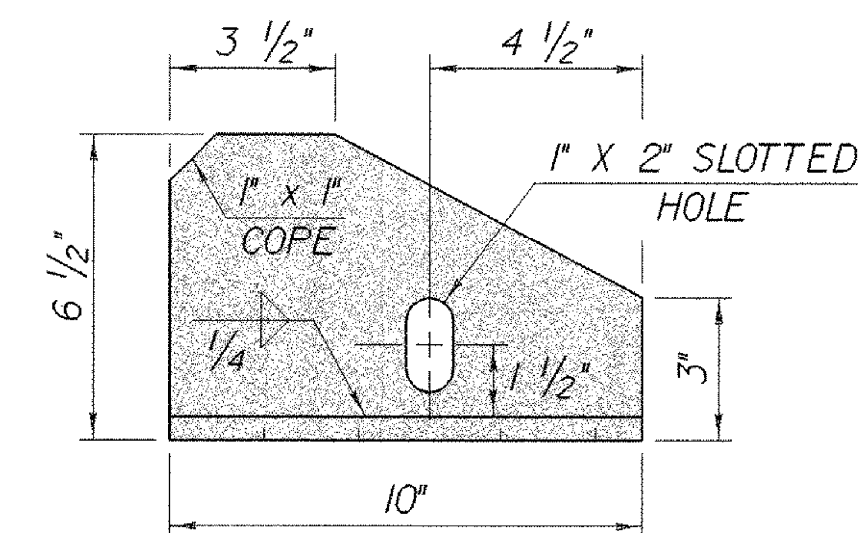
DAYTON/RICHMOND TYPE LF, 3/4\"/>



ANCHOR FERRULE DETAIL

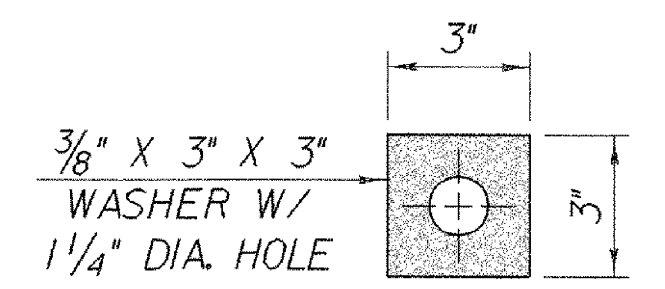
SCALE: 3\"/>

NOTE: CLOSED THREADED FERRULE NUTS WITHOUT ANCHOR LOOPS MAY BE USED.



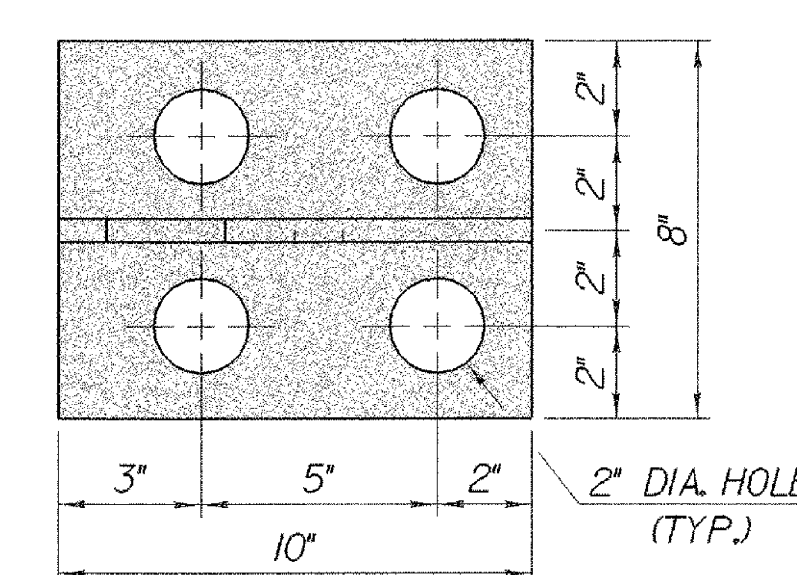
BRACKET ELEVATION

SCALE: 3\"/>



WASHER FOR BRACKET

SCALE: 3\"/>



BRACKET PLAN

SCALE: 3\"/>

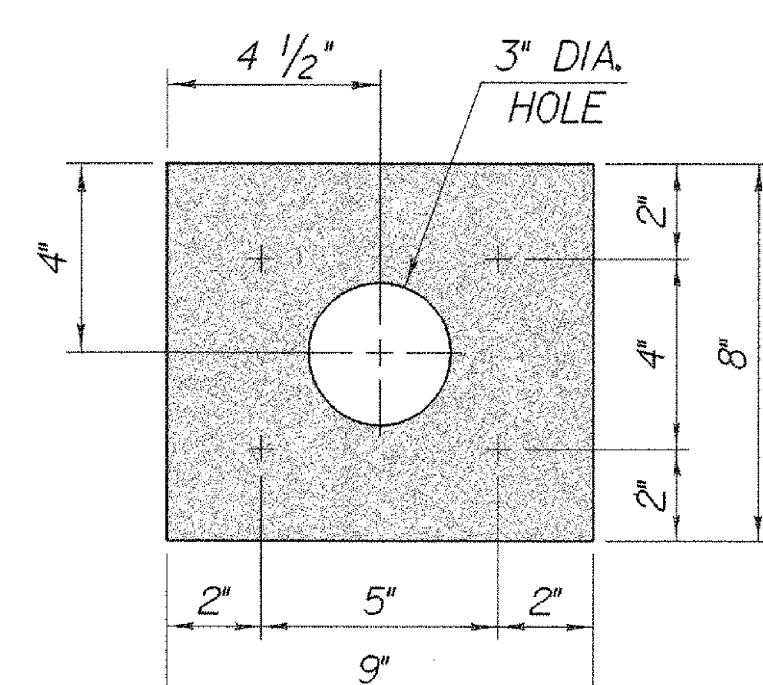


PLATE PLAN

SCALE: 3\"/>

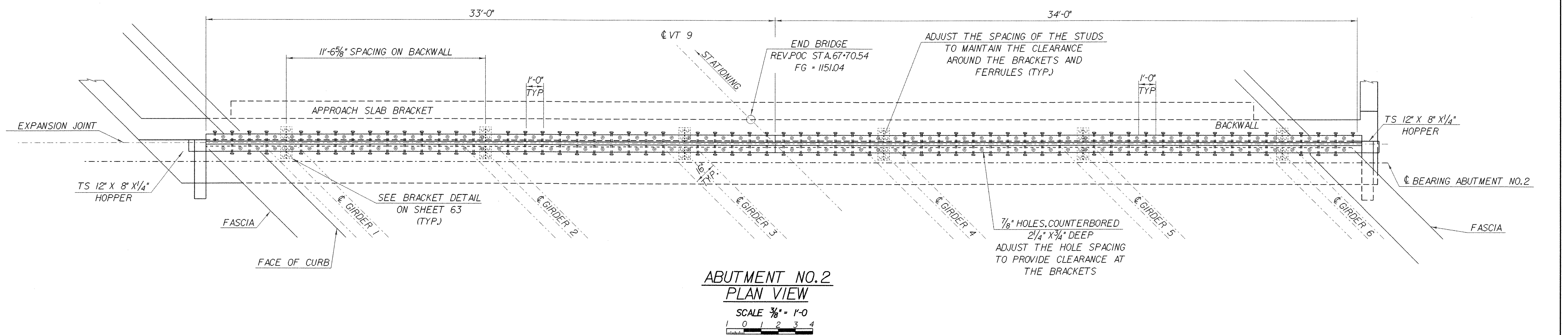
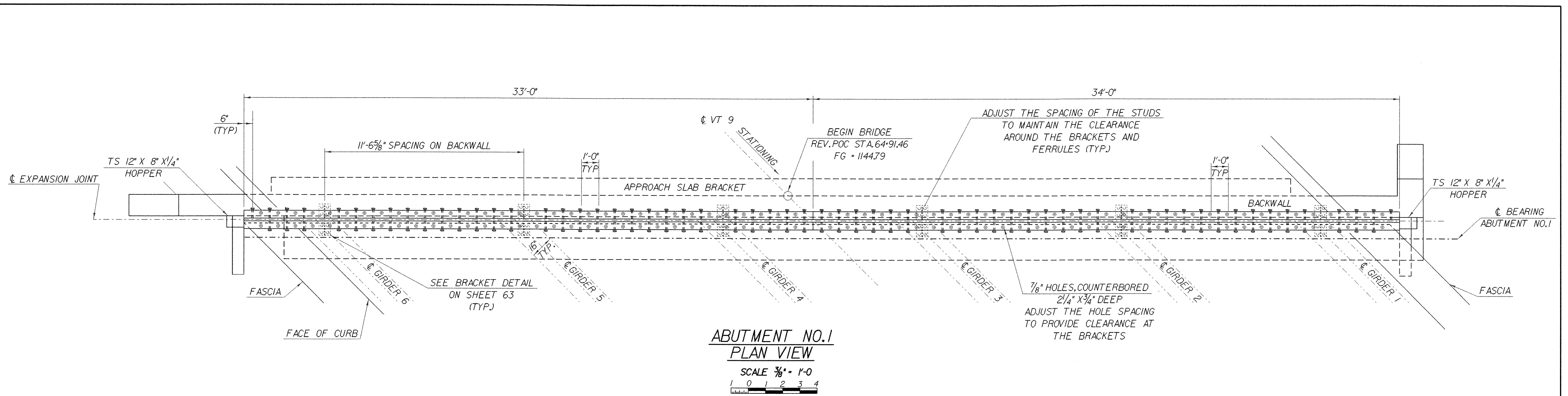
ALL PLATES 1/2\"/>

TEMP	*A* DIST	
	ABUT.* 1	ABUT.* 2
0° F	2 3/8"	2 3/4"
15° F	2 1/4"	2 1/2"
30° F	2 1/8"	2 1/4"
45° F	2"	2"
60° F	1 7/8"	1 3/4"
75° F	1 3/4"	1 1/2"
90° F	1 5/8"	1 1/4"
105° F	1 1/2"	1"

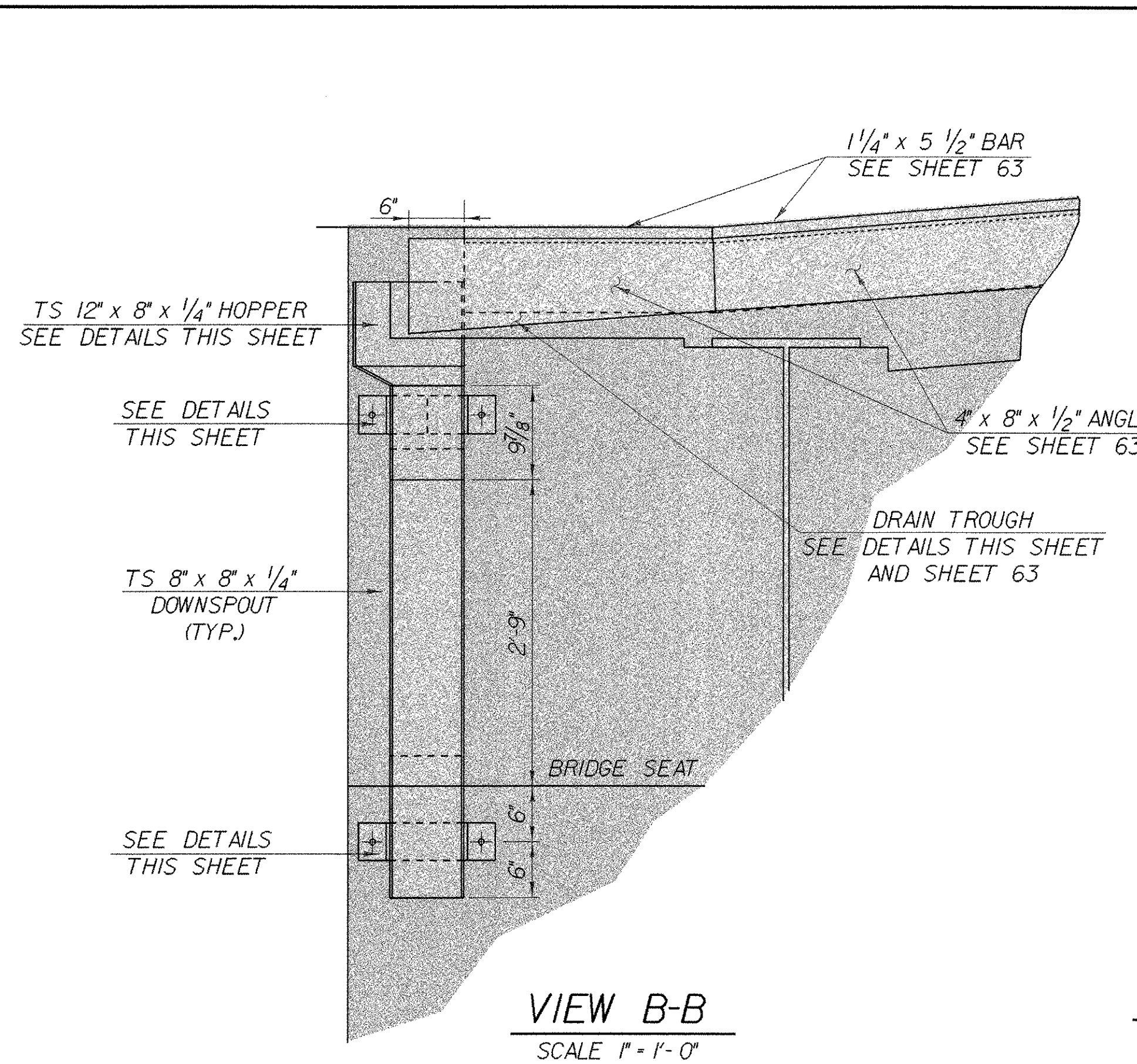
**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

Town of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOOMSAC EXPANSION JOINT DETAILS			
Designed By	M.EVANS-MONGEON	Drawn By	R.VANHAMBURG
Checked By	M.EVANS-MONGEON	Date	
		Bridge Design Supervisor	A.PORTALUPI
PROJECT	WOODFORD	PROJECT NO.	BHF 010-1(29)
I.G.C. Info.	/84e039/se039expdgn		se039expj
Bridge Sheet No.		Sheet	63 of 106

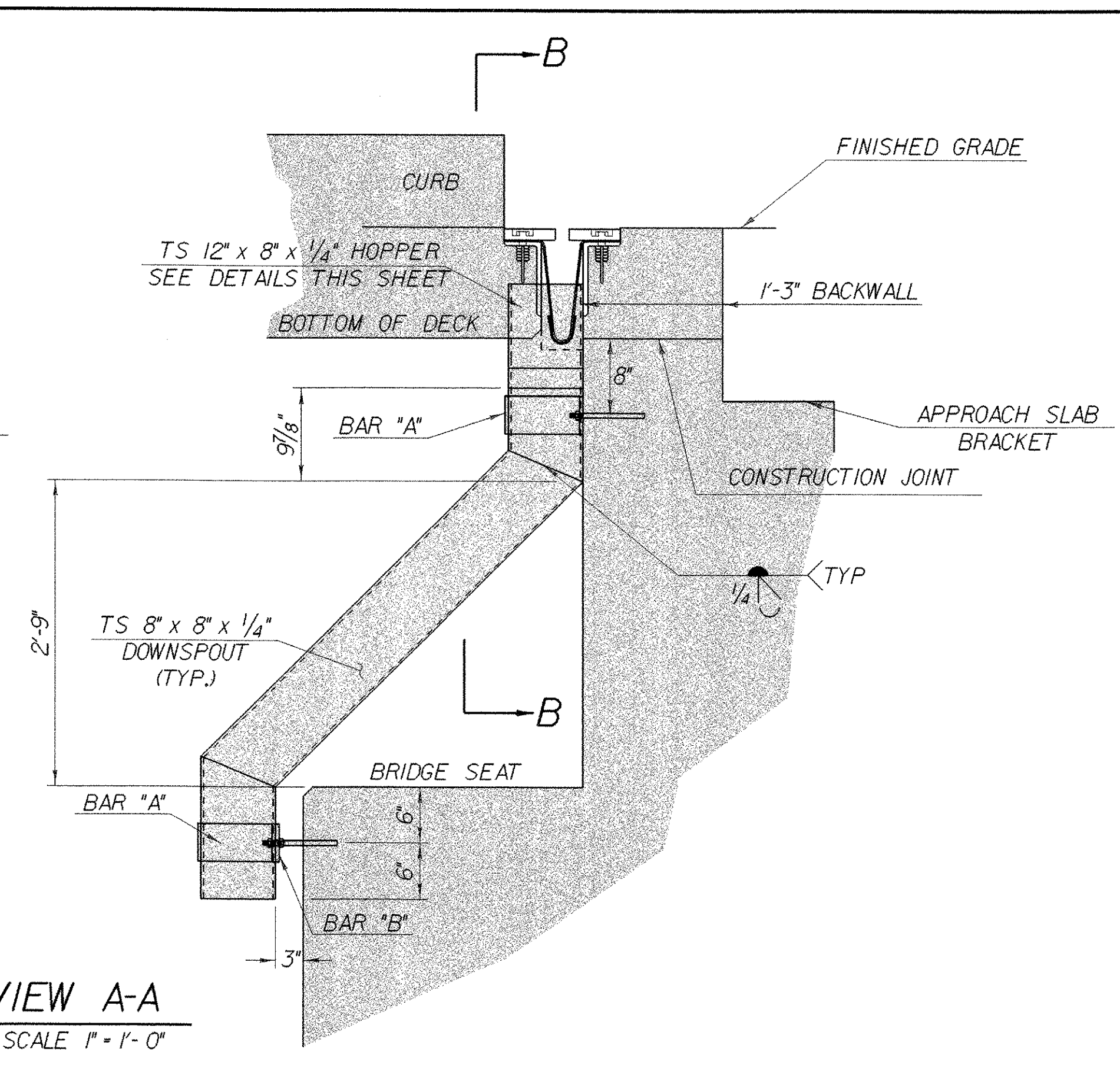
PLOTTED 03-OCT-2005



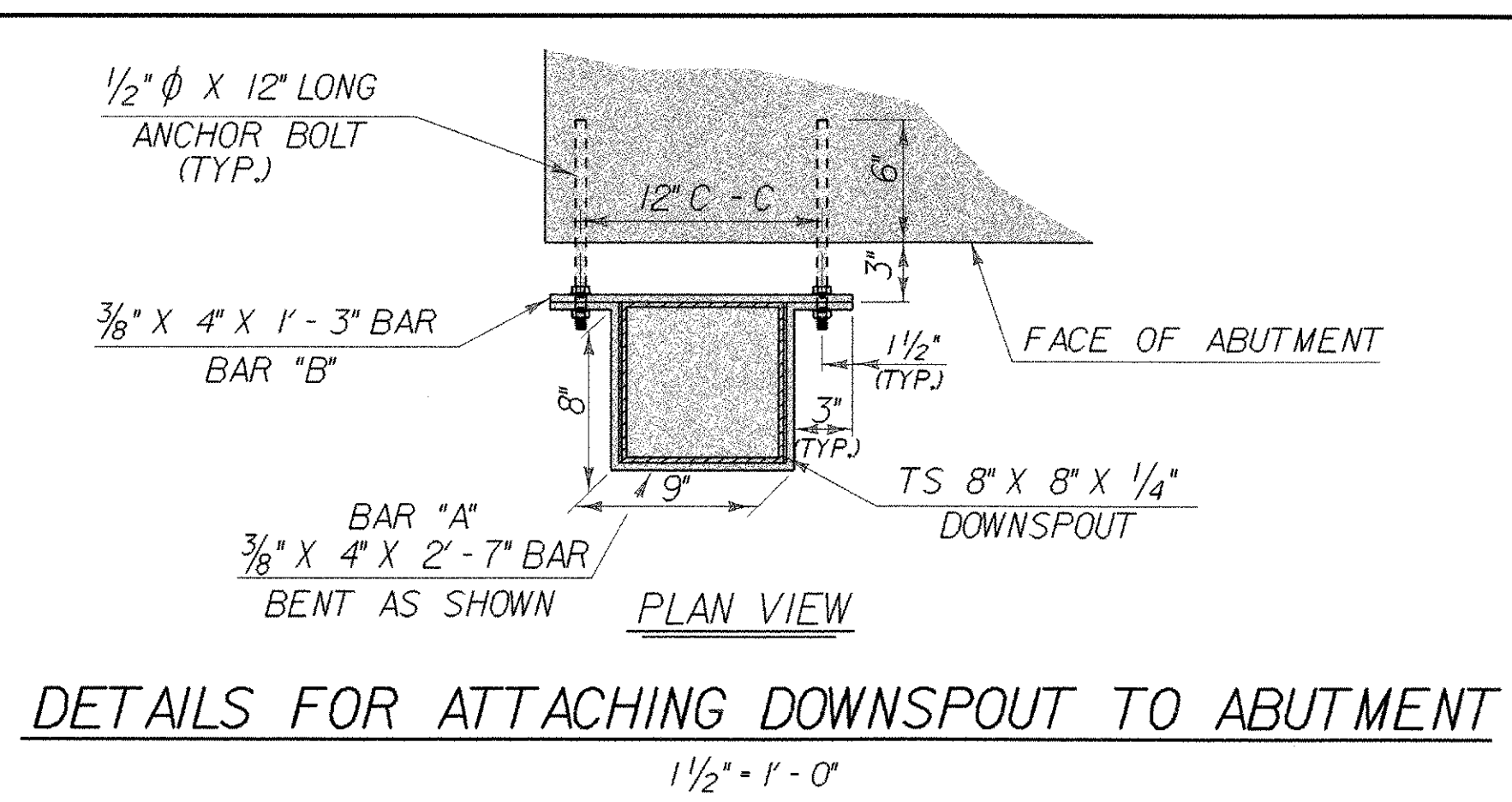
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC EXPANSION JOINT PLAN VIEWS	
Designed By M. EVANS-MONGEON	Drawn By R. VANHAMBURG
Checked By M. EVANS-MONGEON	Bridge Design Supervisor A. PORTALUPI
PROJECT WOODFORD	PROJECT NO. BHF 010-K(29)
I.G.C. Info. /84e039/structures/se039/1.dgn	se039/1.dgn
Bridge Sheet No.	Sheet 64 of 106



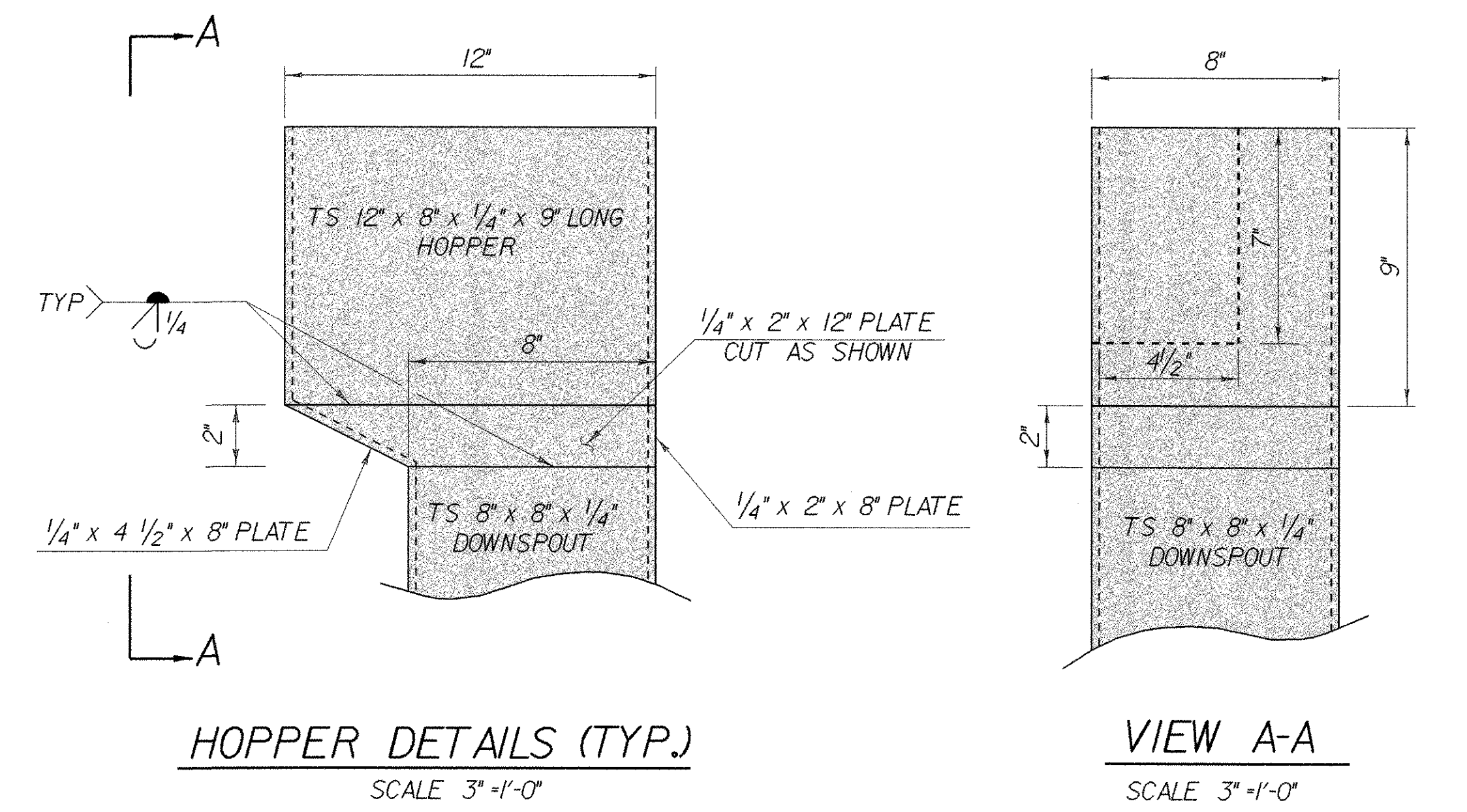
VIEW B-B
SCALE 1" = 1'-0"



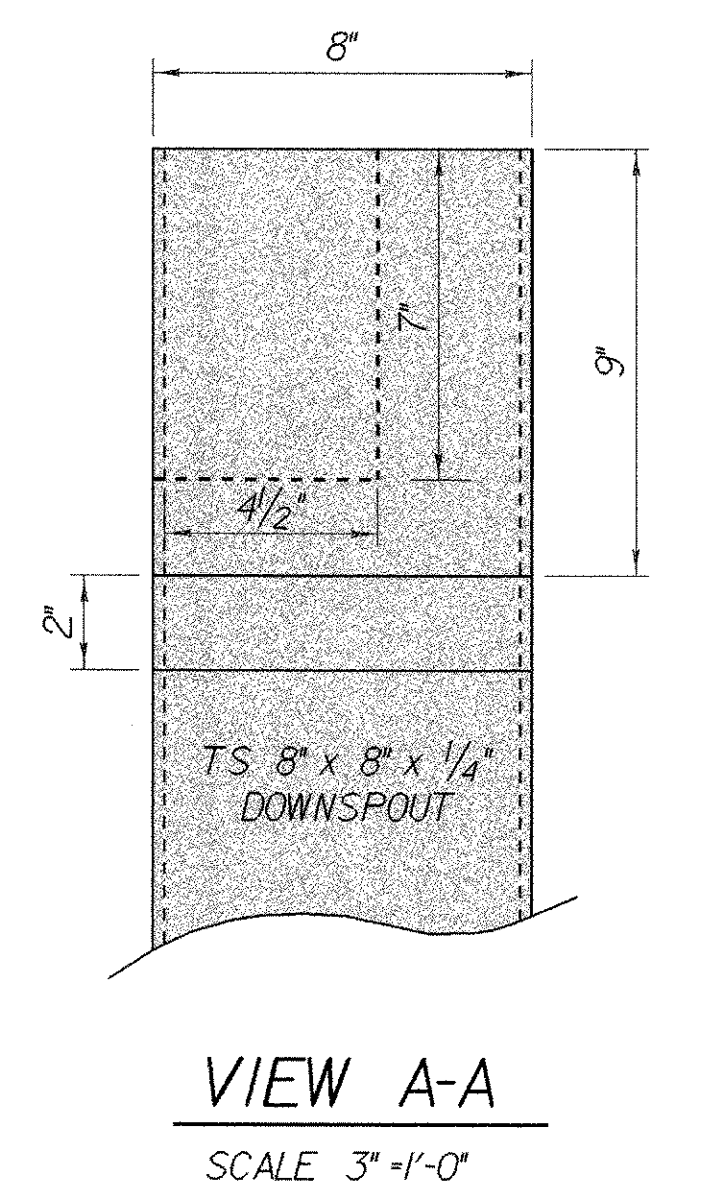
VIEW A-A
SCALE 1" = 1'-0"



DETAILS FOR ATTACHING DOWNSPOUT TO ABUTMENT
SCALE 1/2" = 1'-0"



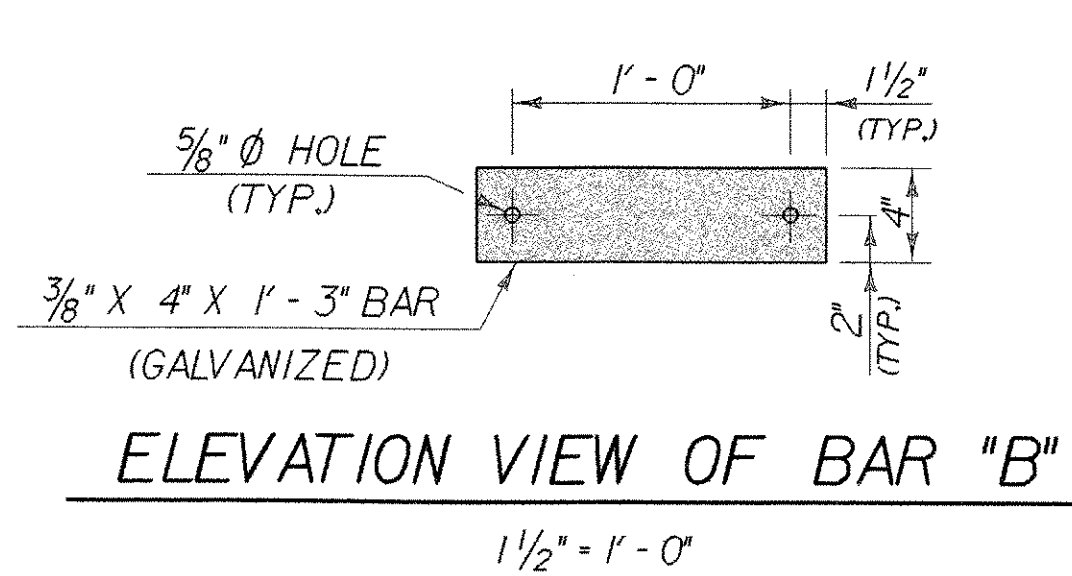
HOPPER DETAILS (TYP.)
SCALE 3" = 1'-0"



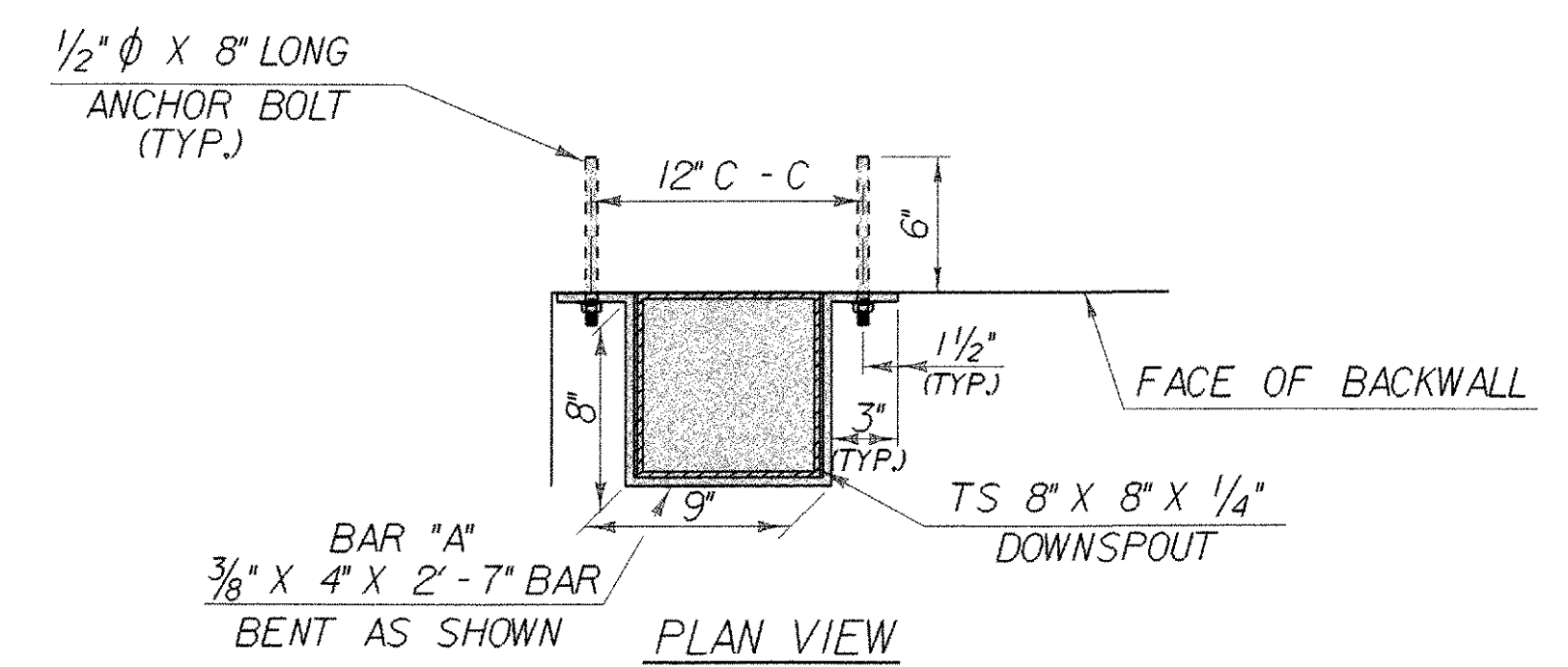
VIEW A-A
SCALE 3" = 1'-0"

DOWNSPOUT NOTES

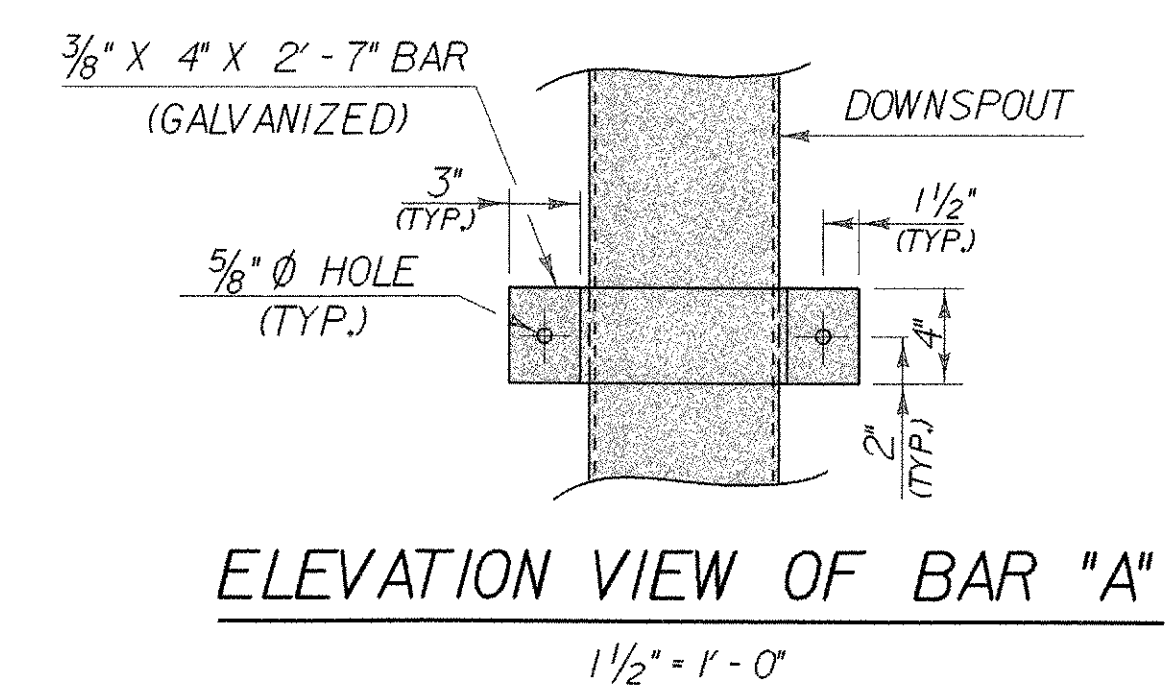
1. ALL HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500 GR.B.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270 / M270 M GR.36.
3. DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M111 / M111 M AFTER FABRICATION.
4. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A-307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).
5. ANY PLACE WHERE THE GALVANIZED HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE REPAIRED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 513 PAINTING STRUCTURAL STEEL.
6. THE FOUR DOWNSPOUTS AND RELATED HARDWARE FOR EACH SHALL BE PAID FOR UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".
7. ALL REQUIRED WELDS FOR DOWNSPOUTS SHALL BE DETAILED ON SHOP DRAWINGS WHICH SHALL ALSO INCLUDE ALL APPLICABLE WELDING PROCEDURES.
8. AFTER ALL PAVING AND CONCRETE OPERATIONS THE DOWNSPOUT SHALL BE CLEANED OF ALL CONTAMINATION BY FLUSHING.



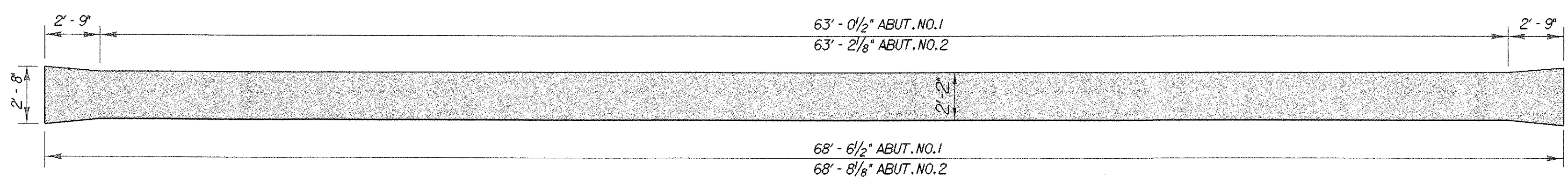
ELEVATION VIEW OF BAR "B"
SCALE 1/2" = 1'-0"



DETAILS FOR ATTACHING DOWNSPOUT TO BACKWALL (TYP.)
SCALE 1/2" = 1'-0"

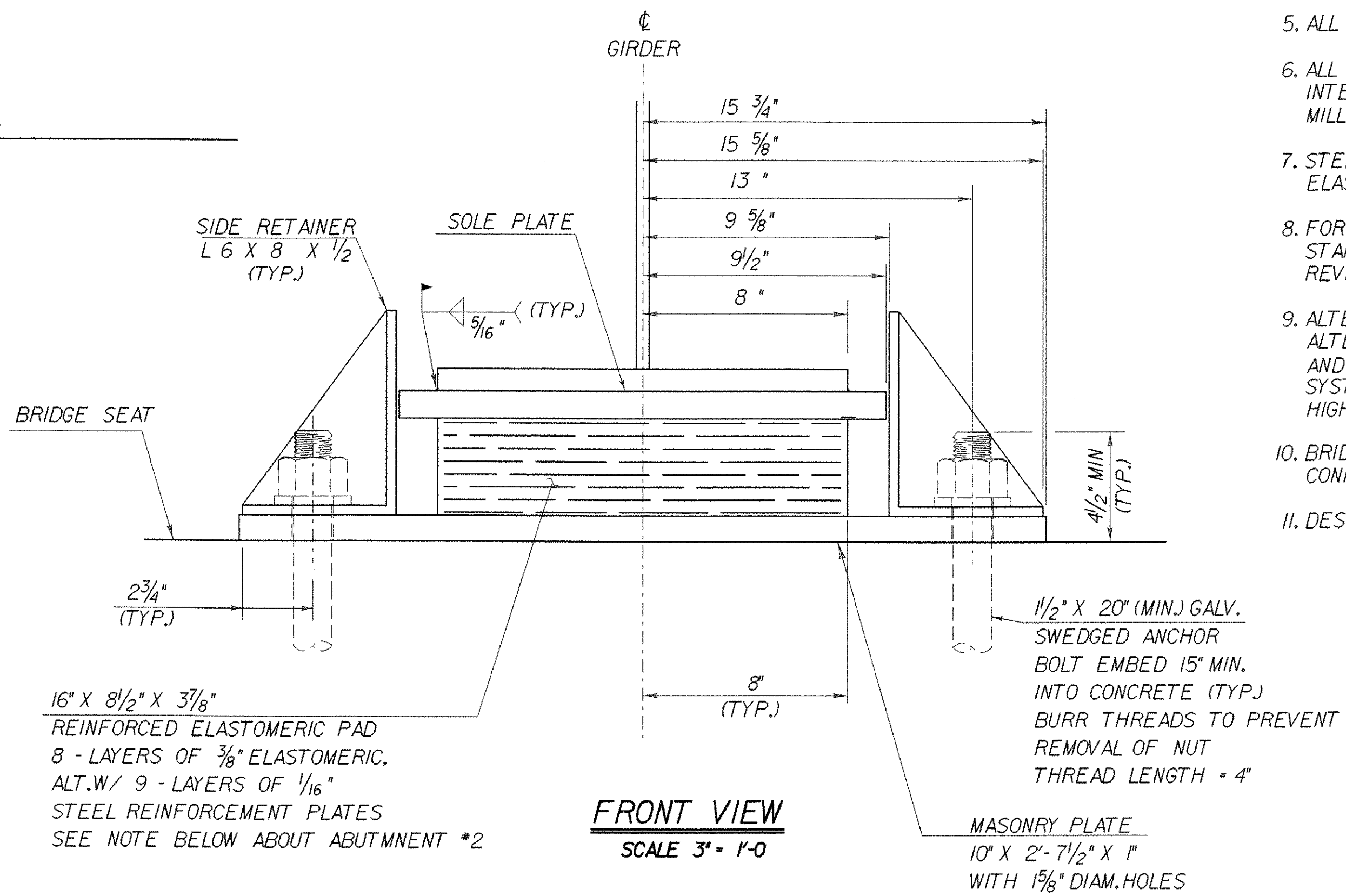
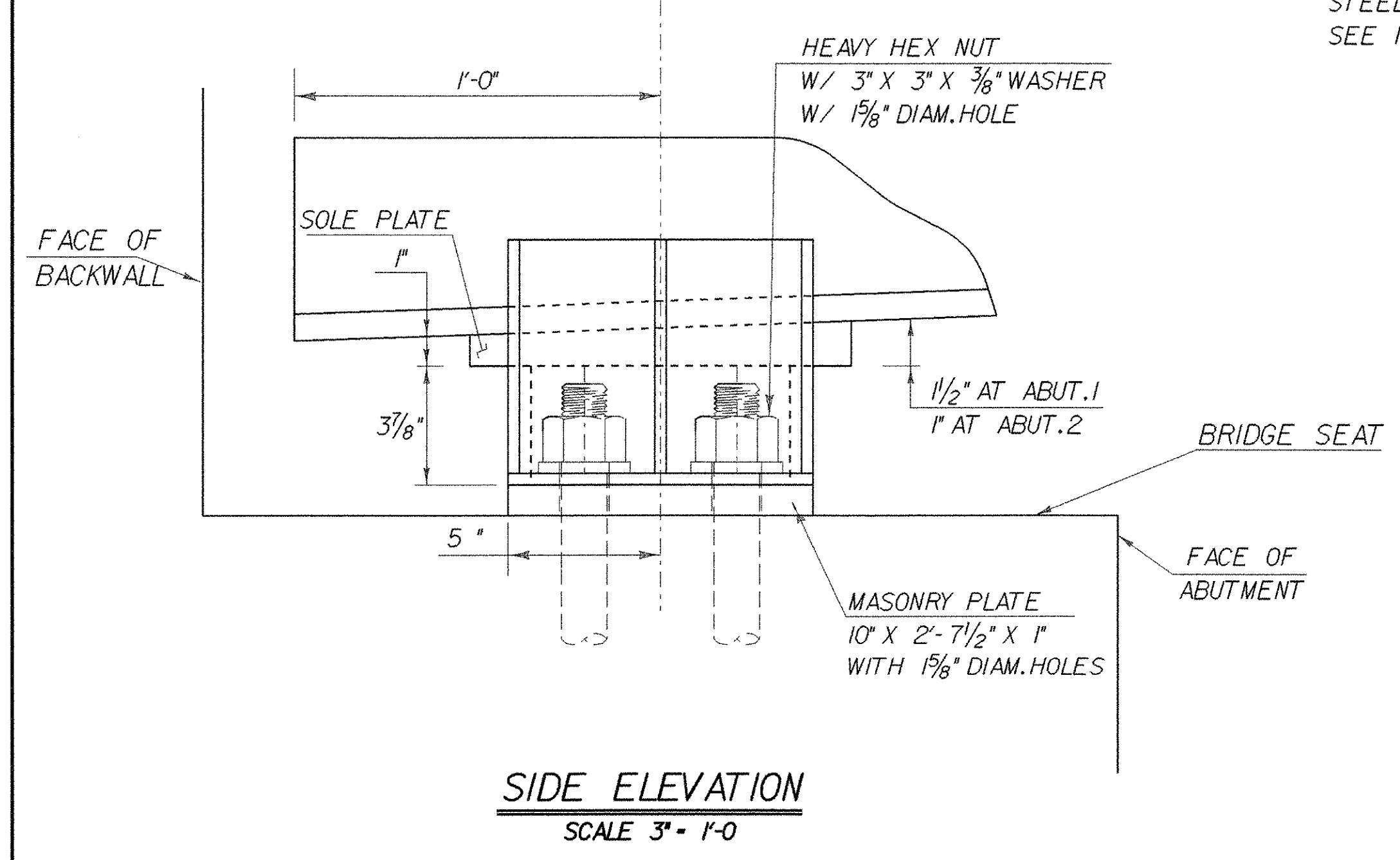
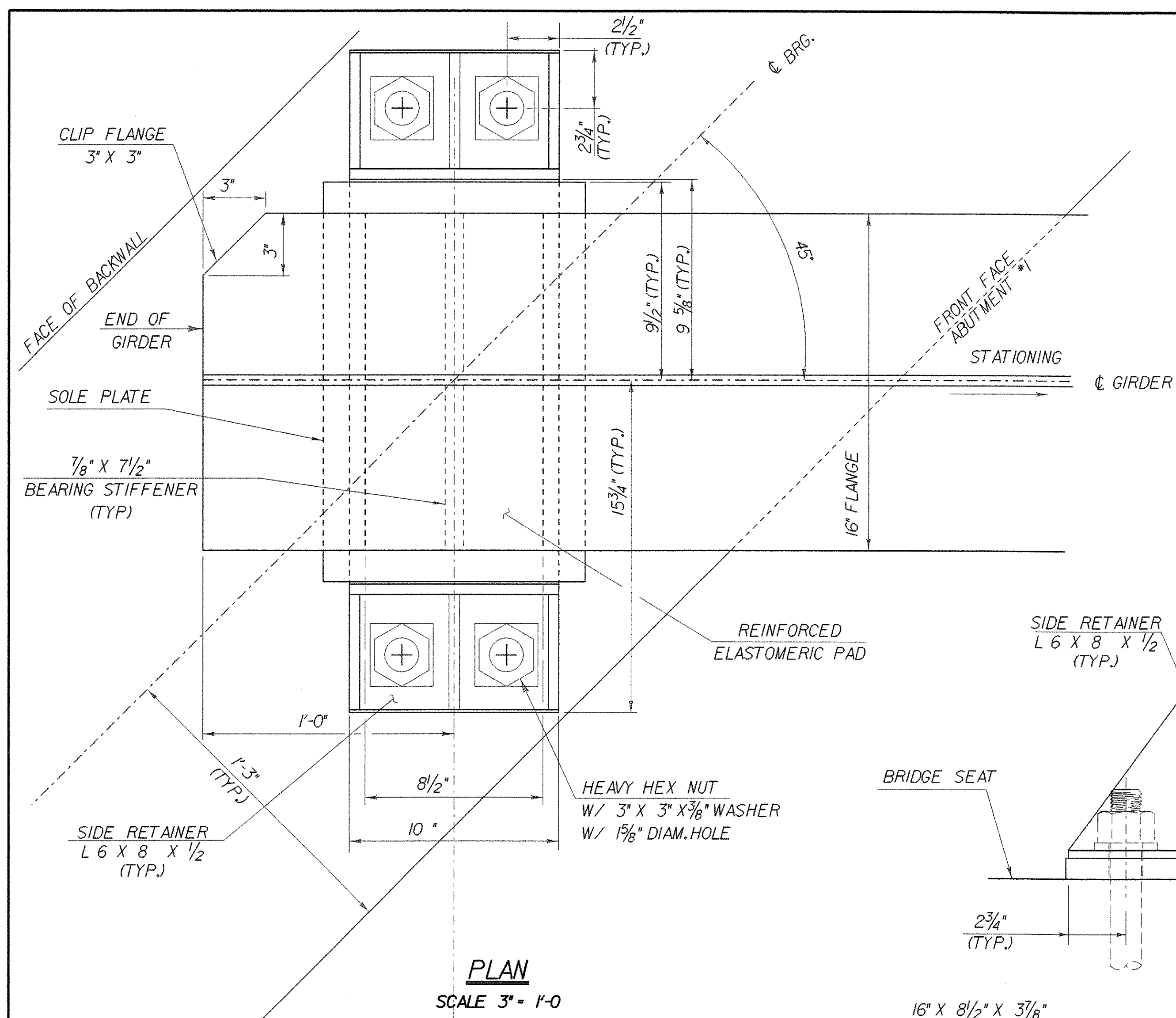


ELEVATION VIEW OF BAR "A"
SCALE 1/2" = 1'-0"

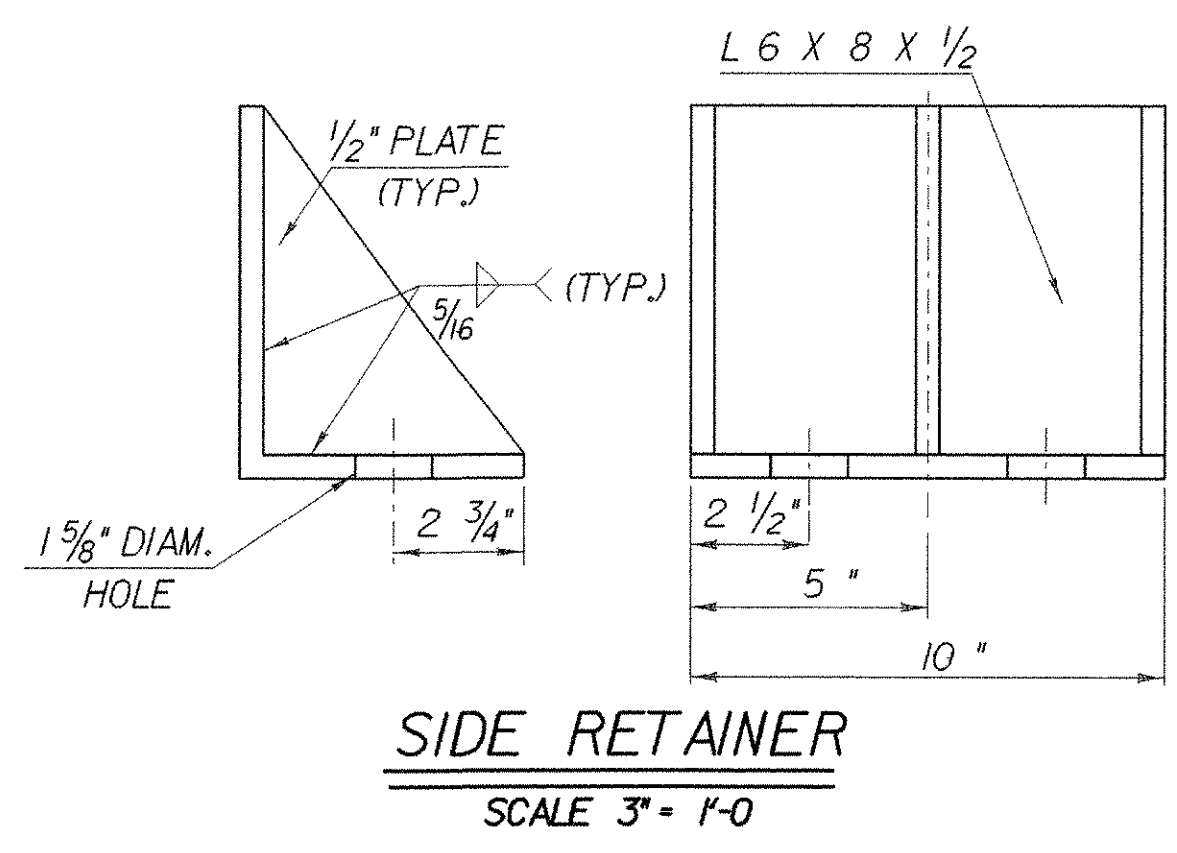
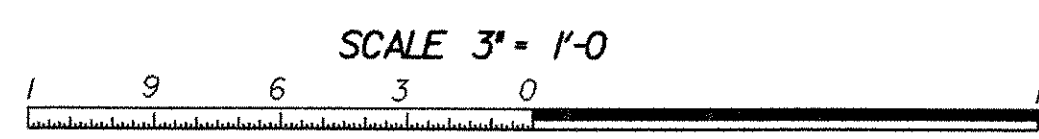


TROUGH LAYOUT
SCALE 1/4" = 1'-0"

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC DOWNSPOUT AND HOPPER DETAILS	
Designed By M.EVANS-MONGEON	Drawn By R.VANHAMBURG
Checked By M.EVANS-MONGEON	Bridge Design Supervisor A.PORTALUPI
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /846039/structures/se0391.dgn	se039dsh1
Bridge Sheet No. 65	Sheet 65 of 106



NOTE: ABUTMENT NO.1 IS SHOWN, ABUTMENT NO.2 IS SIMILAR EXCEPT REINFORCED ELASTOMERIC PAD FOR ABUTMENT NO.2 IS: 16" X 8 1/2" X 6 1/16" WITH 13 LAYERS OF 3/8" ELASTOMERIC, ALT. W/ 14 LAYERS OF 15 GAGE STEEL REINFORCEMENT PLATES

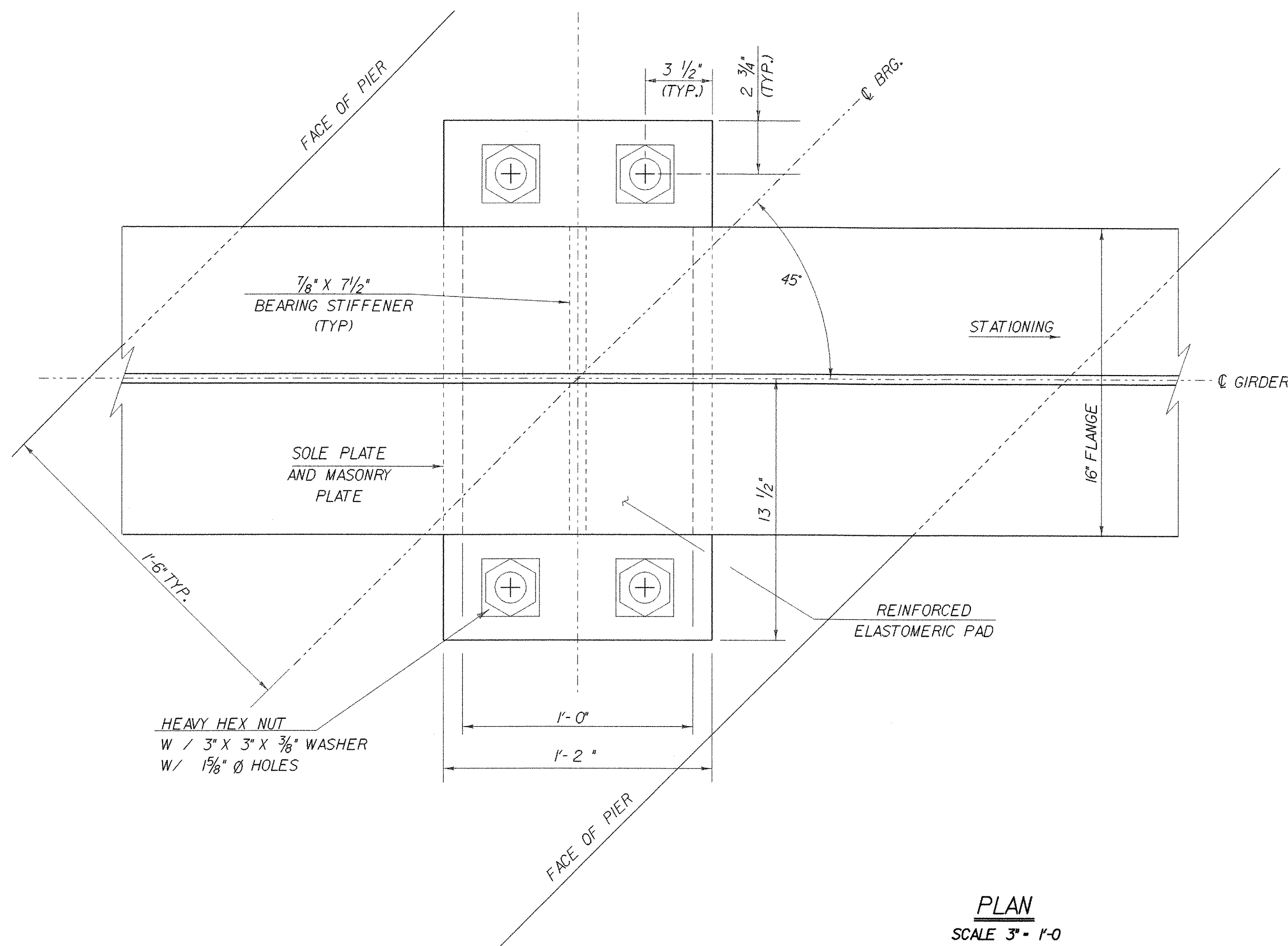


BEARING DEVICE NOTES

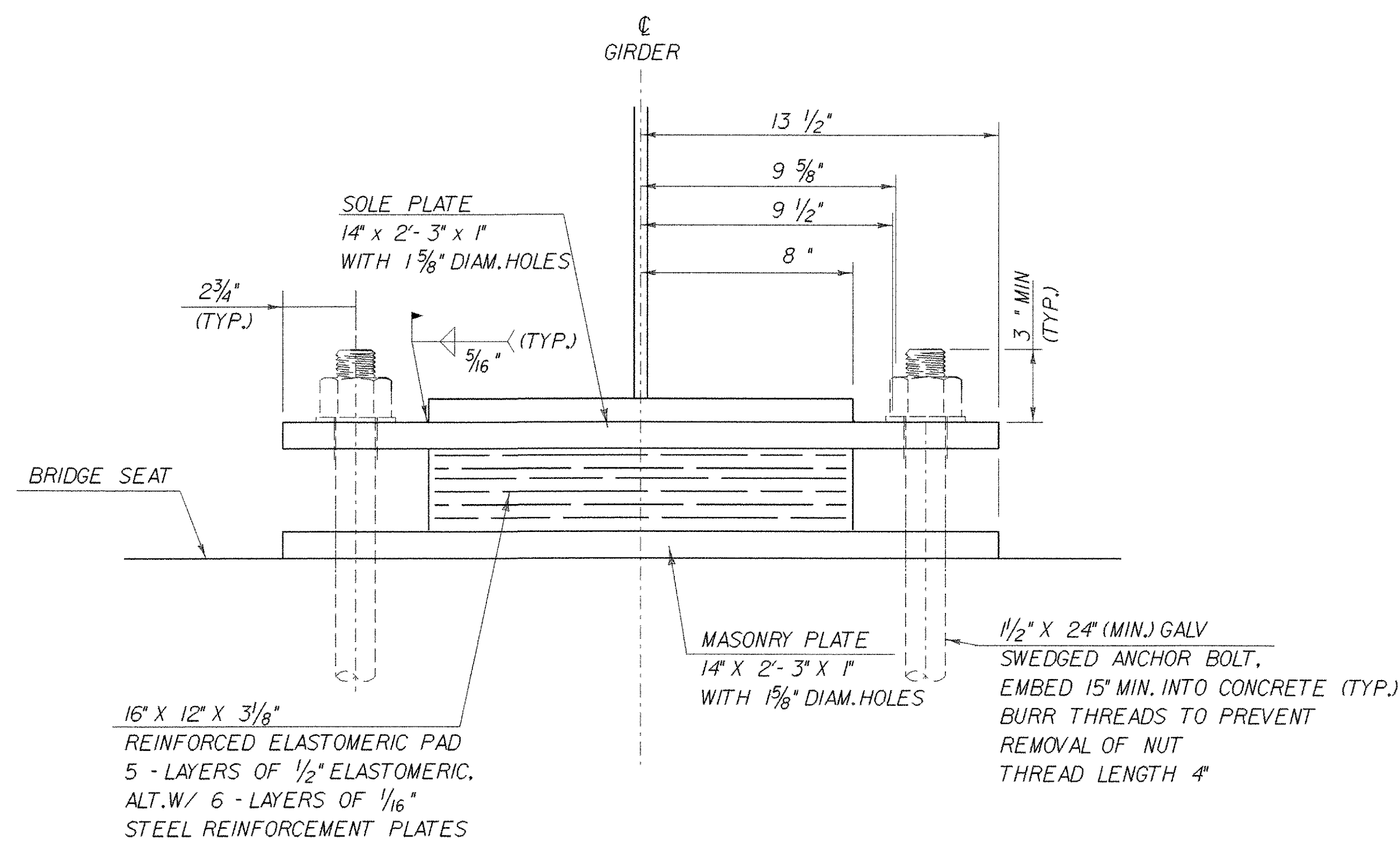
- BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.0 "BEARING DEVICE ASSEMBLY" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.
- THE FIELD WELD CONNECTING THE BOTTOM FLANGE WITH THE BEARING DEVICE SHALL BE MADE WITH E7018 RODS. AREAS OF METALIZING DAMAGED BY WELDING AND/OR HANDLING SHALL BE REPAIRED BY METALIZING IN ACCORDANCE WITH ASTM A 760/760M.
- SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING OR BONDING PROCEDURES. THE SHOP DRAWINGS SUBMITTAL SHALL ALSO INCLUDE A TYPE D CERTIFICATION PER SECTION 700.02 (C).
- ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SECTION 531.04(b) AND 506.15. AFTER THE BEARINGS ARE METALIZED, THEY SHALL BE SEALED WITH AN APPROVED PRIMER AS SPECIFIED IN SUBSECTION 506.15(c). ALL WASHERS SHALL BE 3/8" PLATE MINIMUM. PAYMENT FOR ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.
- ALL STEEL IN BEARING DEVICES SHALL BE AASHTO M 270/M 270M GRADE 36.
- ALL REINFORCEMENT BETWEEN LAYERS OF ELASTOMERIC SHALL BE STEEL ASTM A36. ALL INTERNAL STEEL PLATES SHALL BE SAND BLASTED AND FREE OF COATINGS, RUST, AND MILL SCALE. THE PLATES SHALL BE FREE OF SHARP EDGES AND BURRS.
- STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM OF 1/8" EDGE SEAL OF ELASTOMER INTEGRAL WITH THE BEARING OVER ALL INTERNAL PLATES.
- FOR ELASTOMERIC BEARINGS, ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, EDITION 2002 AND ITS LATEST REVISIONS AND AASHTO M 251/M 251M.
- ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET. THE ALTERNATE SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN AND SHALL BE DESIGNED PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 2002 EDITION AND ITS LATEST REVISIONS.
- BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.
- DESIGN CRITERIA:
 - DESIGN ROTATION = 0.01 RADIANS
 - HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY RESTRAINED DIRECTION.
 - VERTICAL DESIGN LOAD PER BEARING:

ABUTMENT BEARINGS	PIER BEARINGS
RDL = 45.0 Kips	RDL = 117.4 Kips
RLL = 79.0 Kips	RLL = 110.3 Kips
 - TEMPERATURE RANGE = -30' TO 120'F
 - ELASTOMER SHALL HAVE NOMINAL HARDNESS OF 60 ON SHORE 'A' SCALE. ELASTOMER SHALL HAVE A SHEAR MODULUS BETWEEN 130 AND 175 psi. THE RAW ELASTOMER SHALL BE VIRGIN NEOPRENE CLASSIFIED AS LOW TEMPERATURE GRADE 4 AS DEFINED IN TABLE 18.4.5J-1A OF AASHTO, DIVISION II, SECTION 18.
 - NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS
- THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 2002 AND ITS LATEST REVISIONS, DIVISION II SECTION 18.
- THE STEEL SOLE PLATES AND MASONRY PLATES SHALL BE HOT BONDED TO THE REINFORCED ELASTOMERIC PAD DURING THE VULCANIZATION PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALIZED.
- THE ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF A 307 GR. C.

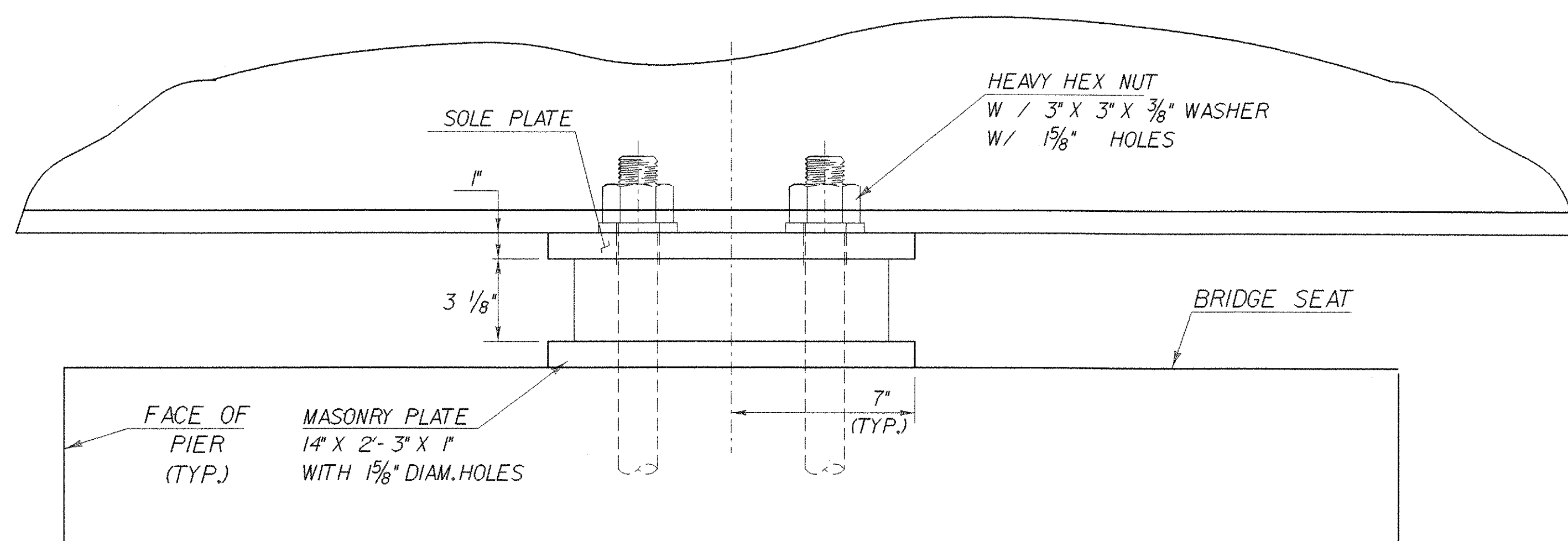
STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOOMSAC			
ABUTMENT BEARINGS AND BEARING NOTES			
Designed By	M. EVANS-MONGEON	Drawn By	R. VANHAMBURG
Checked By		Bridge Design Supervisor	
		Date	
	M. EVANS-MONGEON	A. PORTALUPI	Date
PROJECT	WOODFORD	PROJECT NO.	BHF 010-1(29)
I.G.C. Info.	/84e039/structures/se039sup.dgn		se039brg.j
Bridge Sheet No.		Sheet	66 of 106



PLAN
SCALE 3" = 1'-0"

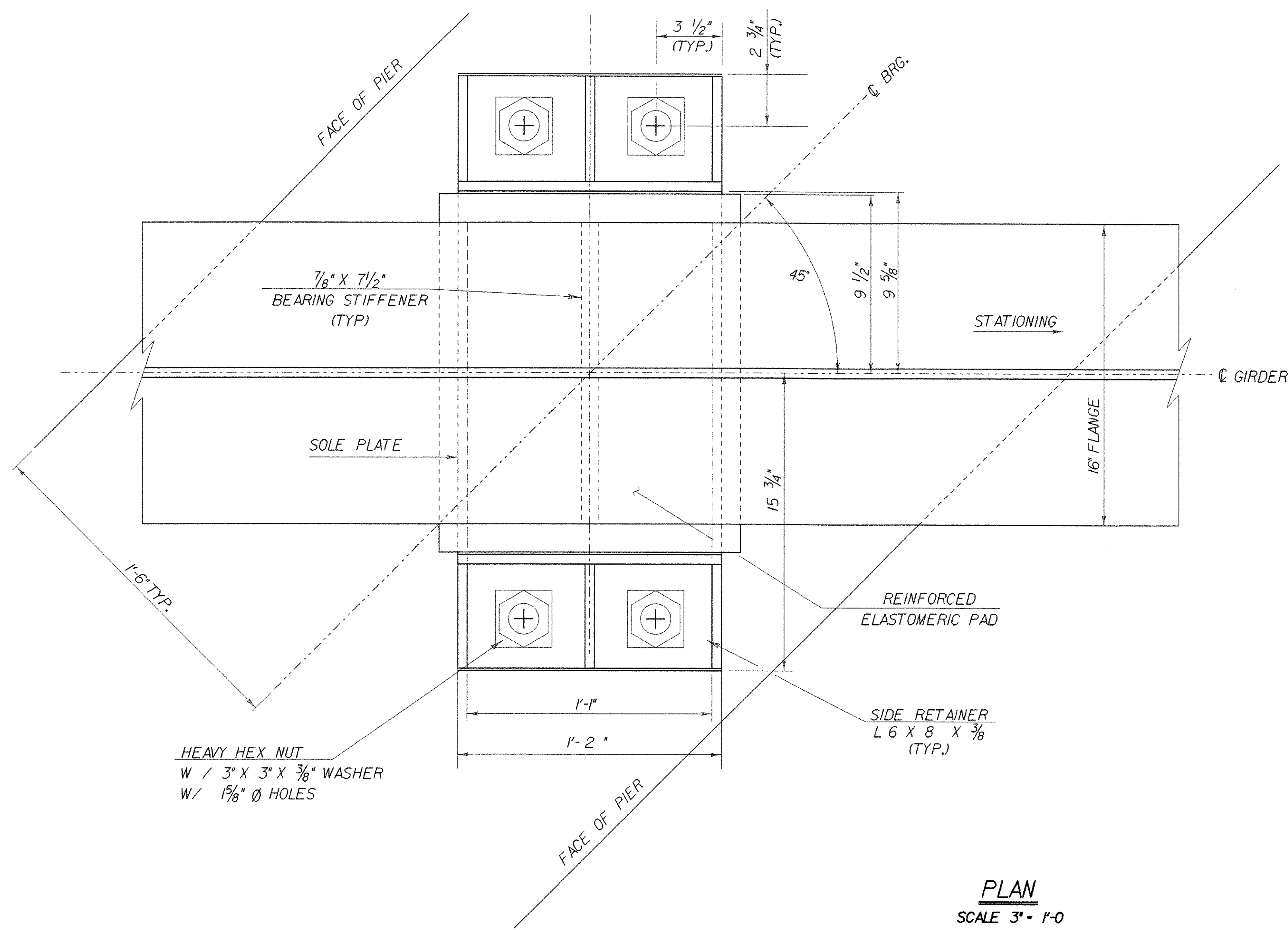


FRONT VIEW
SCALE 3" = 1'-0"

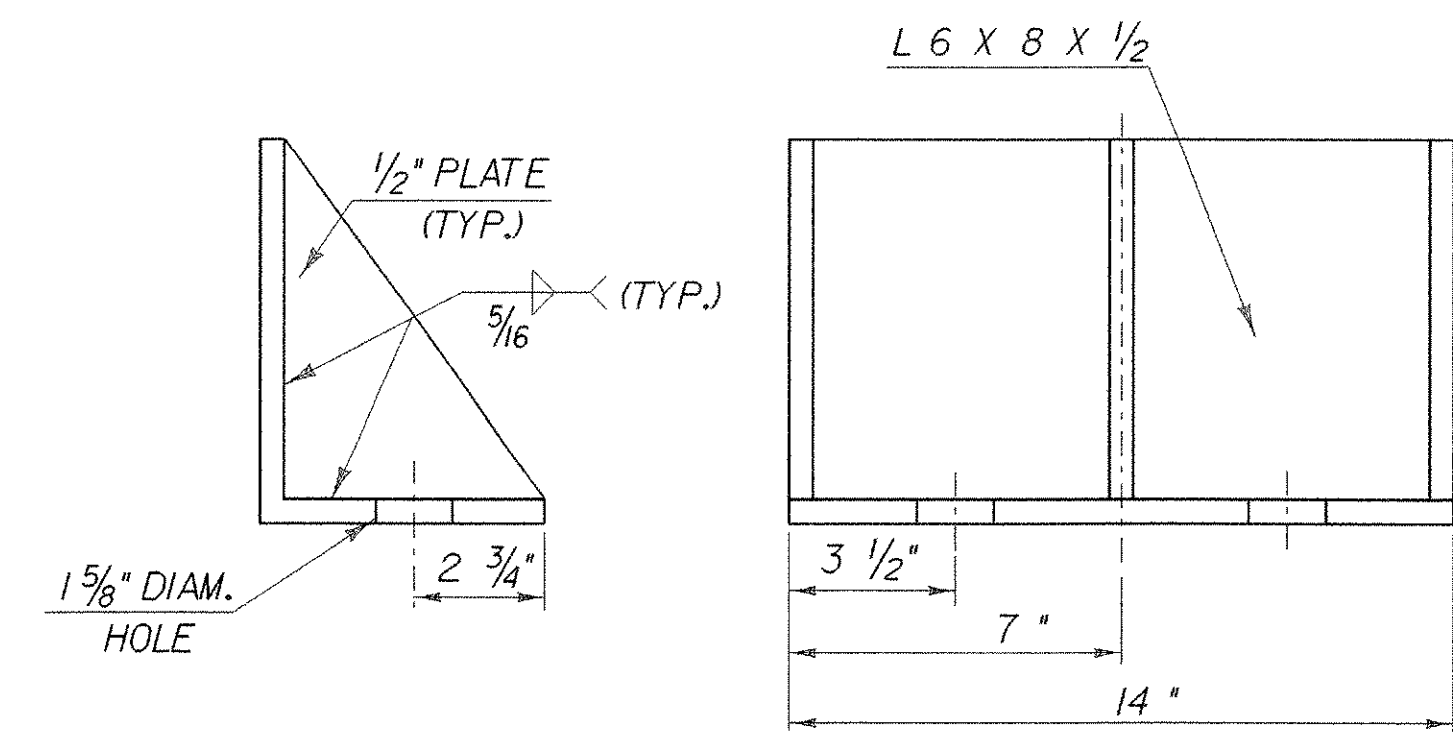


SIDE ELEVATION
SCALE 3" = 1'-0"

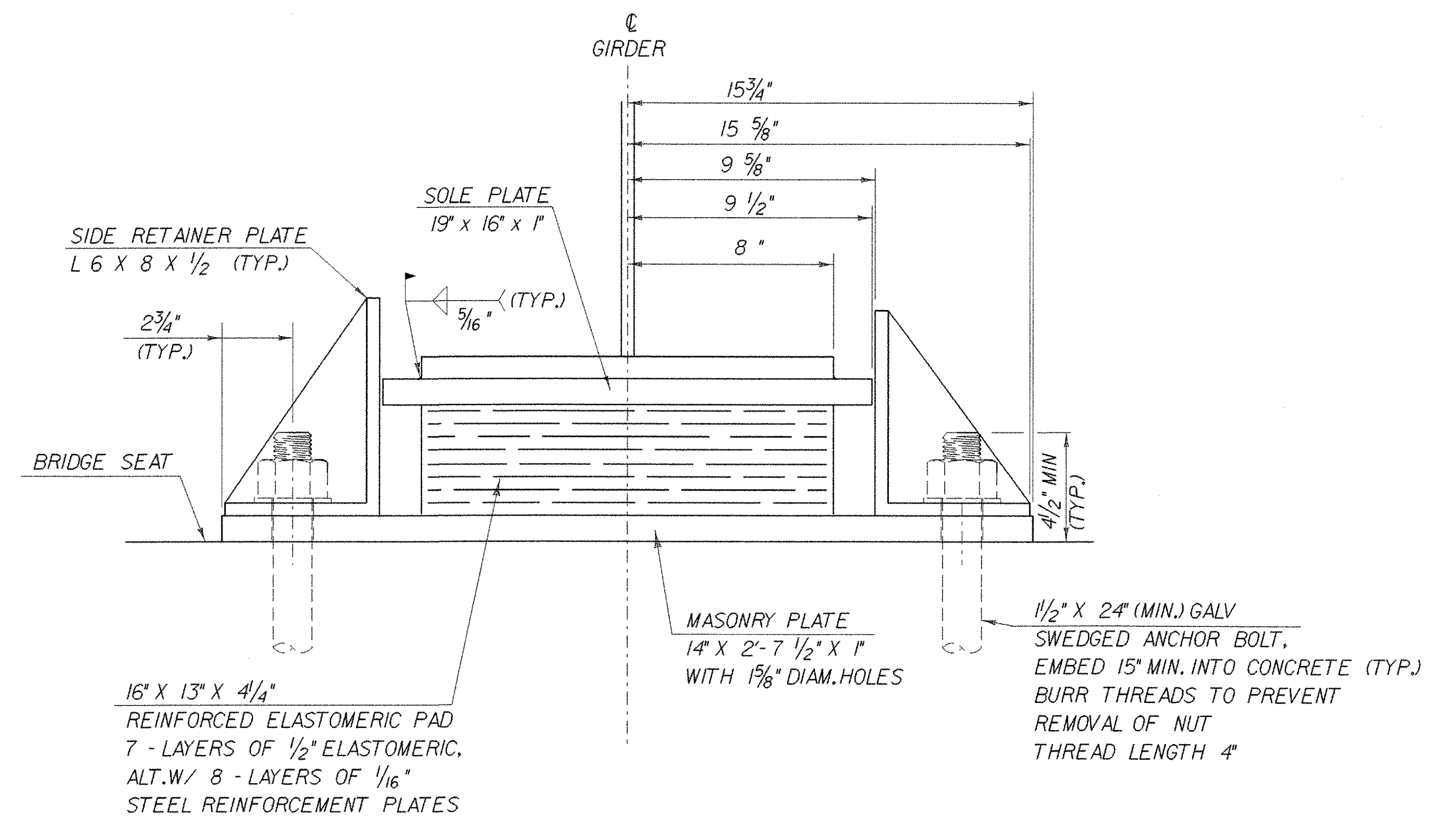
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR II
Highway No. VT 9	Log Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC	
BEARING DEVICE DETAILS - FIXED PIER I	
Designed By M.EVANS-MONGEON	Drawn By R.VANHAMBURG
Checked By M.EVANS-MONGEON	Bridge Design Supervisor A.PORTALUPI
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /B44039/structures/se039sup.dgn	se039bglj
Bridge Sheet No.	Sheet 67 of 106



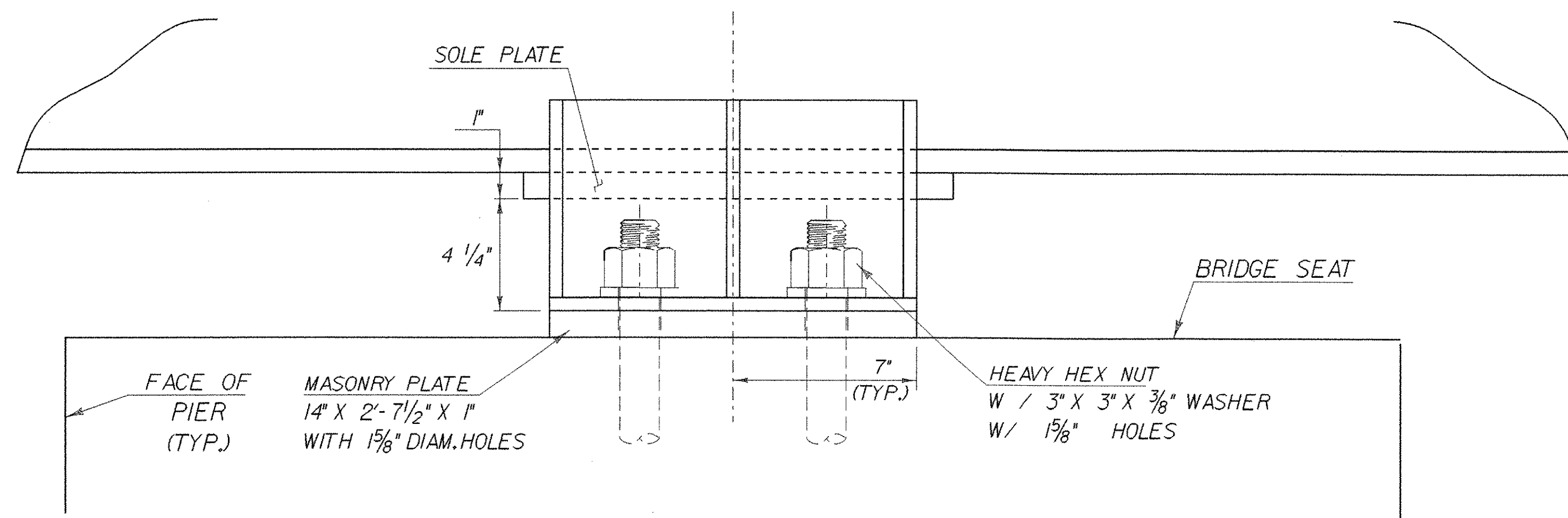
PLAN
SCALE 3" = 1'-0"



SIDE RETAINER
SCALE 3" = 1'-0"

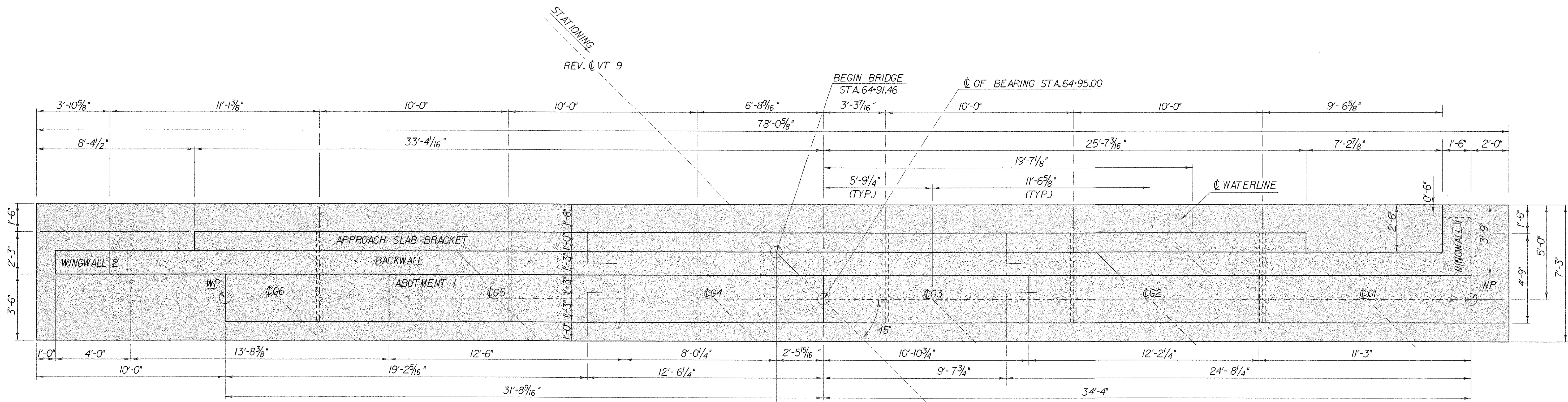


FRONT VIEW
SCALE 3" = 1'-0"

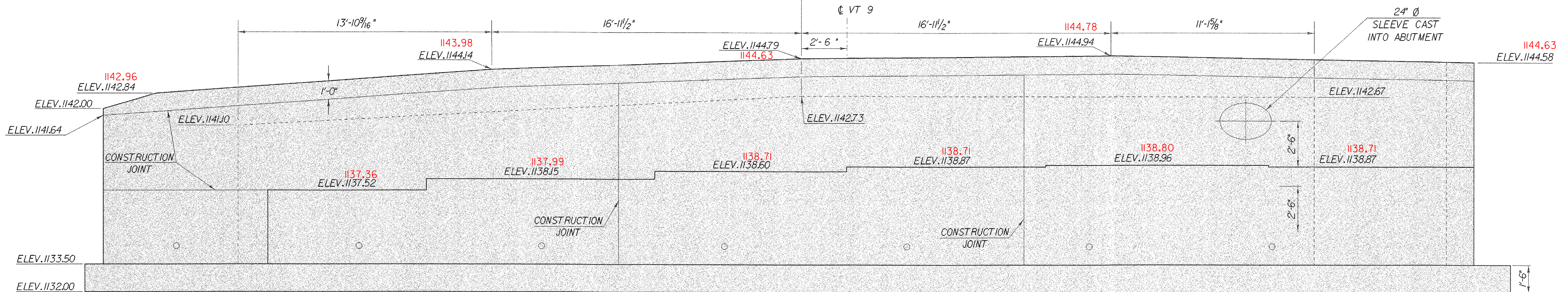


SIDE ELEVATION
SCALE 3" = 1'-0"

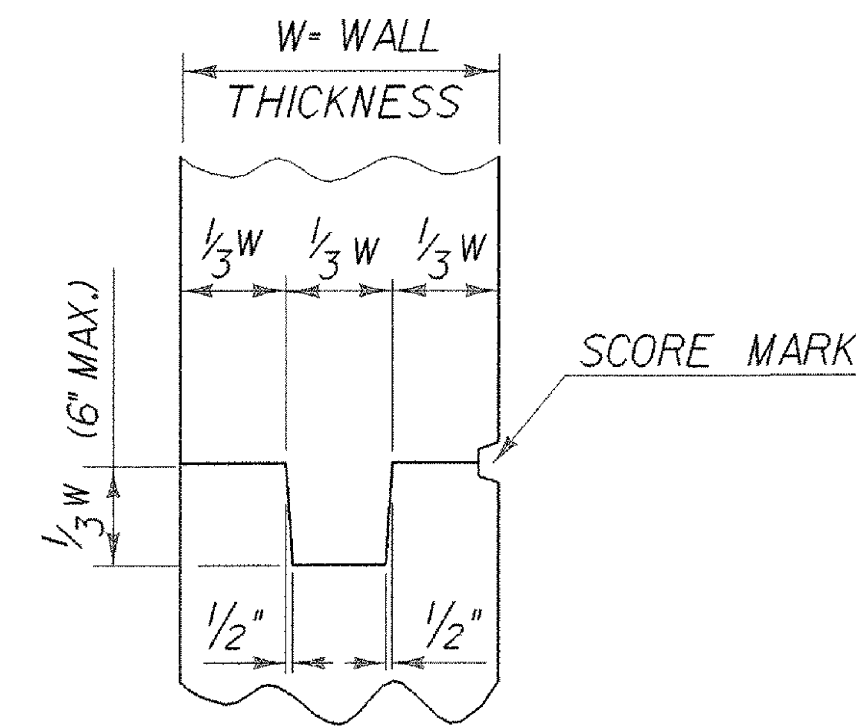
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC	
BEARING DEVICE DETAILS - EXP. PIER 2	
Designed By M. EVANS-MONGEON	Drawn By R. VANHAMBURG
Checked By M. EVANS-MONGEON	Date A. PORTALUPI Date
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /84b039/structures/se039sup.dgn	se039bg2j
Bridge Sheet No.	Sheet 68 of 106



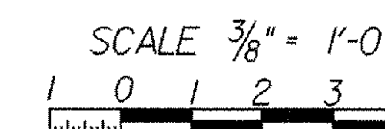
ABUTMENT NO. 1 PLAN



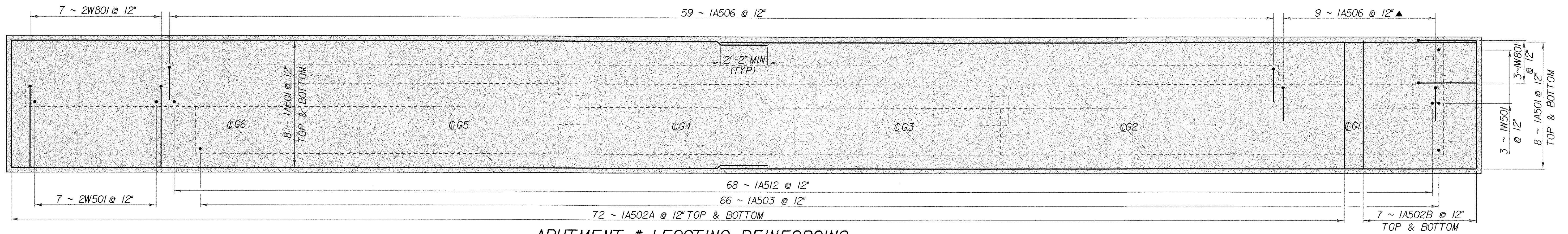
ABUTMENT NO. 1 ELEVATION



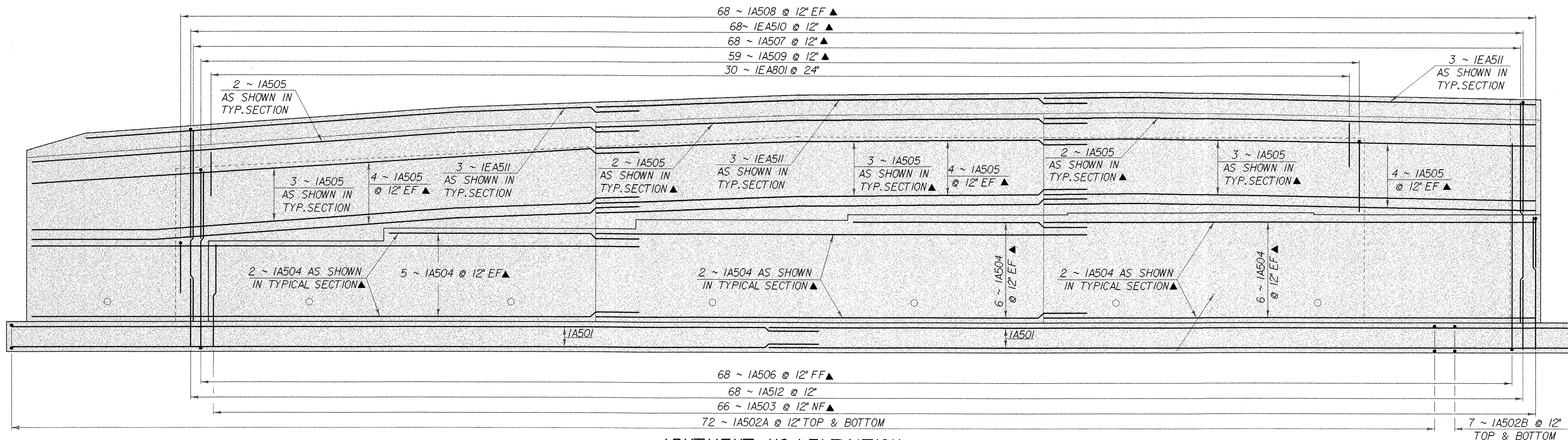
TYPICAL CONCRETE CONSTRUCTION JOINT



STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOOMSAC			
ABUTMENT * I PLAN AND ELEVATION			
Designed By	M. EVANS-MONGEON	Drawn By	R. PELLETT
Checked By	M. EVANS-MONGEON	Date	
		Bridge Design Supervisor	A. PORTALUPI
PROJECT	WOODFORD	PROJECT NO.	BHF 010-1(29)
I.G.C. Info. /346039/structures/se039sub.dgn		se039ab1	
Bridge Sheet No.		Sheet 69 of 106	



ABUTMENT #1 FOOTING REINFORCING



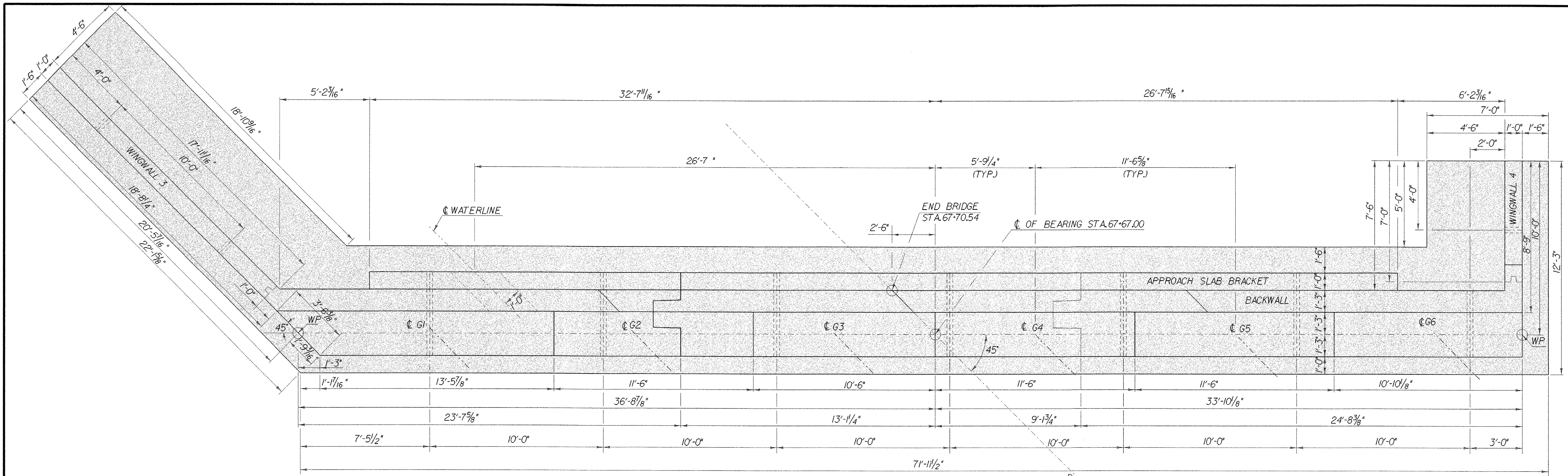
ABUTMENT NO.1 ELEVATION

NOTE:

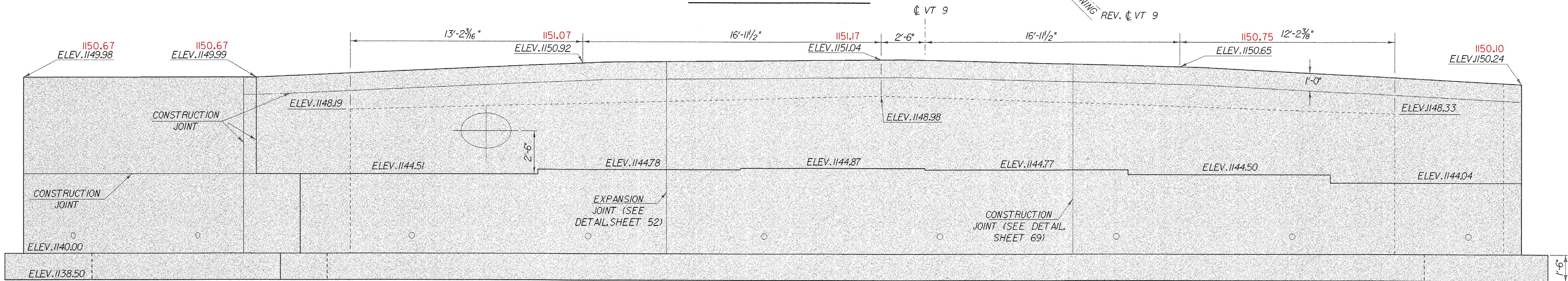
NF - NEAR FACE
 FF - FAR FACE
 EF - EACH FACE
 ▲ - CUT TO FIT IN FIELD
 3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE 3/8" = 1'-0"
 1 0 1 2 3 4

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. _____ Surv. Sta. _____
VT 9 OVER ROARING BRANCH OF WALLOOMSAC ABUTMENT #1 REINFORCING	
Designed By M.EVANS-MONGEON	Drawn By R.PELLETT
Checked By M.EVANS-MONGEON	Date _____ Bridge Design Supervisor A.PORTALUPI Date _____
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /84e039/structures/se039sub.dgn	se039ar11
Bridge Sheet No. _____	Sheet 70 of 106

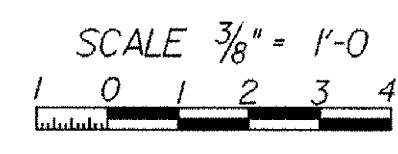


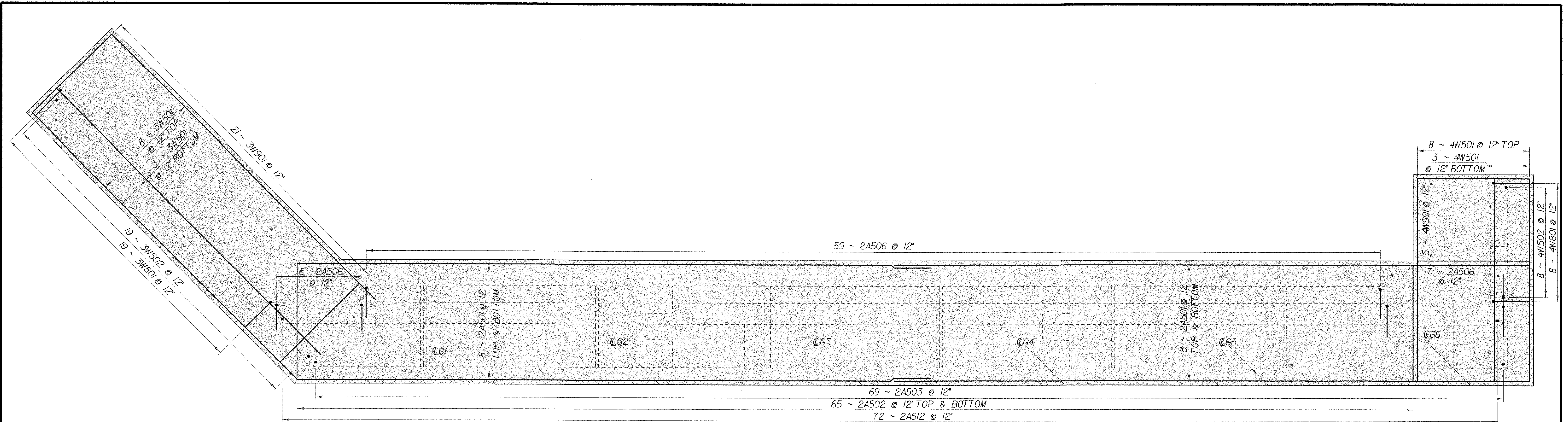
ABUTMENT NO.2 PLAN



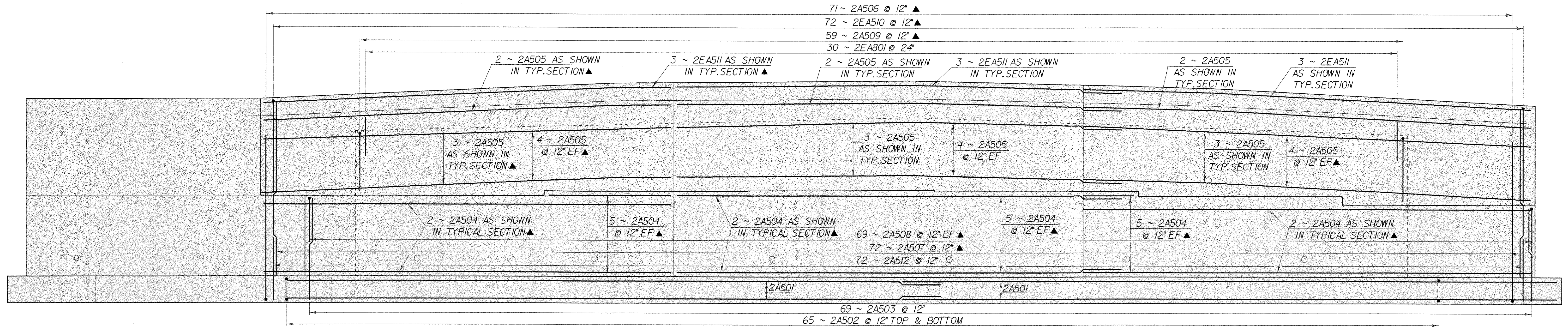
ABUTMENT NO.2 ELEVATION

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC ABUTMENT * 2 PLAN & ELEVATION	
Designed By M.EVANS-MONGEON	Drawn By R.PELLETT
Checked By M.EVANS-MONGEON	Date A.PORTALUPI
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /84e039/structures/se039subdgn	se039ab2j
Bridge Sheet No.	Sheet 71 of 106



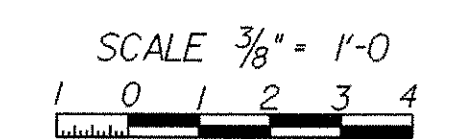


ABUTMENT NO.2 REINFORCING PLAN

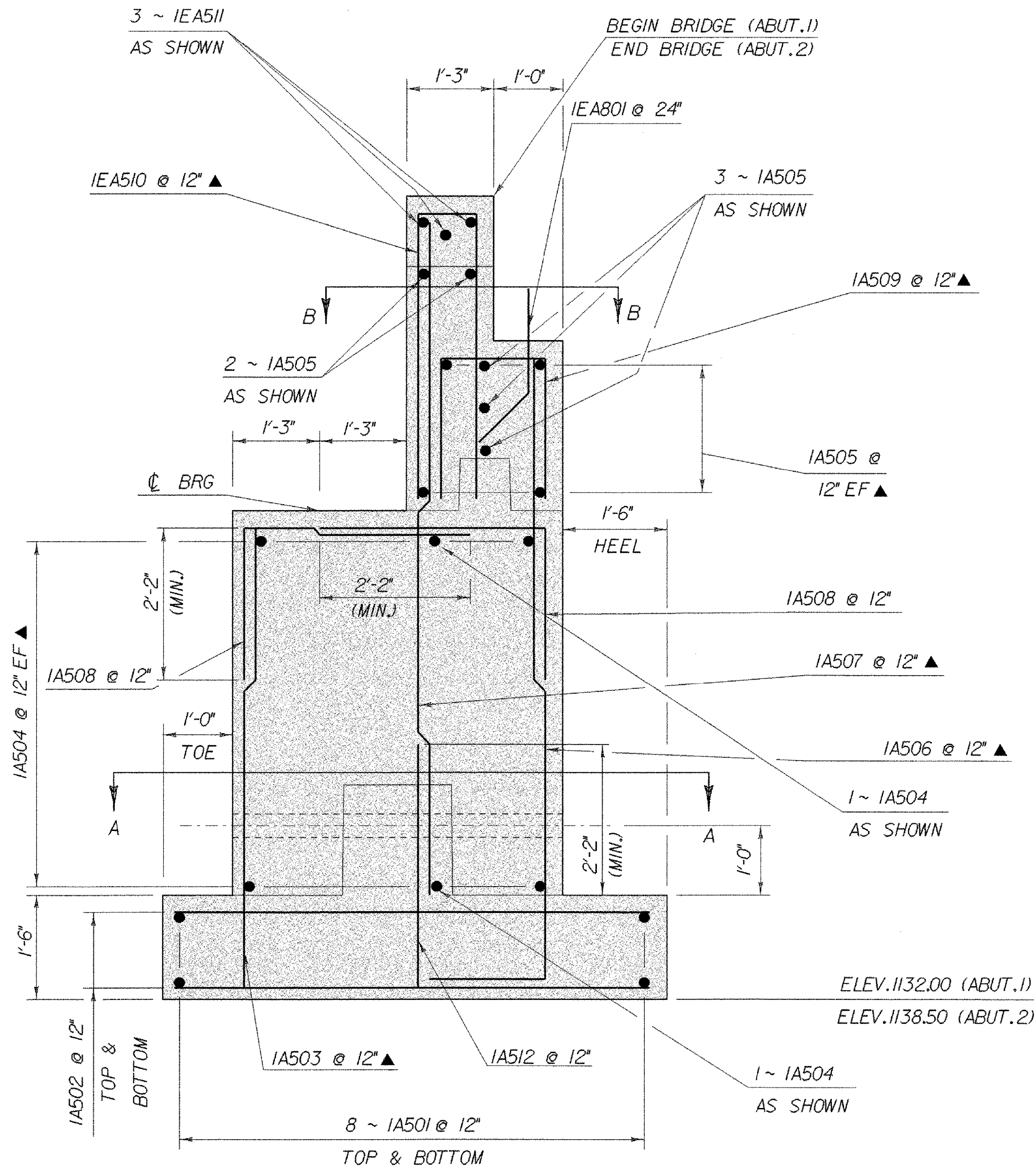


ABUTMENT NO.2 REINFORCING ELEVATION

NOTE:
 NF - NEAR FACE
 FF - FAR FACE
 EF - EACH FACE
 ▲ - CUT TO FIT IN FIELD
 3' CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

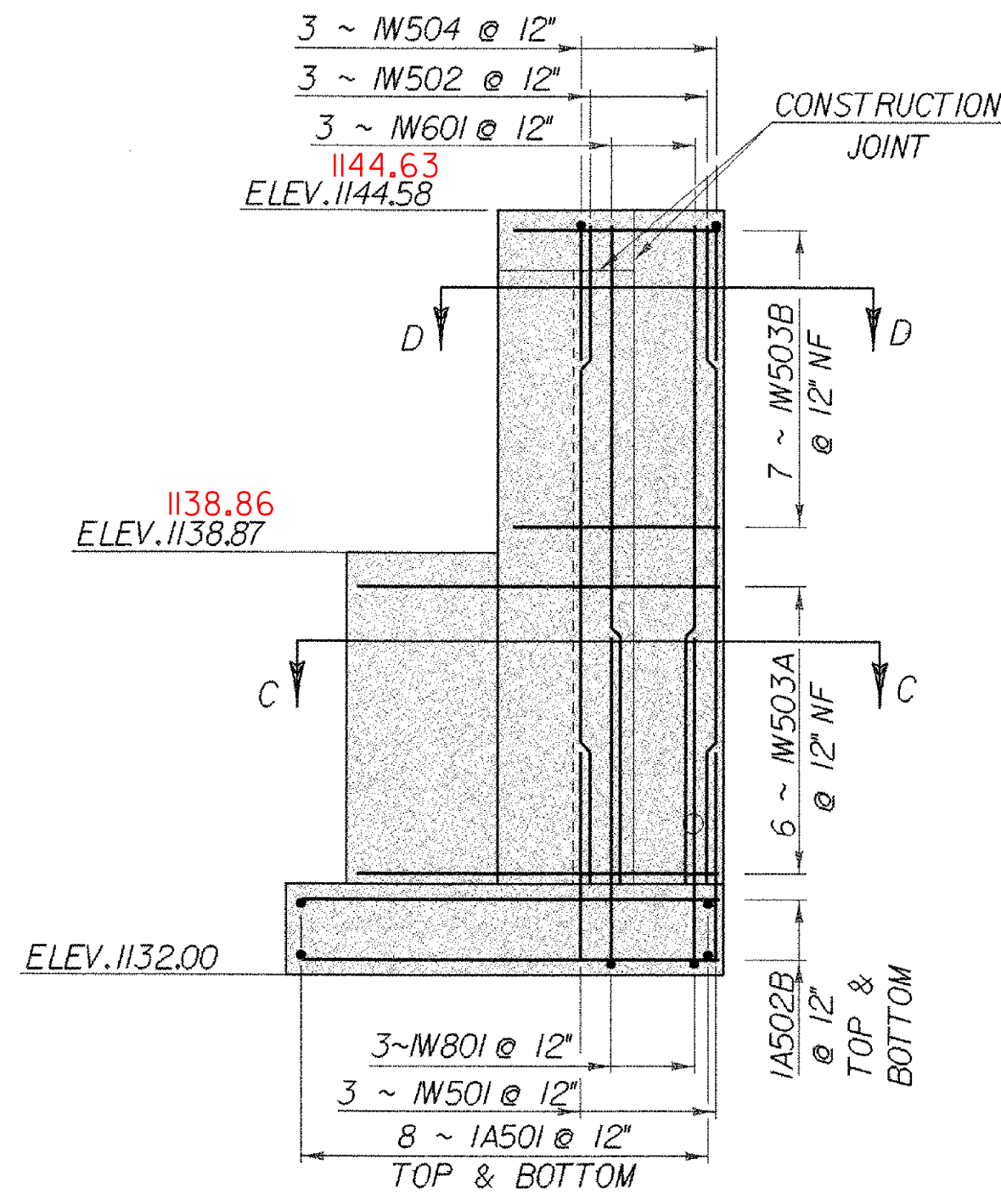


STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC ABUTMENT * 2 REINFORCING	
Designed By M.EVANS-MONGEON	Drawn By R.PELLETT
Checked By M.EVANS-MONGEON	Bridge Design Supervisor Date
PROJECT WOODFORD	PROJECT NO. BHF 010-1(29)
I.G.C. Info. /846039/structures/se039sub.dgn	se039ar.21
Bridge Sheet No.	Sheet 72 of 106

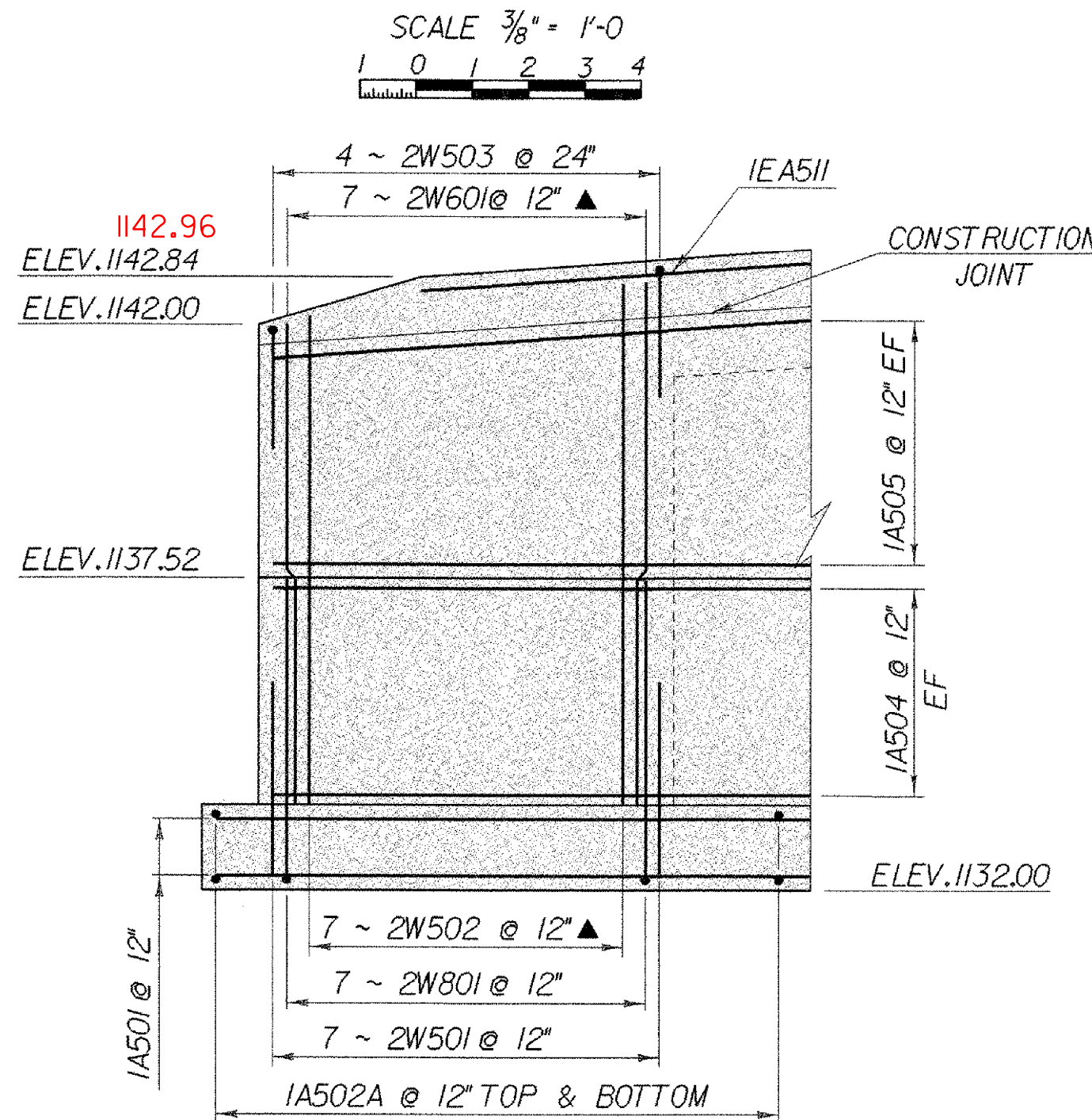


**ABUTMENT # 1
TYPICAL SECTION
(ABUT.# 2
SIMILAR)**
SCALE 3/4" = 1'-0"
1 0 1 2 3 4

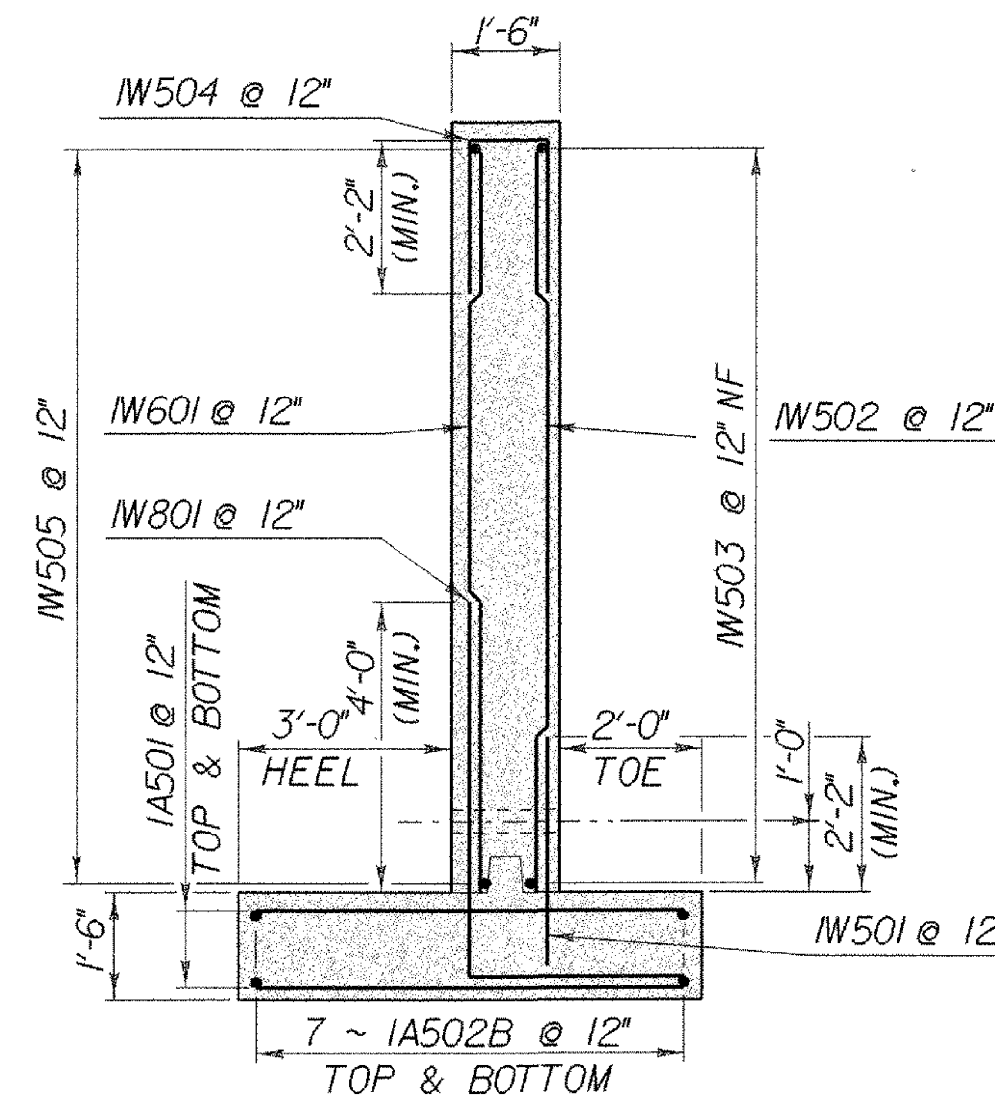
NOTE: FOR SECTION A-A AND SECTION B-B SEE SHEET 74



WINGWALL NO.1 REINFORCING ELEVATION

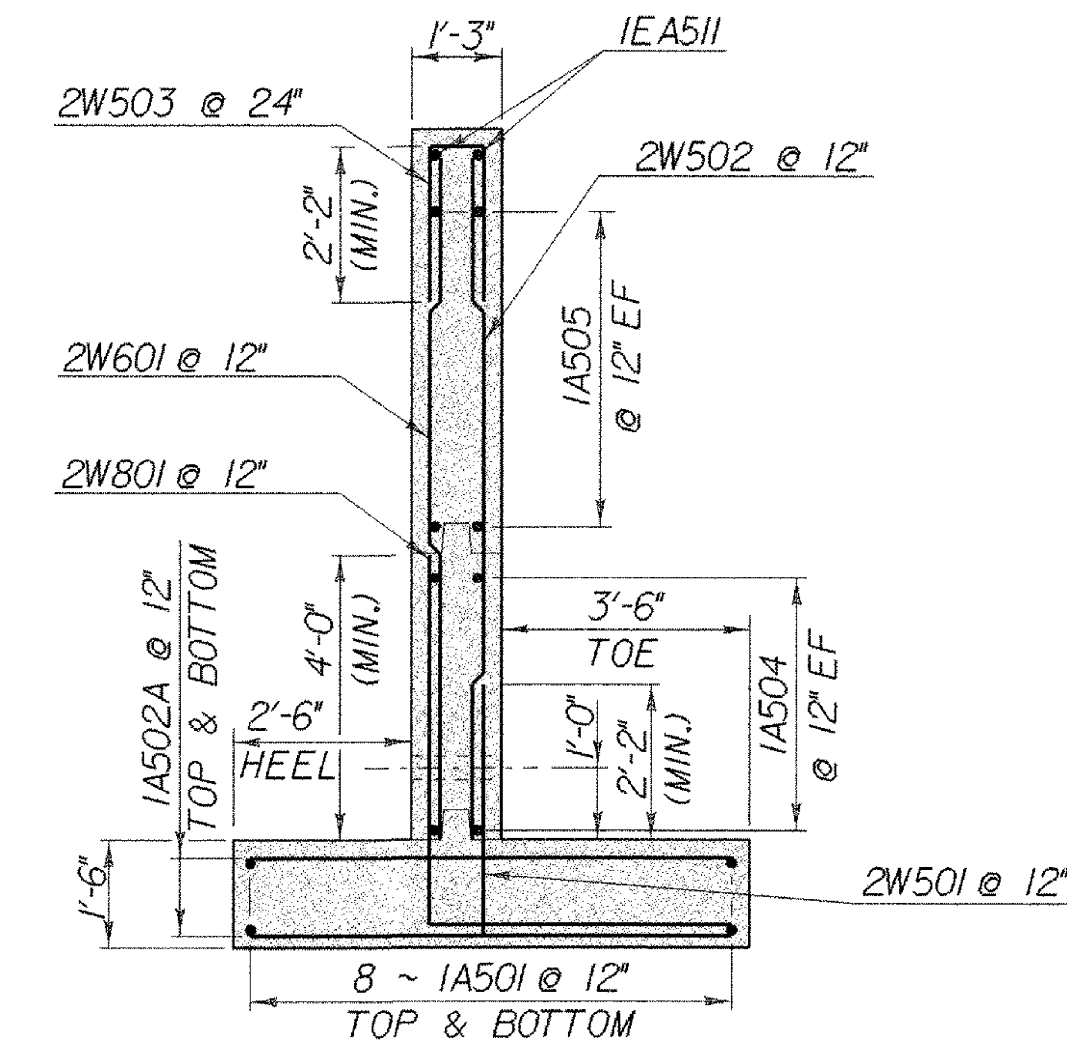


WINGWALL NO.2 REINFORCING ELEVATION



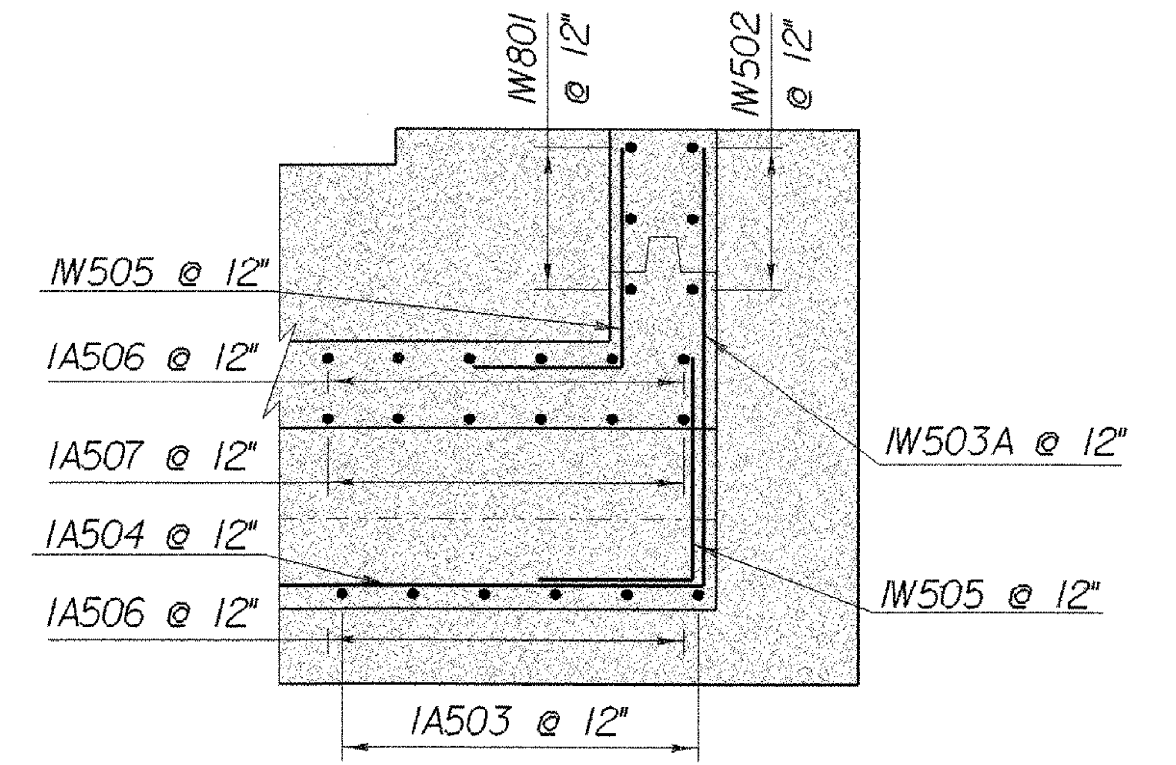
WINGWALL NO.1 TYPICAL

SCALE 3/8" = 1'-0"
1 0 1 2 3 4



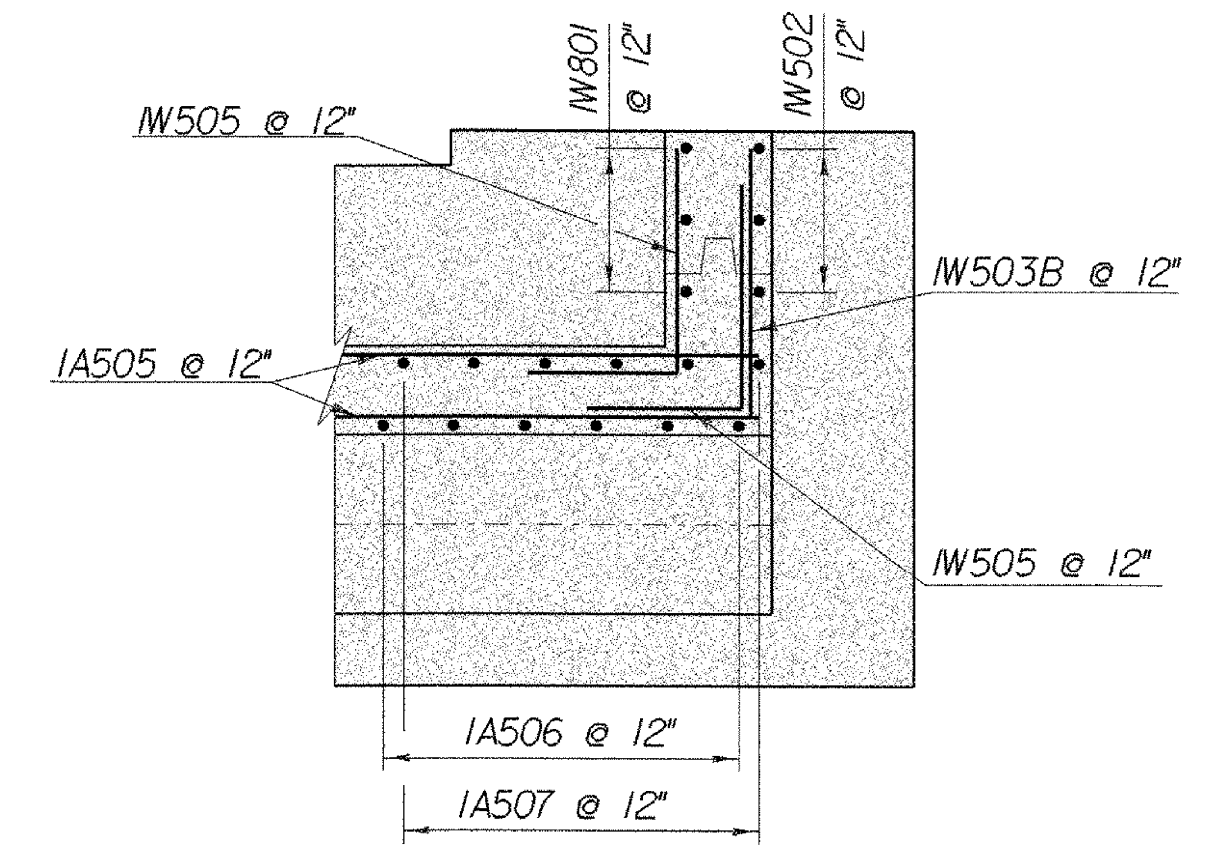
WINGWALL NO.2 TYPICAL

SCALE 3/8" = 1'-0"
1 0 1 2 3 4



**SECTION C-C
CORNER DETAIL WINGWALL NO.1**

SCALE 3/8" = 1'-0"
1 0 1 2 3 4

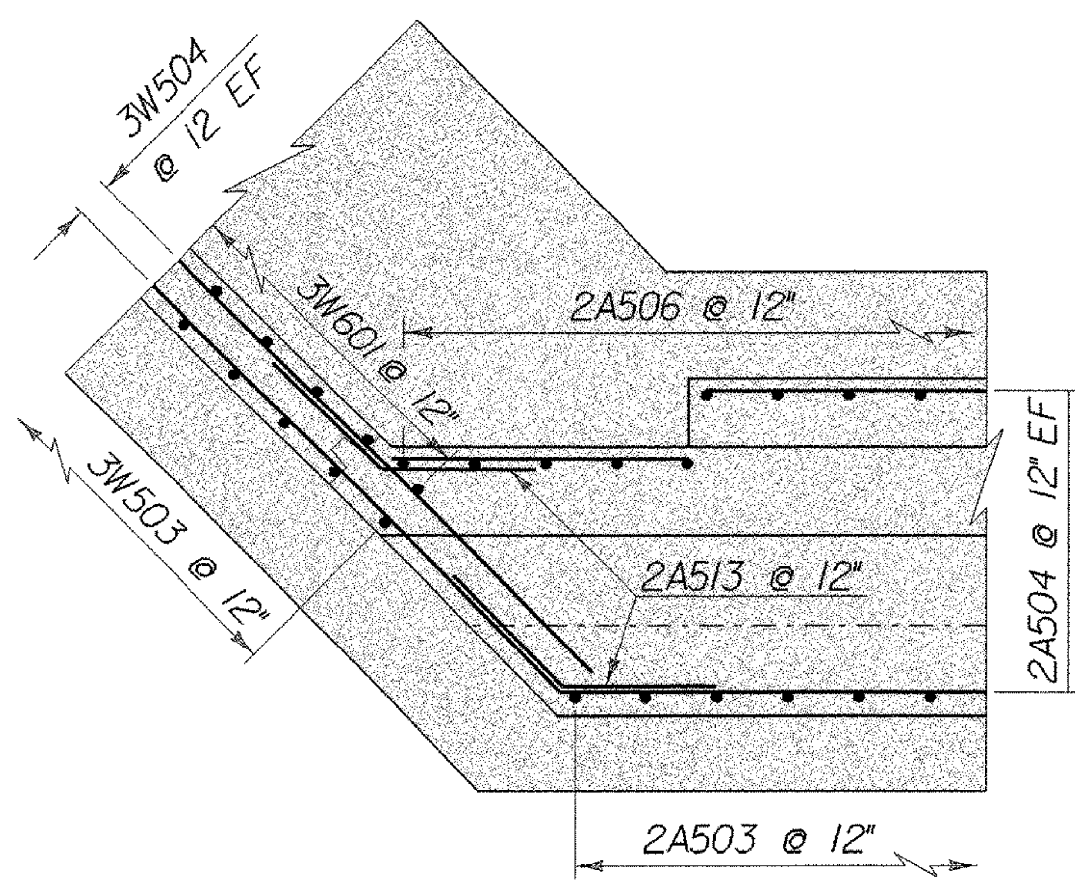


**SECTION D-D
CORNER DETAIL WINGWALL NO.1**

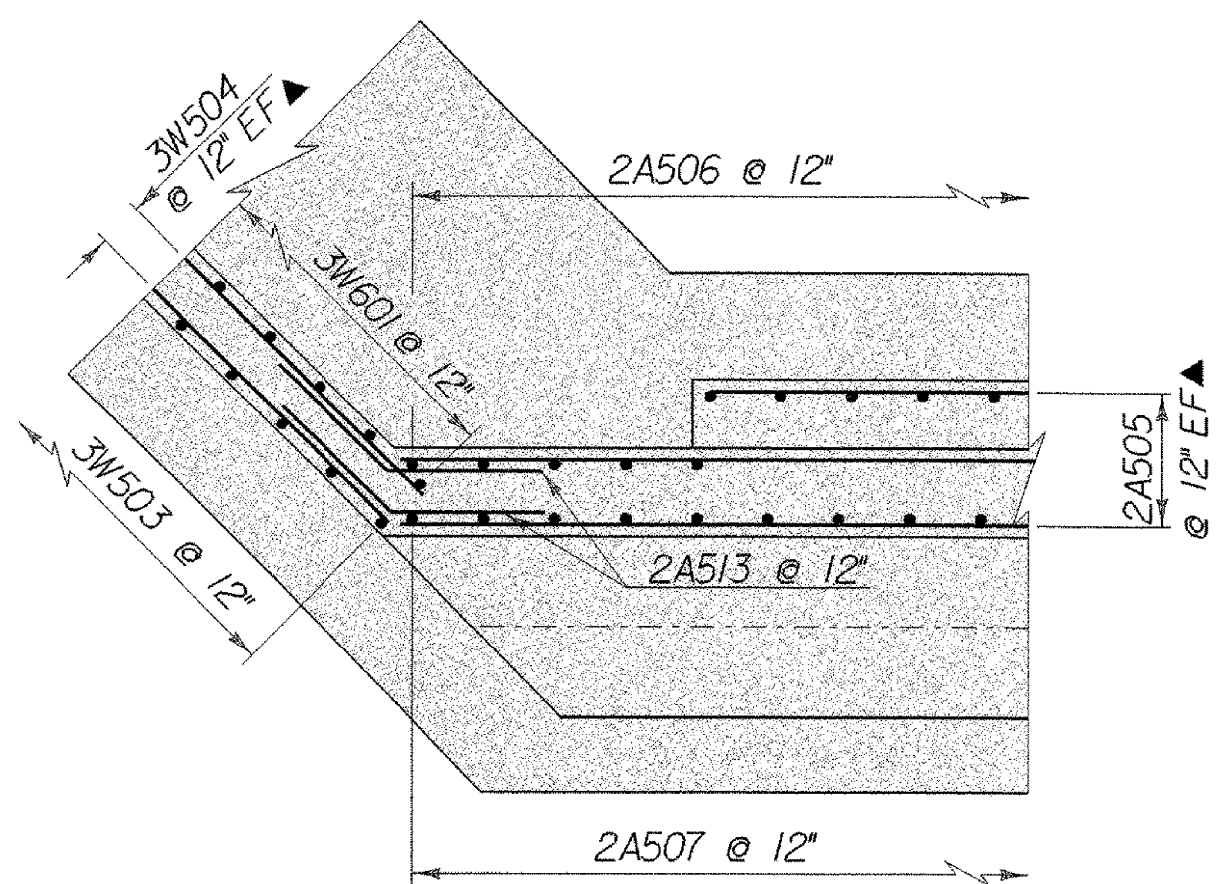
SCALE 3/8" = 1'-0"
1 0 1 2 3 4

NOTE:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

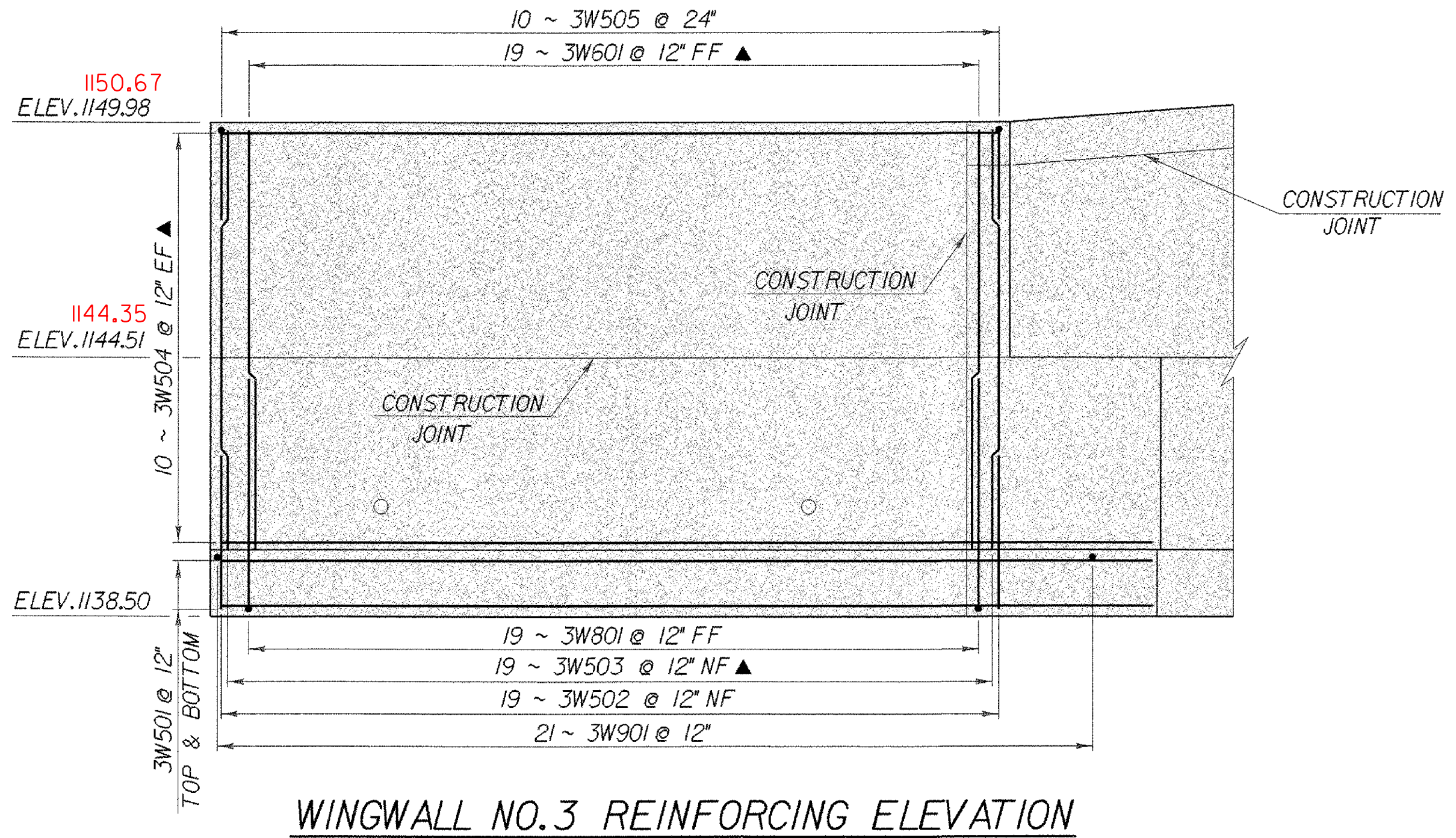
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta. Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC ABUT.TYP.SECTION WINGWALL 1&2 REINFORCING	
Designed By M.EVANS-MONGEON	Drawn By R.PELLETT
Checked By M.EVANS-MONGEON	Bridge Design Supervisor Date A.PORTALUPI Date
PROJECT WOODFORD	PROJECT NO. BHF 010-(K29)
I.G.C. Info. /84e039/Structures/se039sub.dgn	se039wrlj
Bridge Sheet No.	Sheet 73 of 106



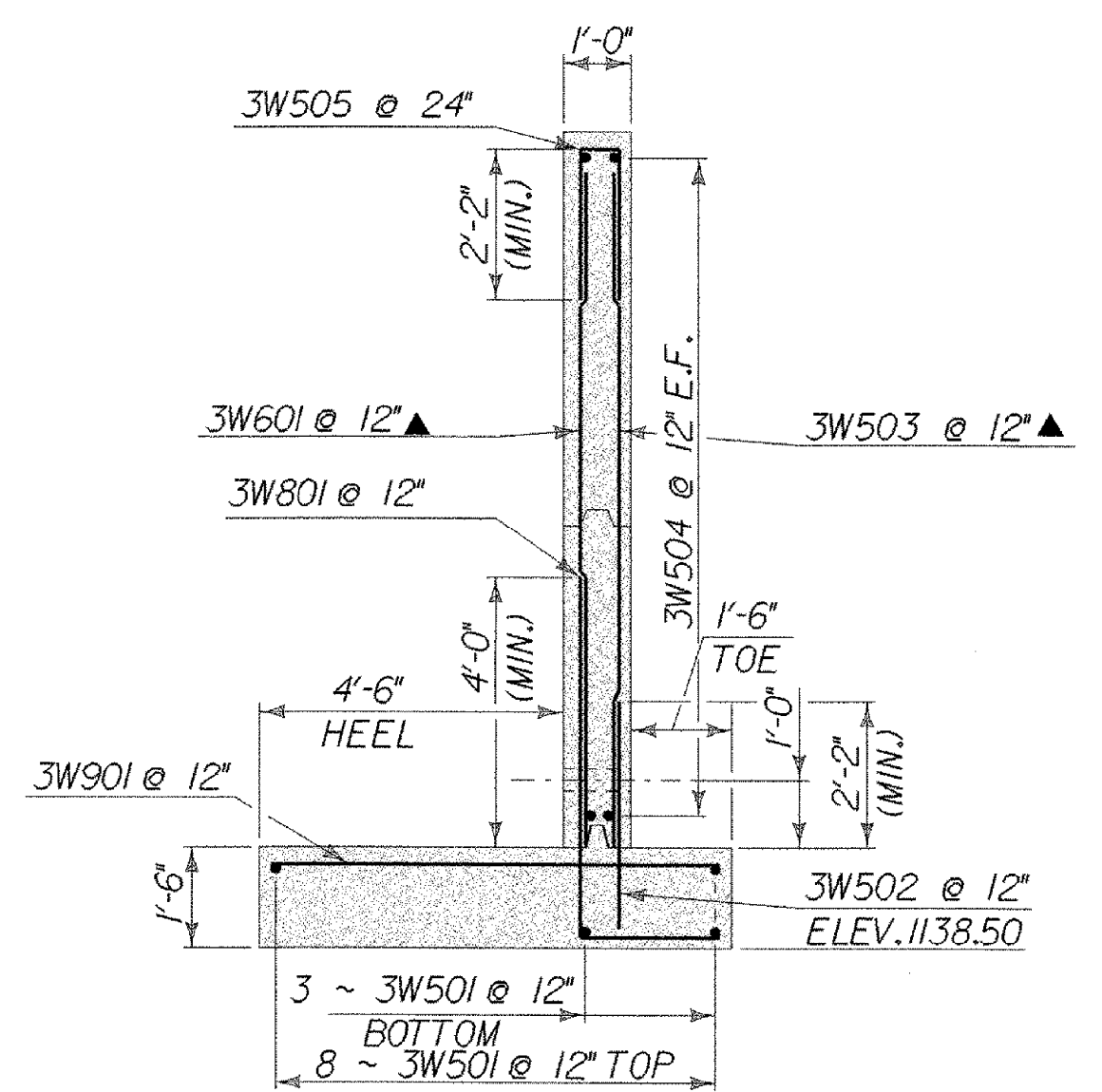
SECTION A-A
CORNER DETAIL WINGWALL NO.3



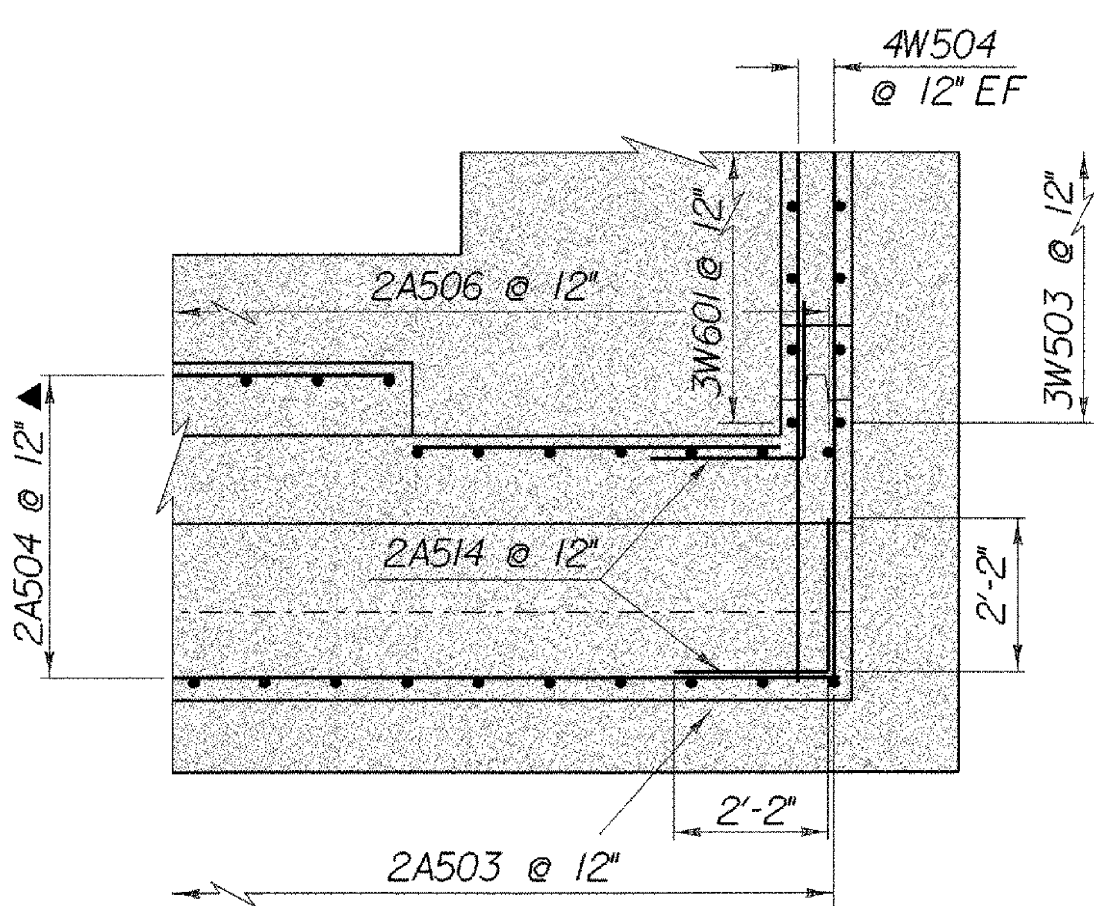
SECTION B-B
CORNER DETAIL WINGWALL NO.3



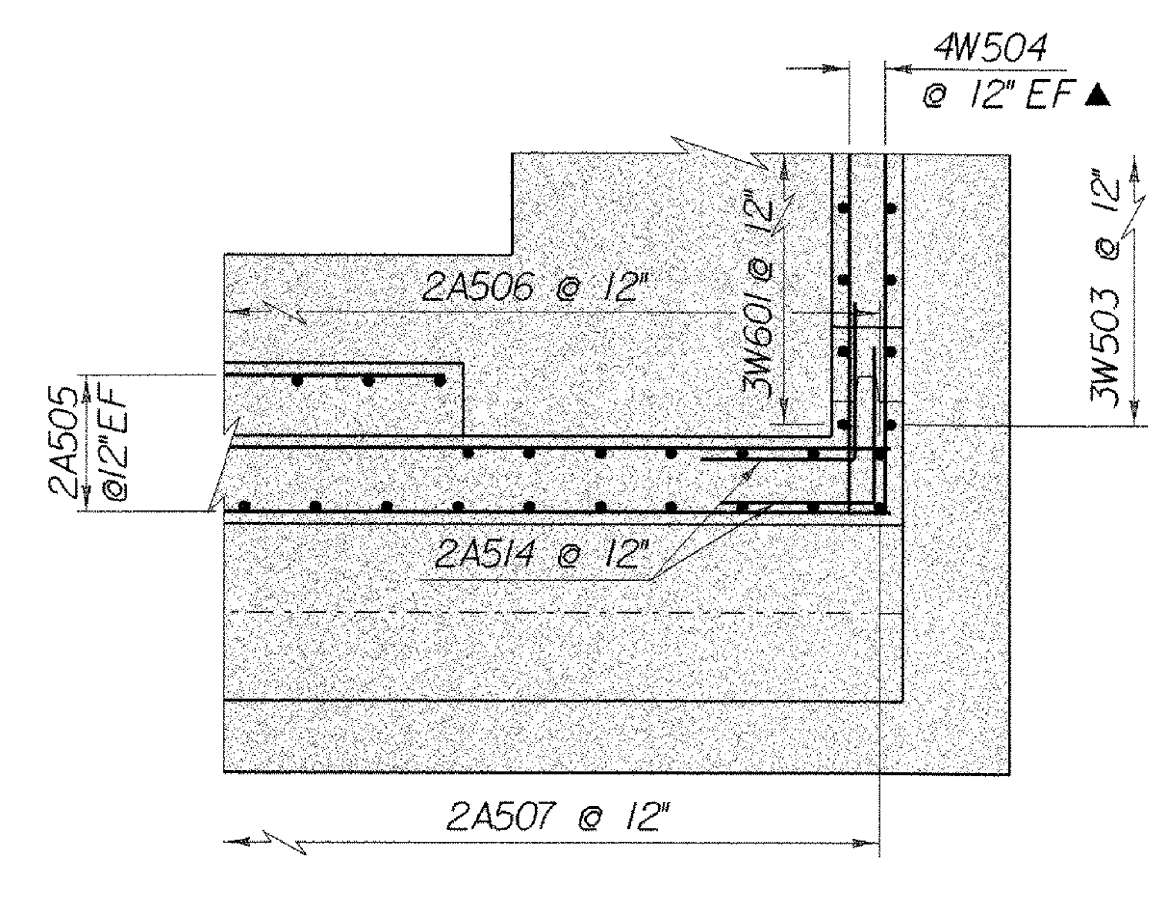
WINGWALL NO.3 REINFORCING ELEVATION



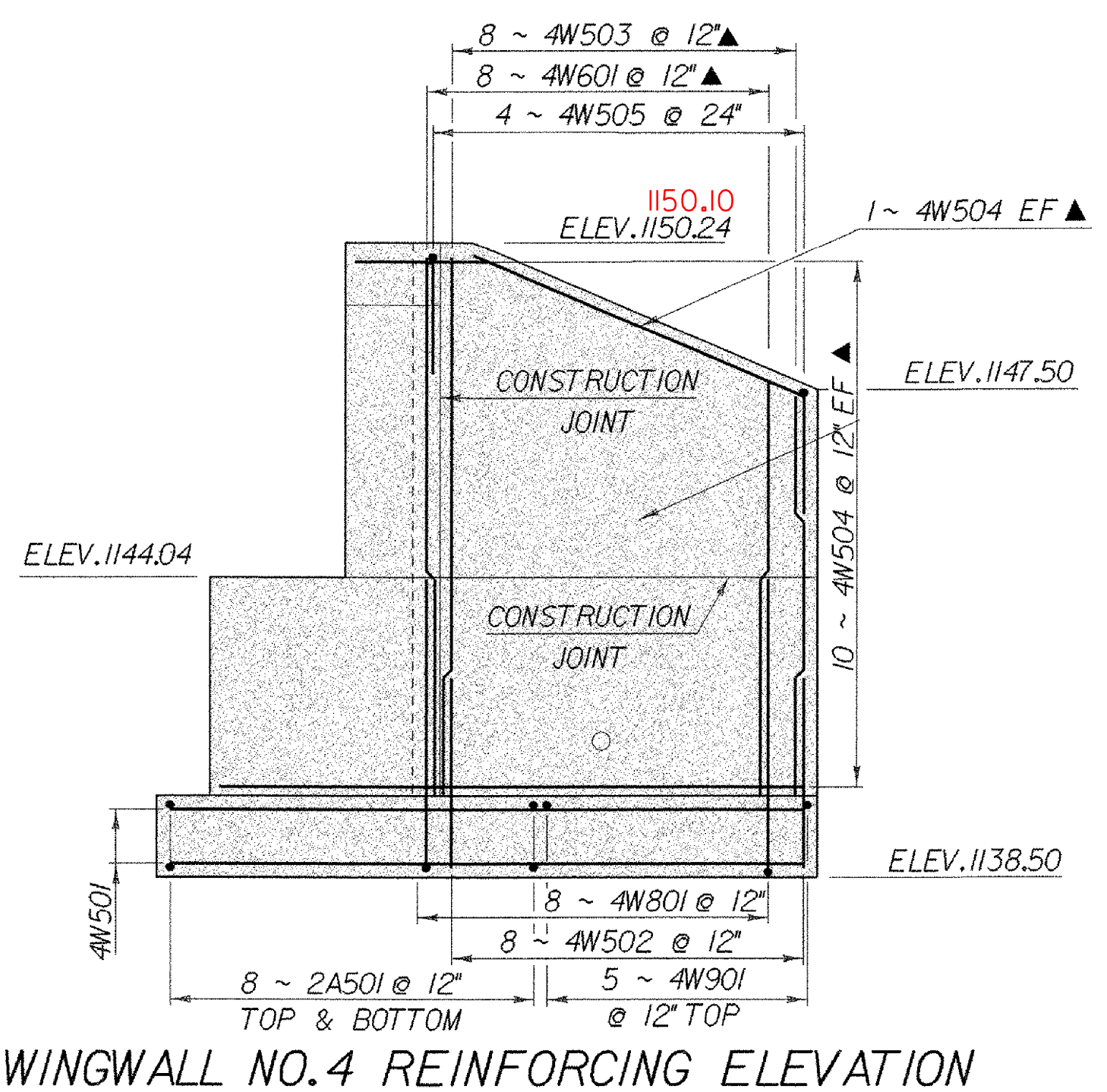
WINGWALL NO.3 TYPICAL
(WINGWALL NO.4 SIMILAR)



SECTION A-A
CORNER DETAIL WINGWALL NO.4



SECTION B-B
CORNER DETAIL WINGWALL NO.4



WINGWALL NO.4 REINFORCING ELEVATION

NOTE:
 NF - NEAR FACE
 FF - FAR FACE
 EF - EACH FACE
 ▲ - CUT TO FIT IN FIELD
 3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

SCALE 3/8" = 1'-0"
 1 0 1 2 3 4

STATE OF VERMONT AGENCY OF TRANSPORTATION			
Town Of	WOODFORD	Bridge No.	BR 11
Highway No.	VT 9	Log Sta.	
		Surv. Sta.	
VT 9 OVER ROARING BRANCH OF WALLOMSAC WINGWALL 3&4 REINFORCING & CORNER DETAILS			
Designed By	M.EVANS-MONGEON	Drawn By	R.PELLETT
Checked By	M.EVANS-MONGEON	Date	
		Bridge Design Supervisor	A.PORTALUPI
PROJECT	WOODFORD	PROJECT NO.	BHF 010-1(29)
I.G.C. Info.	/84e039/structures/se039subdgn		se039wr.3J
Bridge Sheet No.		Sheet	74 of 106

CL VT 9

65'-0"

9'-6"

11'-6"

11'-6"

11'-6"

11'-6"

9'-6"

ELEV. 1141.01 ~ PIER 1
ELEV. 1143.39 ~ PIER 2
1143.28

ELEV. 1141.15 ~ PIER 1
ELEV. 1143.60 ~ PIER 2
1143.49

ELEV. 1141.11 ~ PIER 1
ELEV. 1143.64 ~ PIER 2
1143.53

ELEV. 1140.89 ~ PIER 1
ELEV. 1143.49 ~ PIER 2
1143.38

ELEV. 1140.49 ~ PIER 1
ELEV. 1143.16 ~ PIER 2
1143.05

ELEV. 1139.91 ~ PIER 1
ELEV. 1142.66 ~ PIER 2
1142.55

29'-6"

35'-6"

CONSTRUCTION JOINT

ELEV. 1122.00

ELEV. 1119.00

70'-0"

CL VT 9

SCALE 3/8" = 1'-0"

70'-0"

28'-0"

34'-0"

11'-0"

R 1'-6"

CG1

3'-0"

CG2

45°

CG3

CG4

CG5

R 1'-6"

CG6

STA. 65+74 ~ PIER 1
STA. 66+88 ~ PIER 2

4'-0"

8'-0"

11'-6"

11'-6"

3'-0"

11'-6"

11'-6"

8'-0"

4'-0"

11'-6 5/8" (TYP.)

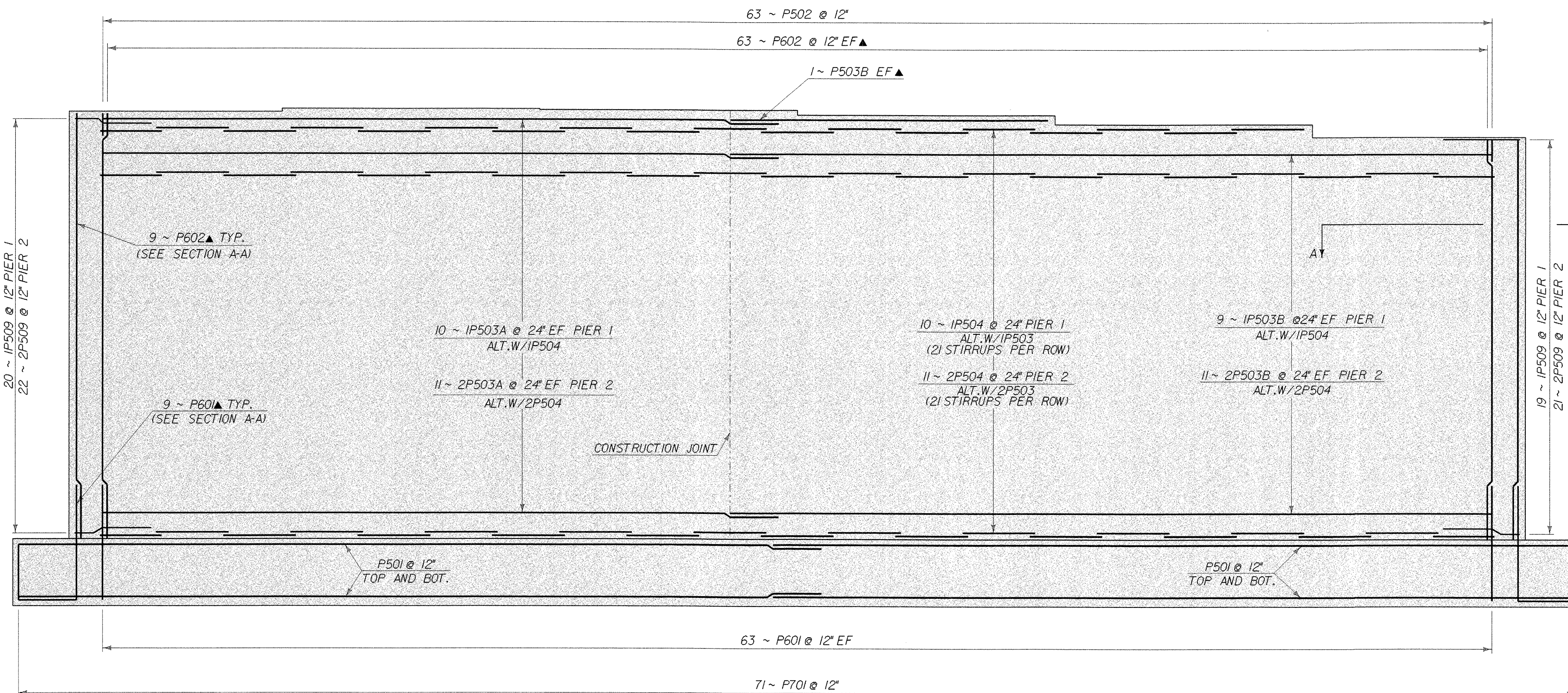
5'-9 1/4"

5'-9 1/4"

11'-6 5/8" (TYP.)

SCALE 3/8" = 1'-0"

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC PIER PLAN AND ELEVATION	
Designed By M.EVANS-MONGEON	Drawn By R.VANHAMBURG
Checked By M.EVANS-MONGEON	Bridge Design Supervisor A.PORTALUPI
PROJECT WOODFORD	PROJECT NO. BHF 010-K29
I.G.C. Info. /B4e039/structures/se039pier.dgn	se039pr11
Bridge Sheet No.	Sheet 75 of 106



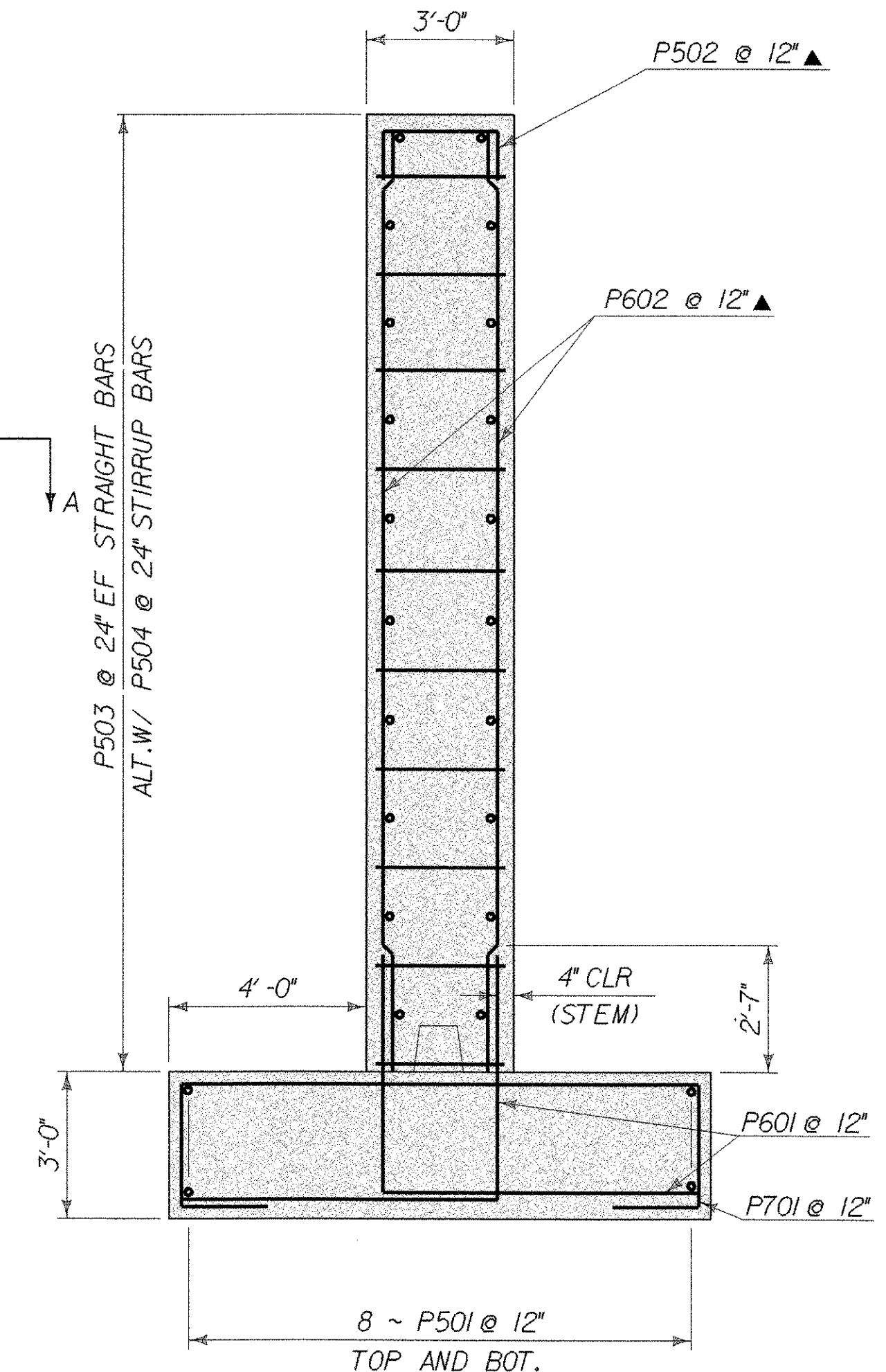
PIER ELEVATION

SCALE 3/8" = 1'-0"
 1 0 1 2 3 4



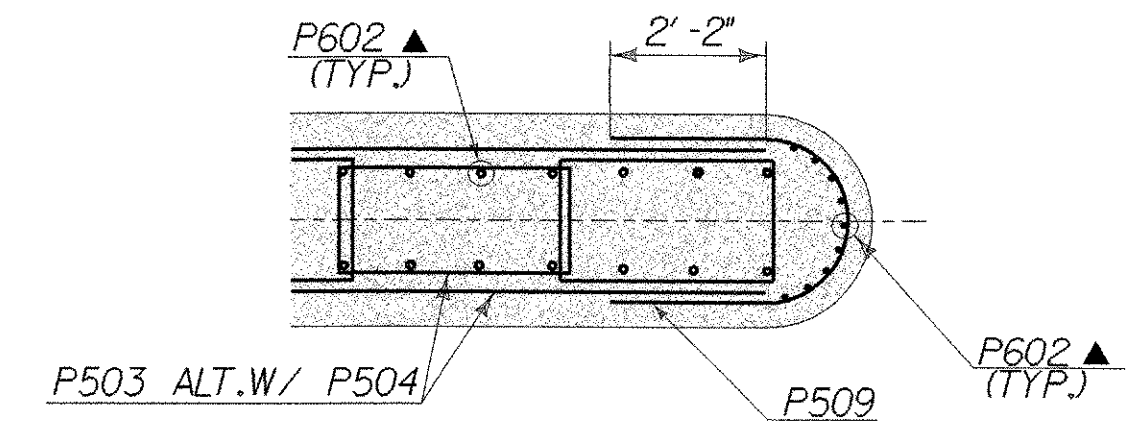
PIER REINFORCING

SCALE 3/8" = 1'-0"
 1 0 1 2 3 4



PIER TYPICAL SECTION

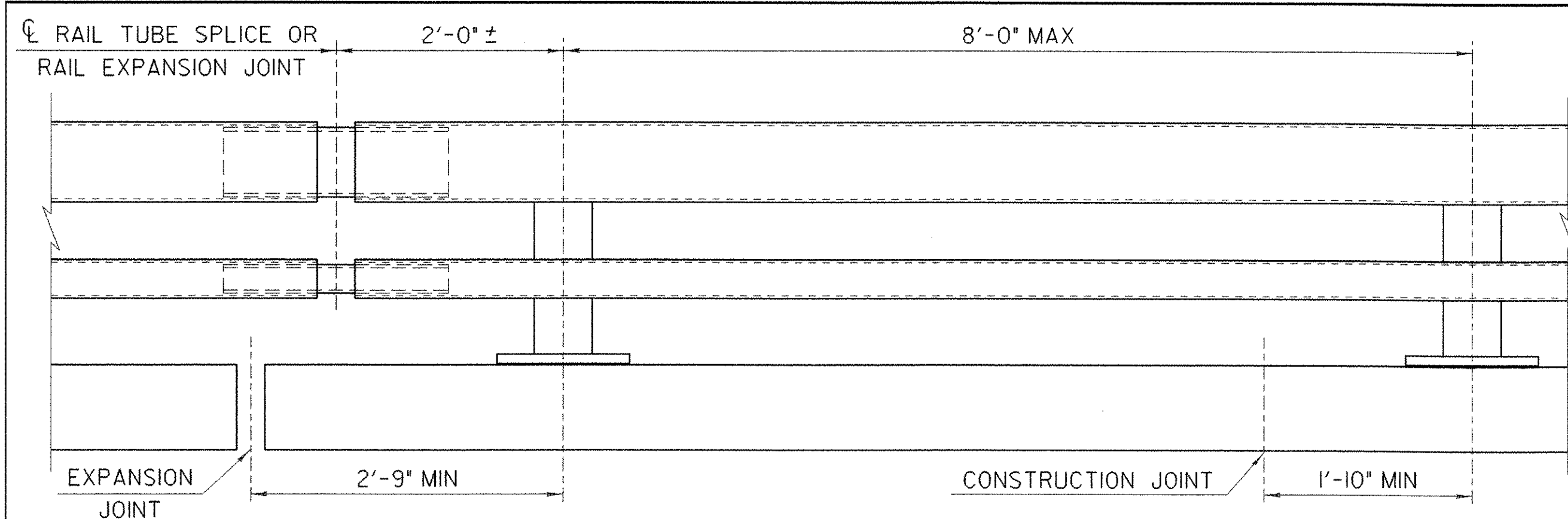
SCALE 3/8" = 1'-0"
 1 0 1 2 3 4



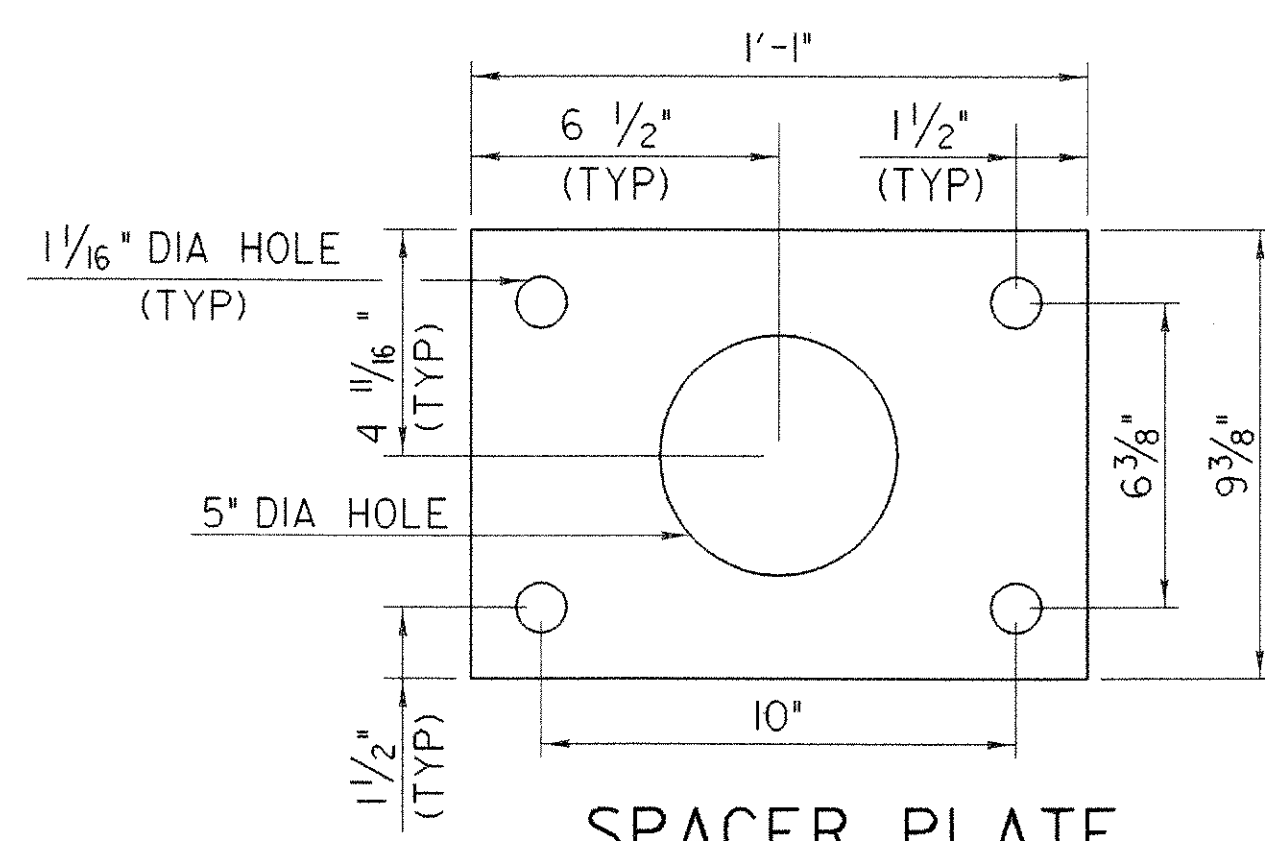
SECTION A-A

SCALE 3/8" = 1'-0"
 1 0 1 2 3 4

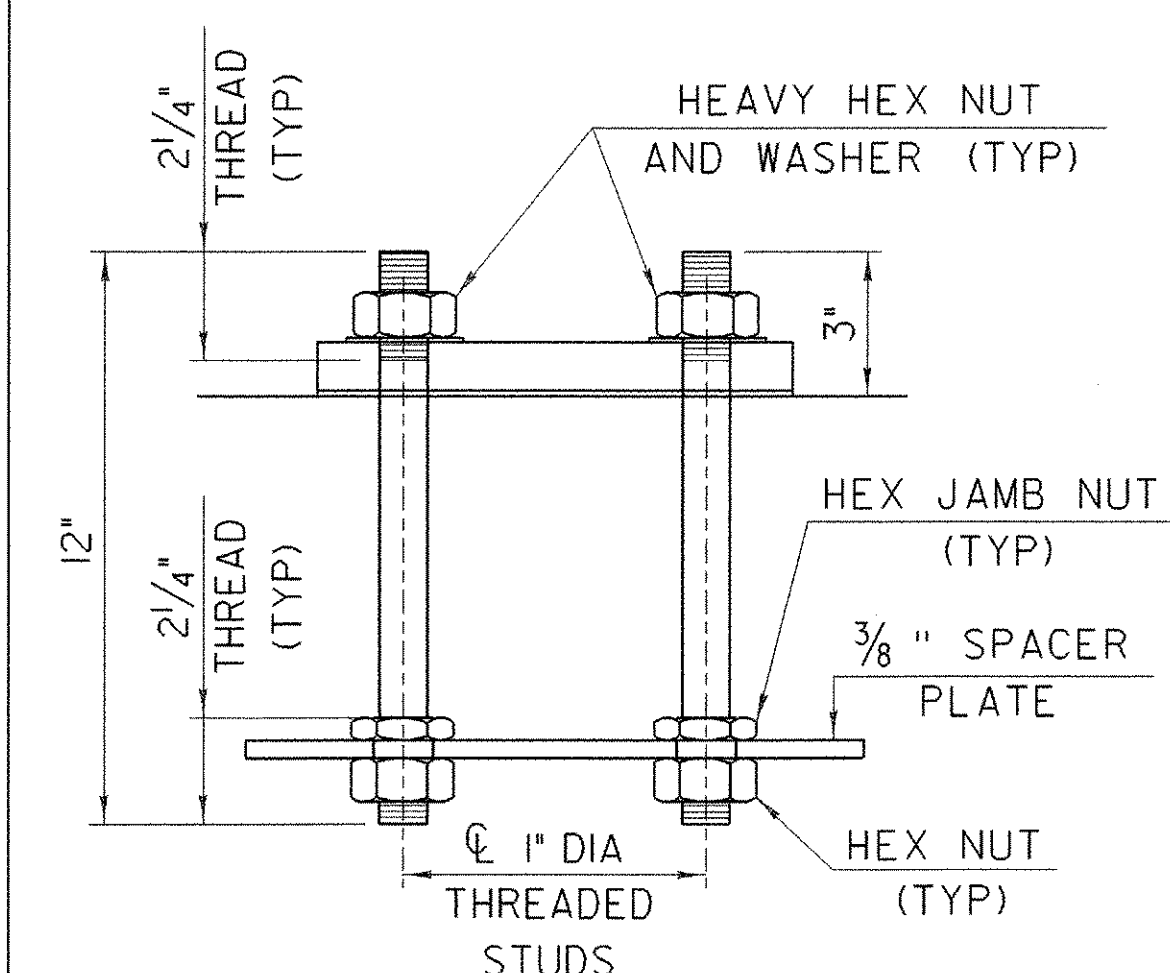
STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of WOODFORD	Bridge No. BR 11
Highway No. VT 9	Log Sta.
	Surv. Sta.
VT 9 OVER ROARING BRANCH OF WALLOOMSAC PIER REINFORCING	
Designed By M.EVANS-MONGEON	Drawn By R.VANHAMBURG
Checked By M.EVANS-MONGEON	Bridge Design Supervisor A.PORTALUPI
Date	Date
PROJECT WOODFORD	PROJECT NO. BHF 010-(129)
I.G.C. Info. /84e039/structures/se039pier.dgn	se039prt.j
Bridge Sheet No.	Sheet 76 of 106



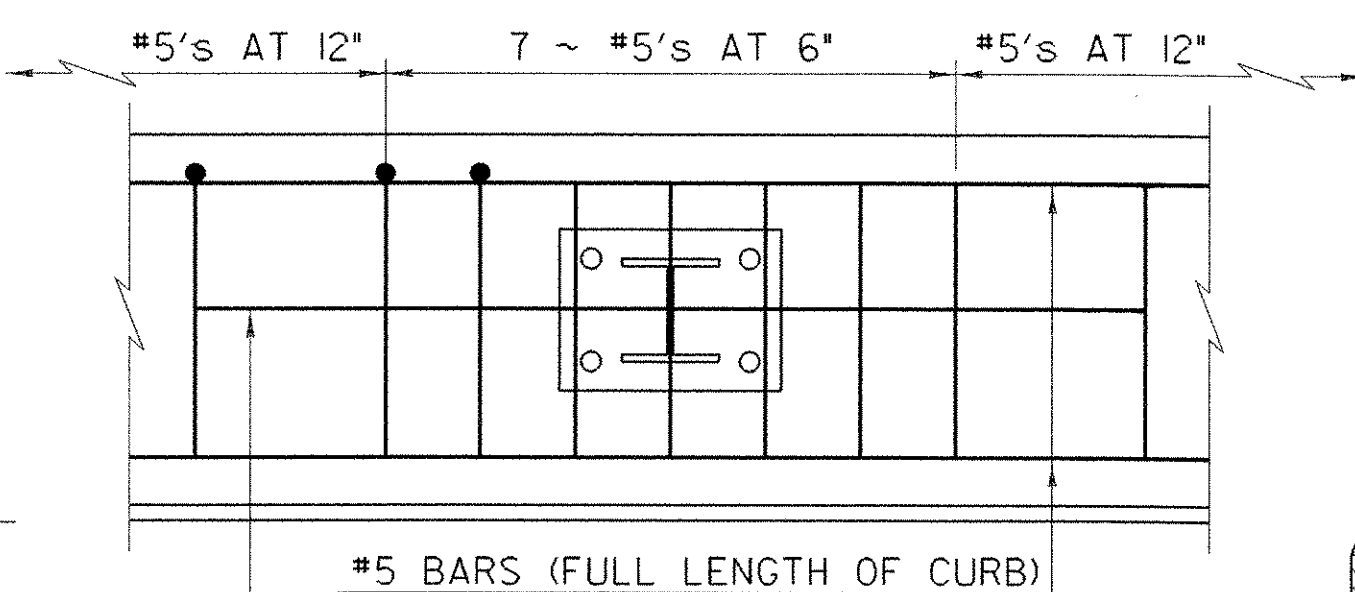
BRIDGE RAILING ELEVATION



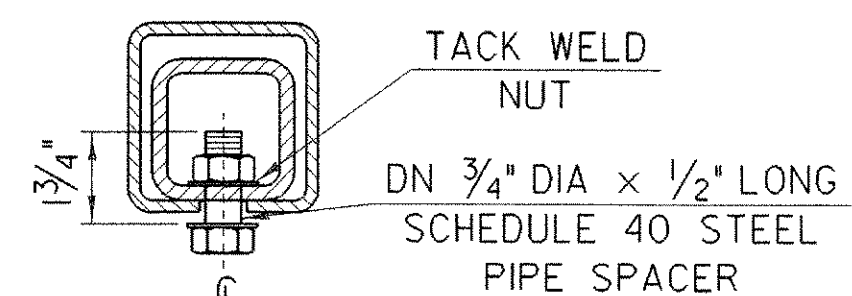
SPACER PLATE



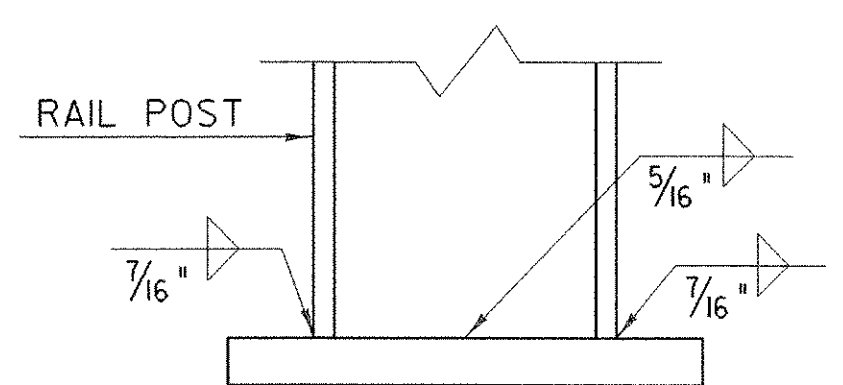
RAIL POST ANCHORAGE



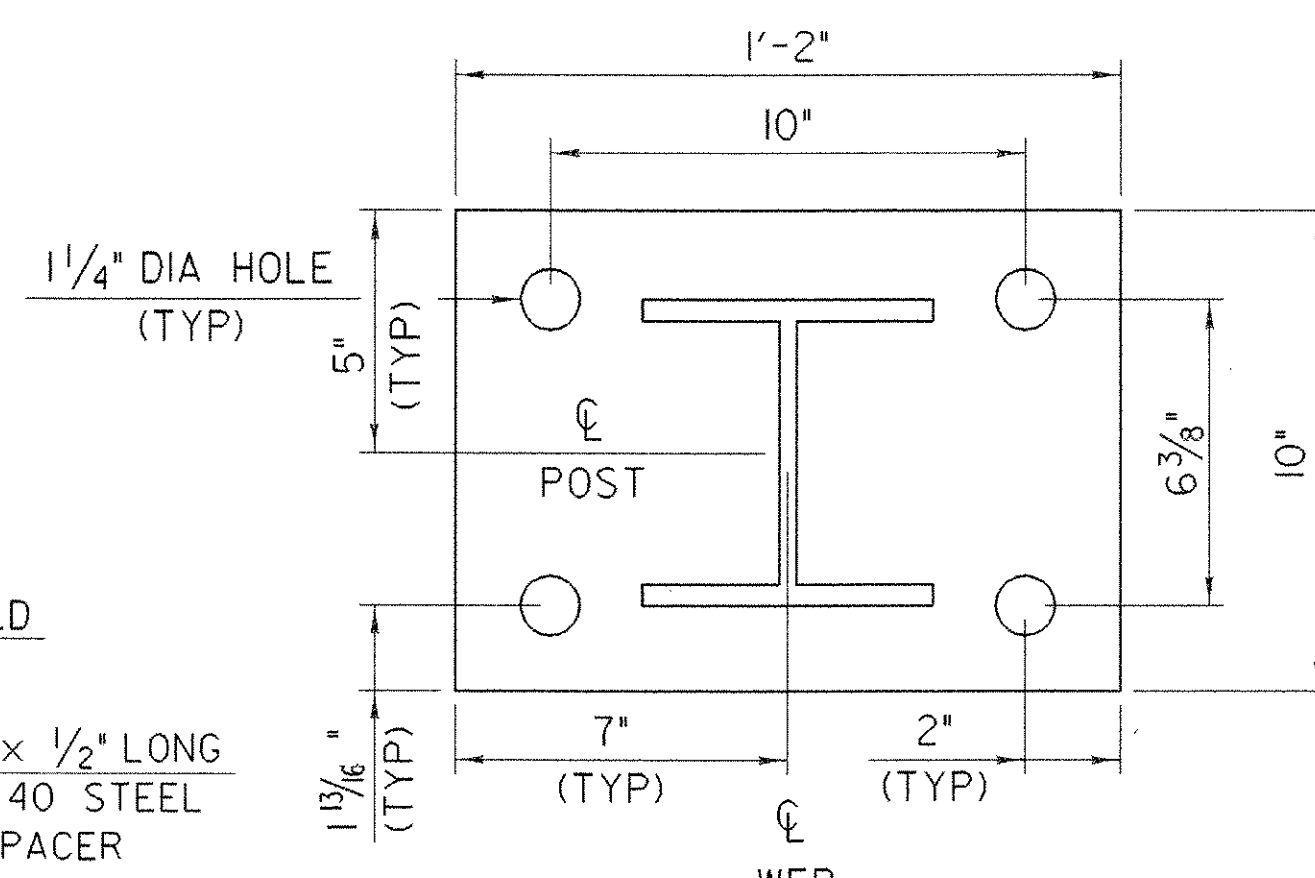
CURB REINFORCING PLAN



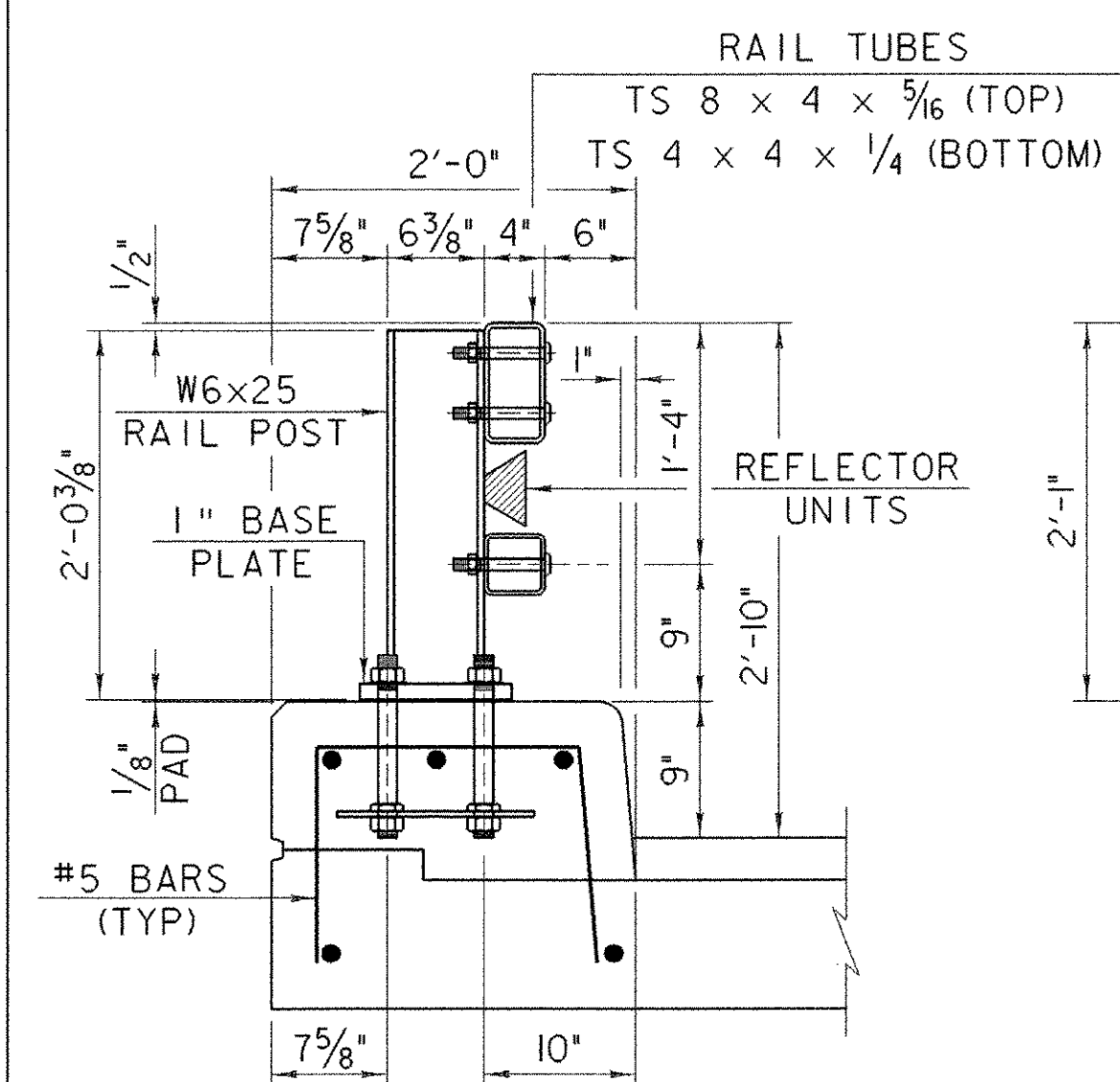
EXPANSION JOINT SECTION
 5/8" DIA TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR 5/8" DIA BOLT AND PLAIN HARDENED WASHER



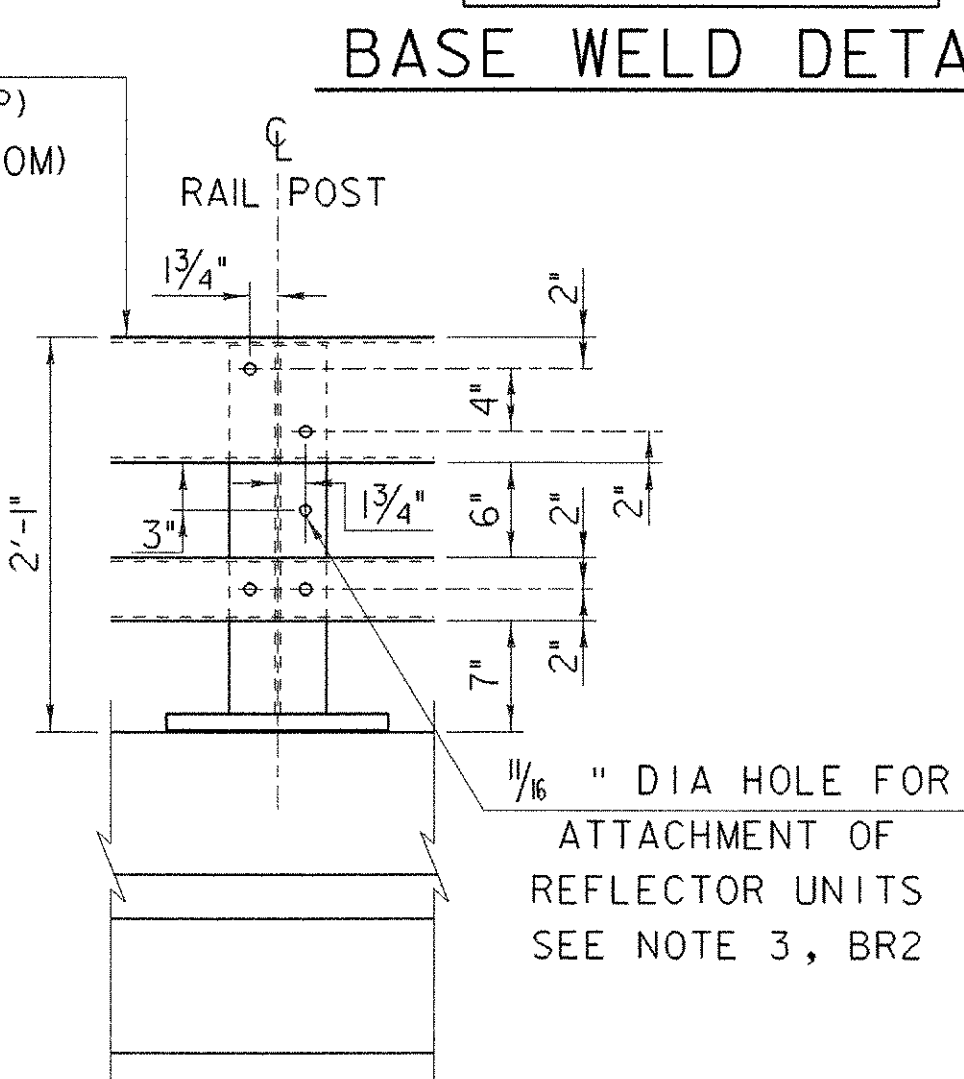
BASE WELD DETAIL



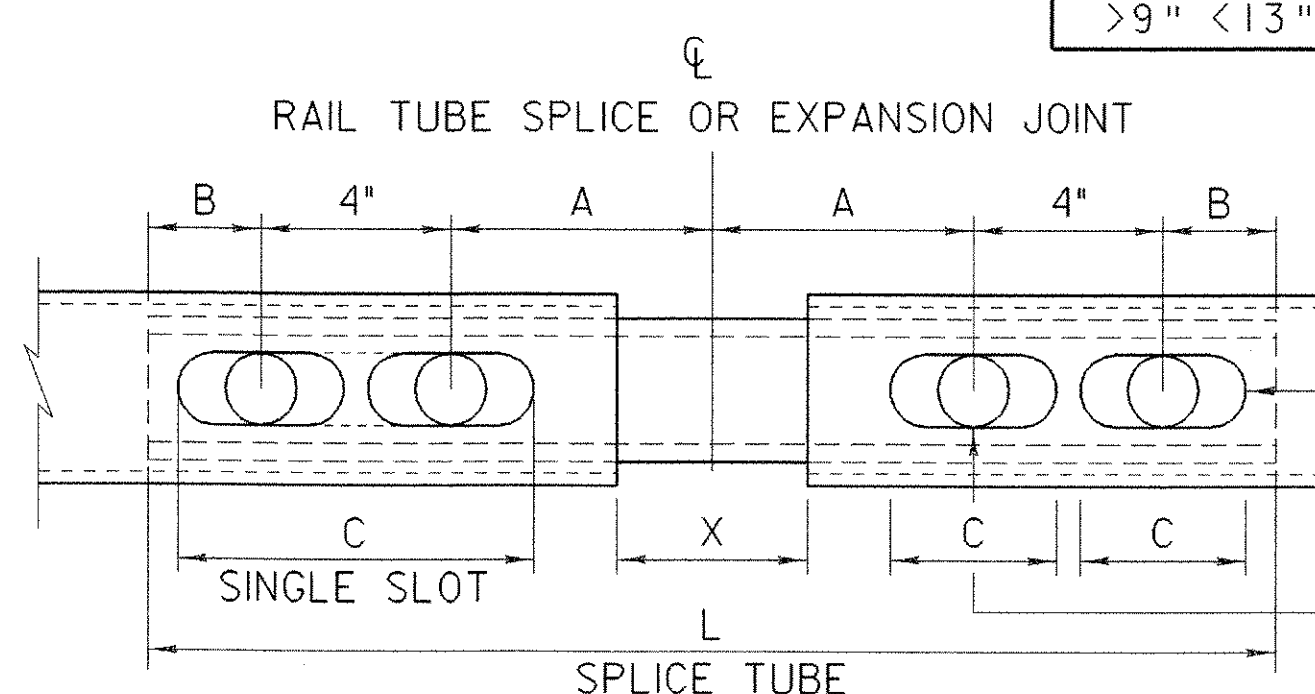
POST AND BASE PLATE



TYPICAL SECTION



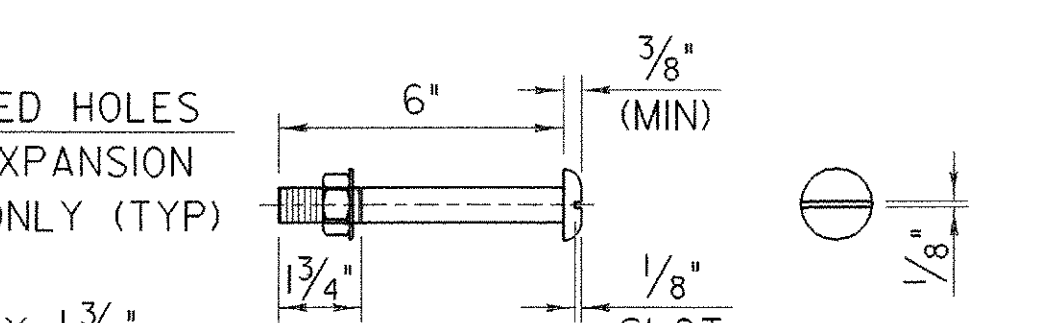
ELEVATION



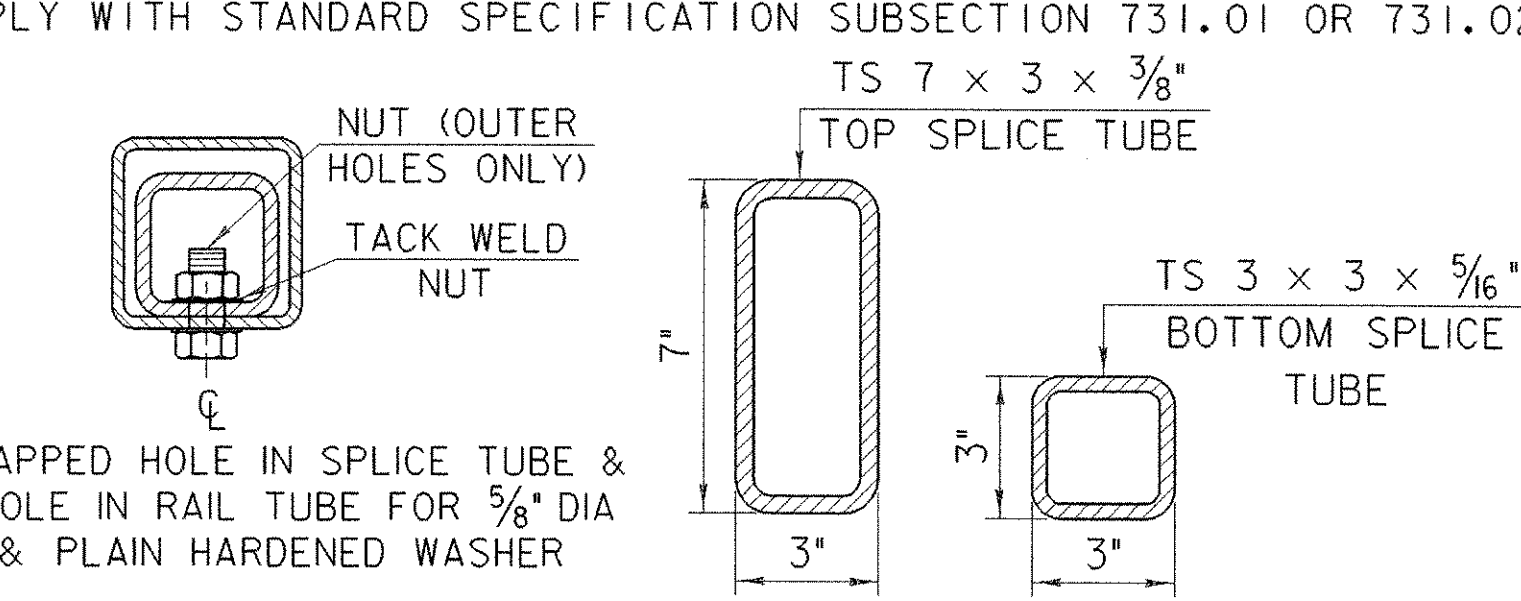
RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL (BOTTOM VIEW)

SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"
>4" <6 1/2"	5 1/2"	2 3/8"	3 1/2"	23 3/4"	4"
>6 1/2" <9"	6 1/2"	3 3/8"	9"*	27 3/4"	5"
>9" <13"	8 1/2"	4 3/8"	11"*	33 3/4"	7"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6.
 * = SINGLE SLOT



3/4" DIA M164 (TYPE 1) ROUND HEAD BOLT
 (WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
 (SEE NOTE #9)
 ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



RAIL TUBE SPLICE SECTION

NOTES

- ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525, RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.
- TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION" EXCEPT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING IN THIS STANDARD.
- ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
- RAIL POSTS SHALL BE SET NORMAL TO GRADE.
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232.
- RAIL POSTS ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
- RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
- HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
- IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN SHALL BE FOLLOWED.
- ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
- THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
- RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
 RAIL POSTS AND BASE PLATES.....ASTM A709A709M, GRADE 50
 ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 36
 ANCHOR STUDS.....ASTM A449
 ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE 1

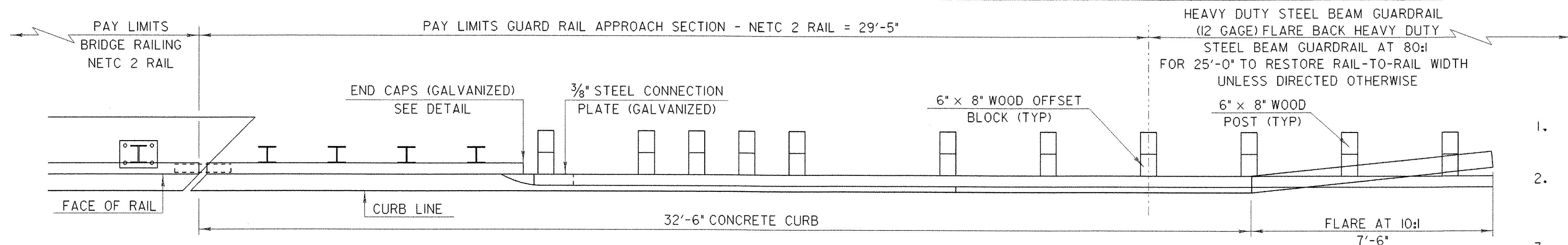
NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M291 (ASTM A563).

WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFICATIONS.

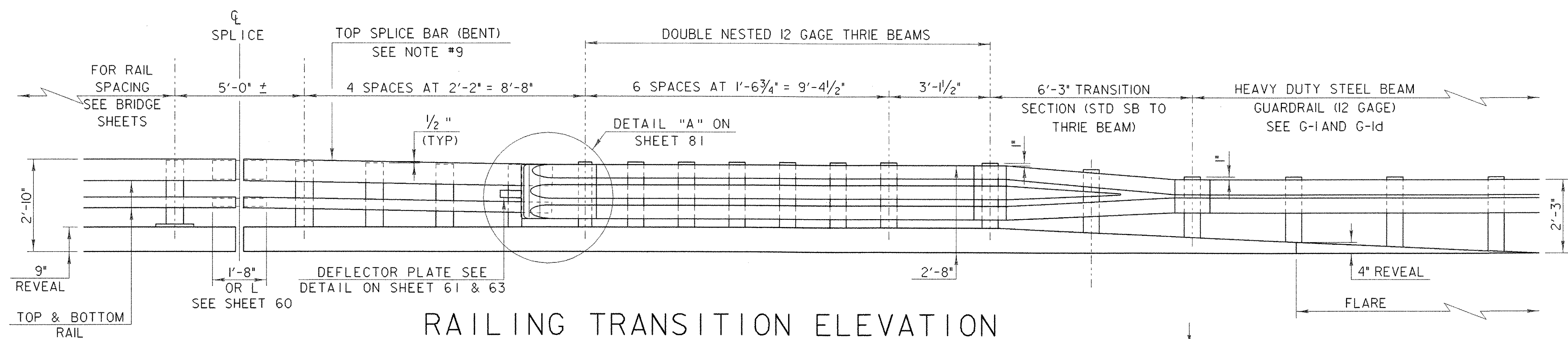
1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

BRIDGE RAILING - NETC 2 RAIL

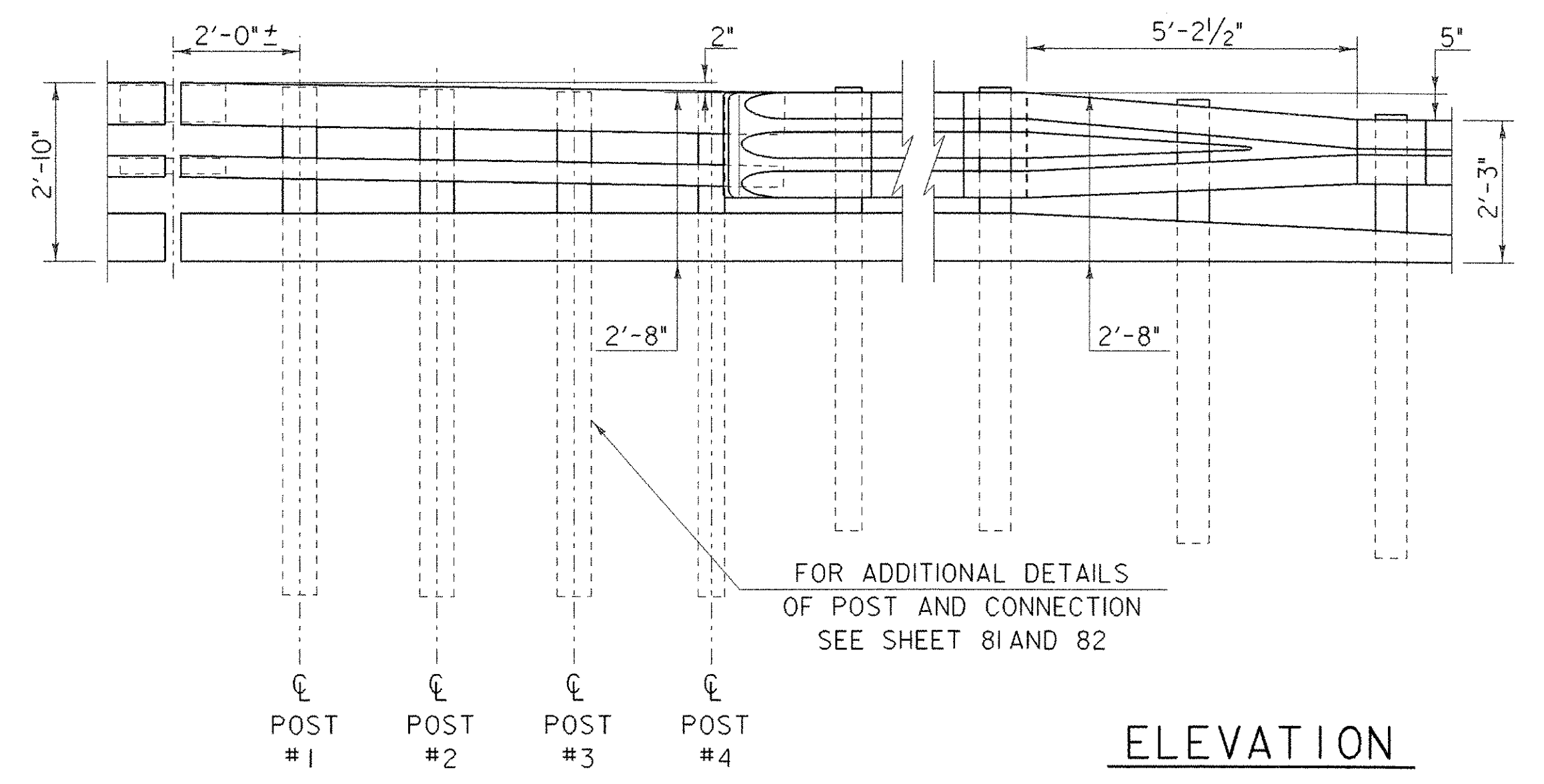
PROJECT NAME: WOODFORD	PLOT DATE: 03-OCT-2005
PROJECT NUMBER: BHF 010-I(29)	DRAWN BY: R.VANHAMBURG
FILE NAME: /84e039/se039rail.dgn	DESIGNED BY: M.EVANS-MONGEON
PROJECT LEADER: A.PORTALUPI	CHECKED BY: MEM
de039nr1.l	SHEET 79 OF 106



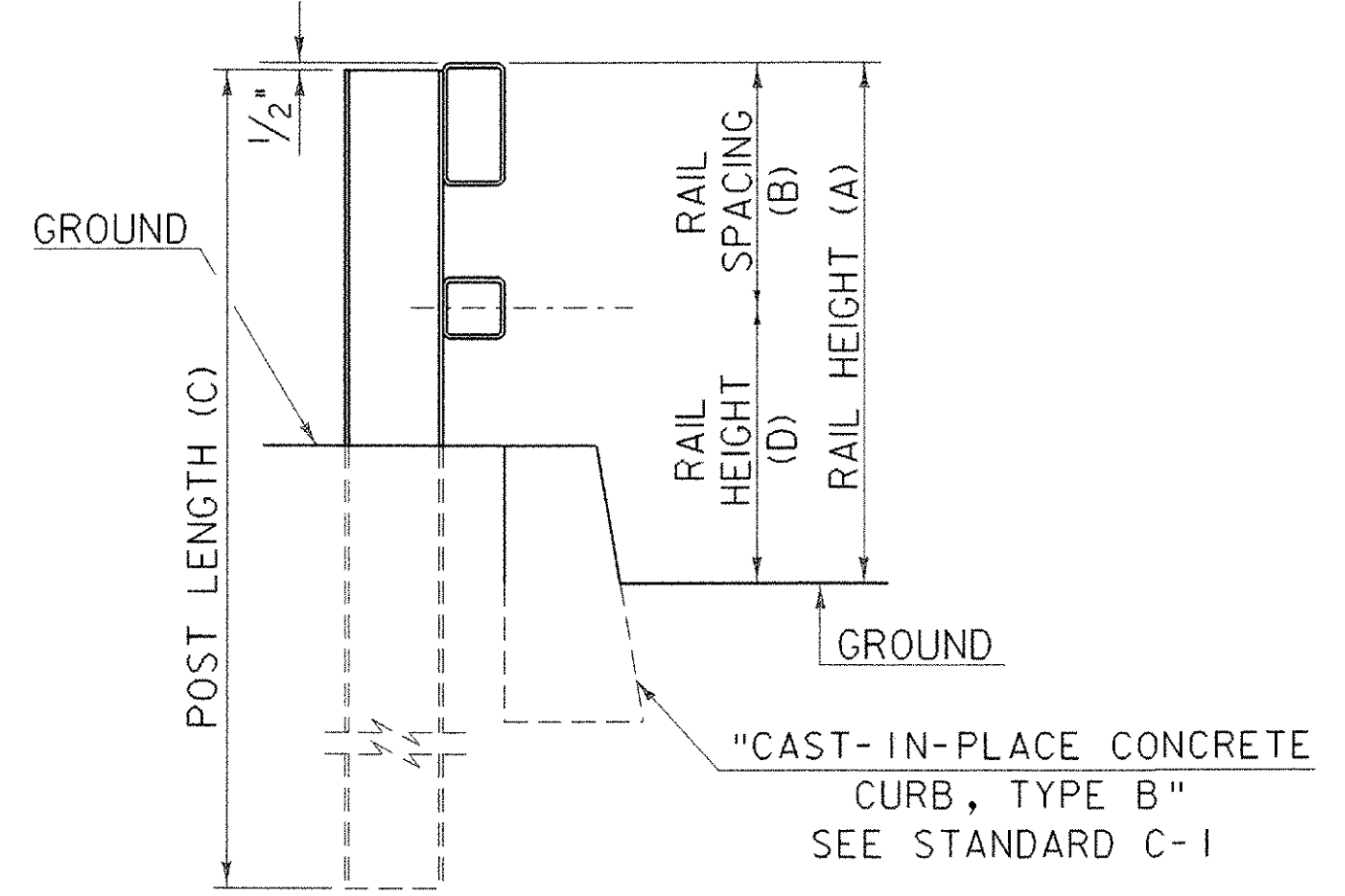
RAILING TRANSITION PLAN



RAILING TRANSITION ELEVATION



ELEVATION

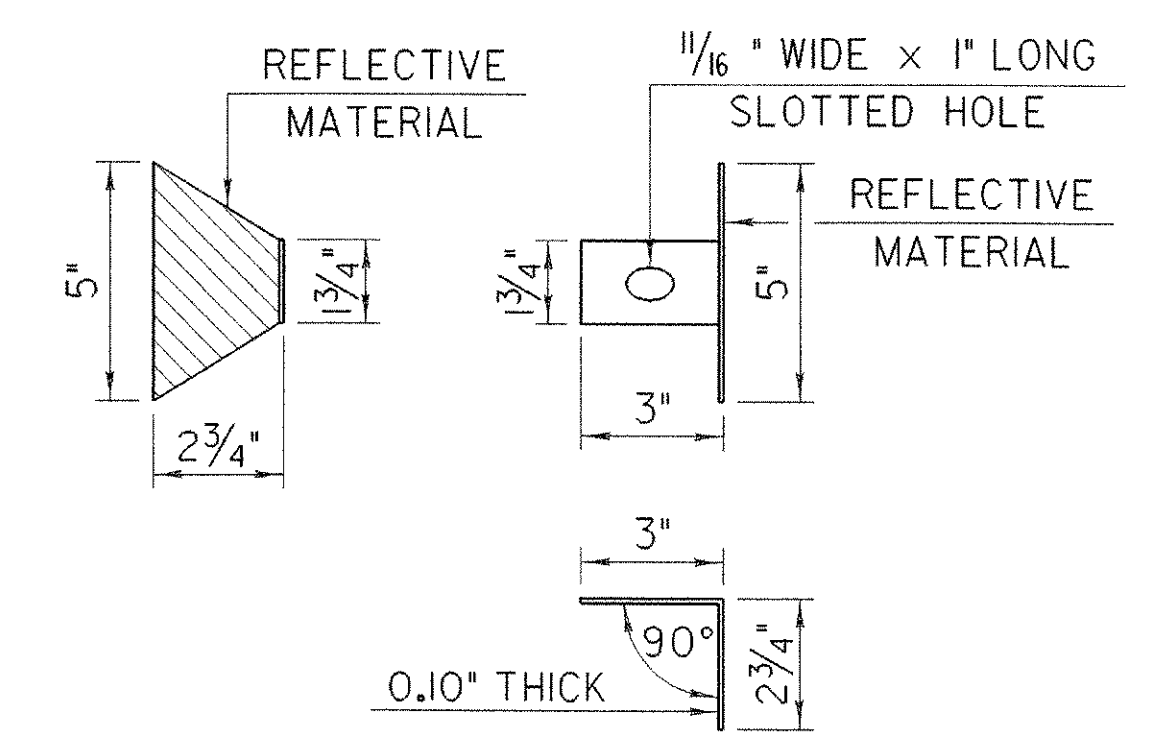


TYPICAL SECTION

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	2'-9 1/2"	1'-3 3/4"	8'-0"	1'-5 3/4"
2	2'-9"	1'-3 1/2"	8'-0"	1'-5 1/2"
3	2'-8 1/2"	1'-3 3/16"	8'-0"	1'-5 5/16"
4	2'-8"	1'-2 7/8"	8'-0"	1'-5 1/8"

NOTES

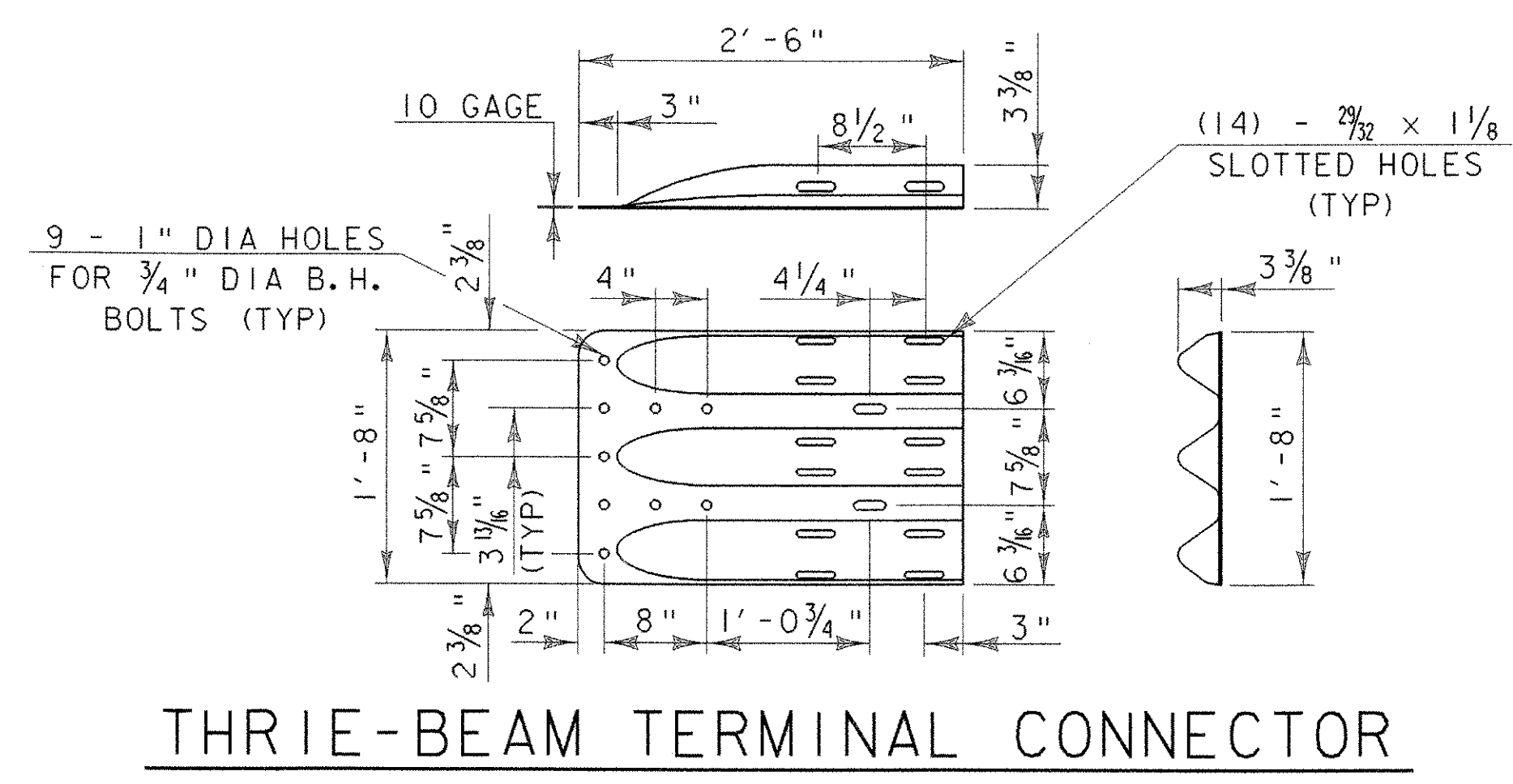
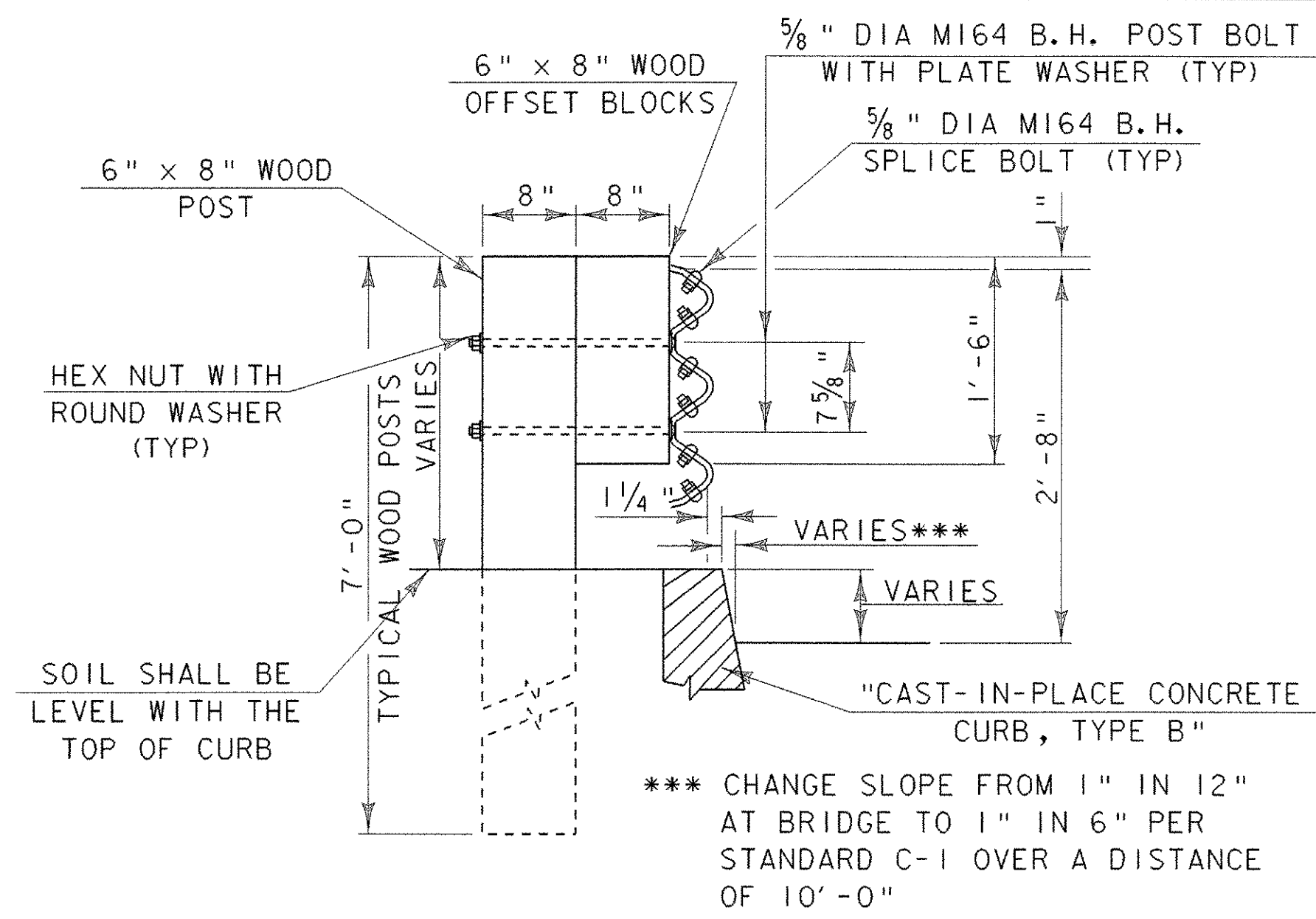
- REFER TO SHEET 79 FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
- PAYMENT FOR GUARD RAIL APPROACH SECTION - NETC 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
- THE REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 30' (OR CLOSEST POST) WITH A 3/8" DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
- REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.
- ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH ON THE CURB SIDE). PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.
- ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
- ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
- CARRIAGE BOLTS SHALL BE AASHTO M164 AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).
- WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).
- THE CONCRETE CURB WILL BE PAID FOR AS ITEM 616.28, "CAST-IN-PLACE CONCRETE CURB, TYPE B."



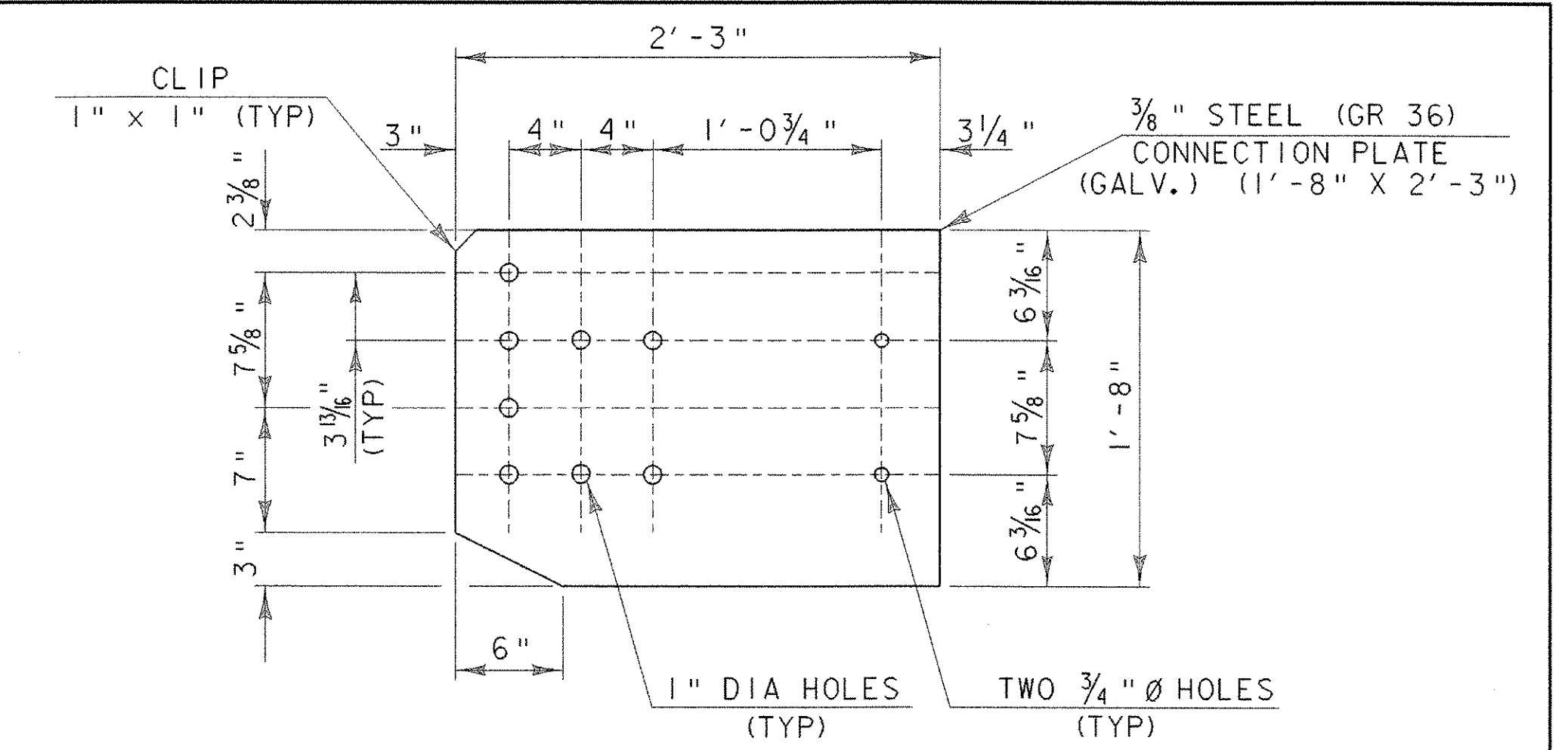
DELINEATION DEVICE DETAILS

BRIDGE RAILING - NETC 2 RAIL - THRIE BEAM APPROACH RAIL

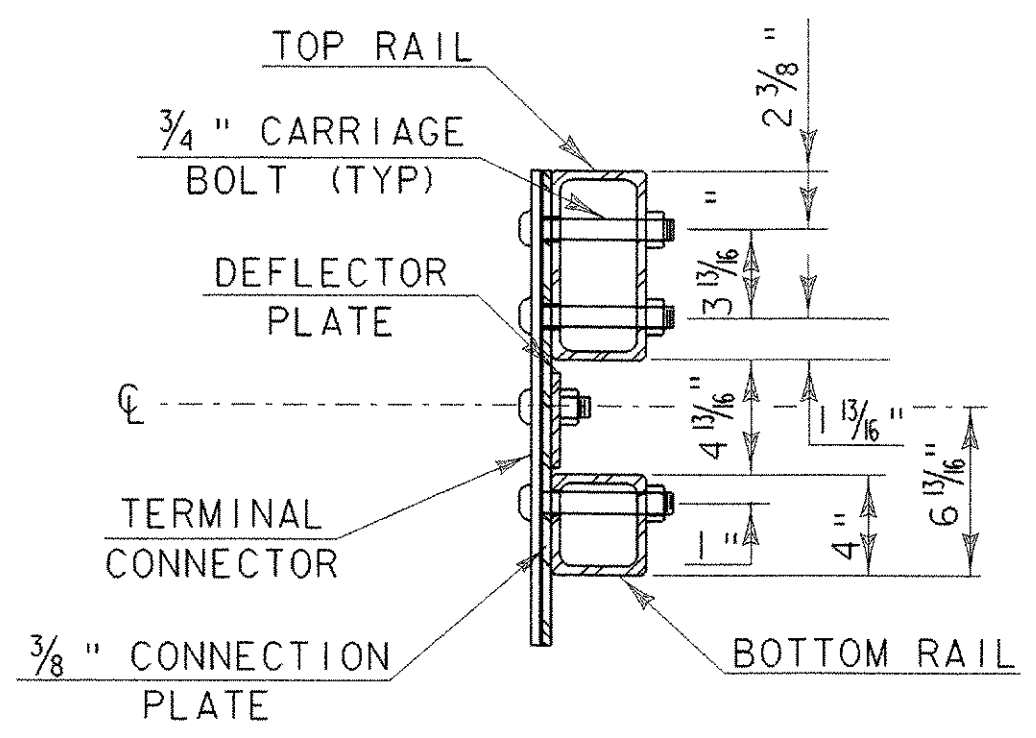
PROJECT NAME: WOODFORD	PLOT DATE: 03-OCT-2005
PROJECT NUMBER: BHF 010-I(29)	DRAWN BY: R.VANHAMBURG
FILE NAME: /84e039/se039rail.dgn	DESIGNED BY: M.EVANS-MONGEON
PROJECT LEADER: A.PORTALUPI	CHECKED BY: MEM
de039nr2.1	SHEET 80 OF 106



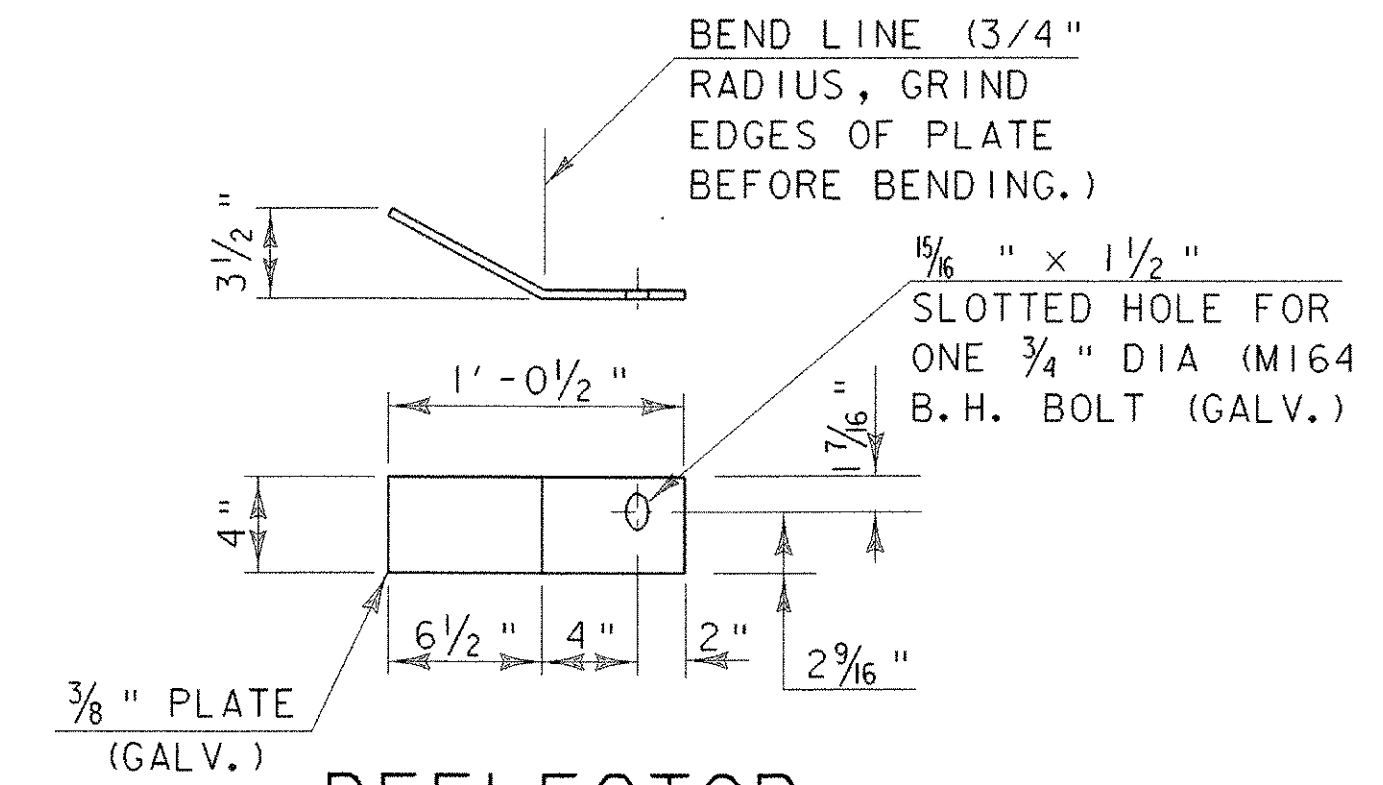
THREE-BEAM TERMINAL CONNECTOR



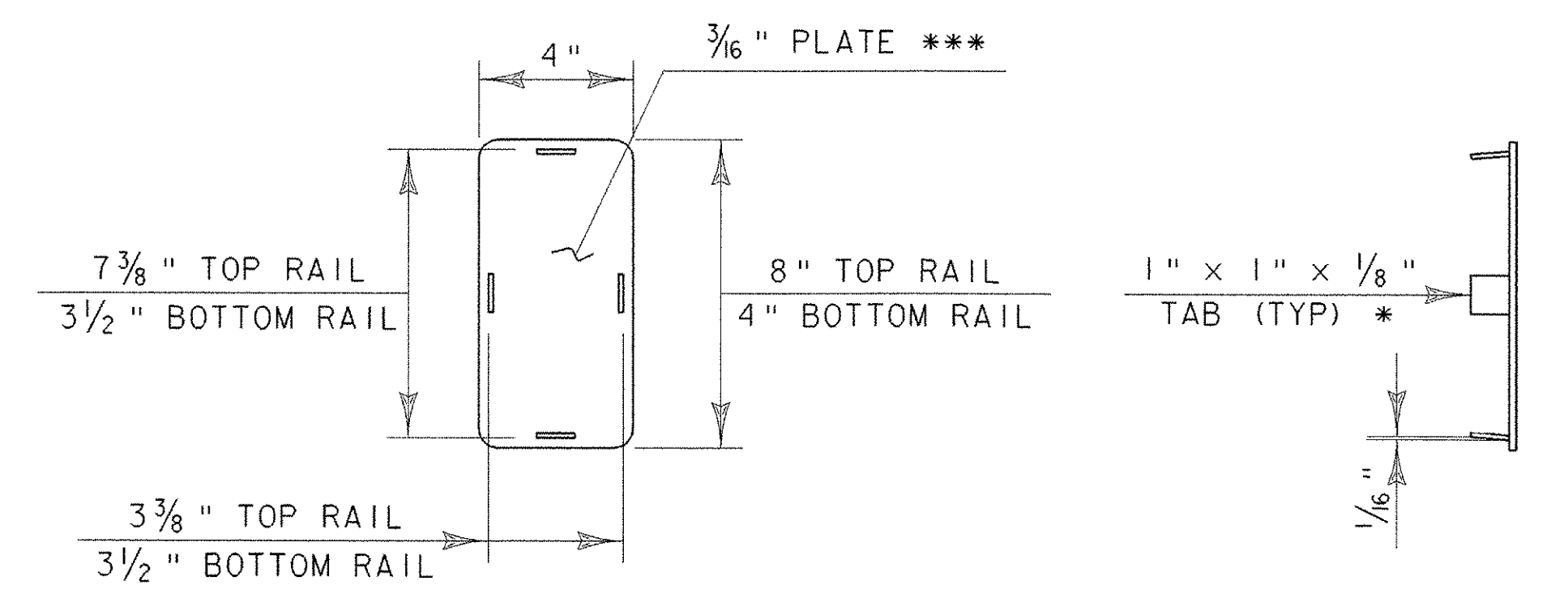
CONNECTION PLATE



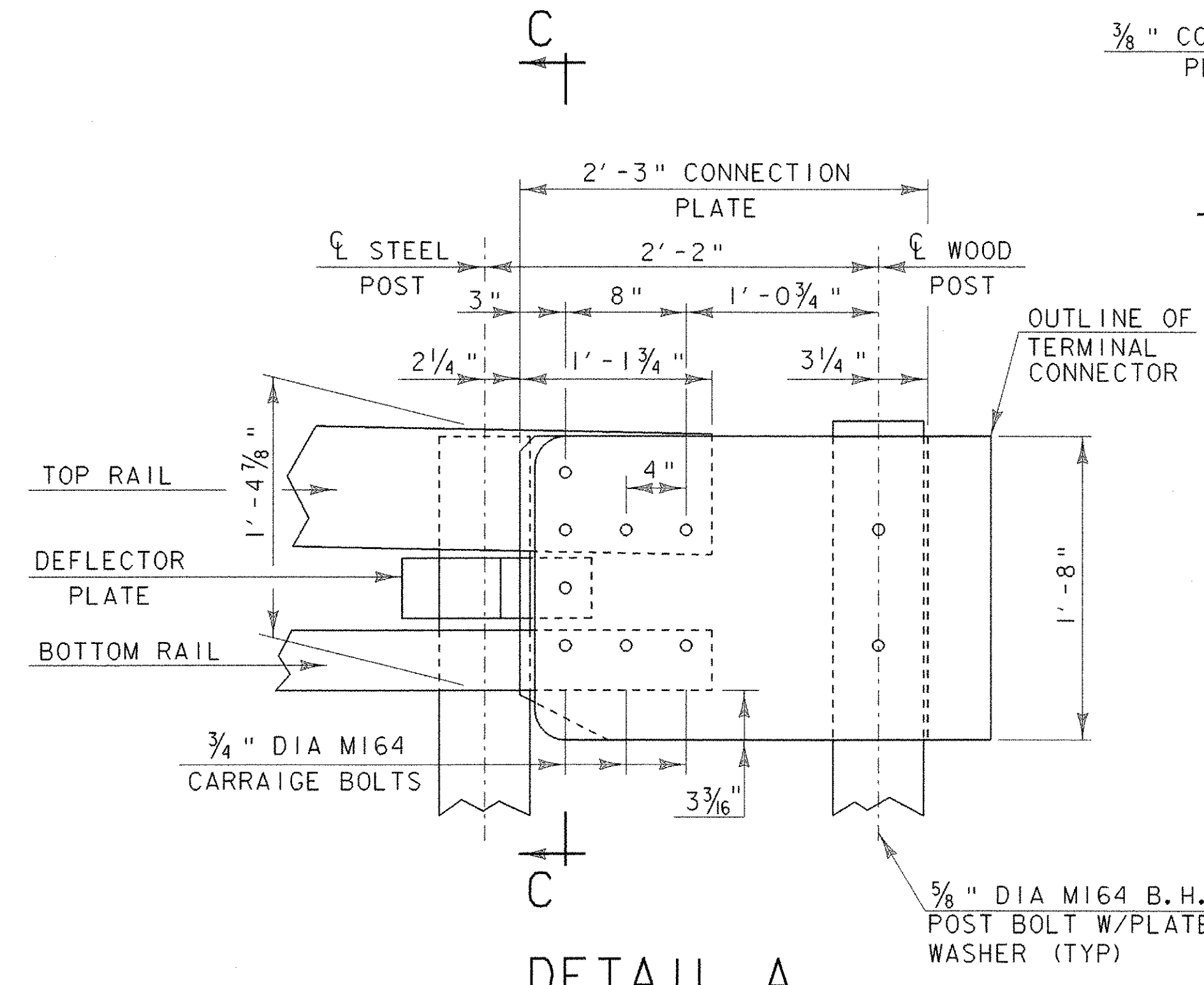
SECTION C-C (CONNECTION PLATE)



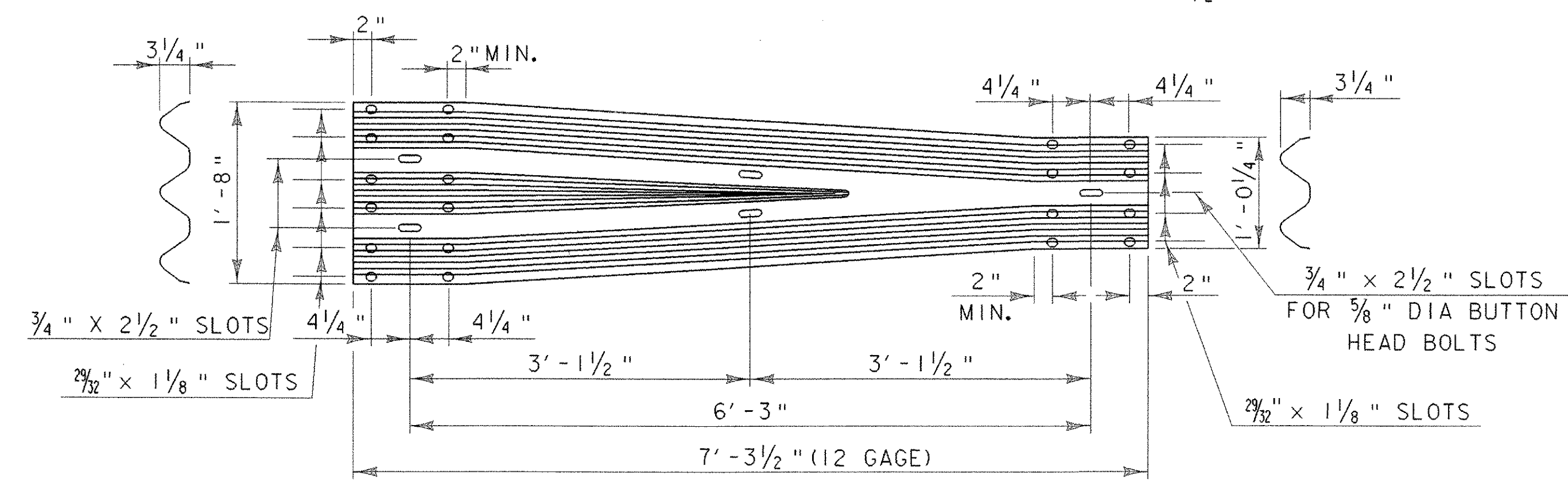
DEFLECTOR PLATE DETAIL



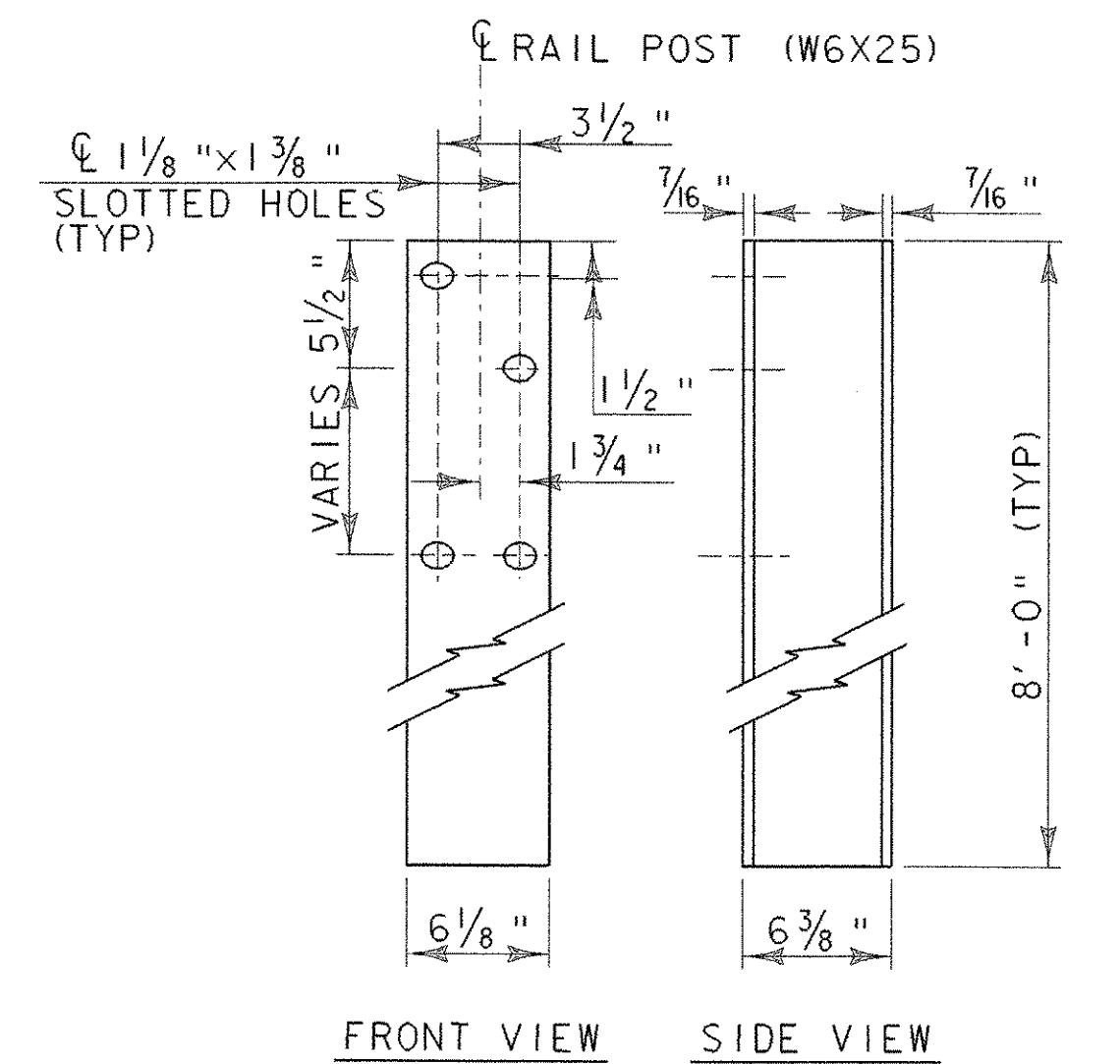
END CAP DETAIL



DETAIL A



THREE-BEAM TO STD SB TRANSITION SECTION



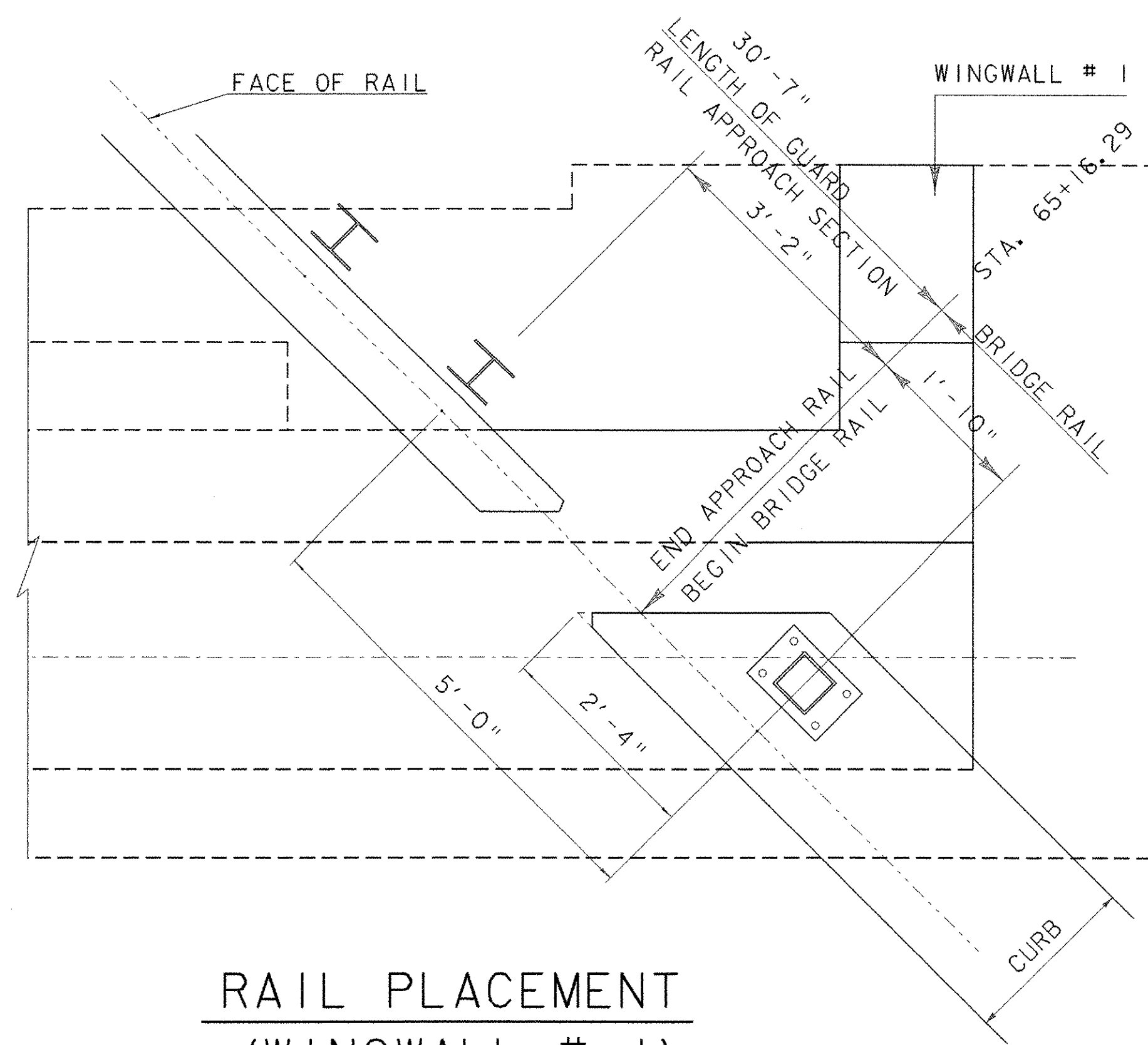
FRONT VIEW SIDE VIEW

RAIL POST

- * WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE.
- ** ROUND CORNERS 1/2" RADIUS (TYP)

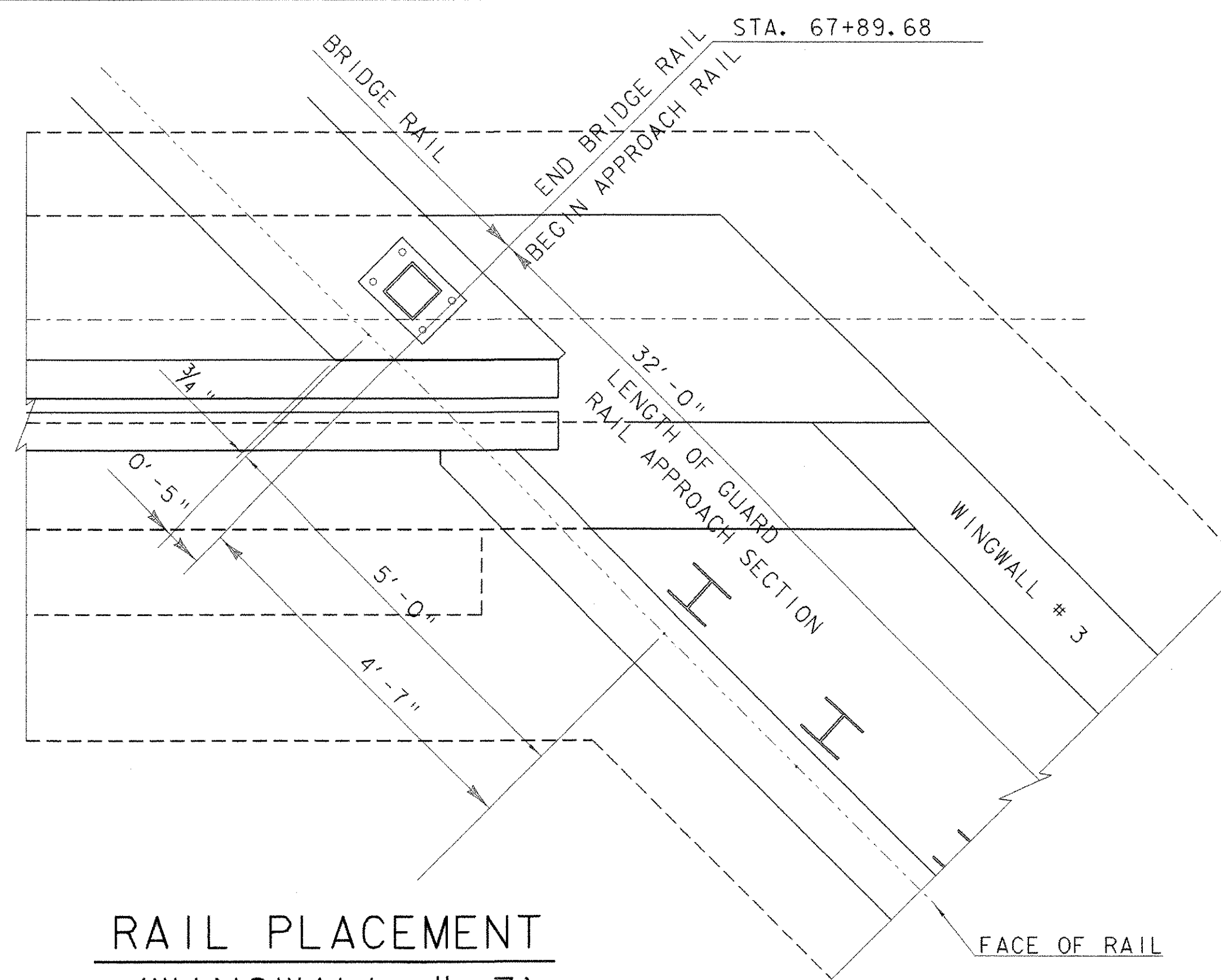
BRIDGE RAILING - NETC 2 RAIL - THREE BEAM APPROACH RAIL

PROJECT NAME: WOODFORD	PLOT DATE: 03-OCT-2005
PROJECT NUMBER: BHF 010-I(29)	DRAWN BY: R.VANHAMBURG
FILE NAME: /84e039/se039rail.dgn	DESIGNED BY: M.EVANS-MONGEON
PROJECT LEADER: A.PORTALUPI	CHECKED BY: MEM
de039nr3.1	SHEET 81 OF 106



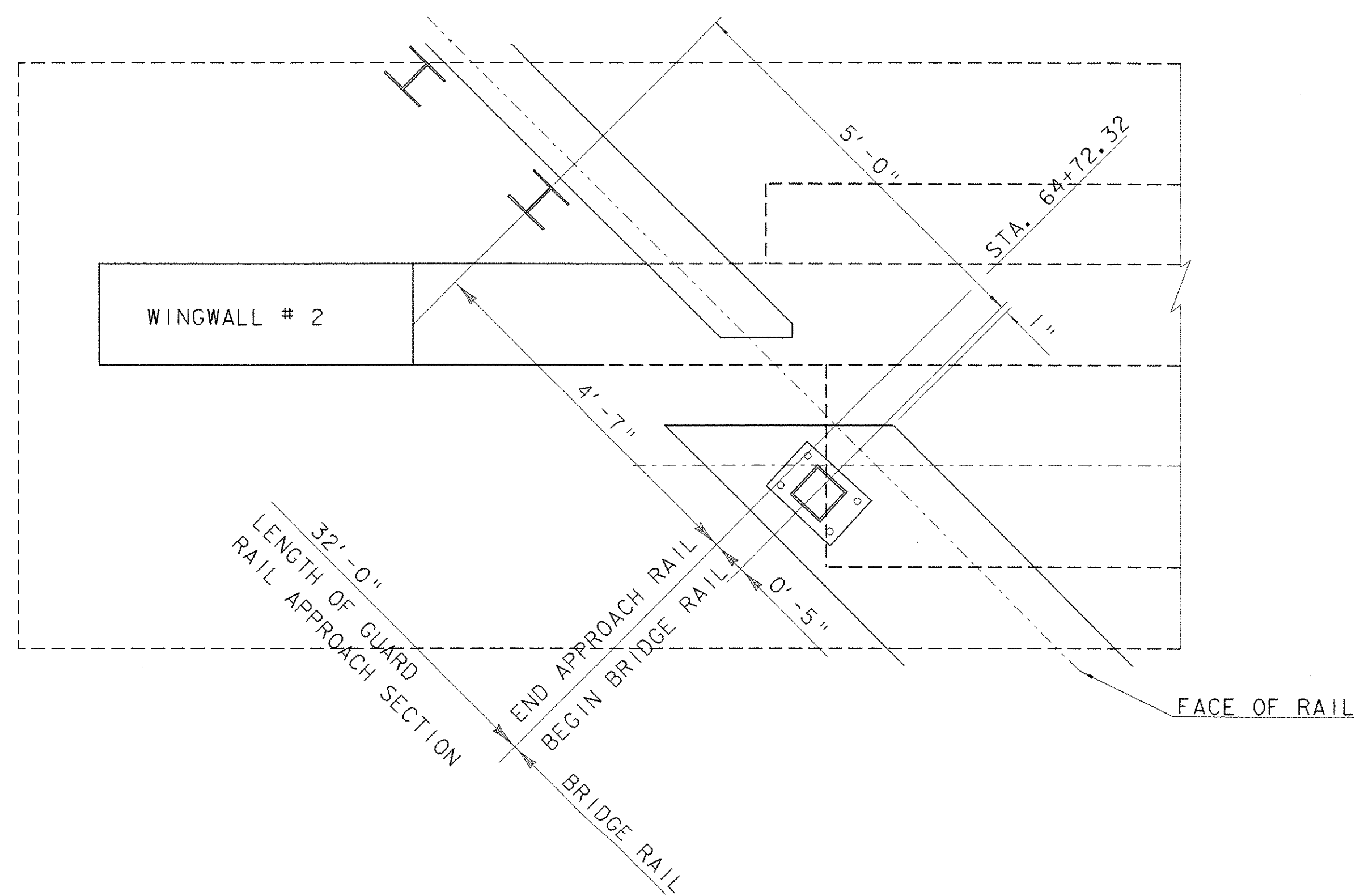
RAIL PLACEMENT
(WINGWALL # 1)

SCALE 3/4" = 1'-0"



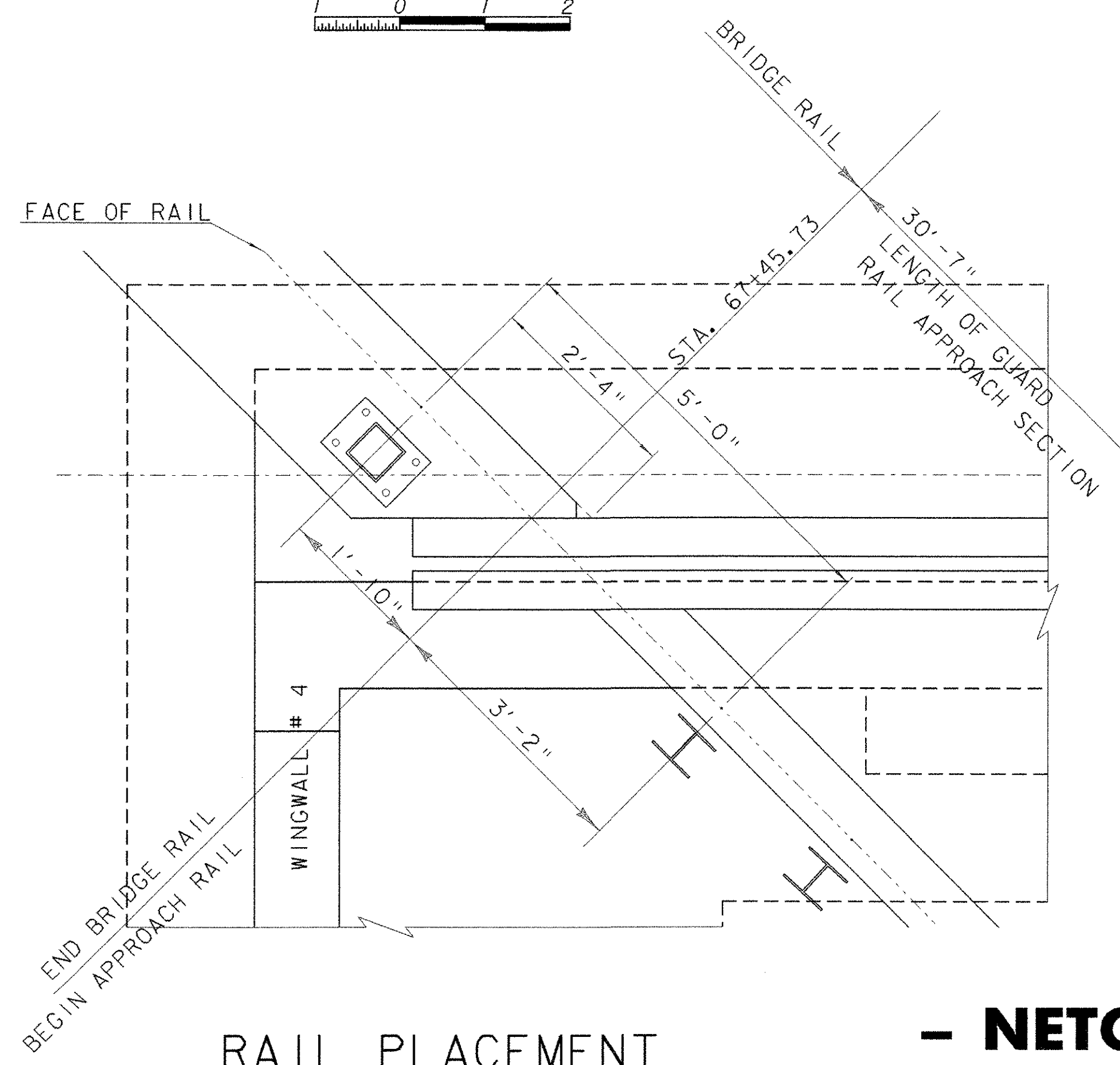
RAIL PLACEMENT
(WINGWALL # 3)

SCALE 3/4" = 1'-0"



RAIL PLACEMENT
(WINGWALL # 2)

SCALE 3/4" = 1'-0"



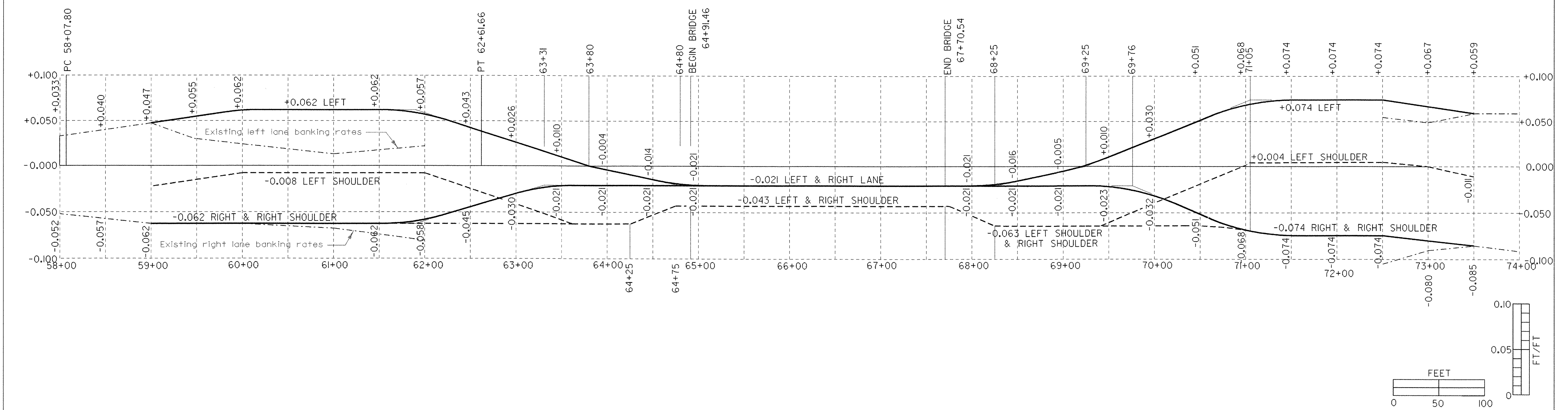
RAIL PLACEMENT
(WINGWALL # 4)

SCALE 3/4" = 1'-0"

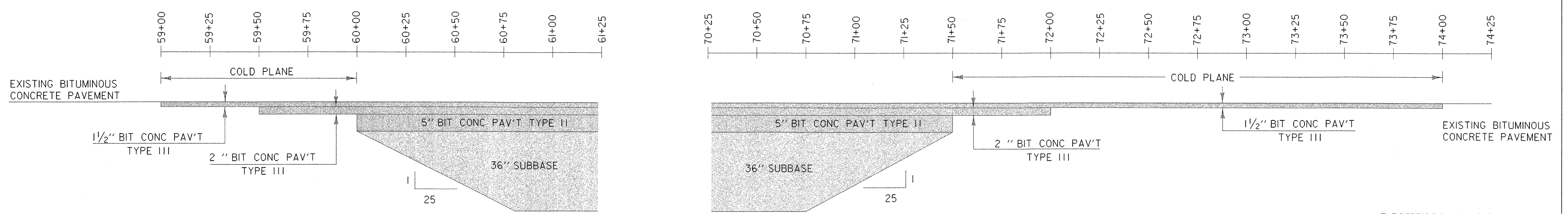
**BRIDGE RAILING
- NETC 2 RAIL - PLACEMENT**

PROJECT NAME: WOODFORD	PLOT DATE: 03-OCT-2005
PROJECT NUMBER: BHF 010-1(29)	DRAWN BY: VAN HAMBURG
FILE NAME: /84e039/se039rall.dgn	CHECKED BY: EVANS-MONGEON
PROJECT LEADER: A. PORTALUPI	SHEET 82 OF 106
DESIGNED BY: M.EVANS-MONGEON	

BANKING DIAGRAM



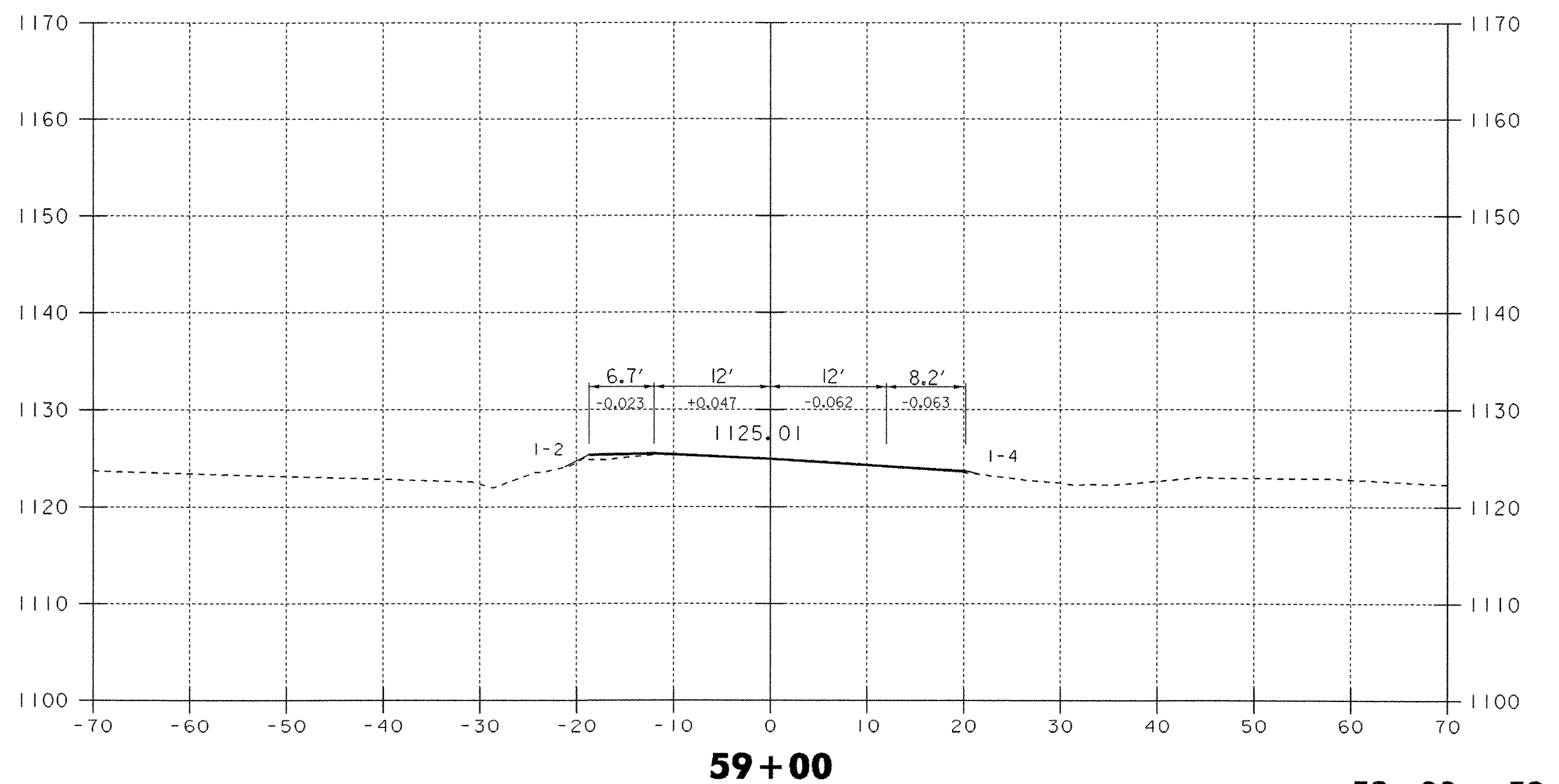
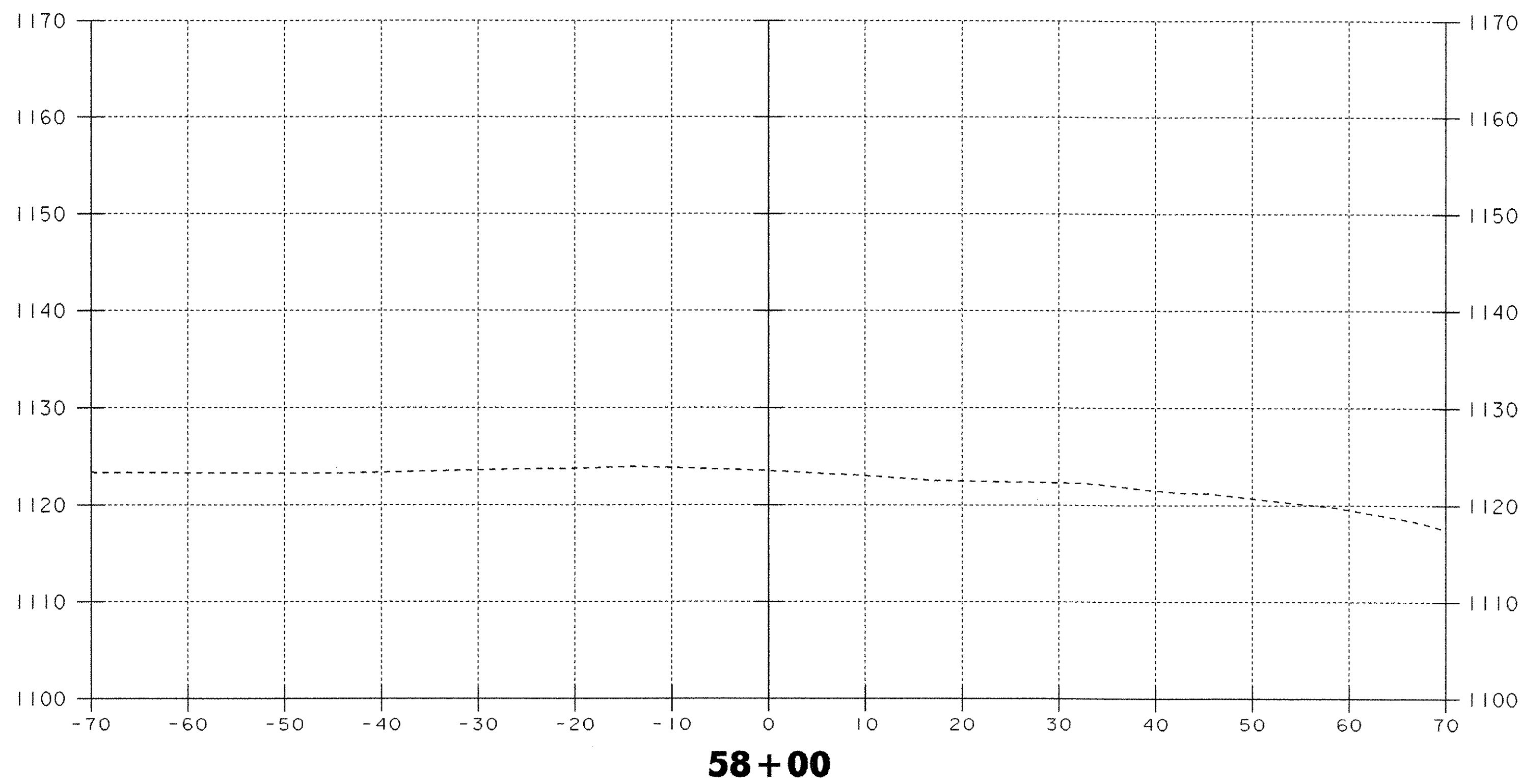
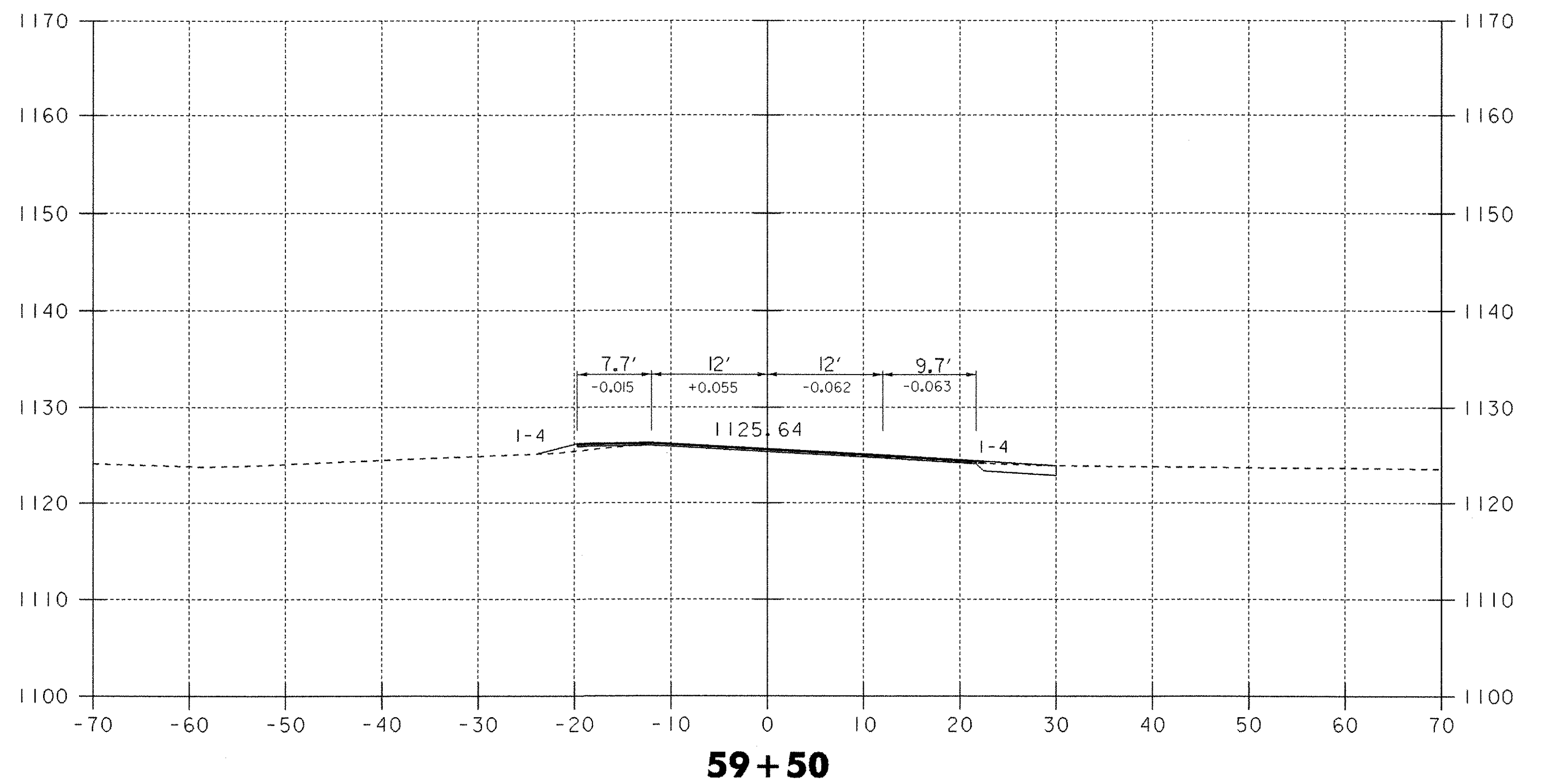
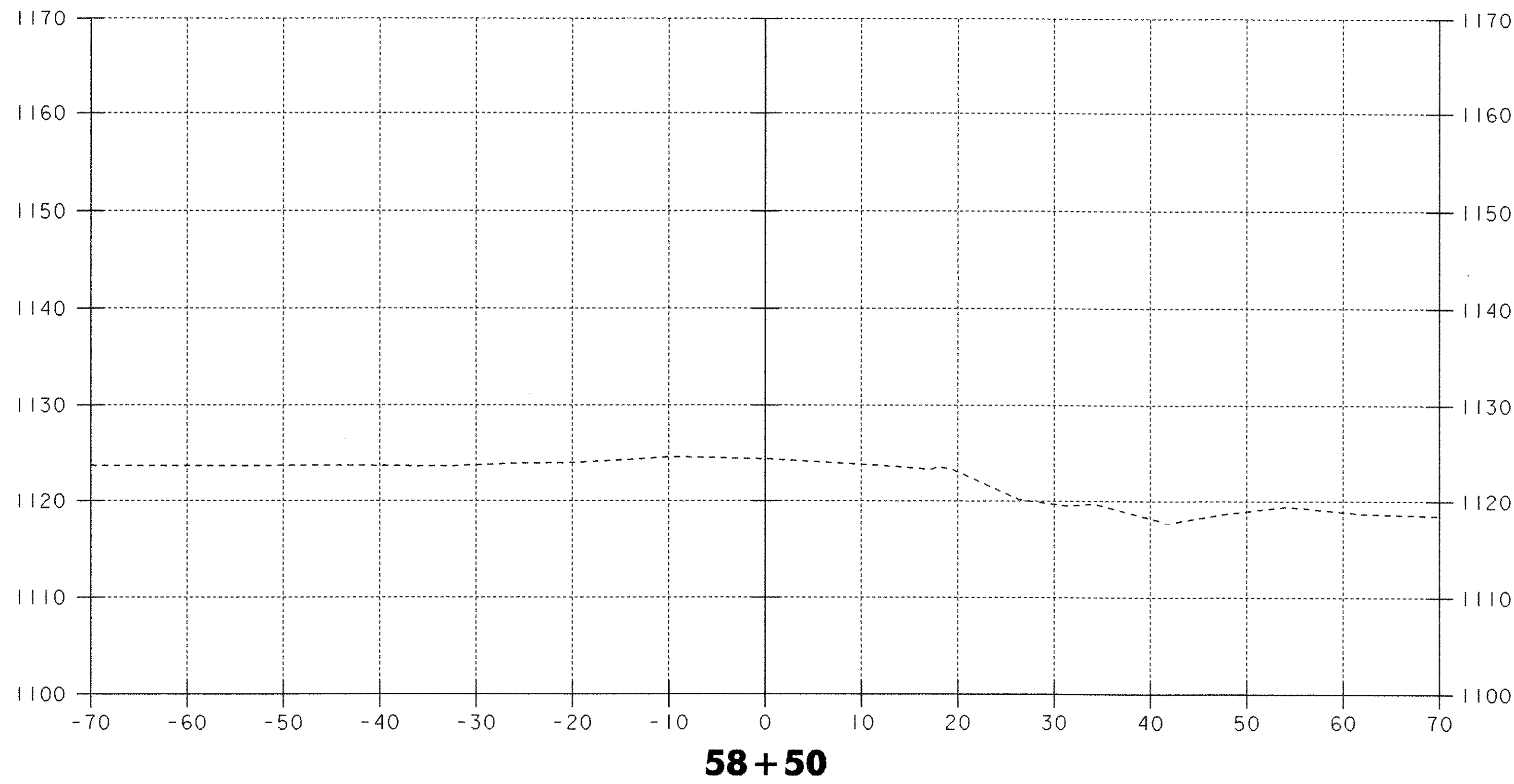
MATERIAL TRANSITION DIAGRAM



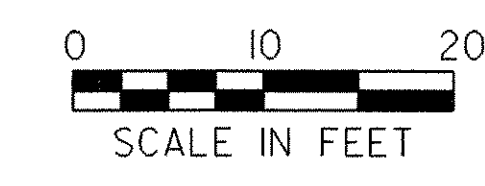
NOT TO SCALE

BANKING DIAGRAM AND DEPTH TRANSITIONS

DRAWN BY	G. SHANGRAW	DATE	4-12-96
SQUAD LEADER	A. PORTALUPI		
DESIGN FILE NO.	84e039/structures/de039xs.dgn		
IPARM FILE	de039bnk.i	DATE PLOTTED	03-OCT-2005
PROJ. NAME	WOODFORD		
PROJ. NO.	BHF 010-1(29)		
SHEET	83	OF	106 SHEETS



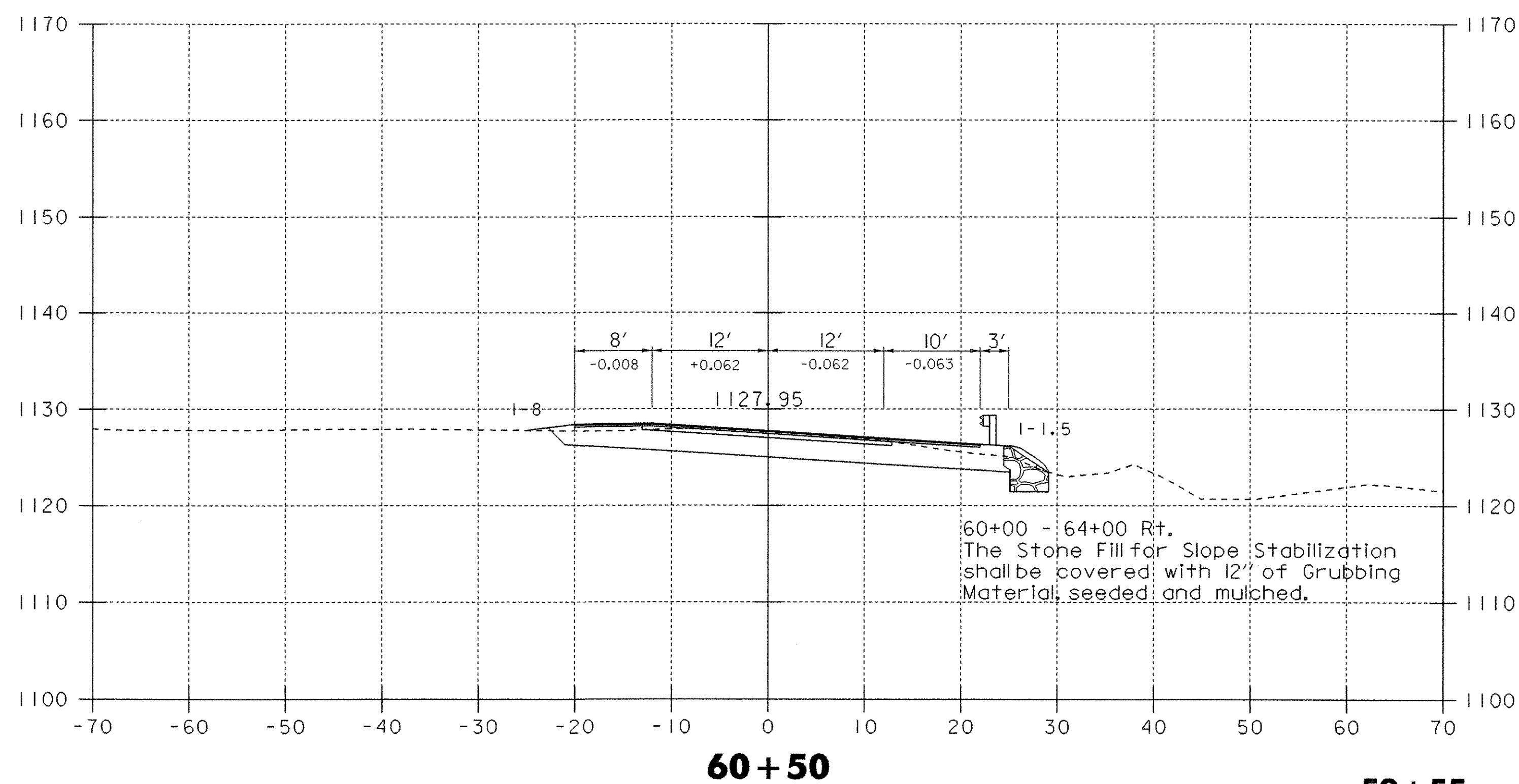
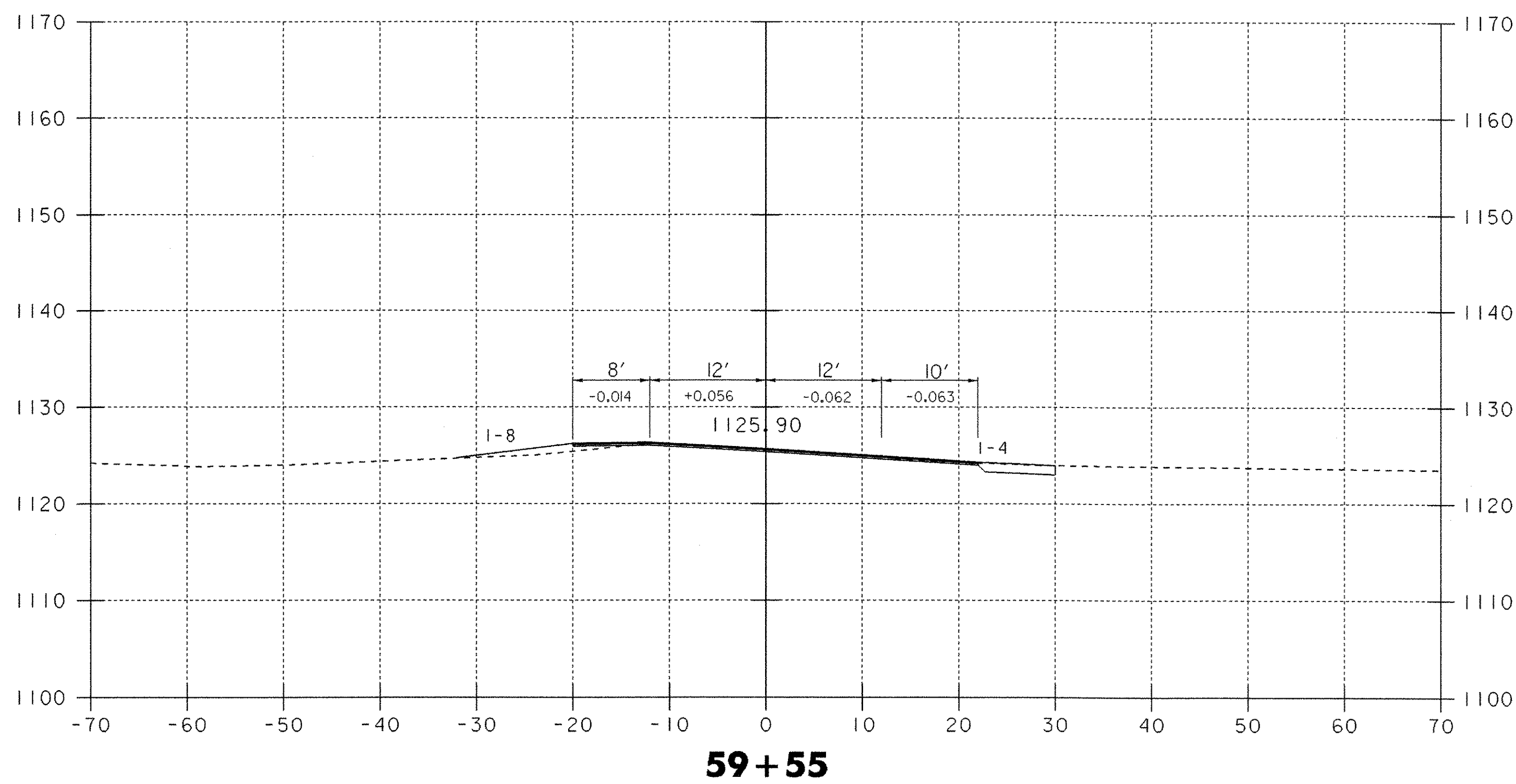
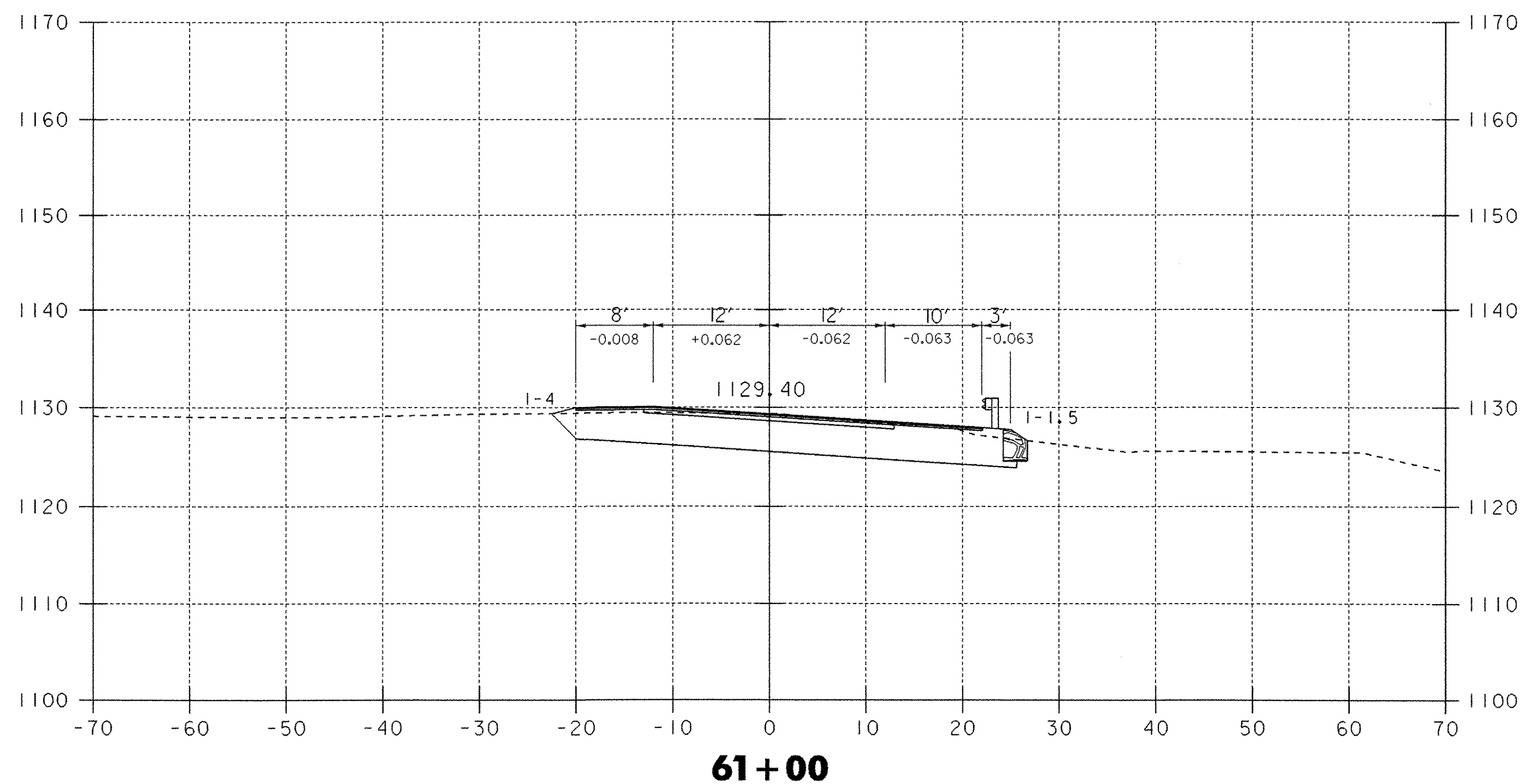
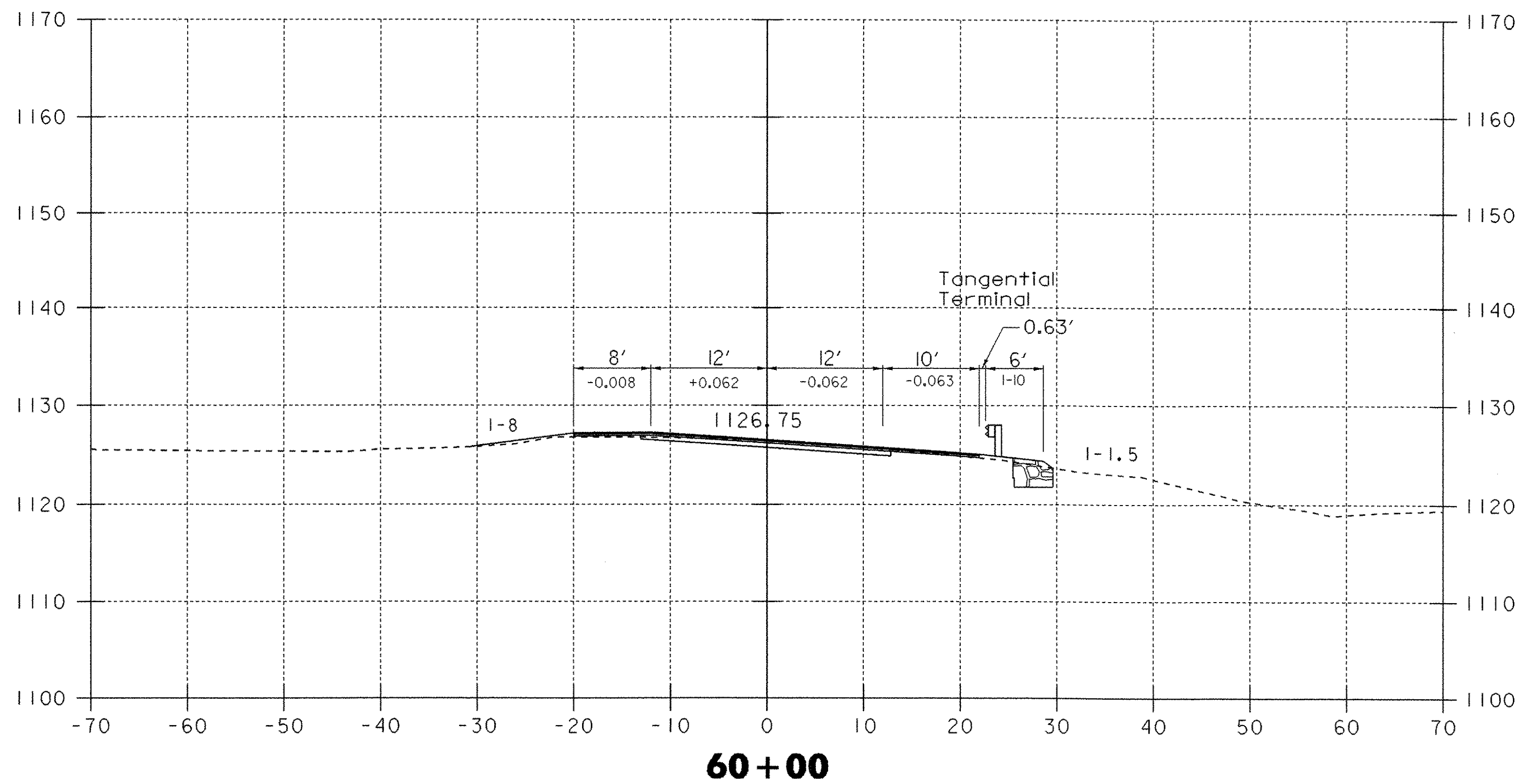
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



59+00
Begin
Approach

58+00 - 59+50

PROJECT: WOODFORD	PROJECT NO. : BHF 010-(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x01.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 86 OF 106



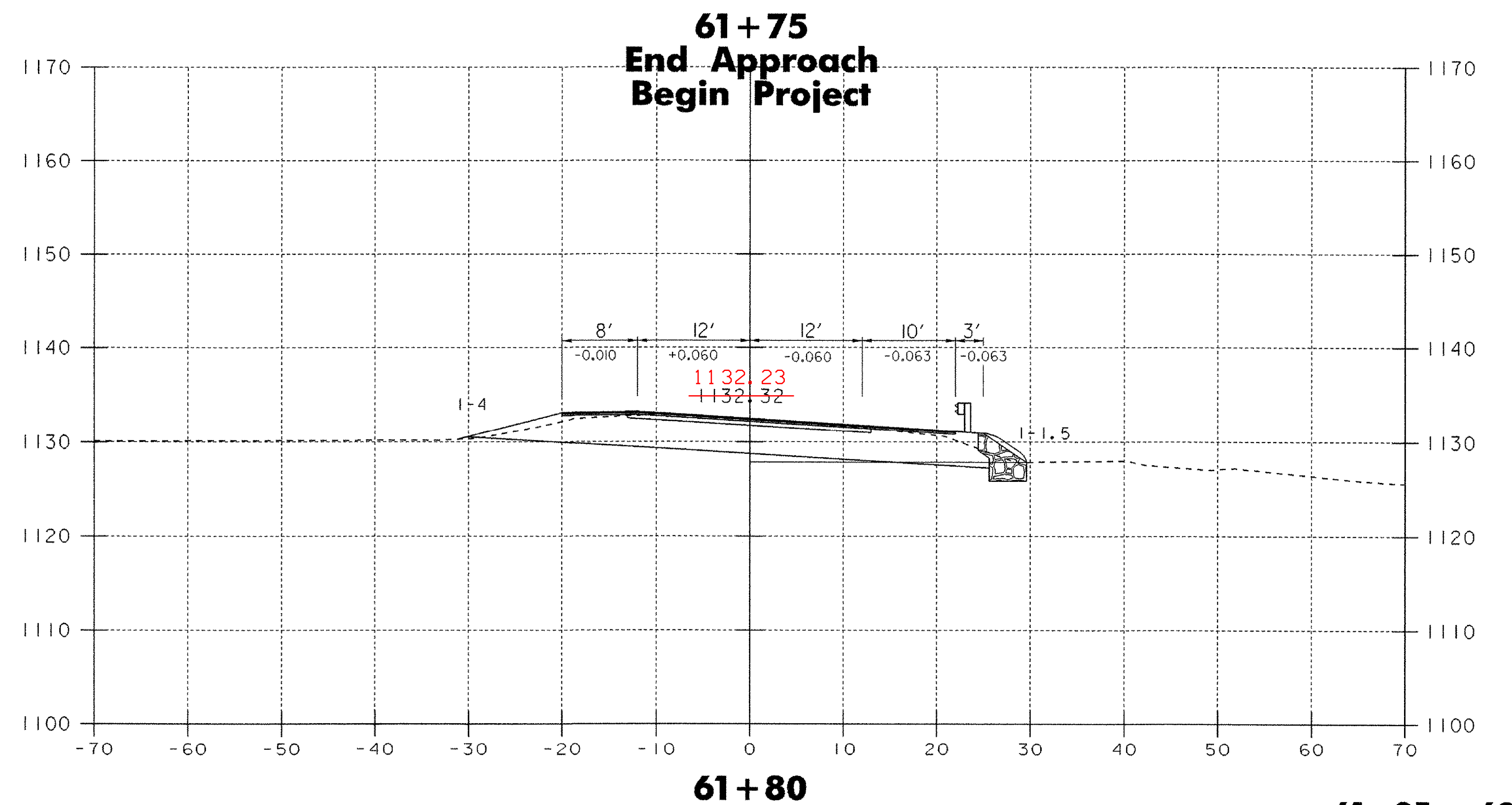
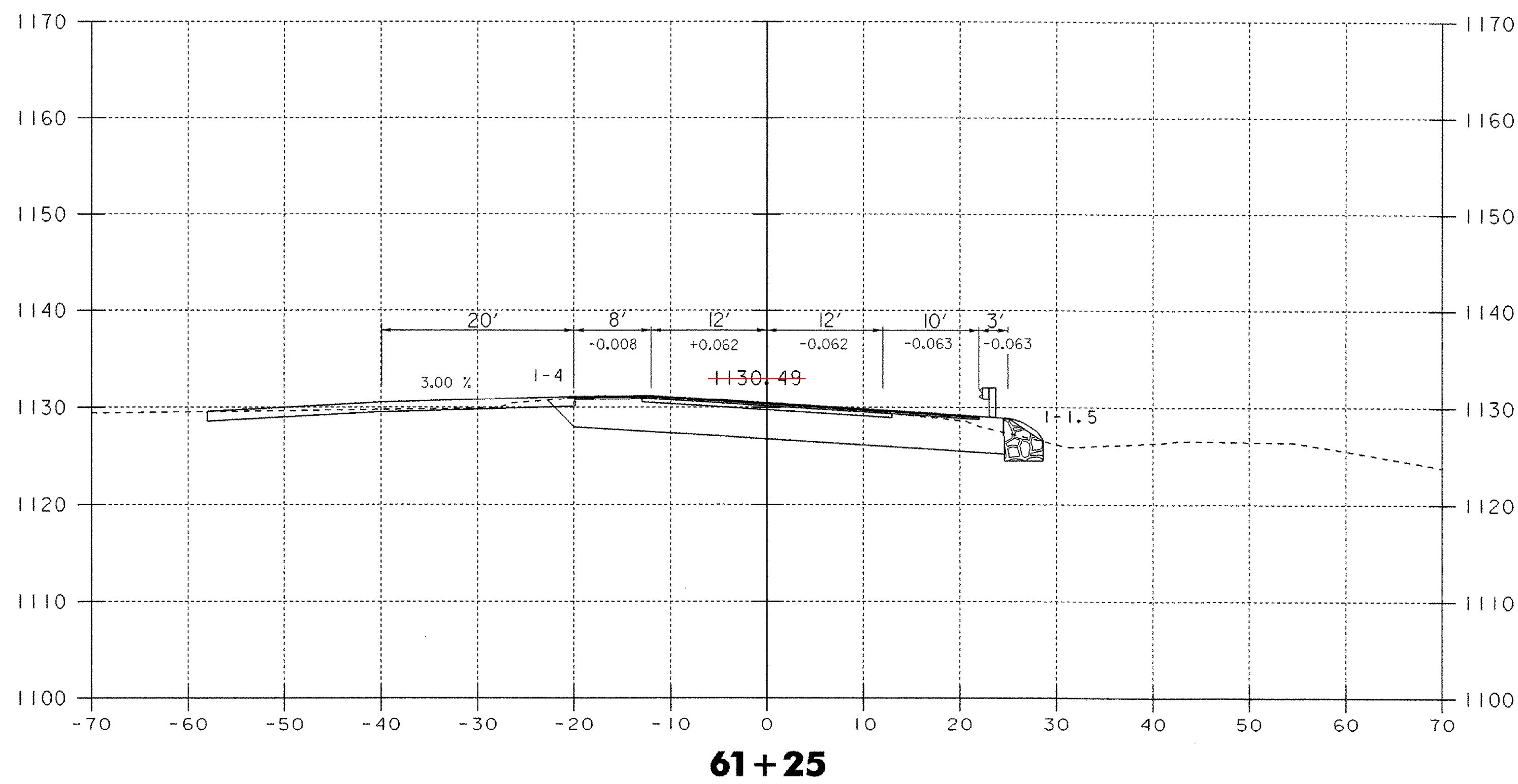
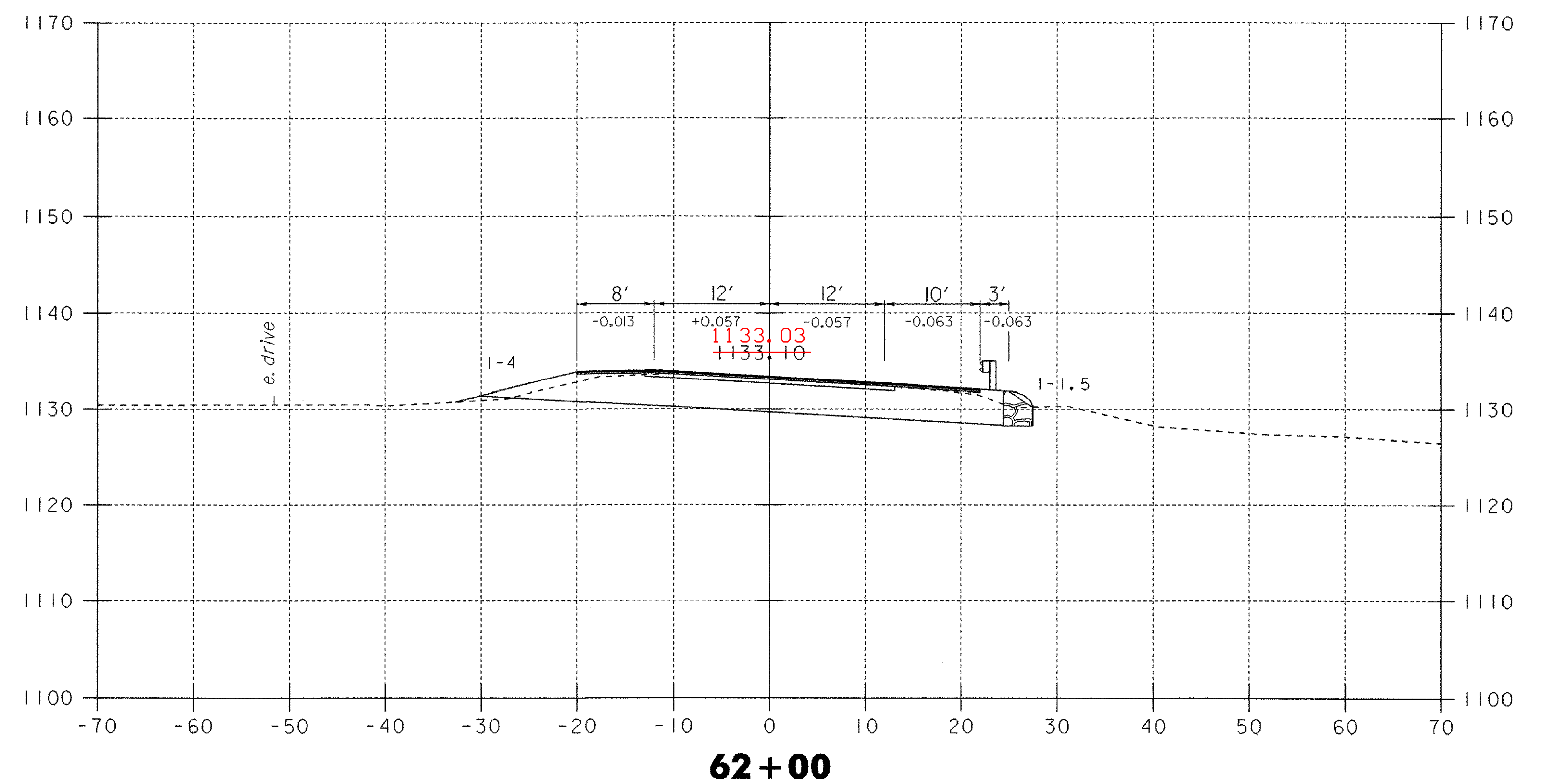
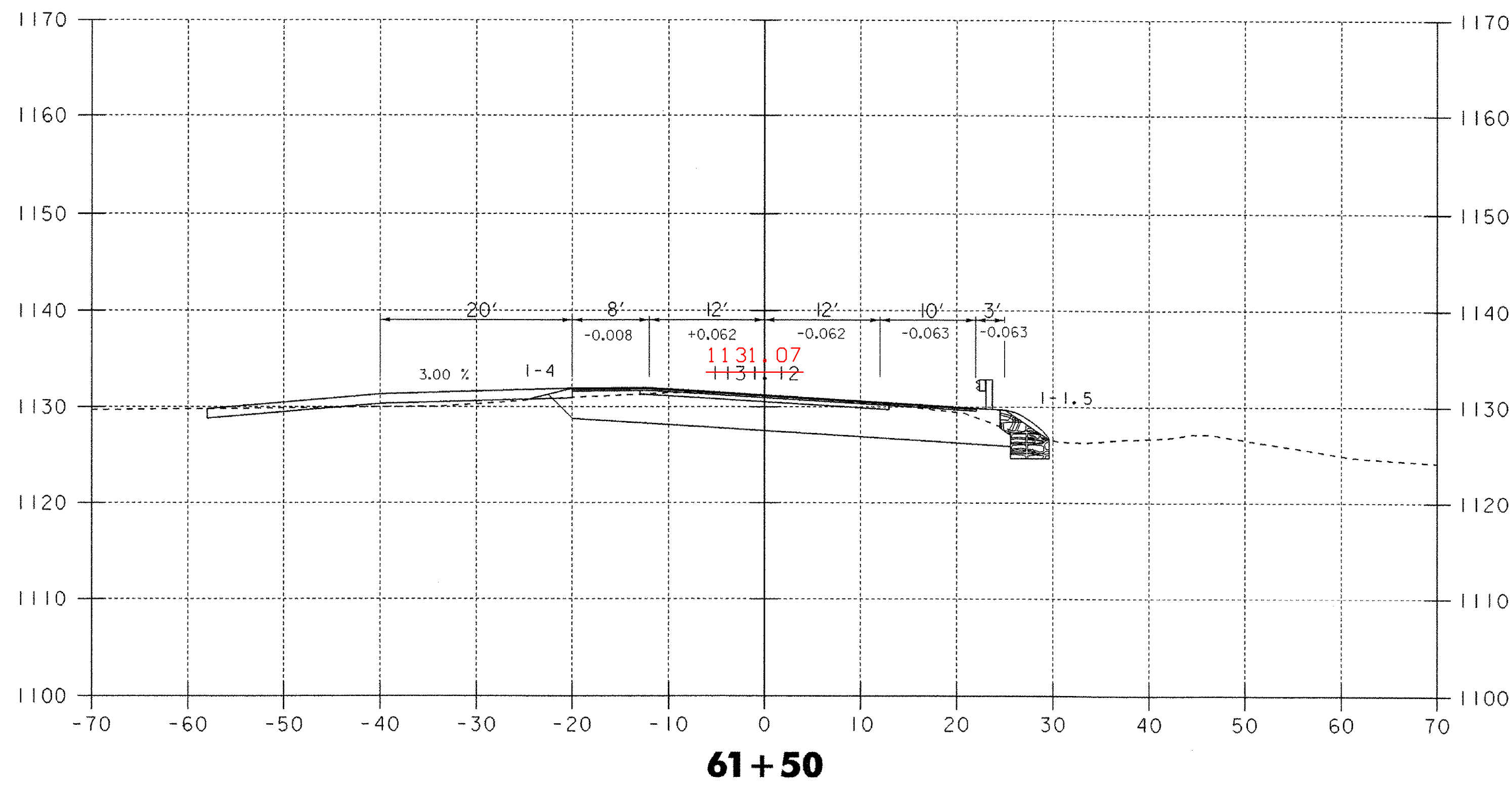
60+00 - 64+00 Rt.
The Stone Fill for Slope Stabilization shall be covered with 12' of Grubbing Material, seeded and mulched.

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A



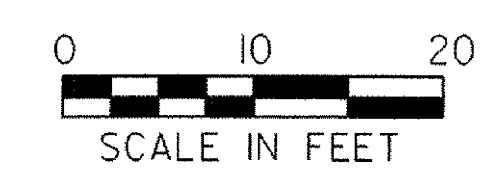
PROJECT: WOODFORD	PROJECT NO.: BHF 010-K(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x02.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 87 OF 106

59+55 - 61+00

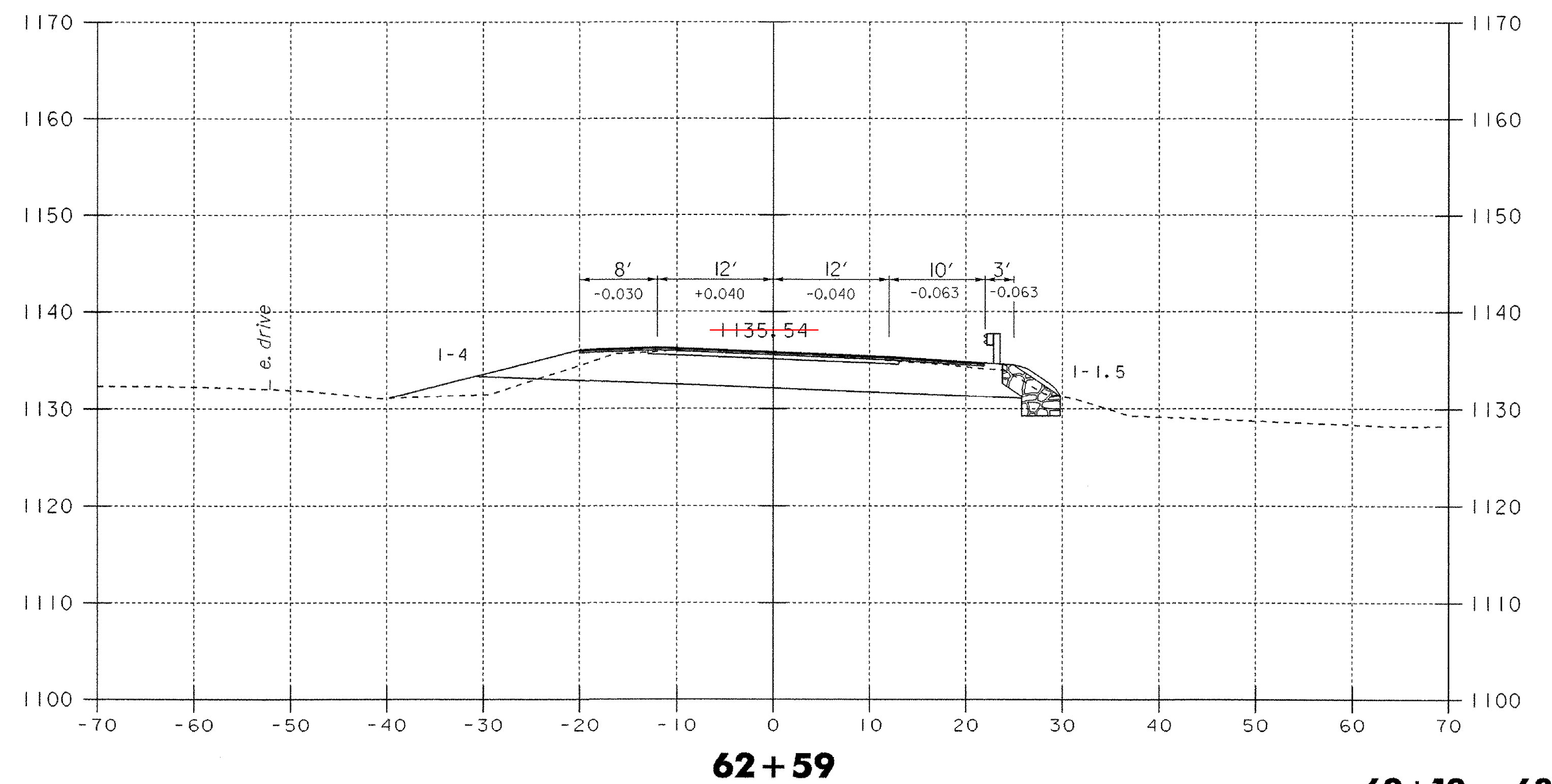
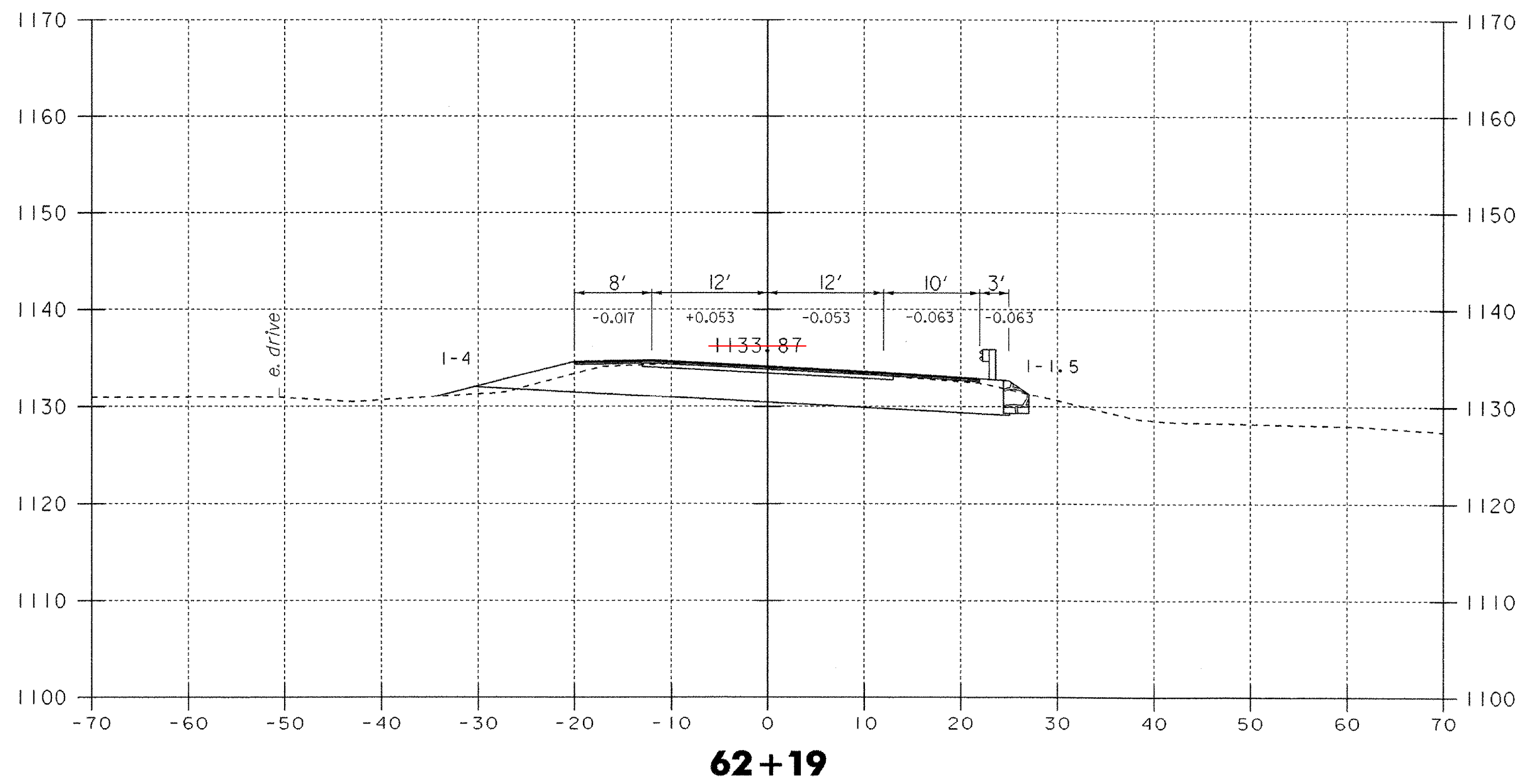
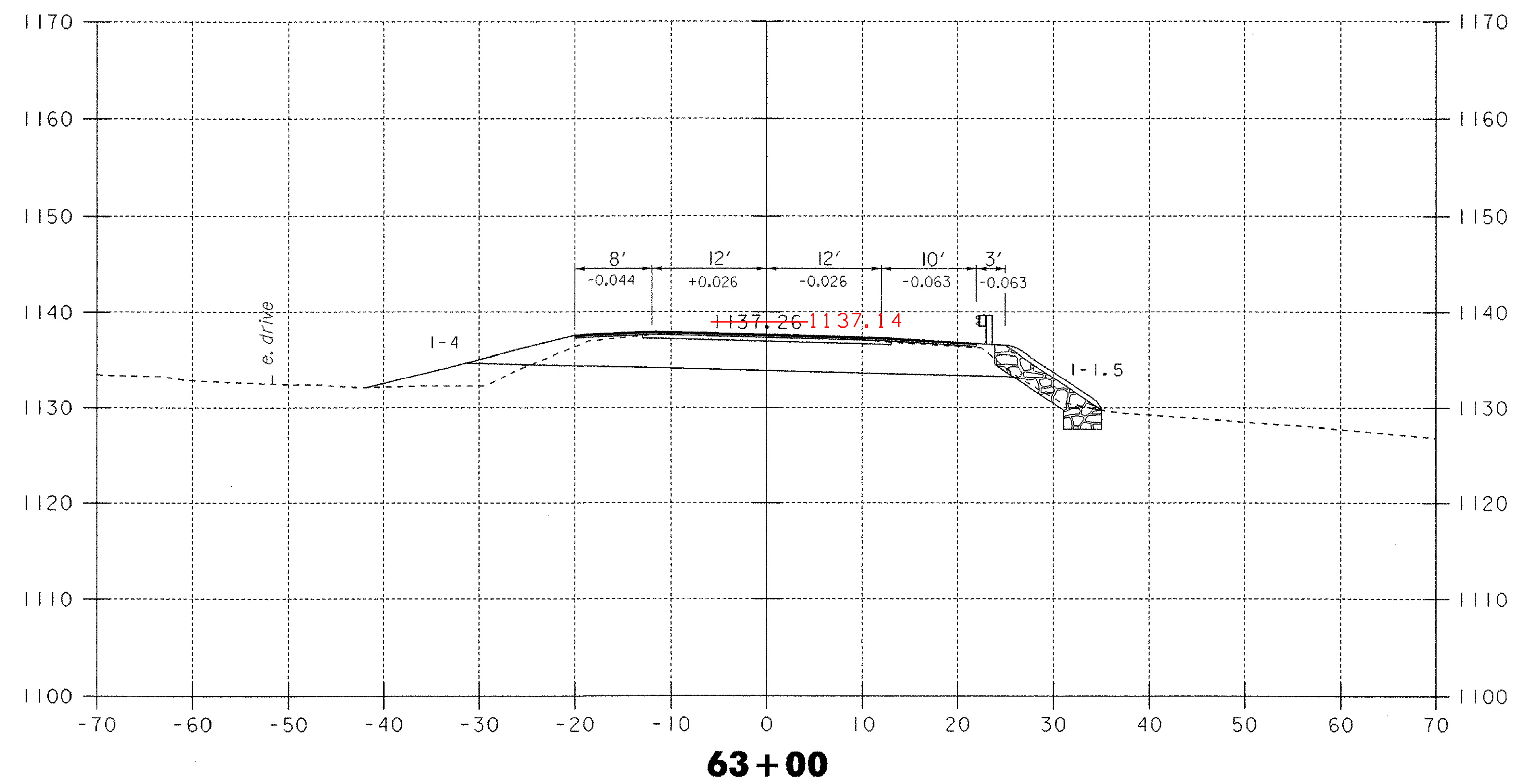
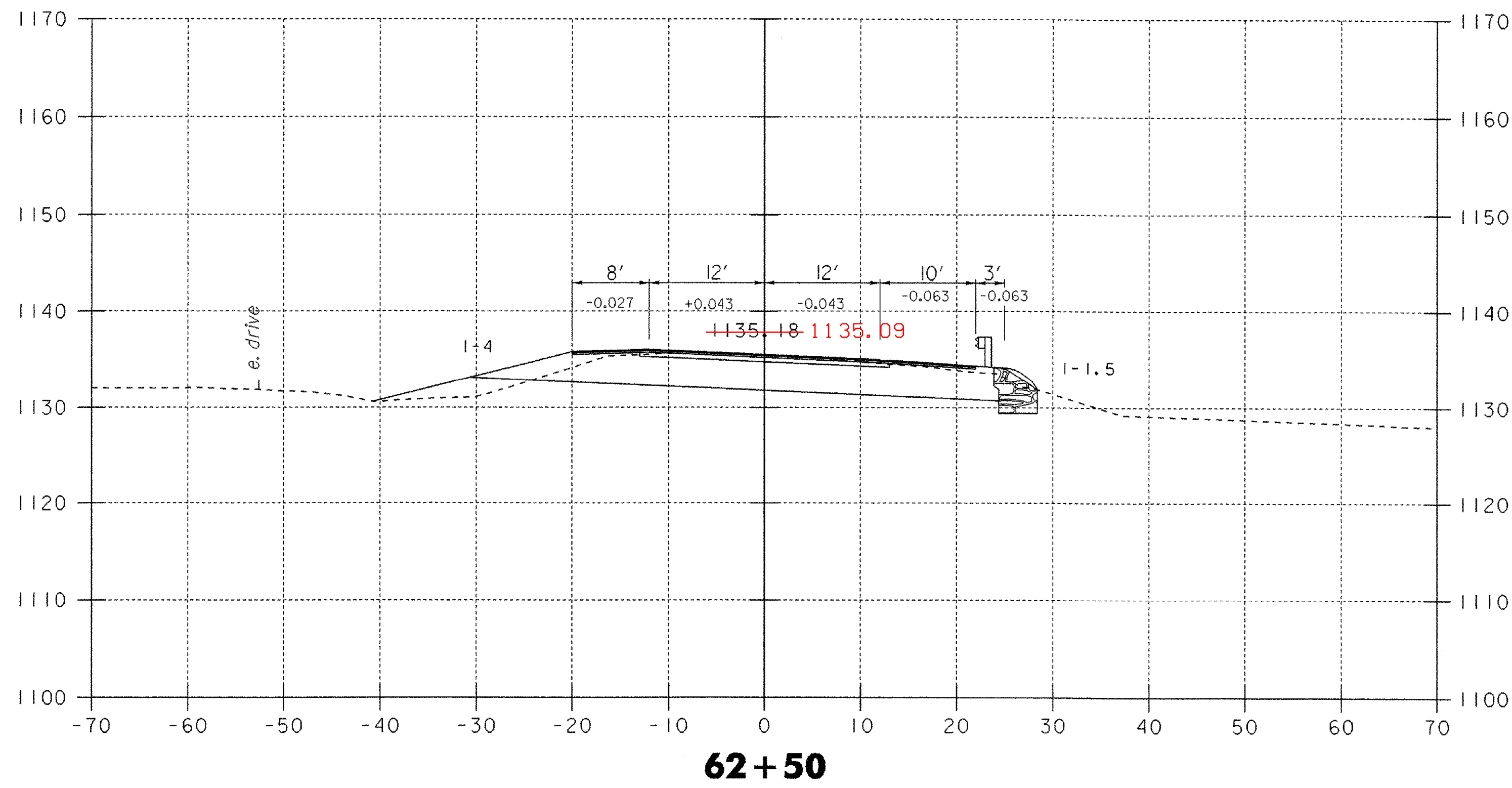


61+25 - 62+00

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x03.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 88 OF 106

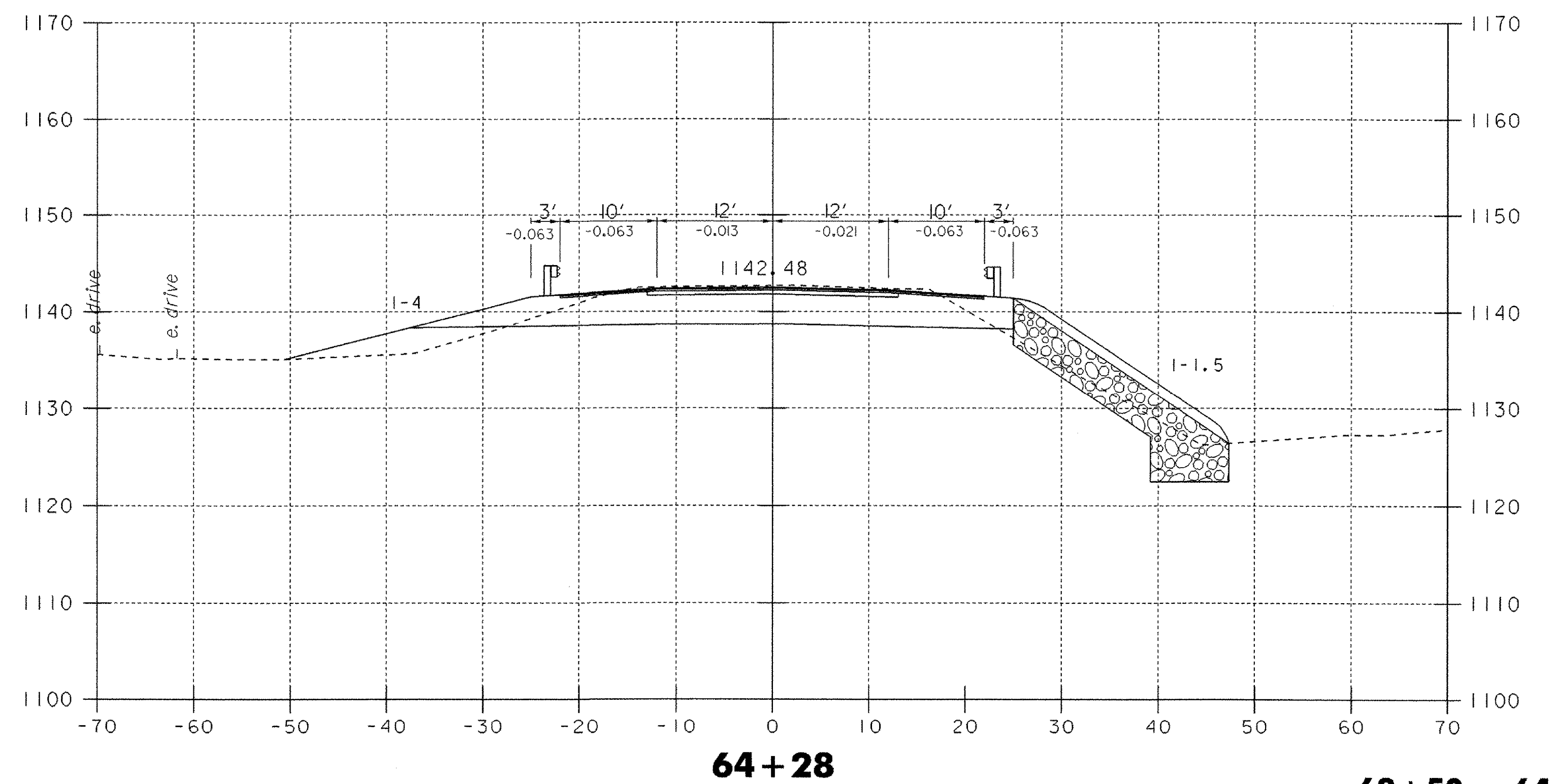
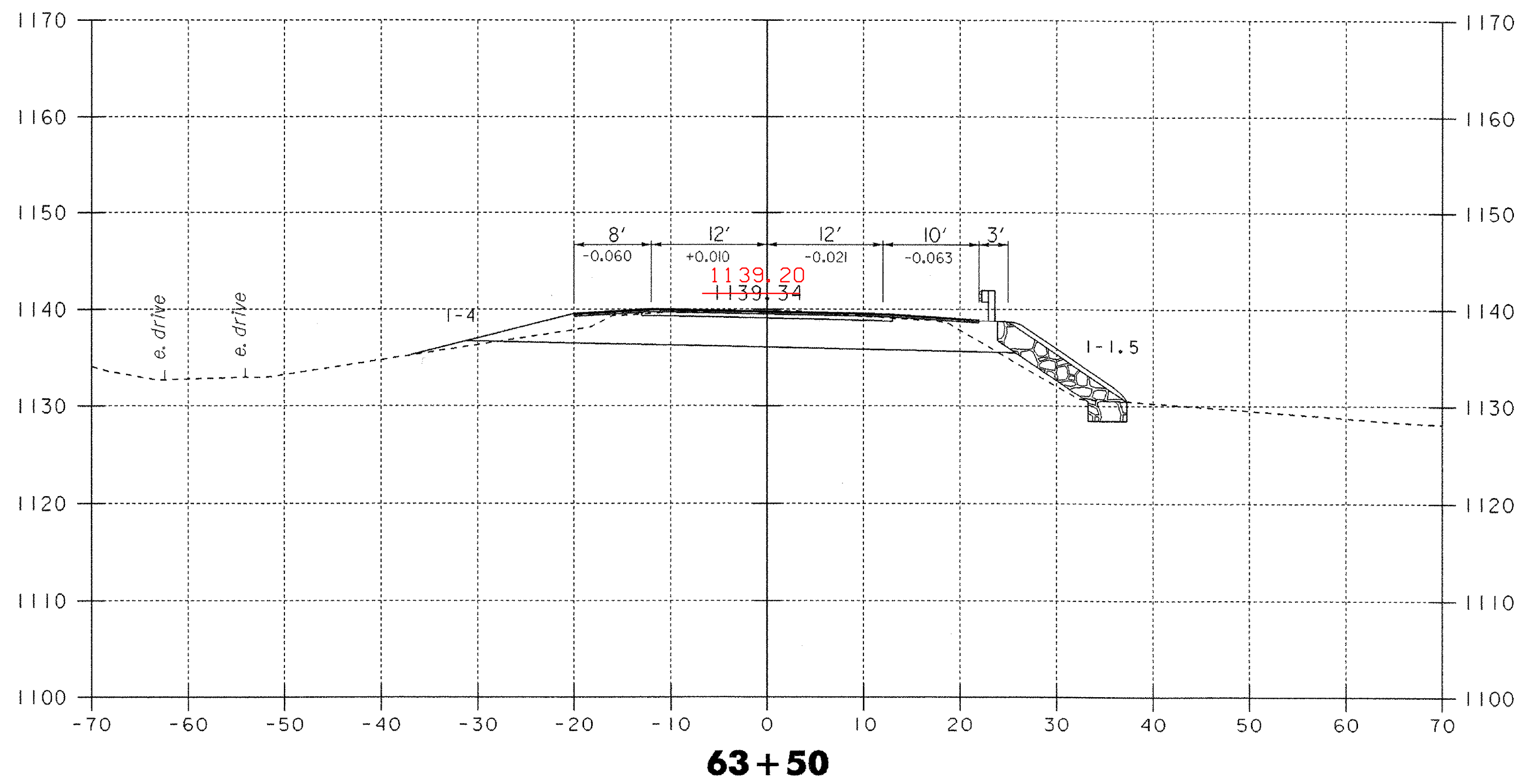
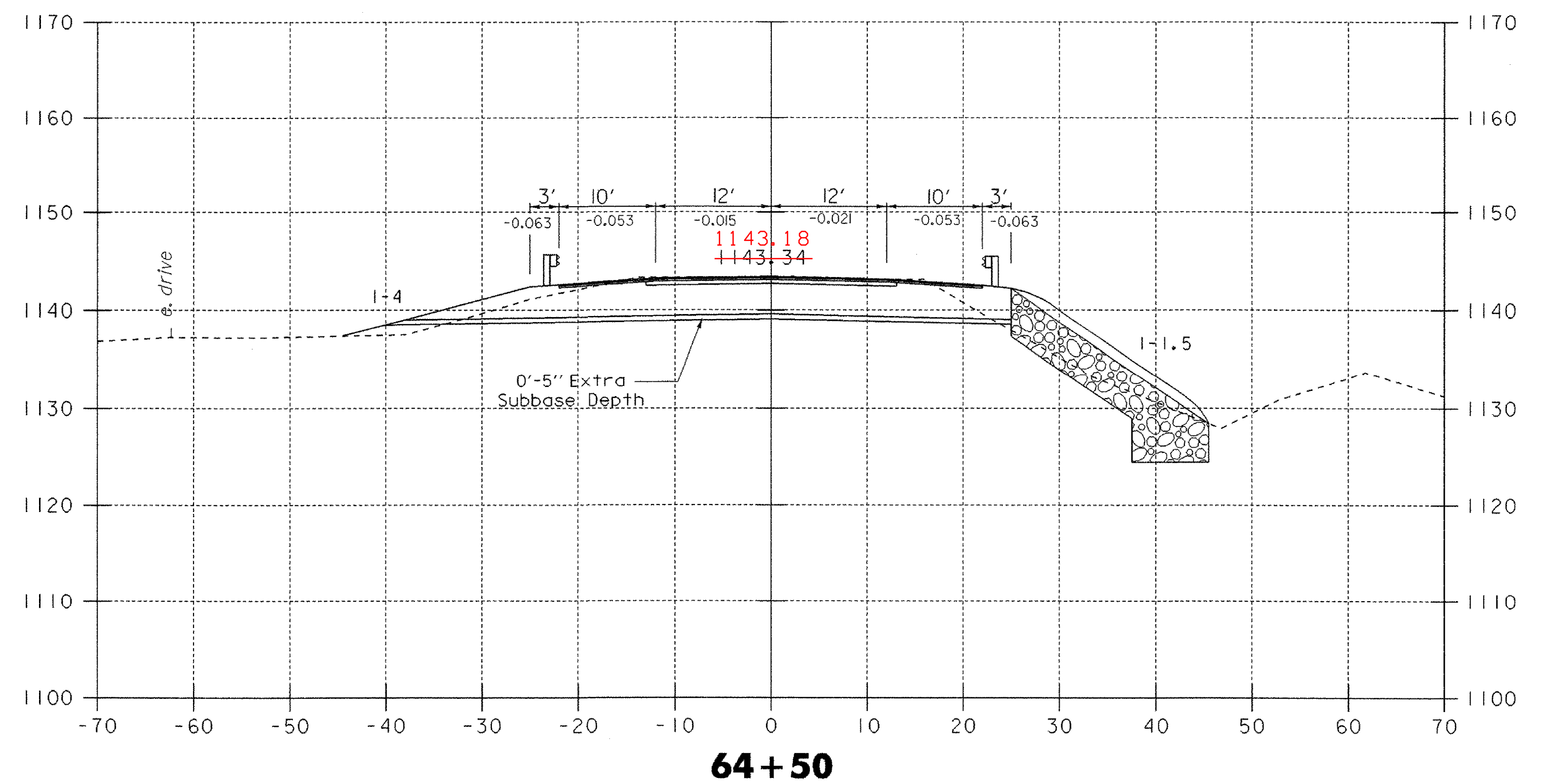
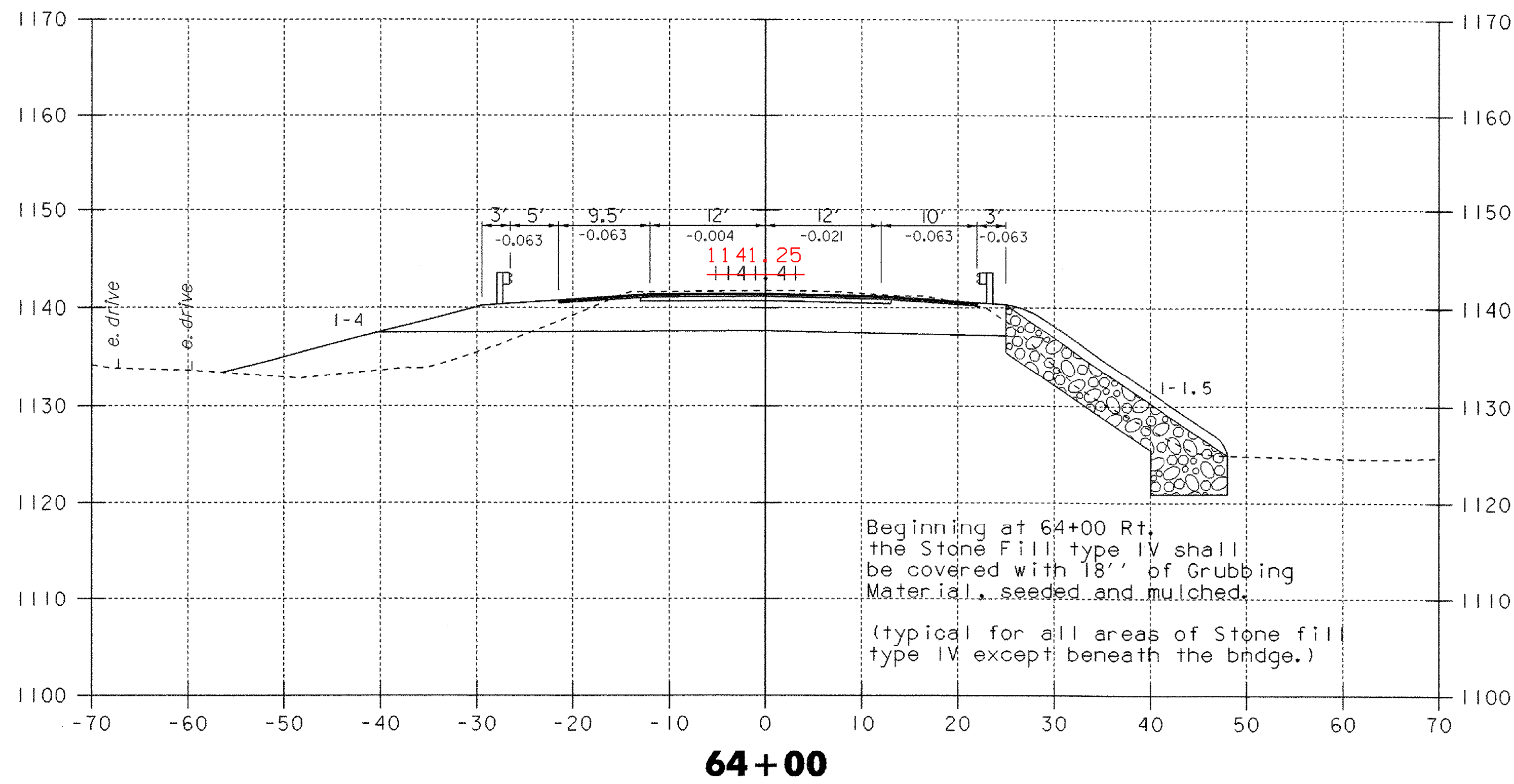


62+19 - 63+00

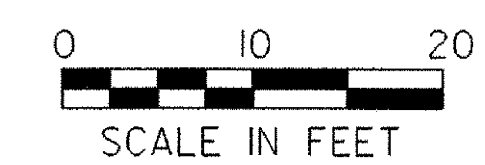
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x04.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 89 OF 106

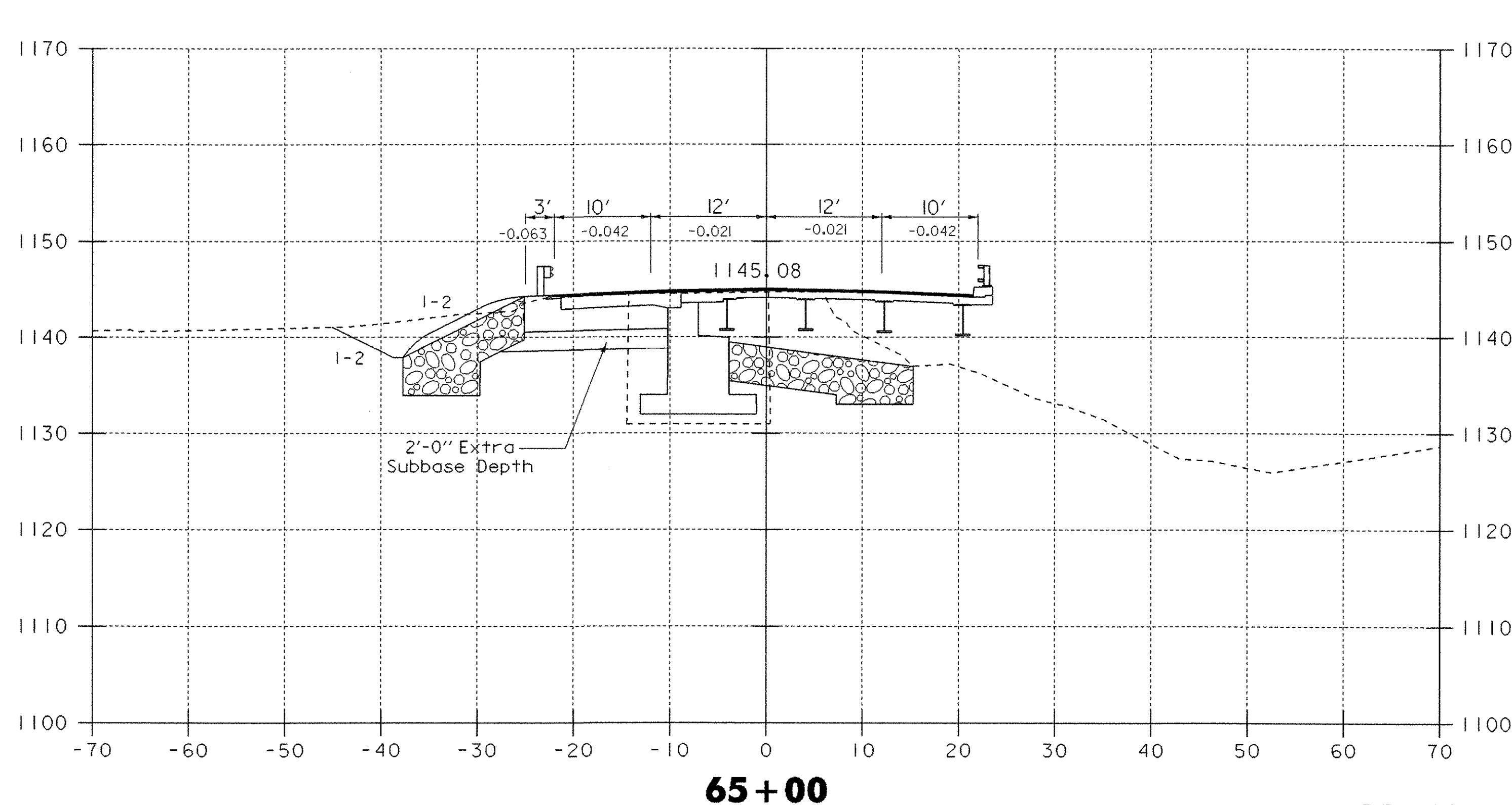
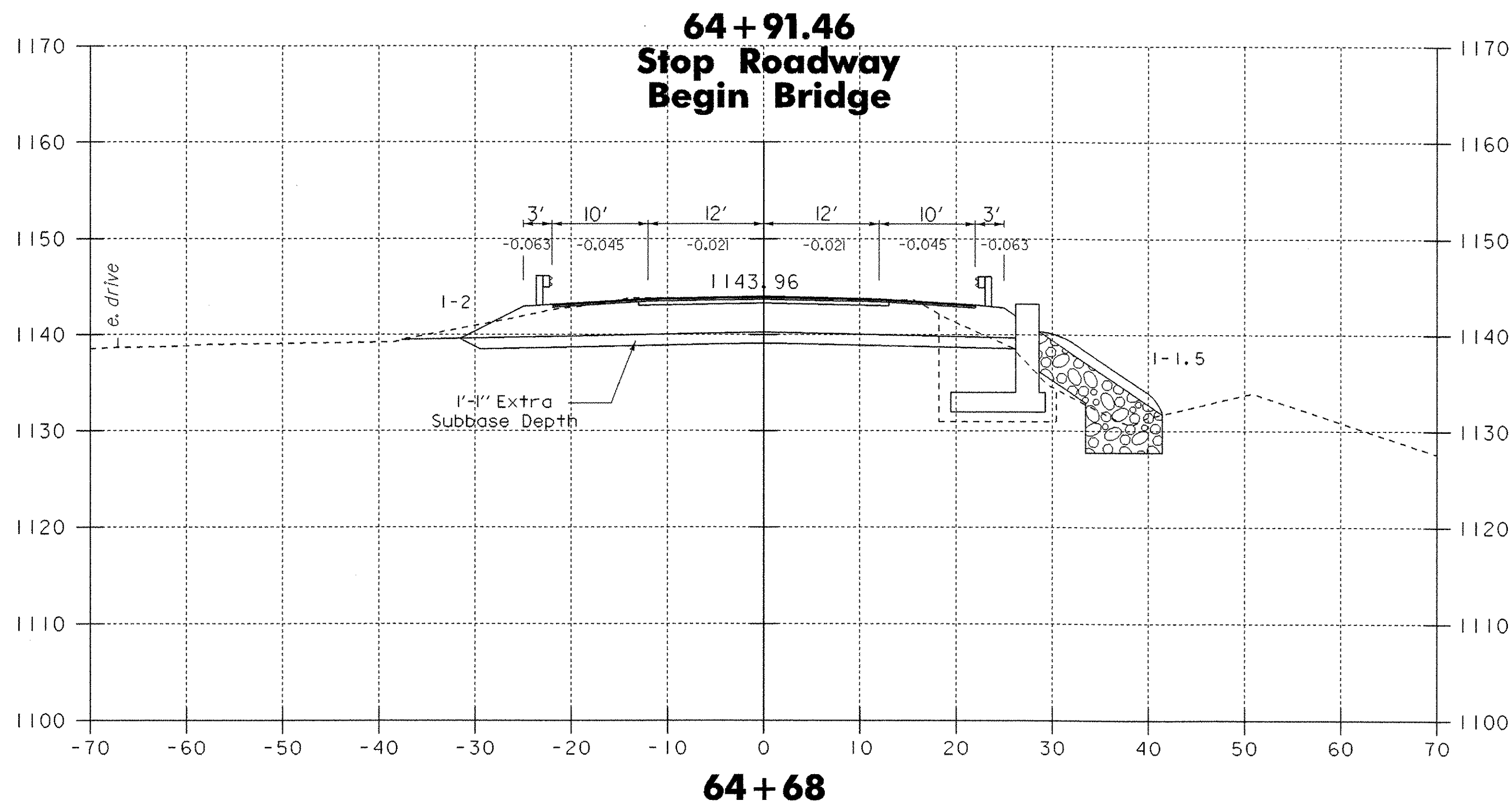
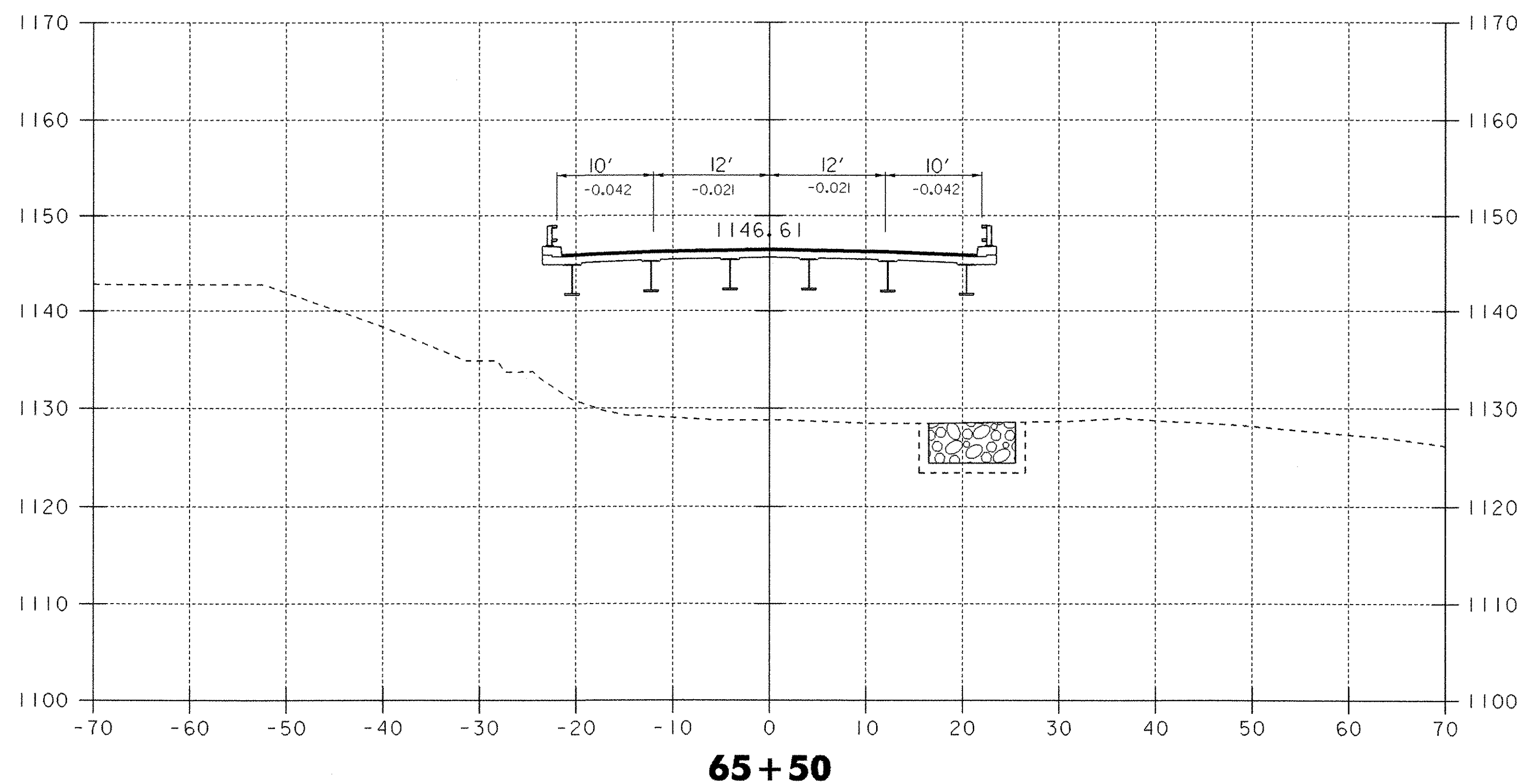
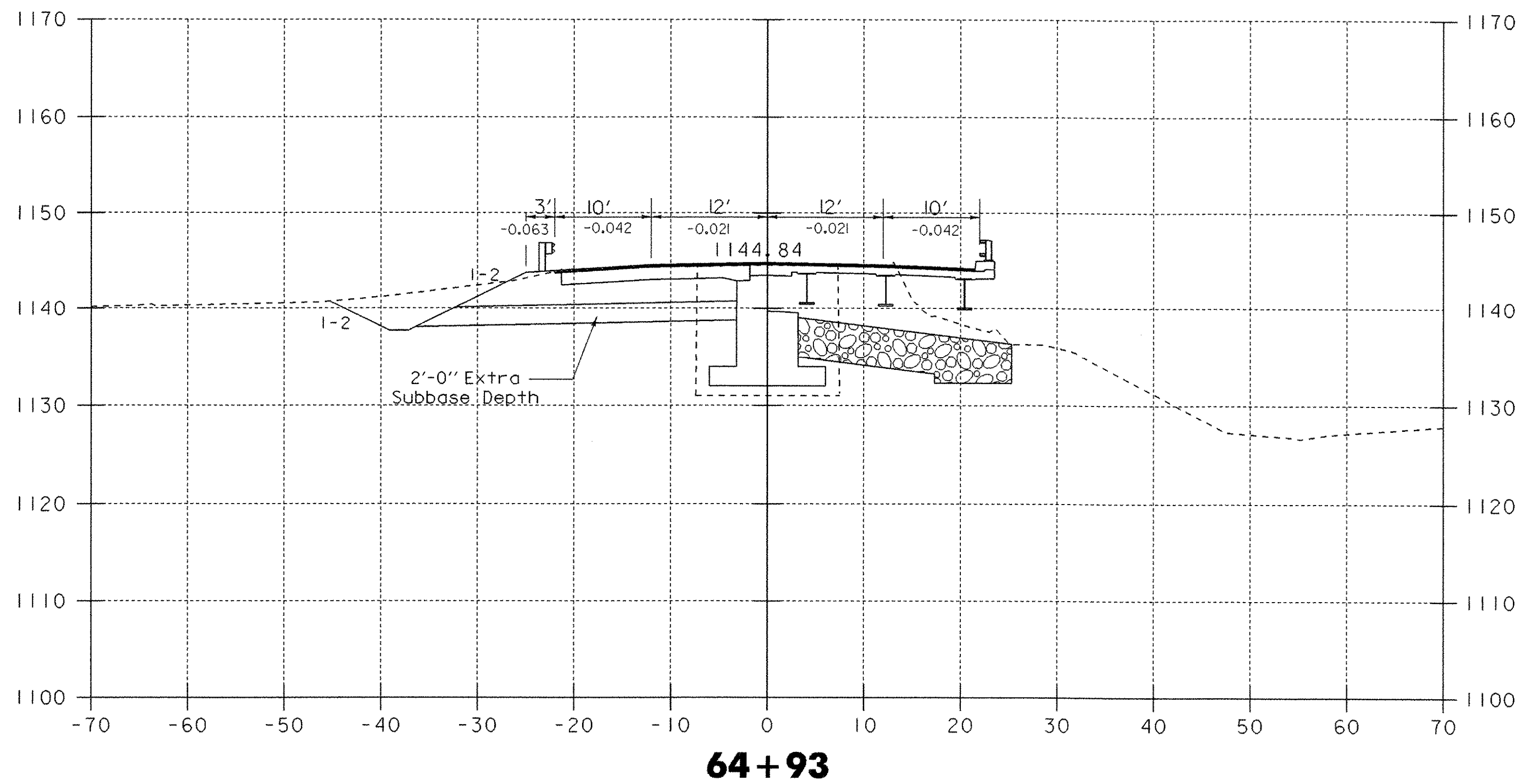


DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A



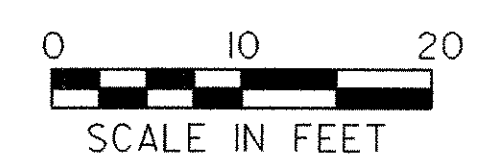
PROJECT: WOODFORD	PROJECT NO. : BHF 010-1(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x05.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 90 OF 106

63+50 - 64+50

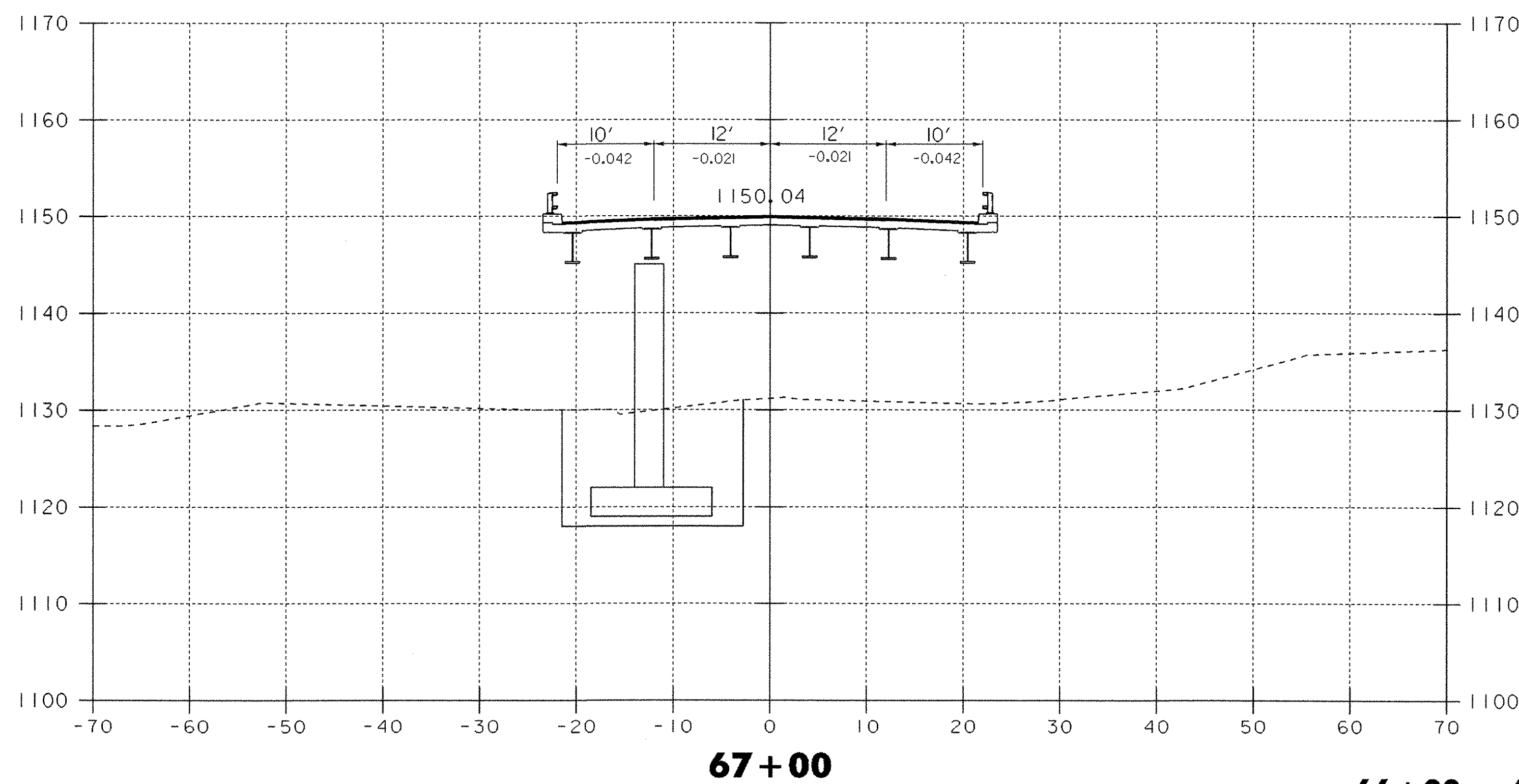
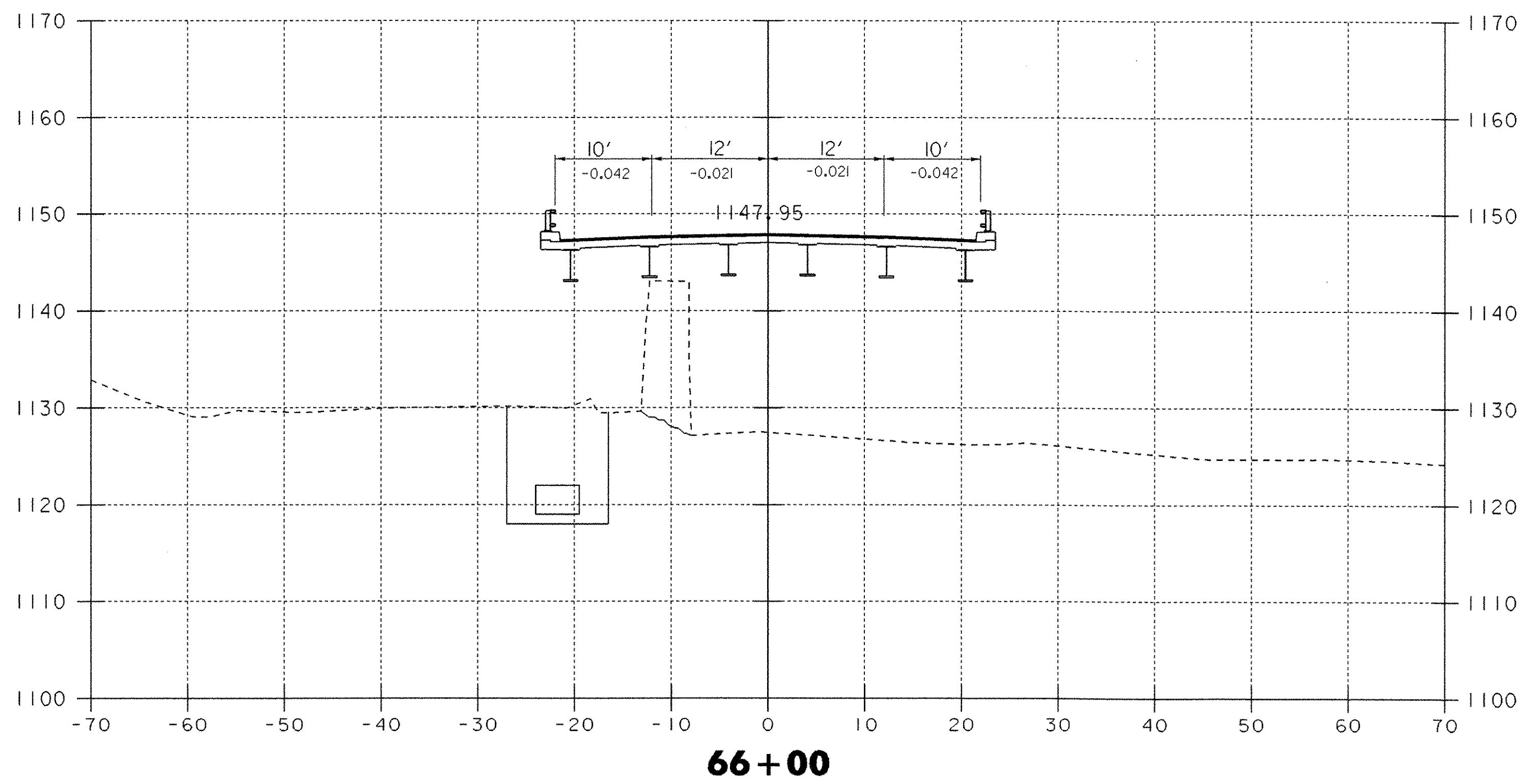
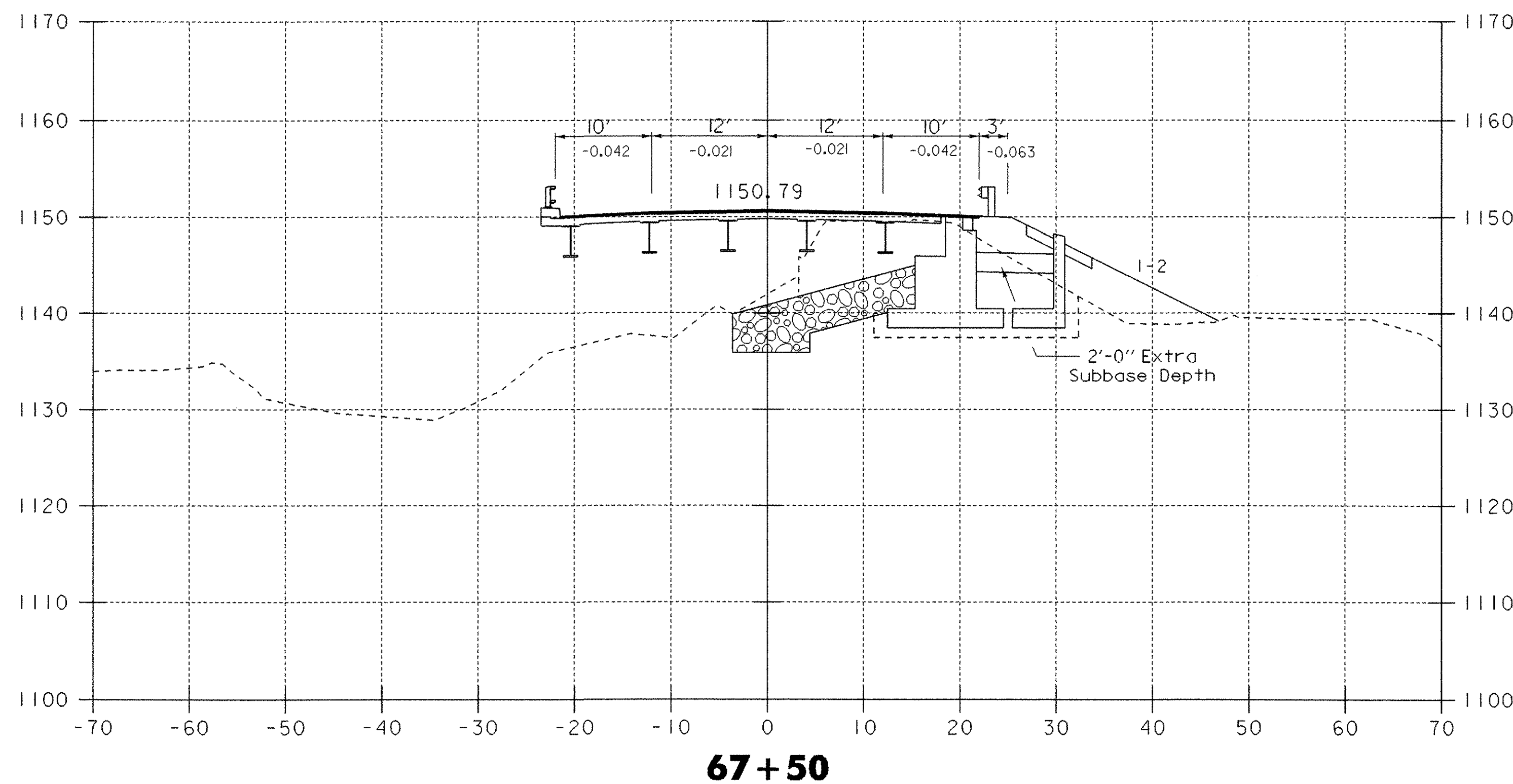
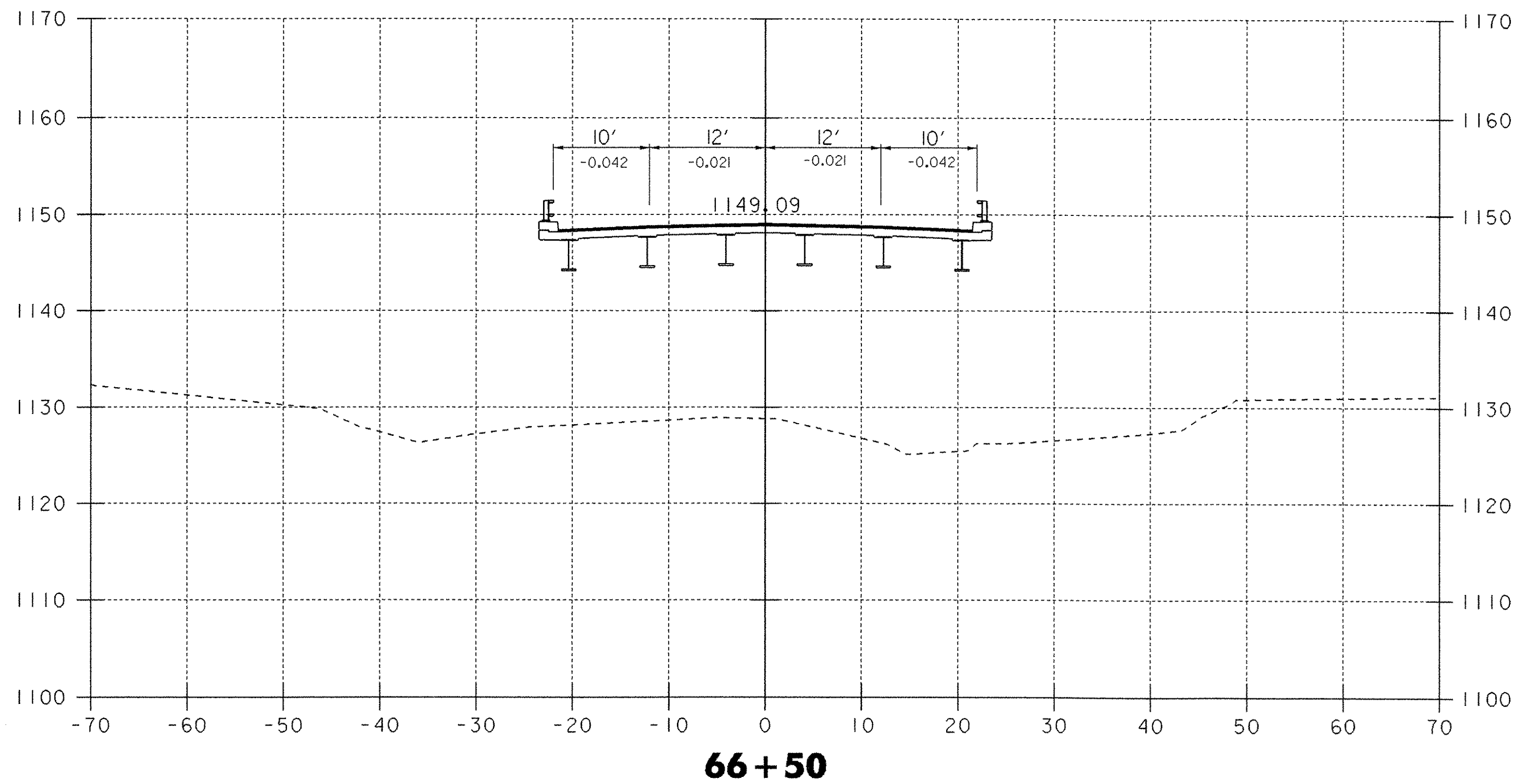


64+68 - 65+50

DATUM	NGVD 1929
VERTICAL	
HORIZONTAL	N/A



PROJECT: WOODFORD	PROJECT NO.: BHF 010-(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x06.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 91 OF 106

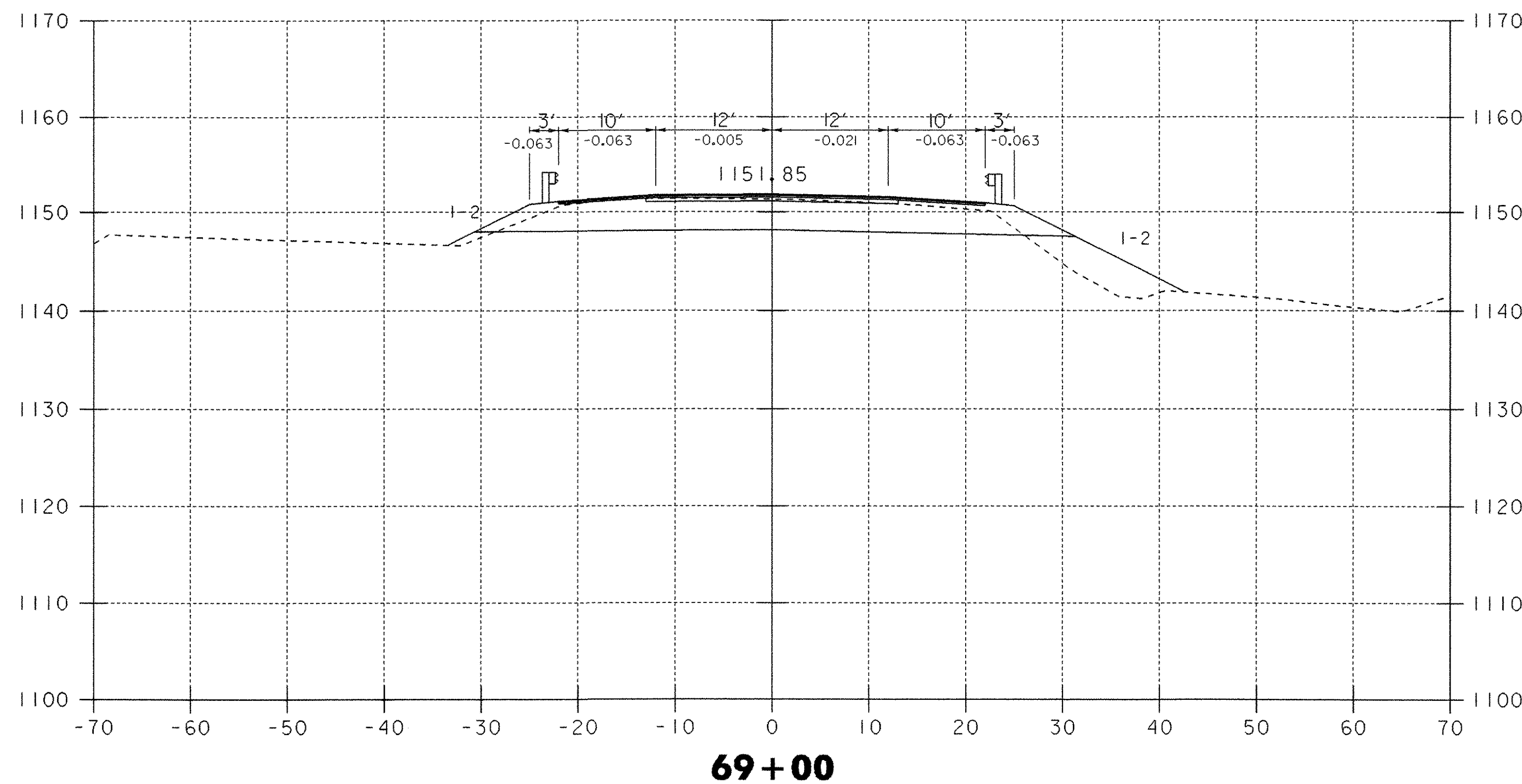
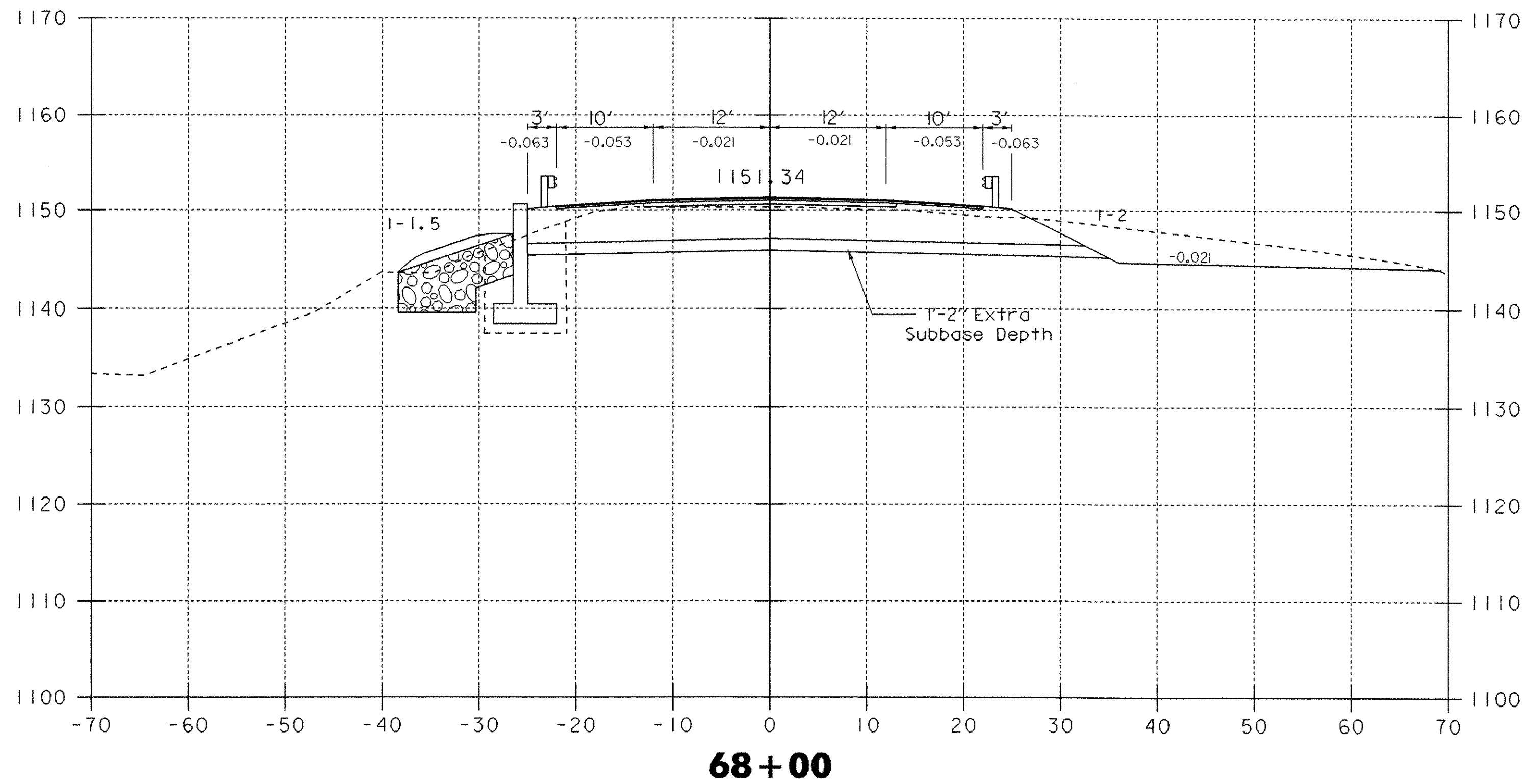


66+00 - 67+50

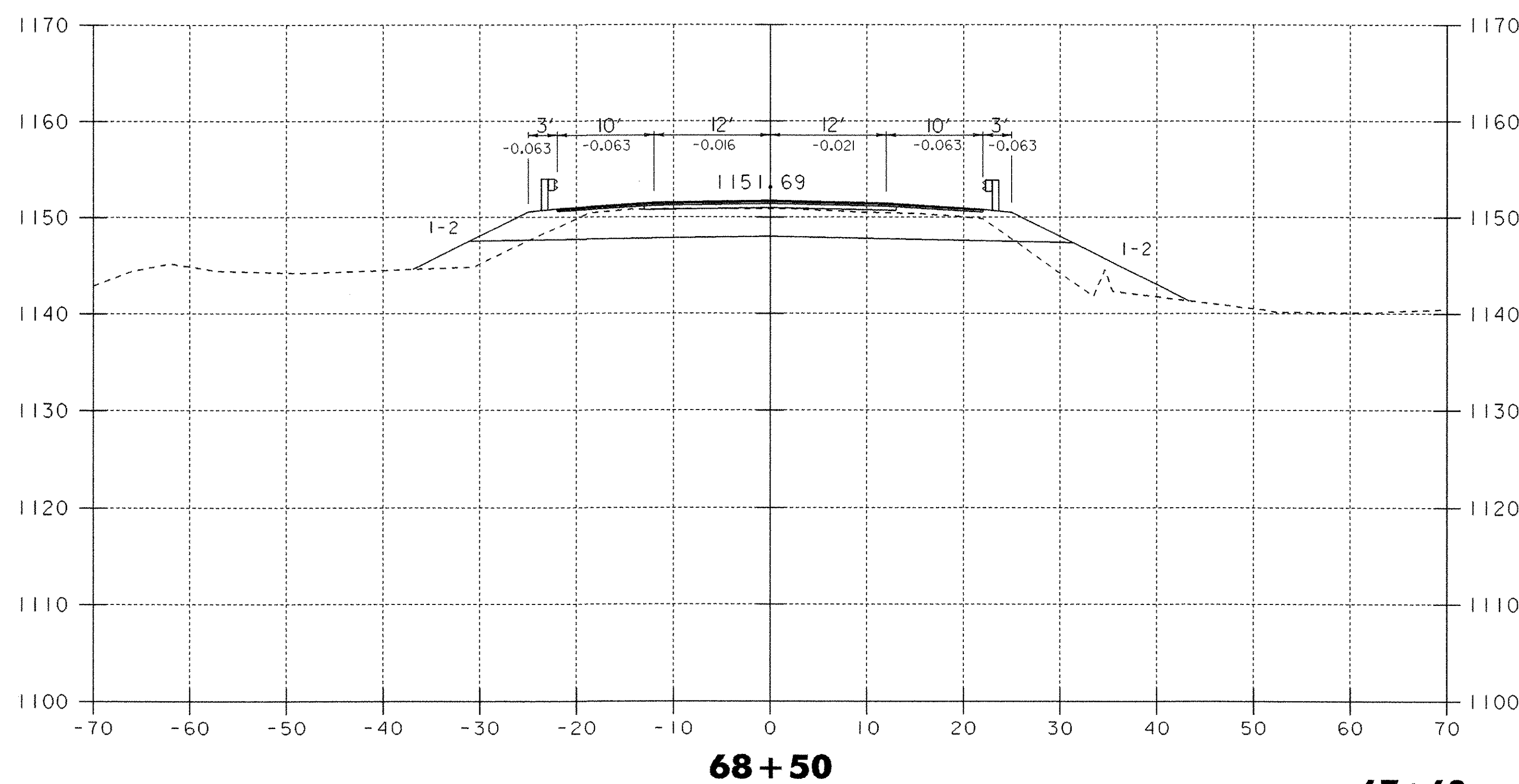
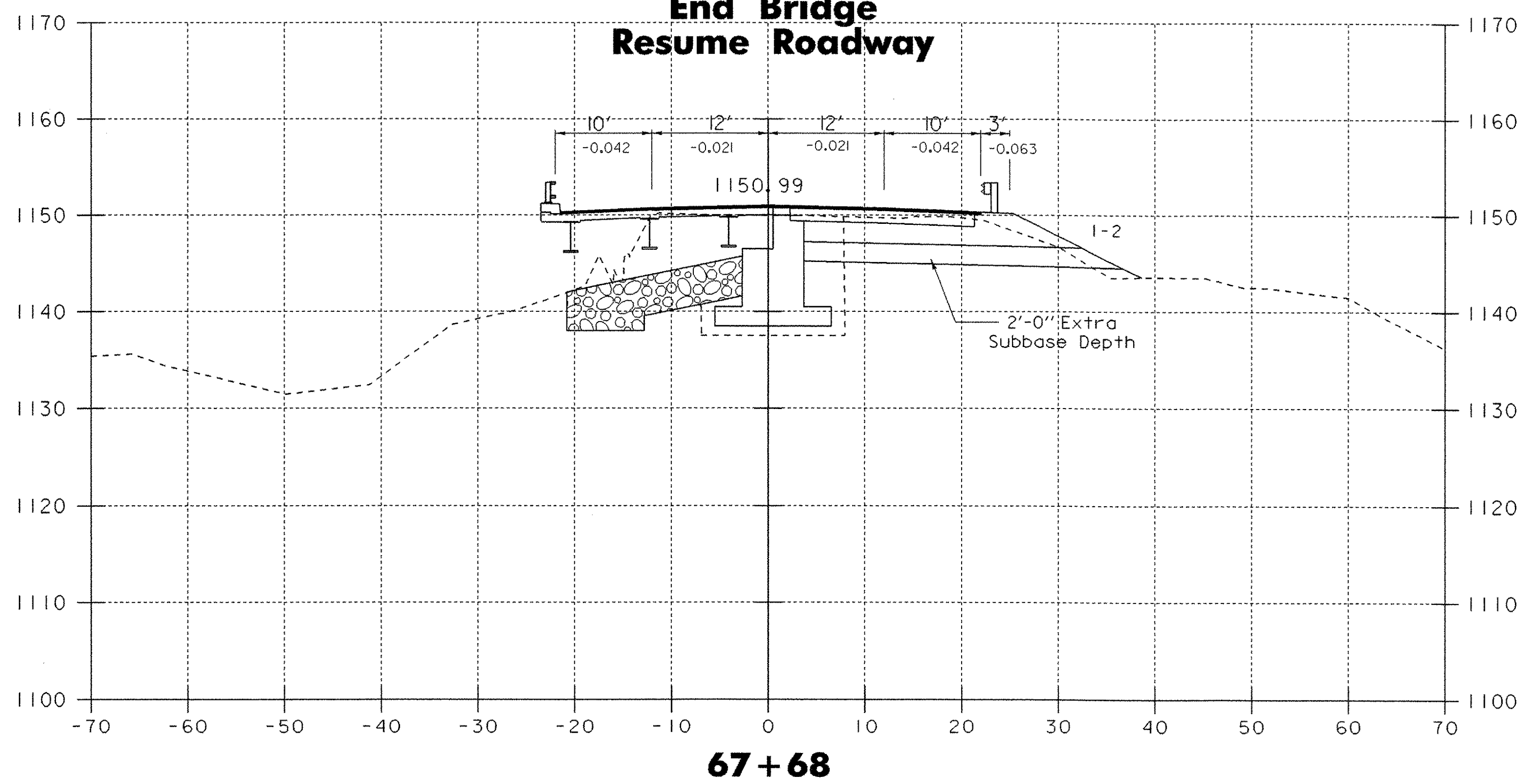
DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



PROJECT: WOODFORD	PROJECT NO.: BFH 010-K(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x07.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 92 OF 106

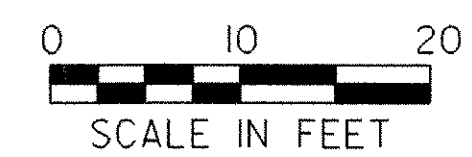


**67+70.54
End Bridge
Resume Roadway**

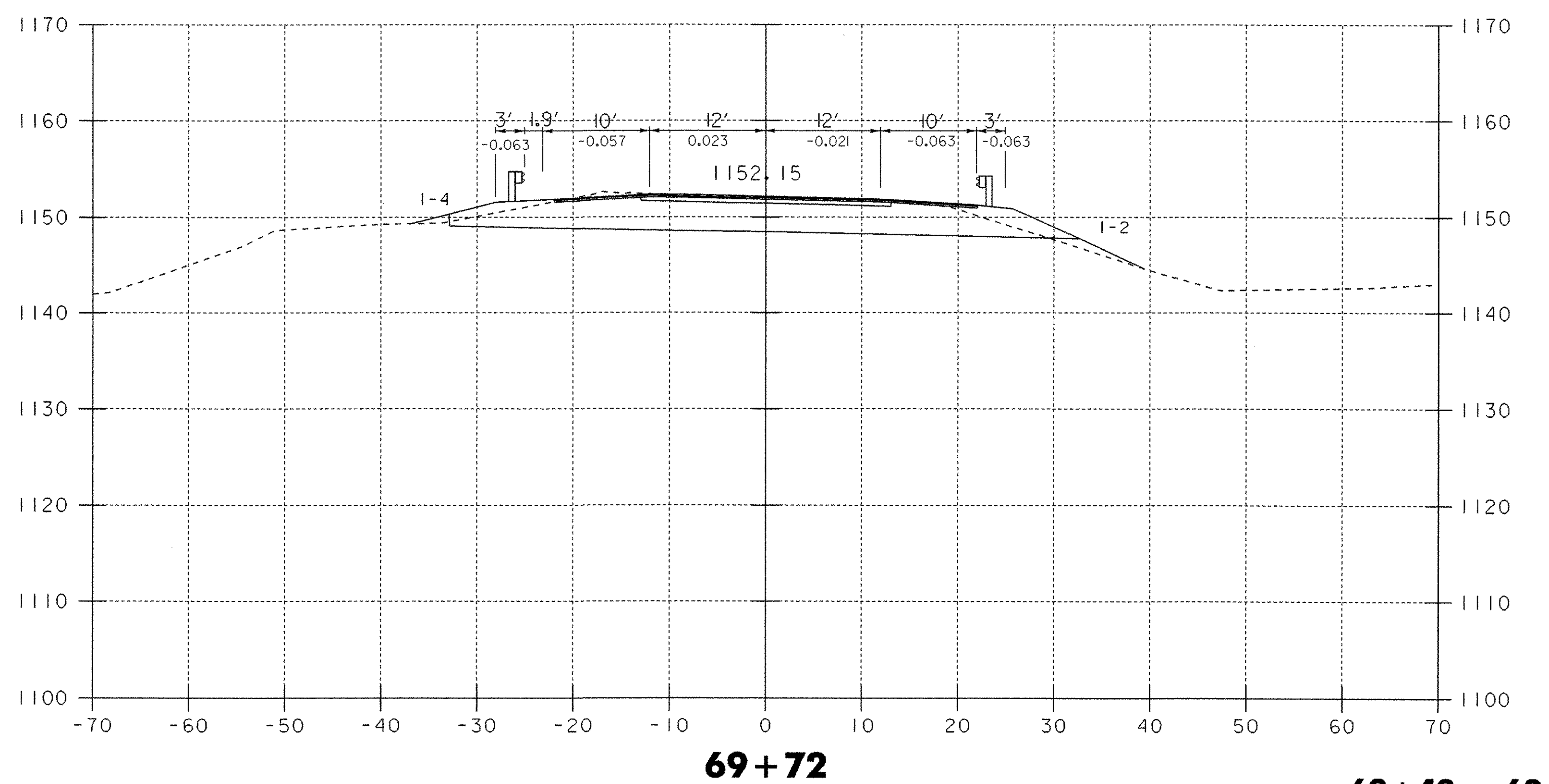
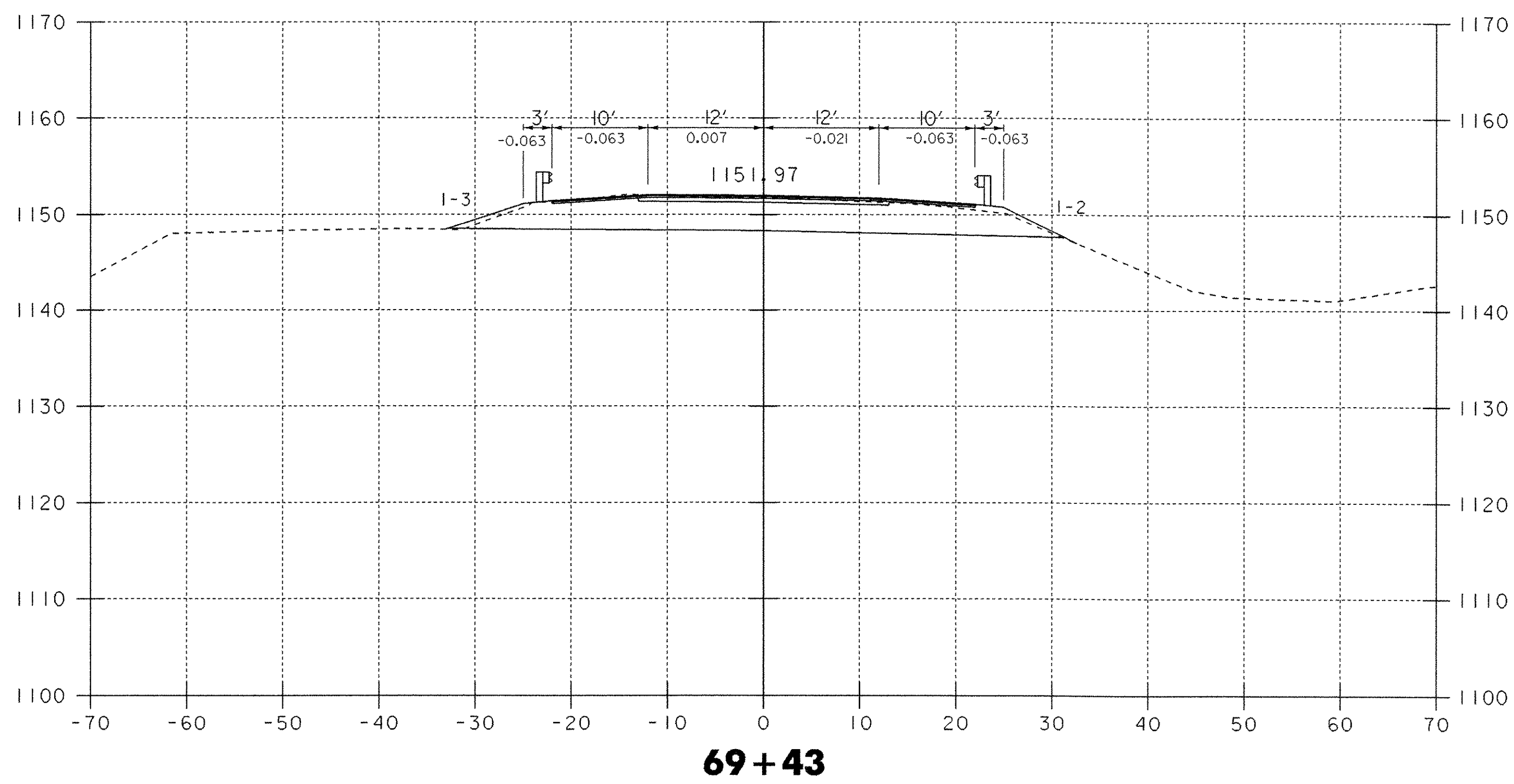
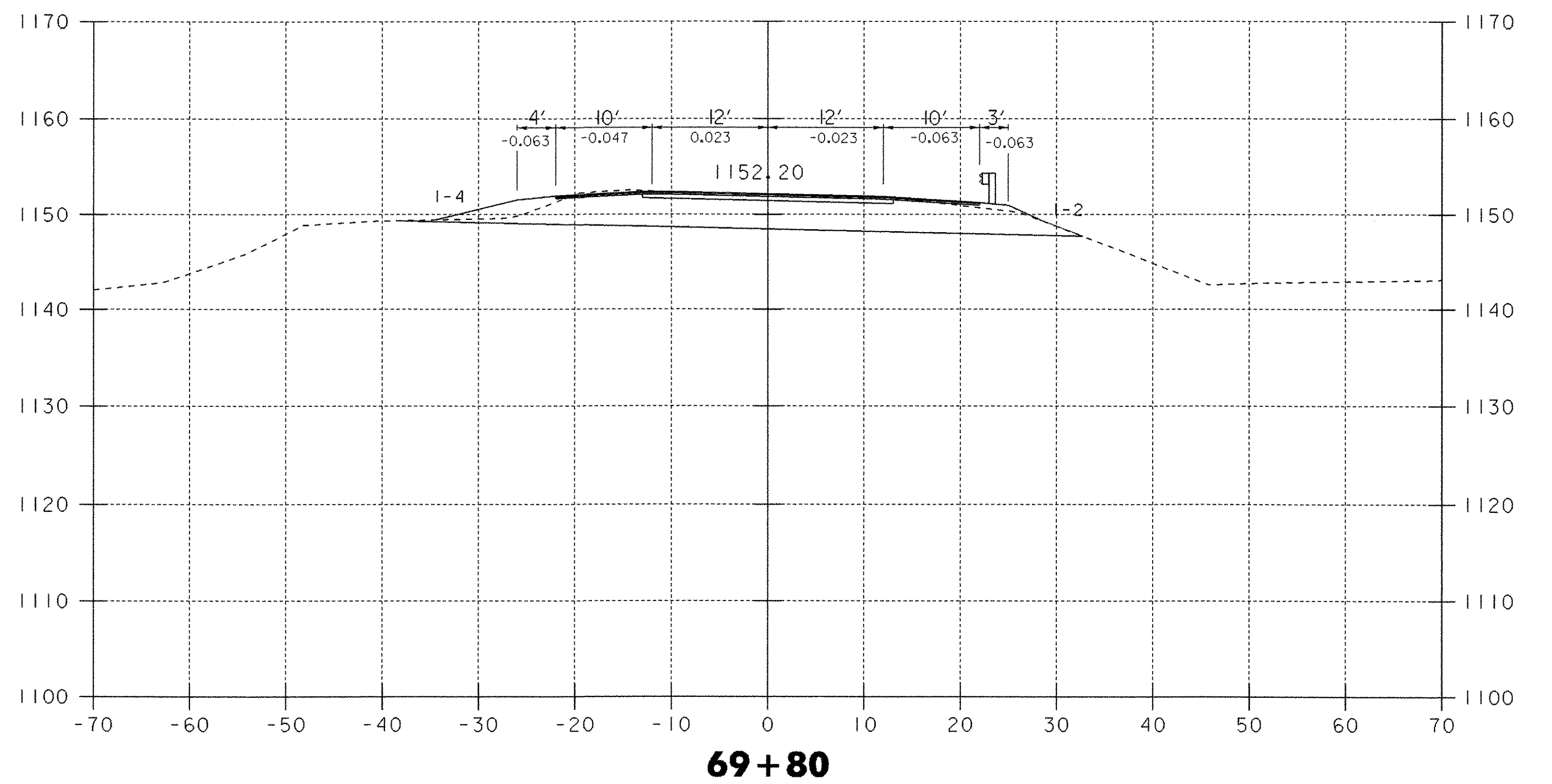
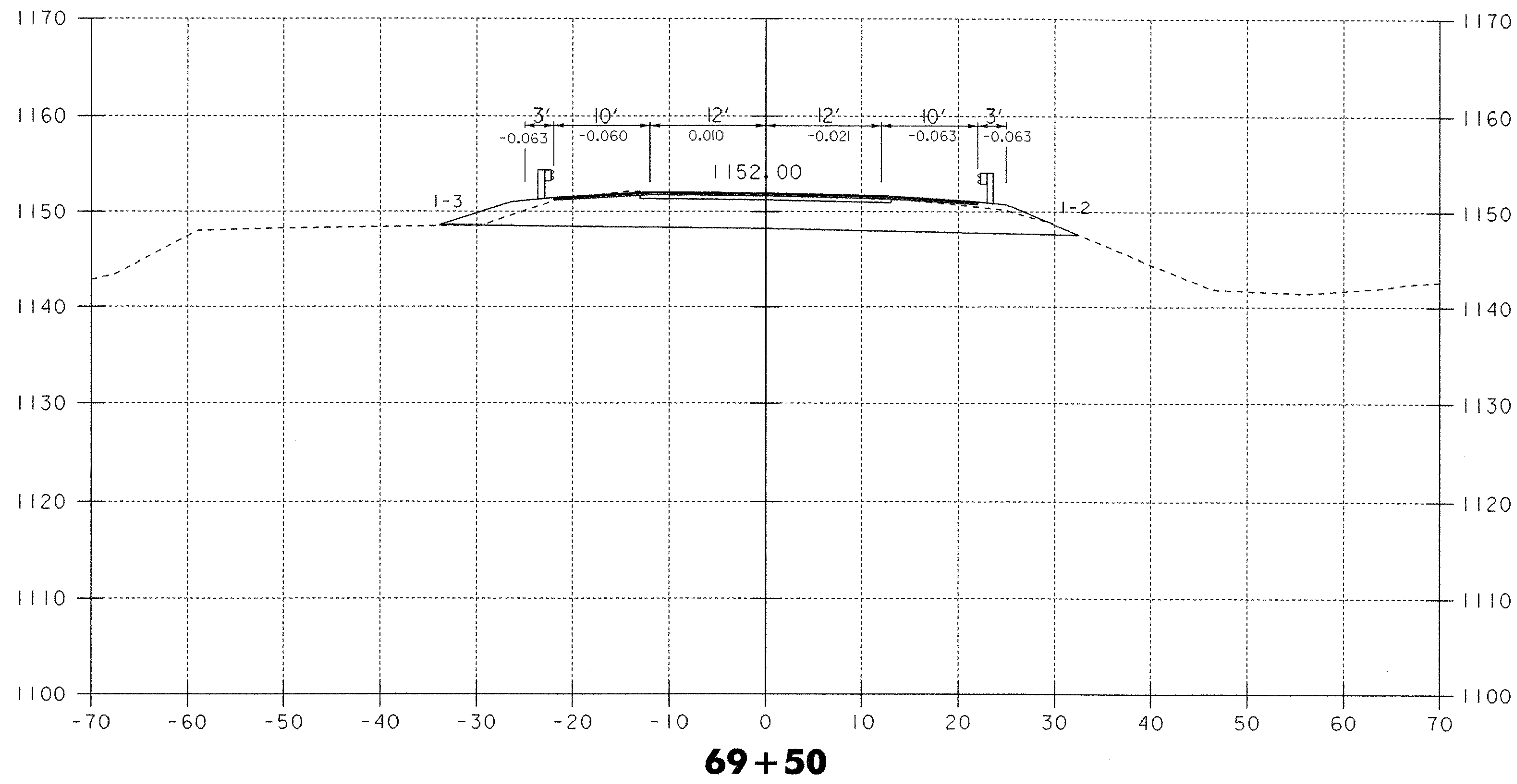


67+68 - 69+00

DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A

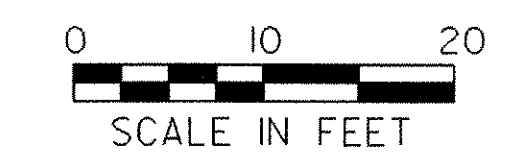


PROJECT: WOODFORD	PROJECT NO.: BHF 010-K(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x08.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 93 OF 106

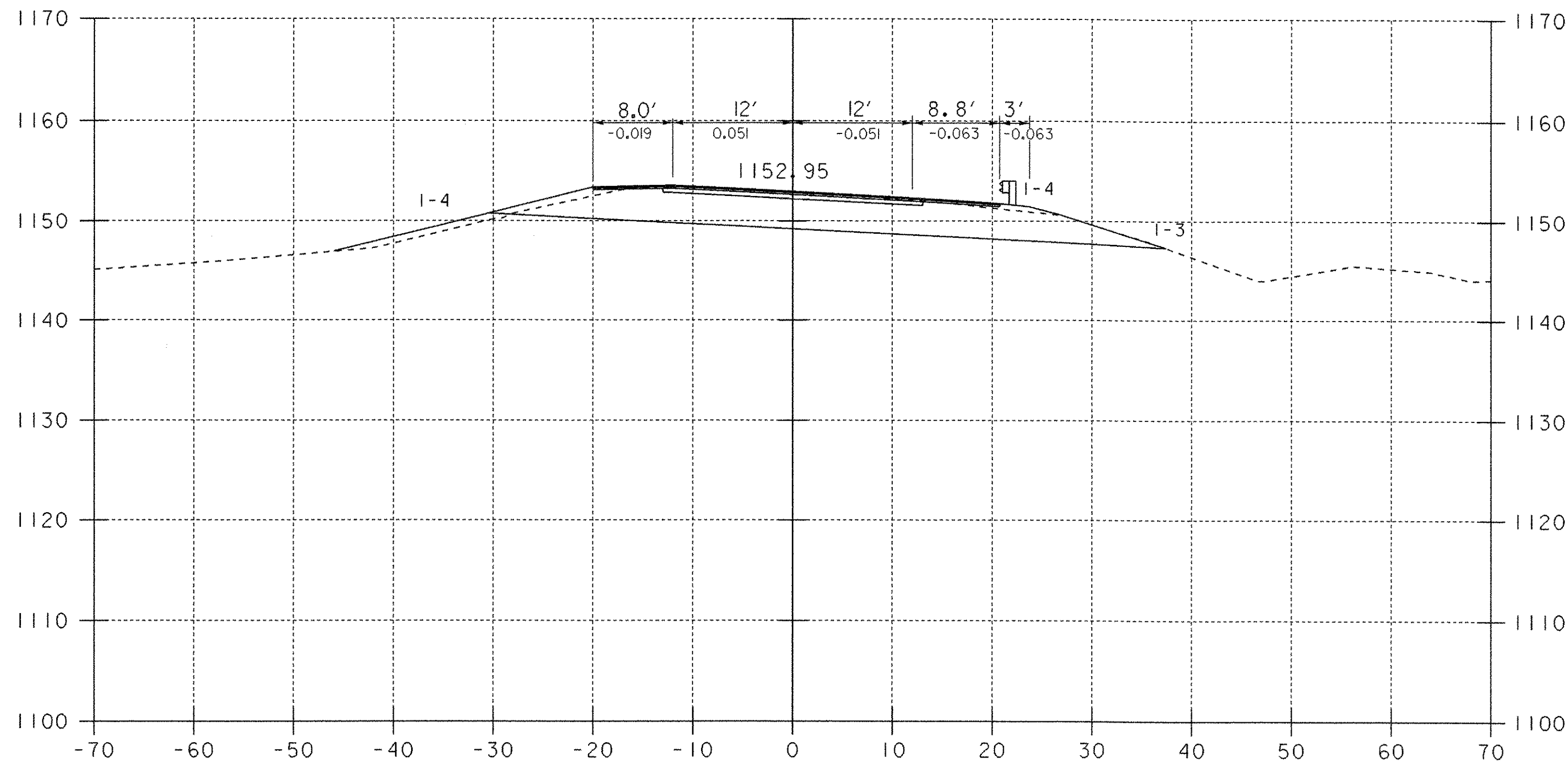


69+43 - 69+80

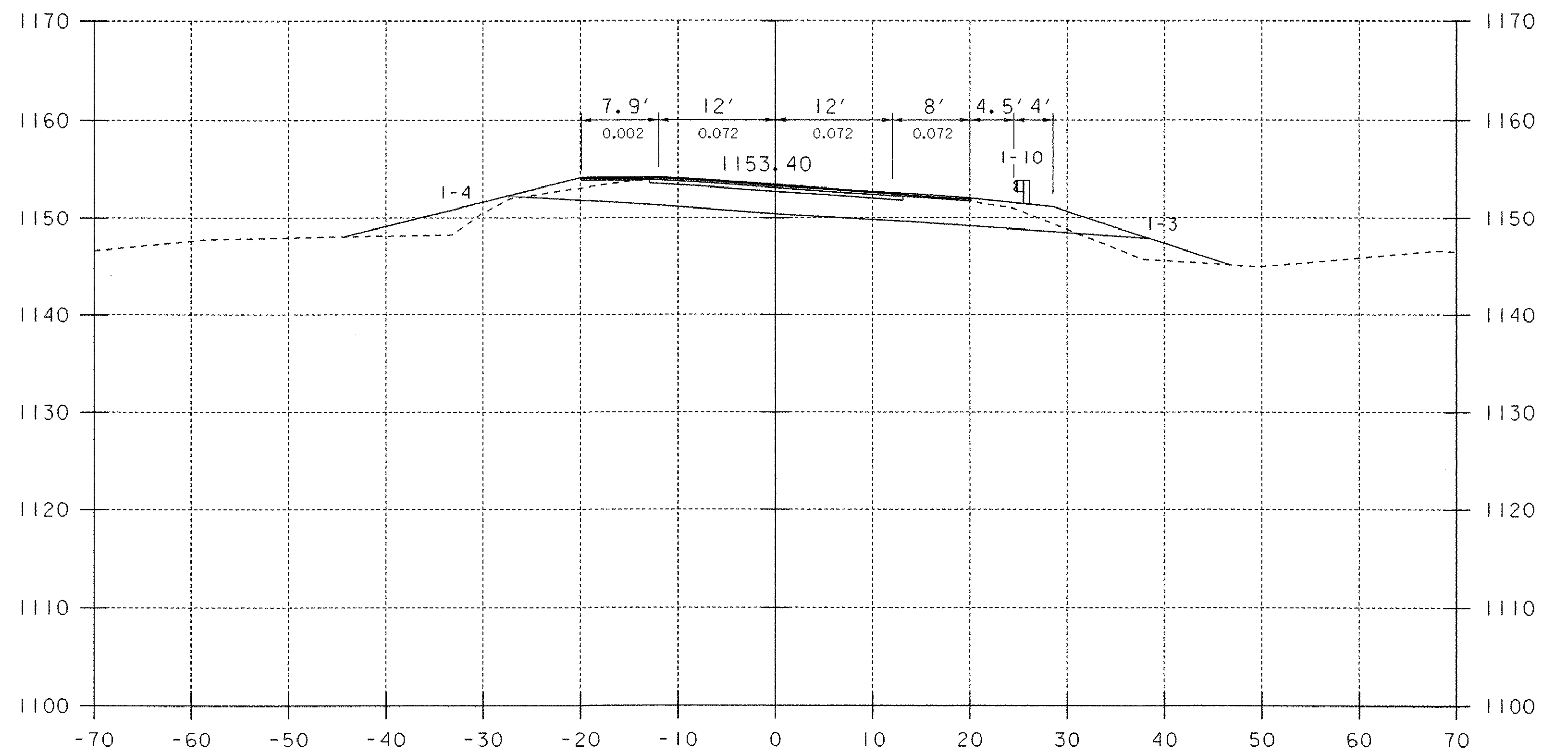
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



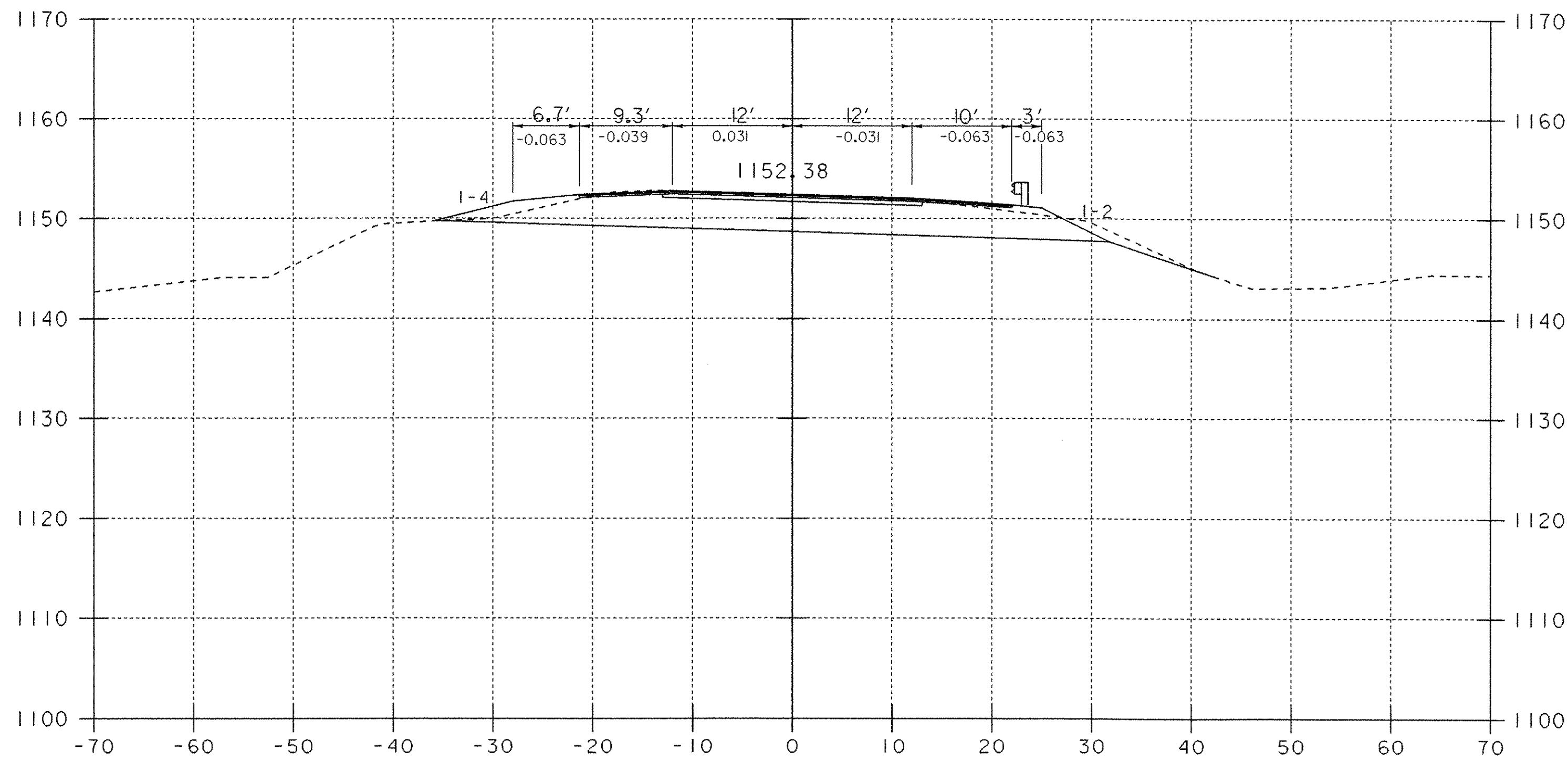
PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x09.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 94 OF 106



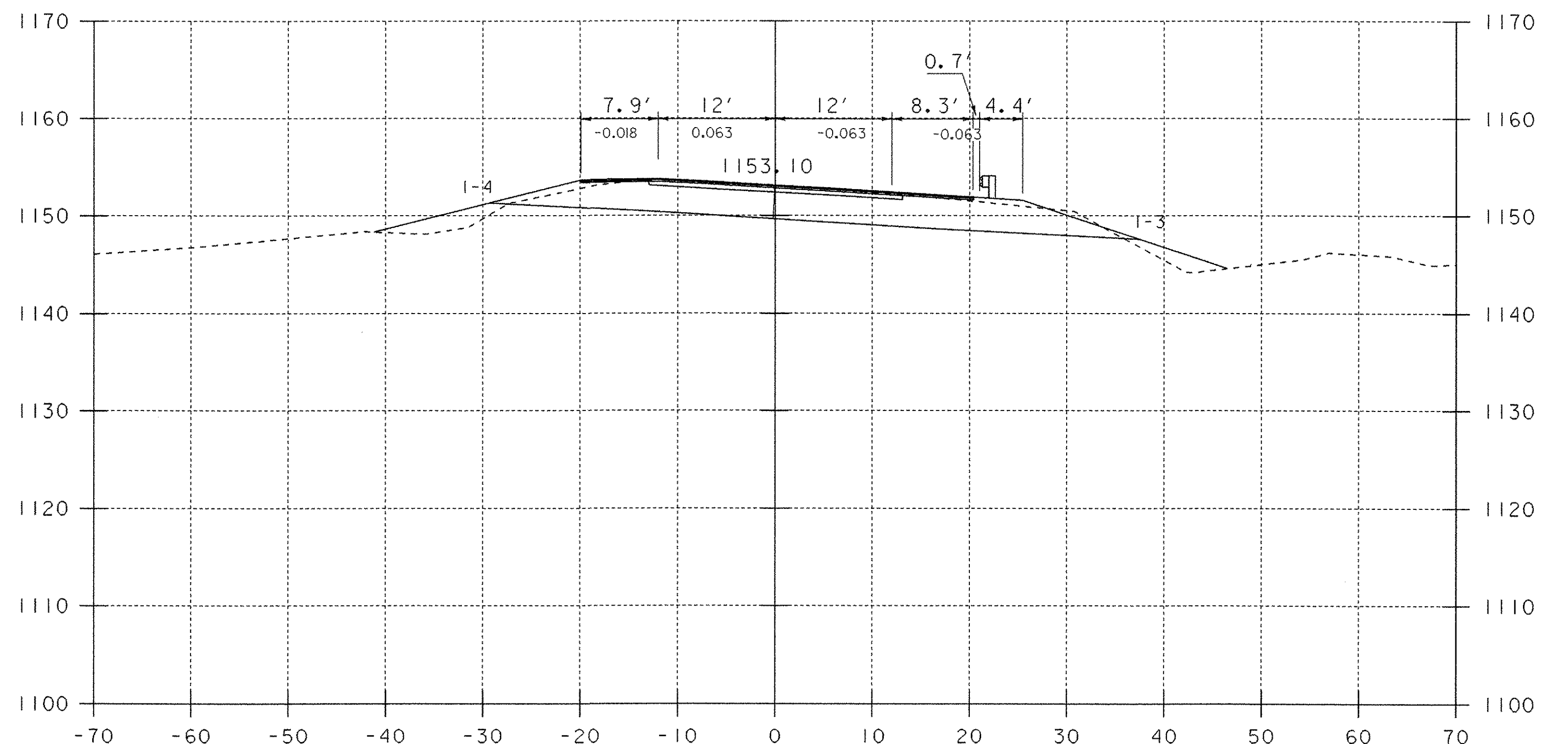
70+50
End Project
Begin Approach



70+88



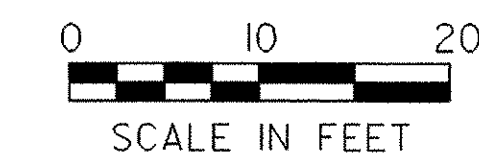
70+00



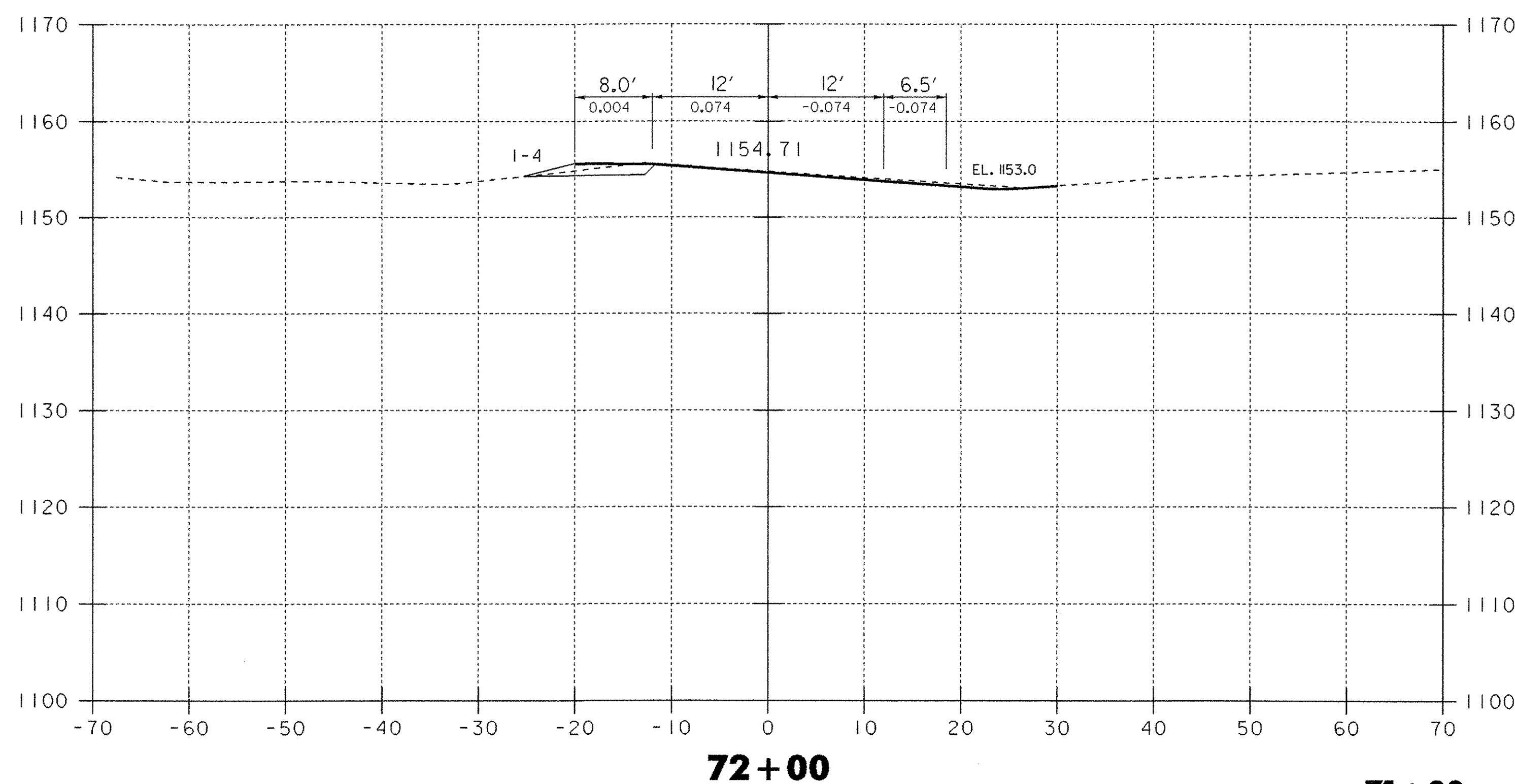
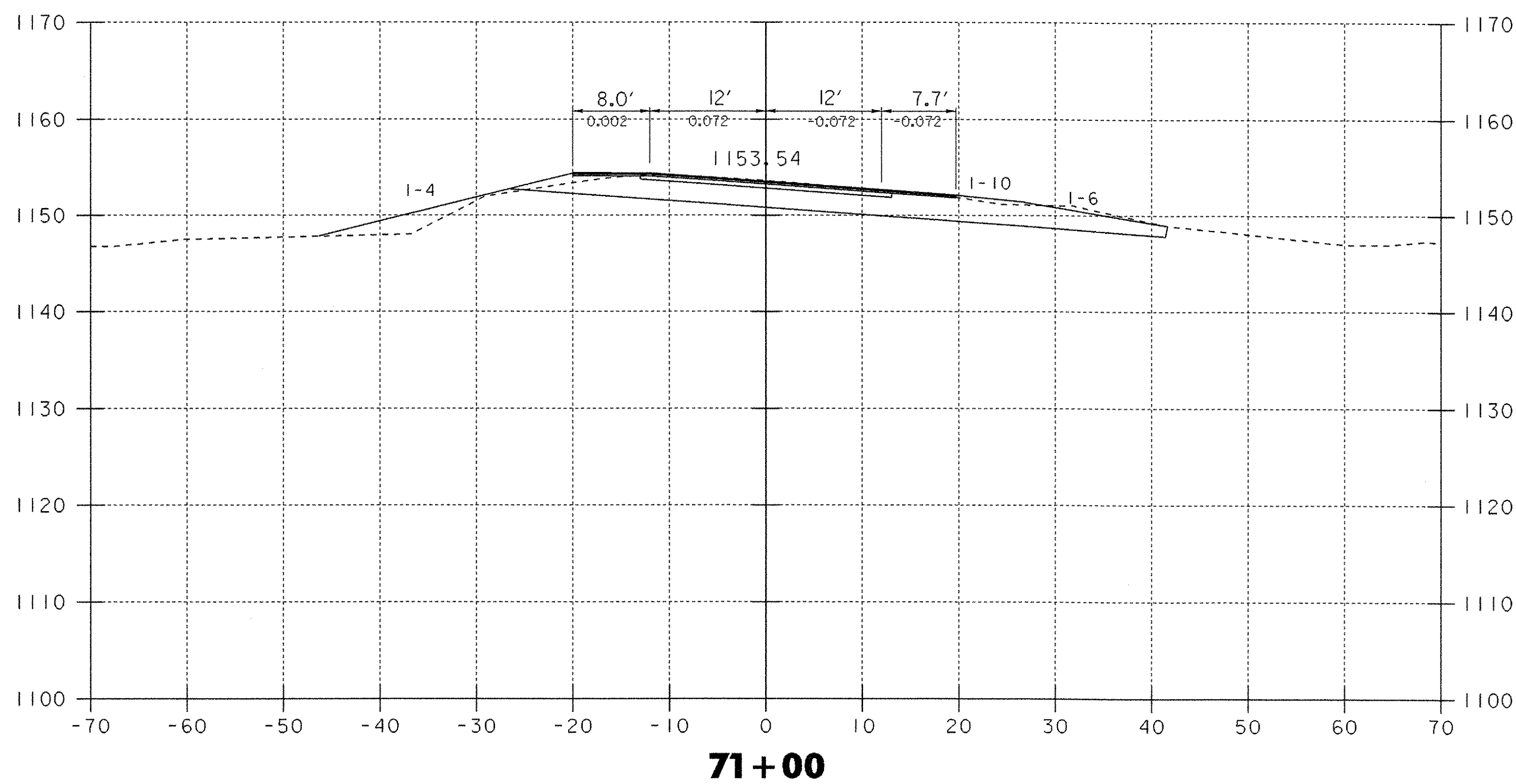
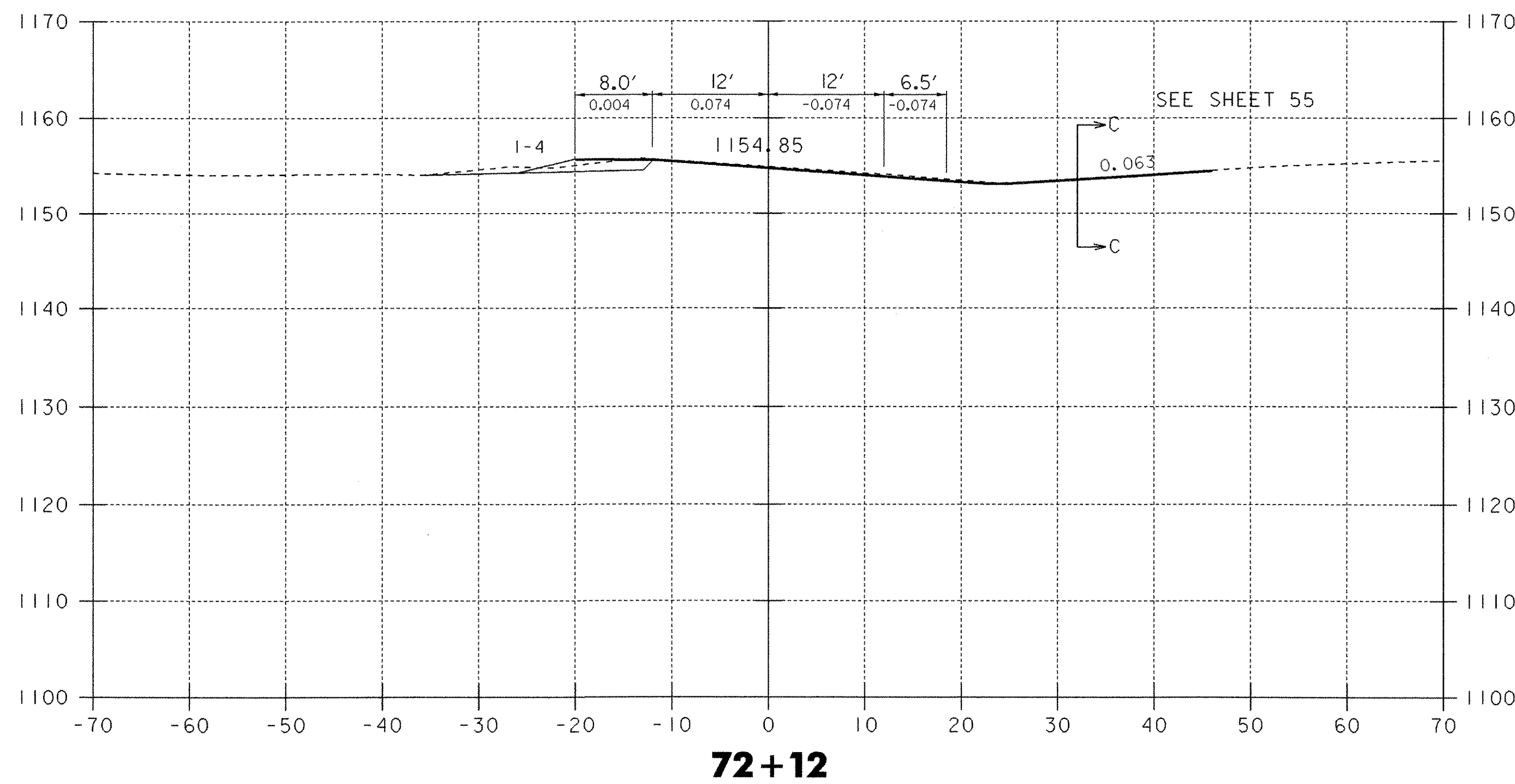
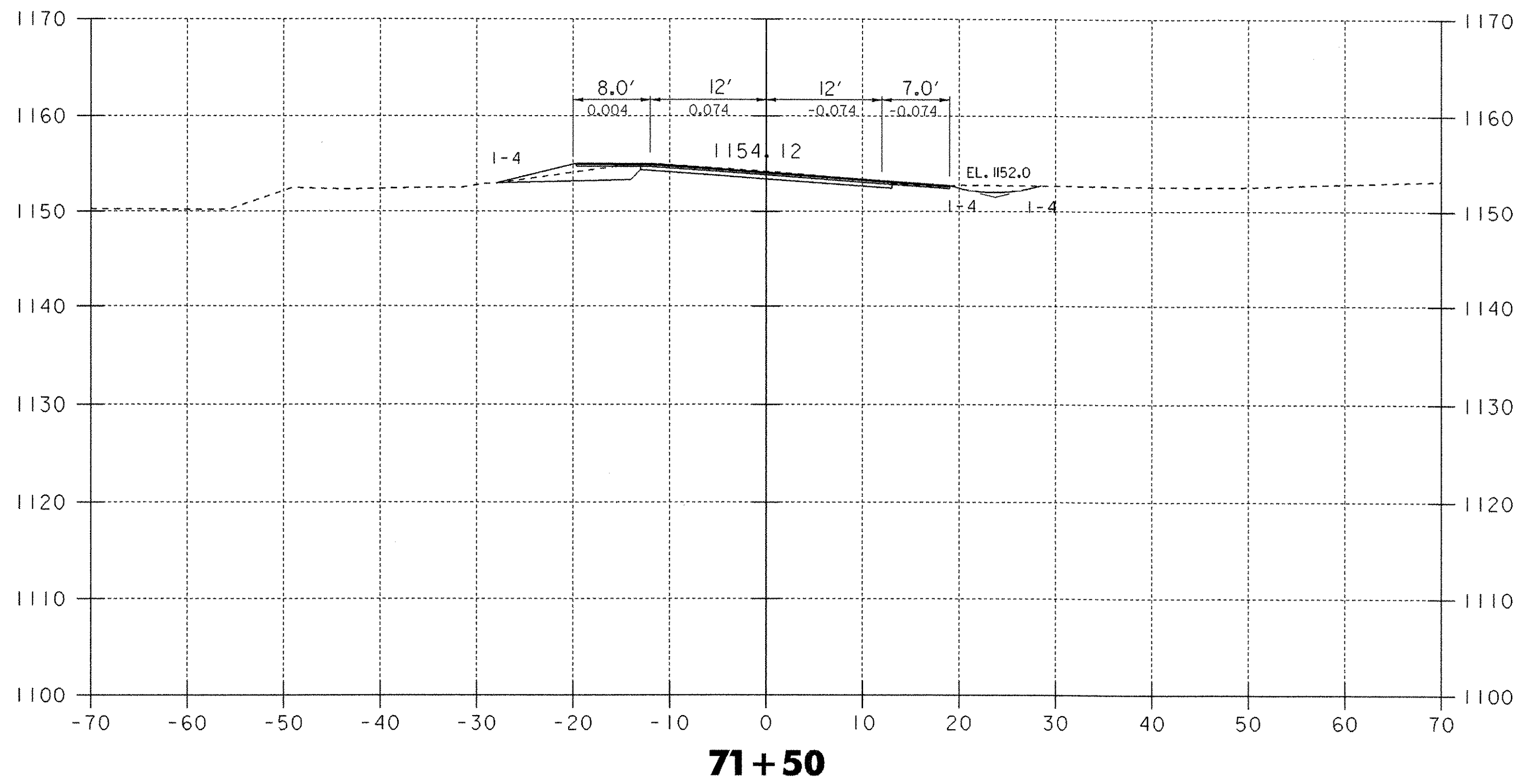
70+63

70+00 - 70+50

DATUM	NGVD 1929
VERTICAL	
HORIZONTAL	N/A

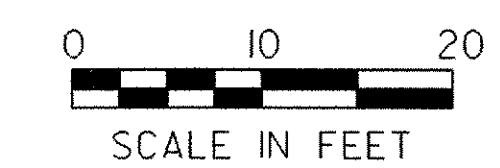


PROJECT: WOODFORD	PROJECT NO.: BHF 010-(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x10.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 95 OF 106

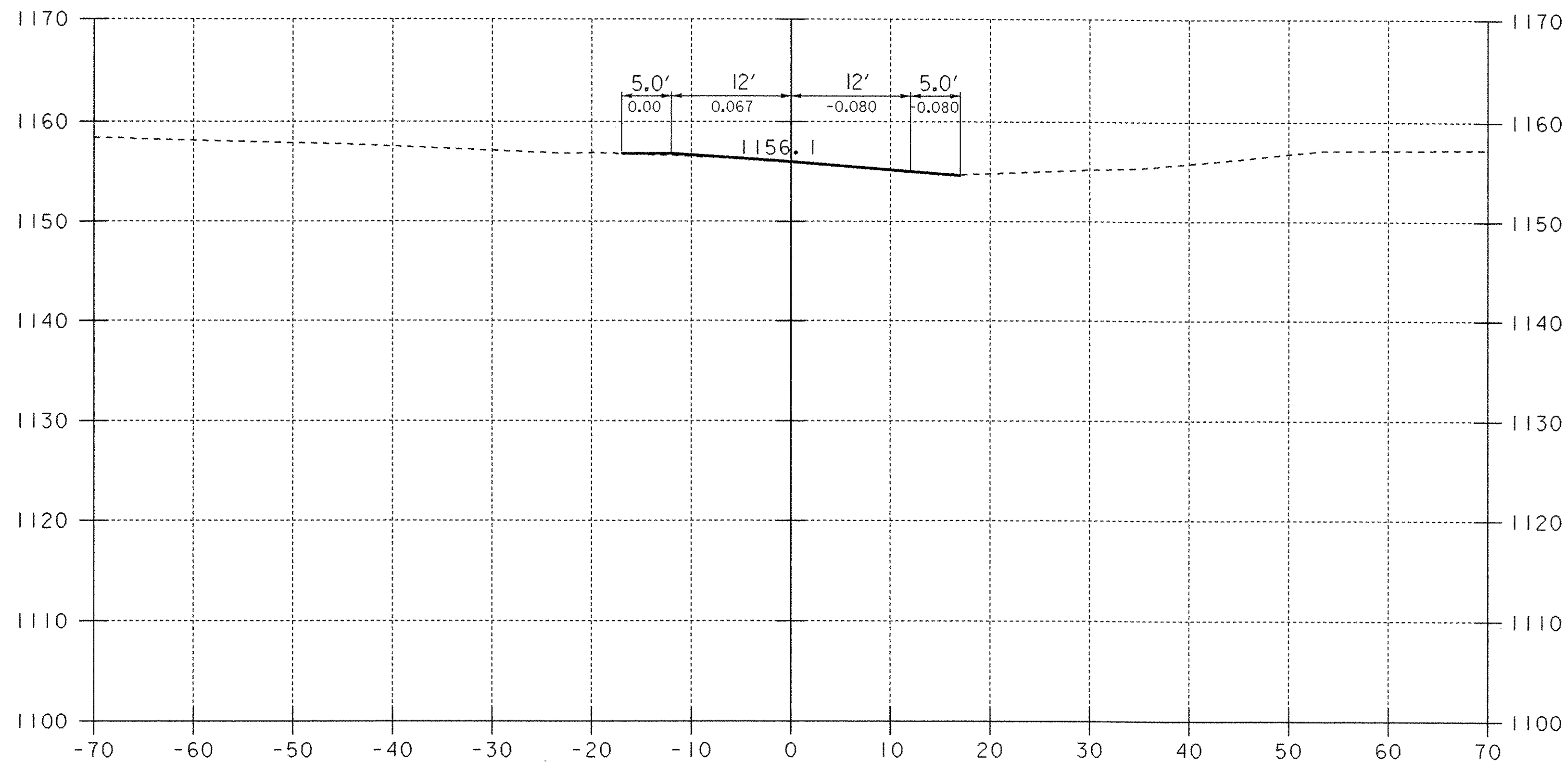


71+00 - 72+12

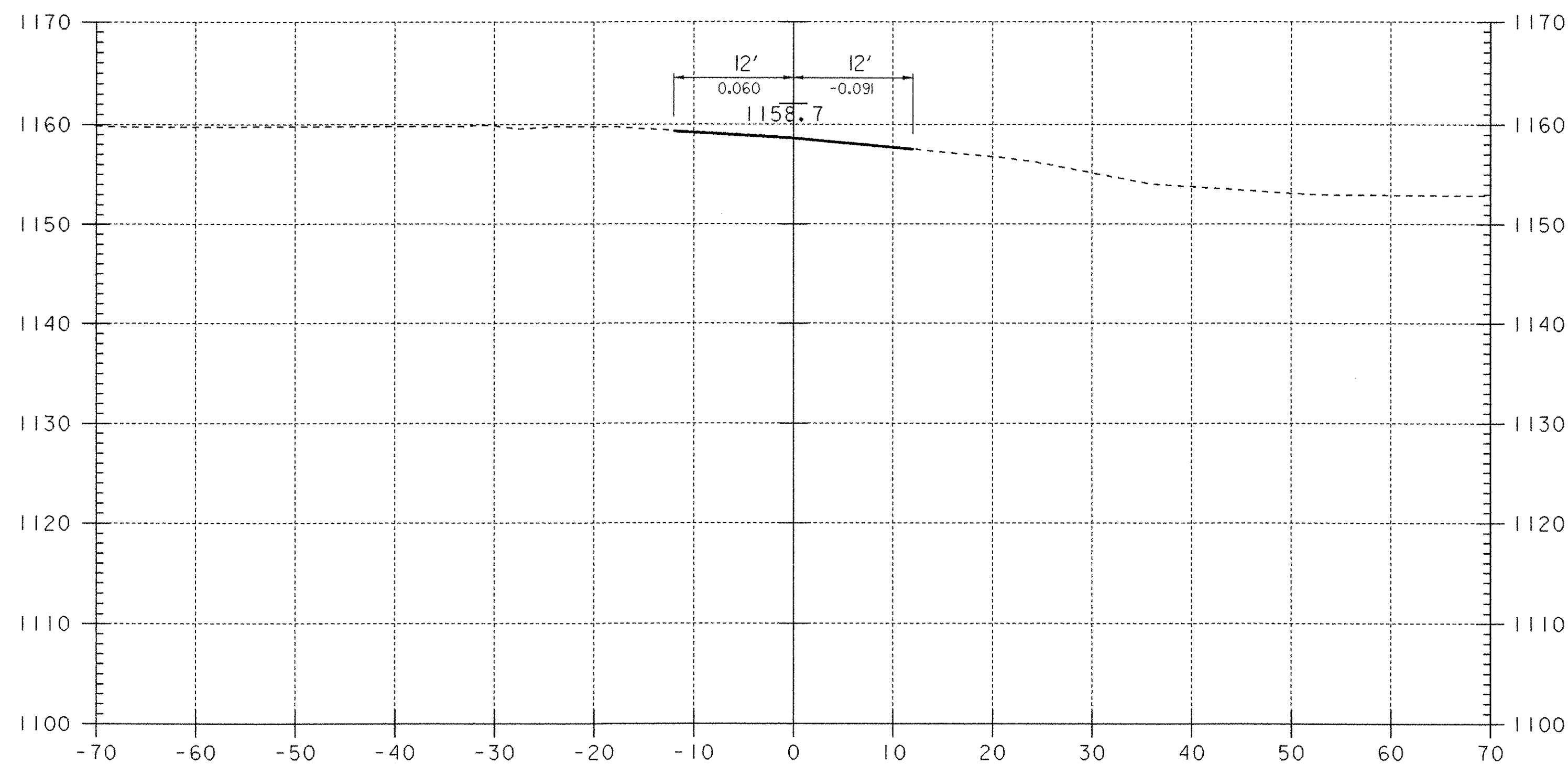
DATUM	
VERTICAL	NGVD 1929
HORIZONTAL	N/A



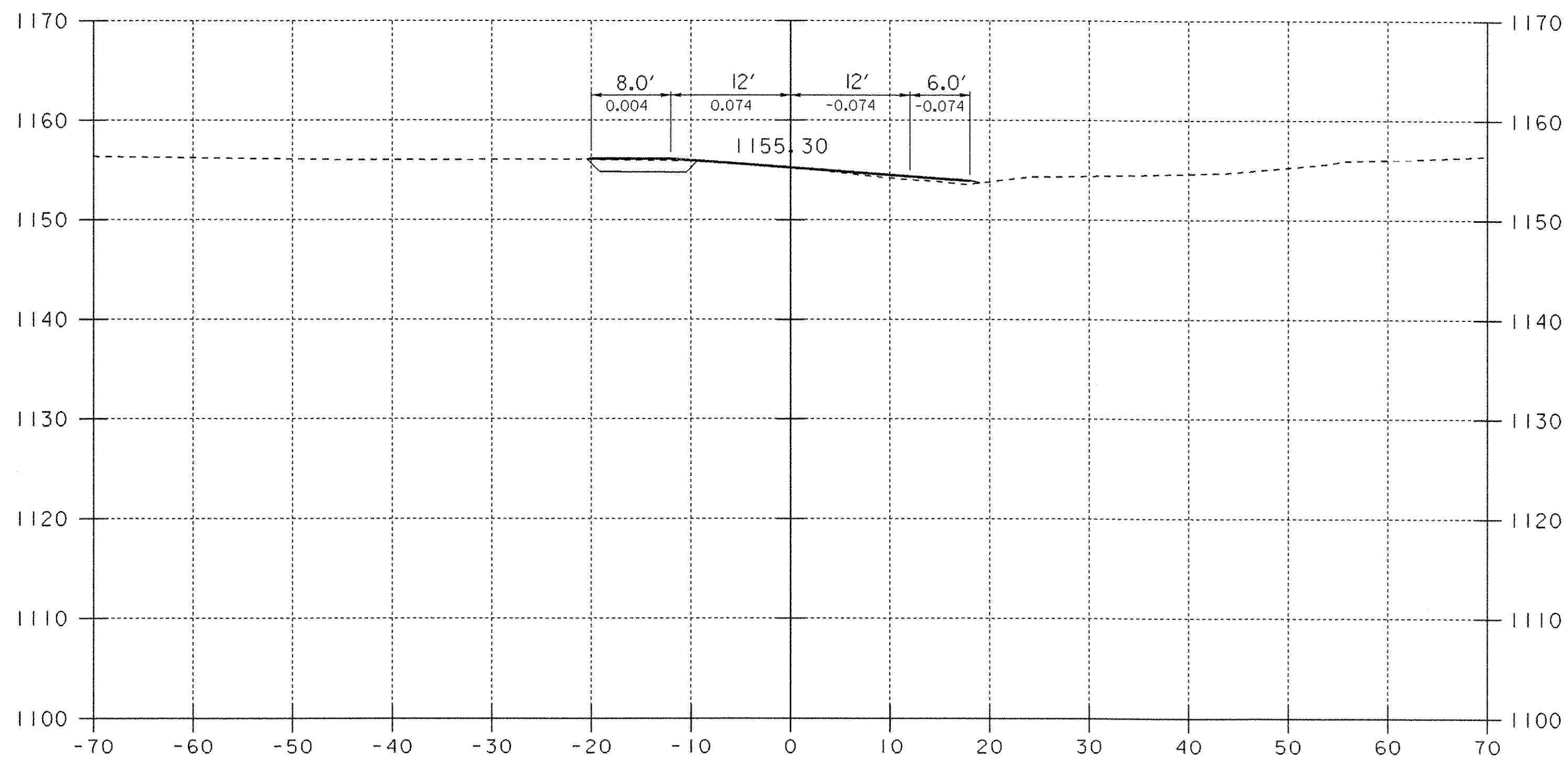
PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x11.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 96 OF 106



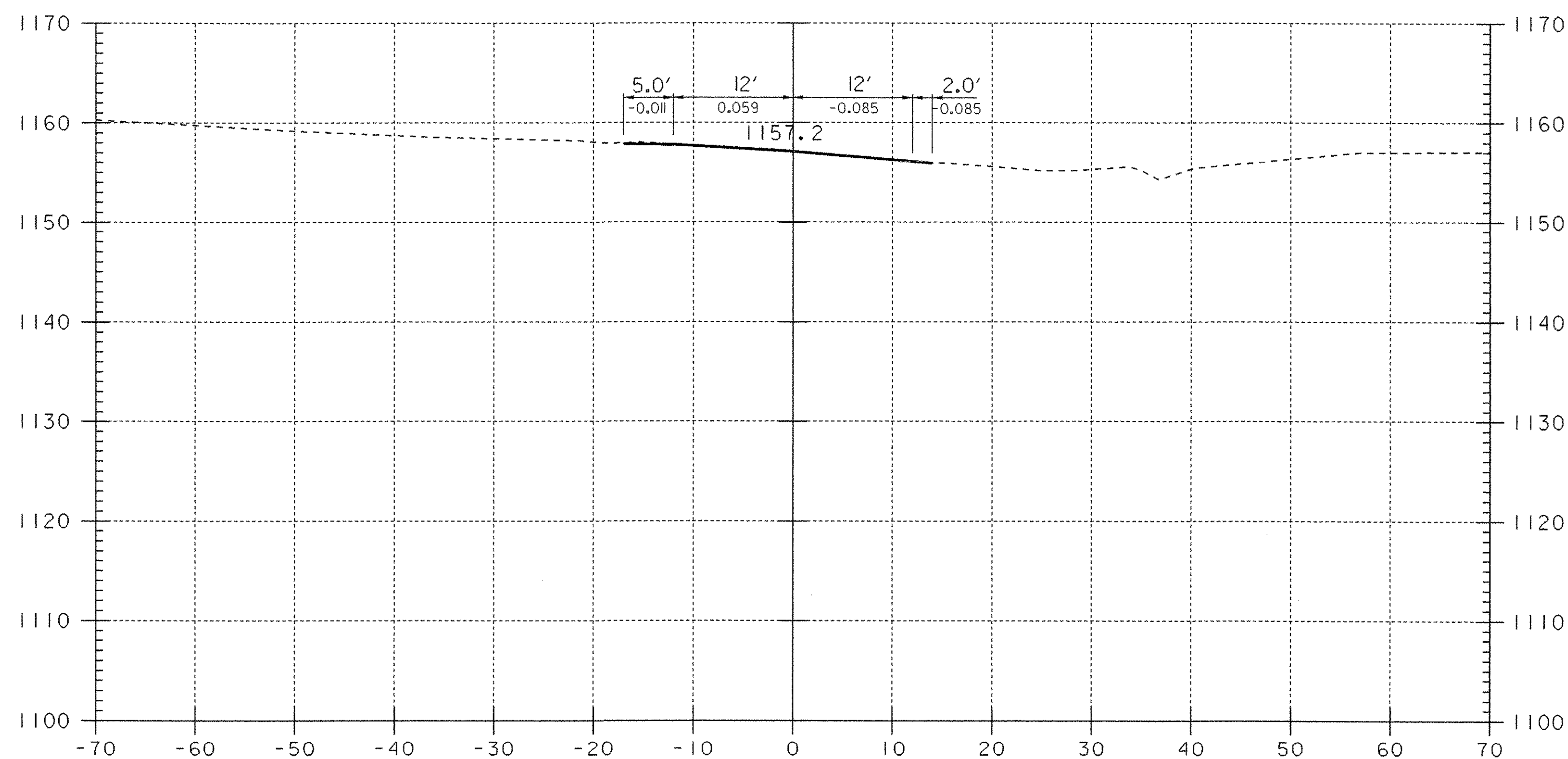
73+00



74+00
End Approach



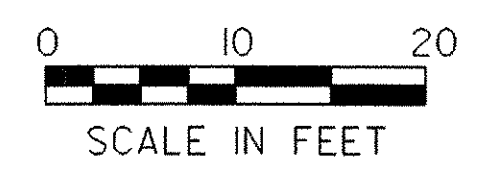
72+50



73+50

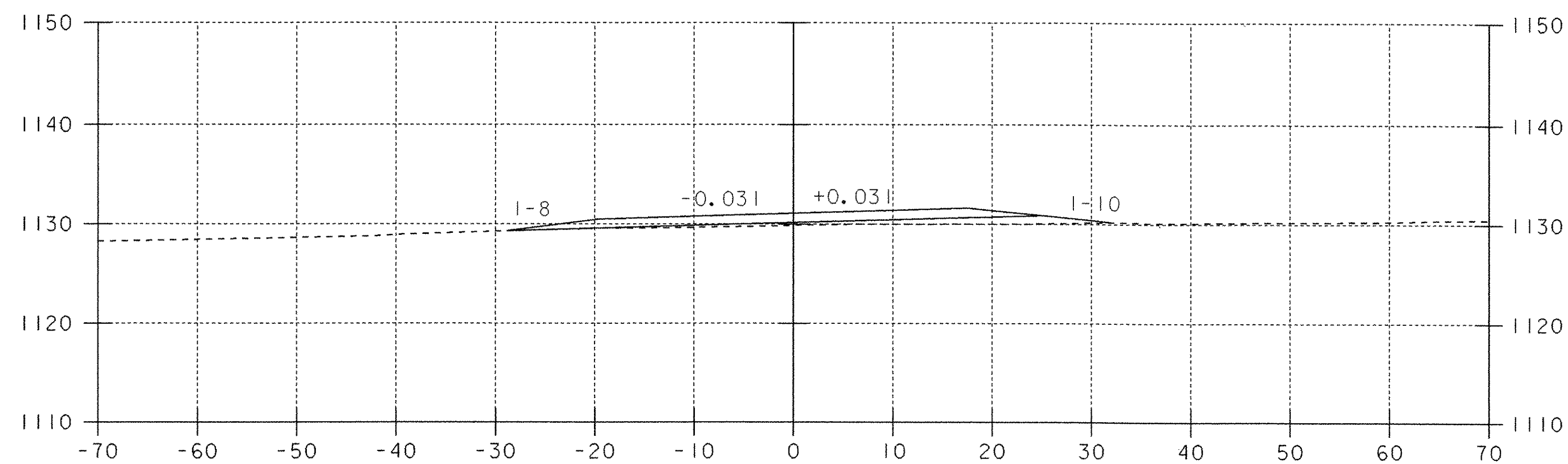
72+50 - 73+00

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



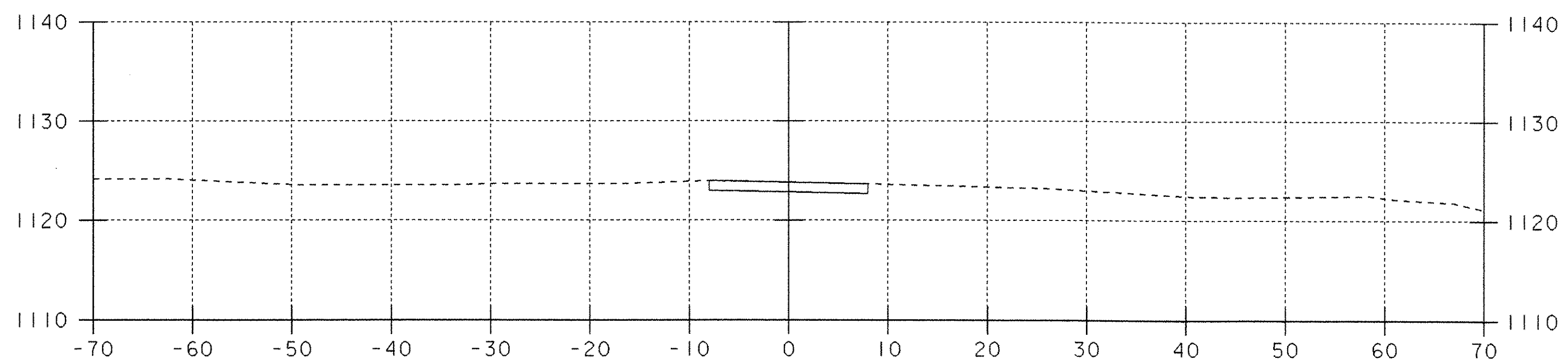
PROJECT: WOODFORD	PROJECT NO.: BHF 010-K(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x12.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 97 OF 106

SECTION B-B



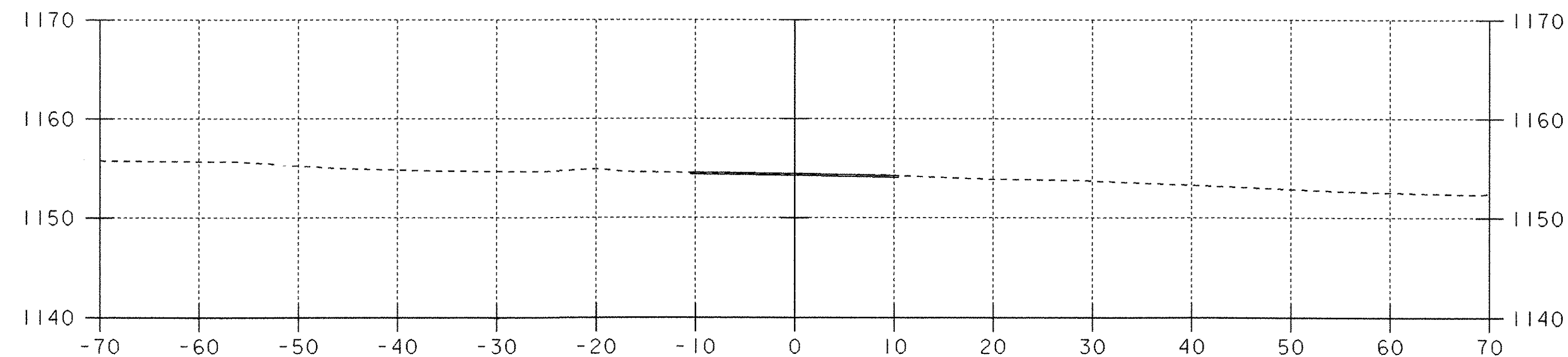
CL DRIVE 61+31 LT
(35' GRAVEL DRIVE)

SECTION A-A



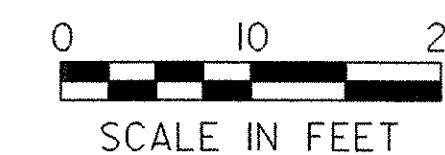
CL DRIVE 59+48 RT
(16' GRAVEL DRIVE)

SECTION C-C

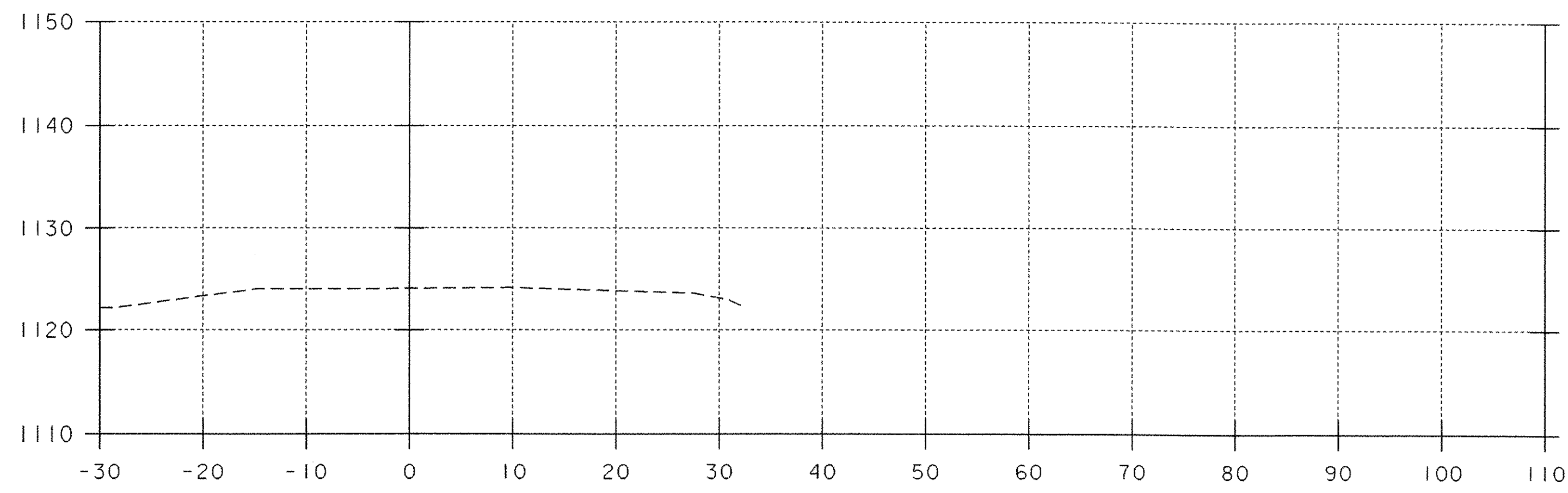


CL DRIVE 72+12 RT
(21' PAVED DRIVE)

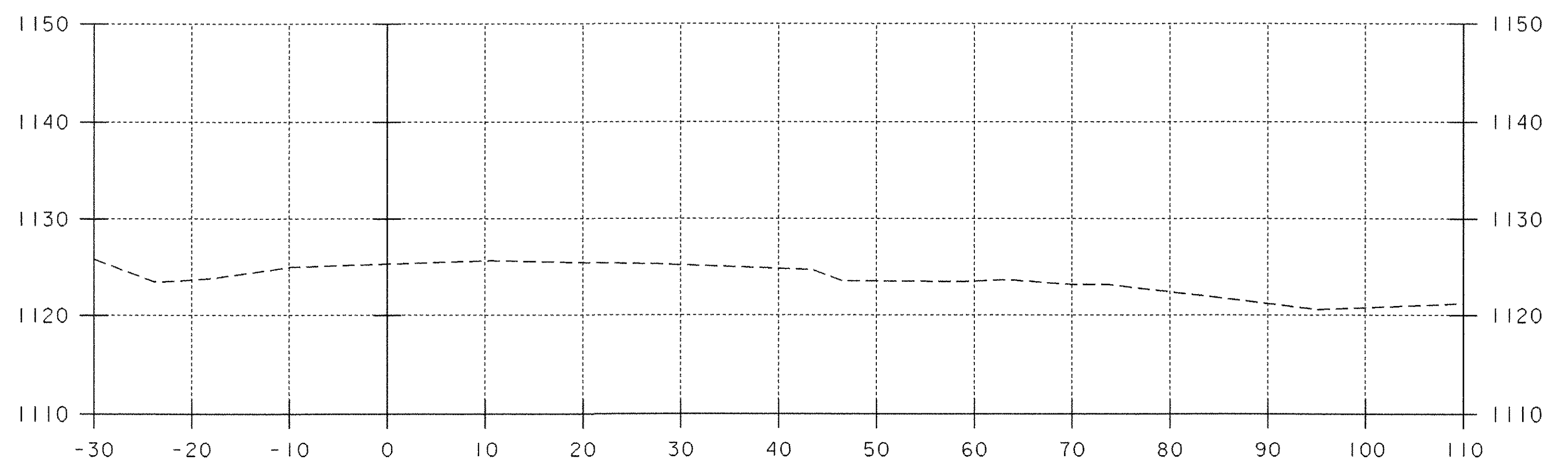
DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A



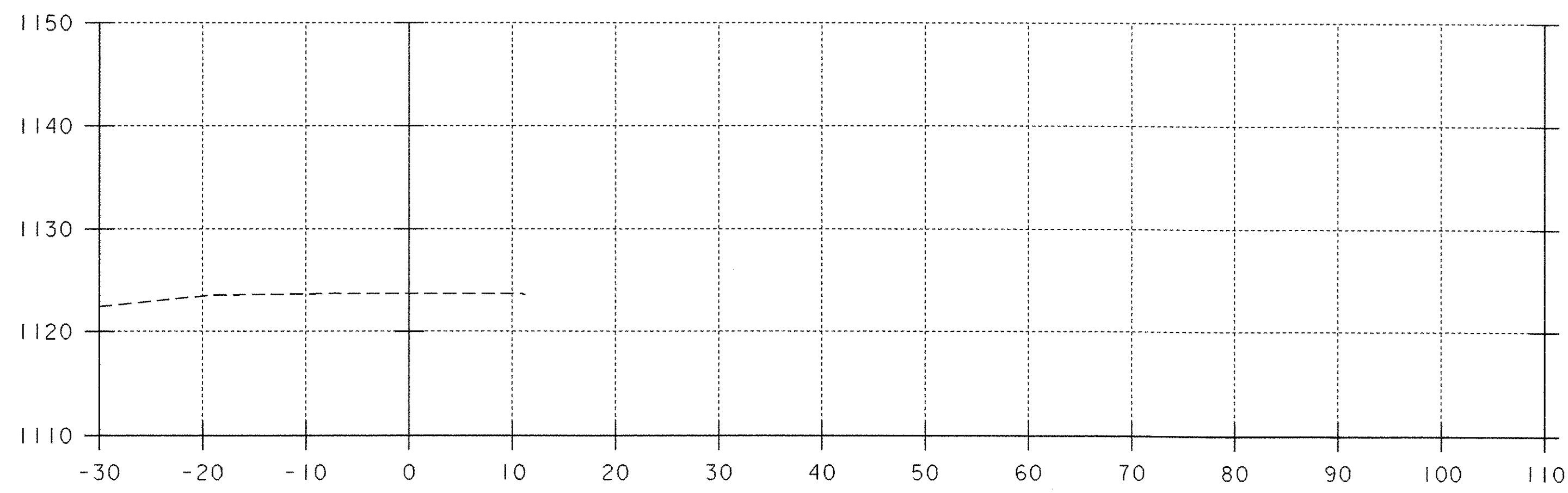
PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/de039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: de039x12.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: PORTALUPI	SHEET: 98 OF 106



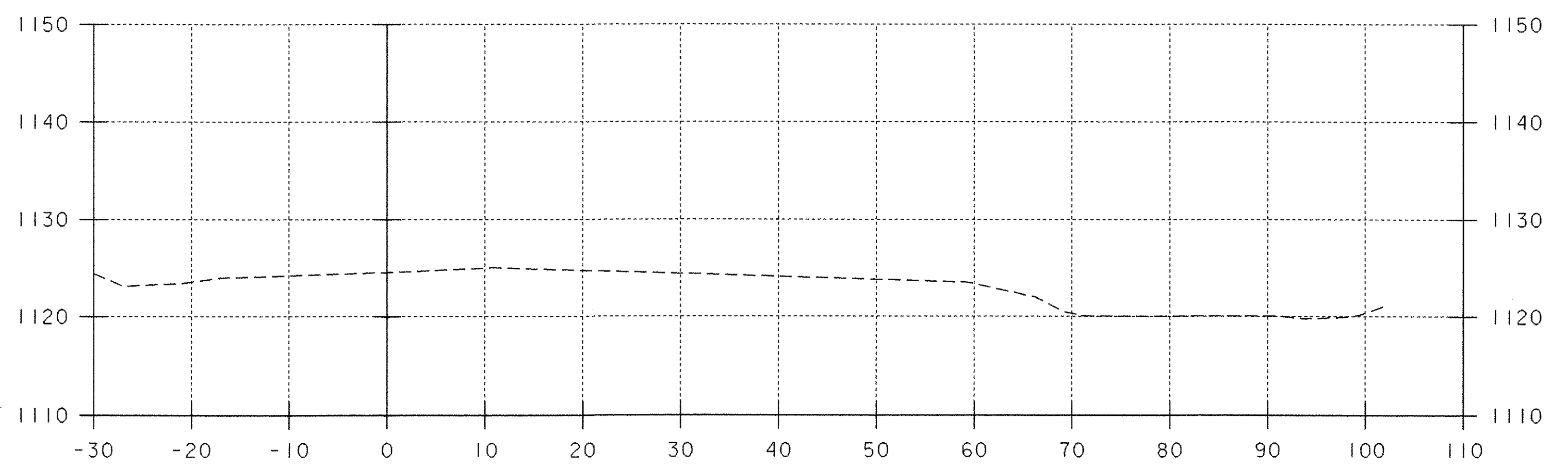
0+40



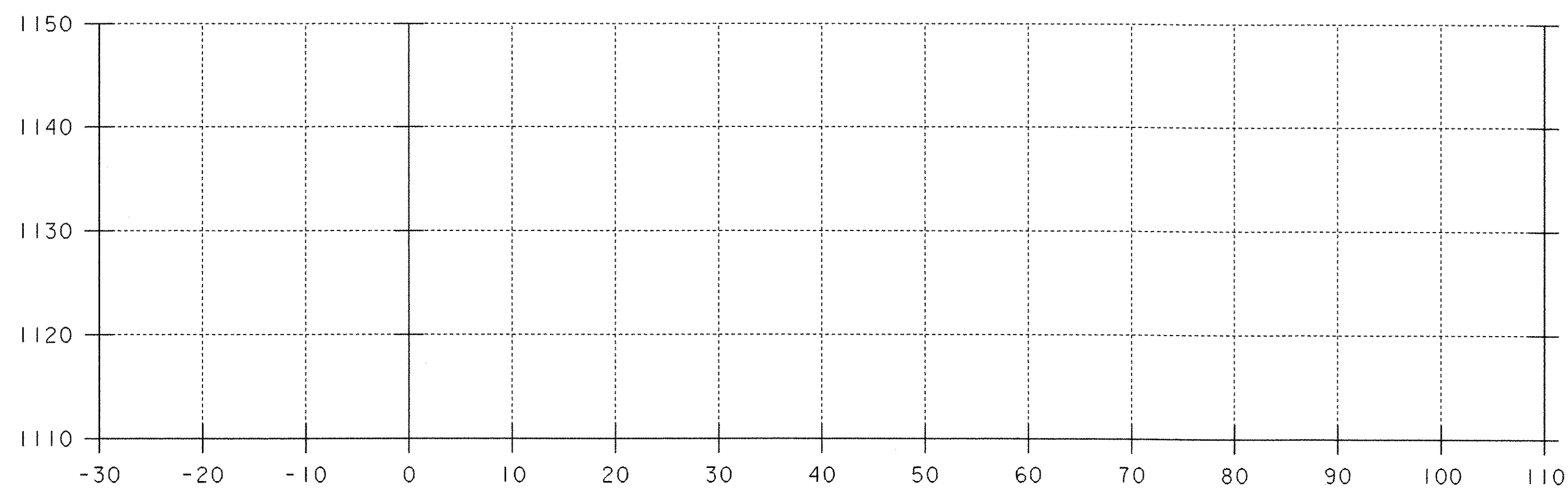
1+00



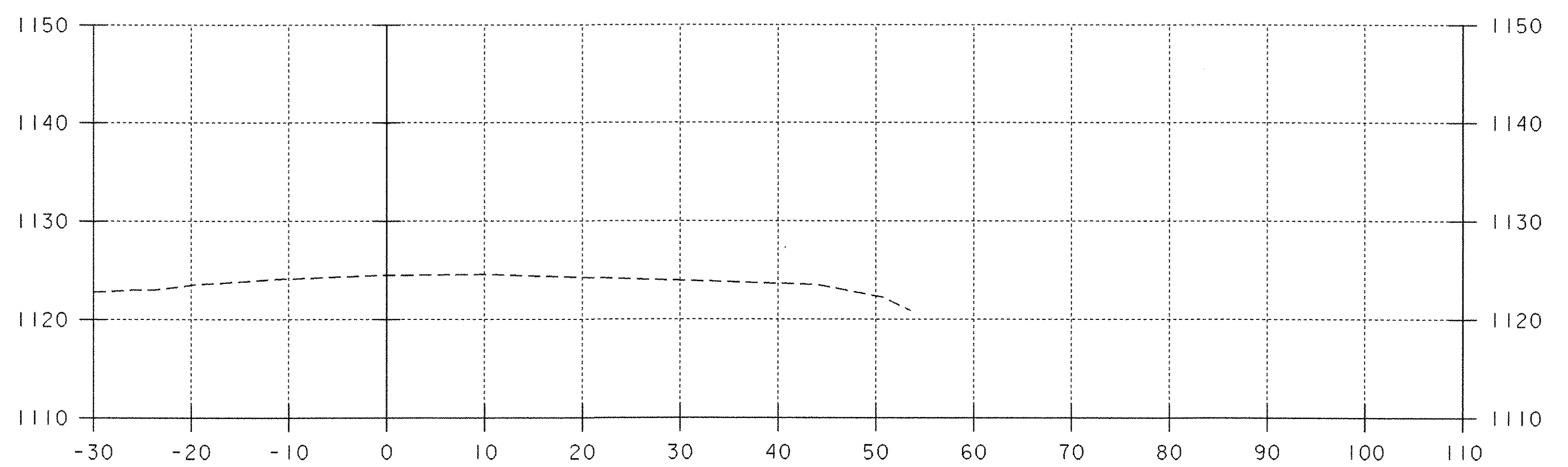
0+20



0+80



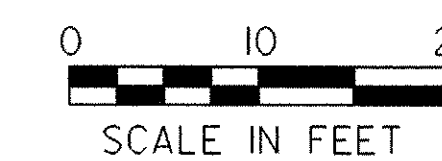
0+00



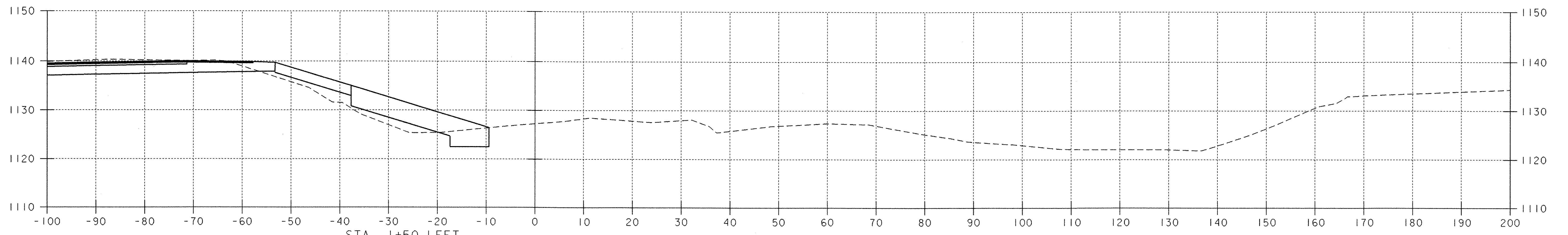
0+60

CHANNEL CROSS SECTIONS 0+00 ~ 1+00

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A

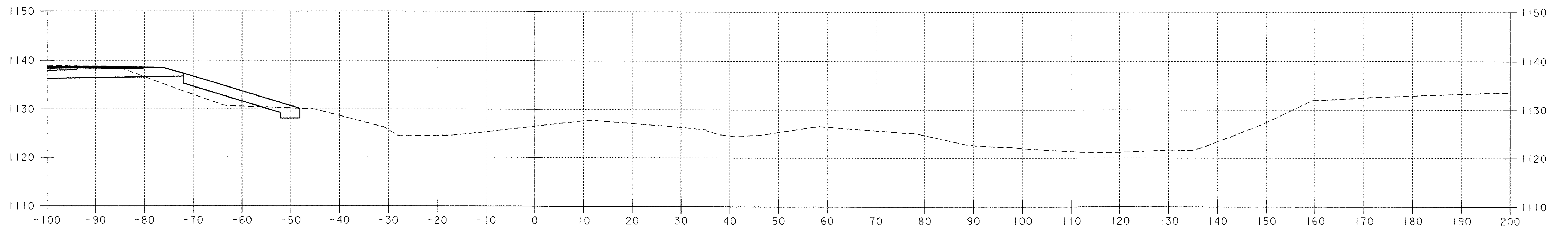


PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx.l1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 99 OF 106

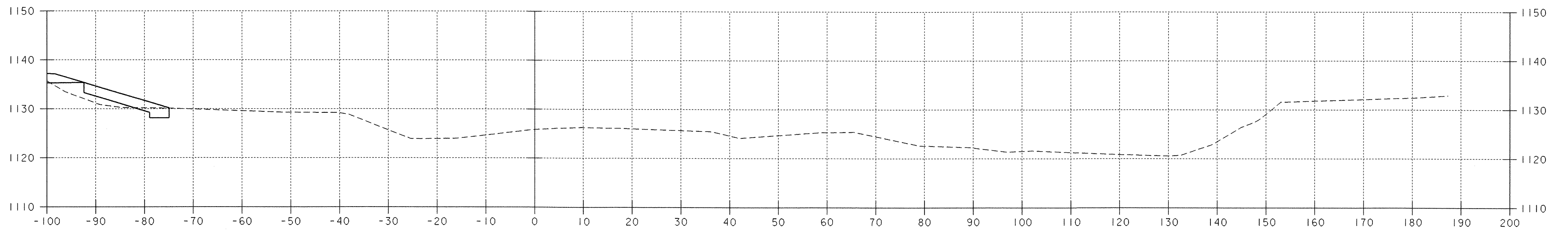


STA. 1+50 LEFT
 BEGIN UNCLASSIFIED CHANNEL EXCAVATION
 BEGIN GRANULAR BACKFILL FOR STRUCTURES
 BEGIN GRUBBING MATERIAL
 BEGIN GEOTEXTILE UNDER STONE FILL

1+60



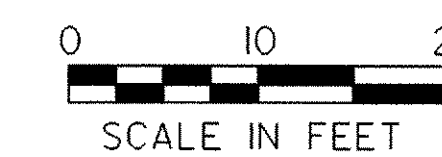
1+40



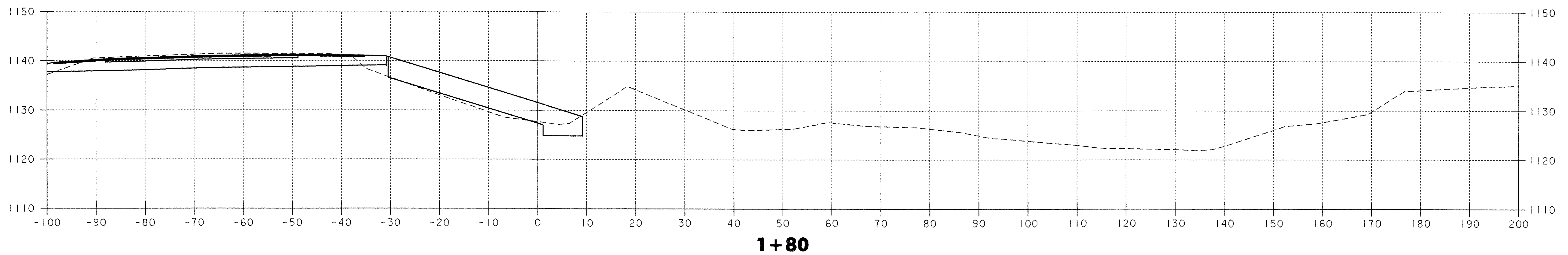
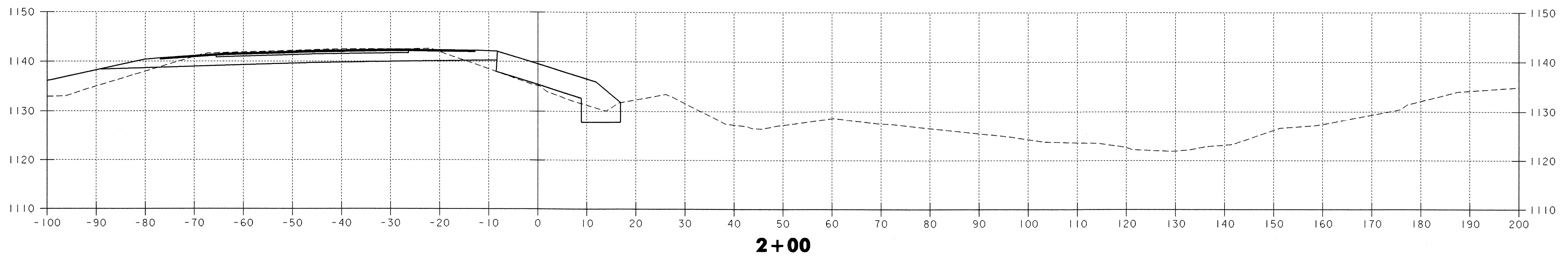
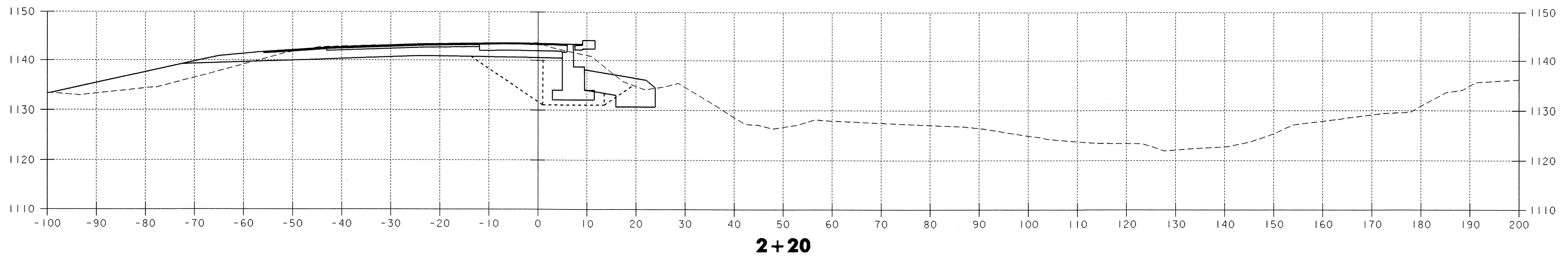
1+20

CHANNEL CROSS SECTIONS 1+20 ~ 1+60

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



PROJECT: WOODFORD	PROJECT NO.: BHF 010-(129)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx2.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 100 OF 106

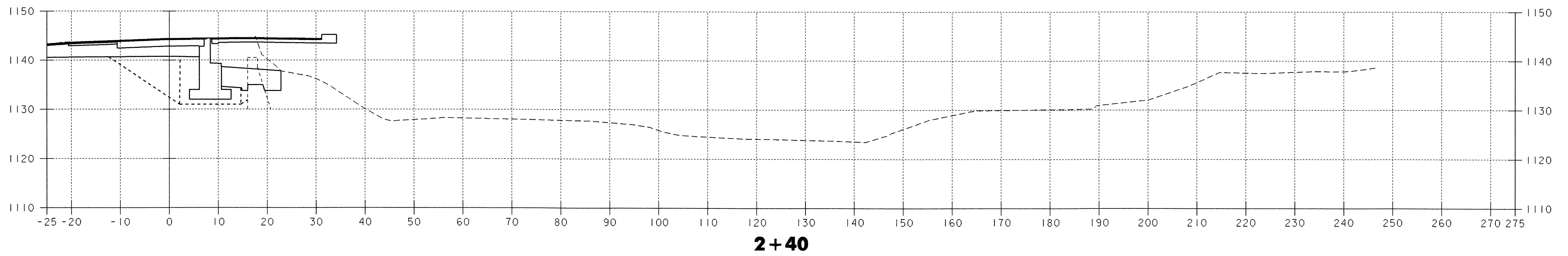
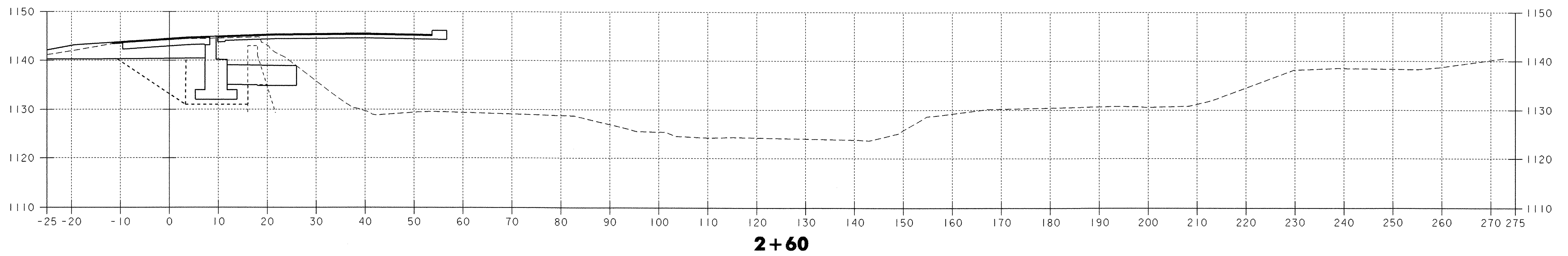
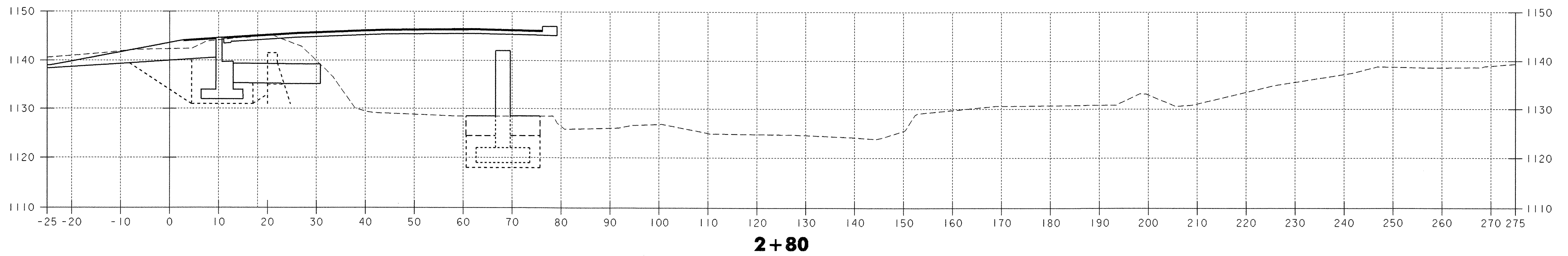


CHANNEL CROSS SECTIONS 1+80 ~ 2+20

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A

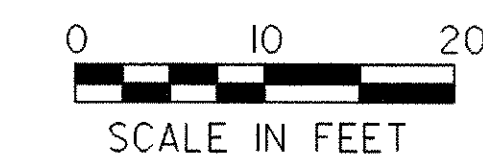


PROJECT: WOODFORD	PROJECT NO.: BHF 010-(129)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx3.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 101 OF 106

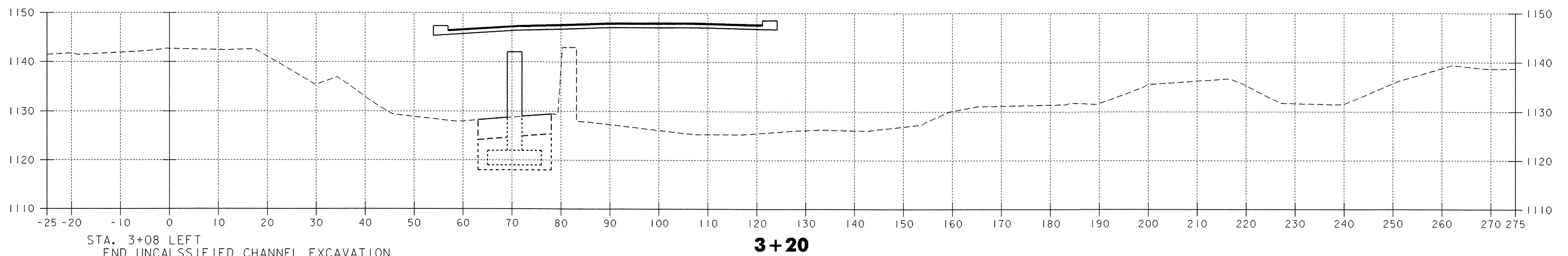
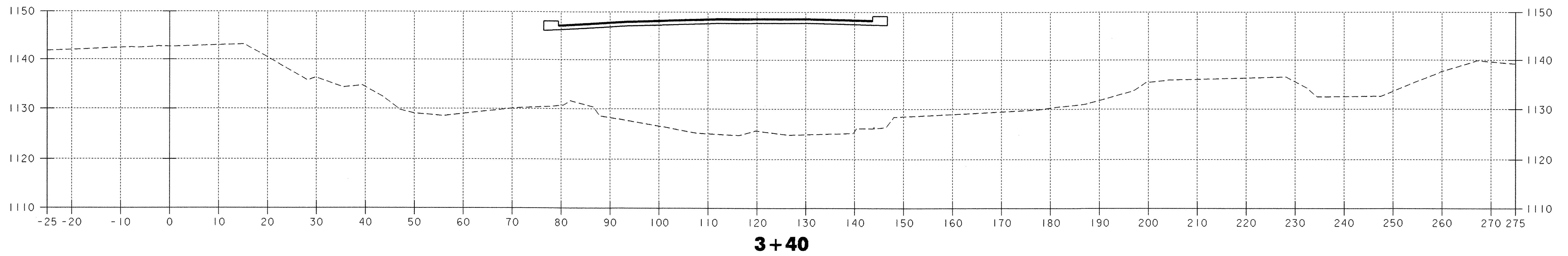


CHANNEL CROSS SECTIONS 2+40 ~ 2+80

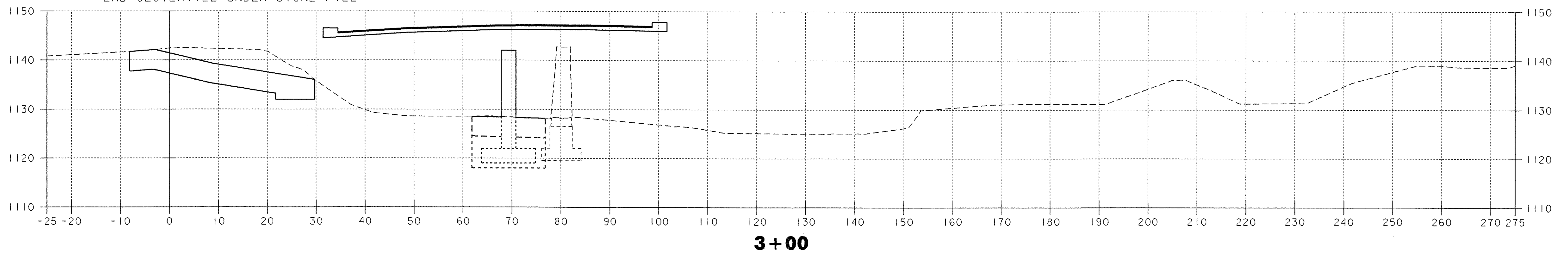
DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx4.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 102 OF 106

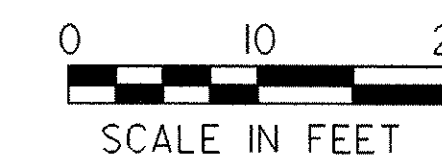


STA. 3+08 LEFT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GRANULAR BACKFILL FOR STRUCTURES
 END GRUBBING MATERIAL
 END GEOTEXTILE UNDER STONE FILL

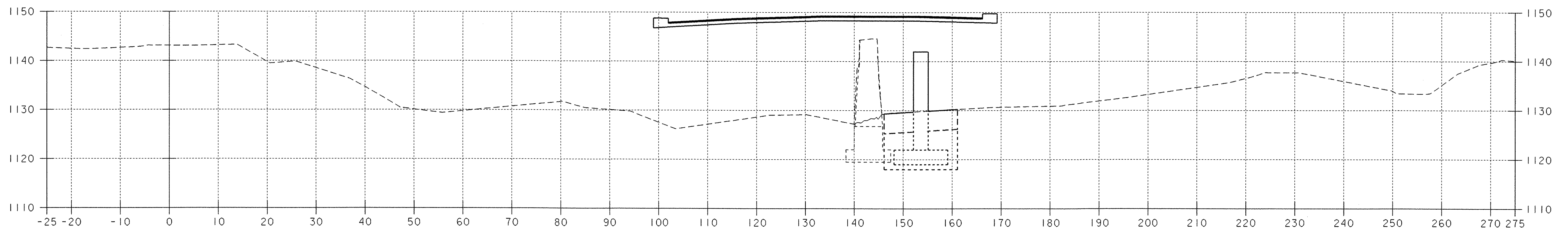
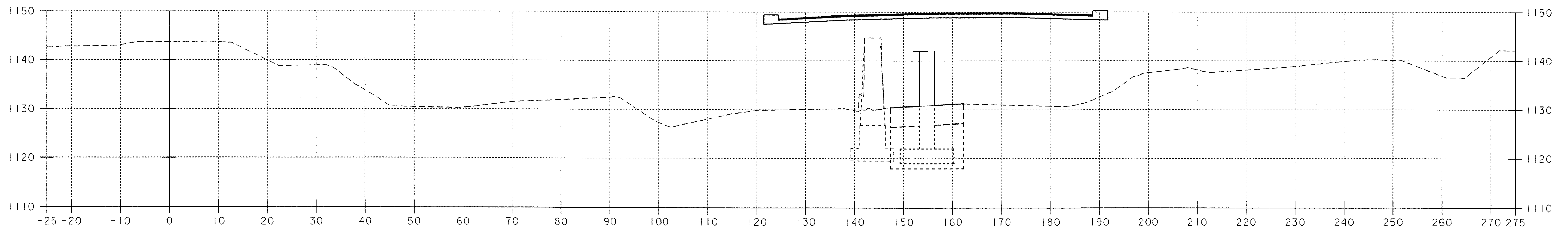
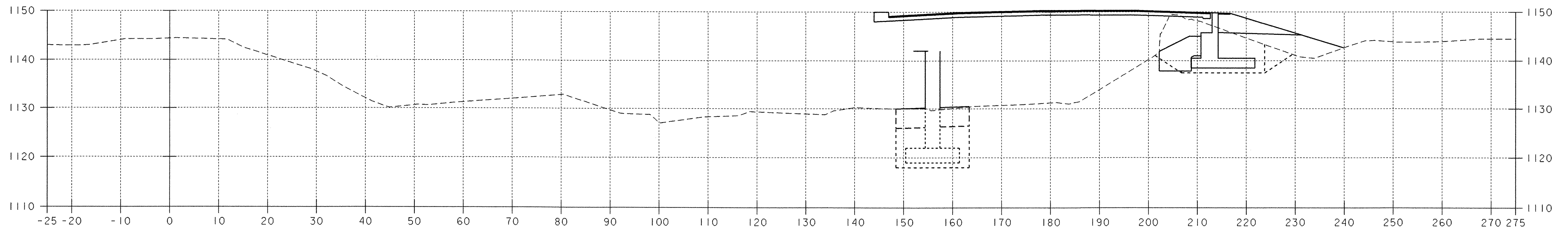


CHANNEL CROSS SECTIONS 3+00 ~ 3+40

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A

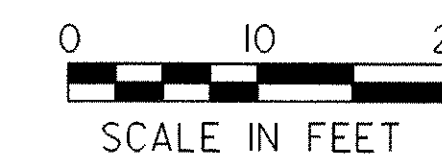


PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx5.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 103 OF 106

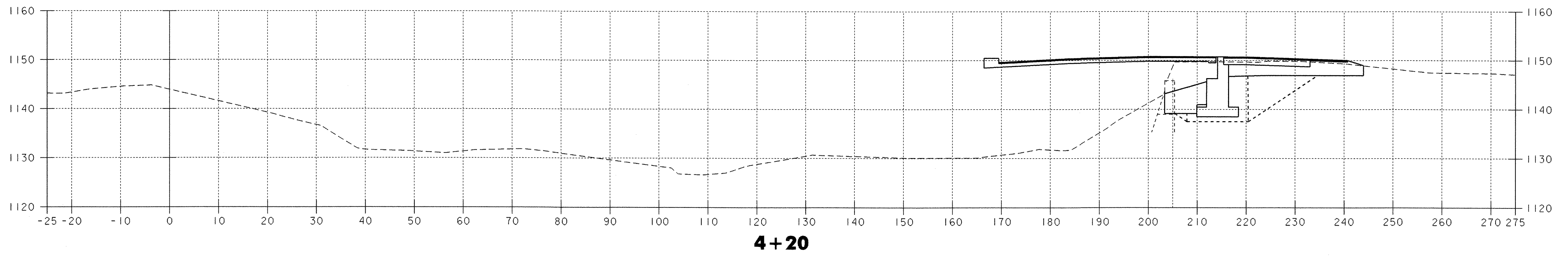
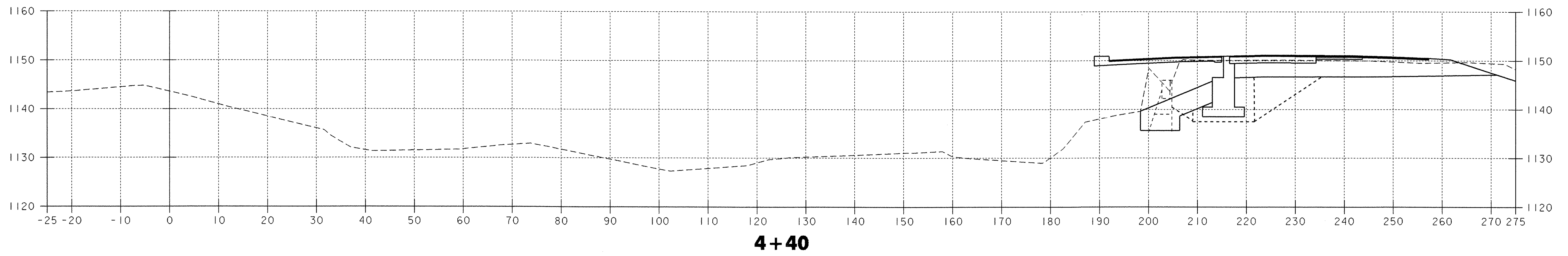
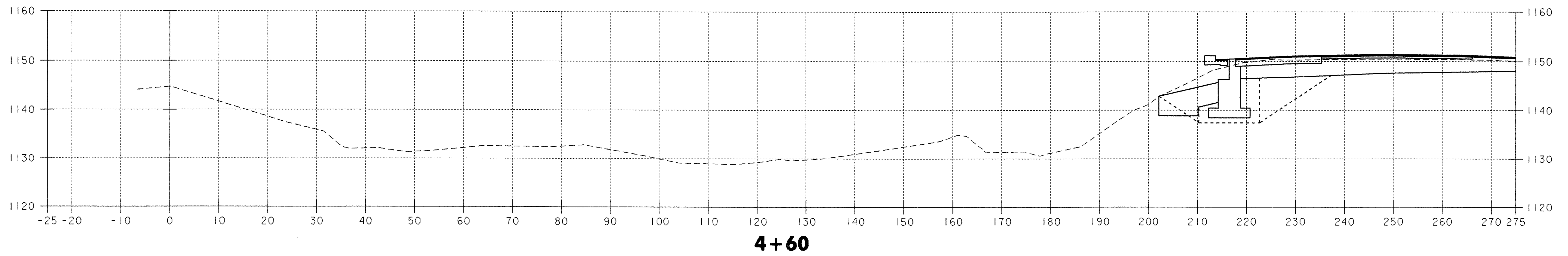


CHANNEL CROSS SECTIONS 3+60 ~ 4+00

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A

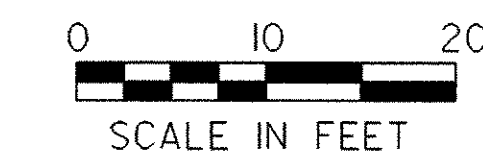


PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx6.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 104 OF 106

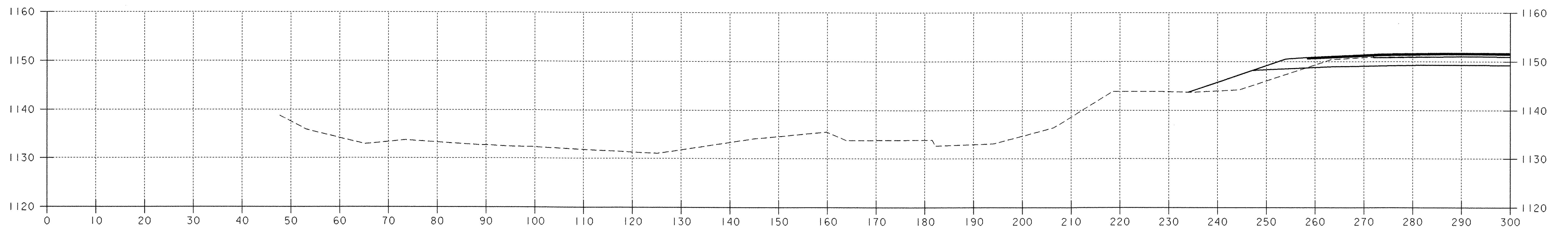


CHANNEL CROSS SECTIONS 4+20 ~ 4+60

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A

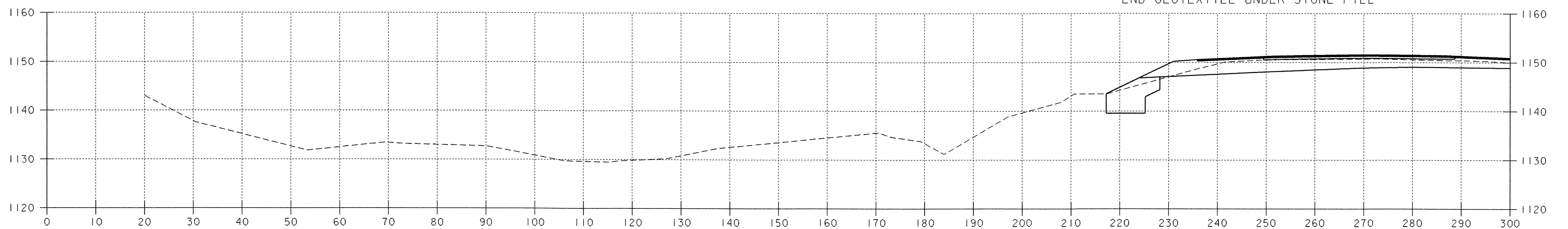


PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/ee039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: ee039cx7.1	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 105 OF 106



5+00

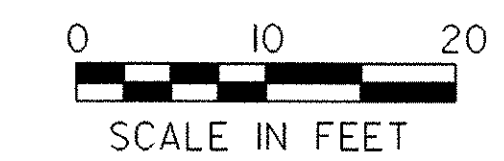
STA. 4+90 RIGHT
 END UNCLASSIFIED CHANNEL EXCAVATION
 END GRANULAR BACKFILL FOR STRUCTURES
 END GRUBBING MATERIAL
 END GEOTEXTILE UNDER STONE FILL



4+80

CHANNEL CROSS SECTIONS 4+80 ~ 5+00

DATUM
 VERTICAL NGVD 1929
 HORIZONTAL N/A



PROJECT: WOODFORD	PROJECT NO.: BHF 010-1(29)
DESIGN FILE NAME: /84e039/se039xs.dgn	PLOT DATE: 03-OCT-2005
IPARM FILE NAME: se039cx8.i	SURVEY DATE: 12-88
SURVEYED BY: MOREAU	DRAWN BY: EVANS-MONGEON
SQUAD LEADER: A. PORTALUPI	SHEET: 106 OF 106



State of Vermont
PDD/Structures Design Section
National Life Building - Drawer 33
Montpelier, VT 05633-5001
www.autom.state.vt.us

Agency of Transportation

[phone] 802-828-2621
[fax] 802-828-3566
[toll] 800-255-0191

Pete Somogyi, General Manager
Amscot Structural Products
241 E. Blackwell St.
Dover, NJ 07801

April 26, 2006

Project Name: WOODFORD Project #: BHF 010-1(29)

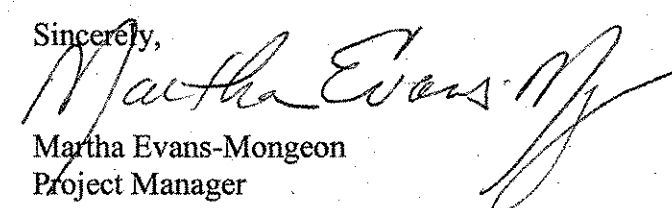
Structure Identification: Bridge No. 11

The following Bearing Details [Item #531.10, (Bearing Device Assembly (Elastomeric) (Abutment and Pier))] for the above project (Vendor's Job #2212) transmitted with your letter dated 04/04/06 have been reviewed and are being returned herewith.

Sheets: 1-4 of 4 are "approved".

Upon receipt of these approved plans, please submit white prints for our use in the record plans for this project. You must provide written notice to this office as to the date fabrication represented by these drawings will begin. That notice must be received at least seven days prior to that date, as per Specification 506.03. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,


Martha Evans-Mongeon
Project Manager

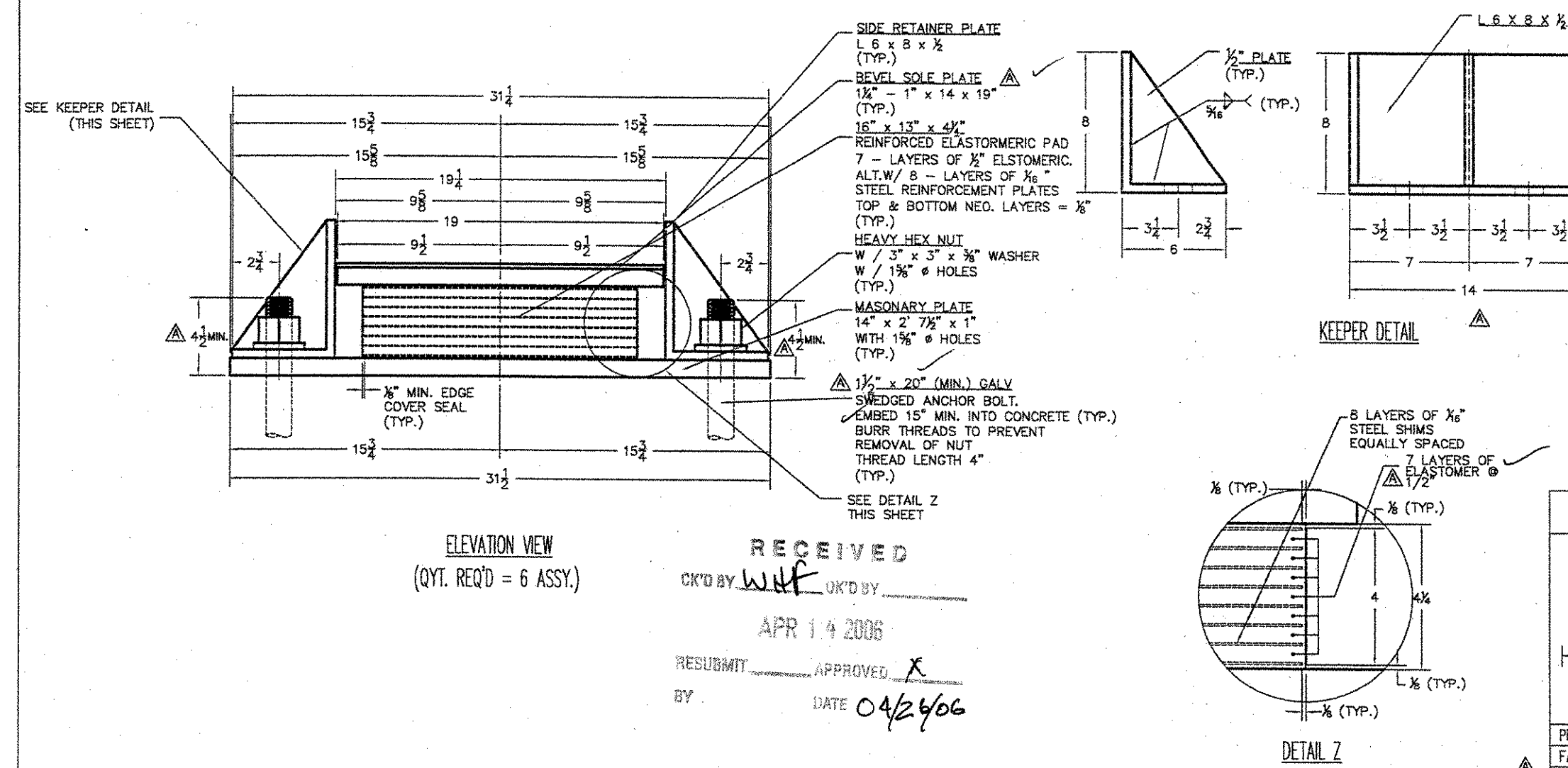
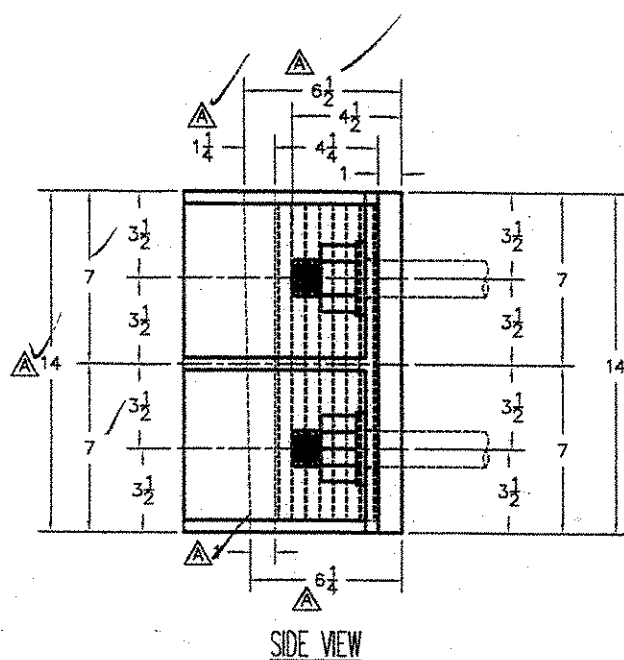
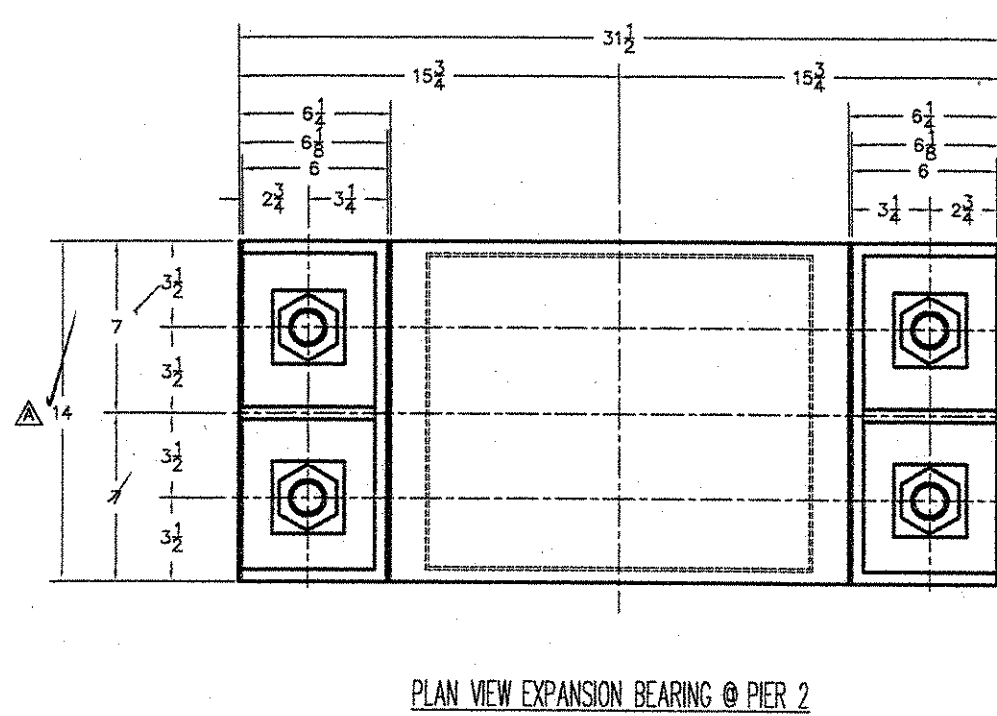
Attachments

cc: [X] Resident Engineer - with prints Ron Lamaire
[X] Shop Inspector - with prints Jeff Clark
[X] Contractor - with prints Mike Renaud
[] Subcontractor -
[X] Construction Division - letter only
[X] Materials & Research Section (C&IA Unit) - letter only
[X] Files (Structures & Central)



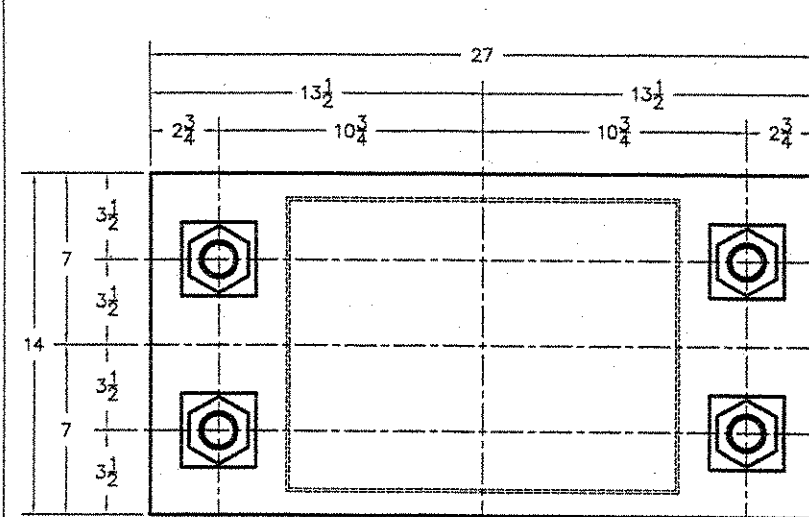
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
MECH.	A	PER ENGINEER'S MARKS	4/2/06	C.A.M.

- NOTES:
- BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17th EDITION, 2002.
 - THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
 - ALL STEEL IN BEARINGS SHALL BE AASHTO M270 GRADE 50, U.L.C.
 - NEOPRENE SHALL BE AASHTO CR. 40 DIAPHRAGM +/- 5, OR 4.
 - ALL STEEL PRODUCED IN THE U.S.A.
 - CONTACT PETER SOMICH, COORDINATOR.
 - TOLERANCES: THICKNESS -0.1/0
PLAN -0.1/0
 - MANUFACTURING FACILITY LOCATION:
AMSDOT STRUCTURAL PRODUCTS INC.
100 EAST BLACKWELL STREET
DOVER, NJ 07801
 - ALL DIMENSIONS ARE IN INCHES.
 - ALL BEARING DEVICES SHALL BE METALLIZED AS PER STANDARD SPECIFICATIONS SHEETS AND 531.04(5). IF THE BEARINGS ARE METALLIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN STANDARD SPECIFICATION 536.15.
 - ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M22.
 - PRIOR TO METALLIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC. SHALL BE GROUNDED TO A 1/16" RADIUS (TYP.).
 - A MINIMUM THICKNESS OF 6 MILS SHALL BE APPLIED TO METALLIZED SURFACES (TYP.).
 - EXTERIOR SURFACES SHALL BE SEALED WITH AN APPROVED SEALANT CONFORMING TO THE RECOMMENDATIONS OF THE THERMAL SPRAY SUPPLIER (TYP.).
 - BEARING GUNGE ASSEMBLY ITEM NO. 531.10
 - THE STEEL SOLE PLATES AND MASONRY PLATES SHALL BE NOT BONDED TO THE REINFORCED ELASTOMERIC PAD DURING THE GALVANIZATION PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALLIZED.

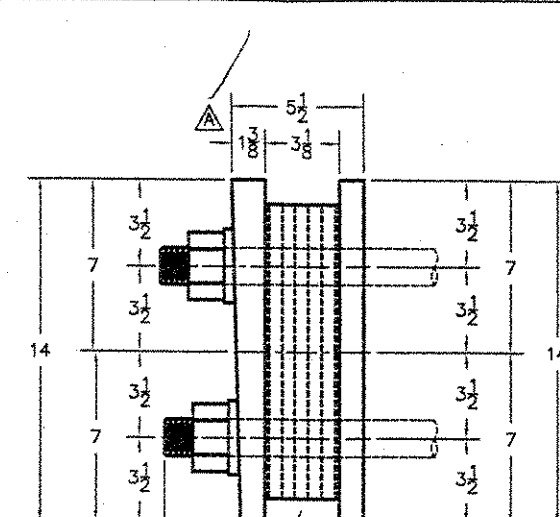


RECEIVED
 CK'D BY *WJF* CK'D BY _____
 APR 14 2006
 RESUBMIT _____ APPROVED *X*
 BY _____ DATE 04/2/06

BRIDGE NO. 11	PROJECT NO.: BHPT 010-1 (219)
EXPANSION BEARING DETAILS PIER NO. 2	
HWY. NO. VT 9 OVER ROARING BRANCH OF WALLOOMSACH, TOWN OF WOODFORD	
PRIME CONTRACTOR: RENAUD BROS., INC.	SCALE = N.T.S.
FABRICATOR: AMSDOT STRUCTURAL PRODUCTS CORP.	
DWG. NO.: RB0549A	SHEET NO. 1 OF 4



PLAN VIEW FIXED BEARING @ PIER 1

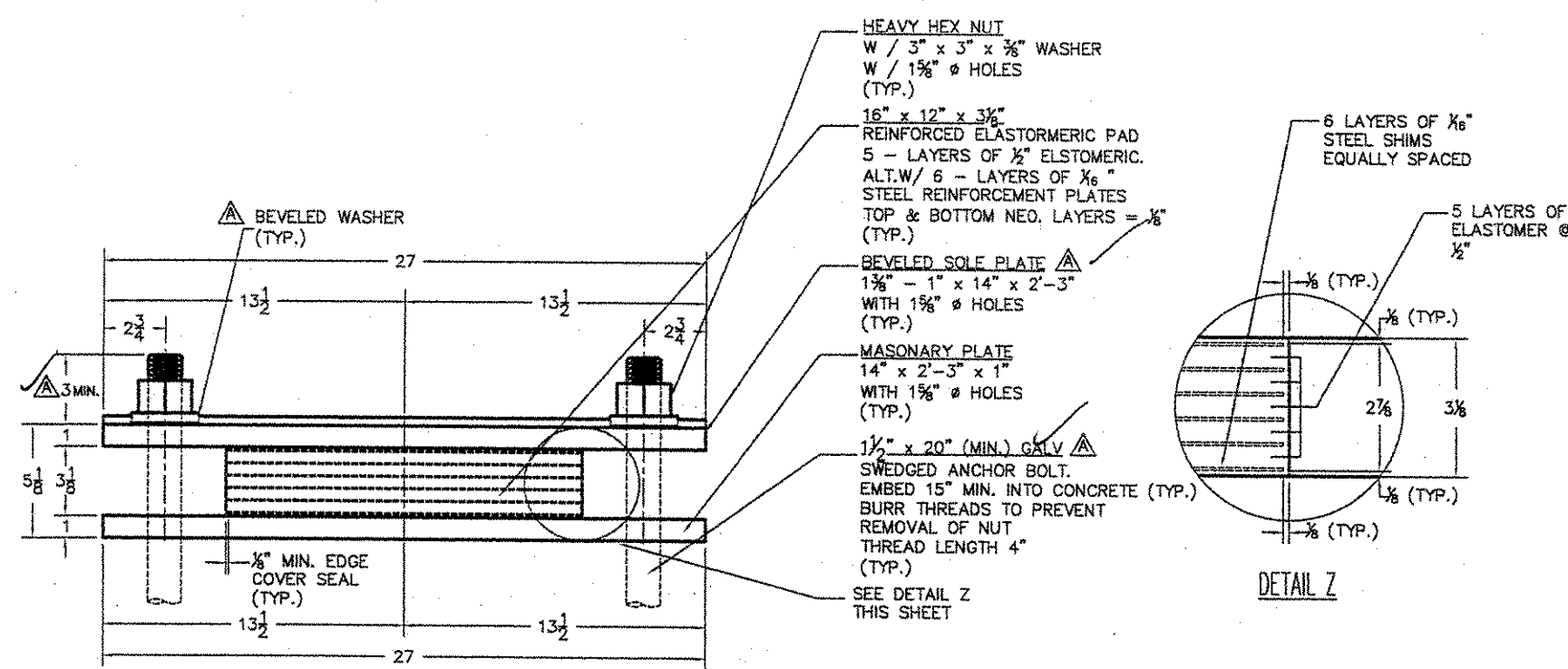


SIDE VIEW

REVISIONS			
ZONE	REV	DESCRIPTION	DATE
MECH	A	PER ENGINEER'S MARKS	4/2/08
			G.A.M.

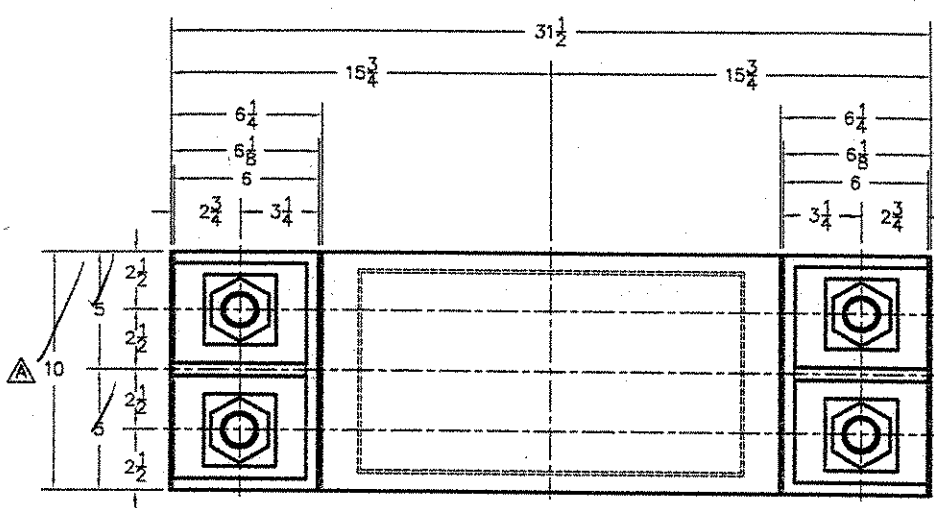
NOTES:

- BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002.
- THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
- ALL STEEL IN BEARINGS SHALL BE AASHTO M270 GRADE 50, U.L.C.D.
- NEOPRENE SHALL BE AASHTO CR. 60 DIAMETER +/- .5, GR. 4
- ALL STEEL PRODUCED IN THE U.S.A.
- CONTACT PETER SOMOCH, COORDINATOR.
- TOLERANCES: FINISHNESS - .01/8
PLAN 0+/0
- MANUFACTURING FACILITY LOCATION:
AMSCOT STRUCTURAL PRODUCTS INC.
245 EAST BLACKWELL STREET
DUNEL, NJ 07828
- ALL DIMENSIONS ARE IN INCHES.
- ALL BEARING BEWES SHALL BE METALLIZED AS PER STANDARD SPECIFICATIONS (S26.15 AND S33.04). IF THE BEARINGS ARE METALLIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN STANDARD SPECIFICATION S26.15.
- ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M202.
- BEFORE METALLIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHIMS, ETC. SHALL BE GROUNDED TO A 1/16" RADIUS (TYP).
- A MINIMUM THICKNESS OF 8 MILS SHALL BE APPLIED TO METALLIZED SURFACES (TYP).
- EXTERIOR SURFACES SHALL BE SEALED WITH AN APPROVED SEALANT CONFORMING TO THE RECOMMENDATIONS OF THE THERMAL SPRAY SUPPLIER (TYP).
- BEARING REMSE ASSEMBLY ITEM NO. S33.10
- THE STEEL SIDE PLATES AND MASONRY PLATES SHALL BE NOT BONDED TO THE REINFORCED ELASTOMERIC PAD USING THE VULCANIZATION PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALLIZED.

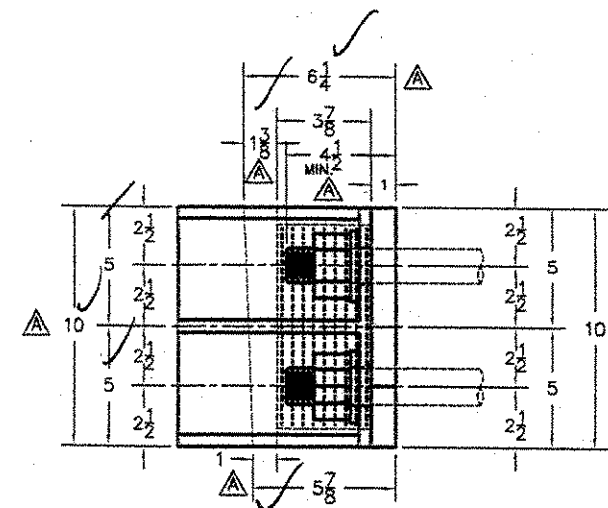


ELEVATION VIEW
(QTY. REQ'D = 6 ASSY.)

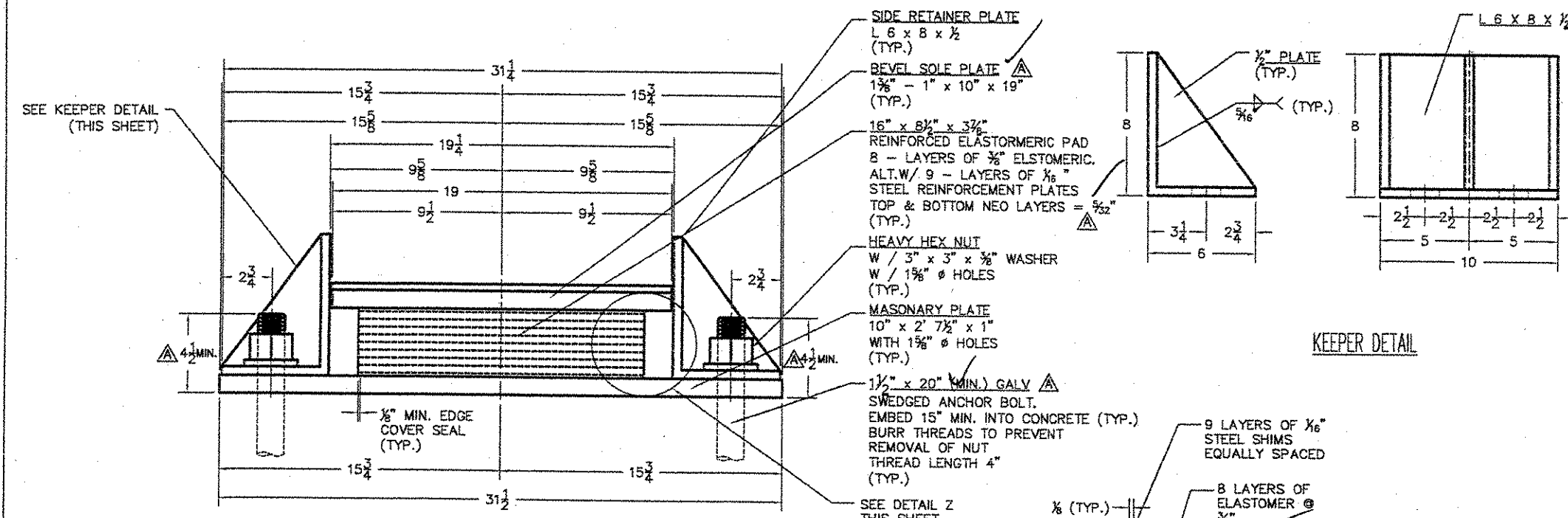
BRIDGE NO. 11	PROJECT NO. BHF 010-1 (29)
JOB NO. 2212	
FIXED BEARING DETAILS PIER NO. 1	
HWY. NO. VT 9 OVER ROARING BRANCH OF WALLOOMSACH, TOWN OF WOODFORD	
PRIME CONTRACTOR: RENAUD BROS. INC.	SCALE = N.T.S.
FABRICATOR: AMSCOT STRUCTURAL PRODUCTS CORP.	
DWG. NO.: REB02A2RA	SHEET NO. 2 OF 4



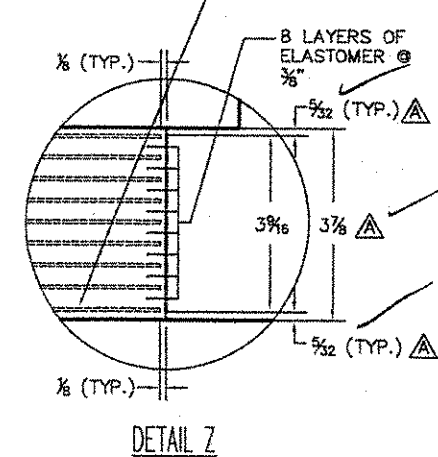
PLAN VIEW EXPANSION BEARING @ ABUTMENT 2



SIDE VIEW



ELEVATION VIEW
(QTY. REQ'D = 6 ASSY.)



DETAIL Z

REVISIONS			
DATE	REV	DESCRIPTION	APPROVED
2/2/09	A	FOR ENGINEER'S MARKS	E.A.K.

NOTES:

1. BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, 2002.
2. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEG. C. TO 32 DEG. C.
3. ALL STEEL IN BEARINGS SHALL BE AASHTO M270 GRADE 50, U.L.D.
4. NEOPRENE SHALL BE AASHTO M29.60 DIAPHRAGM +/- 5, OR 4.
5. ALL STEEL PRODUCED IN THE U.S.A.
6. CONTACT PETER SOMORHAY, COORDINATOR.
7. TOLERANCES: THICKNESS -0.1/0
PLAN -0.1/0
8. MANUFACTURING FACILITY LOCATION:
AMSCOTT STRUCTURAL PRODUCTS INC.
201 EAST BLACKWELL STREET
DOVER, NJ 07801
9. ALL DIMENSIONS ARE IN INCHES.
10. ALL BEARING DEVICES SHALL BE METALLIZED AS PER STANDARD SPECIFICATIONS (SIS-5 AND SIS-6.0). IF THE BEARINGS ARE METALLIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN STANDARD SPECIFICATION SIS-5.
11. ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M232.
12. PRIOR TO METALLIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHIMS, ETC. SHALL BE GROUNDED TO A 1/16" FINISH (TYP).
13. A MINIMUM THICKNESS OF 6 MILS SHALL BE APPLIED TO METALLIZED SURFACES (TYP).
14. EXTERIOR SURFACES SHALL BE SEALED WITH AN APPROVED SEALANT CONFORMING TO THE RECOMMENDATIONS OF THE THERMAL SPRAY SUPPLIER (TYP).
15. BEARING DEVICE ASSEMBLY ITEM NO. S31.10
16. THE STEEL SOLE PLATES AND MASONRY PLATES SHALL BE HOT BONDED TO THE REINFORCED ELASTOMERIC PAD DURING THE VULCANIZATION PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALLIZED.

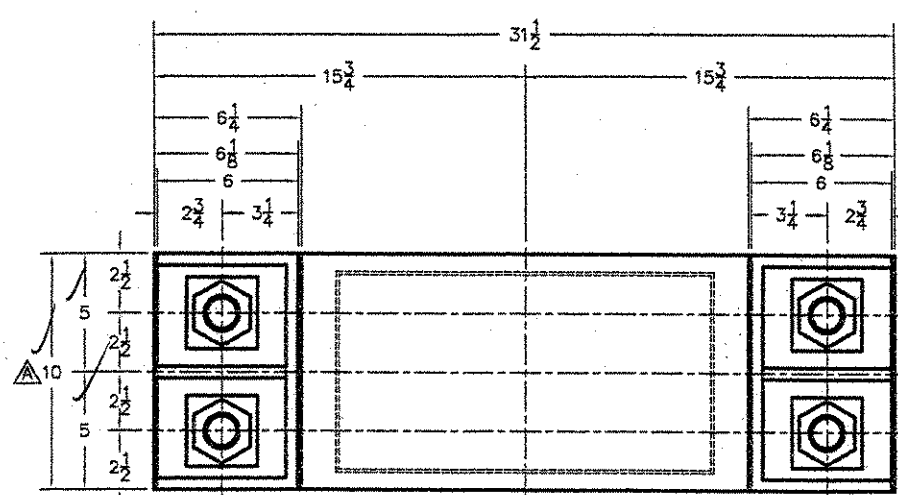
BRIDGE NO. 11	PROJECT NO.: BHP 010-1 (29)
JOB NO. 2212	
EXPANSION BEARING DETAILS	
ABUTMENT NO. 1	
HWY. NO. VT 9 OVER ROARING BRANCH OF WALLOOSACH, TOWN OF WOODFORD	
PRIME CONTRACTOR: REMAUD BROS., INC.	SCALE = N.T.S.
FABRICATOR: AMSCOTT STRUCTURAL PRODUCTS CORP.	DWG. NO.: RB08A3PA
	SHEET NO. 3 OF 4

ZONE	REV	DESCRIPTION	DATE	APPROVED
MISC.	A	FOR ENGINEER'S MARKS	4/2/06	C.A.M.

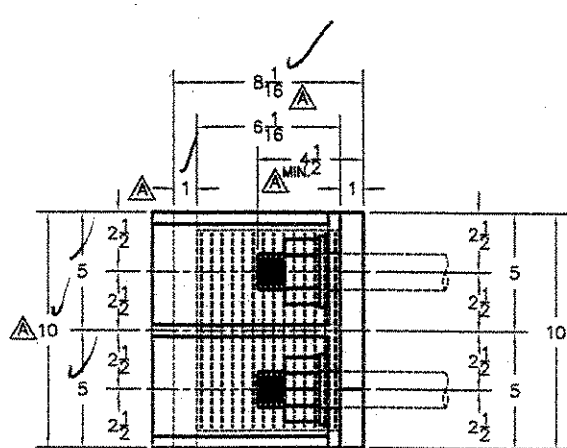
NOTES

- BEARINGS TO BE MANUFACTURED ACCORDING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17th EDITION, 2002.
- THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 4 DEGS. C. TO 32 DEGS. C.
- ALL STEEL IN BEARINGS SHALL BE AASHTO M270 GRADE 50, U.S.A.
- NEOPRENE SHALL BE AASHTO M29.60 DIAMETER +/- .5, OR 4.
- ALL STEEL PRODUCED IN THE U.S.A.
- CONTACT PETER SAMOCH, COORDINATOR.
- TOLERANCES: THICKNESS $-0.1/0$
PLAN $-0.1/0$
- MANUFACTURING FACILITY LOCATION:
AMSCOT STRUCTURAL PRODUCTS INC.
301 EAST BLACKWELL STREET
DOWER, NJ 07008
- ALL DIMENSIONS ARE IN INCHES.
- ALL BEARING DEVICES SHALL BE METALLIZED AS PER STANDARD SPECIFICATIONS (SPECS AND SFL040). IF THE BEARINGS ARE METALLIZED, THEY SHALL BE SEALED WITH AN APPROVED SEALER AS SPECIFIED IN STANDARD SPECIFICATION SFL015.
- ALL ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANNEED PER AASHTO M202.
- BEFORE METALLIZING, ALL CORNERS AND EDGES OF STEEL PLATES, SHAPES, ETC. SHALL BE ROUNDED TO A 1/16" RADIUS (TYP).
- A MINIMUM THICKNESS OF 6 MILS SHALL BE APPLIED TO METALLIZED SURFACES (TYP).
- EXTERIOR SURFACES SHALL BE SEALED WITH AN APPROVED SEALANT CONFORMING TO THE RECOMMENDATIONS OF THE THERMAL SPRAY SUPPLIER (TYP).
- BEARING DEVICE ASSEMBLY ITEM NO. SFL10.
- THE STEEL SIDE PLATES AND MASONRY PLATES SHALL BE HOT BONDED TO THE REINFORCED ELASTOMERIC PAD DURING THE MANUFACTURING PROCESS. THE STEEL SURFACES TO BE BONDED TO THE PAD SHALL NOT BE METALLIZED.

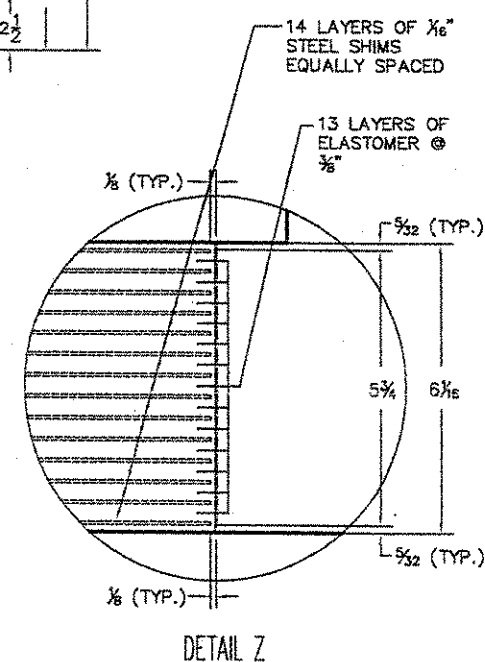
BRIDGE NO. 11	PROJECT NO.: BHF 010-1 (29)
JOB NO. 2212	
EXPANSION BEARING DETAILS	
ABUTMENT NO. 2	
HWY. NO. VT 9 OVER ROARING BRANCH OF WALLOOMSACH, TOWN OF WOODFORD	
PRIME CONTRACTOR: RENOUD BROS., INC.	SCALE = N.T.S.
FABRICATOR: AMSCOT STRUCTURAL PRODUCTS CORP.	
DWG. NO.: RB06A4RA	SHEET NO. 4 OF 4



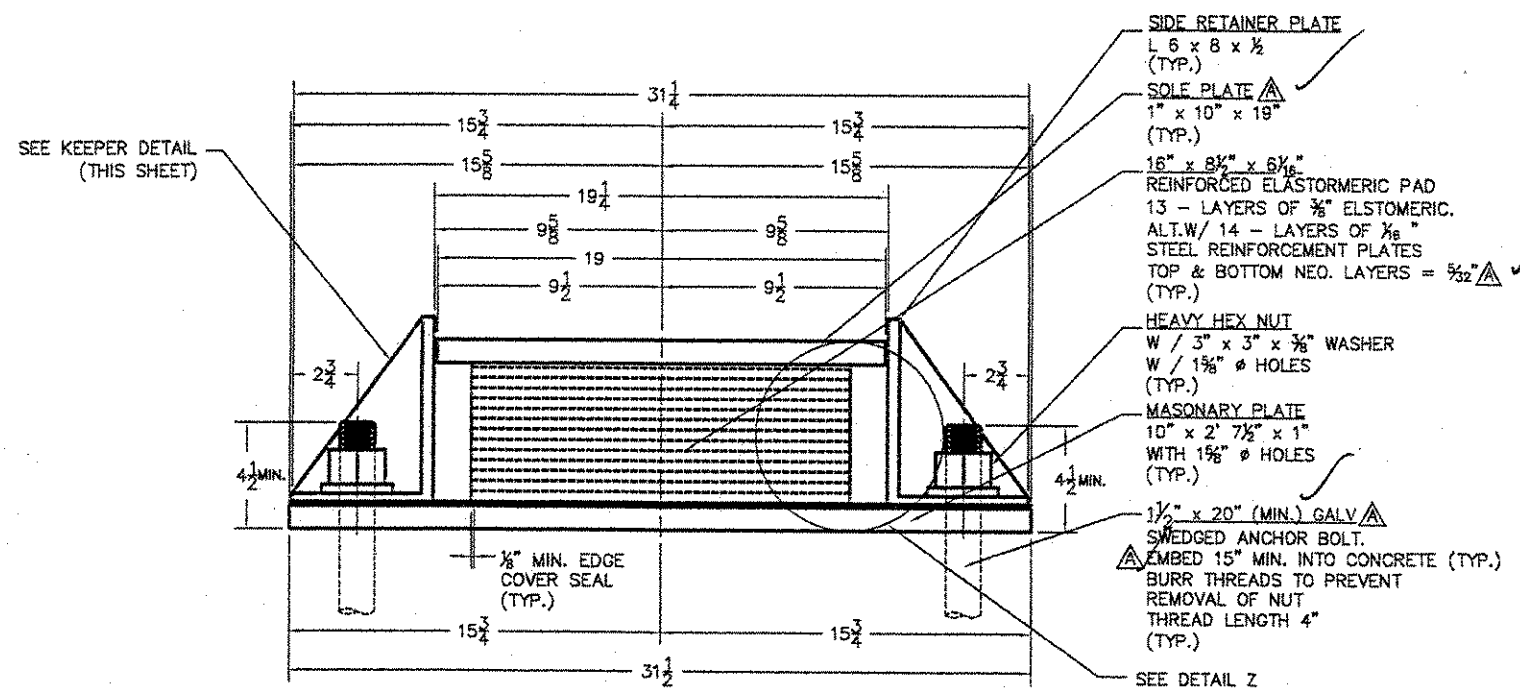
PLAN VIEW EXPANSION BEARING @ ABUTMENT 1



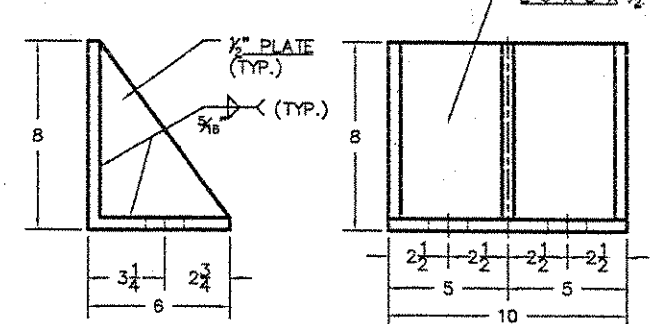
SIDE VIEW



DETAIL Z



ELEVATION VIEW
(QTY. REQ'D = 6 ASSY.)



KEEPER DETAIL

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

- 1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001 WITH LATEST REVISIONS.

DESIGN SPECIFICATIONS

- 1). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION WITH LATEST REVISIONS.

MATERIAL SPECIFICATIONS

- 1). UNLESS NOTED, ALL STEEL TO BE AASHTO M270 GRADE 50W (ASTM A709-50W).
- 2). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325). TYPE 3 BOLTS SHALL BE USED FOR UNPAINTED CONNECTIONS. TYPE 1 (GALV.) BOLTS SHALL BE USED FOR PAINTED CONNECTIONS. ALL TYPE 1 BOLTS SHALL BE GALVANIZED PER AASHTO M232.
- 3). GIRDER WEB & BOTTOM FLANGES SHALL BE CHARPY V NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS. DRAWINGS SHALL CALL OUT "CVN" OR "H2-3" FOR EACH APPLICABLE ITEM IN THE BILLS OF MATERIAL.

FABRICATION

- 1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).
- 2). STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.

FIELD CONNECTIONS

- 1). ALL FIELD CONNECTIONS SHALL BE MADE WITH (7/8") DIAMETER HIGH STRENGTH A-325 BOLTS, INSTALLED PER SECTION 506.19(c).
- 2). BOLTS SHALL HAVE HEAVY HEX NUT, HEX HEAD, & ONE FLAT WASHER EACH (WASHER TO BE PLACED UNDER TURNED ELEMENT).
- 3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

WELDING

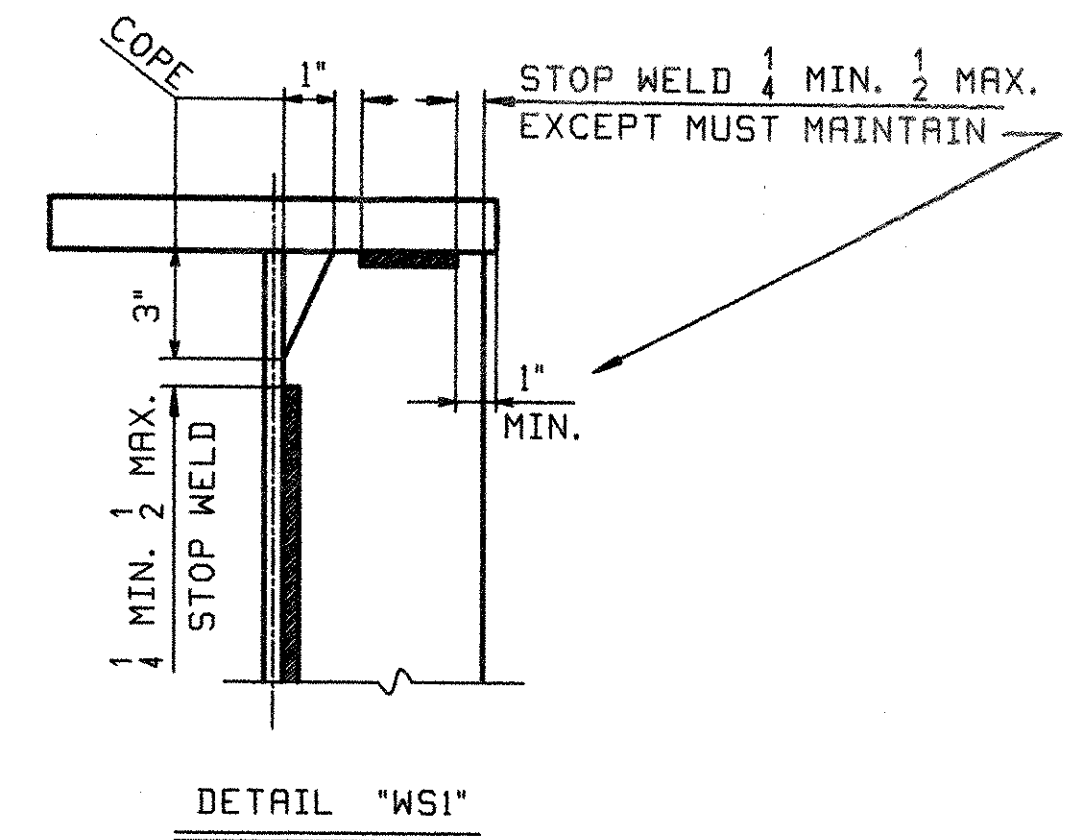
- 1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.
- 2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.
- 3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

CLEANING:

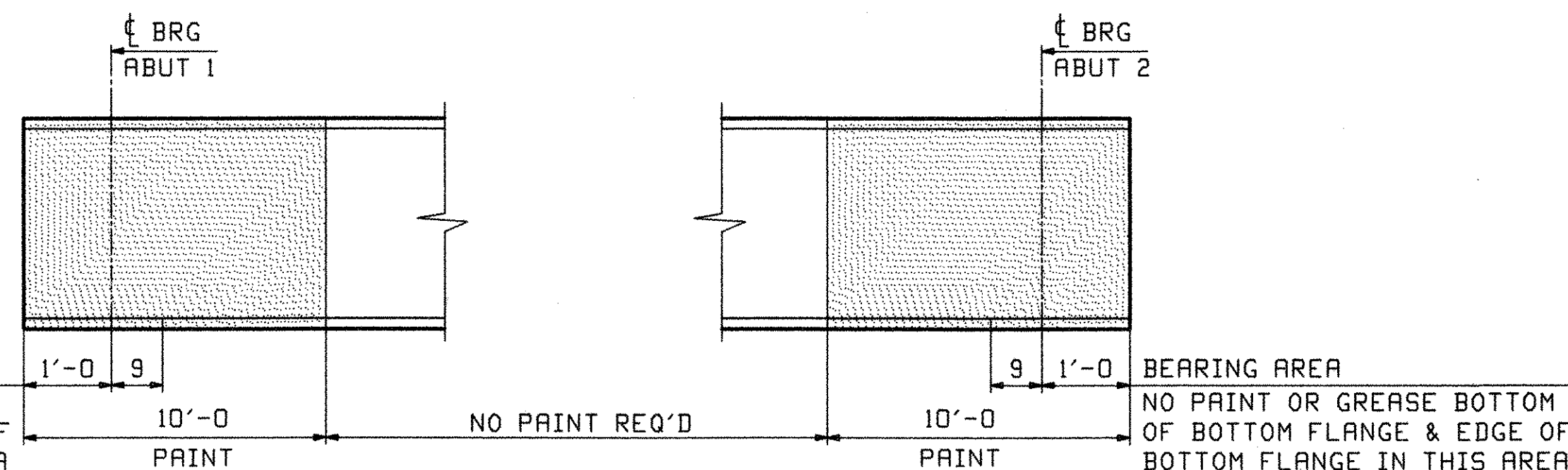
- 1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)

PAINTING

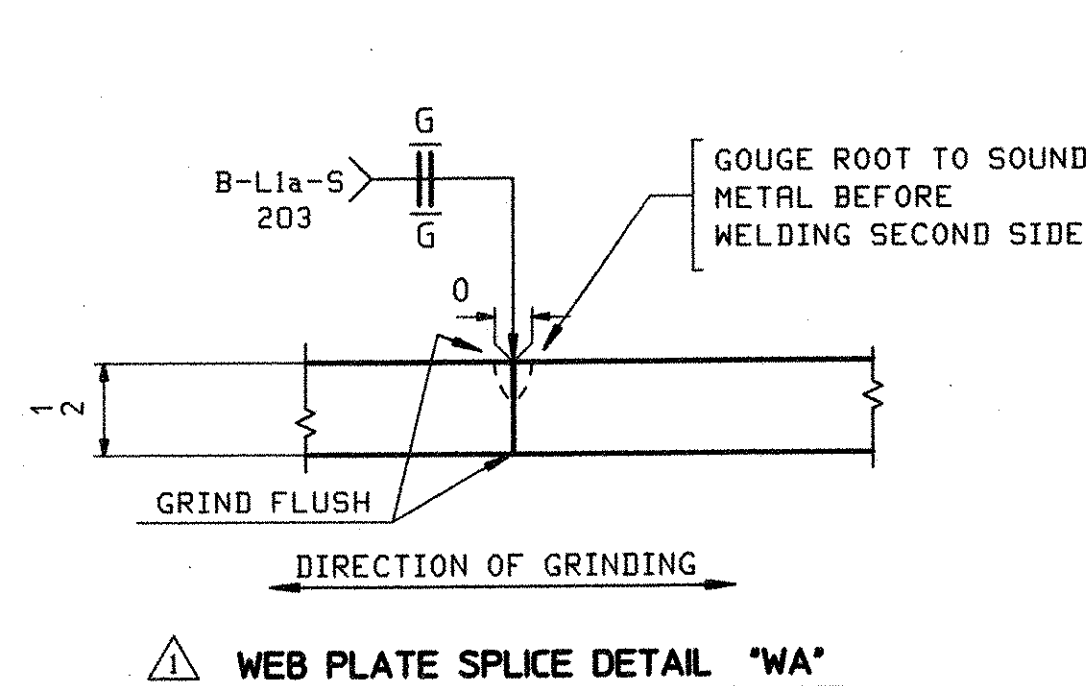
- 1). ALL STRUCTURAL STEEL INCLUDING GIRDERS, CROSSFRAMES AND CONNECTION PLATES WITHIN A DISTANCE OF 10'-0 FROM THE ENDS OF GIRDERS AT ABUTMENTS 1 & 2 SHALL BE PAINTED PER SUPPLEMENTAL SPECIFICATION 513. THIS INCLUDES THE INTERMEDIATE CROSSFRAME ADJACENT TO ABUTMENTS AND ITS CONNECTION PLATES. SEE SKETCH "P1".
- ALL FIELD CONTACT SURFACES WILL RECEIVE ONE COAT OF PRIMER ONLY. MASK ALL AREAS WITHIN 3" OF OPEN HOLES AFTER PRIME COAT HAS BEEN APPLIED.



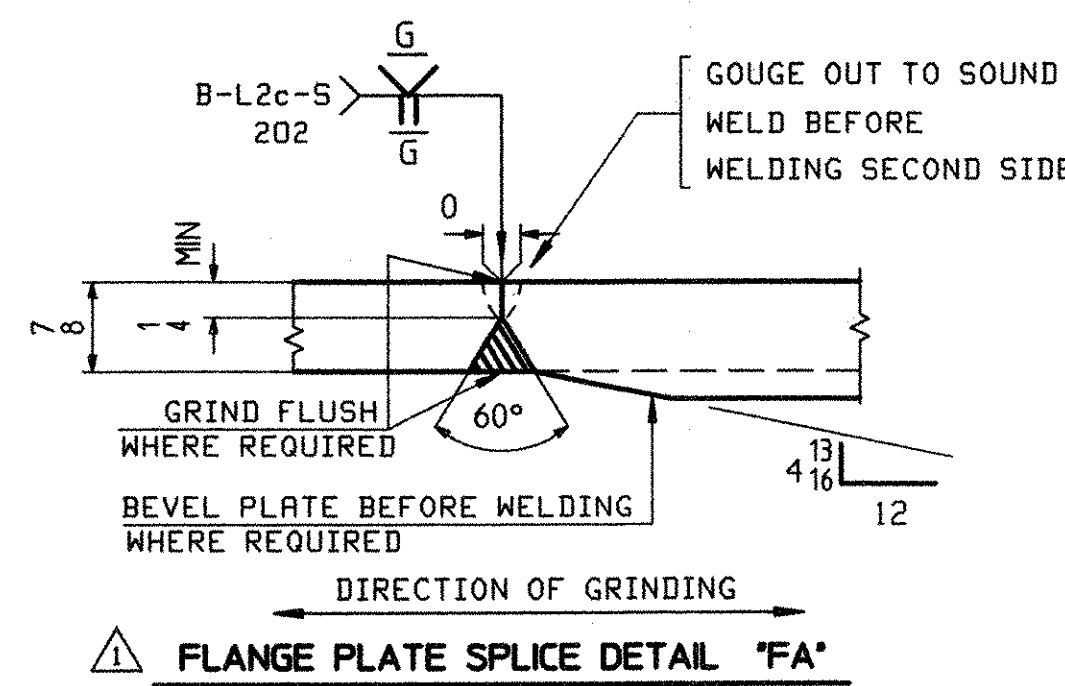
APPROVED SYSTEM				DRY FILM THICKNESS (in MILS)	
				MIN.	MAX.
CARBOLINE	P	CARBOLINE 859 ZR EPOXY PRIMER (ORGANIC)		3.0	6.0
COMPANY	I	CARBOLINE 888 EPOXY		3.0	10.0
(OZ)	T	CARBOLINE 133 HB ALIPHATIC POLYURETHANE		3.0	5.0



SKETCH "P1"



WEB PLATE SPLICE DETAIL "WA"



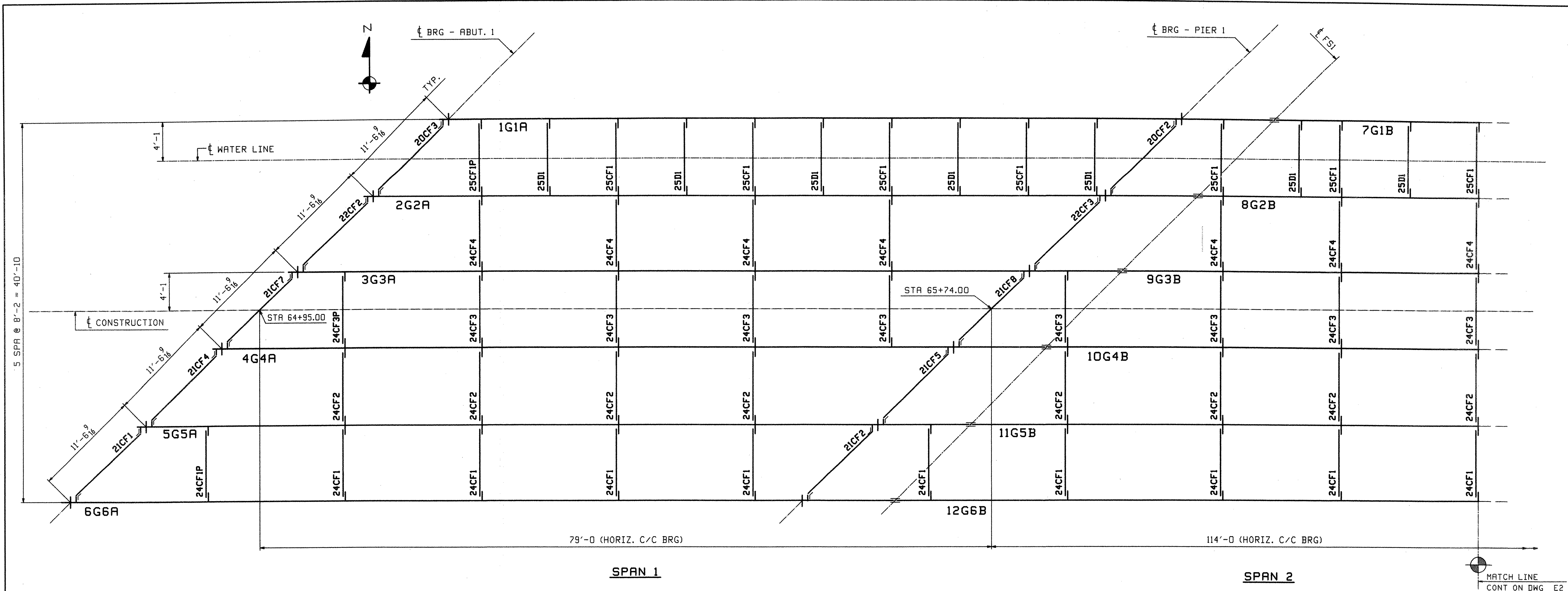
FLANGE PLATE SPLICE DETAIL "FA"

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 JUL 26 2006
 RESUBMIT: [Signature]
 APPROVED: [Signature]
 BY: [Signature] DATE: 7/28/06

NOTE TO ENGINEER:
 THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
APPROVAL COMMENTS	7/10	WL	PCP								
ADD DETAILS "WR" & "FR"		JTB	PCP								
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIR.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:	HOLES:									SHOP BOLTS:
SURFACE PREP. & PAINT:											
DESCRIPTION:	GENERAL NOTES							DRAWN BY	DATE		
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER							WL	02/17		
	BRIDGE No. BR 11							CHKD BY			
	WOODFORD, VT. BENNINGTON COUNTY							PCP	02/22		
								APPROV BY			
								SUPERVISOR	W. J. GATTI		
PROJ NO.	BHF 010-1(29)							Q.A.			
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.											
75 SPRING HILL ROAD							SACO, MAINE 04072	JOB NO.	DRG. NO.		
PHONE (207) 282-7360							FAX. (207) 282-1179	290	GN1		
											REV.

RL 106 JUL 11 09:04:41 EDT 2006 /user/psw/2006/06/11/Rev2



FRAMING PLAN

FIELD BOLT LIST										A325 Type 3 BOLTS			
LINE	NO. REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS / CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED			WASHER CODE	PIECES CONNECTED AND REMARKS		
1												FIELD SPLICES 1 & 2	
2	576	7/8	31	48	12	2	1/2	1	1/2		1	TOP FLANGE SPLICE	
3	672	7/8	3	56	12	1 1/2	1/2	1/2	1/2		1	WEB SPLICE	
4	576	7/8	32	48	12	2	1/2	1	1/2		1	BOTTOM FLANGE SPLICE	
5													
6												PIER BRG CROSSFRAMES	
7	320	7/8	22	8	40	1	1/2	1/2			1	BENT GUSSETS TO CONNECTION PLATE	
8	8	7/8	22	2	4	1	1/2	1/2			1	BOTTOM STRUT TO BENT GUSSET (BAY 1)	
9													
10												INT CROSSFRAMES	
11	2432	7/8	22	8	304	1	1/2	1/2			1	GUSSETS TO CONNECTION PLATE	
12	64	7/8	22	2	32	1	1/2	1/2			1	BOTTOM STRUT TO GUSSET (BAY 1)	
13													
14												UTILITY SUPPORTS	
15	256	7/8	22	8	32	1	1/2	1/2			1	GUSSETS TO CONNECTION PLATE	

WASHER CODES
1: 1 Hard Flat Washer

FIELD BOLT LIST										A325 Type 1 BOLTS (GALV)			
LINE	NO. REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS / CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED			WASHER CODE	PIECES CONNECTED AND REMARKS		
1												ABUT BRG CROSSFRAMES	
2	320	7/8	22	8	40	1	1/2	1/2			1	BENT GUSSETS TO CONNECTION PLATE	
3	8	7/8	22	2	4	1	1/2	1/2			1	BOTTOM STRUT TO BENT GUSSET (BAY 1)	
4													
5												INT CROSSFRAMES	
6	192	7/8	22	8	24	1	1/2	1/2			1	GUSSETS TO CONNECTION PLATE	
7	8	7/8	22	2	4	1	1/2	1/2			1	BOTTOM STRUT TO GUSSET (BAY 1)	
8													
9												UTILITY SUPPORTS	
10	16	7/8	22	8	2	1	1/2	1/2			1	GUSSETS TO CONNECTION PLATE	

WASHER CODES
1: 1 Hard Flat Washer

FIELD BOLT SUMMARY						2% ADDED, MIN. 2 EXTRA	
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN.	ACTUAL COUNT	REMARKS	
1	3142	7/8	A325 Type 3	22	3080		
2	685	7/8		3	672		
3	1175	7/8	A325 Type 3	32	1152		
4	5002	Hard Flat Washers for 7/8" BOLT				TYPE 436W	
5							
6							
7	555	7/8	A325 Type 1	22	544	(GALV) BOLTS FOR PAINTED MEMBERS	
8	555	Hard Flat Washers for 7/8" BOLT				(GALV) TYPE 436	
9							
10							

SPAN 2 MATCH LINE CONT ON DWG E2

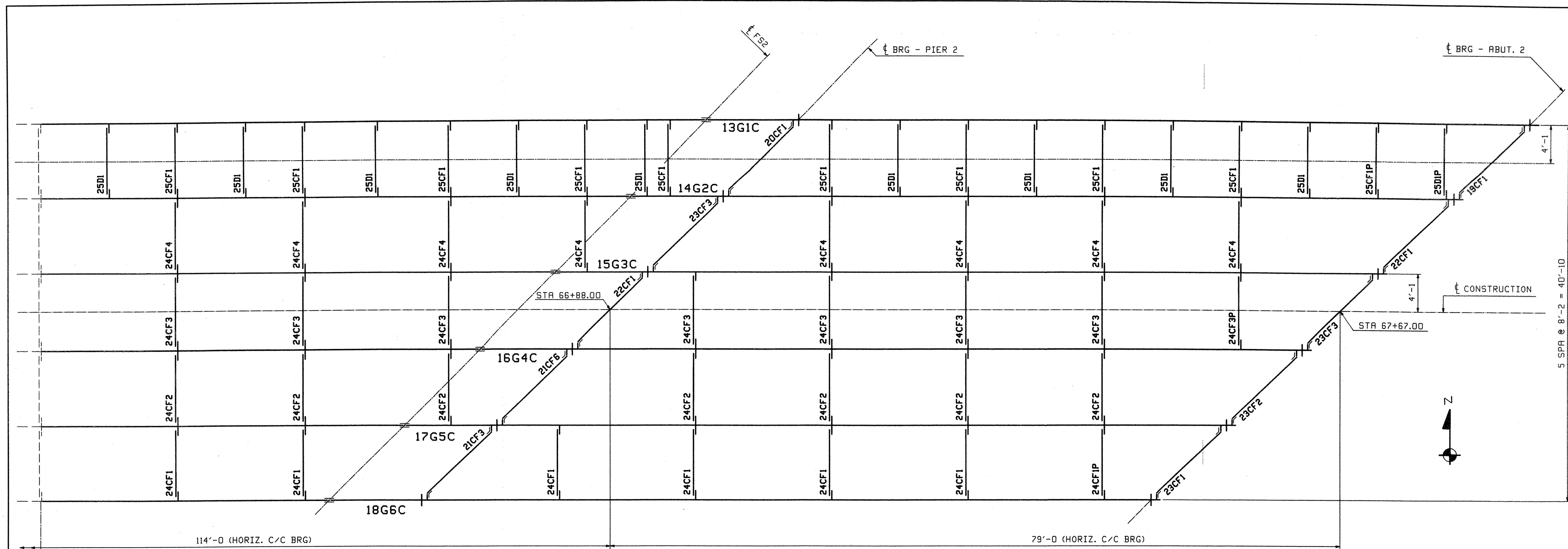
OUT FOR APPROVAL	7/17/06								
ISSUED TO SHOP									
FIELD & OFFICE									
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIR.	LGT	TYPE
MATERIAL:	ELECTRODES:	HOLES:		SHOP BOLTS:					

DESCRIPTION: FRAMING PLAN & FIELD BOLTS				DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER				JTB	02/26
BRIDGE No. BR 11				CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY				PCP	03/06
				APPROV BY	
				SUPERVISOR	M. J. GATTI
PROJ NO. BHF 010-1(29)				Q.A.	
CUSTOMER: RENAUD BROTHERS, INC.					
CASCO BAY STEEL STRUCTURES, INC.				JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072				290	E1
PHONE (207) 282-7360 FAX. (207) 282-1179				REV.	

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JUL 26 2006
RESUBMIT: APPROVED
BY: DATE 7/28/06

WORK THIS DRAWING WITH DRAWING E2

PCP The July 13, 2006 ECF 2006

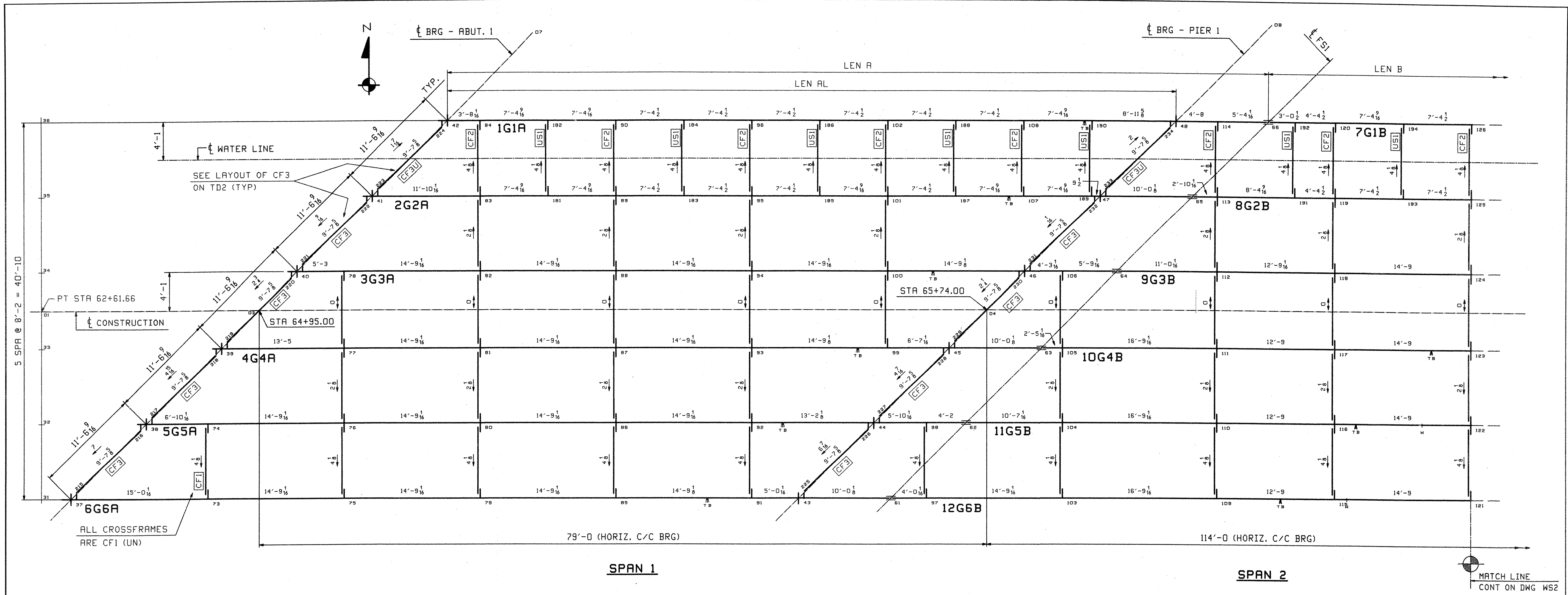


FRAMING PLAN

OUT FOR APPROVAL	From 7-17-06																			
OUT FOR APPROVAL																				
ISSUED TO SHOP																				
FIELD & OFFICE																				
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER									
MATERIAL:		ELECTRODES:			HOLES:			SHOP BOLTS:												
SURFACE PREP. & PAINT:																				
DESCRIPTION: FRAMING PLAN												DRAWN BY		DATE						
JOB: RTE 9 OVER ROARING BRANCH OF WALLDOOMSAC RIVER												JTB		02/26						
BRIDGE No. BR 11												CHKD BY								
WOODFORD, VT. BENNINGTON COUNTY												PCP		03/06						
PROJ NO. BHF 010-1(29)												APPROV BY								
CUSTOMER: RENAUD BROTHERS, INC.												SUPERVISOR		W. J. GATTI						
CASCO BAY STEEL STRUCTURES, INC.												JOB NO.		DRG. NO.						
75 SPRING HILL ROAD SACO, MAINE 04072												290		E2						
PHONE (207) 282-7360 FAX. (207) 282-1179												REV.		△						

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 JUL 26 2006
 RESUBMIT _____ APPROVED _____
 BY _____ DATE 7/28/06

WORK THIS DRAWING WITH DRAWING E1



CALCULATION PLAN

SPAN 2

MATCH LINE
CONT ON DWG WS2

OUT FOR APPROVAL	FINAL 7-17-06								
OUT FOR APPROVAL									
ISSUED TO SHOP									
FIELD & OFFICE									

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER

SURFACE PREP. & PAINT:

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JUL 26 2006
RESUBMIT: _____ APPROVED: _____
DATE: 7/28/06

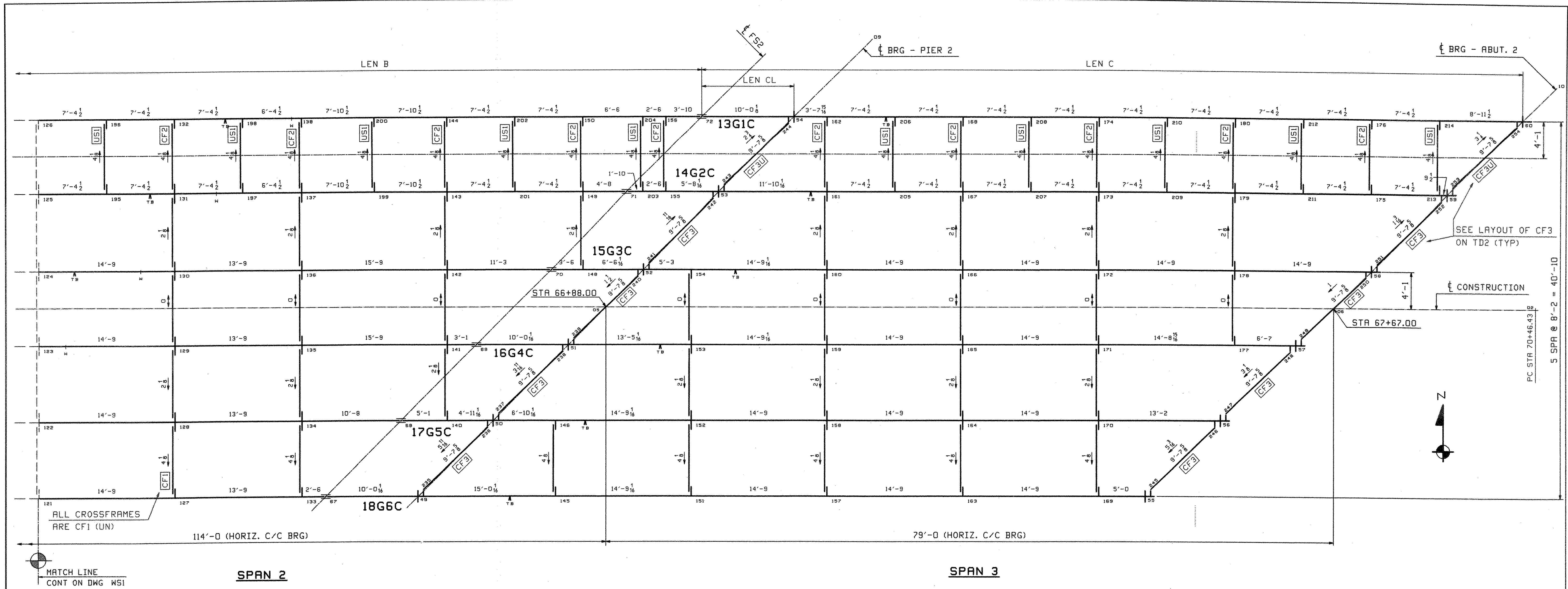
**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

- NOTES
- LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
 - TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
 - DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
 - ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
 - CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
 - BOTT PT NUMBERS = TOP PT NUMBERS + 300.
 - FOR LAYOUTS SEE "TD" SHEETS.
 - COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 3/16
 - CROSSFRAME DROPS ARE CALCULATED IN THEIR FINAL POSITION.

Line	DEV. LENGTHS ALONG BOTTOM OF WEB			SLOPE	
	LEN AL	LEN A	LEN B	ABUT 1	Pier 1
1	79'-0 3/8	89'-0 7/16	94'-0 1/16	.0313	.0253
2	79'-0 3/8	89'-0 1/2	94'-0 1/8	.0320	.0259
3	79'-0 3/8	89'-0 1/2	94'-0 1/8	.0326	.0266
4	79'-0 3/8	89'-0 1/2	94'-0 1/8	.0333	.0272
5	79'-0 7/16	89'-0 1/2	94'-0 1/8	.0339	.0278
6	79'-0 7/16	89'-0 9/16	94'-0 3/16	.0346	.0285

DESCRIPTION:	CALCULATION PLAN	DRAWN BY	DATE
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER	WL	02/16
	BRIDGE No. BR 11	CHKD BY	
	WOODFORD, VT. BENNINGTON COUNTY	PCP	02/22
		APPROV BY	
		SUPERVISOR	M. J. GATTI
PROJ NO.	BHF 010-(129)	Q.A.	
CUSTOMER:	RENAUD BROTHERS, INC.		
	CASCO BAY STEEL STRUCTURES, INC.	JOB NO.	DRG. NO.
	75 SPRING HILL ROAD SACO, MAINE 04072	290	WS1
	PHONE (207) 282-7360 FAX. (207) 282-1179		REV. Δ

HLT Proj File 22 080514 EST 2006 /Users/John/2006/PIER 1 Rev0



CALCULATION PLAN

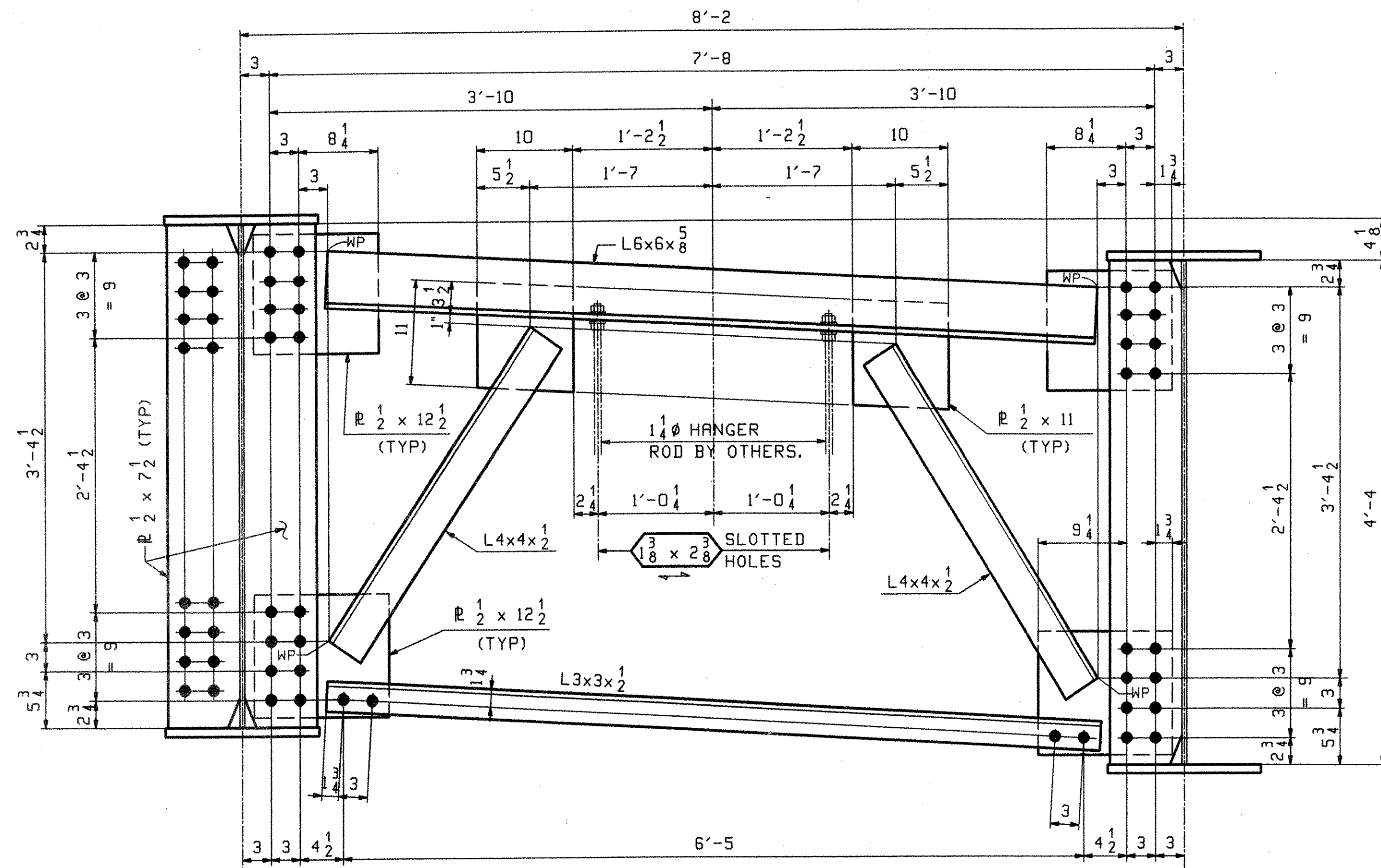
Line	DEV. LENGTHS ALONG BOTTOM OF WEB			SLOPE	
	LEN B	LEN CL	LEN C	Pier 2	Abut 2
1	94'-0 1/16	10'-0 1/8	89'-0 1/16	.0163	.0102
2	94'-0 1/8	10'-0 1/16	89'-0 1/8	.0169	.0108
3	94'-0 1/8	10'-0 1/16	89'-0 1/8	.0176	.0115
4	94'-0 1/8	10'-0 1/16	89'-0 1/8	.0182	.0121
5	94'-0 1/8	10'-0 1/16	89'-0 3/16	.0188	.0128
6	94'-0 3/16	10'-0 1/16	89'-0 3/16	.0195	.0134

**** NOTE ****
 THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

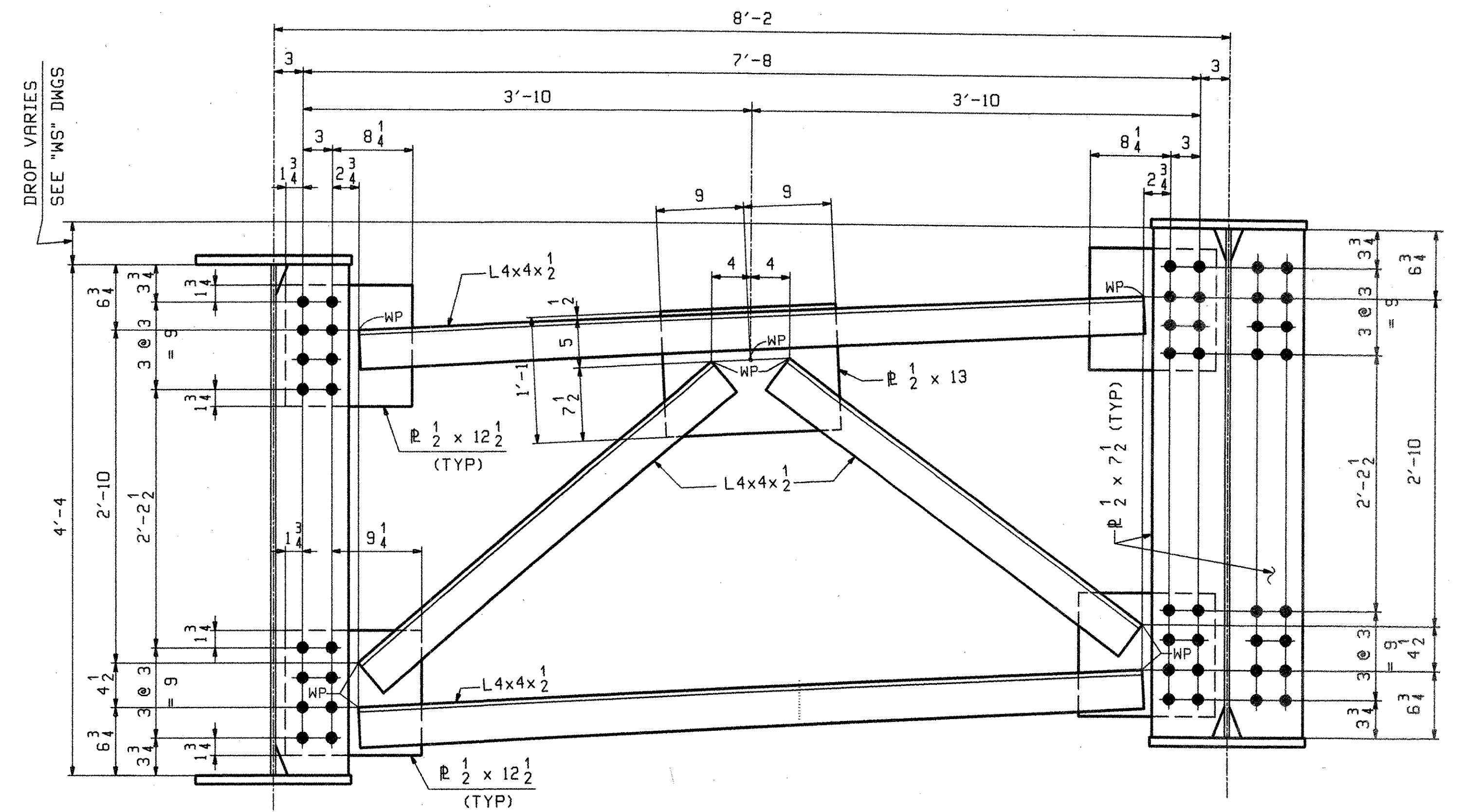
- NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
 2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
 3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
 4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
 5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
 6. BOTT PT NUMBERS = TOP PT NUMBERS + 300.
 7. FOR LAYOUTS SEE "TD" SHEETS.
 8. COMBINE INT. CROSSFRAMES FOR DIFF IN DROPS OF +/- 3/16
 9. CROSSFRAME DROPS ARE CALCULATED IN THEIR FINAL POSITION.

RECEIVED
 OK'D BY: *Nem*
 JUL 26 2006
 RESUBMIT: APPROVED:
 BY: _____ DATE: 7/28/06

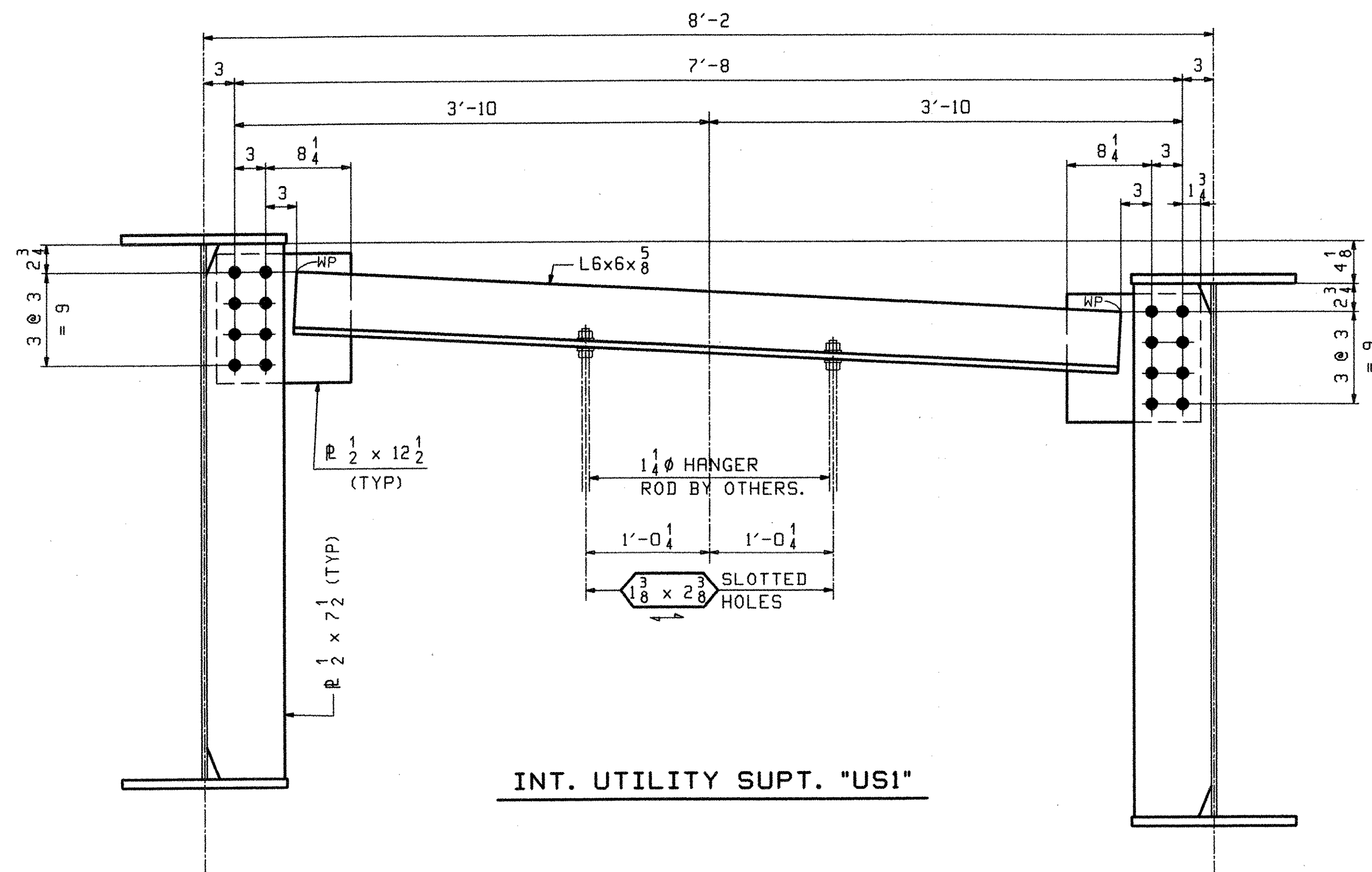
OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:	HOLES:		SHOP BOLTS:							
SURFACE PREP. & PAINT:											
DESCRIPTION: CALCULATION PLAN										DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER										WL	02/16
BRIDGE No. BR 11										CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY										PCP	02/22
										APPROV BY	
PROJ NO. BHF 010-1(29)										Q.A.	
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072										290	WS2
PHONE (207) 282-7360 FAX. (207) 282-1179										REV.	△



TYPICAL UTIL. SUPT. CROSSFRAME "CF2"



TYPICAL INTERMEDIATE CROSSFRAME "CF1"

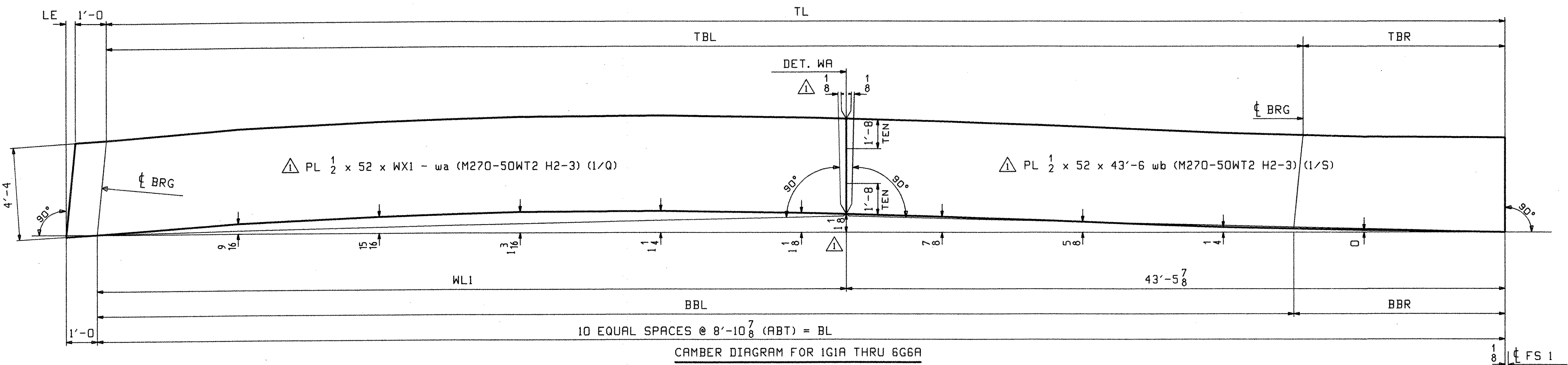
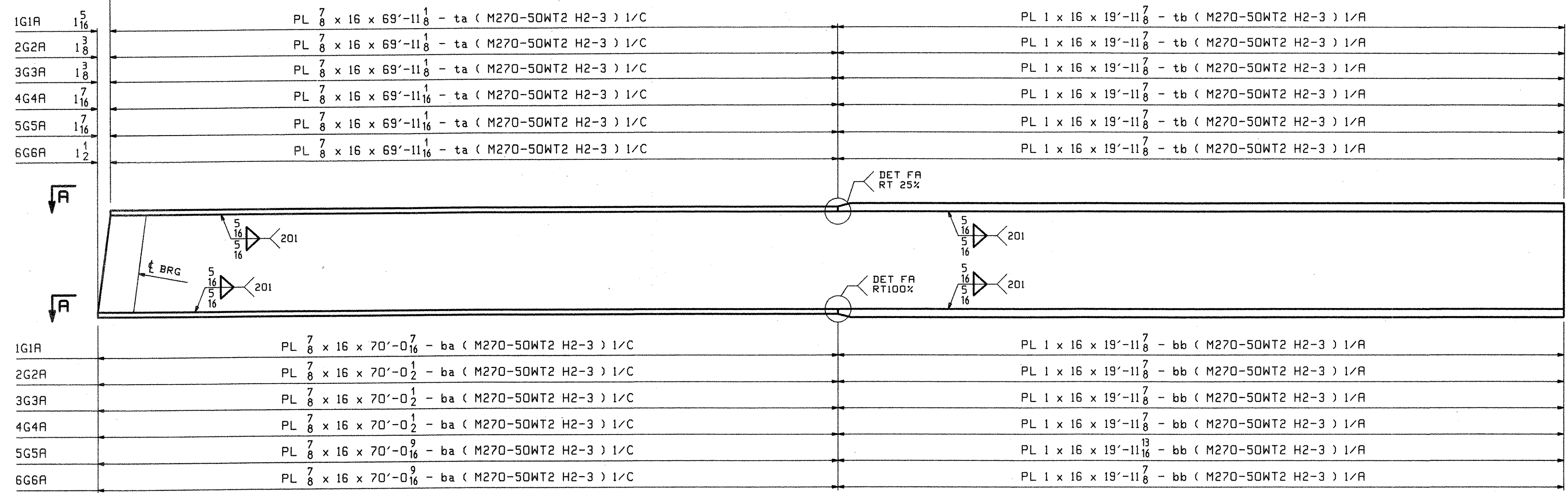
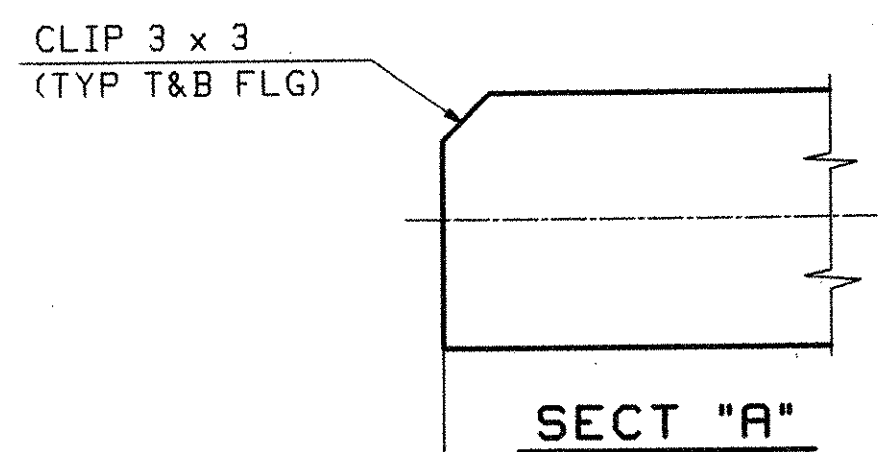


INT. UTILITY SUPT. "US1"

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 RESUBMIT: _____ APPROVED: *[Signature]*
 BY: _____ DATE: 7/28/06

**** NOTE ****
 THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

OUT FOR APPROVAL	Final 7-17-06																		
OUT FOR APPROVAL																			
ISSUED TO SHOP																			
FIELD & OFFICE																			
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER								
	MATERIAL:																		
	M270-50W (UN)																		
	ELECTRODES:																		
	HOLES:																		
	SURFACE PREP. & PAINT:																		
	DESCRIPTION: TYPICAL CROSSFRAME LAYOUTS																		
	JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER																		
	BRIDGE No. BR 11																		
	WOODFORD, VT. BENNINGTON COUNTY																		
	TENSOR 2808																		
	PROJ NO. BHF 010-1(29)																		
	CUSTOMER: RENAUD BROTHERS, INC.																		
	CASCO BAY STEEL STRUCTURES, INC.																		
	75 SPRING HILL ROAD SACO, MAINE 04072																		
	PHONE (207) 282-7360 FAX. (207) 282-1179																		
	JOB NO.	DRG. NO.																	
	290	TD1																	
	REV.																		
	△																		

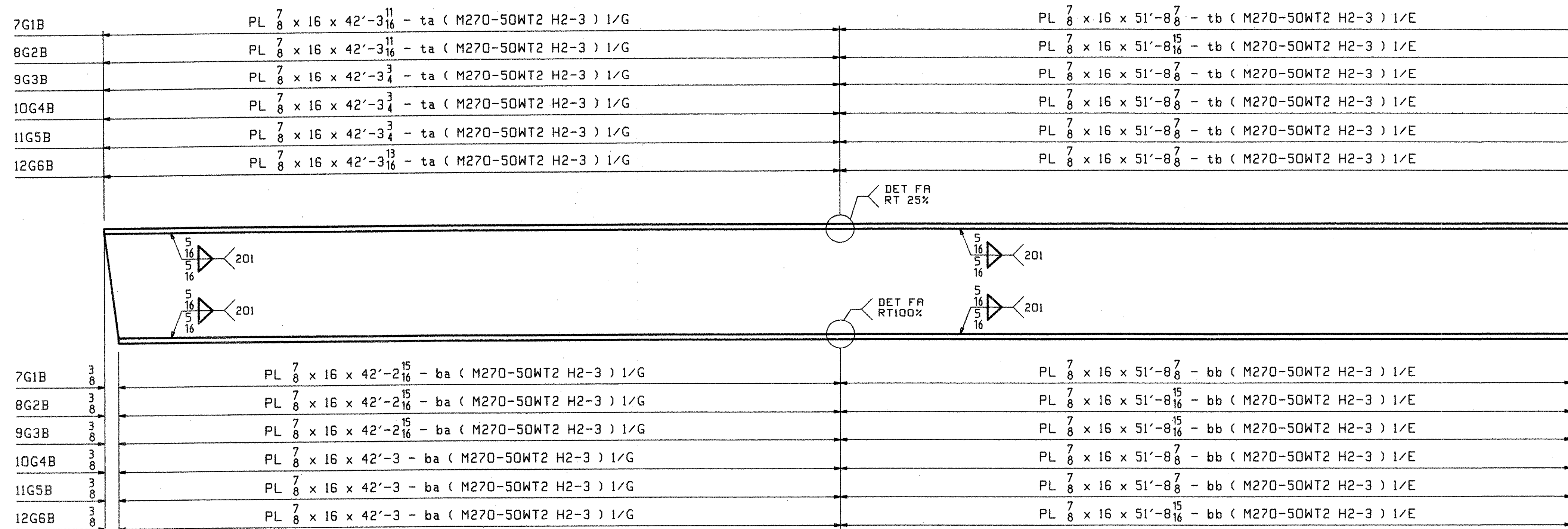


MARK	TL	BL	LE	WL1	WX1	TBL	TBR	BBL	BBR
1G1A	88'-11	89'-0 5/16	1 5/16	45'-6 7/16	46'-6 9/16	79'-0 7/16	9'-10 9/16	79'-0 3/8	9'-11 15/16
2G2A	88'-11	89'-0 3/8	1 3/8	45'-6 1/2	46'-6 5/8	79'-0 7/16	9'-10 9/16	79'-0 3/8	10'-0
3G3A	88'-11	89'-0 3/8	1 3/8	45'-6 1/2	46'-6 5/8	79'-0 7/16	9'-10 9/16	79'-0 3/8	10'-0
4G4A	88'-10 15/16	89'-0 3/8	1 7/16	45'-6 1/2	46'-6 5/8	79'-0 7/16	9'-10 1/2	79'-0 3/8	10'-0
5G5A	88'-10 15/16	89'-0 3/8	1 7/16	45'-6 1/2	46'-6 5/8	79'-0 1/2	9'-10 7/16	79'-0 7/16	9'-11 15/16
6G6A	88'-10 15/16	89'-0 7/16	1 1/2	45'-6 9/16	46'-6 11/16	79'-0 1/2	9'-10 7/16	79'-0 7/16	10'-0

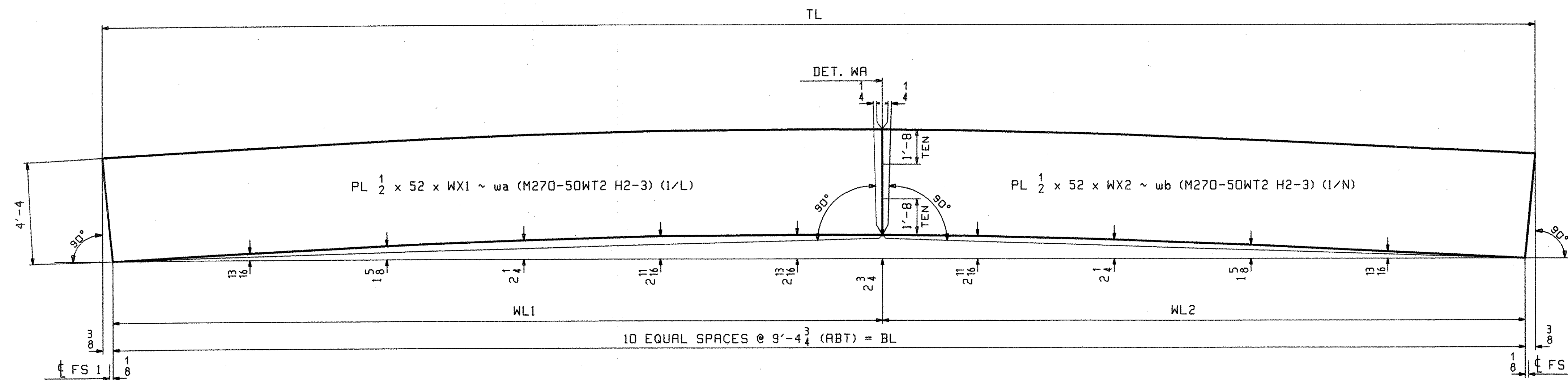
- NOTES:
 1. ALL MATERIAL IS M270-50WT2 (CVN).
 2. FOR GENERAL NOTES AND DETAIL "FA" SEE DWG GNI.

OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
ADD WEB SPLICE	JTB	PCP									
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:		ELECTRODES:		HOLES:		SHOP BOLTS:					
SURFACE PREP. & PAINT:											
DESCRIPTION: BASIC GIRDER										DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER										WL	02/17
BRIDGE No. BR 11										CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY										PCP	02/22
TENSOR 2809										APPROV BY	
PROJ NO. BHF 010-1(29)										SUPERVISOR	M. J. GATTI
CUSTOMER: RENAUD BROTHERS, INC.										Q.A.	
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072										290	C1
PHONE (207) 282-7360 FAX. (207) 282-1179										REV.	

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FLANGE DIAGRAM FOR 7G1B THRU 12G6B



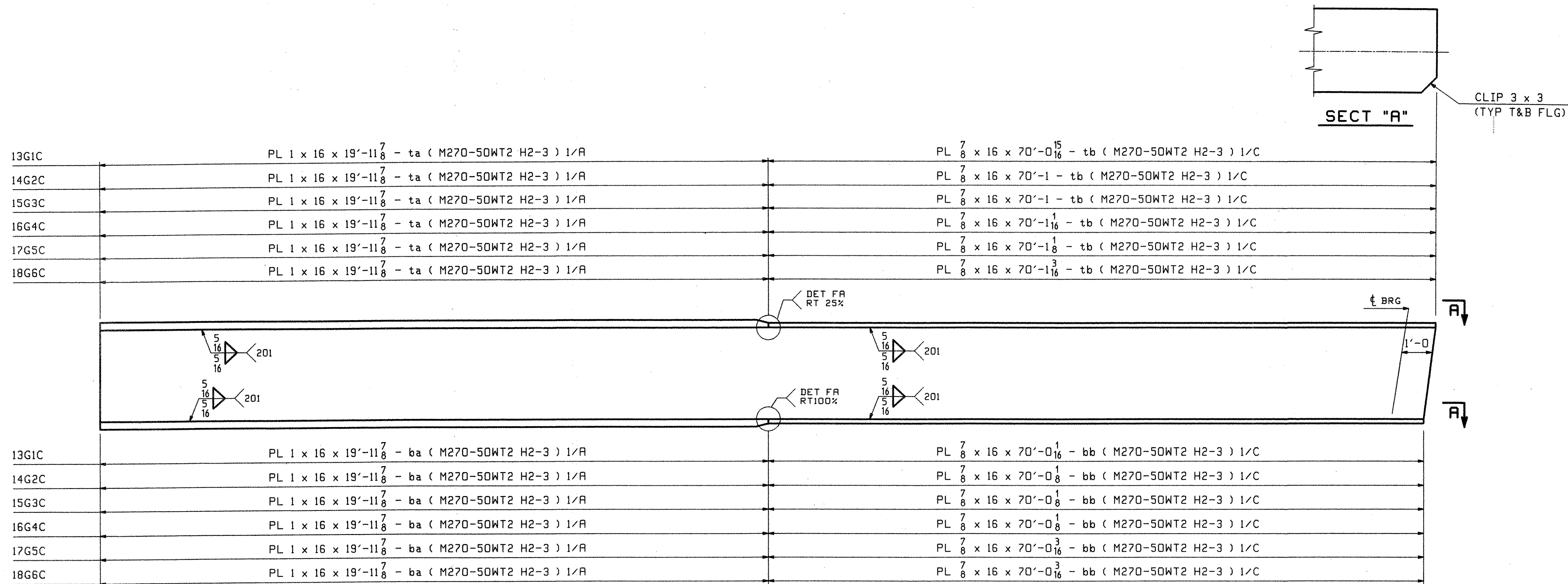
CAMBER DIAGRAM FOR 7G1B THRU 12G6B

MARK	TL	BL	WL1	WL2	WX1	WX2
7G1B	94'-0 $\frac{9}{16}$	93'-11 $\frac{13}{16}$	49'-5 $\frac{7}{8}$	44'-5 $\frac{15}{16}$	49'-6 $\frac{1}{4}$	44'-6 $\frac{5}{16}$
8G2B	94'-0 $\frac{5}{8}$	93'-11 $\frac{7}{8}$	49'-5 $\frac{7}{8}$	44'-6	49'-6 $\frac{1}{4}$	44'-6 $\frac{3}{8}$
9G3B	94'-0 $\frac{5}{8}$	93'-11 $\frac{7}{8}$	49'-5 $\frac{7}{8}$	44'-6	49'-6 $\frac{1}{4}$	44'-6 $\frac{3}{8}$
10G4B	94'-0 $\frac{5}{8}$	93'-11 $\frac{7}{8}$	49'-5 $\frac{7}{8}$	44'-6	49'-6 $\frac{1}{4}$	44'-6 $\frac{3}{8}$
11G5B	94'-0 $\frac{5}{8}$	93'-11 $\frac{7}{8}$	49'-5 $\frac{7}{8}$	44'-6	49'-6 $\frac{1}{4}$	44'-6 $\frac{3}{8}$
12G6B	94'-0 $\frac{11}{16}$	93'-11 $\frac{15}{16}$	49'-5 $\frac{7}{8}$	44'-6 $\frac{1}{16}$	49'-6 $\frac{1}{4}$	44'-6 $\frac{7}{16}$

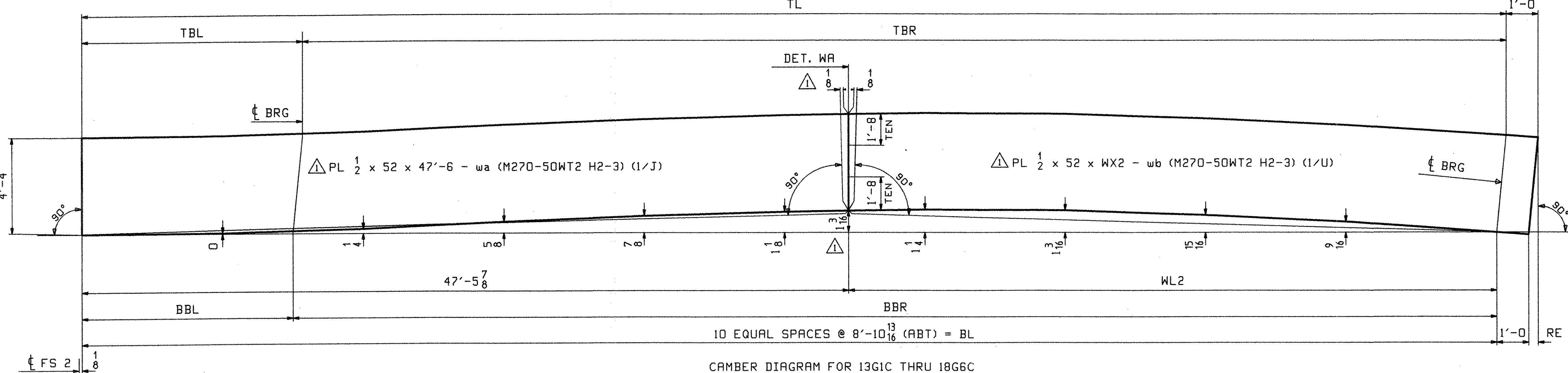
NOTES:
 1. ALL MATERIAL IS M270-50WT2 (CVN).
 2. FOR GENERAL NOTES AND DETAILS "FA" & "WA" SEE DWG GNI.

OUT FOR APPROVAL	Final 7-17-06										
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:								
SURFACE PREP. & PAINT:											
DESCRIPTION: BASIC GIRDER										DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLDOOMSAC RIVER										HL	02/17
BRIDGE No. BR 11										CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY										PCP	02/22
										APPROV BY	
										SUPERVISOR	M. J. GATTI
PROJ NO. BHF 010-1(29)										Q.A.	
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072										290	C2
PHONE (207) 282-7360 FAX. (207) 282-1179										REV.	△

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FLANGE DIAGRAM FOR 13G1C THRU 18G6C



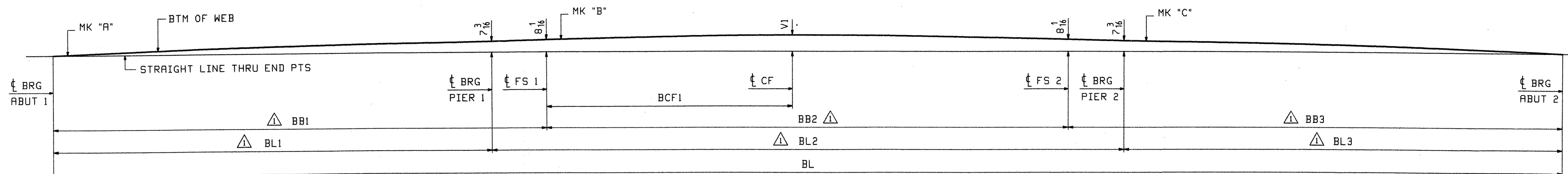
CAMBER DIAGRAM FOR 13G1C THRU 18G6C

MARK	TL	BL	RE	WL2	WX2	TBL	TBR	BBL	BBR
13G1C	89'-0 ¹³ / ₁₆	88'-11 ¹⁵ / ₁₆	7/8	41'-6 ¹ / ₁₆	42'-6 ¹⁵ / ₁₆	10'-0 ³ / ₄	79'-0 ¹ / ₁₆	10'-0	78'-11 ¹⁵ / ₁₆
14G2C	89'-0 ⁷ / ₈	89'-0	7/8	41'-6 ¹ / ₈	42'-7	10'-0 ³ / ₄	79'-0 ¹ / ₈	9'-11 ¹⁵ / ₁₆	79'-0 ¹ / ₁₆
15G3C	89'-0 ⁷ / ₈	89'-0	7/8	41'-6 ¹ / ₈	42'-7	10'-0 ¹³ / ₁₆	79'-0 ¹ / ₁₆	9'-11 ¹⁵ / ₁₆	79'-0 ¹ / ₁₆
16G4C	89'-0 ¹⁵ / ₁₆	89'-0	15/16	41'-6 ¹ / ₈	42'-7 ¹ / ₁₆	10'-0 ¹³ / ₁₆	79'-0 ¹ / ₈	9'-11 ¹⁵ / ₁₆	79'-0 ¹ / ₁₆
17G5C	89'-1	89'-0 ¹ / ₁₆	15/16	41'-6 ³ / ₁₆	42'-7 ¹ / ₈	10'-0 ⁷ / ₈	79'-0 ¹ / ₈	9'-11 ¹⁵ / ₁₆	79'-0 ¹ / ₈
18G6C	89'-1 ¹ / ₁₆	89'-0 ¹ / ₁₆	1	41'-6 ³ / ₁₆	42'-7 ³ / ₁₆	10'-0 ⁷ / ₈	79'-0 ³ / ₁₆	9'-11 ¹⁵ / ₁₆	79'-0 ¹ / ₈

NOTES:
 1. ALL MATERIAL IS M270-50WT2 (CVN).
 2. FOR GENERAL NOTES AND DETAIL "FA" SEE DWG GNI.

OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
ADD WEB SPLICE	JTB	PCP									
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL:										
	ELECTRODES:										
	HOLES:										
	SHOP BOLTS:										
SURFACE PREP. & PAINT:											
DESCRIPTION: BASIC GIRDER										DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER										WL	02/17
BRIDGE No. BR 11										CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY										PCP	02/22
TENSOR 2608										APPROV BY	
PROJ NO. BHF 010-1(29)										SUPERVISOR	N. J. GATTI
CUSTOMER: RENAUD BROTHERS, INC.										Q.A.	
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072										290	C3
PHONE (207) 282-7360 FAX. (207) 282-1179										REV.	

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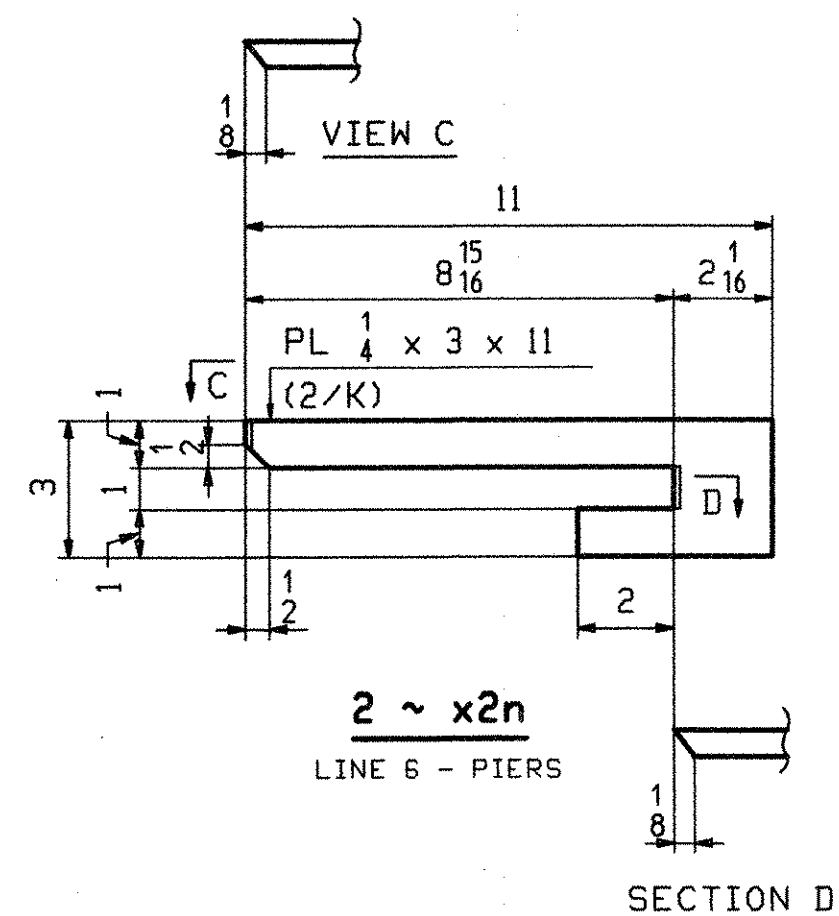
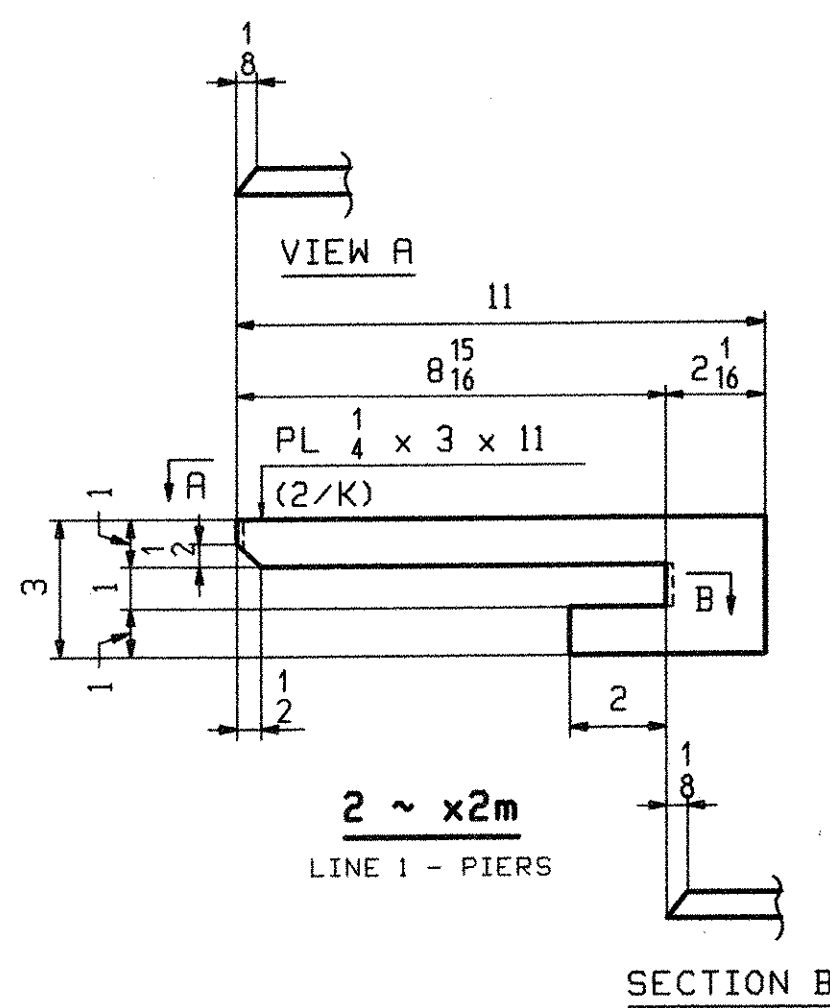
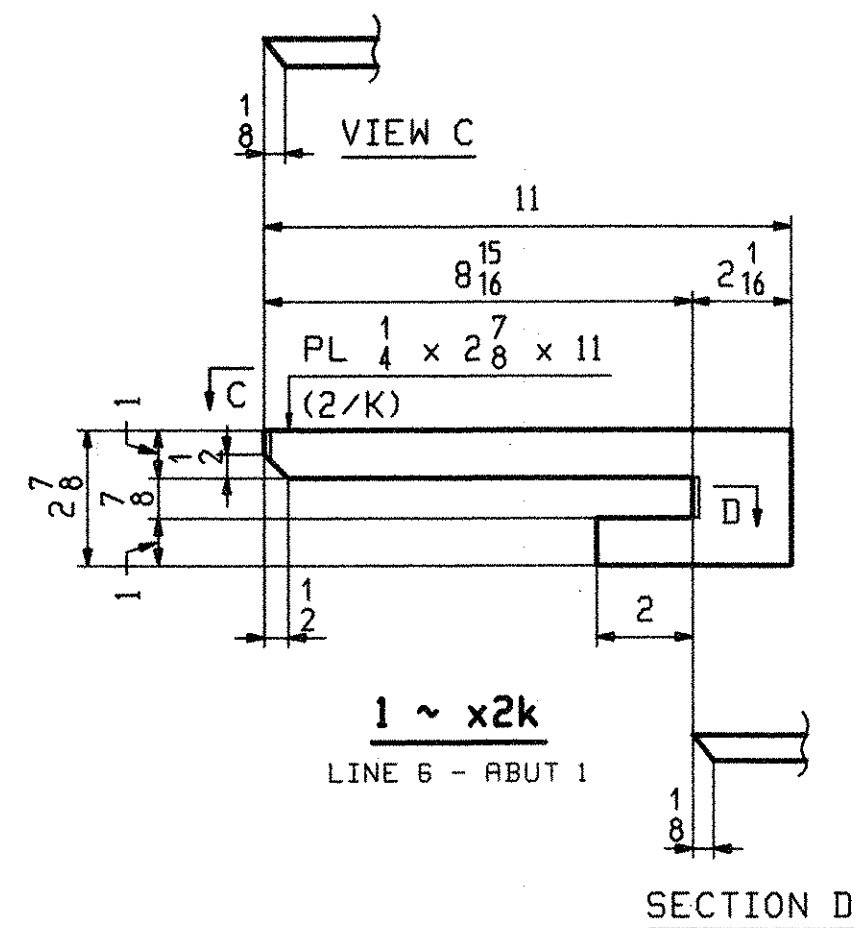
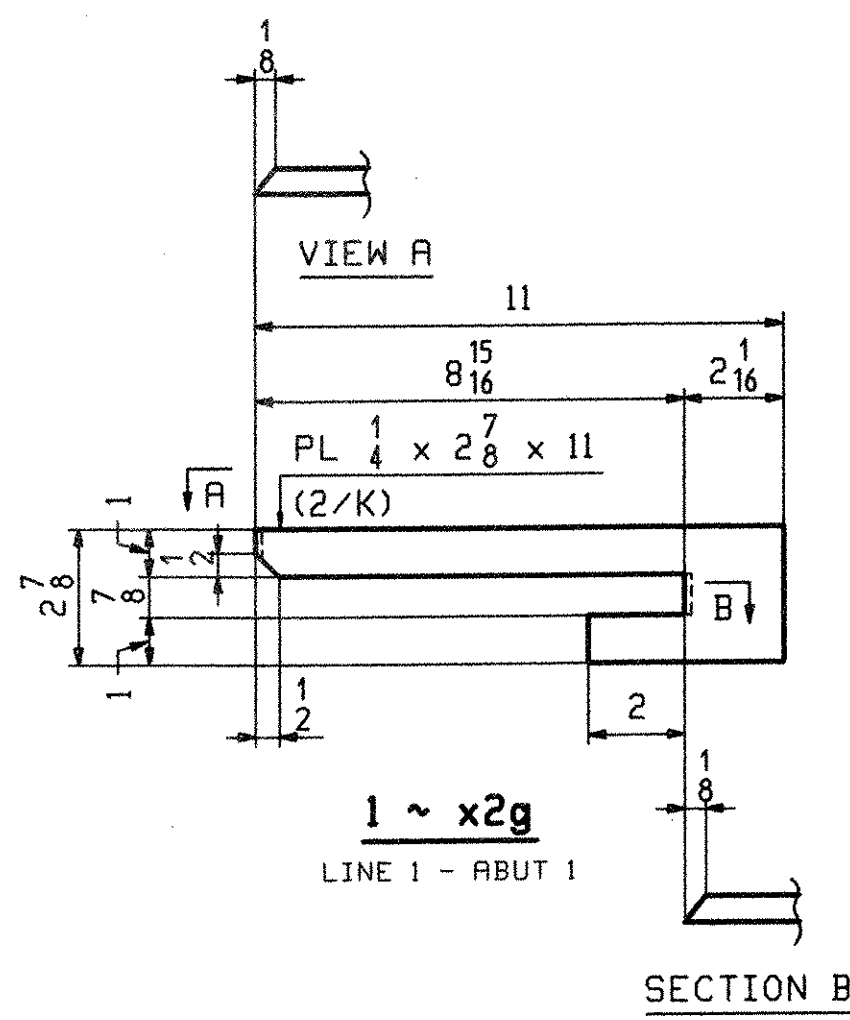
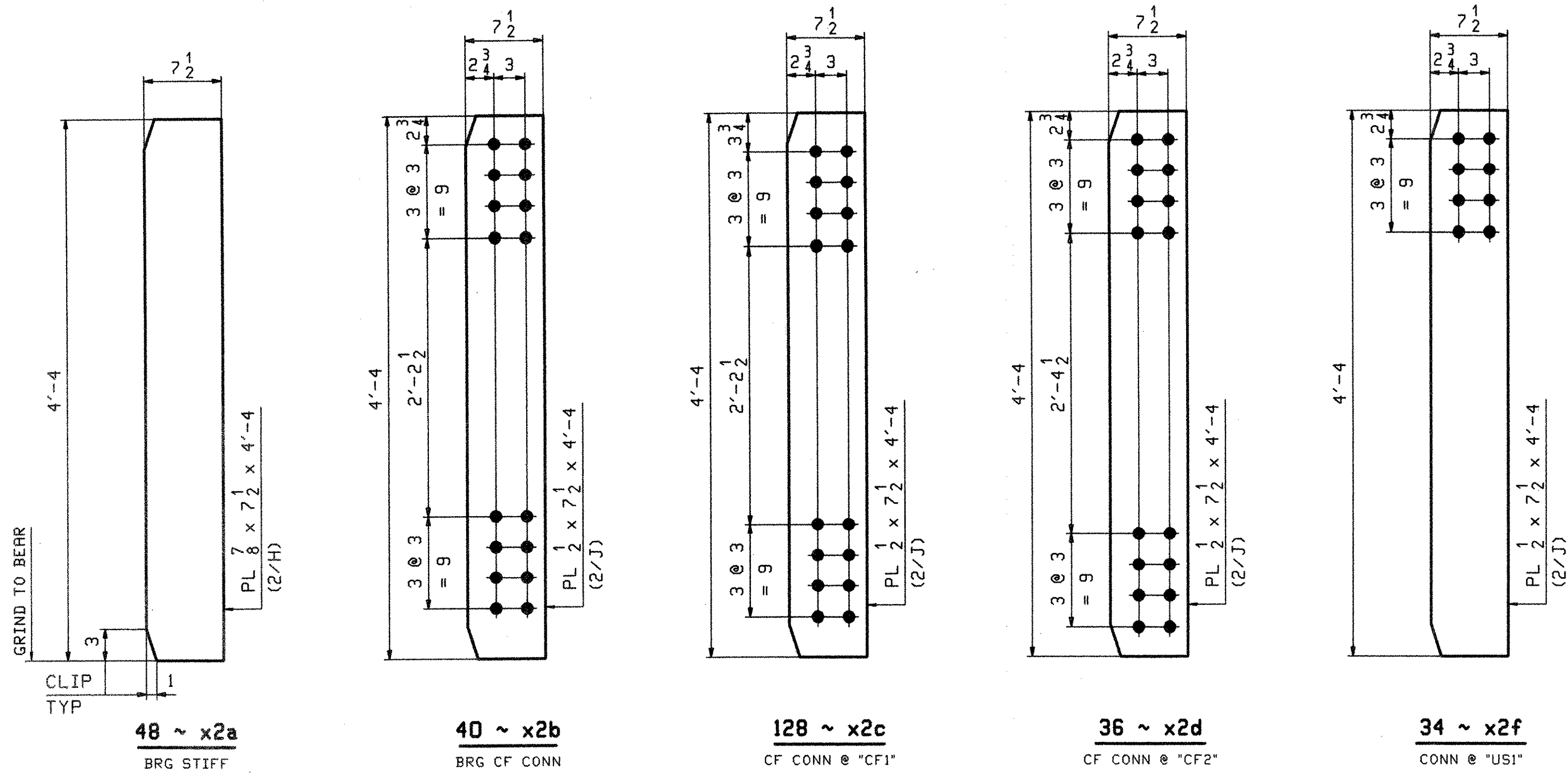
SHOP REAMING DIAGRAM

LINE	BL	BB1	BB2	BB3	BL1	BL2	BL3	BCF1	V1	"A"	"B"	"C"
1	272'-0 ⁹ / ₁₆	89'-0 ⁷ / ₁₆	94'-0	89'-0 ¹ / ₈	79'-0 ⁵ / ₁₆	114'-0 ³ / ₁₆	79'-0 ¹ / ₁₆	50'-8 ¹ / ₁₆	10 ⁷ / ₈	1G1A	7G1B	13G1C
2	272'-0 ⁵ / ₈	89'-0 ⁷ / ₁₆	94'-0 ¹ / ₁₆	89'-0 ¹ / ₈	79'-0 ³ / ₈	114'-0 ³ / ₁₆	79'-0 ¹ / ₁₆	45'-1 ¹ / ₈	10 ⁷ / ₈	2G2A	8G2B	14G2C
3	272'-0 ⁵ / ₈	89'-0 ⁷ / ₁₆	94'-0 ¹ / ₈	89'-0 ¹ / ₁₆	79'-0 ³ / ₈	114'-0 ¹ / ₄	79'-0	53'-3 ¹ / ₈	10 ¹³ / ₁₆	3G3A	9G3B	15G3C
4	272'-0 ¹¹ / ₁₆	89'-0 ¹ / ₂	94'-0 ¹ / ₁₆	89'-0 ¹ / ₈	79'-0 ³ / ₈	114'-0 ¹ / ₄	79'-0 ¹ / ₁₆	46'-8 ¹ / ₈	10 ⁷ / ₈	4G4A	10G4B	16G4C
5	272'-0 ³ / ₄	89'-0 ¹ / ₂	94'-0 ¹ / ₈	89'-0 ¹ / ₈	79'-0 ³ / ₈	114'-0 ⁵ / ₁₆	79'-0 ¹ / ₁₆	40'-1 ¹ / ₈	10 ¹³ / ₁₆	5G5A	11G5B	17G5C
6	272'-0 ¹³ / ₁₆	89'-0 ⁹ / ₁₆	94'-0 ¹ / ₈	89'-0 ¹ / ₈	79'-0 ⁷ / ₁₆	114'-0 ⁵ / ₁₆	79'-0 ¹ / ₁₆	48'-3 ¹ / ₈	10 ⁷ / ₈	6G6A	12G6B	18G6C

NOTES
FOR GENERAL NOTES SEE DWG GNI
ALL DIMENSIONS GIVEN AT BOTTOM OF WEB.

OUT FOR APPROVAL	Final 7-17-06											
OUT FOR APPROVAL												
ISSUED TO SHOP												
FIELD & OFFICE												
REVISION	NO.	DATE	BY	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER	
△	1	07/10	JTB	PCP								
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER		
MATERIAL:	ELECTRODES:	HOLES:	SHOP BOLTS:									
SURFACE PREP. & PAINT:												
DESCRIPTION: SHOP DRILLING DIAGRAM											DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLDOOMSAC RIVER											JTB	02/26
BRIDGE No. BR 11											CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY											PCP	03/06
TENSOR 2808											APPROV BY	
PROJ NO. BHF 010-1(29)											Q.A.	
CUSTOMER: RENAUD BROTHERS, INC.												
CASCO BAY STEEL STRUCTURES, INC.											JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072											290	SA1
PHONE (207) 282-7360 FAX. (207) 282-1179											REV.	△

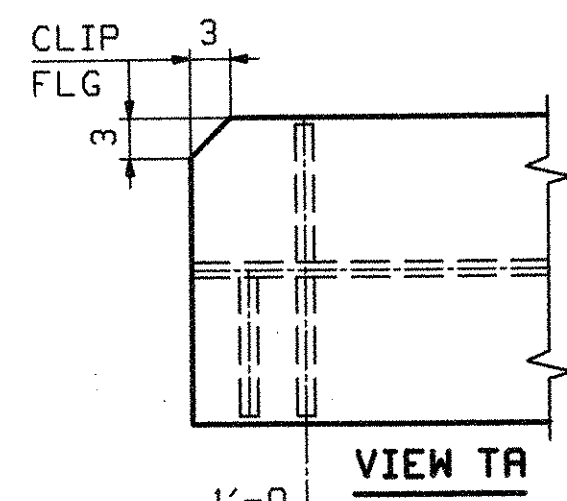
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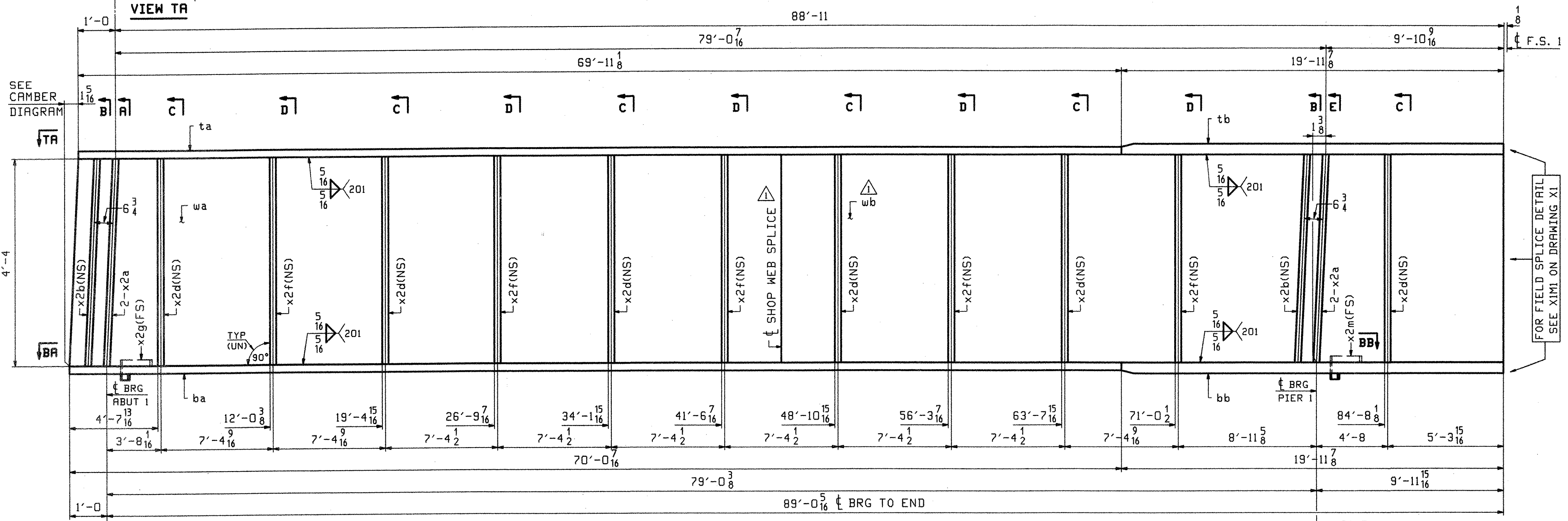
NOTES:
 ALL MATERIAL SHALL BE M270-S0W.
 ALL BOLT HOLES SHALL BE $\frac{15}{16}$ " ϕ FOR $\frac{7}{8}$ " ϕ HSB.
 FOR GENERAL NOTES SEE DRAWING GNI.

OUT FOR APPROVAL	DATE	BY	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER	
OUT FOR APPROVAL	7-17-06										
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:	M270-S0W	ELECTRODES:									SHOP BOLTS: NONE
SURFACE PREP. & PAINT: SEE DRAWING GNI											
DESCRIPTION:	GIRDER STANDARDS					DRAWN BY	DATE				
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER					JTB	02/21				
	BRIDGE No. BR 11					CHKD BY					
	WOODFORD, VT. BENNINGTON COUNTY					PCP	03/06				
						APPROV BY					
						SUPERVISOR	W. J. GATTI				
PROJ NO.	BHF 010-(129)					Q.A.					
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.											
75 SPRING HILL ROAD	SACO, MAINE 04072					JOB NO.	290	DRG. NO.	X2		
PHONE (207) 282-7360	FAX. (207) 282-1179					REV.					

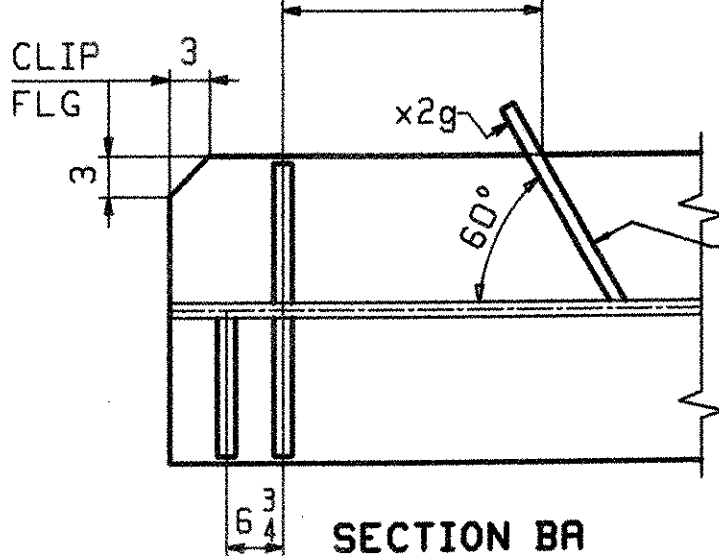
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 BY: DATE 7/28/06



SEE CAMBER DIAGRAM

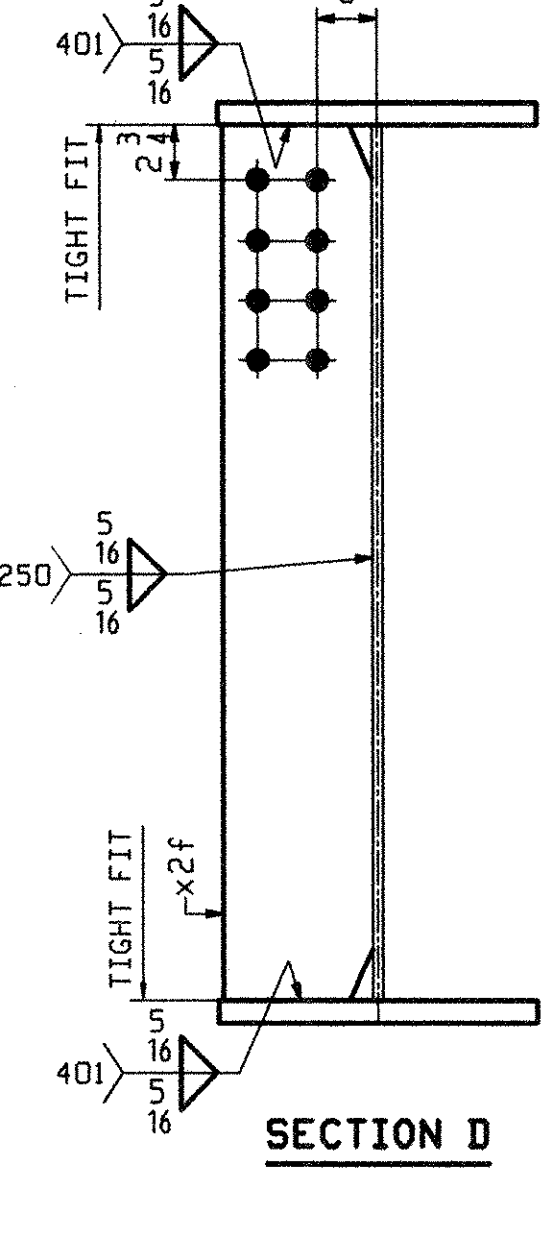
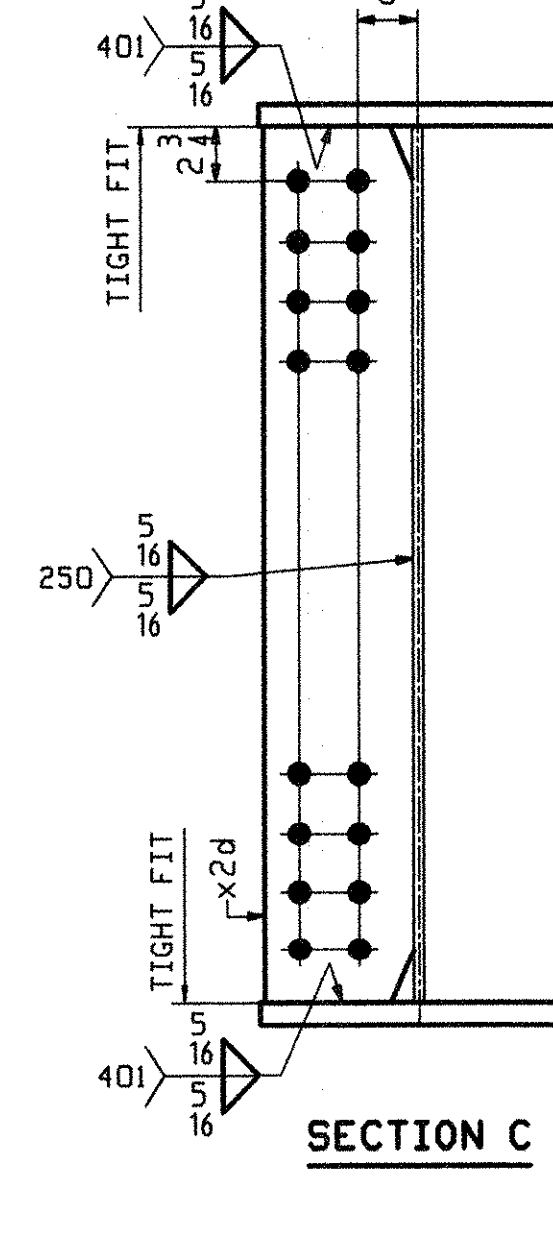
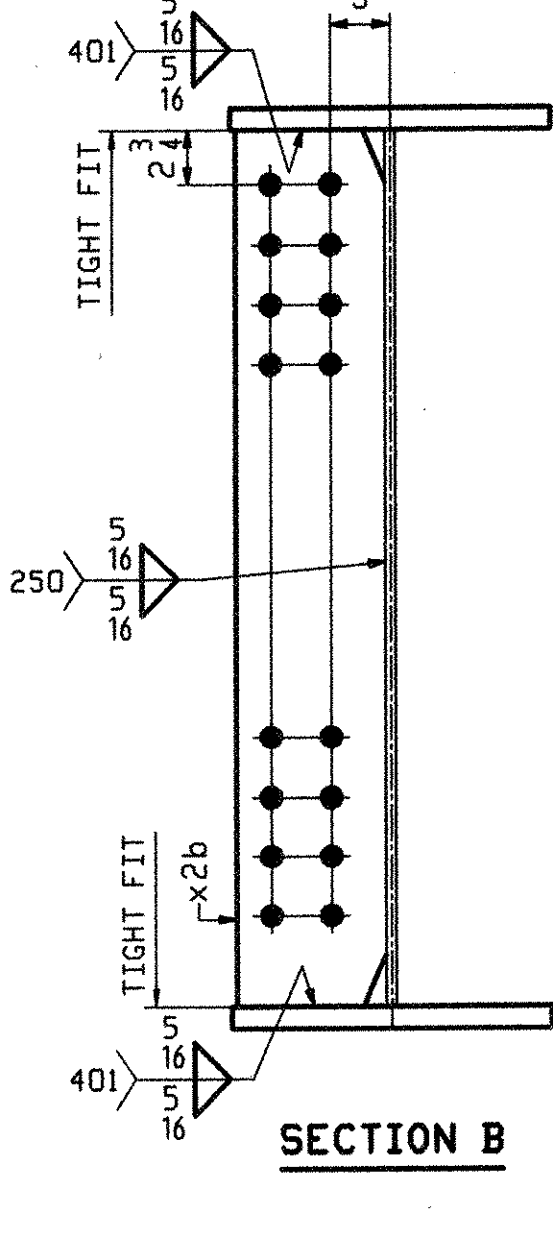
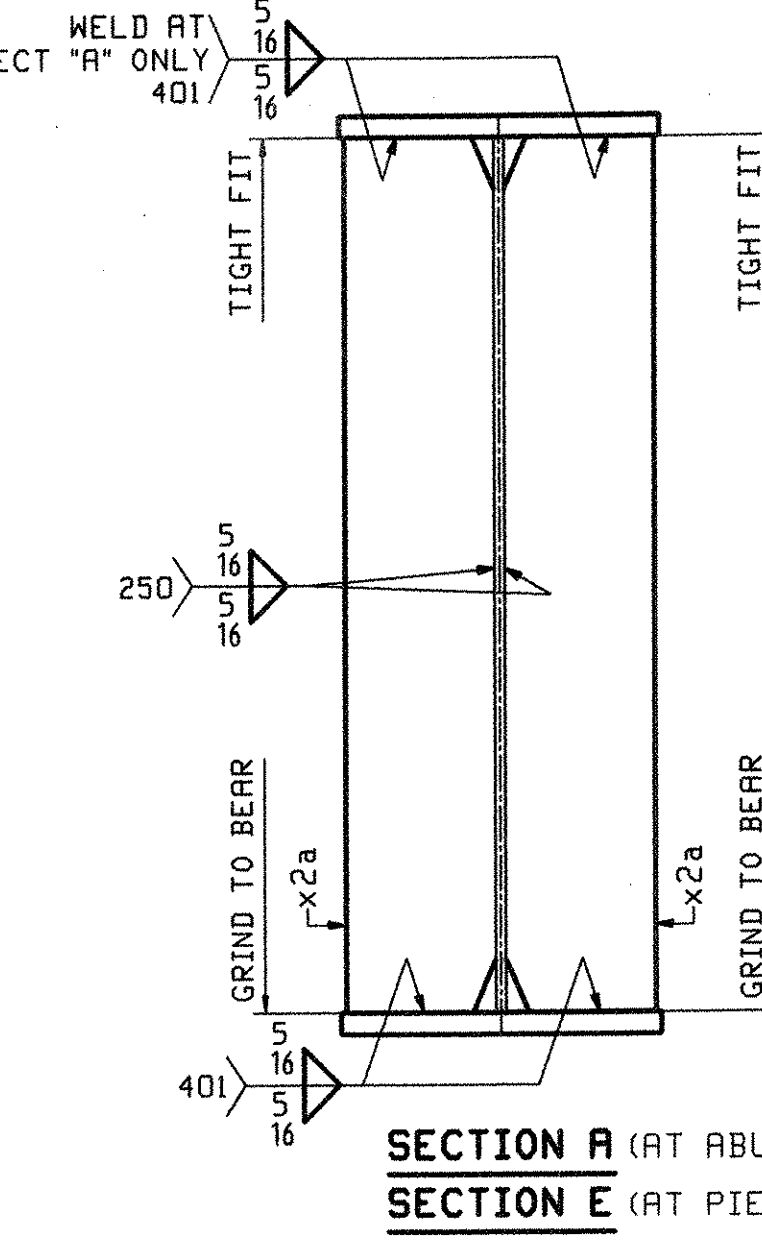
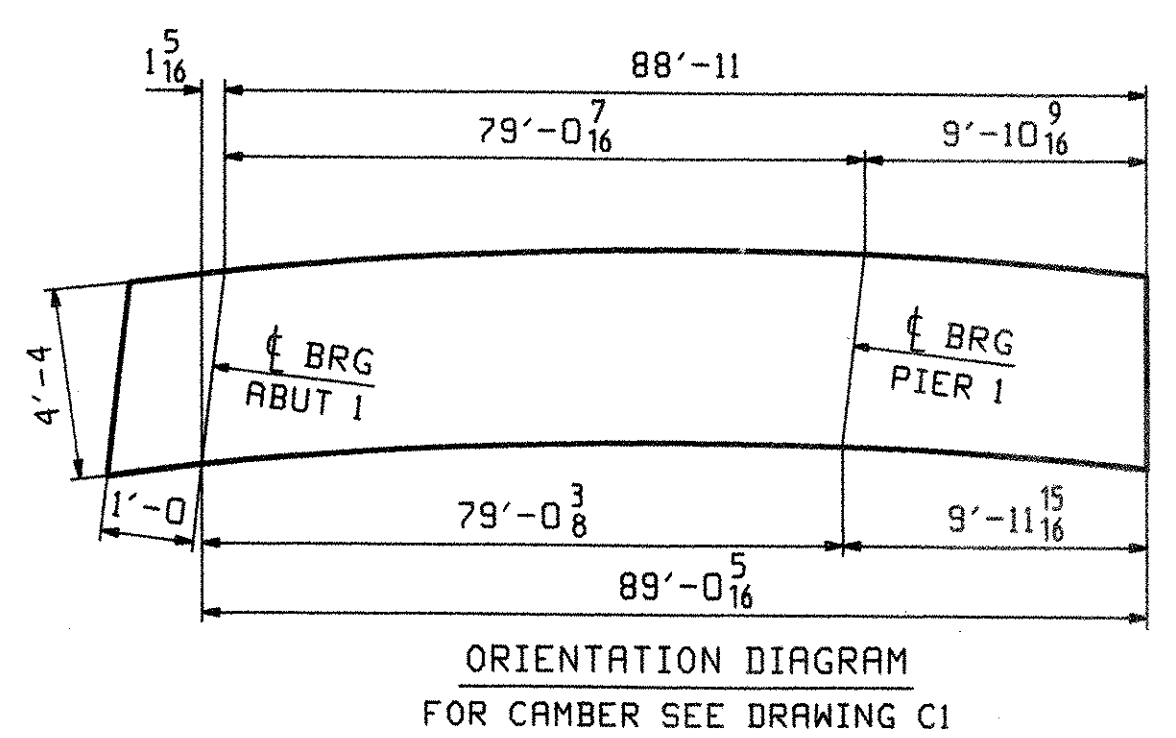
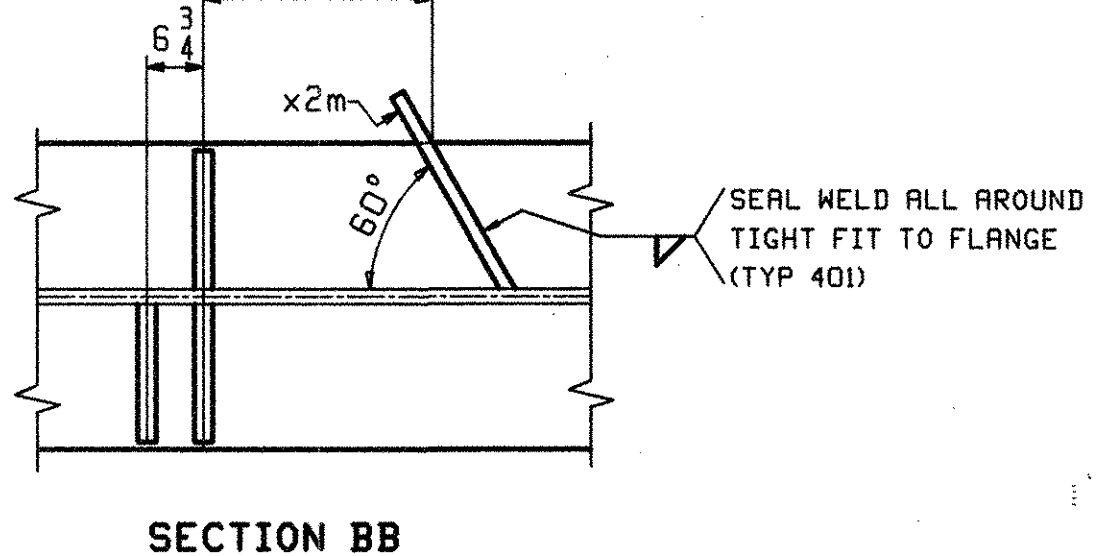


FOR FIELD SPLICE DETAIL SEE XIMI ON DRAWING XI



ONE - GIRDER - 1G1A

FOR FIELD SPLICE DETAILS SEE DRAWING XI.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING X2.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



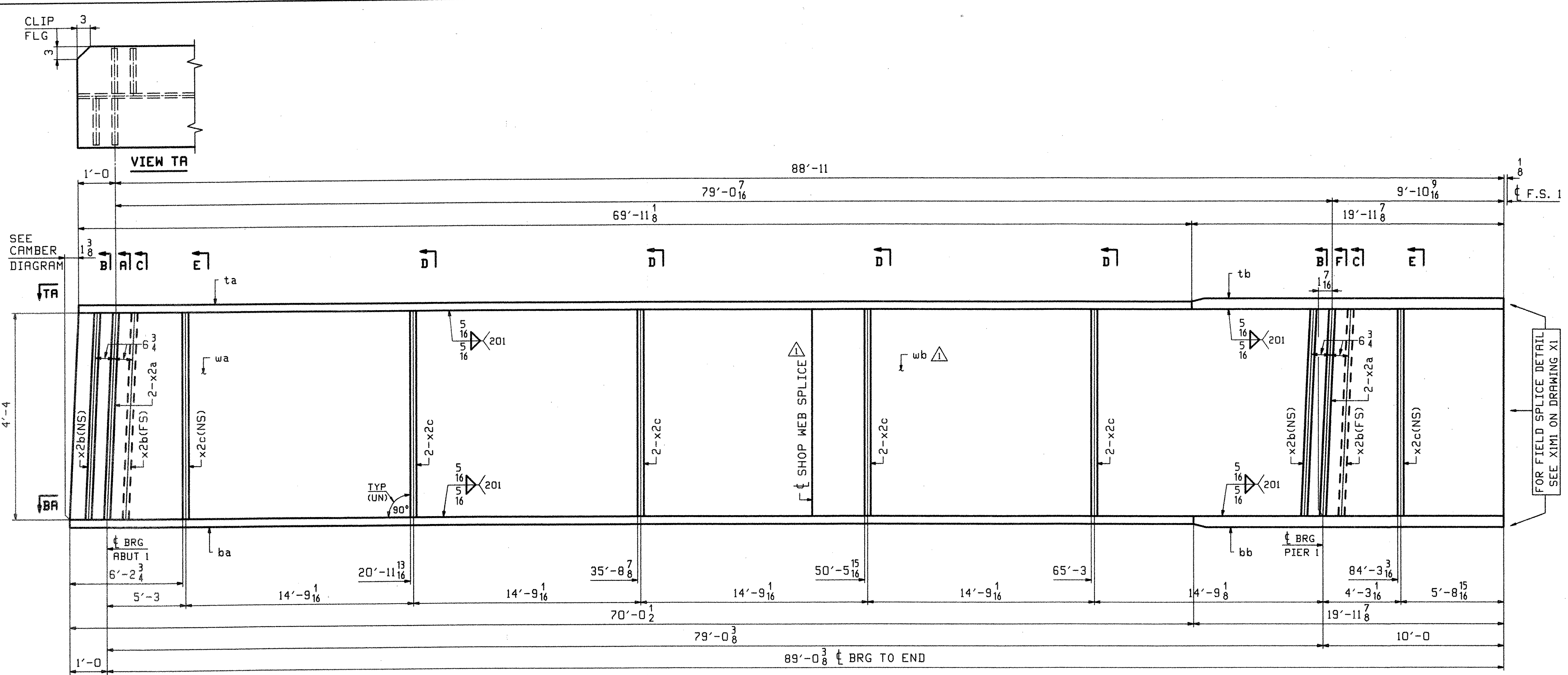
ABM INFO		SHIP	BILL OF MATERIAL			JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		IG1A	1		GIRDER			17921	
1	Q		1	wa	PL 1/2 x 52	46 5/16	(M270-50WT2) (H2-3)		
1	S		1	wb	PL 1/2 x 52	43 6	(M270-50WT2) (H2-3)		
1	C		1	ta	PL 7/8 x 16	69 11 3/8	(M270-50WT2) (H2-3)		
1	A		1	tb	PL 1 x 16	19 11 7/8	(M270-50WT2) (H2-3)		
1	C		1	ba	PL 7/8 x 16	70 0 7/8	(M270-50WT2) (H2-3)		
1	A		1	bb	PL 1 x 16	19 11 7/8	(M270-50WT2) (H2-3)		
2	H		4	x2a	PL 7/8 x 2 1/2	4 4	MIE		
2	J		2	x2b	PL 1/2 x 2 1/2	4 4			
2	J		6	x2d	PL 1/2 x 2 1/2	4 4			
2	J		5	x2f	PL 1/2 x 2 1/2	4 4			
2	K		1	x2g	PL 1/2 x 2 1/2	0 11			
2	K		1	x2m	PL 1/4 x 3	0 11			

OUT FOR APPROVAL	Final 7-17-06								
OUT FOR APPROVAL									
ISSUED TO SHOP									
FIELD & OFFICE									

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL: M270-50W (UN)										
	ELECTRODES:										
	HOLES: 15/16" φ										
	SHOP BOLTS: NONE										

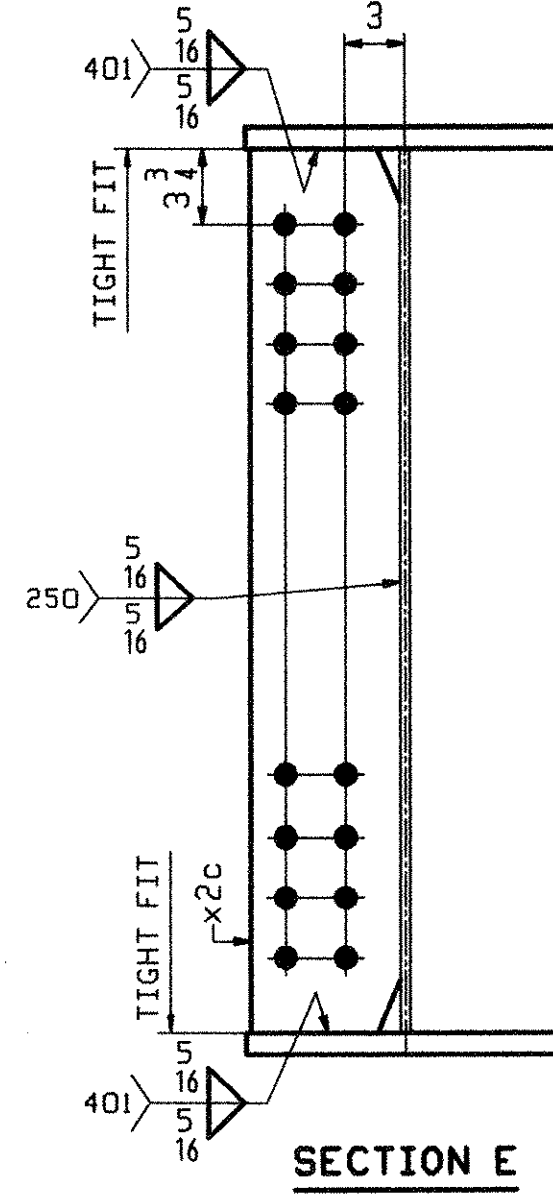
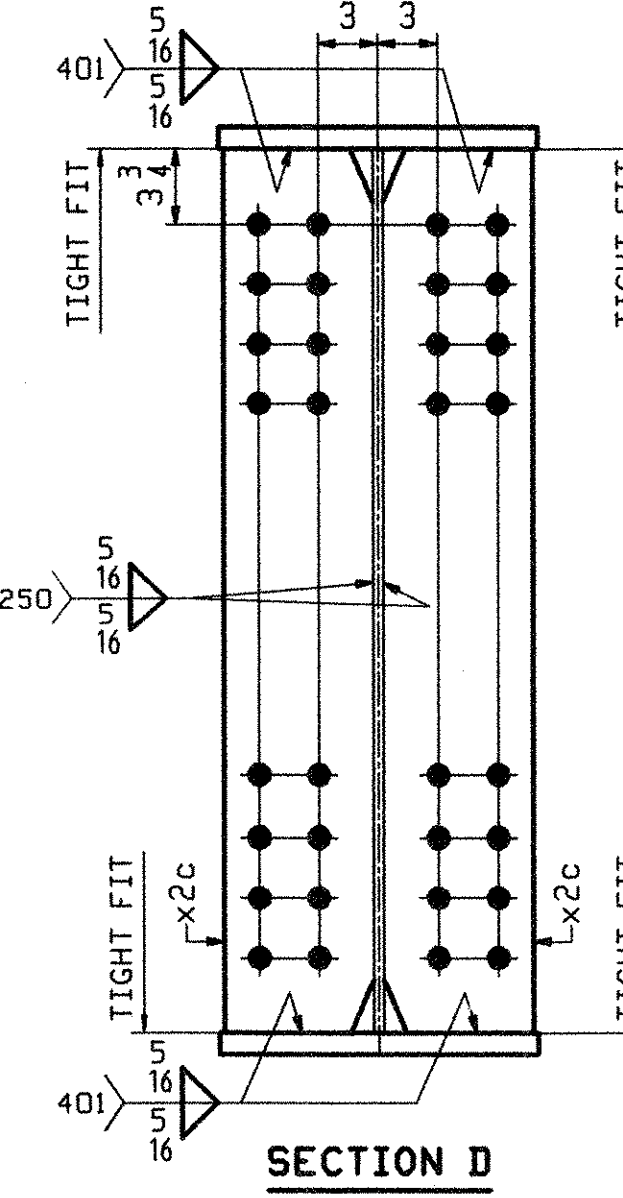
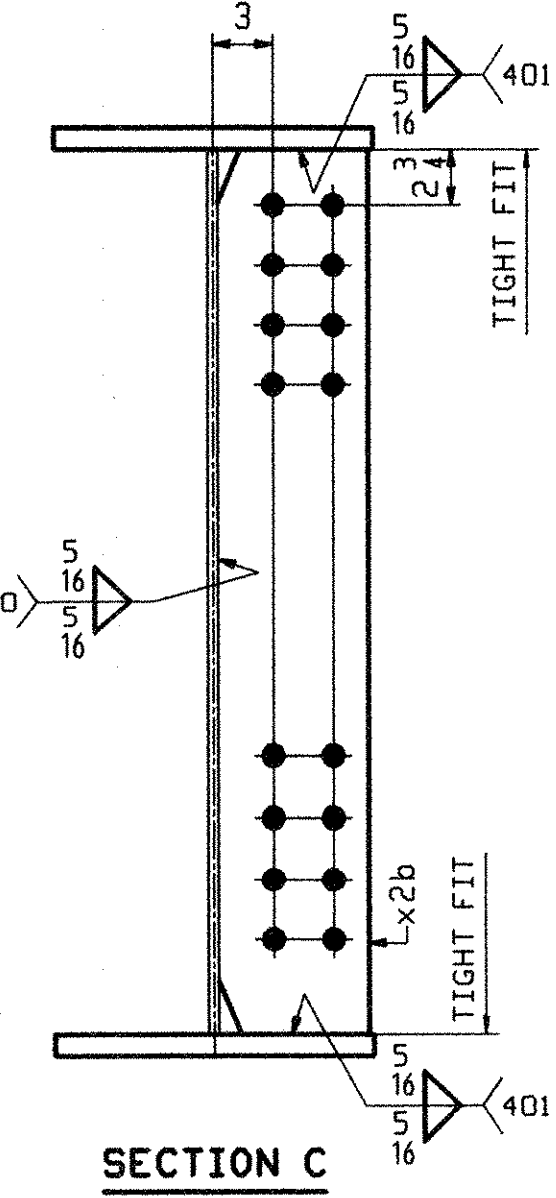
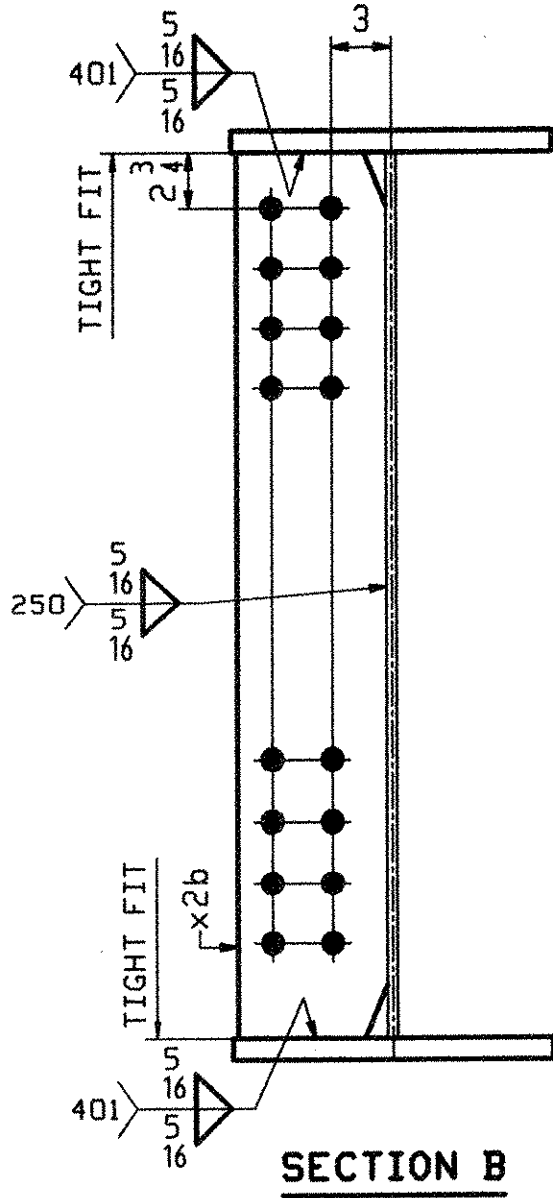
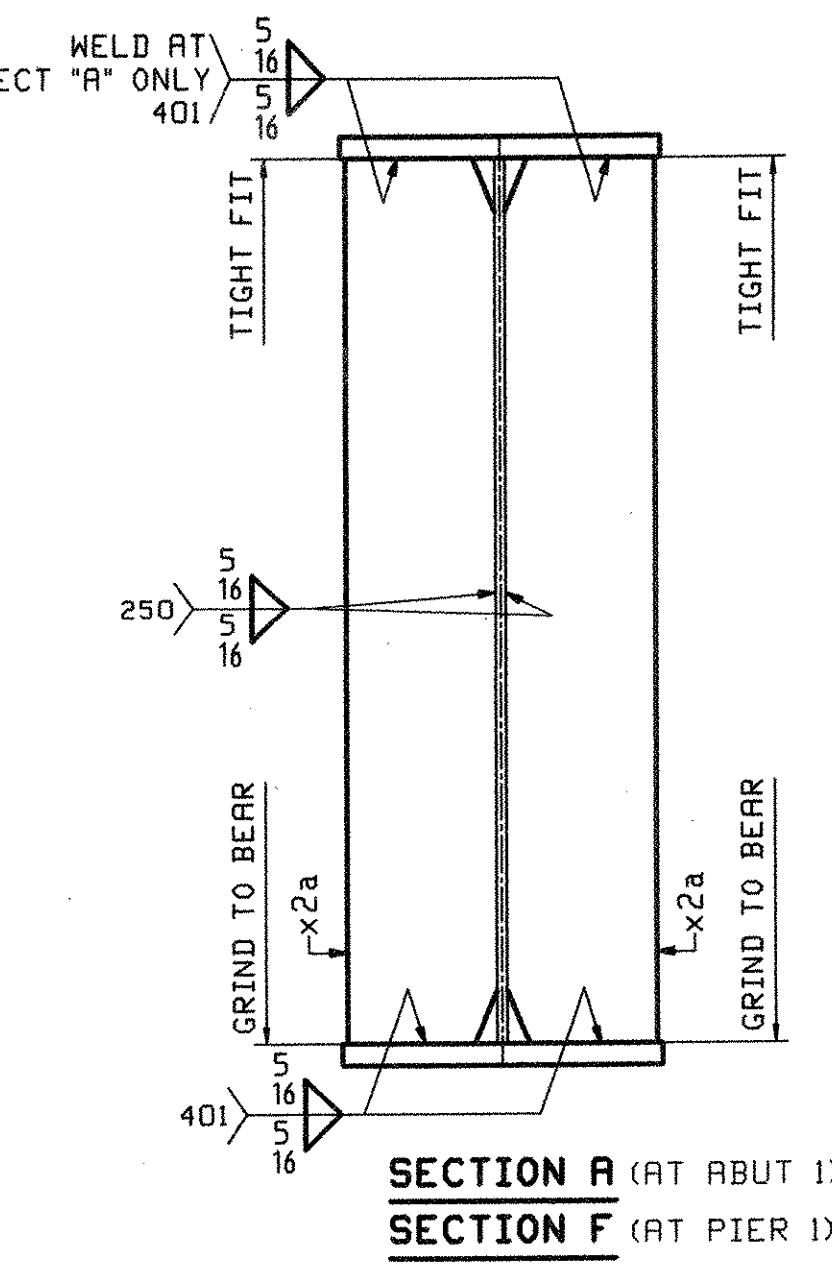
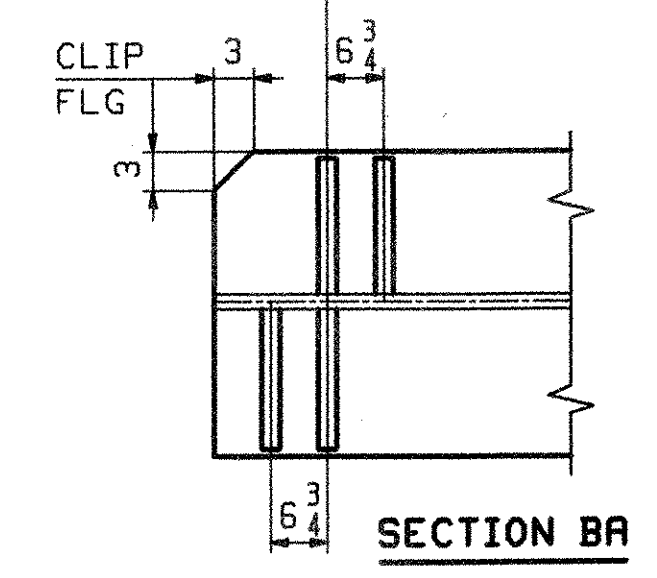
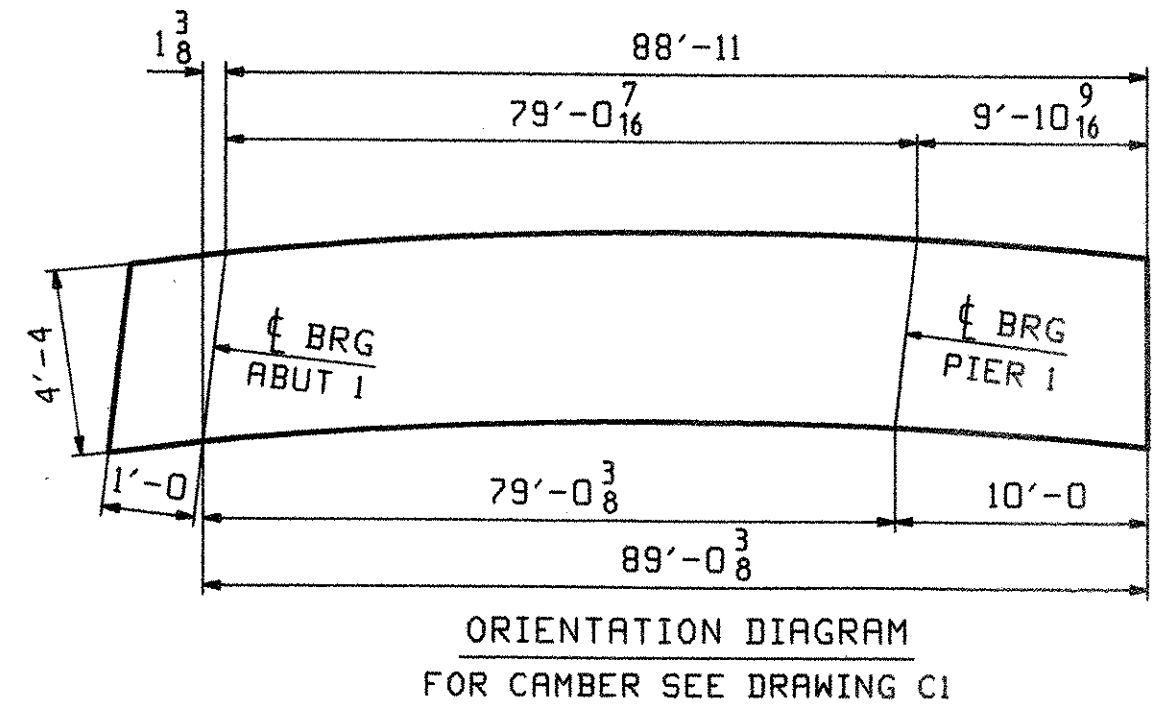
DESCRIPTION:	GIRDER - 1G1A	DRAWN BY	JTB	DATE	02/22
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER	CHKD BY	PCP		
	BRIDGE No. BR 11	APPROV BY	W. J. GATTI		
	WOODFORD, VT. BENNINGTON COUNTY	SUPERVISOR			
PROJ NO.	BHF 010-1(29)	Q.A.			
CUSTOMER:	RENAUD BROTHERS, INC.				
CASCO BAY STEEL STRUCTURES, INC.		JOB NO.	290	DRG. NO.	1
75 SPRING HILL ROAD SACO, MAINE 04072					
PHONE (207) 282-7360 FAX. (207) 282-1179					

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 APPROVED: [Signature]
 DATE 7/28/06



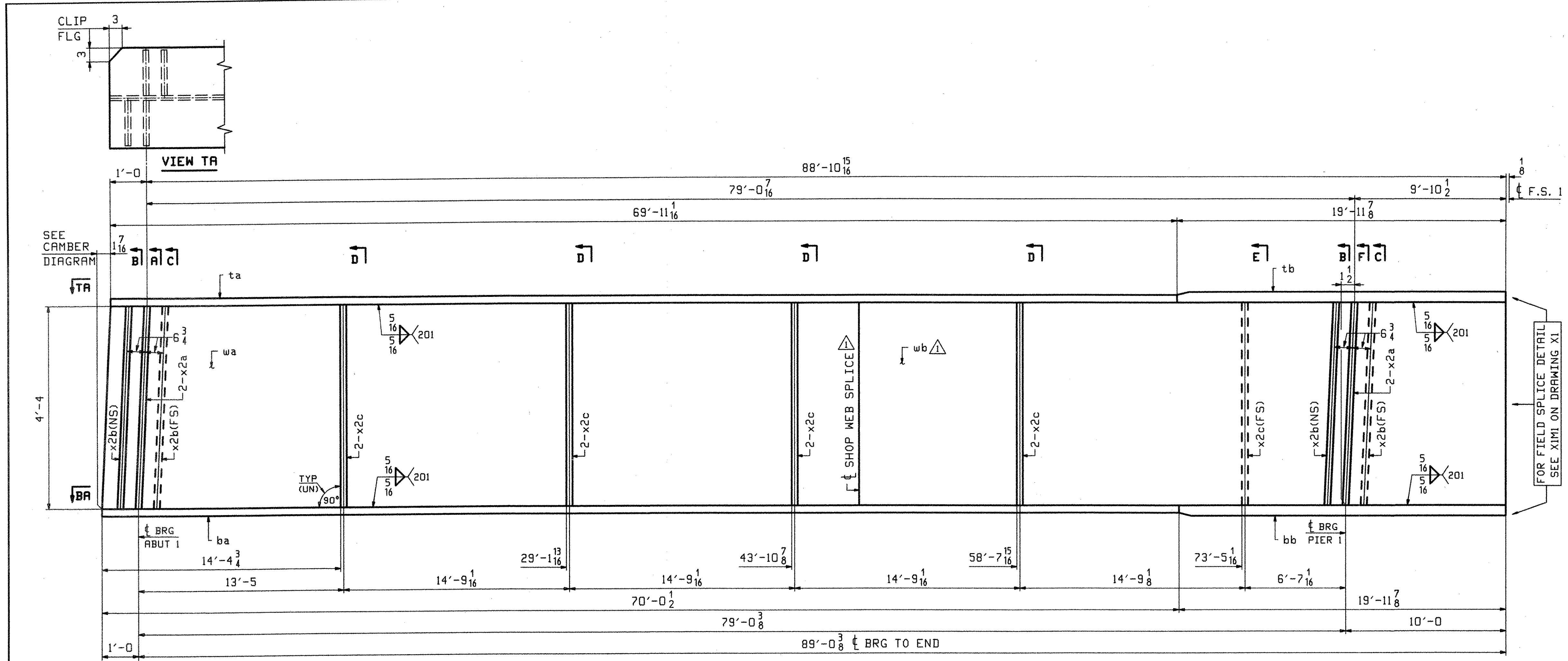
ONE - GIRDER - 3G3A
 FOR FIELD SPLICE DETAILS SEE DRAWING XI.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		3G3A	1		GIRDER			17973	
1	Q	1	wa	PL	1/2 x 52	46 5/8	(M270-50WT2) (H2-3)		△
1	S	1	wb	PL	1/2 x 52	43 6	(M270-50WT2) (H2-3)		△
1	C	1	ta	PL	7/8 x 16	69 11 1/8	(M270-50WT2) (H2-3)		
1	A	1	tb	PL	1 x 16	19 11 7/8	(M270-50WT2) (H2-3)		
1	C	1	ba	PL	7/8 x 16	70 0 1/2	(M270-50WT2) (H2-3)		
1	A	1	bb	PL	1 x 16	19 11 7/8	(M270-50WT2) (H2-3)		
2	H	4	x2a	PL	3/8 x 7 1/2	4 4	MIE		
2	J	4	x2b	PL	3/8 x 7 1/2	4 4			
2	J	10	x2c	PL	1/2 x 7 1/2	4 4			



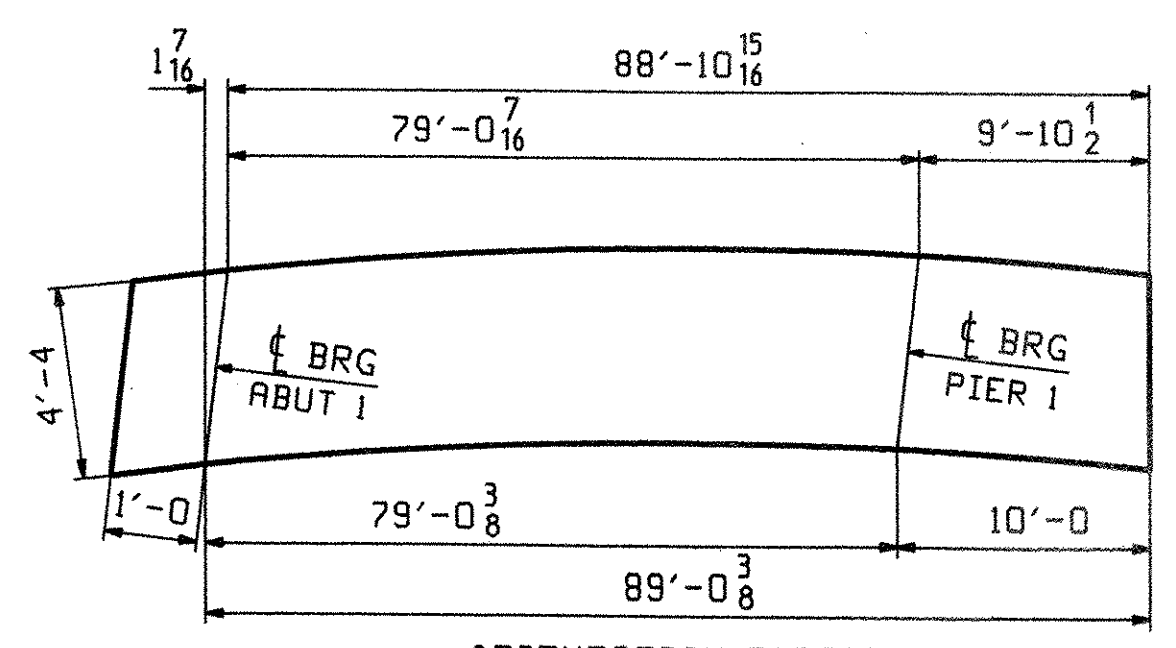
OUT FOR APPROVAL	Final 7-17-06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
ADD WEB SPLICE	JTB	PCP								
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:					
M270-50W (UN)			15 16 φ		NONE					
SURFACE PREP. & PAINT:										
SEE DRAWING GNI										
DESCRIPTION:	GIRDER - 3G3A				DRAWN BY	DATE				
JOB:	RTE 9 OVER ROARING BRANCH OF WALLLOOMSAC RIVER				JTB	02/22				
	BRIDGE No. BR 11				CHKD BY					
	WOODFORD, VT. BENNINGTON COUNTY				PCP	03/06				
					APPROV BY					
					SUPERVISOR	M. J. GATTI				
PROJ NO.	BHF 010-1(29)				Q.A.					
CUSTOMER: RENAUD BROTHERS, INC.										
CASCO BAY STEEL STRUCTURES, INC.					JOB NO.	DRG. NO.				
75 SPRING HILL ROAD					290	3				
PHONE (207) 282-7360					FAX. (207) 282-1179					
REV. △										

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 RESUBMIT _____ APPROVED _____
 BY: _____ DATE: 7/28/06



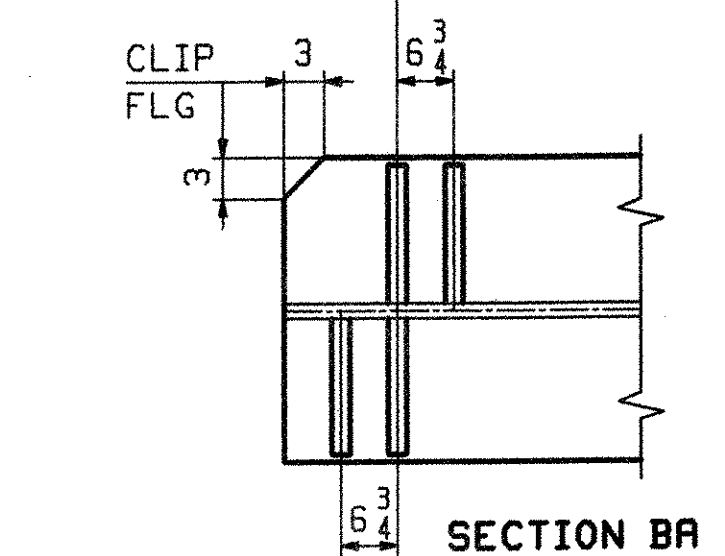
ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
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1	Q	1	wa	PL	1/2x52	46 5/8	(M270-50WT2) (H2-3)		△
1	S	1	wb	PL	1/2x52	43 6	(M270-50WT2) (H2-3)		△
1	C	1	ta	PL	7/8x16	69 11/16	(M270-50WT2) (H2-3)		
1	A	1	tb	PL	1x16	19 11/8	(M270-50WT2) (H2-3)		
1	C	1	ba	PL	7/8x16	70 0/2	(M270-50WT2) (H2-3)		
1	A	1	bb	PL	1x16	19 11/8	(M270-50WT2) (H2-3)		
2	H	4	x2a	PL	1/2x7 1/2	4 4	MIE		
2	J	4	x2b	PL	1/2x7 1/2	4 4			
2	J	9	x2c	PL	1/2x7 1/2	4 4			

FOR FIELD SPLICE DETAIL
SEE XIMI ON DRAWING XI

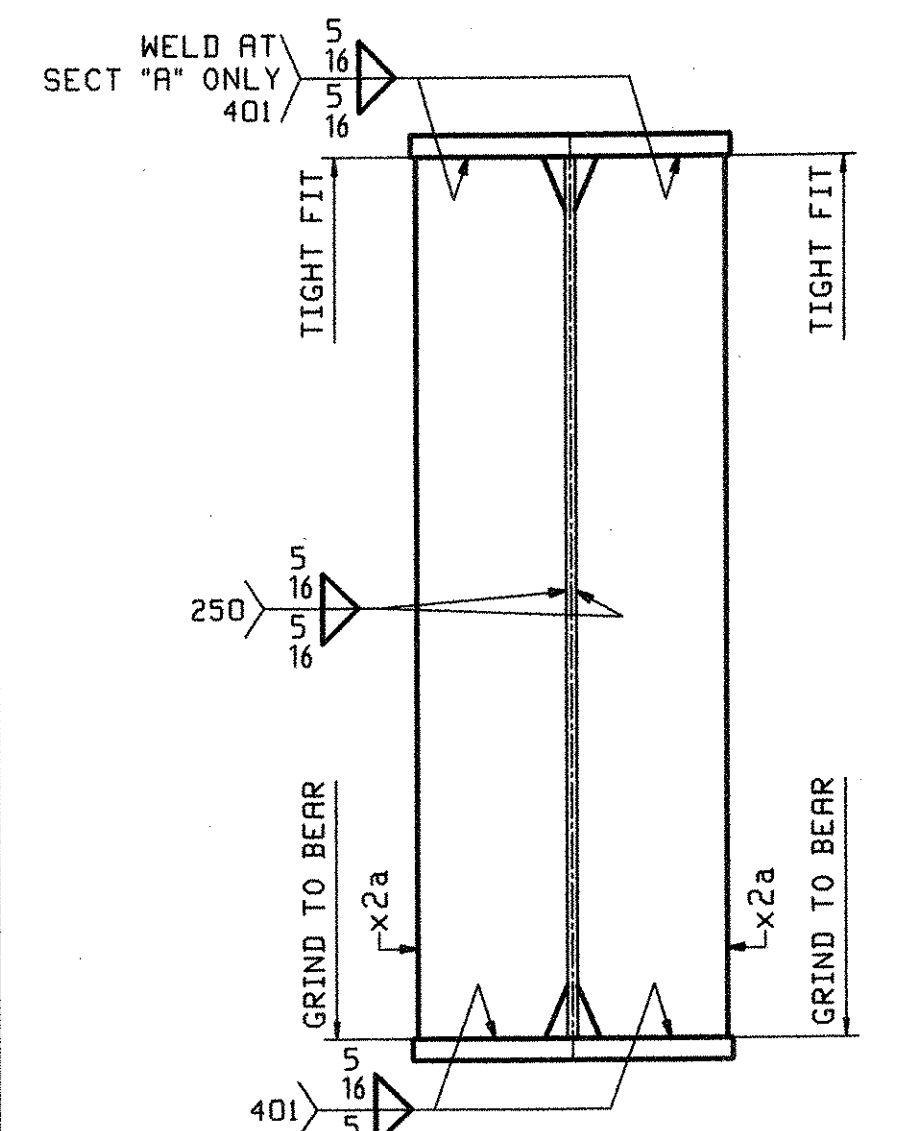


ORIENTATION DIAGRAM
FOR CAMBER SEE DRAWING C1

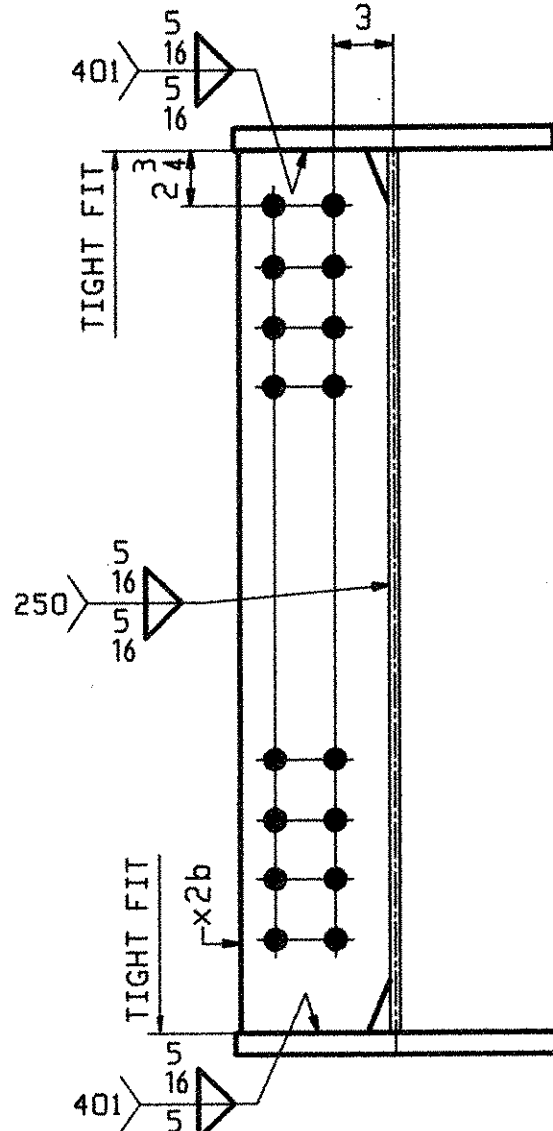
ONE - GIRDER - 4G4A
 FOR FIELD SPLICE DETAILS SEE DRAWING XI.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



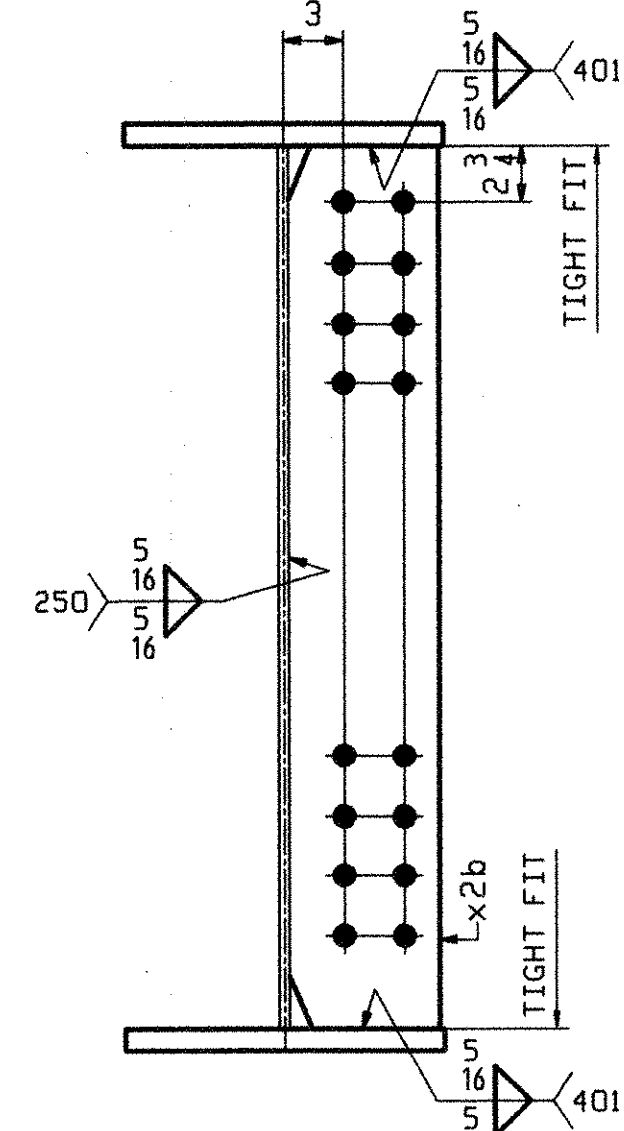
SECTION BA



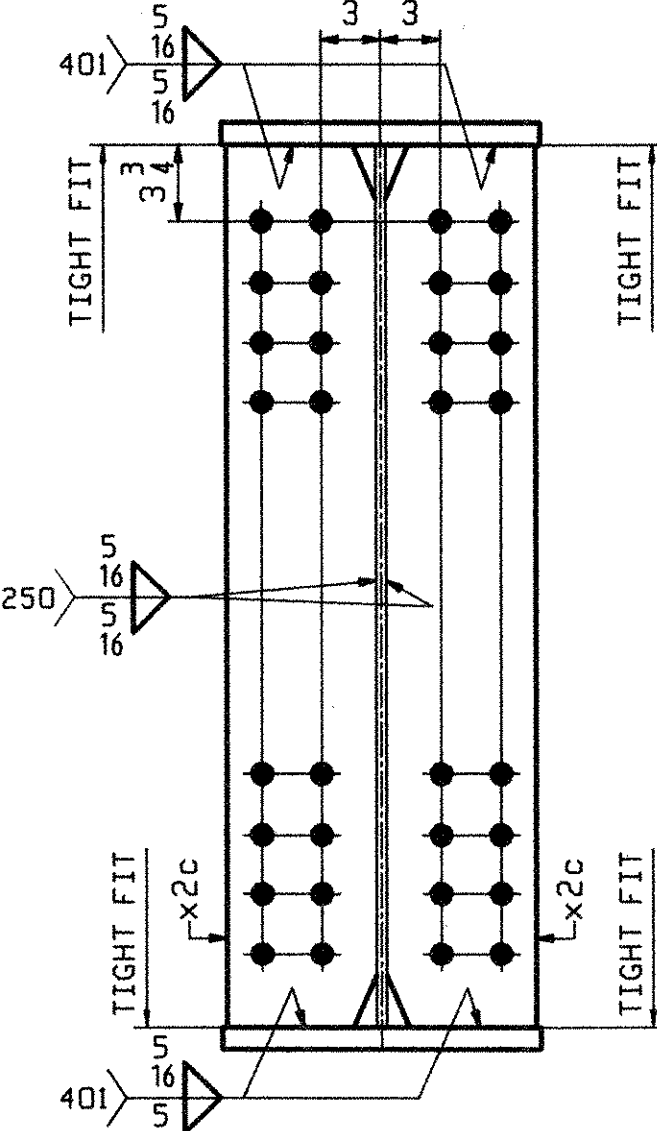
SECTION A (AT ABUT 1)
SECTION F (AT PIER 1)



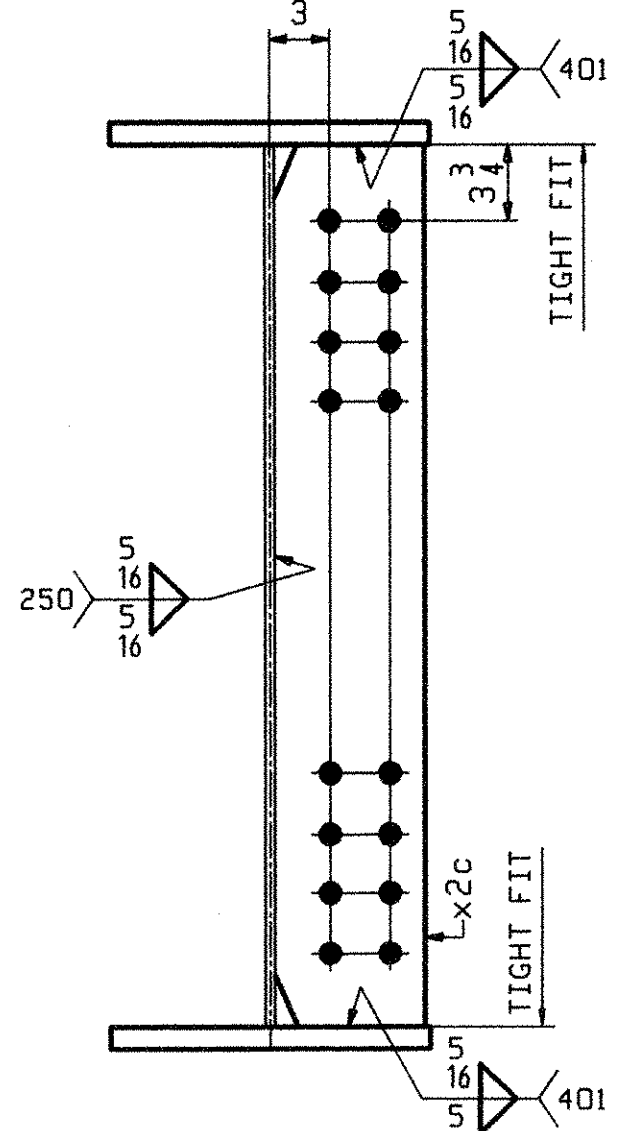
SECTION B



SECTION C



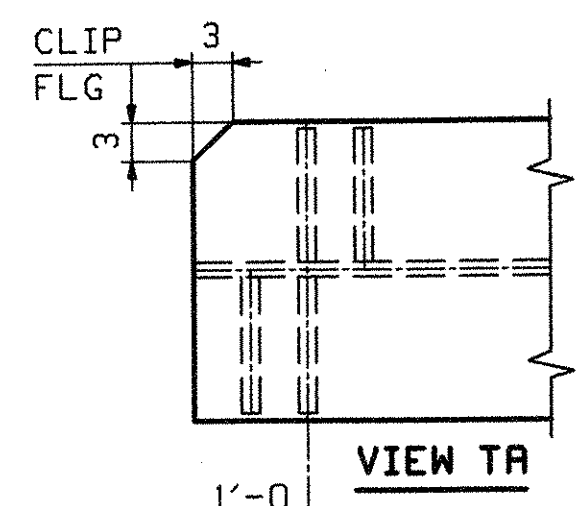
SECTION D



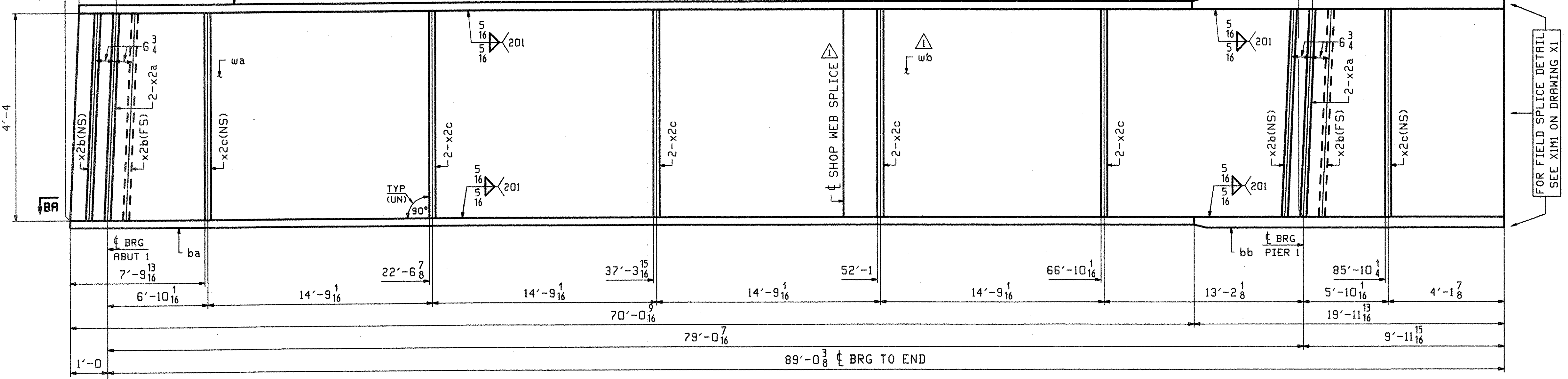
SECTION E

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 BY: [Signature] DATE: 7/28/06

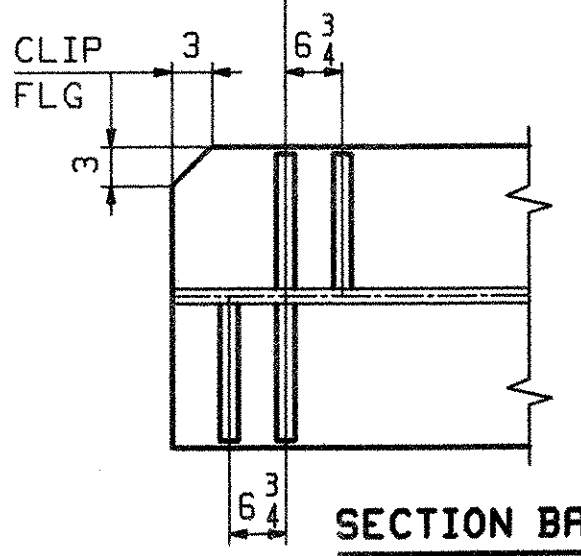
OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
ADD WEB SPLICE	JTB	PCP									
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:					
	M270-50W (UN)			15/16"		NONE					
SURFACE PREP. & PAINT:											
SEE DRAWING GNI											
DESCRIPTION:	GIRDER - 4G4A					DRAWN BY	DATE				
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER					JTB	02/22				
	BRIDGE No. BR 11					CHKD BY					
	WOODFORD, VT. BENNINGTON COUNTY					PCP	03/06				
						APPROV BY					
						SUPERVISOR	W. J. GATTI				
PROJ NO.	BHF 010-1(28)					Q.A.					
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.						JOB NO.	DRG. NO.				
75 SPRING HILL ROAD						SACO, MAINE 04072	290	4			
PHONE (207) 282-7360						FAX. (207) 282-1179			REV. △		



SEE CAMBER DIAGRAM

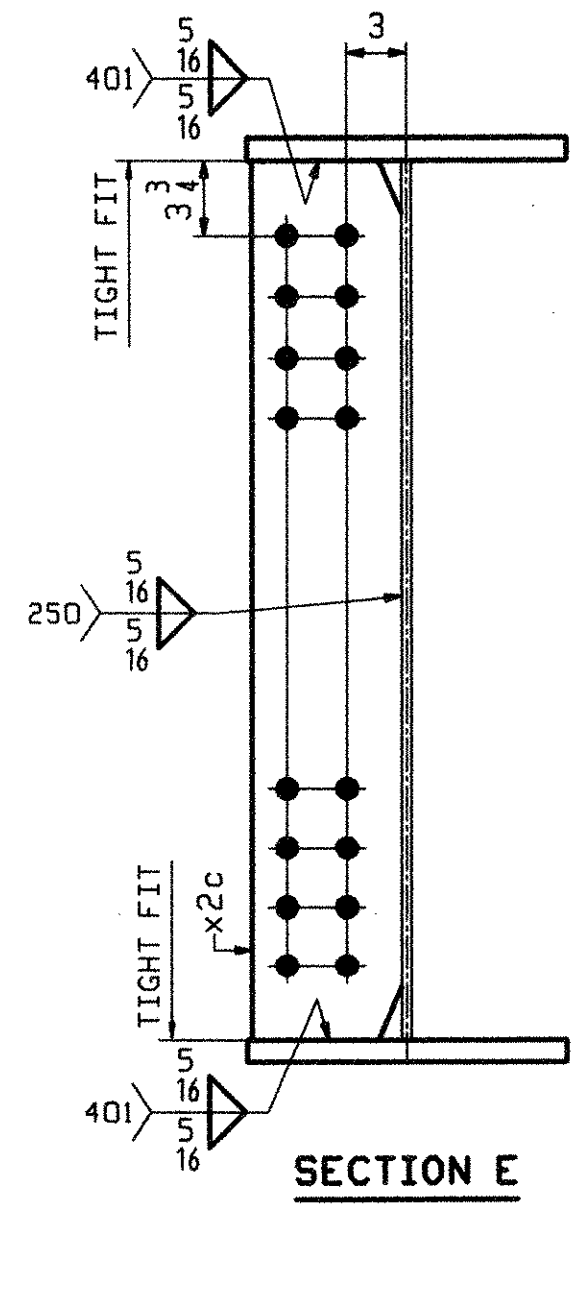
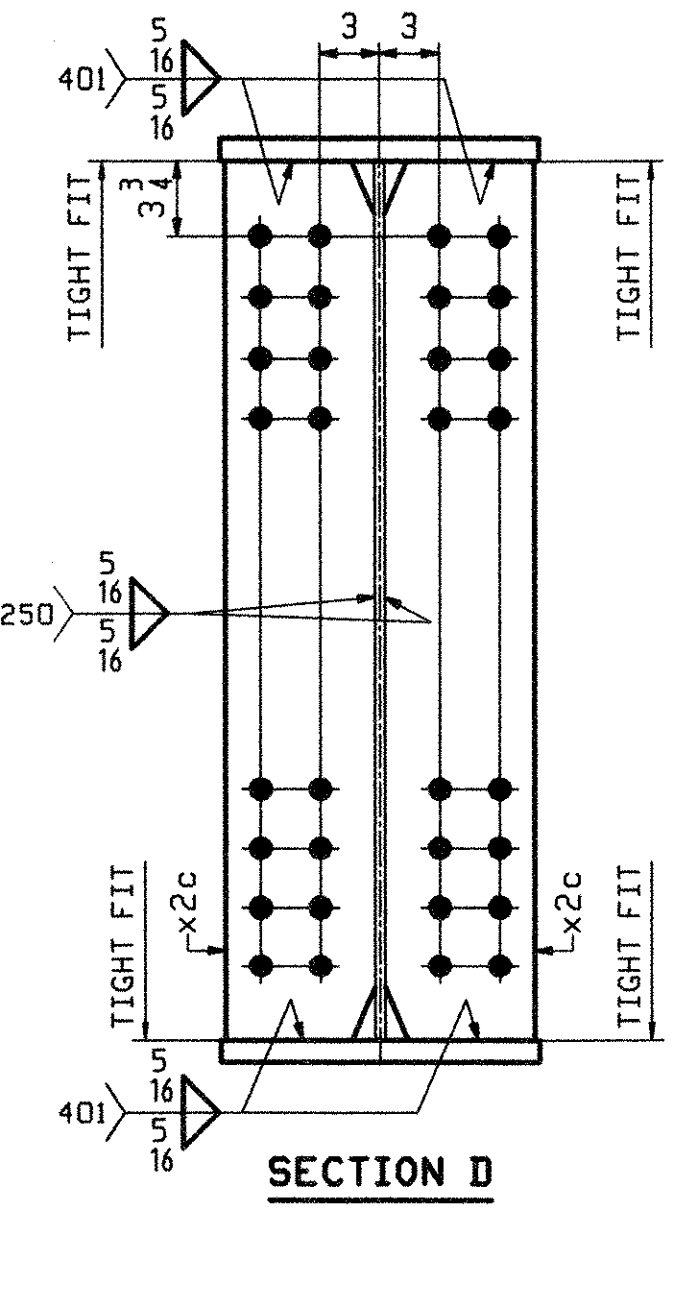
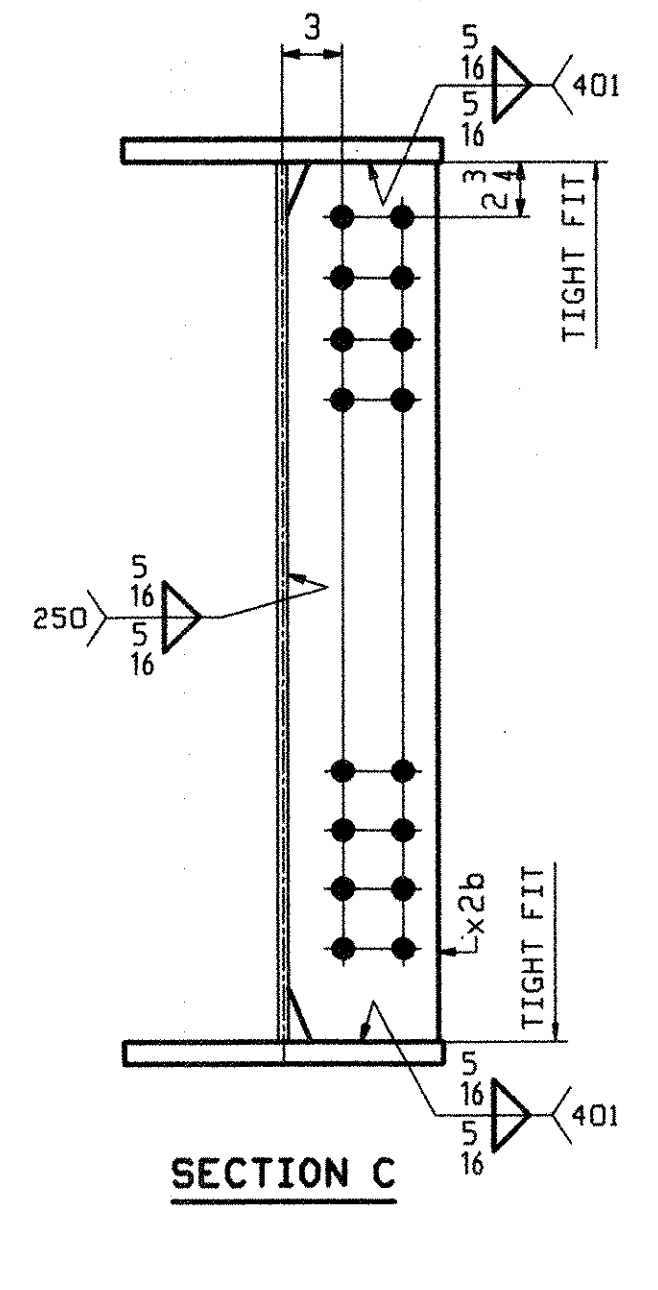
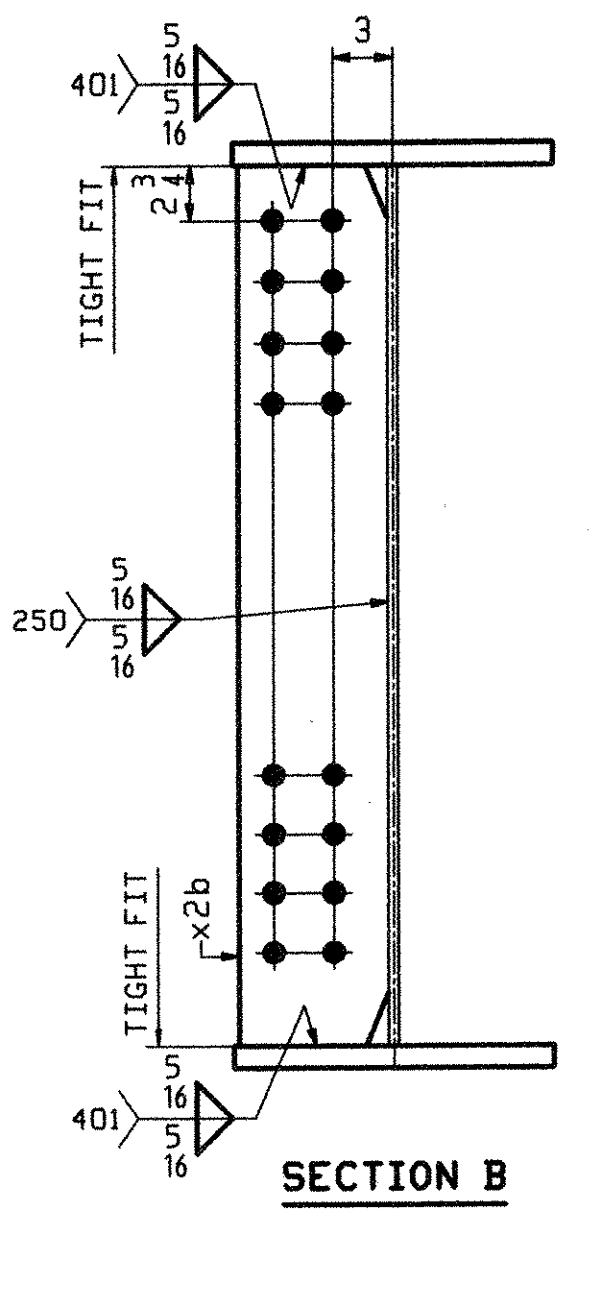
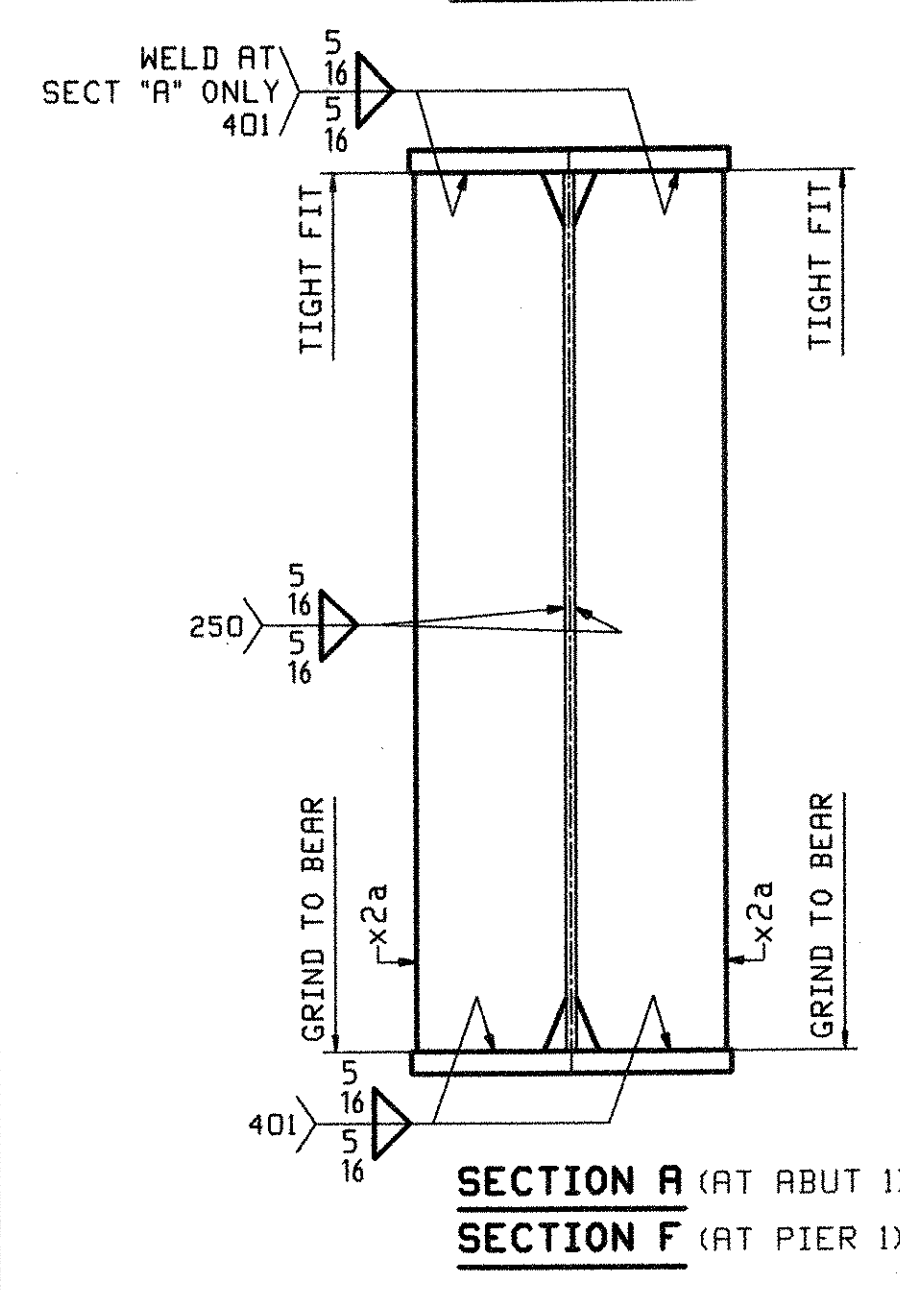
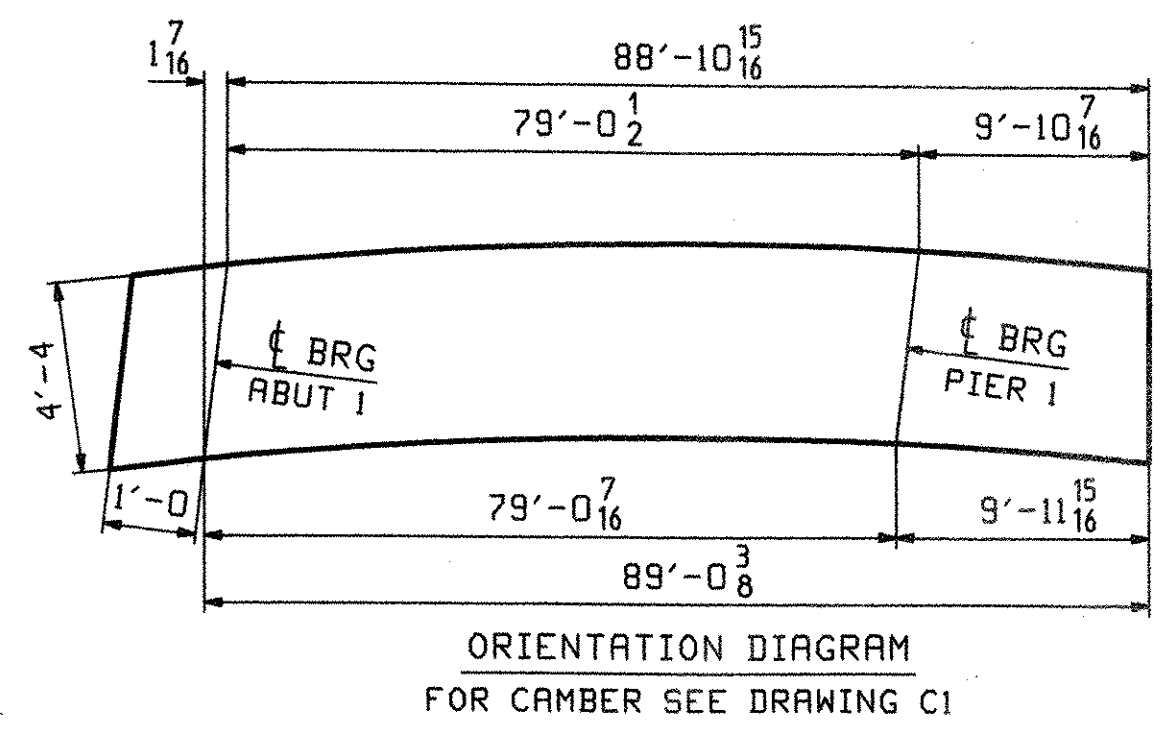


FOR FIELD SPLICE DETAIL SEE XIMI ON DRAWING XI



ONE - GIRDER - 5G5A

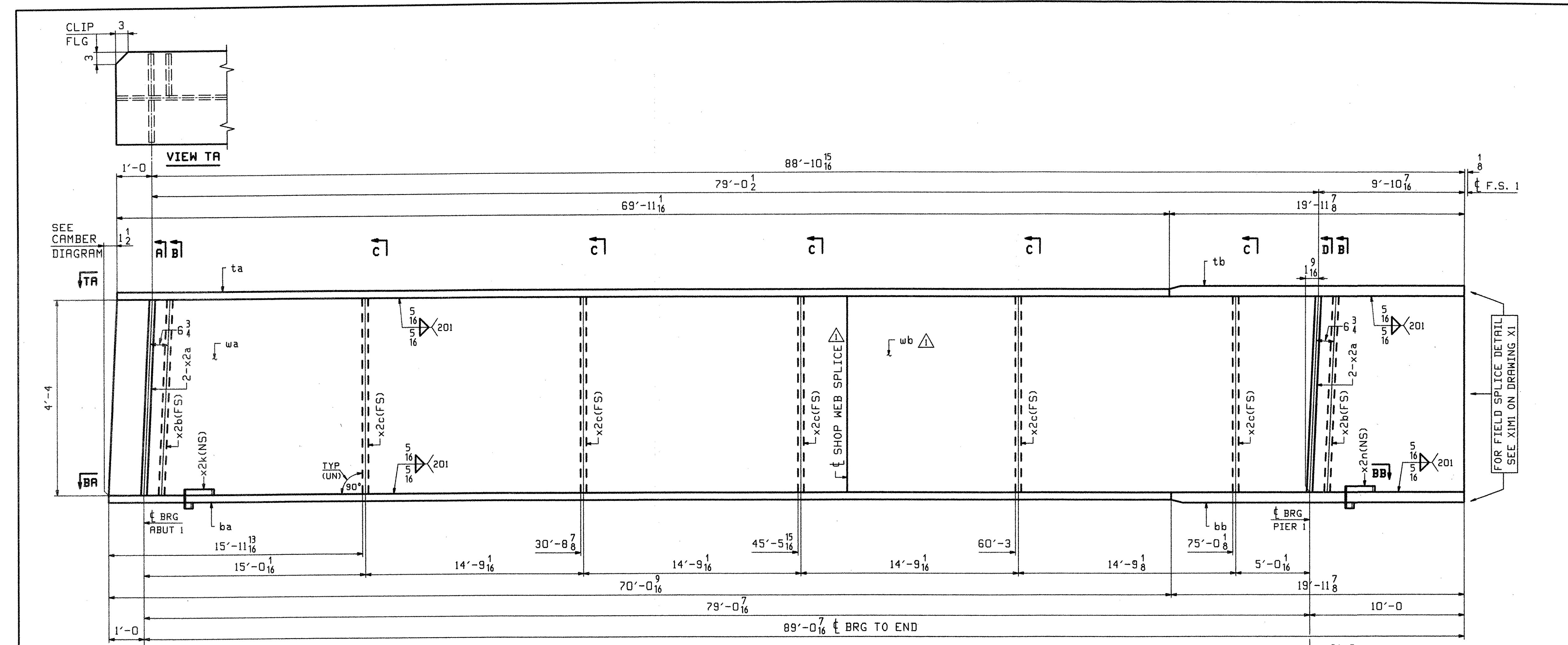
FOR FIELD SPLICE DETAILS SEE DRAWING XI.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



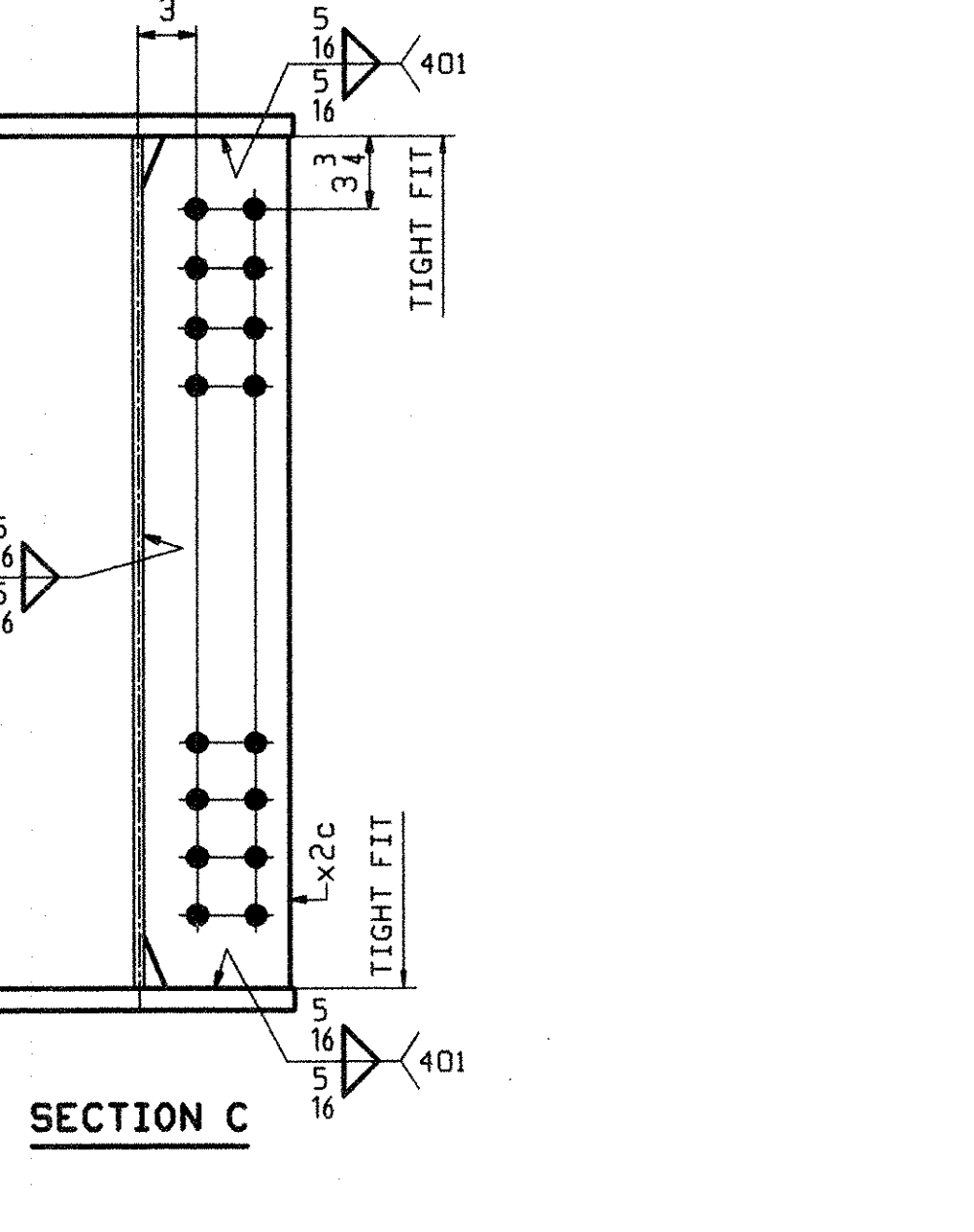
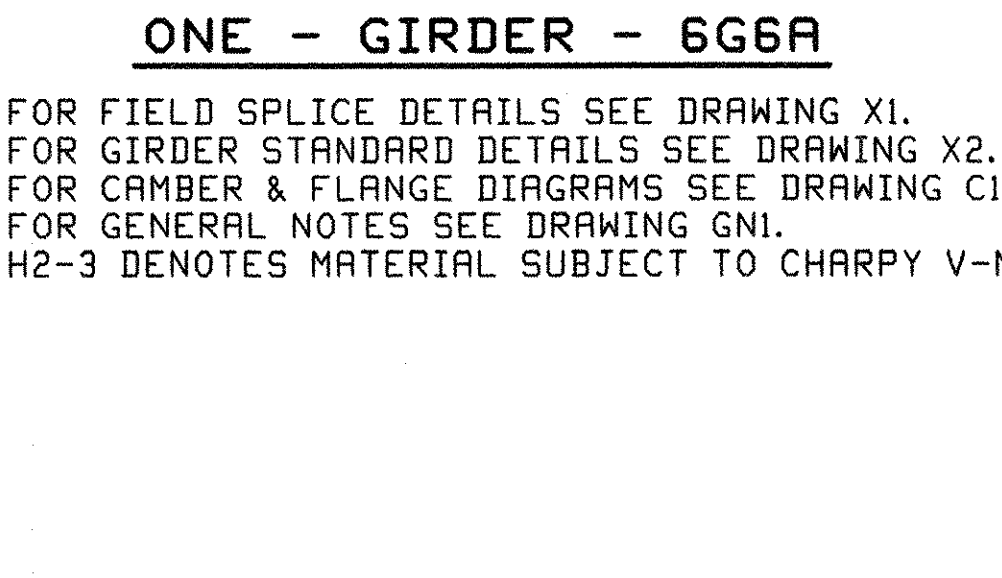
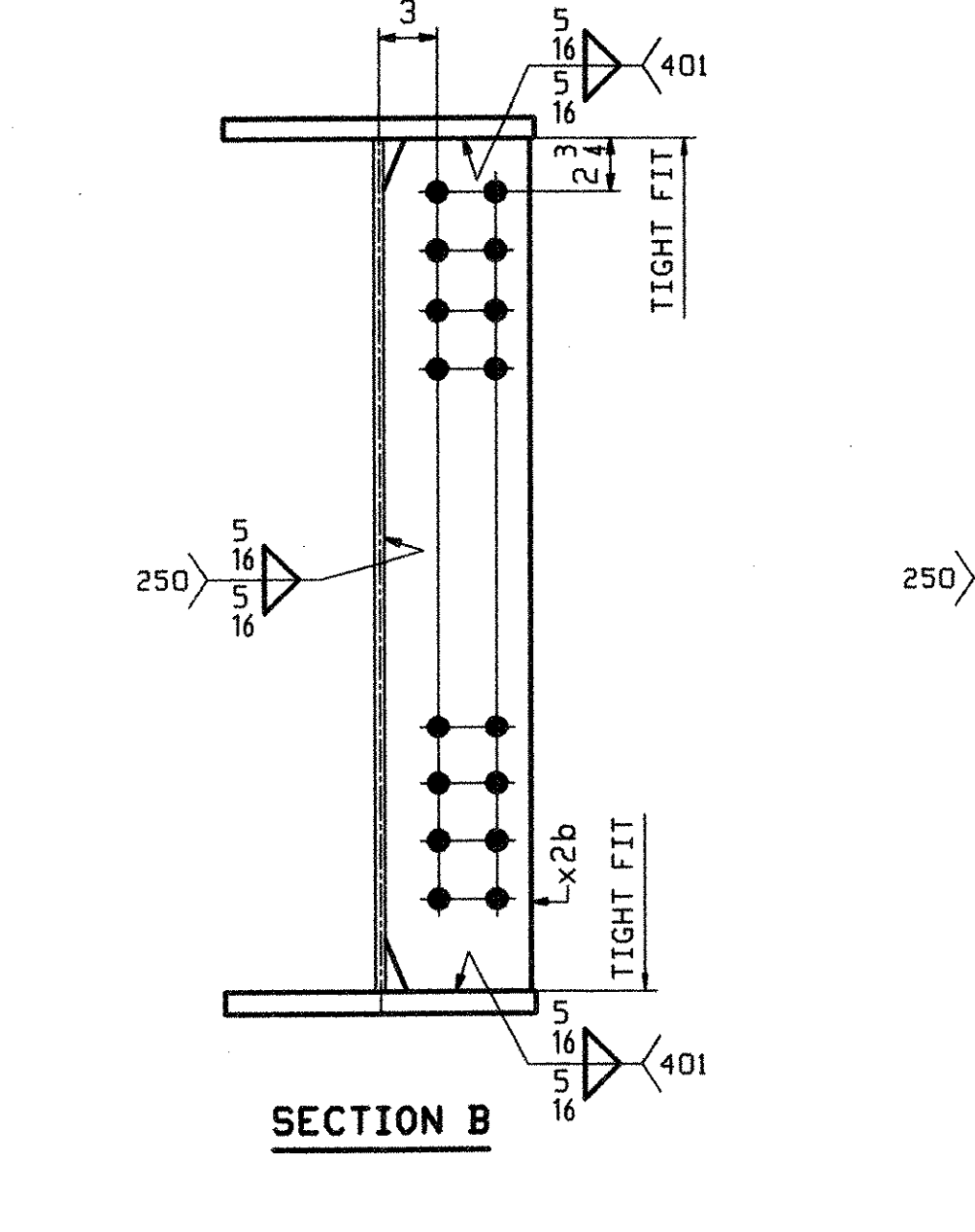
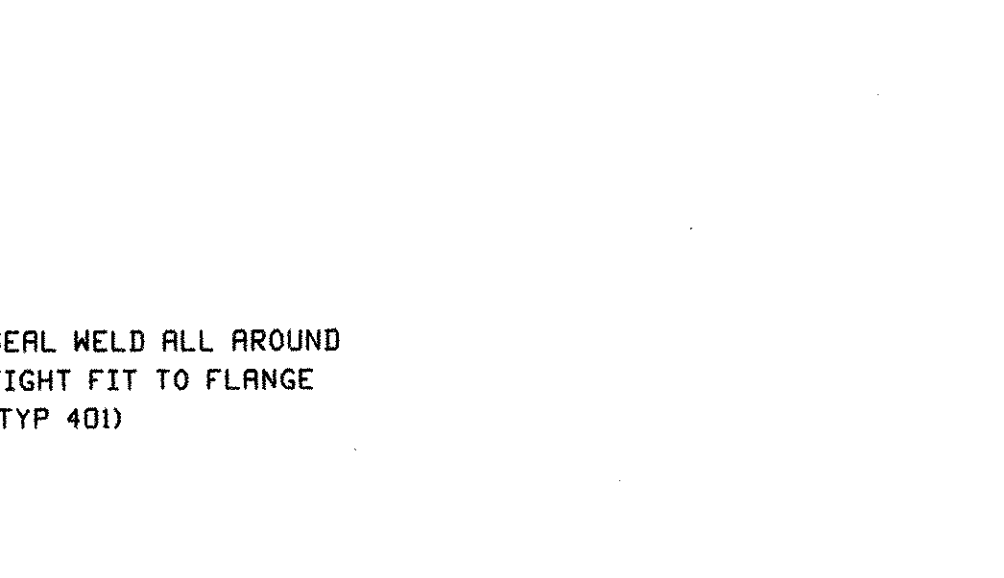
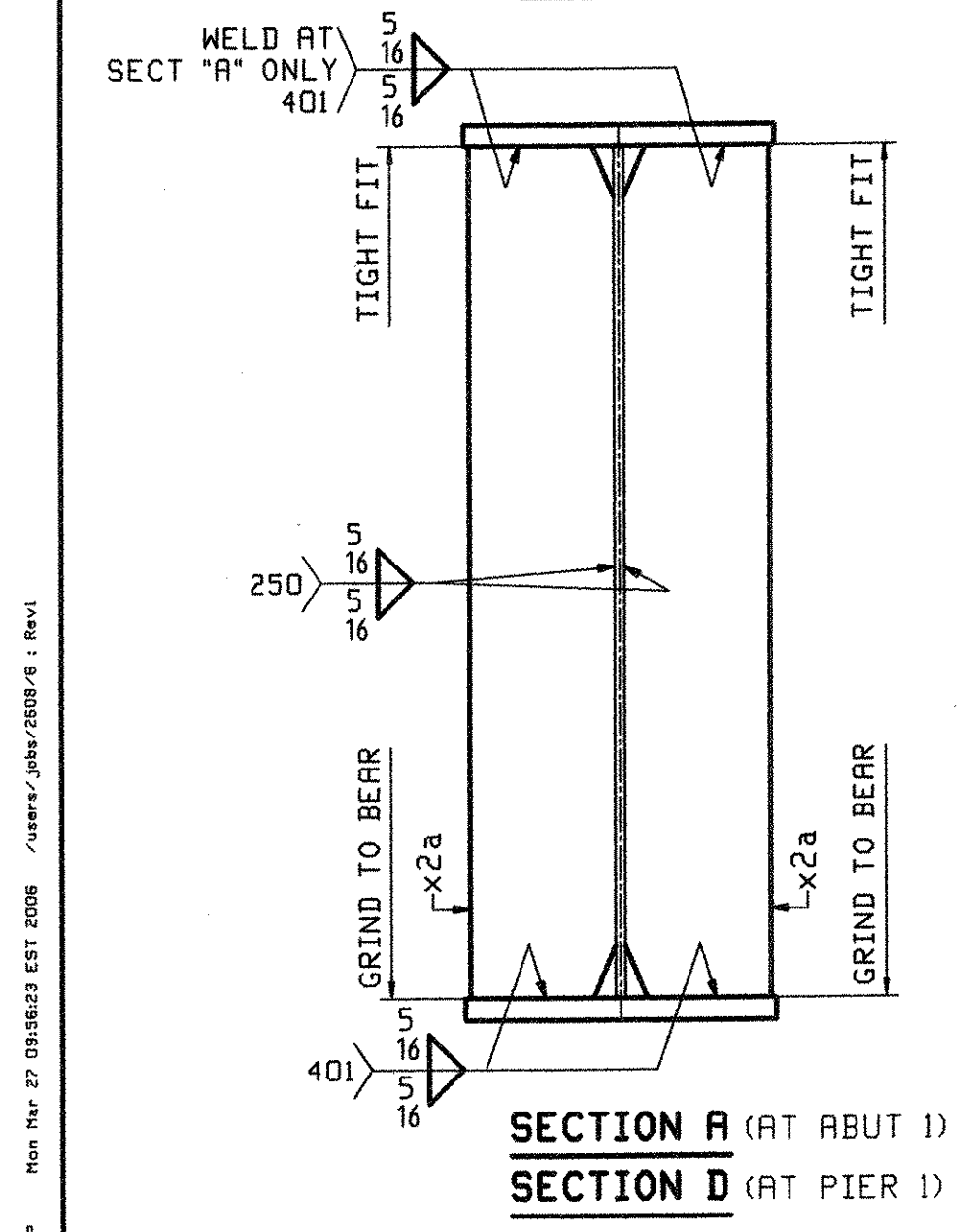
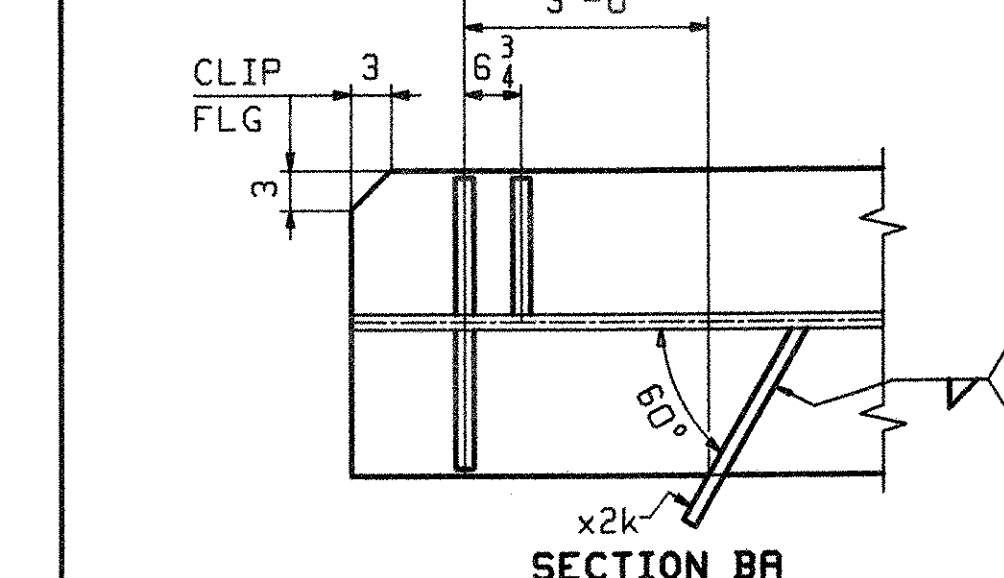
ABM INFO		SHIP		BILL OF MATERIAL			JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	290	5	△
							REMARKS	WT	PROCUREMENT NOTES
				5G5A	1	GIRDER			17973
1	Q		1	wa	PL 1/2x52	46 6 5/8	(M270-50WT2) (#2-3)		△
1	S		1	wb	PL 2x52	43 6	(M270-50WT2) (#2-3)		△
1	C		1	ta	PL 2x16	69 11 1/2	(M270-50WT2) (#2-3)		
1	A		1	tb	PL 1x16	19 11 3/8	(M270-50WT2) (#2-3)		
1	C		1	ba	PL 2x16	70 0 9/16	(M270-50WT2) (#2-3)		
1	A		1	bb	PL 1x16	19 11 3/8	(M270-50WT2) (#2-3)		
2	H		4	x2a	PL 2x7 1/2	4 4	MIE		
2	J		4	x2b	PL 2x7 1/2	4 4			
2	J		10	x2c	PL 1/2x7 1/2	4 4			

OUT FOR APPROVAL	Final 7-17-06											
OUT FOR APPROVAL												
ISSUED TO SHOP												
FIELD & OFFICE												
ADD WEB SPLICE	JTB	PCP										
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER	
	MATERIAL:											
	M270-50W (UN)											
	ELECTRODES:											
	HOLES:											
	SHOP BOLTS:											
SURFACE PREP. & PAINT:												
SEE DRAWING GNI												
DESCRIPTION:	GIRDER - 5G5A							DRAWN BY	JTB	DATE	02/22	
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER							CHKD BY	JTB			
	BRIDGE No. BR 11							PCP				
	WOODFORD, VT. BENNINGTON COUNTY							APPROV BY				
								SUPERVISOR	W. J. GATTI			
PROJ NO.	BHF 010-1(29)							Q.A.				
CUSTOMER:	RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.												
75 SPRING HILL ROAD							SACO, MAINE 04072		JOB NO.	290	DRG. NO.	5
PHONE (207) 282-7360							FAX. (207) 282-1179		REV. △			

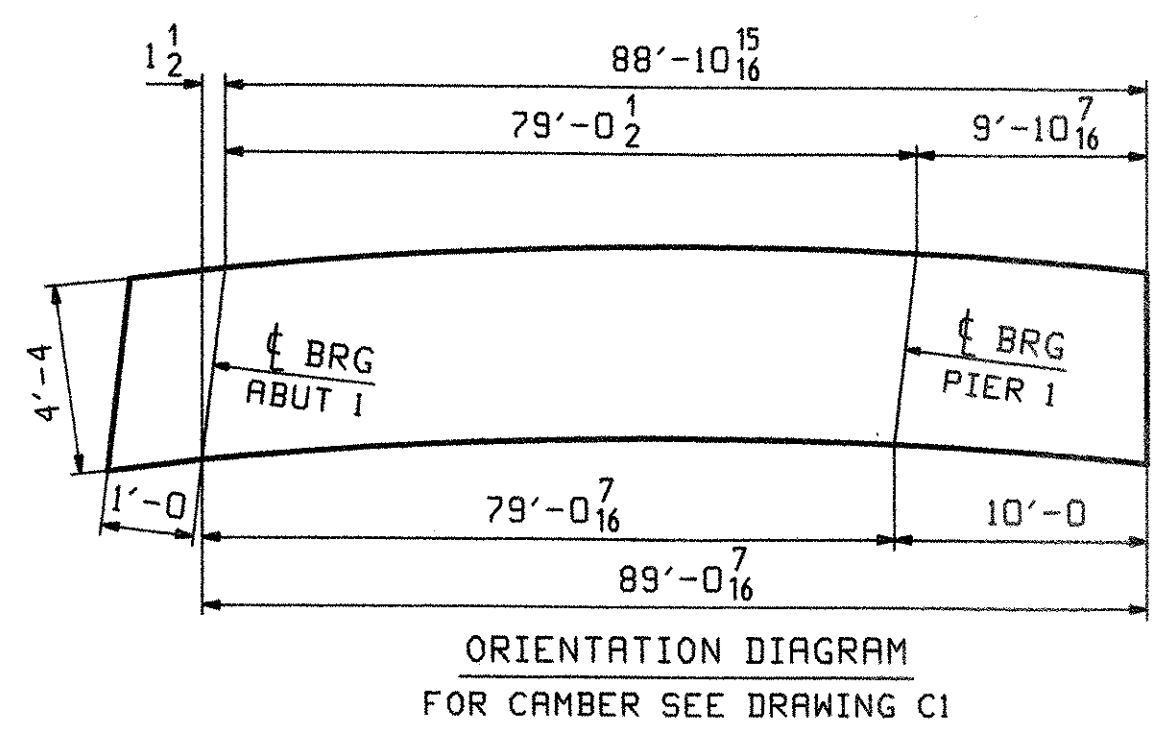
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 BY: [Signature] DATE 7/28/06



ABM INFO		SHIP			BILL OF MATERIAL		JOB NO.		DRAWING NO.		REV.
		6G6A					290		6		1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH	REMARKS	WT	PROCUREMENT NOTES		
						FT INCHES					
									17591		
1	O		1	wa	PL 1/2x52	46 6 11/16	(M270-50WT2) (#2-3)		▲		
1	S		1	wb	PL 1/2x52	43 6	(M270-50WT2) (#2-3)		▲		
1	C		1	ta	PL 3/8x16	69 11 7/8	(M270-50WT2) (#2-3)				
1	A		1	tb	PL 1x16	19 11 7/8	(M270-50WT2) (#2-3)				
1	C		1	ba	PL 3/8x16	70 0 9/16	(M270-50WT2) (#2-3)				
1	A		1	bb	PL 1x16	19 11 7/8	(M270-50WT2) (#2-3)				
2	H		4	x2a	PL 7/8x7 1/2	4 4	MJE				
2	J		2	x2b	PL 1/2x7 1/2	4 4					
2	J		5	x2c	PL 1/2x7 1/2	4 4					
2	K		1	x2k	PL 1/2x2 1/8	0 11					
2	K		1	x2n	PL 1/4x3	0 11					



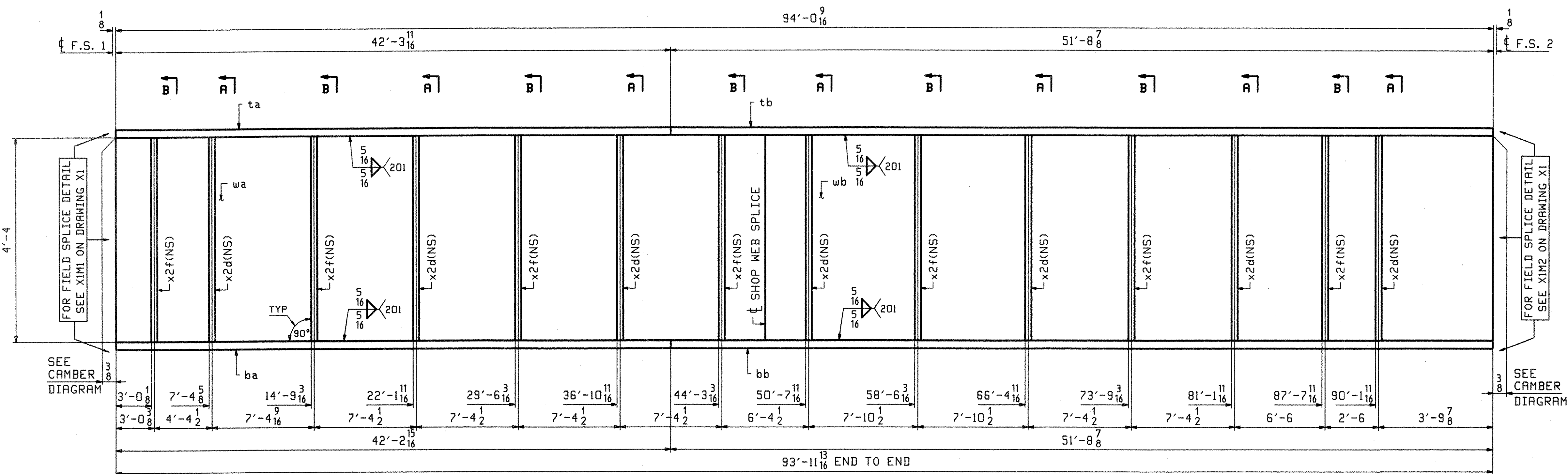
ONE - GIRDER - 6G6A
 FOR FIELD SPLICE DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



OUT FOR APPROVAL	<i>Final 7-17-06</i>										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
▲ ADD WEB SPLICE	JTB	PCP									
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL:										
	M270-50W (UN)										NONE
	ELECTRODES:										
	HOLES:										
	15/16" φ										
	SHOP BOLTS:										
	NONE										
	SURFACE PREP. & PAINT:										
	SEE DRAWING GNI										
DESCRIPTION:	GIRDER - 6G6A								DRAWN BY	DATE	
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER								JTB	02/22	
	BRIDGE No. BR 11								CHKD BY		
	WOODFORD, VT. BENNINGTON COUNTY								PCP	03/06	
									APPROV BY		
									SUPERVISOR	M. J. GATTI	
PROJ NO.	BHF 010-1(29)								Q.A.		
CUSTOMER:	RENAUD BROTHERS, INC.										
	CASCO BAY STEEL STRUCTURES, INC.								JOB NO.	DRG. NO.	
	75 SPRING HILL ROAD SACO, MAINE 04072								290	6	
	PHONE (207) 282-7360 FAX. (207) 282-1179									REV. ▲	

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 JUL 26 2006
 RESUBMIT _____ APPROVED _____
 BY: _____ DATE 7/28/06

BILL OF MATERIAL		JOB NO.	DRAWING NO.	REV.					
		290	7						
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		7G1B	1		GIRDER			18052	
1	L		1	wa	PL 1/2x52	49 6 1/8	(M270-50WT2) (H2-3)		
1	N		1	wb	PL 1/2x52	44 6 1/8	(M270-50WT2) (H2-3)		
1	G		1	ta	PL 7/8x16	42 3 1/8	(M270-50WT2) (H2-3)		
1	E		1	tb	PL 7/8x16	51 8 7/8	(M270-50WT2) (H2-3)		
1	G		1	ba	PL 7/8x16	42 2 1/8	(M270-50WT2) (H2-3)		
1	E		1	bb	PL 7/8x16	51 8 7/8	(M270-50WT2) (H2-3)		
2	J		7	x2d	PL 1/2x7 1/2	4 4			
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FOR FIELD SPLICE DETAIL
SEE X1M1 ON DRAWING X1

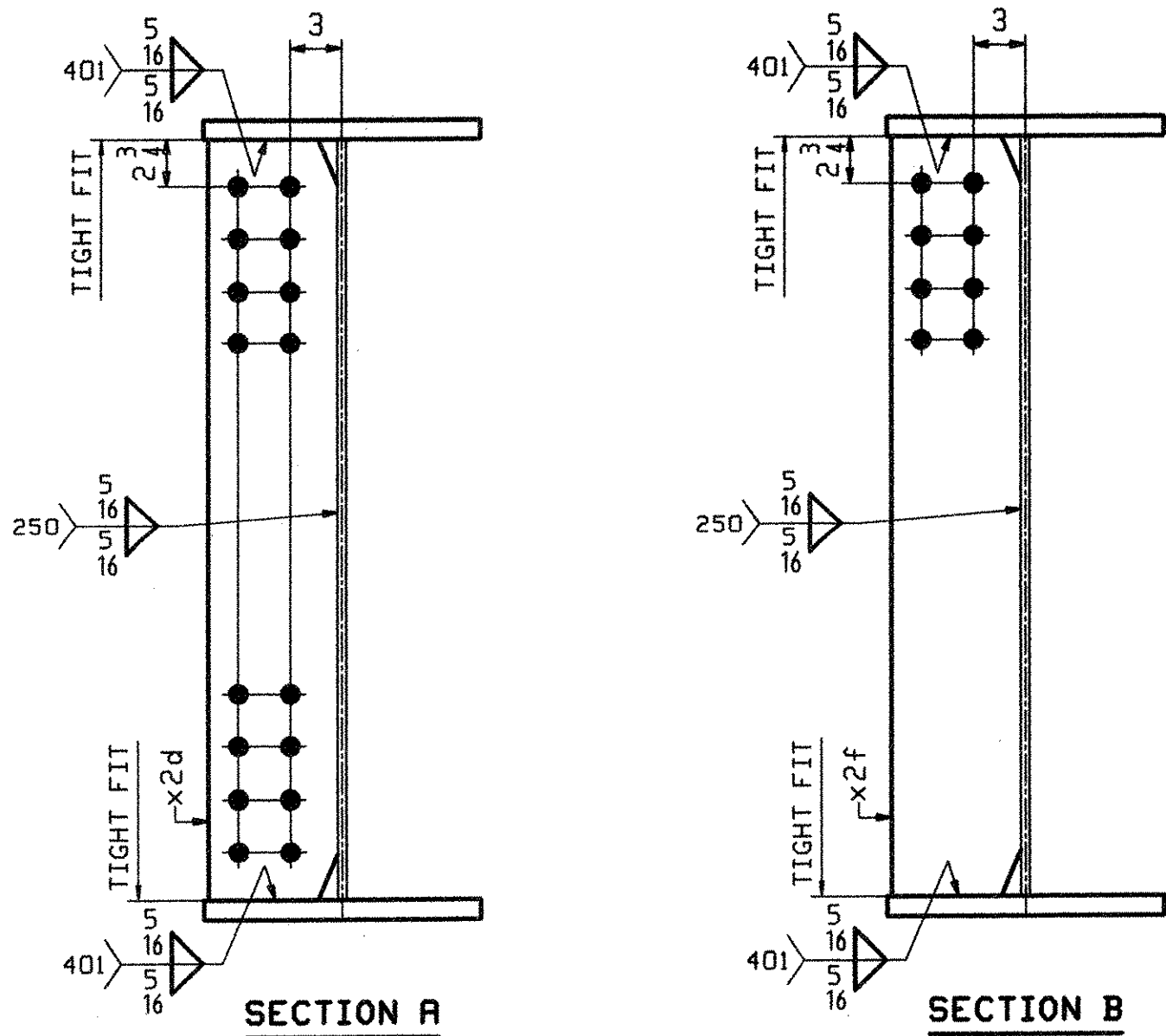
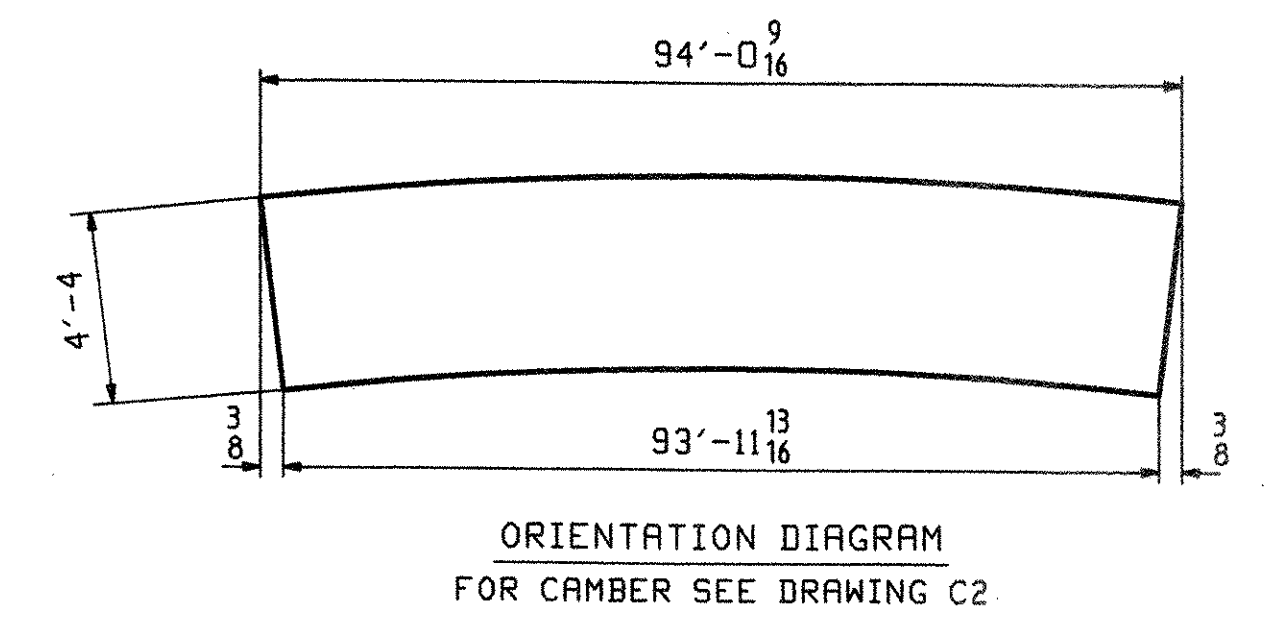
FOR FIELD SPLICE DETAIL
SEE X1M2 ON DRAWING X1

SEE CAMBER
DIAGRAM

SEE CAMBER
DIAGRAM

ONE - GIRDER - 7G1B

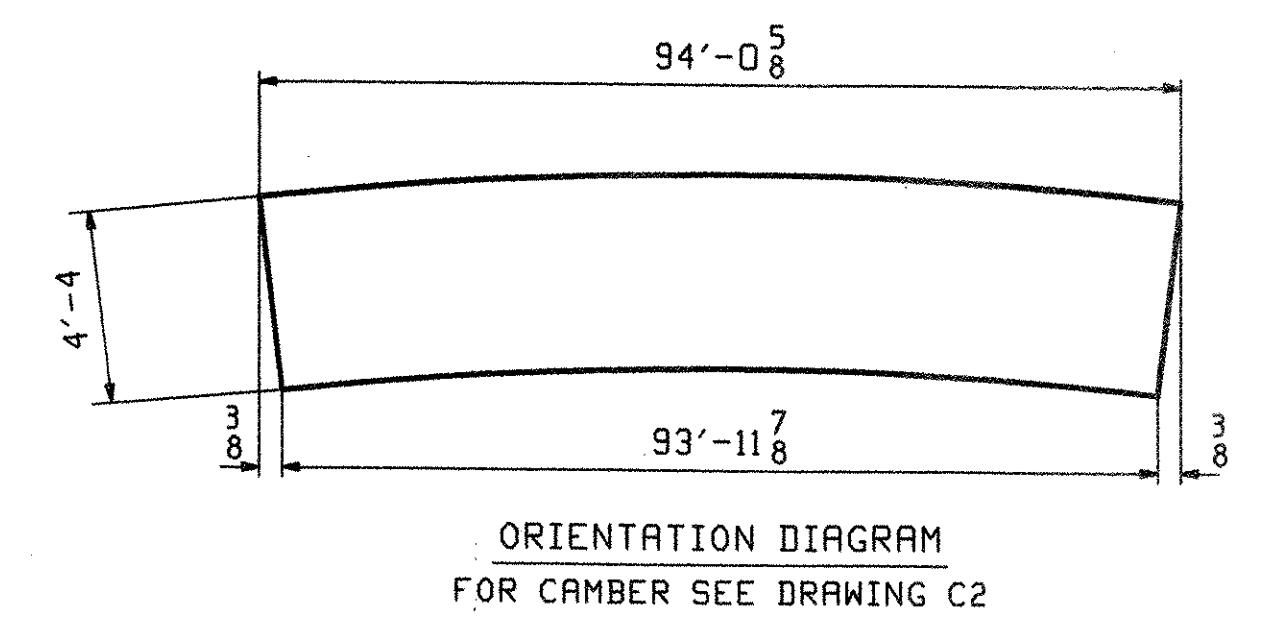
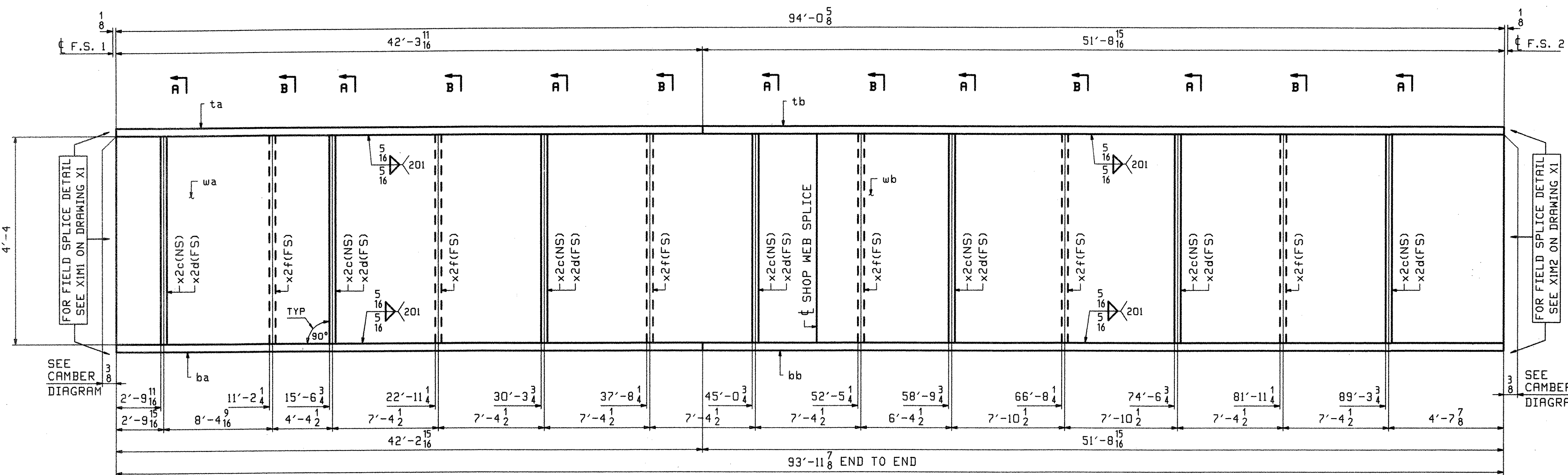
FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GNI.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



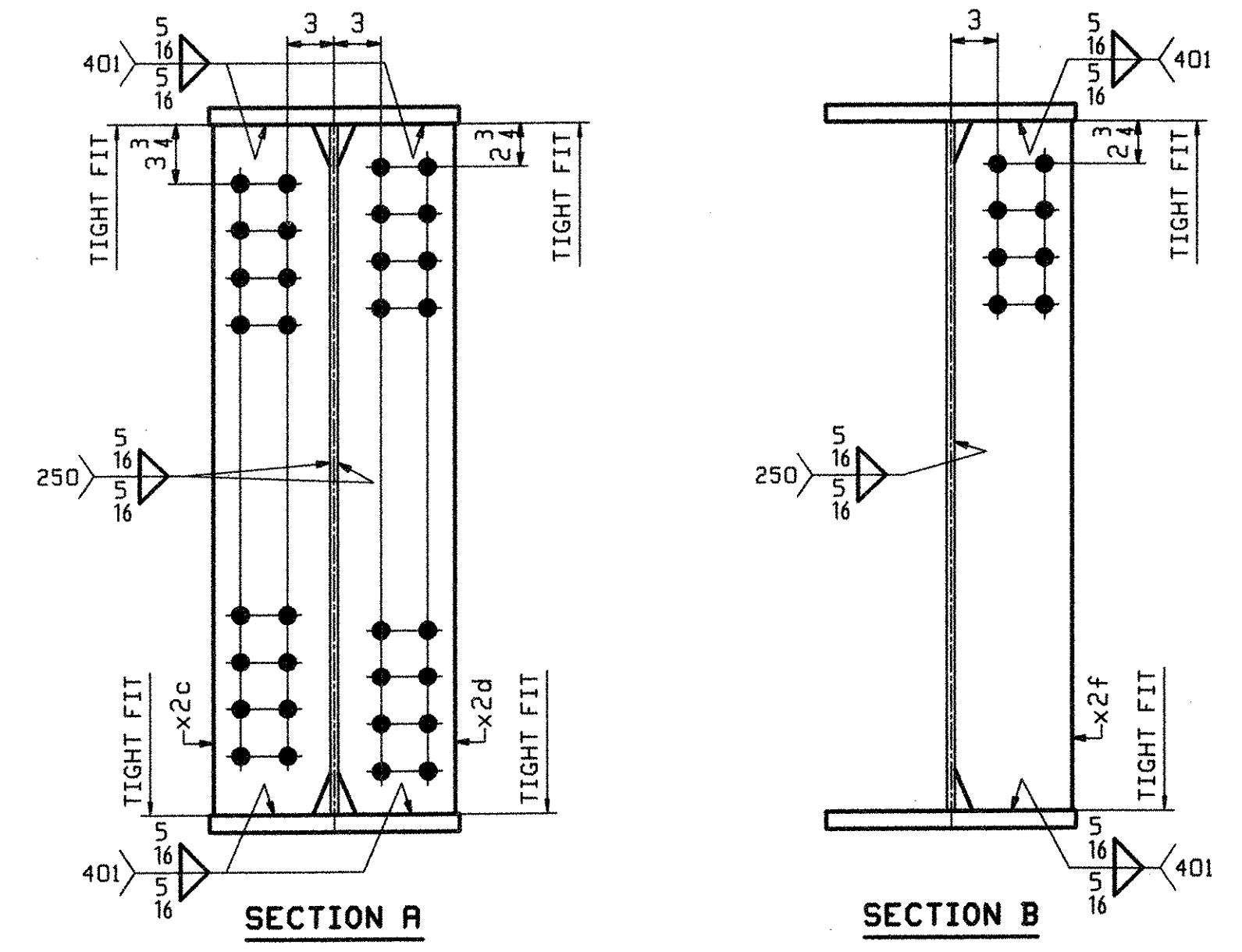
RECEIVED
OK'D BY: *[Signature]*
JUL 26 2006
RESUBMIT APPROVED *[Signature]*
BY: DATE 7/28/06

OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:		NONE			
	M270-50W (UN)			15/16 φ							
	SURFACE PREP. & PAINT: SEE DRAWING GNI										
	DESCRIPTION:	GIRDER - 7G1B				DRAWN BY	DATE				
	JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER				JTB	02/22				
		BRIDGE No. BR 11				CHKD BY					
		WOODFORD, VT. BENNINGTON COUNTY				PCP	03/06				
						APPROV BY					
						SUPERVISOR	M. J. GATTI				
	PROJ NO.	BHF 010-1(29)									
	CUSTOMER: RENAUD BROTHERS, INC.										
	CASCO BAY STEEL STRUCTURES, INC.				JOB NO.	DRG. NO.					
	75 SPRING HILL ROAD				290	7					
	PHONE (207) 282-7360				SACO, MAINE 04072		FAX. (207) 282-1179		REV. <i>[Triangle]</i>		

ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH	REMARKS	WT
						FT		PROCUREMENT NOTES
						INCHES		
		8G2B	1		GIRDER			18385
1	L		1	wa	PL 1/2x52	49 6 1/4	(M270-50WT2) (H2-3)	
1	N		1	wb	PL 2x52	44 6 3/8	(M270-50WT2) (H2-3)	
1	G		1	ta	PL 7/8x16	42 3 11/16	(M270-50WT2) (H2-3)	
1	E		1	tb	PL 7/8x16	51 8 5/16	(M270-50WT2) (H2-3)	
1	G		1	ba	PL 7/8x16	42 2 15/16	(M270-50WT2) (H2-3)	
1	E		1	bb	PL 7/8x16	51 8 5/16	(M270-50WT2) (H2-3)	
2	J		7	x2c	PL 1/2x7 1/2	4 4		
2	J		7	x2d	PL 1/2x7 1/2	4 4		
2	J		6	x2f	PL 1/2x7 1/2	4 4		



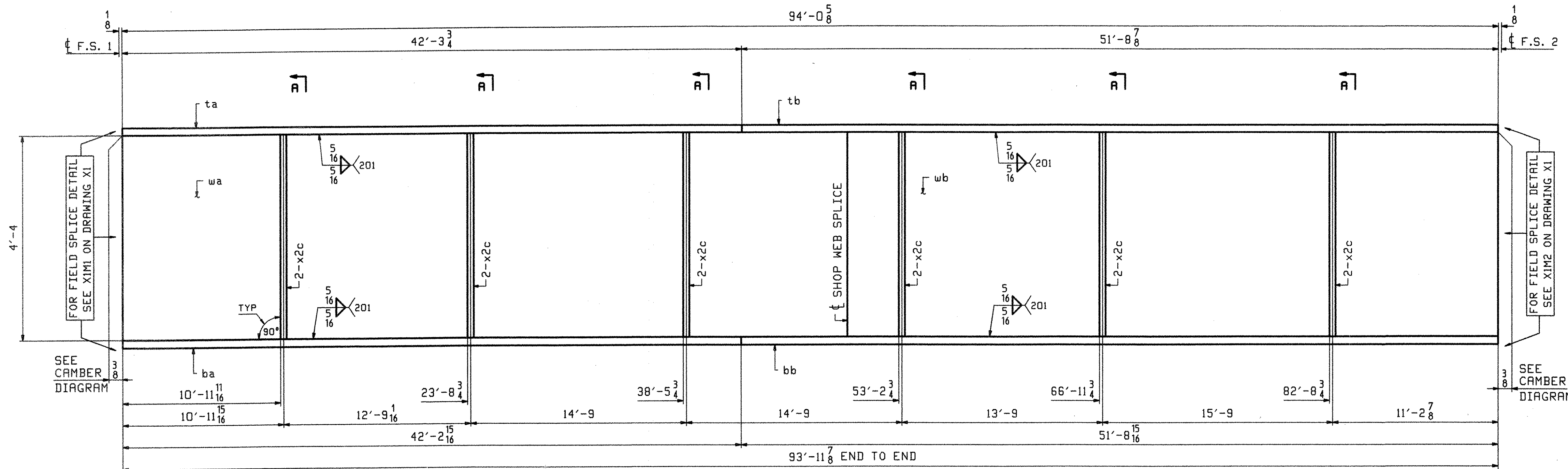
ONE - GIRDER - 8G2B
 FOR FIELD SPLICE DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL:										
	M270-50W (UN)										
	ELECTRODES:										
	HOLES:										
	SHOP BOLTS:										
SURFACE PREP. & PAINT:											
SEE DRAWING GNI											
DESCRIPTION: GIRDER - 8G2B										DRAWN BY	DATE
JOB: RTE 9 OVER ROARING BRANCH OF WALLOOHSAC RIVER										JTB	02/22
BRIDGE No. BR 11										CHKD BY	
WOODFORD, VT. BENNINGTON COUNTY										PCP	03/06
										APPROV BY	
										SUPERVISOR	W. J. GATTI
PROJ NO. BHF 010-1(29)										Q.A.	
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.
75 SPRING HILL ROAD SACO, MAINE 04072										290	8
PHONE (207) 282-7360 FAX. (207) 282-1179										REV.	△

RECEIVED
 OK'D BY: _____ OK'D BY: MGN
 JUL 26 2006
 RESUBMIT _____ APPROVED _____
 BY: _____ DATE 7/28/06

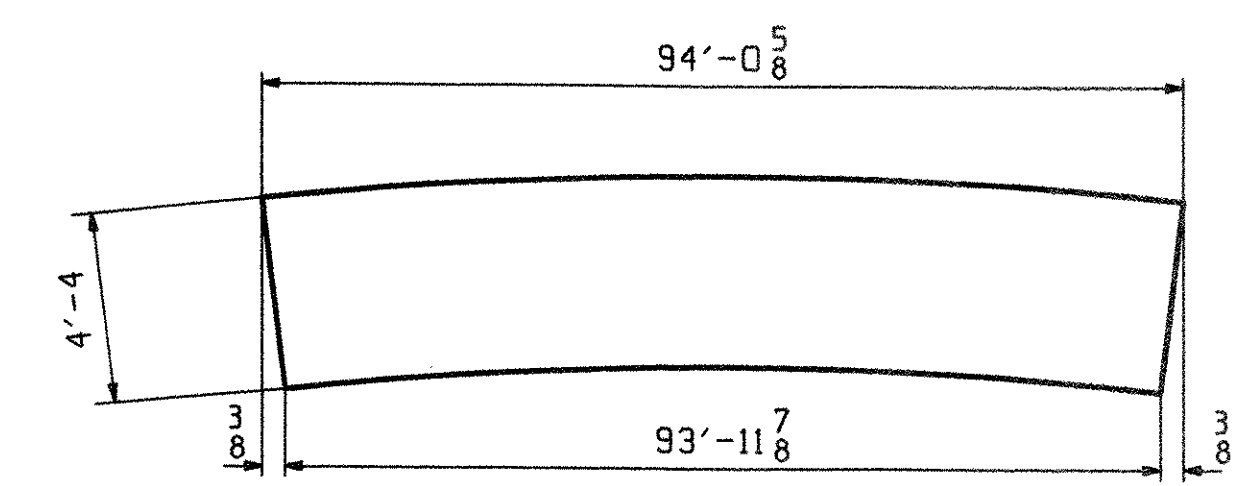
ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH	REMARKS	WT	PROCUREMENT NOTES
						FT INCHES			
		9G3B	1		GIRDER			17943	
1	L		1	wa	PL 1/2x52	49 6 1/4	(M270-SOWT2) (H2-3)		
1	N		1	wb	PL 1/2x52	44 6 3/8	(M270-SOWT2) (H2-3)		
1	G		1	ta	PL 7/8x16	42 3 3/4	(M270-SOWT2) (H2-3)		
1	E		1	tb	PL 7/8x16	51 8 5/8	(M270-SOWT2) (H2-3)		
1	G		1	ba	PL 7/8x16	42 2 15/16	(M270-SOWT2) (H2-3)		
1	E		1	bb	PL 7/8x16	51 8 5/8	(M270-SOWT2) (H2-3)		
2	J		12	x2c	PL 1/2x7 1/2	4 4			



FOR FIELD SPLICE DETAIL SEE XIM2 ON DRAWING X1

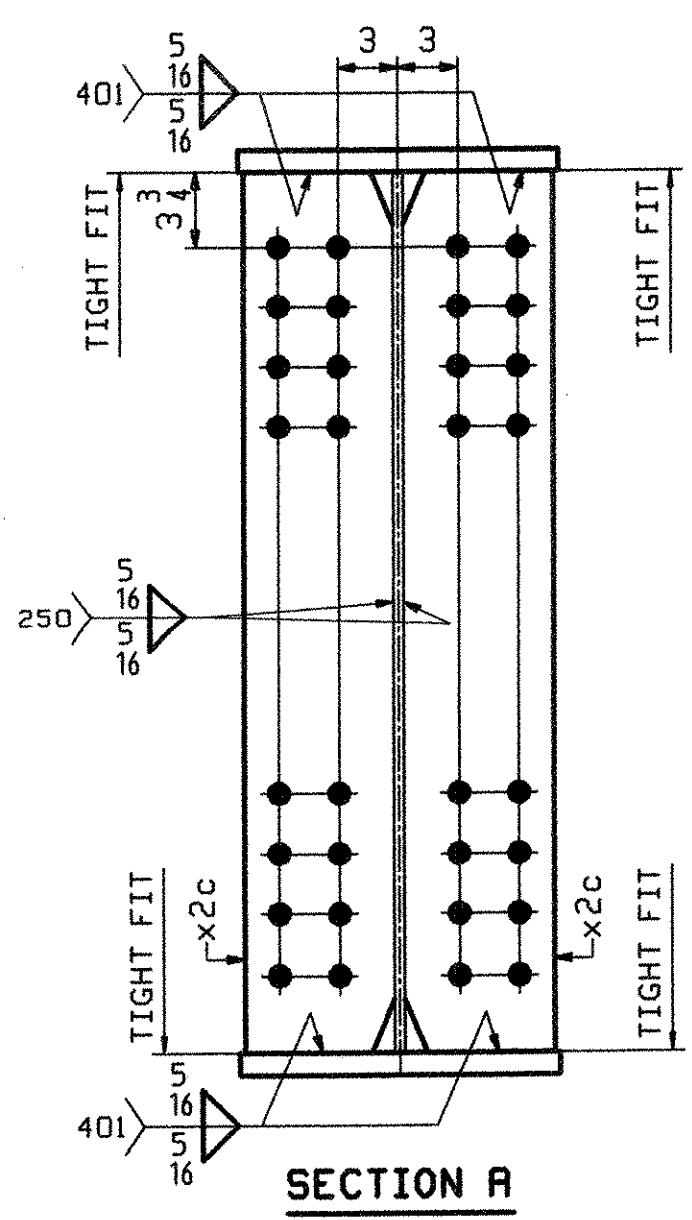
SEE CAMBER DIAGRAM

SEE CAMBER DIAGRAM



ONE - GIRDER - 9G3B

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

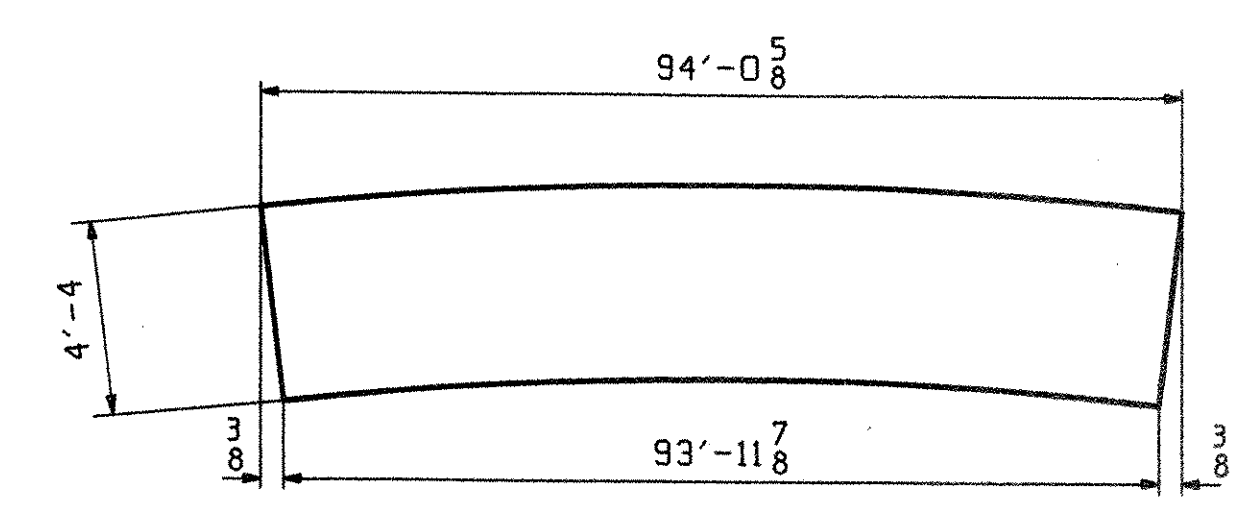
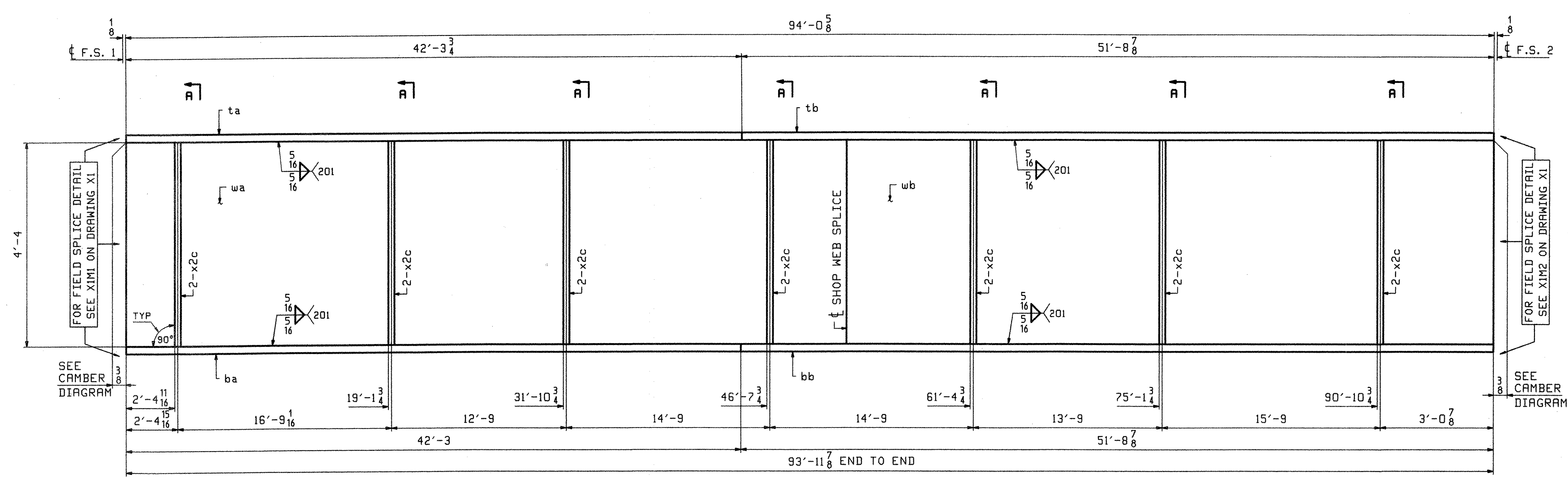


OUT FOR APPROVAL	Final 7/17/06								
OUT FOR APPROVAL									
ISSUED TO SHOP									
FIELD & OFFICE									

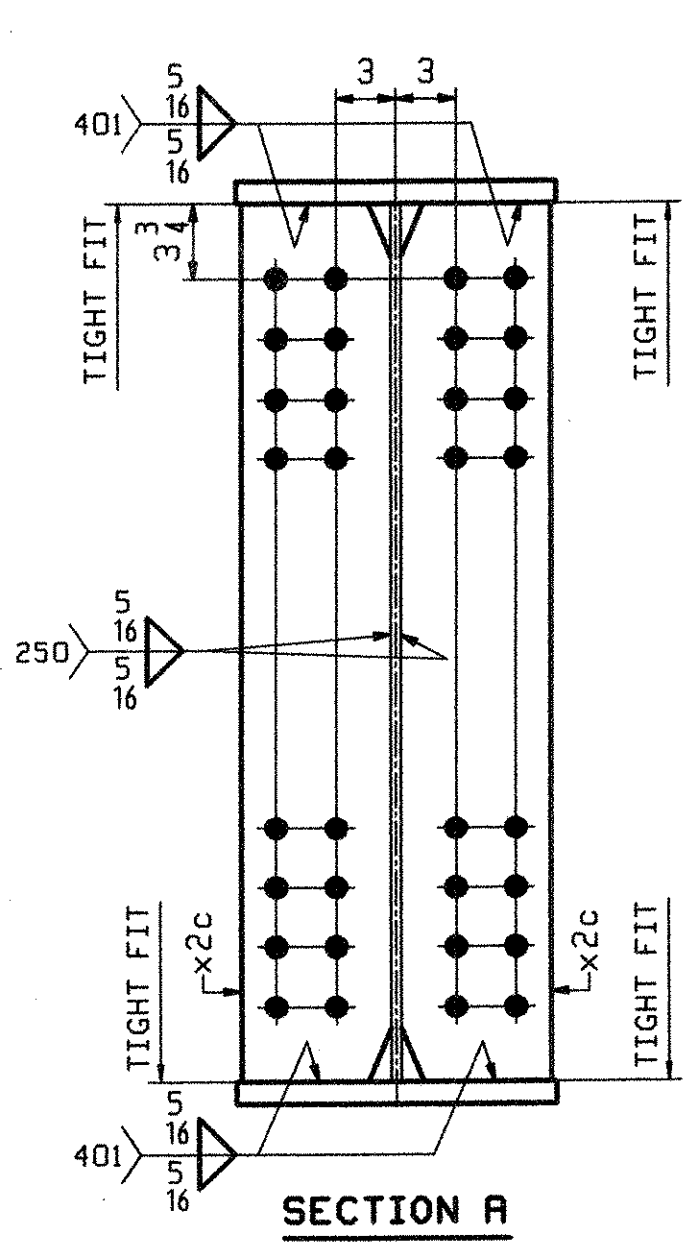
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL: M270-SOW (UN)										
	SURFACE PREP. & PAINT: SEE DRAWING GNI										
	DESCRIPTION: GIRDER - 9G3B										
	JOB: RTE 9 OVER ROARING BRANCH OF WALLOOHSAC RIVER										
	BRIDGE No. BR 11										
	WOODFORD, VT. BENNINGTON COUNTY										
	PROJ NO. BHF 010-1(29)										
	CUSTOMER: RENAUD BROTHERS, INC.										
	CASCO BAY STEEL STRUCTURES, INC.										
	75 SPRING HILL ROAD SACO, MAINE 04072										
	PHONE (207) 282-7360 FAX. (207) 282-1179										
	JOB NO. 290										
	DRG. NO. 9										
	REV. 9										

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 BY: DATE 7/28/06

PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH		REMARKS	WT	PROCUREMENT NOTES
						FT	INCHES			
		10G4B	1		GIRDER					18053
1	L		1	wa	PL 1/2x52	49	6 1/4	(M270-SDWT2) (H2-3)		
1	N		1	wb	PL 1/2x52	44	6 3/8	(M270-SDWT2) (H2-3)		
1	G		1	ta	PL 3/8x16	42	3 3/4	(M270-SDWT2) (H2-3)		
1	E		1	tb	PL 3/8x16	51	8 7/8	(M270-SDWT2) (H2-3)		
1	G		1	ba	PL 7/8x16	42	3	(M270-SDWT2) (H2-3)		
1	E		1	bb	PL 7/8x16	51	8 7/8	(M270-SDWT2) (H2-3)		
2	J		14	x2c	PL 1/2x7 1/2	4	4			



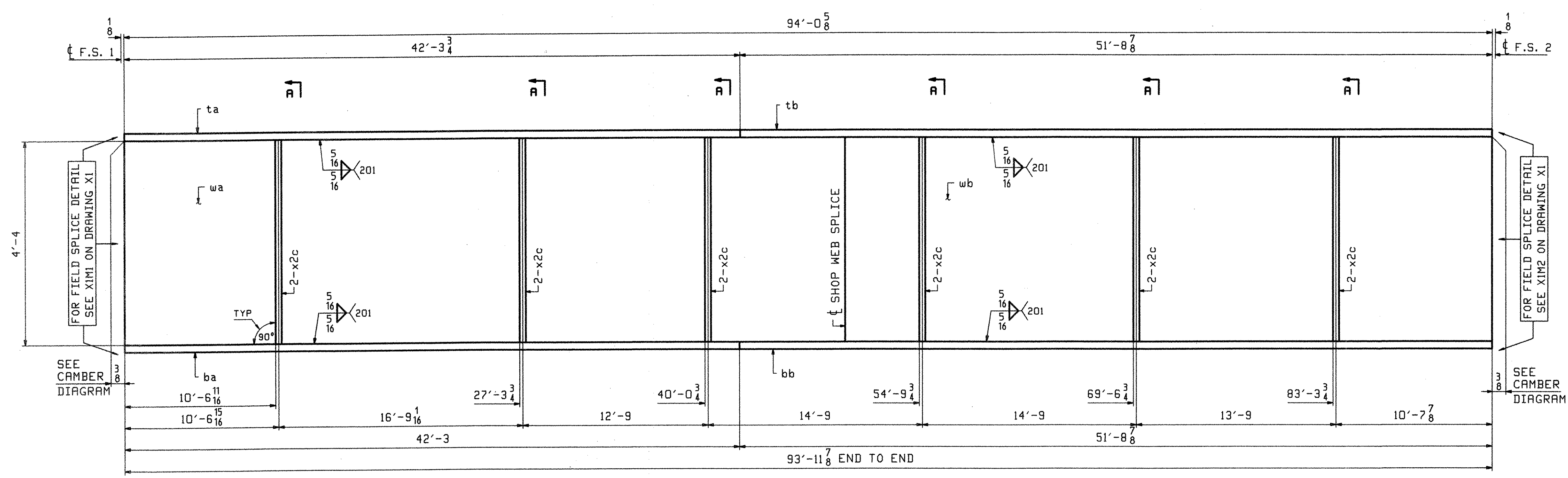
ONE - GIRDER - 10G4B
 FOR FIELD SPLICE DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



RECEIVED
 OK'D BY [Signature]
 JUL 26 2006
 RESUBMIT BY [Signature]
 APPROVED BY [Signature]
 DATE 7/28/06

OUT FOR APPROVAL	Final 7-17-06										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL: M270-50W (UN)										
	ELECTRODES:										
	HOLES: 15/16" φ										
	SHOP BOLTS: NONE										
SURFACE PREP. & PAINT: SEE DRAWING GNI											
DESCRIPTION:	GIRDER - 10G4B	DRAWN BY:	JTB	DATE:	02/22						
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER	CHKD BY:	PCP								
BRIDGE No. BR 11											
WOODFORD, VT. BENNINGTON COUNTY											
APPROV BY											
SUPERVISOR M. J. GATTI											
PROJ NO.	BHF 010-1(29)										
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.											
75 SPRING HILL ROAD		SACO, MAINE 04072		JOB NO. 290		DRG. NO. 10					
PHONE (207) 282-7360		FAX (207) 282-1179		REV.							

ABM INFO		SHIP	BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.
							290	11	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		11G5B	1		GIRDER			17943	
1	L		1	wb	PL 1/2 x 52	49 6 1/4	(M270-50WT2) (H2-3)		
1	N		1	wb	PL 1/2 x 52	44 6 3/8	(M270-50WT2) (H2-3)		
1	G		1	ta	PL 7/8 x 16	42 3 3/4	(M270-50WT2) (H2-3)		
1	E		1	tb	PL 7/8 x 16	51 8 6/8	(M270-50WT2) (H2-3)		
1	G		1	ba	PL 7/8 x 16	42 3	(M270-50WT2) (H2-3)		
1	E		1	bb	PL 7/8 x 16	51 8 6/8	(M270-50WT2) (H2-3)		
2	J		12	x2c	PL 1/2 x 7 1/2	4 4			

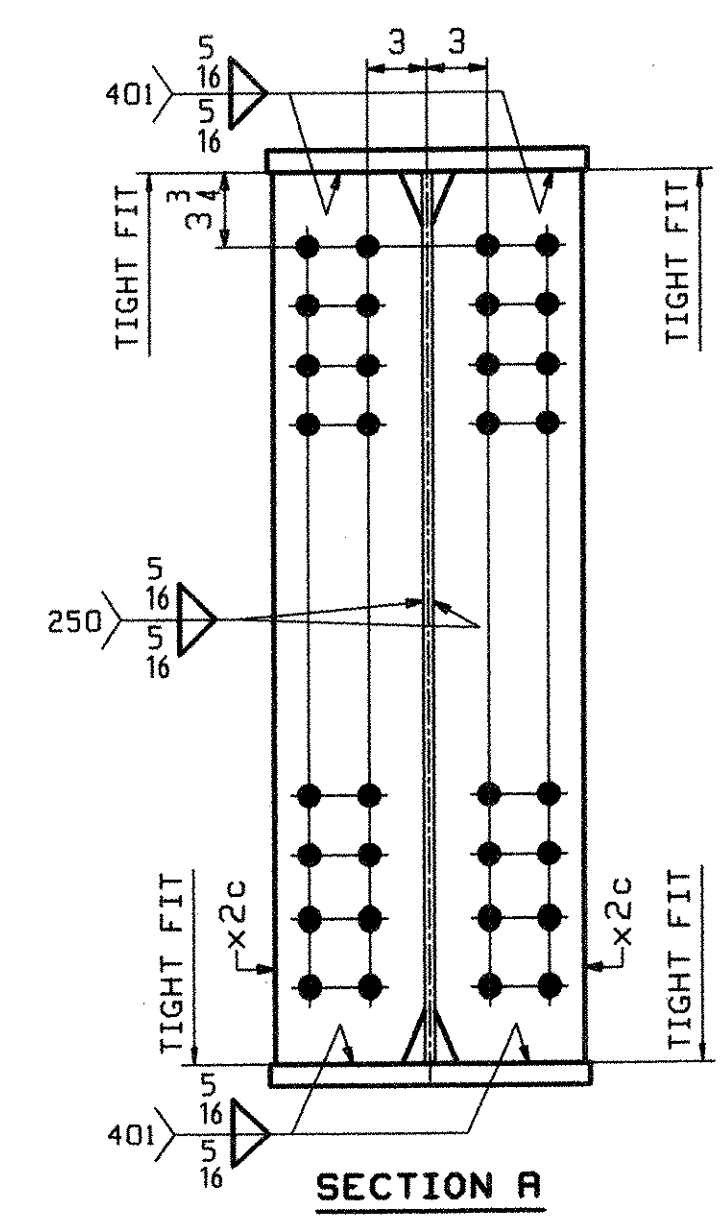
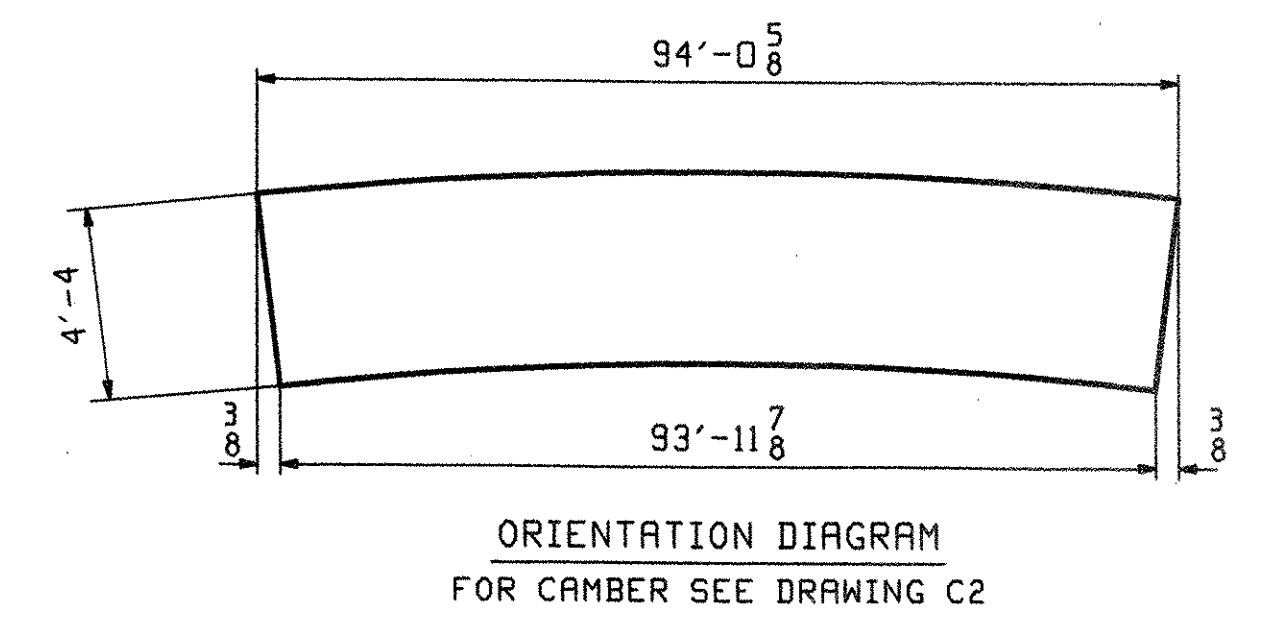


FOR FIELD SPLICE DETAIL SEE XIM2 ON DRAWING XI

SEE CAMBER DIAGRAM

SEE CAMBER DIAGRAM

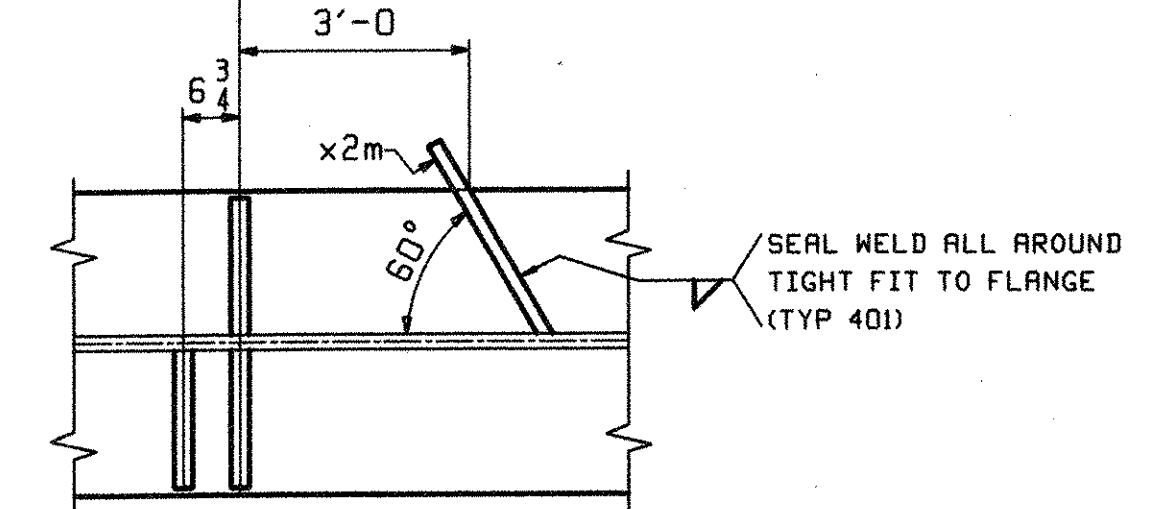
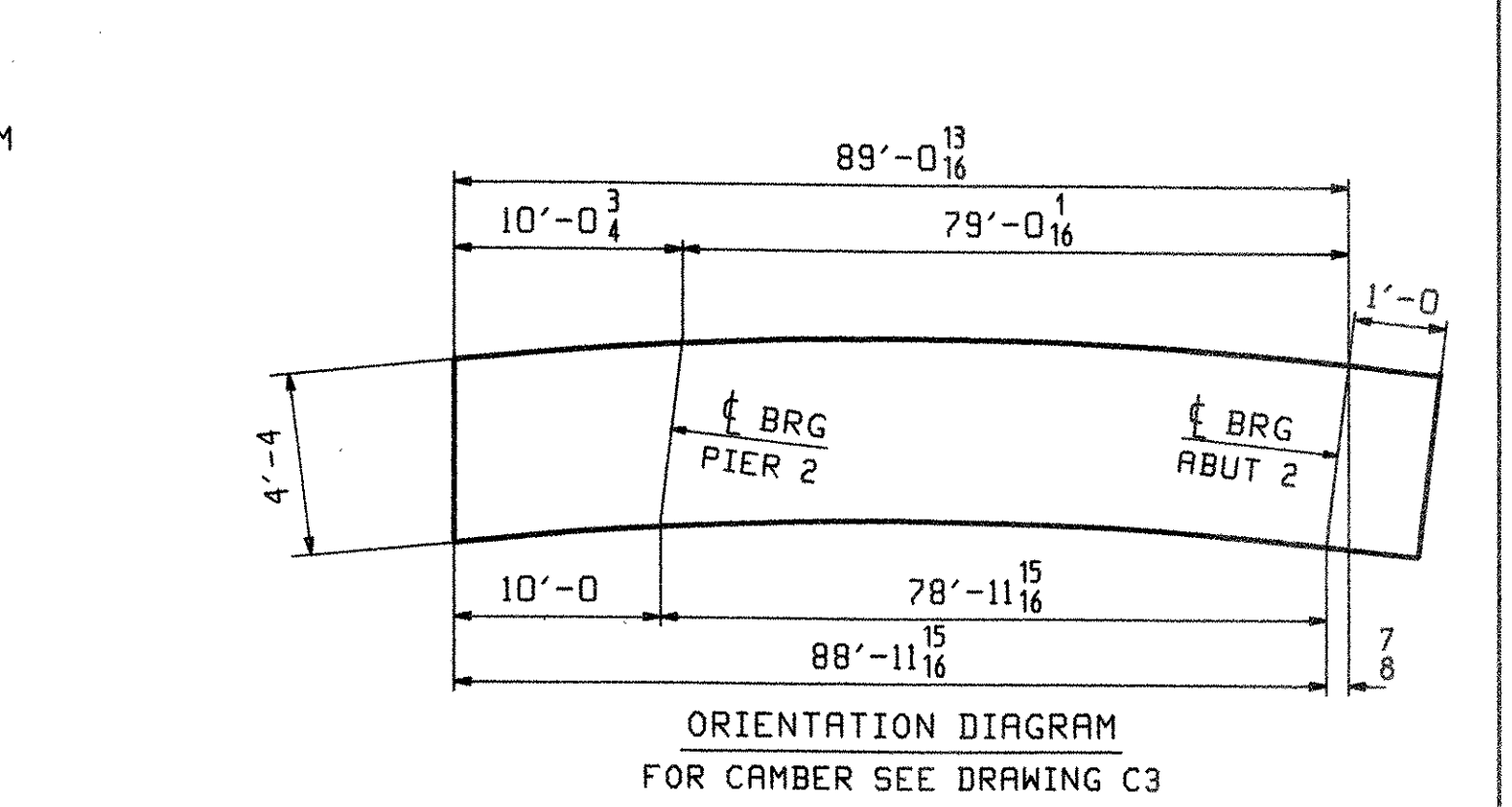
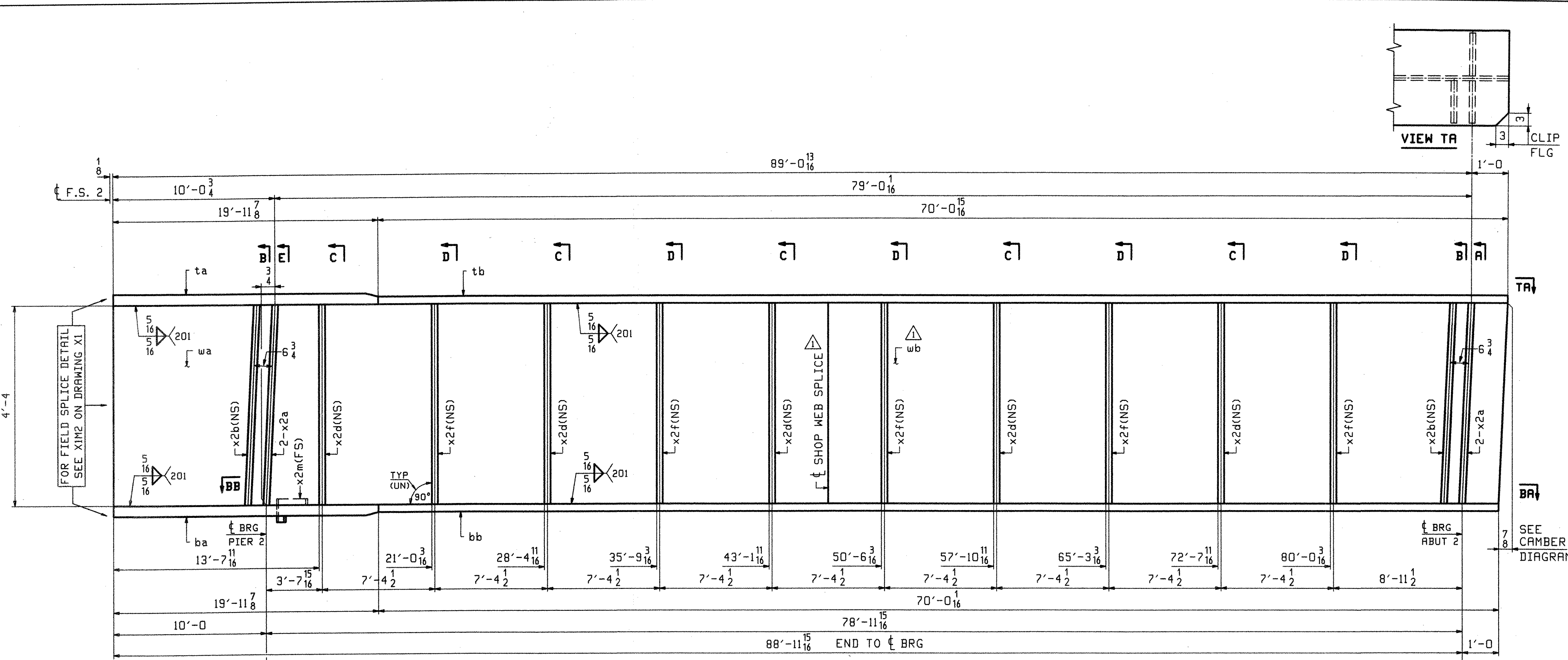
ONE - GIRDER - 11G5B
 FOR FIELD SPLICE DETAILS SEE DRAWING XI.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



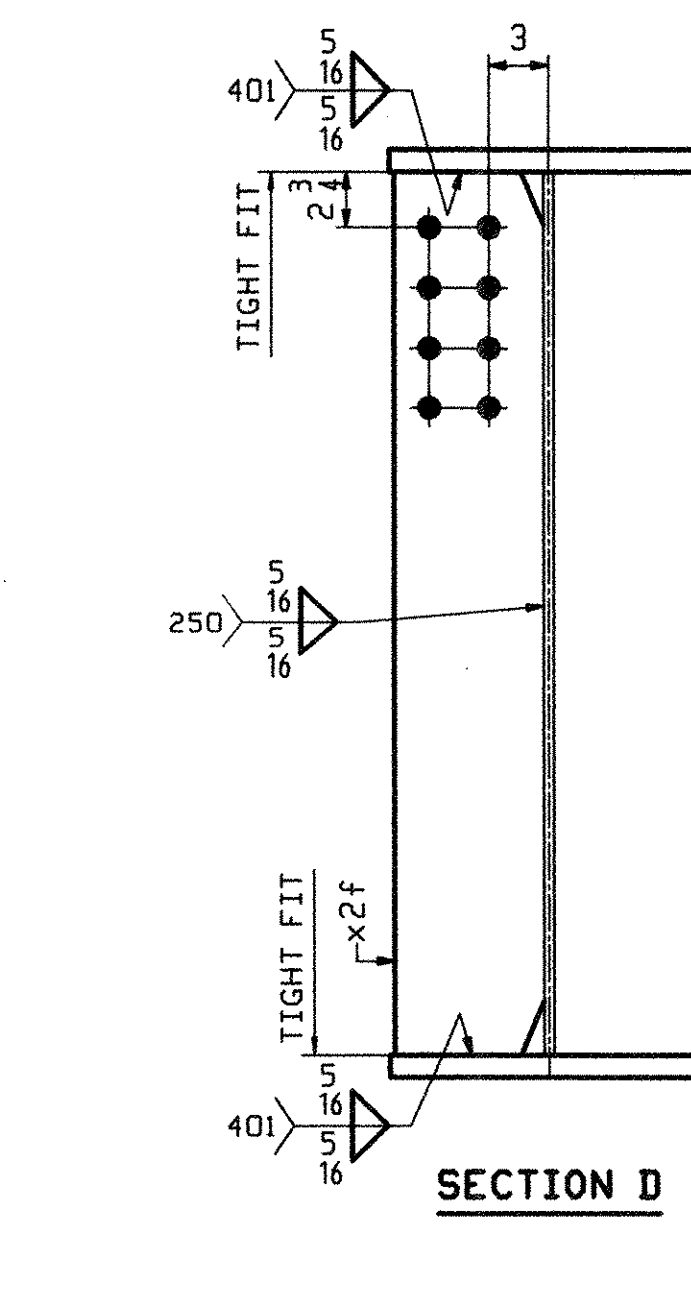
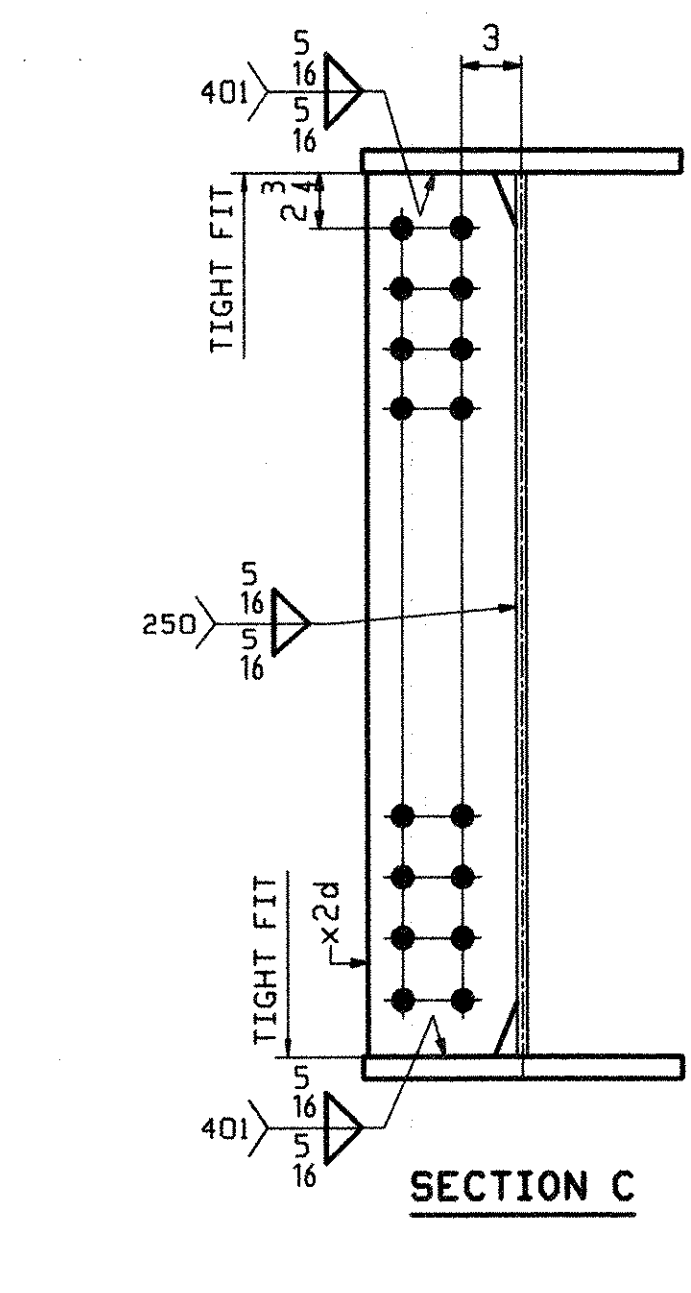
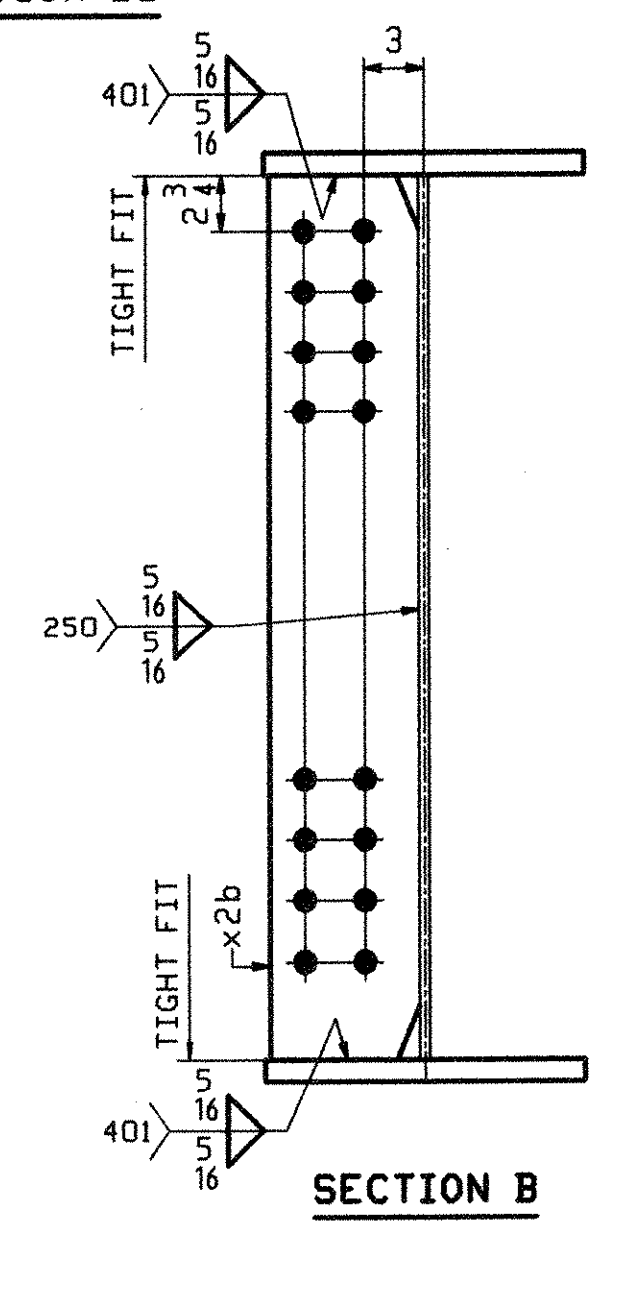
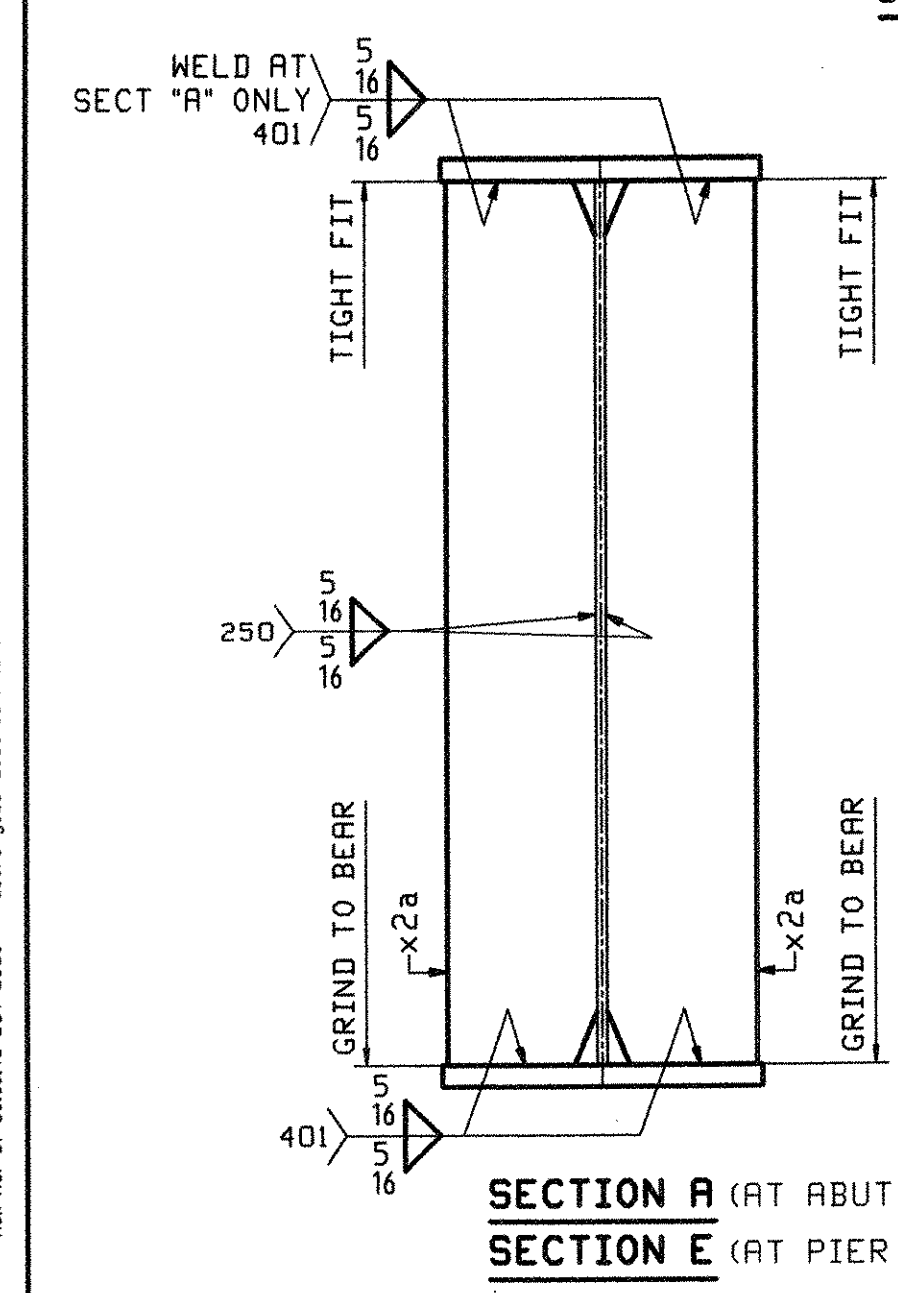
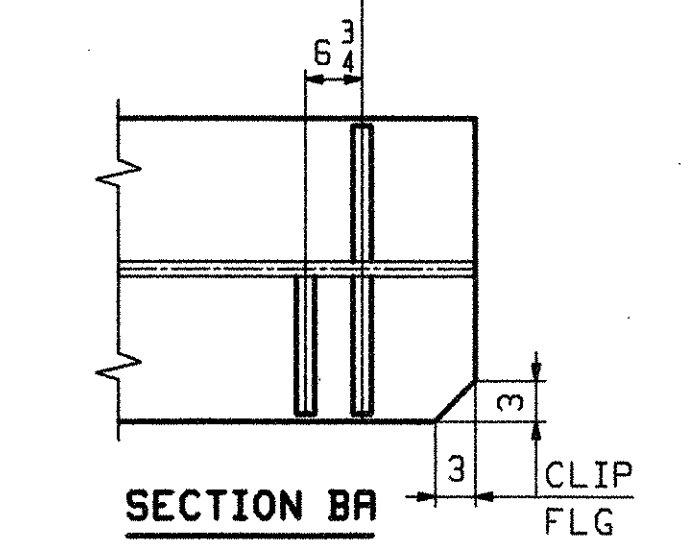
OUT FOR APPROVAL	<i>Final 7-17-06</i>										
OUT FOR APPROVAL											
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:					
	M270-50W (UN)			15/16 φ		NONE					
SURFACE PREP. & PAINT:											
SEE DRAWING GNI											
DESCRIPTION: GIRDER - 11G5B								DRAWN BY	DATE		
JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER								JTB	02/22		
BRIDGE No. BR 11								CHKD BY			
WOODFORD, VT. BENNINGTON COUNTY								PCP	03/06		
								APPROV BY			
								SUPERVISOR	W. J. GATTI		
PROJ NO. BHF 010-(129)								Q.A.			
CUSTOMER: RENAUD BROTHERS, INC.											
CASCO BAY STEEL STRUCTURES, INC.								JOB NO.	DRG. NO.		
75 SPRING HILL ROAD SACO, MAINE 04072								290	11		
PHONE (207) 282-7360 FAX. (207) 282-1179								REV.	△		

RECEIVED
 CK'D BY _____ OK'D BY *MJM*
 JUL 26 2006
 RESUBMIT _____ APPROVED _____
 BY _____ DATE *7/28/06*

ABN INFO		SHIP	BILL OF MATERIAL			JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		13G1C	1		GIRDER			17872	
1	J	1	wa	PL	$\frac{1}{2}$ x52	47 6	(M270-50WT2) (H2-3)		⚠
1	U	1	wb	PL	$\frac{1}{2}$ x52	42 $\frac{15}{16}$	(M270-50WT2) (H2-3)		⚠
1	A	1	ta	PL	1x16	19 11 $\frac{8}{16}$	(M270-50WT2) (H2-3)		
1	C	1	tb	PL	$\frac{7}{8}$ x16	70 0 $\frac{15}{16}$	(M270-50WT2) (H2-3)		
1	A	1	ba	PL	1x16	19 11 $\frac{8}{16}$	(M270-50WT2) (H2-3)		
1	C	1	bb	PL	$\frac{7}{8}$ x16	70 0 $\frac{15}{16}$	(M270-50WT2) (H2-3)		
2	H	4	x2a	PL	$\frac{3}{8}$ x7 $\frac{1}{2}$	4 4	MIE		
2	J	2	x2b	PL	$\frac{3}{8}$ x7 $\frac{1}{2}$	4 4			
2	J	5	x2d	PL	$\frac{1}{2}$ x7 $\frac{1}{2}$	4 4			
2	J	5	x2f	PL	$\frac{1}{2}$ x7 $\frac{1}{2}$	4 4			
2	K	1	x2m	PL	$\frac{1}{4}$ x3	0 11			



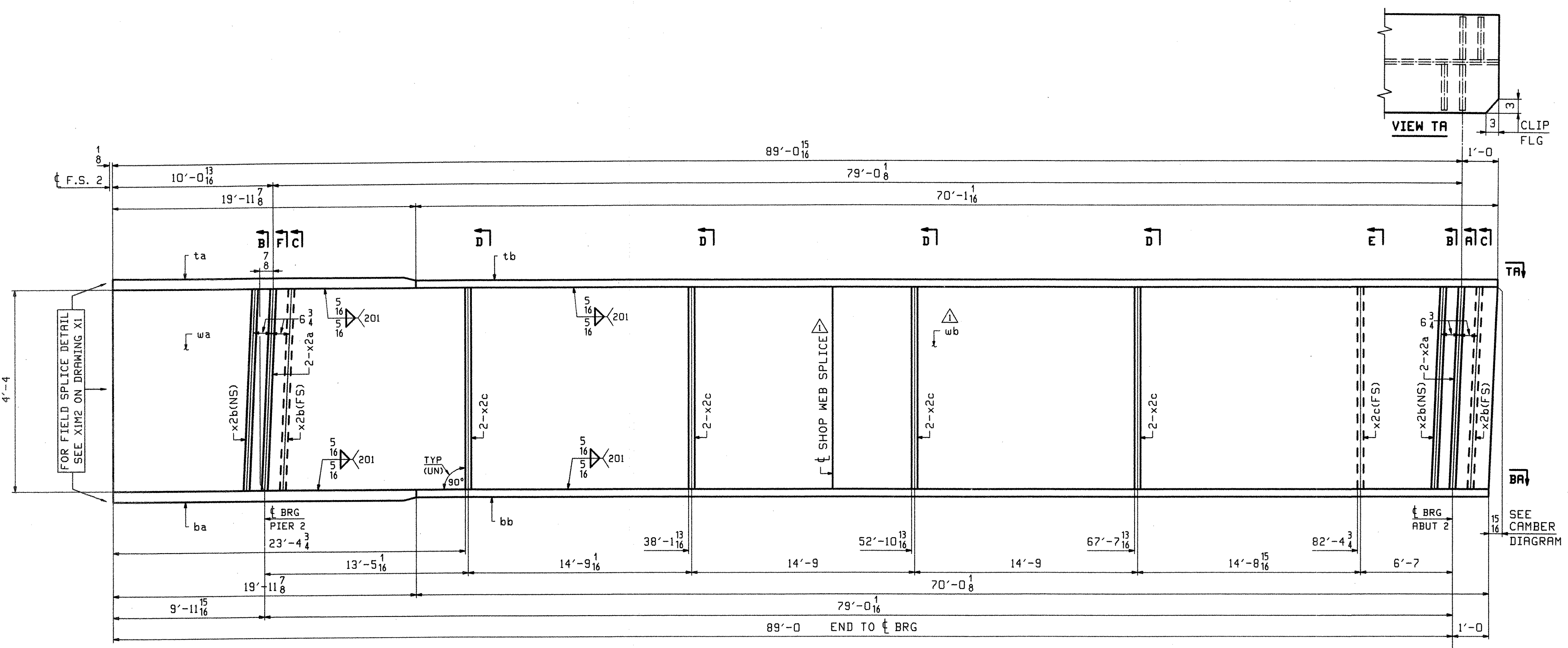
ONE - GIRDER - 13G1C
 FOR FIELD SPLICE DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



OUT FOR APPROVAL	Final 7-7-06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
ADD WEB SPLICE	JTB	PCP								
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIR.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:					
M270-50W (UN)			15, 16 ϕ		NONE					
SURFACE PREP. & PAINT:										
SEE DRAWING GNI										
DESCRIPTION:	GIRDER - 13G1C				DRAWN BY	DATE				
JOB:	RTE 9 OVER ROARING BRANCH OF WALLEMSAC RIVER				JTB	02/22				
	BRIDGE No. BR 11				CHKD BY					
	WOODFORD, VT. BENNINGTON COUNTY				PCP	03/06				
					APPROV BY					
					SUPERVISOR	M. J. GATTI				
PROJ NO.	BHF 010-1(29)				Q.A.					
CUSTOMER: RENAUD BROTHERS, INC.										
CASCO BAY STEEL STRUCTURES, INC.					JOB NO.	DRG. NO.				
75 SPRING HILL ROAD SACO, MAINE 04072					290	13				
PHONE (207) 282-7360 FAX. (207) 282-1179					REV.	⚠				

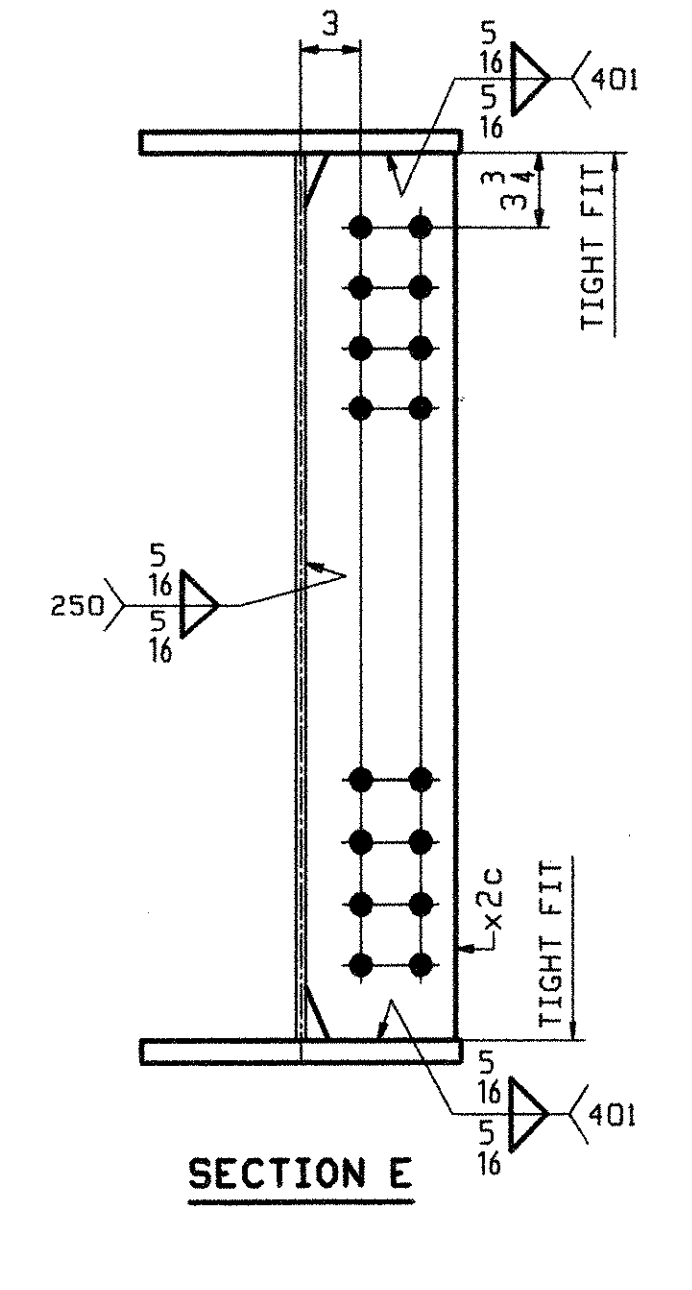
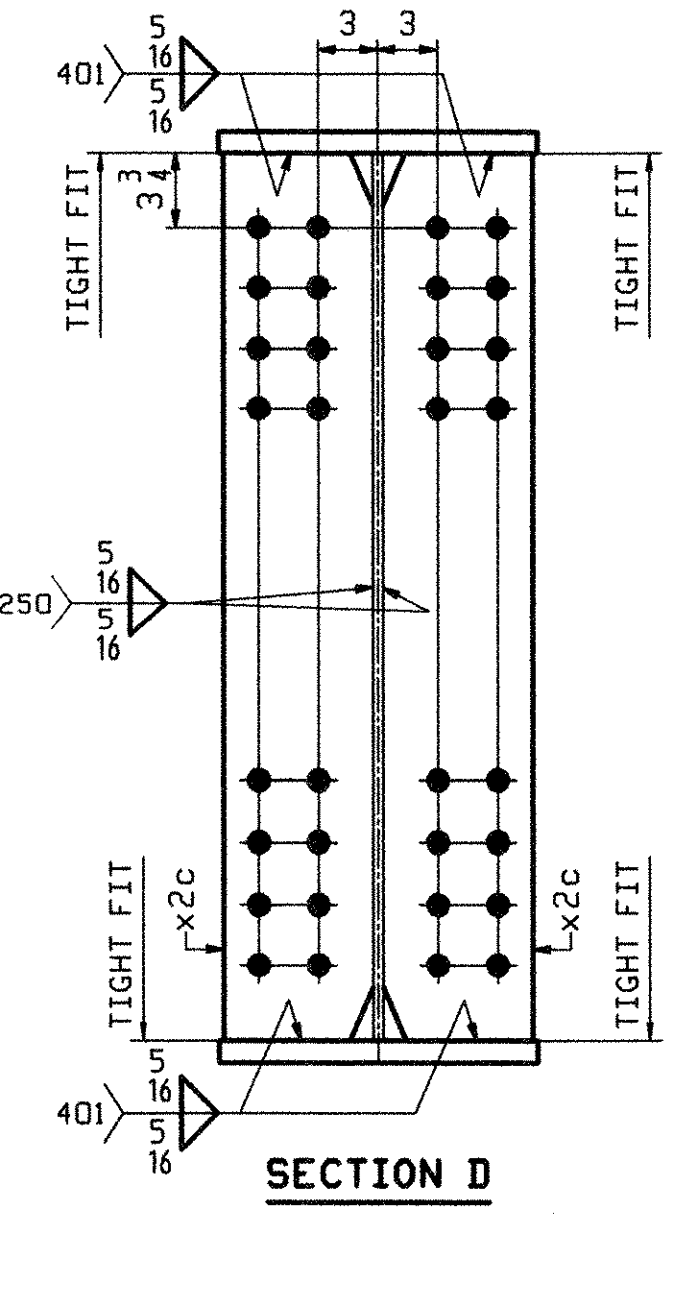
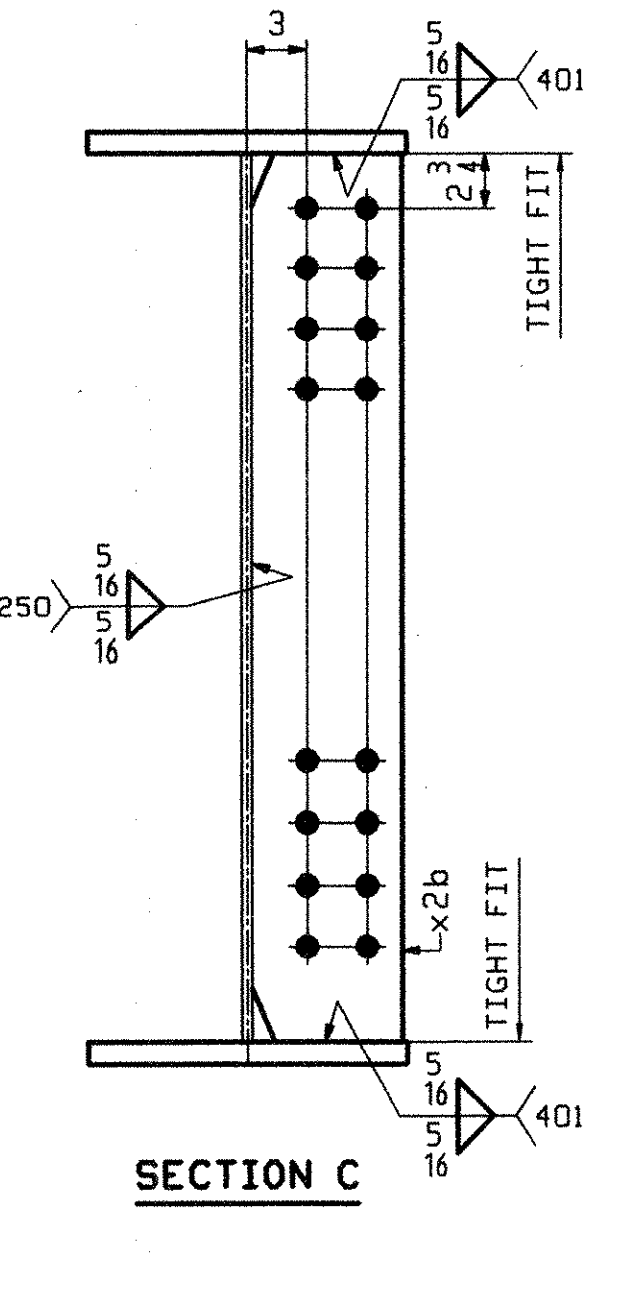
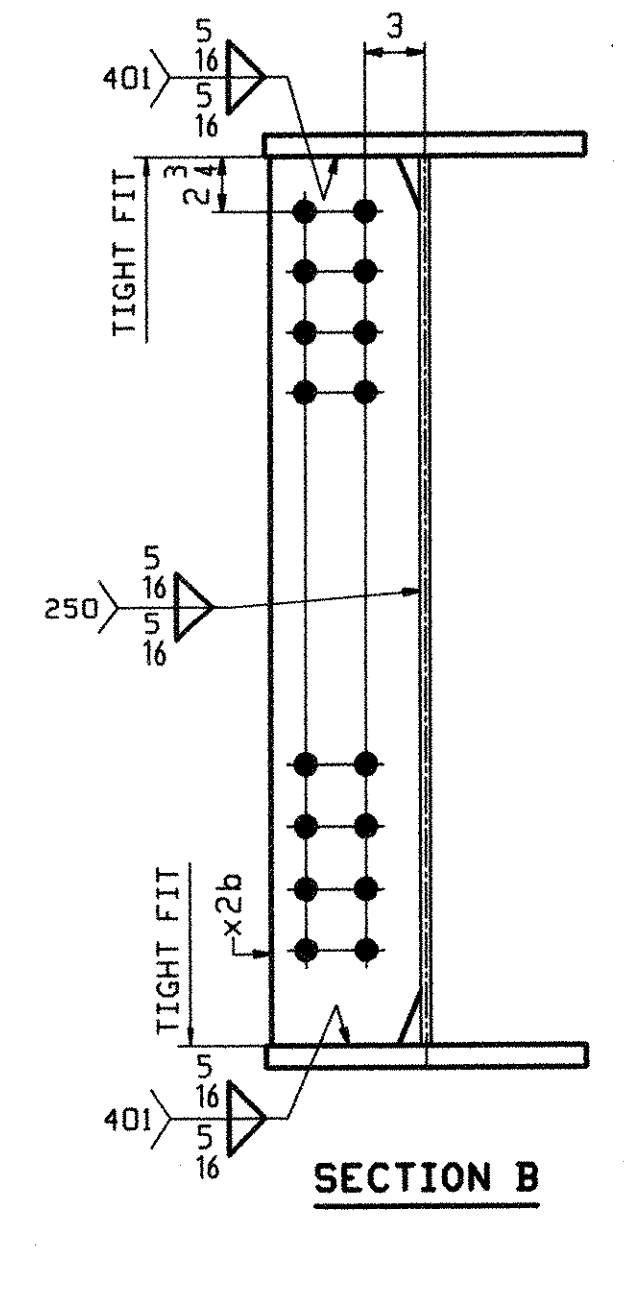
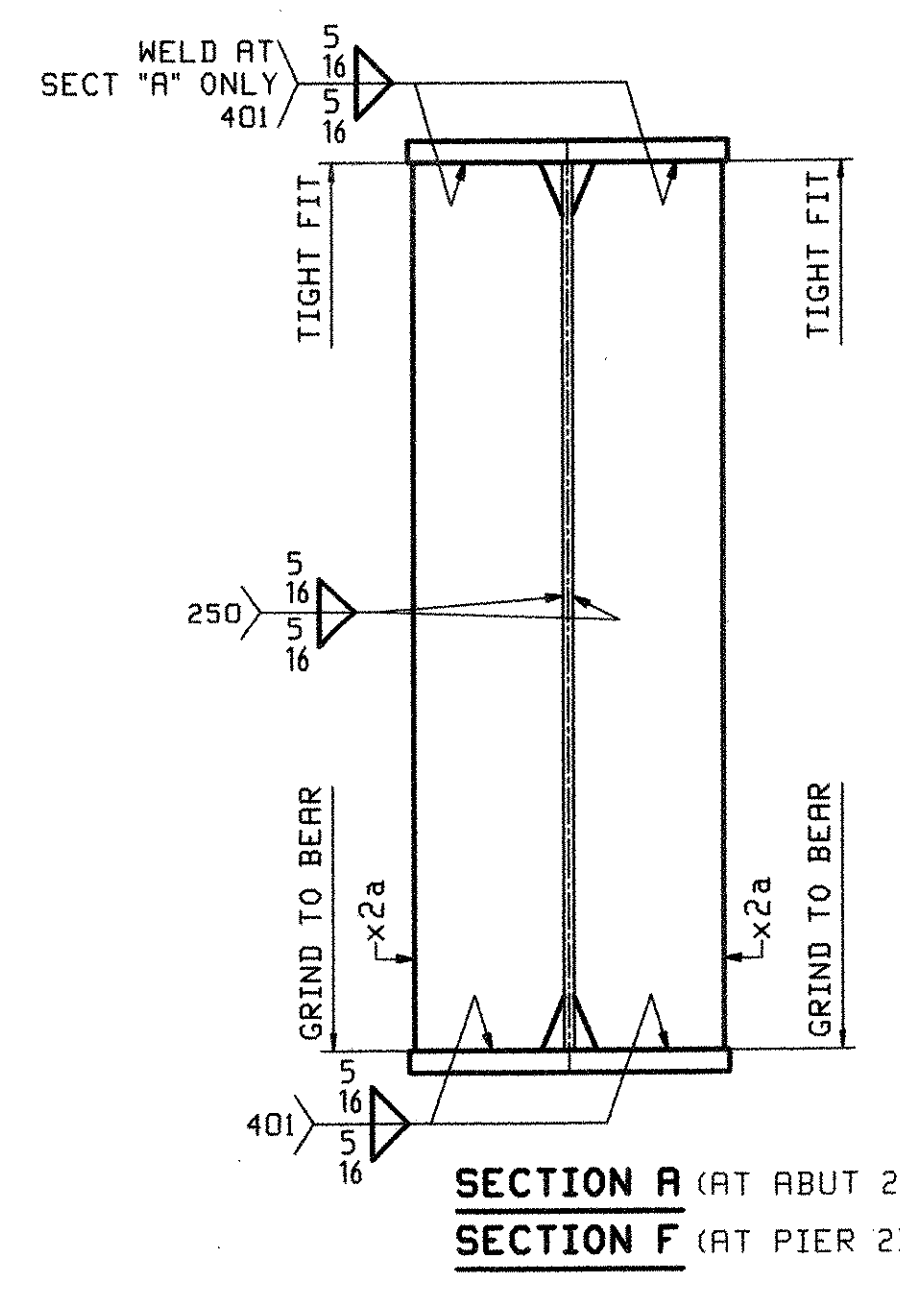
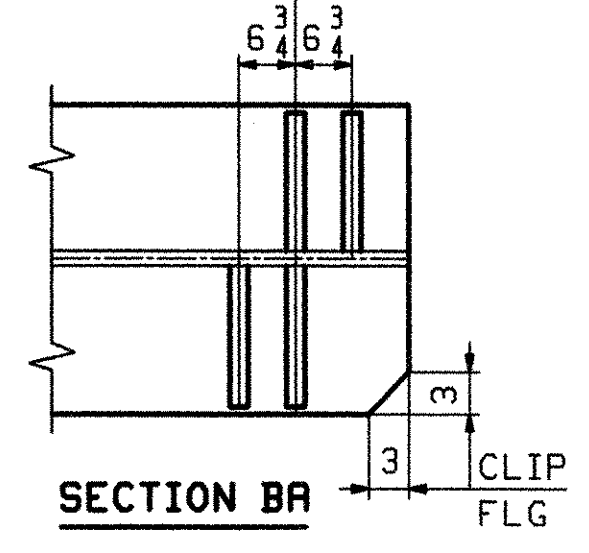
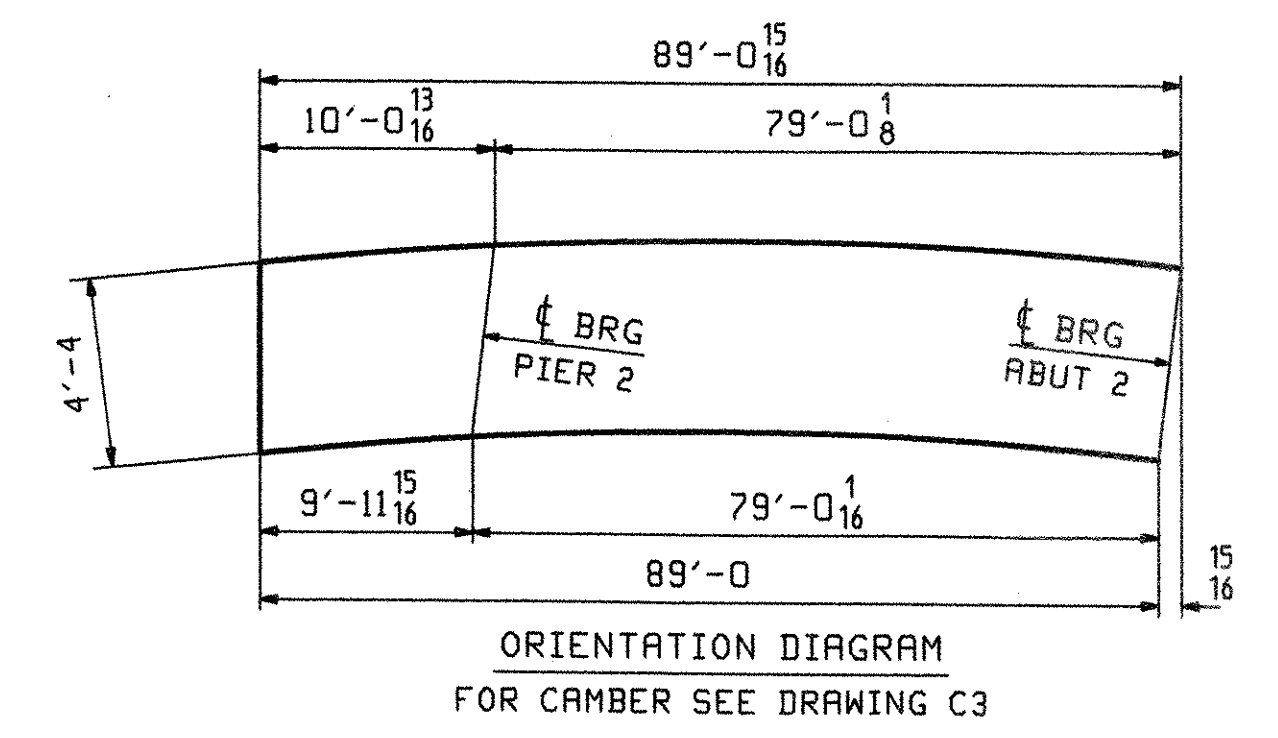
RECEIVED
 JUL 26 2006
 APPROVED
 DATE 7/28/06

ABN INFO		SHIP	BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		16G4C	1		GIRDER			17927	
1	J	1	wa	PL	$\frac{1}{2}$ x52	47 6	(M270-50WT2) (H2-3)		△
1	U	1	wb	PL	$\frac{1}{2}$ x52	42 7 $\frac{1}{8}$	(M270-50WT2) (H2-3)		△
1	A	1	ta	PL	1x16	19 11 $\frac{7}{8}$	(M270-50WT2) (H2-3)		
1	C	1	tb	PL	$\frac{7}{8}$ x16	70 1 $\frac{1}{8}$	(M270-50WT2) (H2-3)		
1	A	1	ba	PL	1x16	19 11 $\frac{7}{8}$	(M270-50WT2) (H2-3)		
1	C	1	bb	PL	$\frac{7}{8}$ x16	70 0 $\frac{8}{16}$	(M270-50WT2) (H2-3)		
2	H	4	x2a	PL	$\frac{7}{8}$ x7 $\frac{1}{2}$	4 4	MIE		
2	J	4	x2b	PL	$\frac{1}{2}$ x7 $\frac{1}{2}$	4 4			
2	J	9	x2c	PL	$\frac{1}{2}$ x7 $\frac{1}{2}$	4 4			



ONE - GIRDER - 16G4C

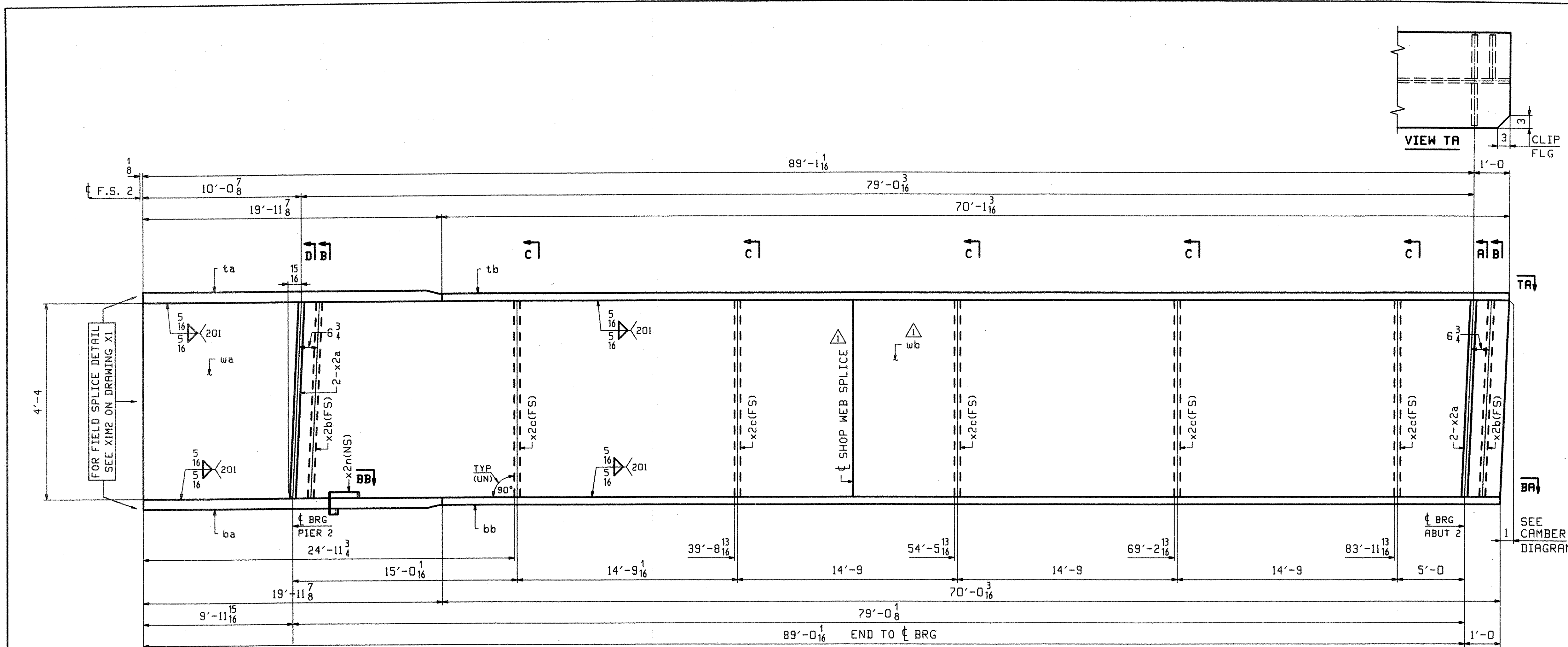
FOR FIELD SPlice DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHAPPY V-NOTCH TESTING.



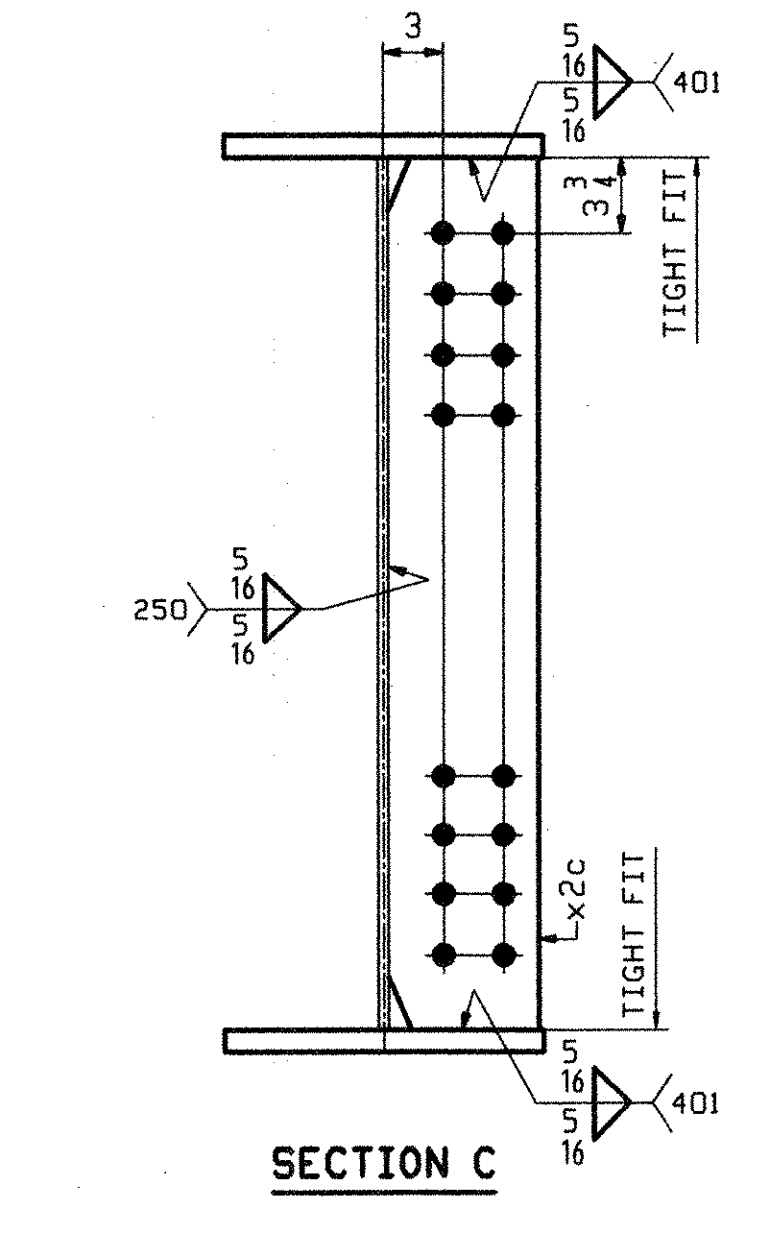
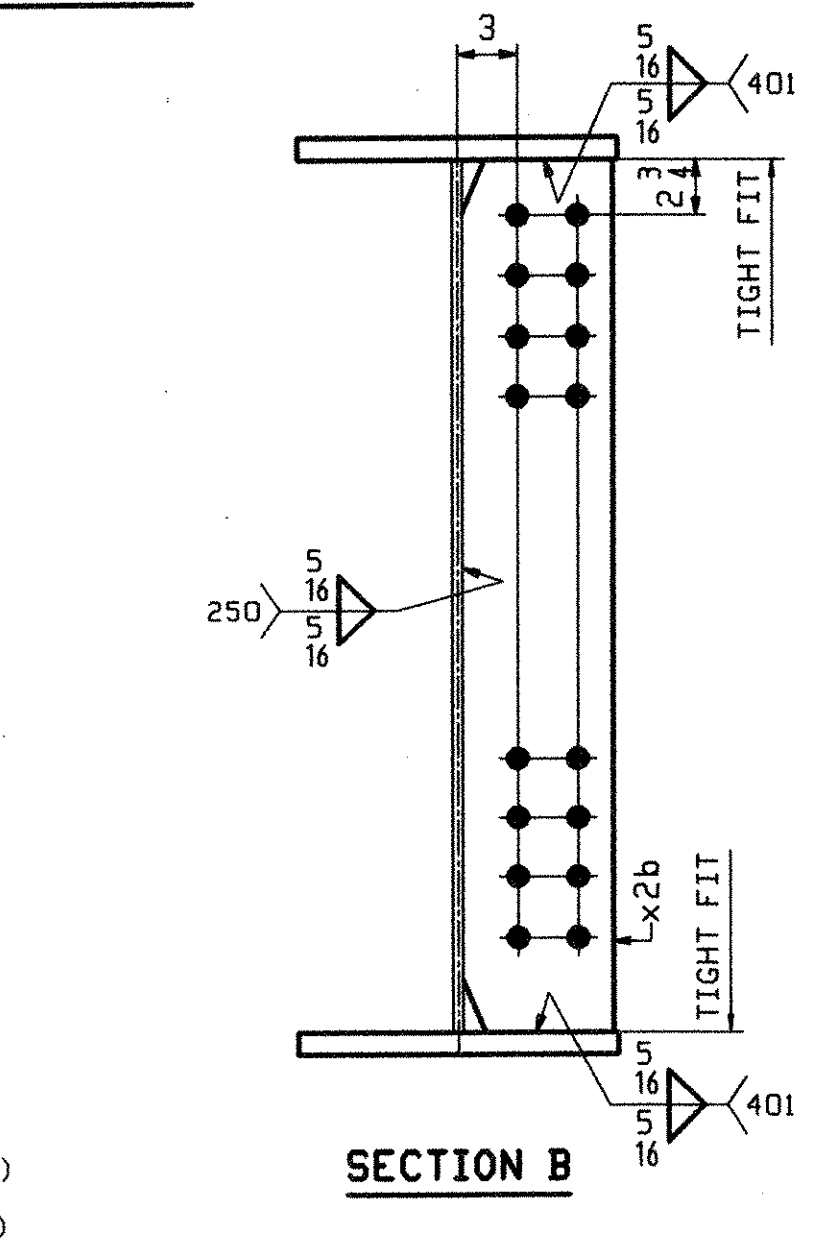
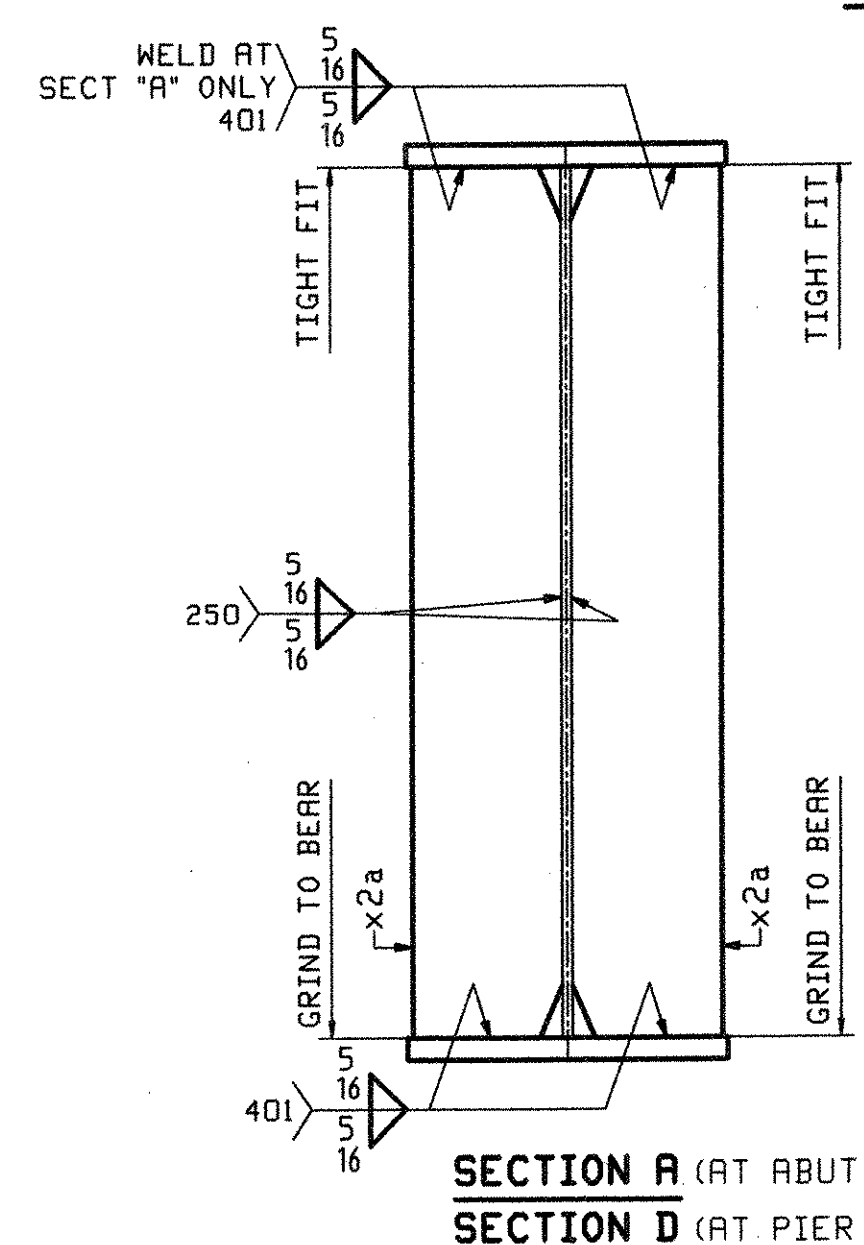
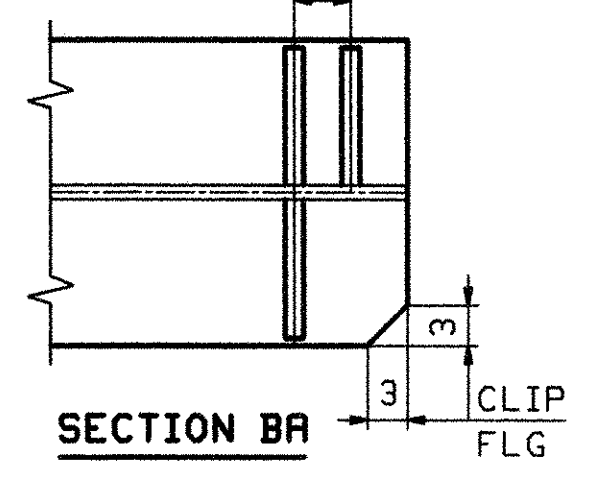
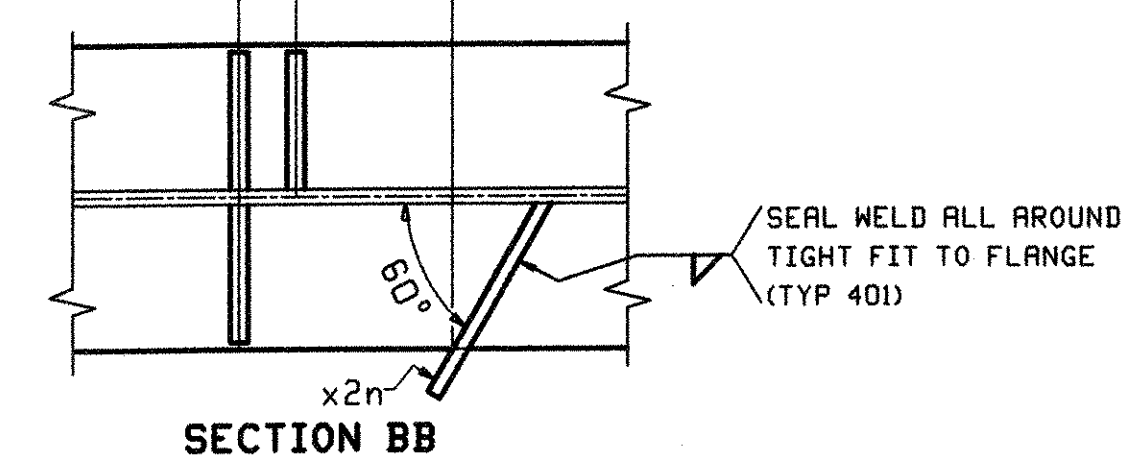
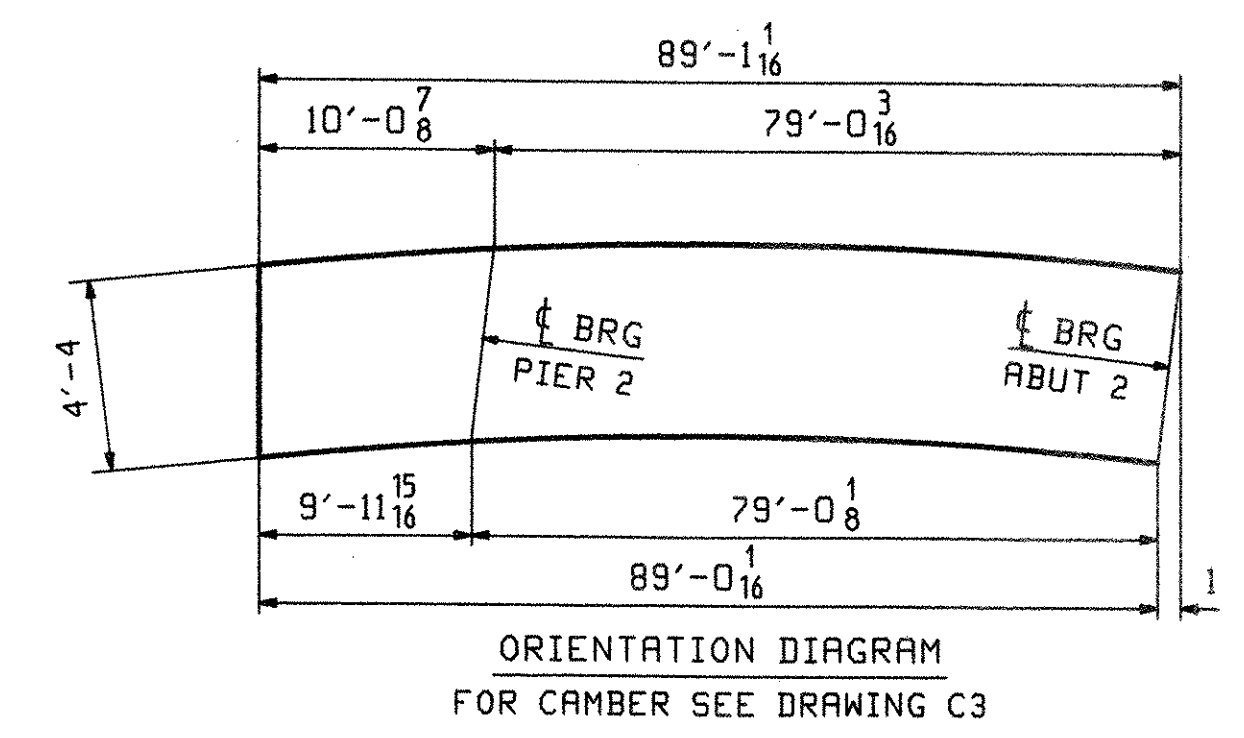
OUT FOR APPROVAL	Final 7-17-06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
ADD WEB SPlice	JTB	PCP								
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:										
M270-50W (UN)										NONE
SURFACE PREP. & PAINT:										
SEE DRAWING GNI										
DESCRIPTION:	GIRDER - 16G4C							DRAWN BY	DATE	
JOB:	RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER							JTB	02/22	
	BRIDGE No. BR 11							CHKD BY		
	WOODFORD, VT. BENNINGTON COUNTY							PCP	03/06	
								APPROV BY		
								SUPERVISOR	W. J. GATTI	
PROJ NO.	BHF 010-1(29)							Q.A.		
CUSTOMER: RENRUD BROTHERS, INC.										
CASCO BAY STEEL STRUCTURES, INC.										
75 SPRING HILL ROAD							SACO, MAINE 04072	JOB NO.	DRG. NO.	
PHONE (207) 282-7360							FAX. (207) 282-1179	290	16	
REV. △										

RECEIVED
 OK'D BY: [Signature]
 JUL 26 2006
 RESUBMIT APPROVED
 BY: [Signature] DATE 7/28/06

ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
			1		GIRDER			17599	
1	J		1	wa	PL 1/2x52	47 5/8	(M270-50WT2) (#2-3)		△
1	U		1	wb	PL 1/2x52	42 3/8	(M270-50WT2) (#2-3)		△
1	A		1	ta	PL 1x16	19 11 7/8	(M270-50WT2) (#2-3)		
1	C		1	tb	PL 7/8x16	70 1 3/8	(M270-50WT2) (#2-3)		
1	A		1	ba	PL 1x16	19 11 7/8	(M270-50WT2) (#2-3)		
1	C		1	bb	PL 7/8x16	70 0 3/8	(M270-50WT2) (#2-3)		
2	H		4	x2a	PL 7/8x7 1/2	4 4	MIE		
2	J		2	x2b	PL 1/2x7 1/2	4 4			
2	J		5	x2c	PL 1/2x7 1/2	4 4			
2	K		1	x2n	PL 1/4x3	0 11			



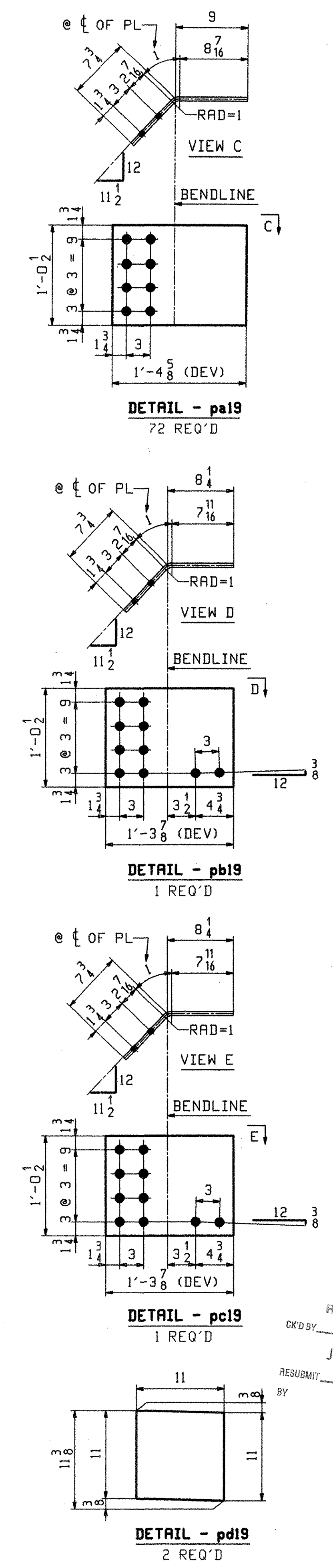
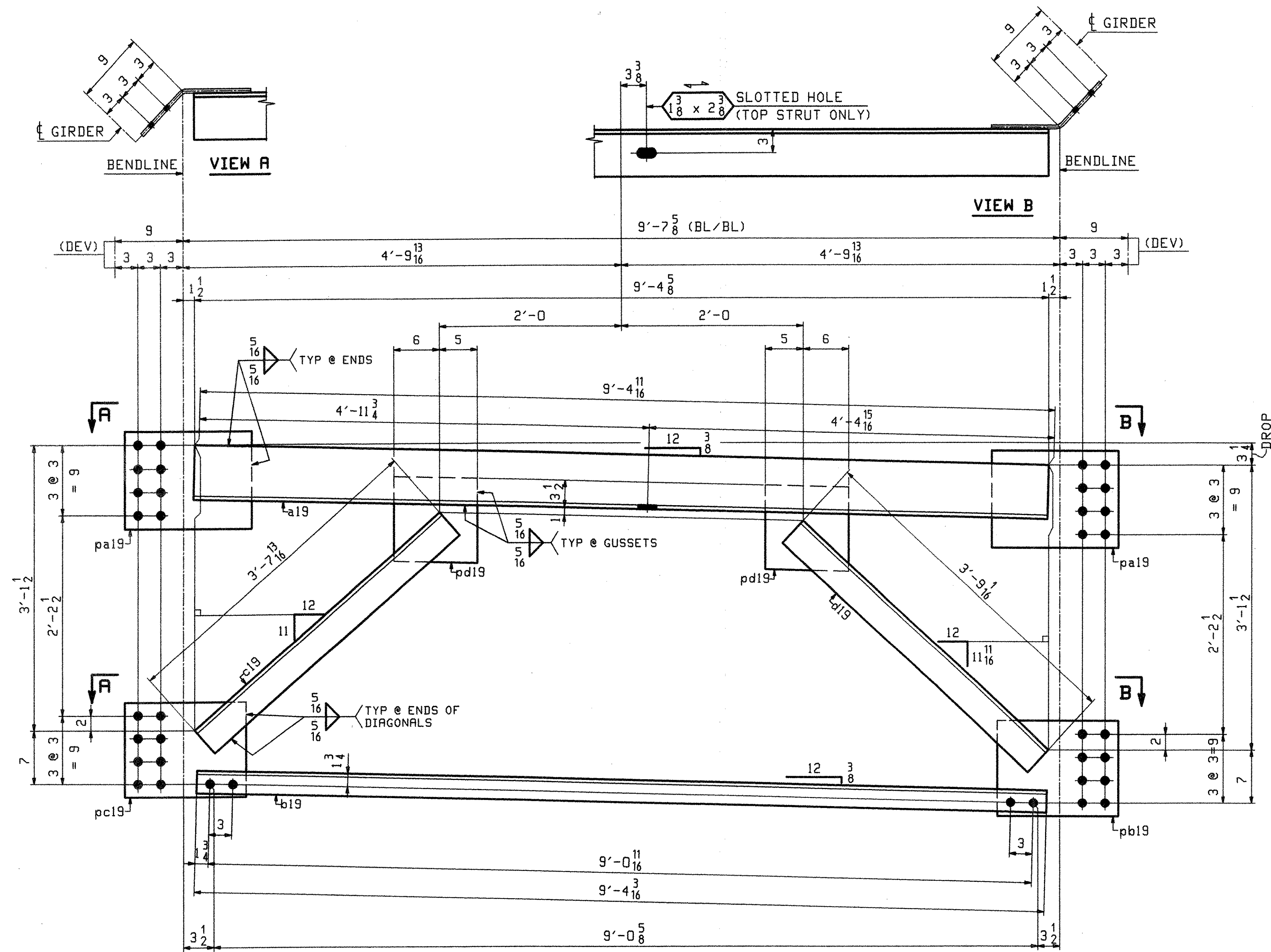
ONE - GIRDER - 18G6C
 FOR FIELD SPLICE DETAILS SEE DRAWING X1.
 FOR GIRDER STANDARD DETAILS SEE DRAWING X2.
 FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
 FOR GENERAL NOTES SEE DRAWING GNI.
 H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



RECEIVED
 CK'D BY _____ OK'D BY *MGM*
 JUL 26 2006
 RESUBMIT _____ APPROVED _____
 BY _____ DATE 7/28/06

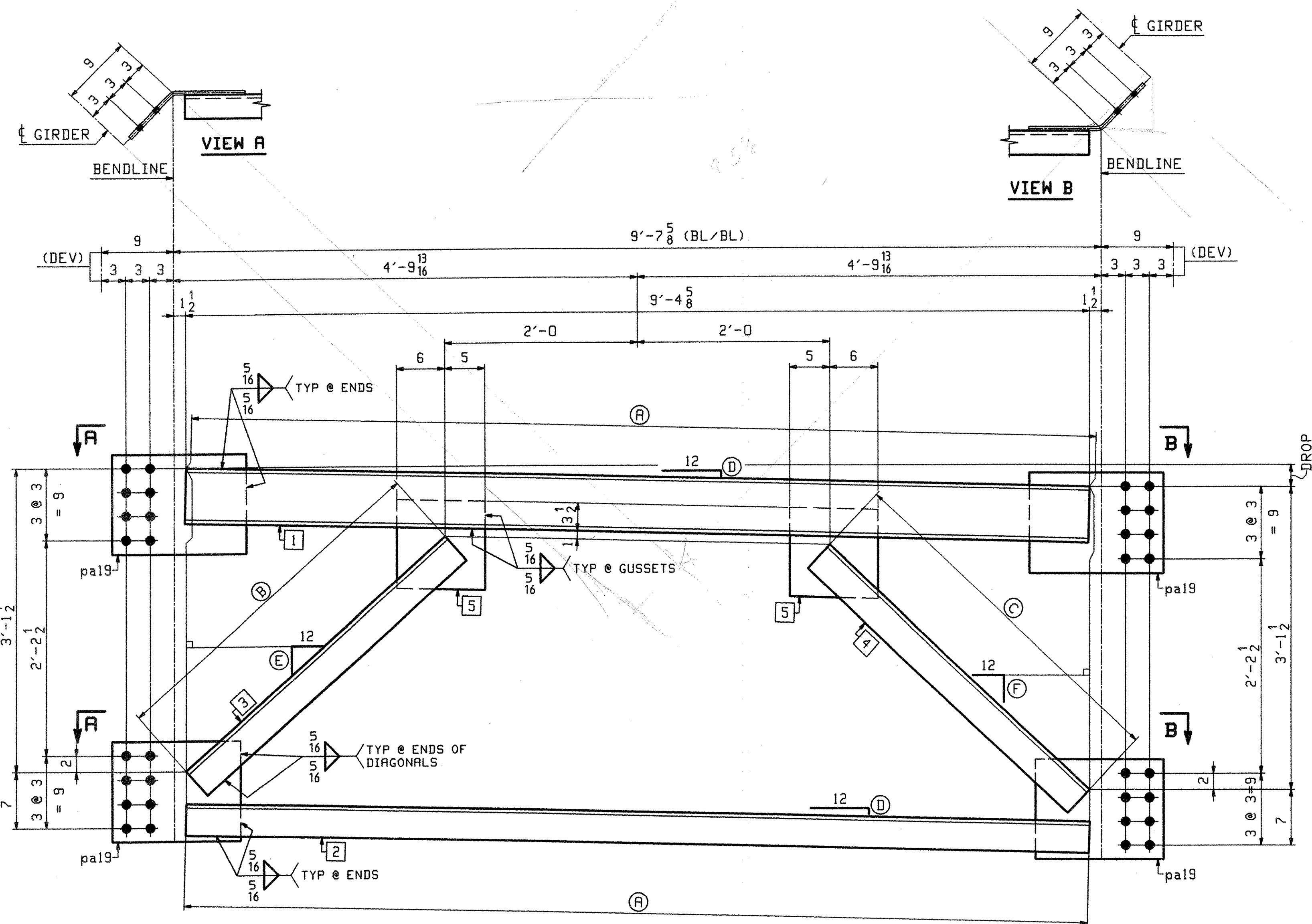
OUT FOR APPROVAL	From 7/27/06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
ADD WEB SPLICE	JTB	PCP								
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:					
M270-50W (UN)			15/16" φ		NONE					
SURFACE PREP. & PAINT:										
SEE DRAWING GNI										
DESCRIPTION:	GIRDER - 18G6C				DRAWN BY	DATE				
JOB:	RTE 9 OVER ROARING BRANCH OF WALLDOOMSAC RIVER				JTB	02/22				
	BRIDGE No. BR 11				CHKD BY					
	WOODFORD, VT. BENNINGTON COUNTY				PCP	03/06				
					APPROV BY					
					SUPERVISOR	M. J. GATTI				
PROJ NO.	BHF 010-1(29)				Q.A.					
CUSTOMER: RENAUD BROTHERS, INC.										
CASCO BAY STEEL STRUCTURES, INC.					JOB NO.	DRG. NO.				
75 SPRING HILL ROAD SACO, MAINE 04072					290	18				
PHONE (207) 282-7360 FAX. (207) 282-1179					REV.	△				

BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.		
					290	19			
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		19CF1	1		END CROSSFRAME			560	
3	G		1	a19	L 6x6x $\frac{5}{8}$	9 4 $\frac{11}{16}$			
3	B		1	b19	L 3x3x $\frac{1}{2}$	9 4 $\frac{3}{16}$			
3	D		1	c19	L 4x4x $\frac{1}{2}$	3 7 $\frac{13}{16}$			
3	D		1	d19	L 4x4x $\frac{1}{2}$	3 9 $\frac{1}{16}$			
3	F		2	pa19	PL 2x12 $\frac{1}{2}$	1 4 $\frac{5}{8}$	BENT		
3	F		1	pb19	PL 2x12 $\frac{1}{2}$	1 3 $\frac{7}{8}$	BENT		
3	F		1	pc19	PL 2x12 $\frac{1}{2}$	1 3 $\frac{7}{8}$	BENT		
3	E		2	pd19	PL 2x11	0 11 $\frac{3}{8}$			



OUT FOR APPROVAL	Final 7-17-06																			
OUT FOR APPROVAL																				
ISSUED TO SHOP																				
FIELD & OFFICE																				
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER									
	MATERIAL:																			
	M270-SOW (UN)																			
	SURFACE PREP. & PAINT:																			
	PAINTED - SEE DRAWING GNI																			
	DESCRIPTION:																			
	CROSSFRAMES																			
	JOB:																			
	RTE 9 OVER ROARING BRANCH OF WALLDOOMSAC RIVER																			
	BRIDGE No. BR 11																			
	WOODFORD, VT. BENNINGTON COUNTY																			
	PROJ NO.																			
	BHF 010-1(29)																			
	CUSTOMER: RENAUD BROTHERS, INC.																			
	CASCO BAY STEEL STRUCTURES, INC.																			
	75 SPRING HILL ROAD																			
	PHONE (207) 282-7360																			
	SACO, MAINE 04072																			
	FAX. (207) 282-1179																			
	JOB NO.																			
	290																			
	DRG. NO.																			
	19																			
	REV.																			

PCP The No. 14 112532 EST 2006 /user/2006/2006/19 / Rev 0

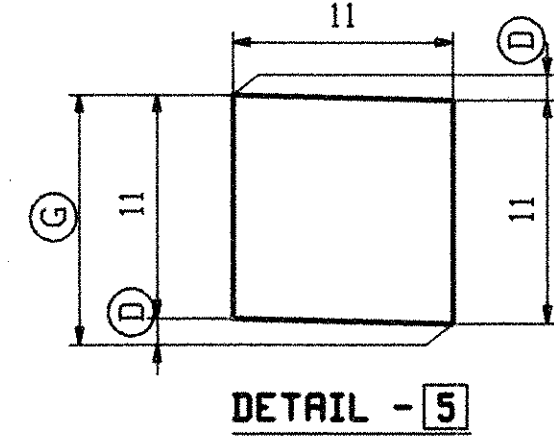


BRG CROSSFRAME - MARK "A"

MARK "A"	QTY	DROP	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(1)	(2)	(3)	(4)	(5)	
2ICF1	1	7	9'-4 7/8	3'-5 3/4	3'-8 7/16	3/4	9 13/16	11 5/16	11 3/4	a21	b21	c21	d21	pa21	ABUT 1 LINES 5-5
2ICF2	1	6 7/16	9'-4 13/16	3'-5 7/8	3'-8 5/16	11/16	9 7/8	11 1/4	11 11/16	f21	g21	k21	m21	pb21	PIER 1 LINES 5-6
2ICF3	1	5 11/16	9'-4 13/16	3'-6	3'-8 3/16	5/8	9 15/16	11 3/16	11 5/8	f21	g21	n21	p21	pc21	PIER 2 LINES 5-6
2ICF4	1	4 15/16	9'-4 3/4	3'-6 3/16	3'-8 1/16	1/2	10 1/16	11 1/8	11 1/2	t21	v21	w21	y21	pd21	ABUT 1 LINES 4-5
2ICF5	1	4 7/16	9'-4 3/4	3'-6 1/4	3'-7 15/16	1/2	10 1/8	11 1/16	11 1/2	t21	v21	aa21	ab21	pd21	PIER 1 LINES 4-5
2ICF6	1	3 11/16	9'-4 11/16	3'-6 3/8	3'-7 13/16	3/8	10 3/16	11	11 3/8	ac21	ad21	af21	ag21	pf21	PIER 2 LINES 4-5
2ICF7	1	2 3/4	9'-4 11/16	3'-6 9/16	3'-7 5/8	5/16	10 5/16	10 7/8	11 5/16	ac21	ad21	ak21	am21	pg21	ABUT 1 LINES 3-4
2ICF8	1	2 1/4	9'-4 11/16	3'-6 1/16	3'-7 1/2	1/4	10 5/16	10 13/16	11 1/4	ac21	ad21	an21	ap21	pk21	PIER 1 LINES 3-4

ABM INFO	SHIP	BILL OF MATERIAL		JOB NO.	DRAWING NO.	REV.			
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH	REMARKS	WT	PROCUREMENT NOTES
						FT			
		2ICF5	1		END CROSSFRAME			579	
3	A	1	t21	MC	8x22.8	9 4 3/4			
3	C	1	v21	L	4x4x 1/2	9 4 3/4			
3	D	1	aa21	L	4x4x 1/2	3 6 1/4			
3	D	1	ab21	L	4x4x 1/2	3 7 15/16			
3	F	4	pa19	PL	1/2x12 1/2	1 4 5/8	BENT		
3	E	2	pd21	PL	1/2x11	0 11 1/2			

ABM INFO	SHIP	BILL OF MATERIAL		JOB NO.	DRAWING NO.	REV.			
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH	REMARKS	WT	PROCUREMENT NOTES
						FT			
		2ICF1	1		END CROSSFRAME			581	
3	A	1	a21	MC	8x22.8	9 4 3/4			
3	C	1	b21	L	4x4x 1/2	9 4 3/4			
3	D	1	c21	L	4x4x 1/2	3 5 3/4			
3	D	1	d21	L	4x4x 1/2	3 8 7/16			
3	F	4	pa19	PL	1/2x12 1/2	1 4 5/8	BENT		
3	E	2	pa21	PL	1/2x11	0 11 1/2			



OUT FOR APPROVAL *From 7-17-06*

ISSUED TO SHOP

FIELD & OFFICE

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	CHG MC8x22.8 TO MC8x22.8	07/10	JTB	PCP							

MATERIAL: M270-50W (UN)

ELECTRODES:

HOLES: 15/16" Ø

SHOP BOLTS: NONE

SURFACE PREP. & PAINT:

PAINTED - SEE DRAWING GNI

DESCRIPTION: CROSSFRAMES

JOB: RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER

BRIDGE No. BR 11

WOODFORD, VT. BENNINGTON COUNTY

PROJ NO. BHF 010-1(29)

CUSTOMER: RENAUD BROTHERS, INC.

CASCO BAY STEEL STRUCTURES, INC.

75 SPRING HILL ROAD SACO, MAINE 04072

PHONE (207) 282-7360 FAX. (207) 282-1179

DRAWN BY: JTB

DATE: 02/26

CHKD BY: PCP

DATE: 03/06

APPROV BY: SUPERVISOR M. J. GATTI

Q.A.

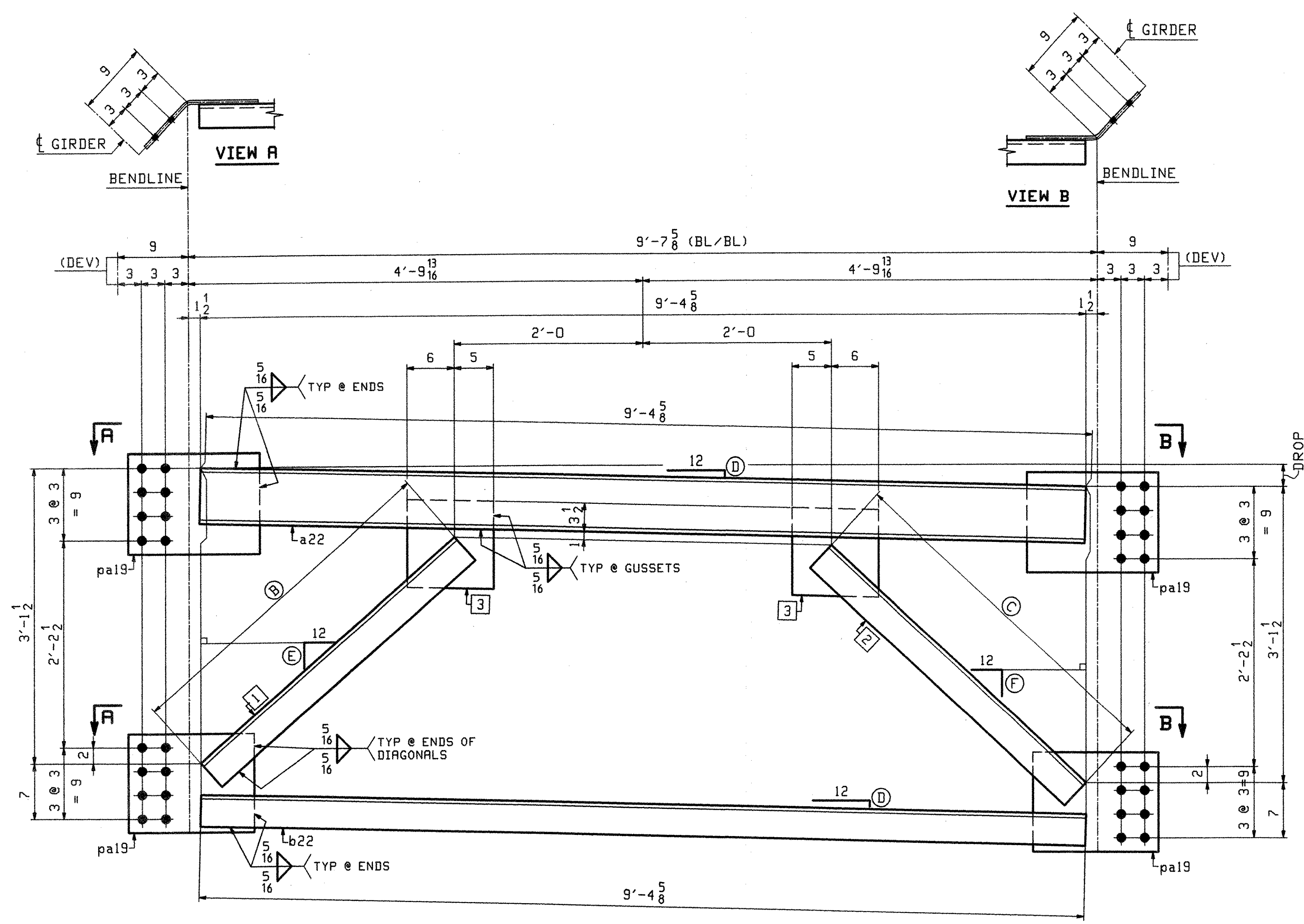
JOB NO. 290

DRG. NO. 21

REV. 1

PLOT: Thu Jul 13 10:58:05 EDT 2006 /casco/brg/2006/21_1.dwg

ABM INFO		BILL OF MATERIAL				JOB NO.	DRAWING NO.	REV.	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	WT	PROCUREMENT NOTES
		22CF1	2		END CROSSFRAME			578	
3	A	2	a22	MC 8x22.8	9' 4 5/8"				
3	C	2	b22	L 4x4x 1/2	9' 4 5/8"				
3	D	2	c22	L 4x4x 1/2	3' 6 1/8"				
3	D	2	d22	L 4x4x 1/2	3' 7 3/8"				
3	F	8	pa19	PL 1/2x12 1/2	1' 4 5/8"		BENT		
3	E	4	pa22	PL 1/2x11	0' 11 1/8"				
		22CF2	1		END CROSSFRAME			578	
3	A	1	a22	MC 8x22.8	9' 4 5/8"				
3	C	1	b22	L 4x4x 1/2	9' 4 5/8"				
3	D	1	f22	L 4x4x 1/2	3' 7"				
3	D	1	g22	L 4x4x 1/2	3' 7 1/8"				
3	F	4	pa19	PL 1/2x12 1/2	1' 4 5/8"		BENT		
3	E	2	pb22	PL 1/2x11	0' 11 1/8"				
		22CF3	1		END CROSSFRAME			577	
3	A	1	a22	MC 8x22.8	9' 4 5/8"				
3	C	1	b22	L 4x4x 1/2	9' 4 5/8"				
3	D	2	k22	L 4x4x 1/2	3' 7 1/8"				
3	F	4	pa19	PL 1/2x12 1/2	1' 4 5/8"		BENT		
3	E	2	pc22	PL 1/2x11	0' 11"				



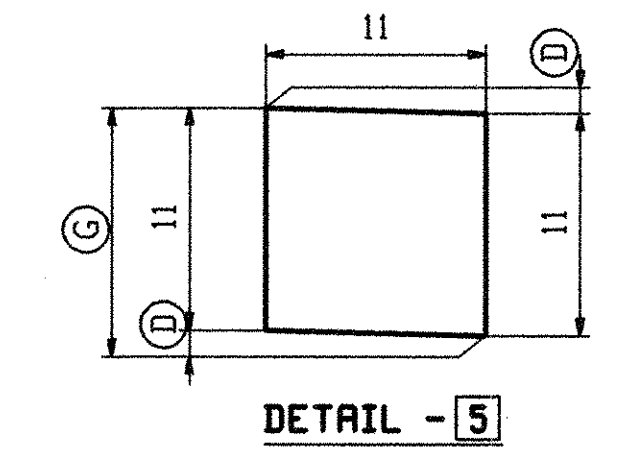
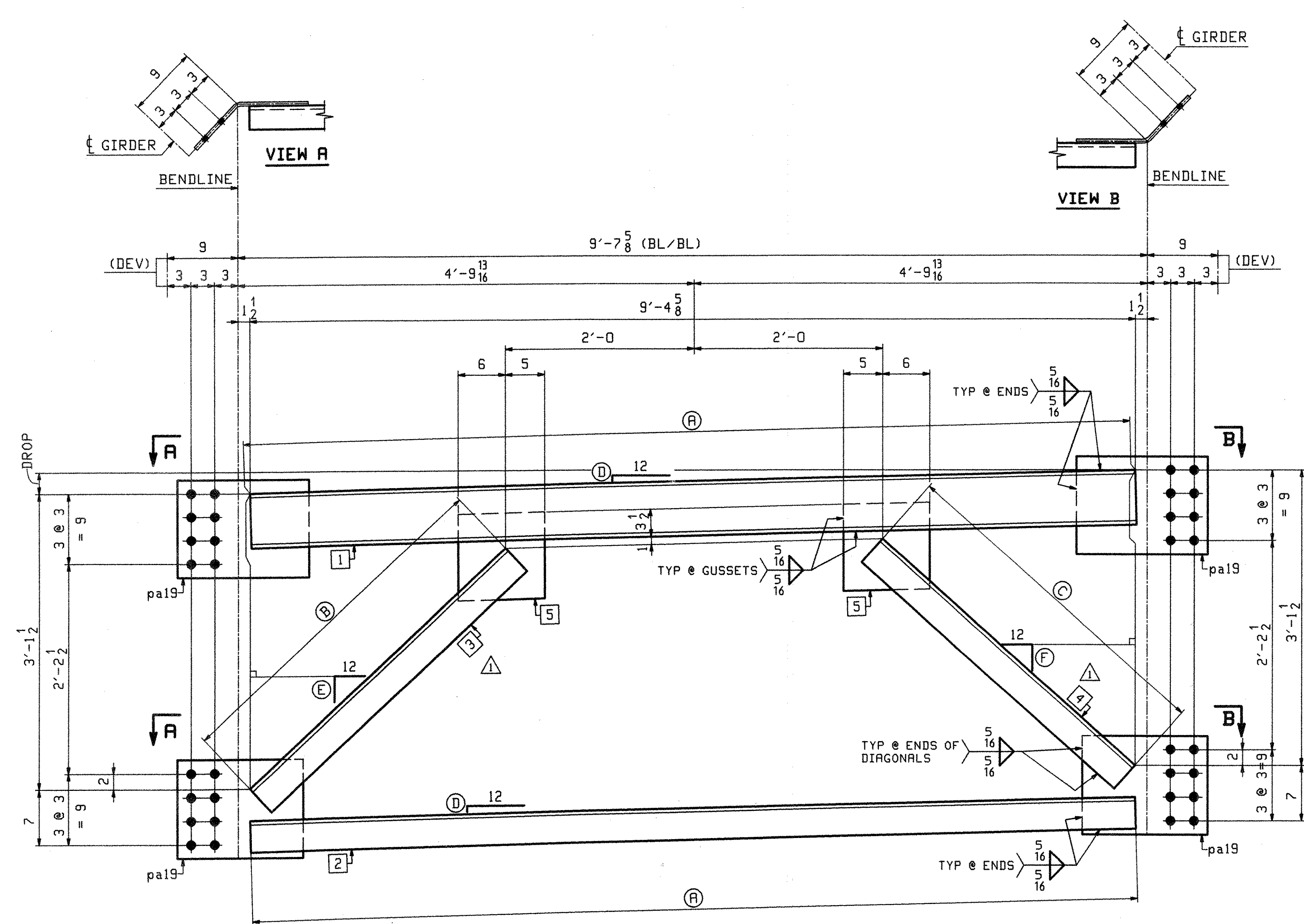
BRG CROSSFRAME - MARK "A"

MARK "A"	QTY	DROP	(B) Δ	(C) Δ	(D)	(E) Δ	(F) Δ	(G)	(1)	(2)	(3)	
22CF1	2	3/8	3'-8 13/16	3'-7 3/8	1/8	10 7/16	10 3/4	11 1/8	c22	d22	pa22	ABUT 2 LINES 2-3 PIER 2 LINES 3-4
22CF2	1	9/16	3'-7	3'-7 3/16	1/16	10 1/2	10 5/8	11 1/16	f22	g22	pb22	ABUT 1 LINES 2-3
22CF3	1	1/16	3'-7 1/16	3'-7 1/16	0	10 9/16	10 9/16	11	k22	k22	pc22	PIER 1 LINES 2-3

OUT FOR APPROVAL	Form 7-17-06																			
OUT FOR APPROVAL																				
ISSUED TO SHOP																				
FIELD & OFFICE																				
CHG MC7x22.7 TO MC8x22.8	07/10	JTB	PCP																	
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER										
MATERIAL:	M270-50W (UN)		ELECTRODES:	HOLES:		15/16" φ		SHOP BOLTS:		NONE										
SURFACE PREP. & PAINT:																				
PAINTED - SEE DRAWING GNI																				
DESCRIPTION:	CROSSFRAMES								DRAWN BY	DATE										
JOB:	RTE 9 OVER ROARING BRANCH OF WALLLOOMSAC RIVER								JTB	02/26										
	BRIDGE No. BR 11								CHKD BY											
	WOODFORD, VT. BENNINGTON COUNTY								PCP	03/06										
									APPROV BY											
									SUPERVISOR	M. J. GATTI										
PROJ NO.	BHF 010-1(29)								Q.A.											
CUSTOMER: RENAUD BROTHERS, INC.																				
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.									
75 SPRING HILL ROAD SACO, MAINE 04072										290	22									
PHONE (207) 282-7360 FAX. (207) 282-1179										REV.	Δ									

RECEIVED
 OK'D BY _____ OK'D BY *MJM*
 JUL 26 2006
 RESUBMIT _____ APPROVED _____
 BY _____ DATE 7/28/06

ABM INFO		SHIP				BILL OF MATERIAL			JOB NO.		DRAWING NO.		REV.
									290		23		△
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH		REMARKS	WT	PROCUREMENT NOTES			
						FT	INCHES						
		23CF1	1		END CROSSFRAME				580				
3	A	1	a23	MC 8x22.8	△	9	4 1/2						
3	C	1	b23	L 4x4x 1/2		9	4 1/2						
3	D	1	c23	L 4x4x 1/2		3	8 1/2	△					
3	D	1	d23	L 4x4x 1/2		3	6 1/2	△					
3	F	4	pa19	PL 1/2x12 1/2		1	4 5/8	BENT					
3	E	2	pb23	PL 1/2x11		0	11 1/8						
		23CF2	1		END CROSSFRAME				579				
3	A	1	f23	MC 8x22.8	△	9	4 1/2						
3	C	1	g23	L 4x4x 1/2		9	4 1/2						
3	D	1	k23	L 4x4x 1/2		3	7 1/2	△					
3	D	1	m23	L 4x4x 1/2		3	6 1/2	△					
3	F	4	pa19	PL 1/2x12 1/2		1	4 5/8	BENT					
3	E	2	pb23	PL 1/2x11		0	11 1/8						
		23CF3	2		END CROSSFRAME				578				
3	A	2	n23	MC 8x22.8	△	9	4 5/8						
3	C	2	p23	L 4x4x 1/2		9	4 5/8						
3	D	2	t23	L 4x4x 1/2		3	7 1/2	△					
3	D	2	v23	L 4x4x 1/2		3	6 1/2	△					
3	F	8	pa19	PL 1/2x12 1/2		1	4 5/8	BENT					
3	E	4	pc23	PL 1/2x11		0	11 1/8						



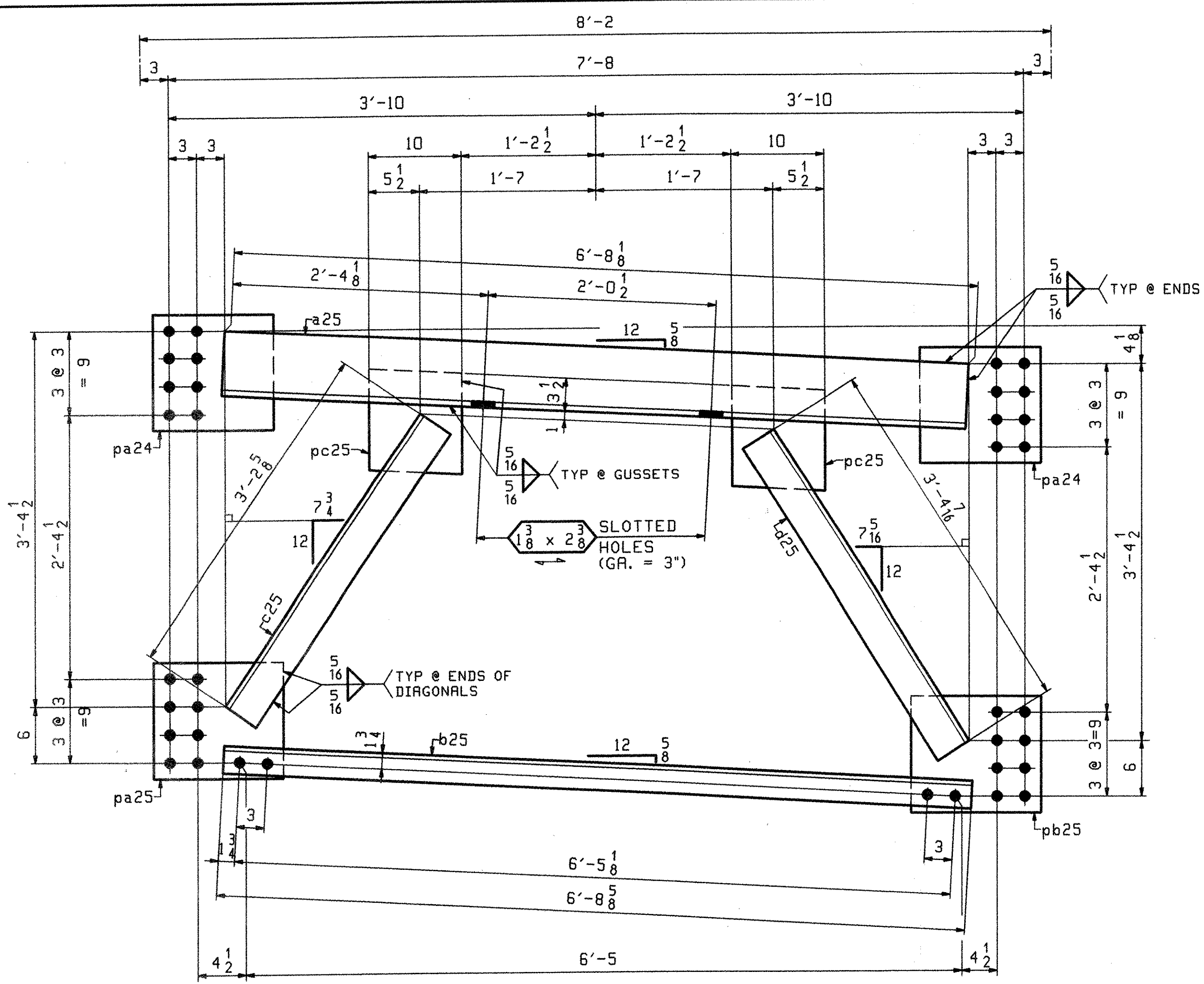
BRG CROSSFRAME - MARK "A"

MARK "A"	QTY	DROP	(A)	(B) △	(C) △	(D)	(E) △	(F) △	(G)	1	2	3	4	5
23CF1	1	5 3/16	9'-4 3/4	3'-8 1/16	3'-6 1/8	9/16	11 1/8	10	11 1/16	a23	b23	c23	d23	pa23
23CF2	1	3 1/8	9'-4 11/16	3'-7 11/16	3'-6 1/2	5/16	10 15/16	10 1/4	11 5/16	f23	g23	k23	m23	pb23
23CF3	2	7/8	9'-4 5/8	3'-7 1/4	3'-6 15/16	1/16	10 11/16	10 1/2	11 1/16	n23	p23	t23	v23	pc23

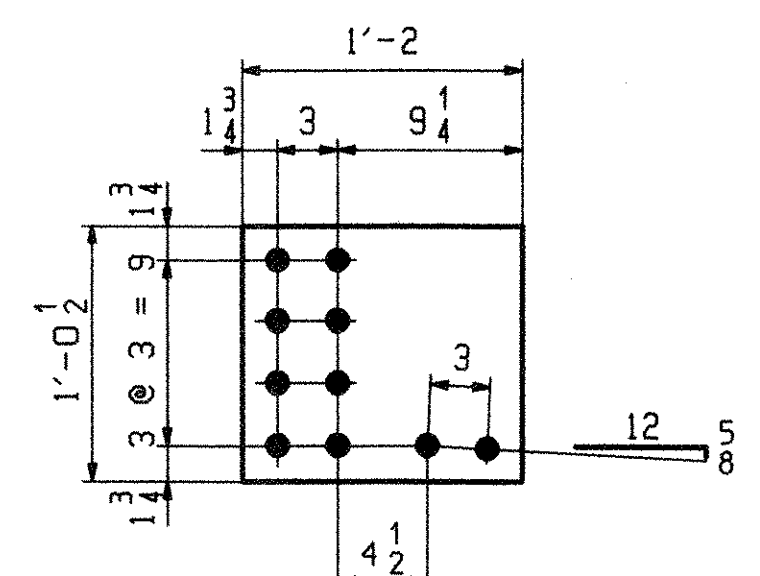
ABUT 2 LINES 5-6
 ABUT 2 LINES 4-5
 ABUT 2 LINES 3-4
 PIER 2 LINES 2-3

OUT FOR APPROVAL	FILED 7-11-06													
OUT FOR APPROVAL														
ISSUED TO SHOP														
FIELD & OFFICE														
△	CHG MC7x22.7 TO MC8x22.8	07/10	JTB	PCP										
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER			
	MATERIAL:													
	M270-50W (UN)							15/16" ∅			SHOP BOLTS:			NONE
SURFACE PREP. & PAINT:														
PAINTED - SEE DRAWING GNI														
DESCRIPTION:		CROSSFRAMES								DRAWN BY	DATE			
JOB:		RTE 9 OVER ROARING BRANCH OF WALLOOMSAC RIVER								JTB	02/26			
		BRIDGE No. BR 11								CHKD BY				
		WOODFORD, VT. BENNINGTON COUNTY								PCP	03/06			
										APPROV BY				
										SUPERVISOR	H. J. GATTI			
PROJ NO.		BHF 010-1(29)								Q.A.				
CUSTOMER: RENAUD BROTHERS, INC.														
CASCO BAY STEEL STRUCTURES, INC.										JOB NO.	DRG. NO.			
75 SPRING HILL ROAD										290	23			
PHONE (207) 282-7360										SACO, MAINE 04072				
										FAX. (207) 282-1179	REV. △			

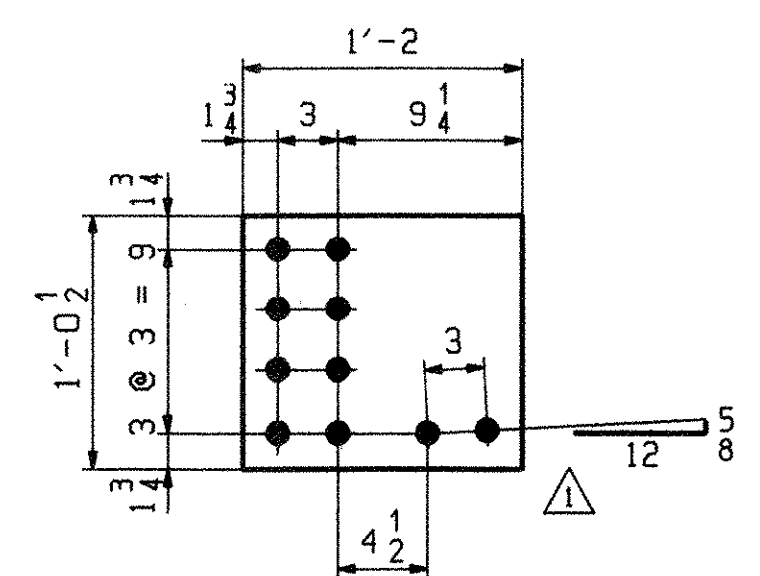
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 JUL 26 2006
 RESUBMIT APPROVED [Signature]
 BY: [Signature] DATE: 7/28/06



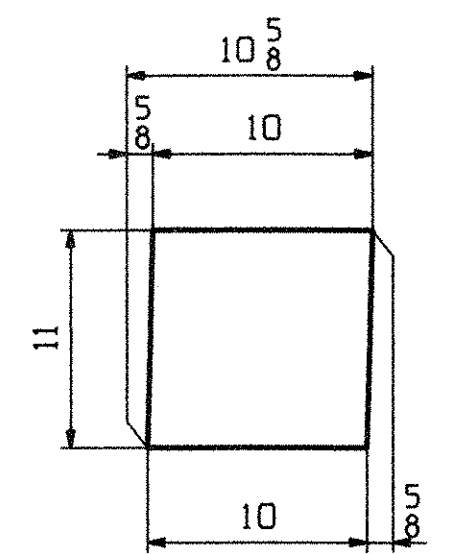
16 ~ INT CROSSFRAME - 25CF1
 PAINTED { 2 ~ INT CROSSFRAME - 25CF1P
 SHOP NOTE:
 BOLT/WIRE BOTTOM STRUT FOR SHIPPING



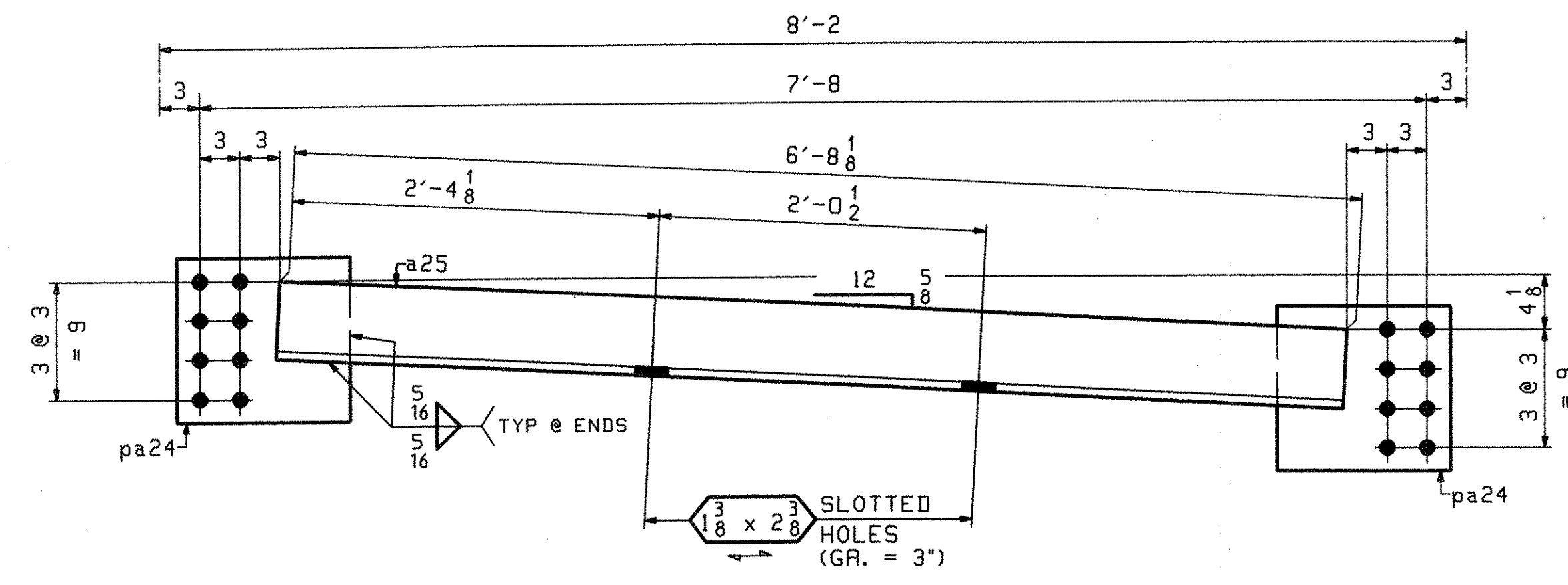
DETAIL - pa25
 18 REQ'D



DETAIL - pb25
 18 REQ'D



DETAIL - pc25
 36 REQ'D



16 ~ UTILITY SUPPORT - 25D1
 PAINTED { 1 ~ UTILITY SUPPORT - 25D1P

ABM INFO		SHIP				BILL OF MATERIAL		JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH FT INCHES	REMARKS	290	25	△
					INT CROSSFRAME					437
					INT CROSSFRAME		PAINTED			437
2	S		18	a25	L 6x6x 5/8	6 8 5/8				
2	T		18	b25	L 3x3x 1/2	6 8 5/8				
2	U		18	c25	L 4x4x 1/2	3 2 5/8				
2	U		18	d25	L 4x4x 1/2	3 4 1/4				
2	W		36	pa24	PL 1/2x12 1/2	1 1				
2	X		18	pa25	PL 1/2x12 1/2	1 2				
2	X		18	pb25	PL 1/2x12 1/2	1 2				
2	V		36	pc25	PL 1/2x11	0 10 5/8				
					UTILITY SUPPORT					208
					UTILITY SUPPORT		PAINTED			208
2	S		17	a25	L 6x6x 5/8	6 8 5/8				
2	W		34	pa24	PL 1/2x12 1/2	1 1				

OUT FOR APPROVAL	Final 7-17-06									
OUT FOR APPROVAL										
ISSUED TO SHOP										
FIELD & OFFICE										
△ REV	pb25 DETAIL	07/10	JTB	PCP						
REV. REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
MATERIAL:	ELECTRODES:		HOLES:		SHOP BOLTS:					
M270-50W (UN)			15 16 ∅		NONE					
SURFACE PREP. & PAINT:										
SEE DRAWING GN1										
DESCRIPTION:	INT CROSSFRAMES							DRAWN BY	DATE	
JOB:	RTE 9 OVER ROARING BRANCH OF WALLLOOMSAC RIVER							JTB	02/26	
	BRIDGE No. BR 11							CHKD BY		
	WOODFORD, VT. BENNINGTON COUNTY							PCP	03/06	
								APPROV BY		
								SUPERVISOR	M. J. GATTI	
PROJ. NO.	BHF 010-1(29)							Q.A.		
CUSTOMER: RENAUD BROTHERS, INC.										
CASCO BAY STEEL STRUCTURES, INC.										
75 SPRING HILL ROAD							SACO, MAINE 04072	JOB NO.	DRG. NO.	
PHONE (207) 282-7360							FAX. (207) 282-1179	290	25	
										REV. △

RECEIVED
 OK'D BY: [Signature]
 JUL 26 2006
 RESUBMIT: [Signature]
 APPROVED: [Signature]
 DATE: 7/28/06

PCP The Jul 13 11:56:33 EDT 2006 c:\msd\jtb\2508\25 1 Rev1



State of Vermont
FDD Structures Design Section
National Life Building - Drawer 33
Montpelier, VT 05633-5001
www.aot.state.vt.us

[phone] 802-828-2621
[fax] 802-828-3566
[td] 800-253-0191

Agency of Transportation

Casco Bay Steel Structures, Inc.
75 Spring Hill Road
Saco, Maine 04072

DATE: Oct. 12, 2006

Project Name: Woodford Project #: BHF 010 -1 (29)

Structure Identification: Bridge # 11 on VT 9 over the Roaring Branch

The following expansion joint details, Item #516.10, Bridge Expansion Joint (Vermont), for the above project (Vendor's Job # 290) transmitted with Renaud Brother's letter dated October 10, 2006 have been reviewed and are being returned herewith.

Sheet: **J1 and J2 and D1 are approved**

The welding procedures are approved and a copy of these approved welding procedures is also attached.

You must provide written notice to this office as to the date fabrication represented by these drawings will begin. That notice must be received at least seven days prior to that date, as per Specification 506.03. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,

Martha Evans-Mongeon
Project Manager

Attachments

- cc: Resident Engineer, Ron Lemaire
 Shop Inspector, Jeff Clark
 Contractor, Renaud Brothers
 Subcontractor - letter only
 Construction Division - letter only
 Materials & Research Section (C&IA Unit) - letter only
 Files (Structures & Central)



Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

Phone: (207) 772-2533

Fax: (207) 772-0580

WELDING PROCEDURE SPECIFICATION

Material specification A36-A572-A588 (ASTM 709 Gr 36-50-50w)
 Welding process Flux Cored Arc Welding (FCAW)
 Manual or machine Semi-AUTO
 Position of welding FLAT
 Filler metal specification AWS E 70
 Filler metal classification E 70T-1
 Flux NA
 Shielding gas 75% AR 25% CO₂ Flow rate 40 F5
 Single or multiple pass Single Electrode STRAIGHT 3/16 E70
 Single or multiple arc Single
 Welding current Direct Current
 Polarity Reverse Electrode Positive
 Welding progression see Detail
 Root treatment see Detail
 Preheat and interpass temperature 0 to 374-50° (19-100°) + 341 to 174-70° (197 to 38-100°)
 Postheat temperature NA
 Heat Input Min NA Max NA

Woodford VT
 Proj # RHF-010-1 (29)
 Br # 11 CBSS-70

WELDING PROCEDURE

Pass no.	Electrode size	Welding current		Travel speed	AWS D1-5
		Amperes	Volts		
	1/16	280 ± 28	25 ± 1.7	17 IPM ± 1.7	Filler BUTT
	1/8	280 ± 28	25 ± 1.7	1432 ± 43.2	Joint detail

TRUCKS RECEIVED
 BY: JWC
 AUG 1 2006
 BY: 9-12-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 105 Contractor Casco Bay Steel
 Revision no. _____ Authorized By Paul E. Goodale
 Form III-2 AWS-DC1 Date 2/2/99
 Paul E. Goodale
 83100201
 C.W.I.

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A709/A709M - Grade 36(250) 50(345) 50W(345W)
 Welding process Flux Cored Arc welding (FCAW)
 Manual or machine Semi Auto
 Position of welding Flat (1G) Horizontal (2G)
 Filler metal specification AWS A5.20
 Filler metal classification E71T-1
 Flux NA
 Shielding gas 75% Ar 25% CO2 Flow rate 40 CFH ± 5
 Single or multiple pass Single and Multiple - Electrode Extension 3/8" ± 4 (5.875 ± 6.35)
 Single or multiple arc Single
 Welding current DC
 Polarity Reverse
 Welding progression See Joint Detail
 Root treatment Remove AWS specification
 Preheat and interpass temperature 230 (19.50(10) - 34(4) to 1 1/2(68) - 1 1/2(68) to 2 1/4(13) 150(65)
 Postheat temperature NA
 Heat input Min _____ Max _____

(METRIC) WELDING PROCEDURE

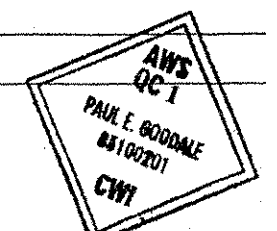
Pass no.	Electrode size	Welding current		Travel speed
		Amperes	Volts	
1/16	1/16	27.5	28.8	11.6
		247.5	26.8	10.4
		TO	TO	TO
		302.5	30.8	12.8
1.6	1.6	27.5	28.8	294.6
		247.5	26.8	264.2
		TO	TO	TO
		302.5	30.8	325.12

Joint detail: AWS D1.5 Joint detail: FC P4-F

NOTE: GRIND FLOSH AS REQ

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 103 Contractor Casco Bay Steel
 Revision no. _____ Authorized By P.O. Hood
 Form III-2 Date 3/23/00



Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

Phone: (207) 772-2533

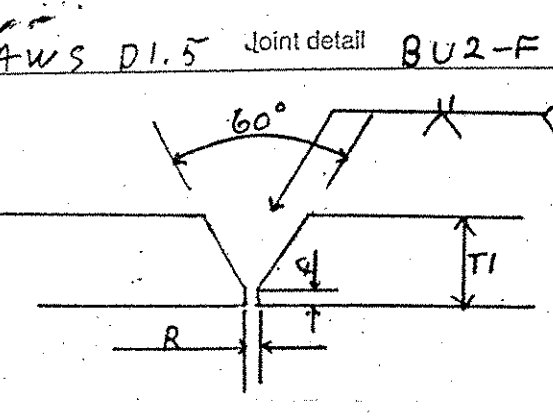
Fax: (207) 772-0580

WELDING PROCEDURE SPECIFICATION

Material specification A36-A572-A588 (ASTM A36 or 36-50-50w)
 Welding process Flux Cored Arc welding (FCAW)
 Manual or machine Semi-AUTO
 Position of welding Flat-1G
 Filler metal specification AWS A5-20
 Filler metal classification E71T-1
 Flux NA
 Shielding gas 75% AR 25% CO₂ Flow rate 40 ES
 Single or multiple pass Both Electrode Stick out 3/4" ± 1/4"
 Single or multiple arc Single
 Welding current Direct current
 Polarity Reverse Electrode positive
 Welding progression see Detail
 Root treatment weld side #1, backgauge side #2, grind, then weld
 Preheat and interpass temperature To 34-50° (19-10°) + 34 to 1/2-70° (19 to 38-20°)
 Postheat temperature NA
 Heat Input Min NA Max NA

Woodford VT
 Proj # BHF-010-1(23)
 Br # 11 CBSS 200

WELDING PROCEDURE

Pass no.	Electrode size	Welding current		Travel speed	Notes
		Amperes	Volts		
	1/16	280 ± 28	25 ± 1.9	11 ± 1.1	AWS D1.5 Joint detail BU2-F  T1 - UNLIMITED P - 0 To 1/8 / 0 To 3.2 mm R - 0 To 1/8 / 0 To 3.2 mm 1-Grind as required
	1/6	280 ± 28	25 ± 1.9	280 ± 28	

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 104 Contractor Casco Bay Steel
 Revision no. _____ Authorized By Paul E. Goodale
 Form III-2 AWS-QC1 Paul E. Goodale Date 2/2/99
 8310201 C.W.I.

Casco Bay Steel Structures, Inc.

5 Industry Road
South Portland, Maine 04106

Fax: (207) 772-0580

Phone: (207) 772-2533

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A99 Gr 36-50-50W (250-345-345W)
 Welding process Shielded Metal Arc Welding (SMAW)
 Manual or machine Manual
 Position of welding Flat (1F), Horizontal (2F)
 Filler metal specification AWS/A51-A5.5
 Filler metal classification E7018-R01B C703-7028
 Flux NA
 Shielding gas NA Flow rate NA
 Single or multiple pass Single and multiple
 Single or multiple arc Single
 Welding current AC/DC
 Polarity Straight/Reverse
 Welding progression NA
 Root treatment MEET AWS SPECIFICATION
 Preheat and interpass temperature 3/4 (19) 50 (10) 3/4 (19) TO 1 1/2 (38) 70 (160) 1 1/2 (38) TO 2 1/2 (63) 150 (160)
 Postheat temperature NA
 Heat input Min NA Max NA

Wood Field VITRANS
 Proj # RHF-010-120
 Br # 11 CBSS 290

(Metric) WELDING PROCEDURE

Pass no.	Electrode size	Welding current		Travel speed	Joint detail
		Amperes	Volts		
	<u>7/16</u>				<u>1F</u>
	<u>1/8 (3.2)</u>	<u>70-170</u>	<u>22-26</u>		
	<u>5/32 (3.9)</u>	<u>120-225</u>	<u>22-26</u>		
	<u>3/16 (4.8)</u>	<u>170-300</u>	<u>24-27</u>		
	<u>7/16 (4.8)</u>				<u>2F</u>
	<u>1/8 (3.2)</u>	<u>90-160</u>	<u>22-26</u>		
	<u>5/32 (3.9)</u>	<u>120-225</u>	<u>22-26</u>		
	<u>3/16 (4.8)</u>	<u>180-290</u>	<u>24-27</u>		
	<u>7/16 (4.8)</u>				
	<u>5/32 (3.9)</u>	<u>170-270</u>	<u>22-26</u>		
	<u>3/16 (4.8)</u>	<u>210-330</u>	<u>24-27</u>		

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable codes or contract specifications.

Procedure no. 401 Contractor Casco Bay Steel
 Revision no. _____ Authorized By Paul E. Hoodale
 Date 3/2/00

Casco Bay Steel Structures, Inc.

75 Spring Hill Road
Saco, Maine 04072

Phone: (207) 282-7360

Fax: (207) 282-1179

WELDING PROCEDURE SPECIFICATION

Material specification ASTM A709/A709M Gr 36(250)-50(345)-50W(345W)
 Welding process Flux Cored Arc welding
 Manual or machine Semi-Auto
 Position of welding Flat (F) - Horizontal (2F)
 Filler metal specification AWS A5-29
 Filler metal classification E81T1-A11
 Flux NA
 Shielding gas 75% AR / 25% CO₂ Flow rate 35 CFH ± 8.6
 Single or multiple pass single and multiple
 Single or multiple arc single
 Welding current Direct
 Polarity Reverse Electrode Positive
 Welding progression
 Root treatment To meet AWS D1.5 specifications
 Preheat and interpass temperature To 34(9) 50°(10) 70°(16) to 112(43) 225(44) 250(50) (65°)
 Postheat temperature NA
 Heat input Min 2.8 (1.15 kJ/in) Max 4.0 (1.57 kJ/in) P.Q.R. # 2 = 40.9 (1.58)

(Metric) WELDING PROCEDURE

Pass no.	Electrode size	Welding current		Travel speed	Joint detail
		Amperes	Volts		
AS	1/16	27.5	28.8	11.6	IF
		24.7	26.8	10.4	
		30.25	30.8	12.8	
Req	(Metric)	27.5	28.8	294.6	2F
		24.7	26.8	264.2	
		30.25	30.8	325.12	

Woodford VT
 Proj # SHF-010-160
 Br # 11 CBS 2002

Joint detail: Fillet

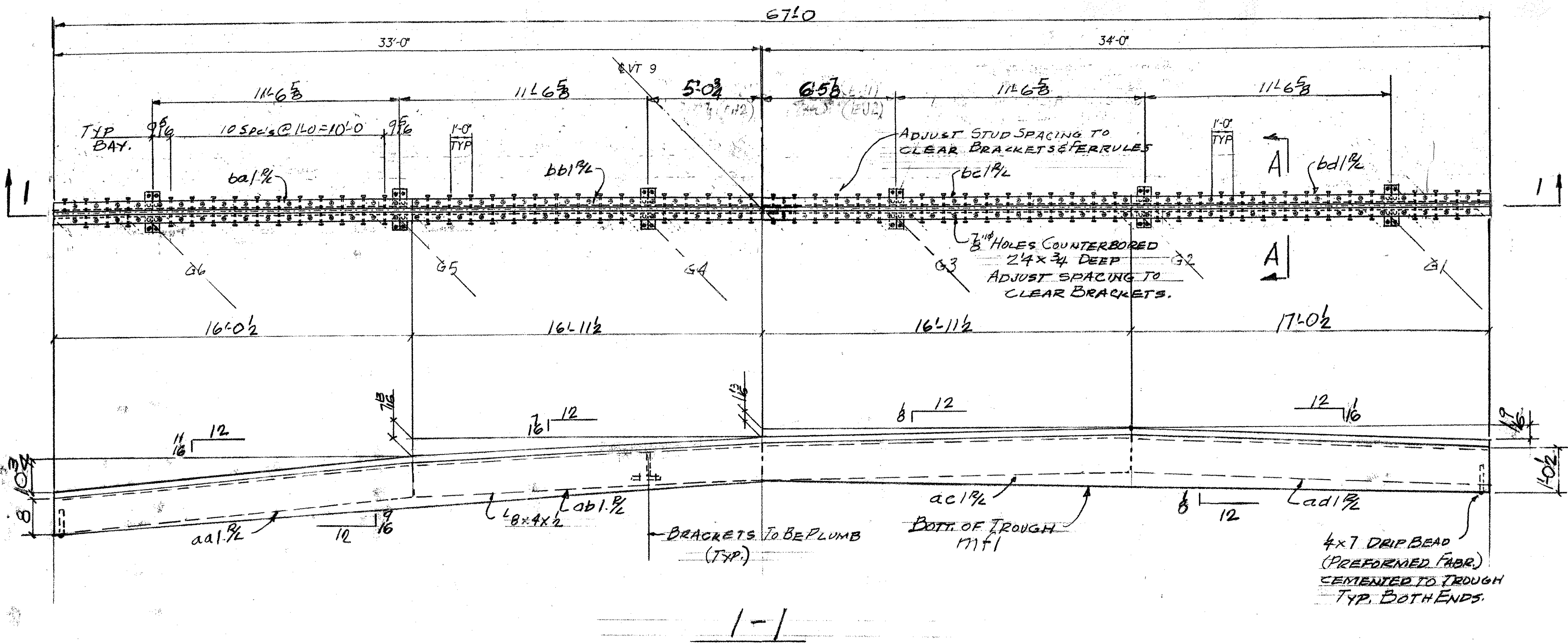
To 1/2 (12.7)
 To 5/8 (9.5)

RECEIVED
 DATE: AUG 14 2002

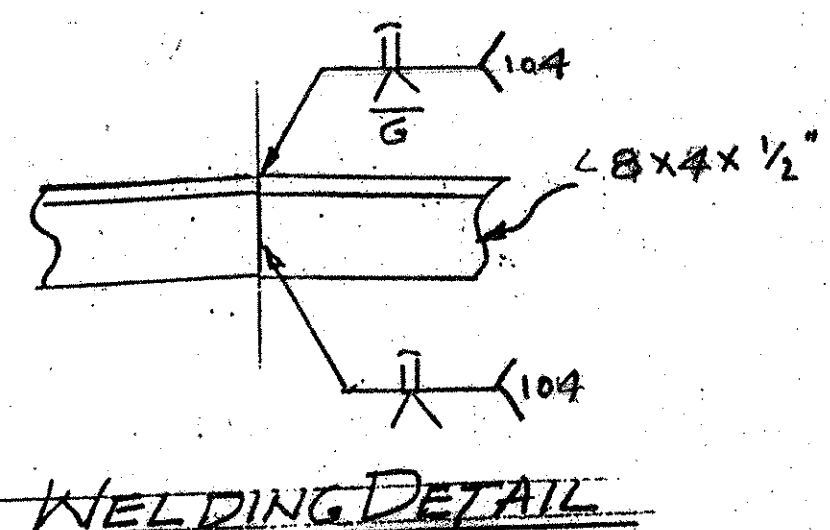
This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in applicable A.W.S. codes or contract specifications

Procedure no. 101-A
 Revision no. 1
 Date 9/2002

Contract Casco Bay Steel
 Authorized CE Foodil
 Date 9/2002



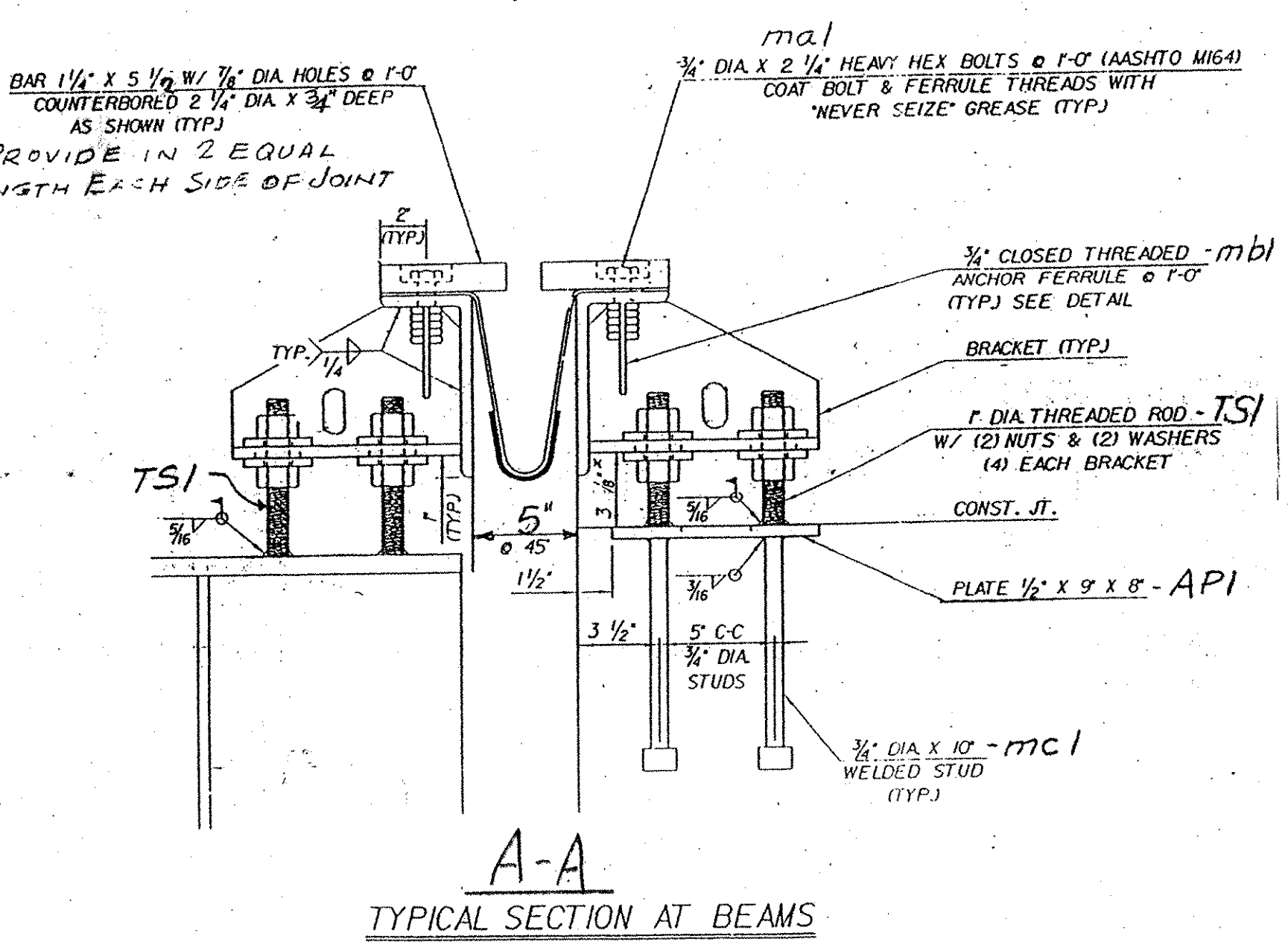
EJ1-ONE REQ'D (C ABUT. 1)



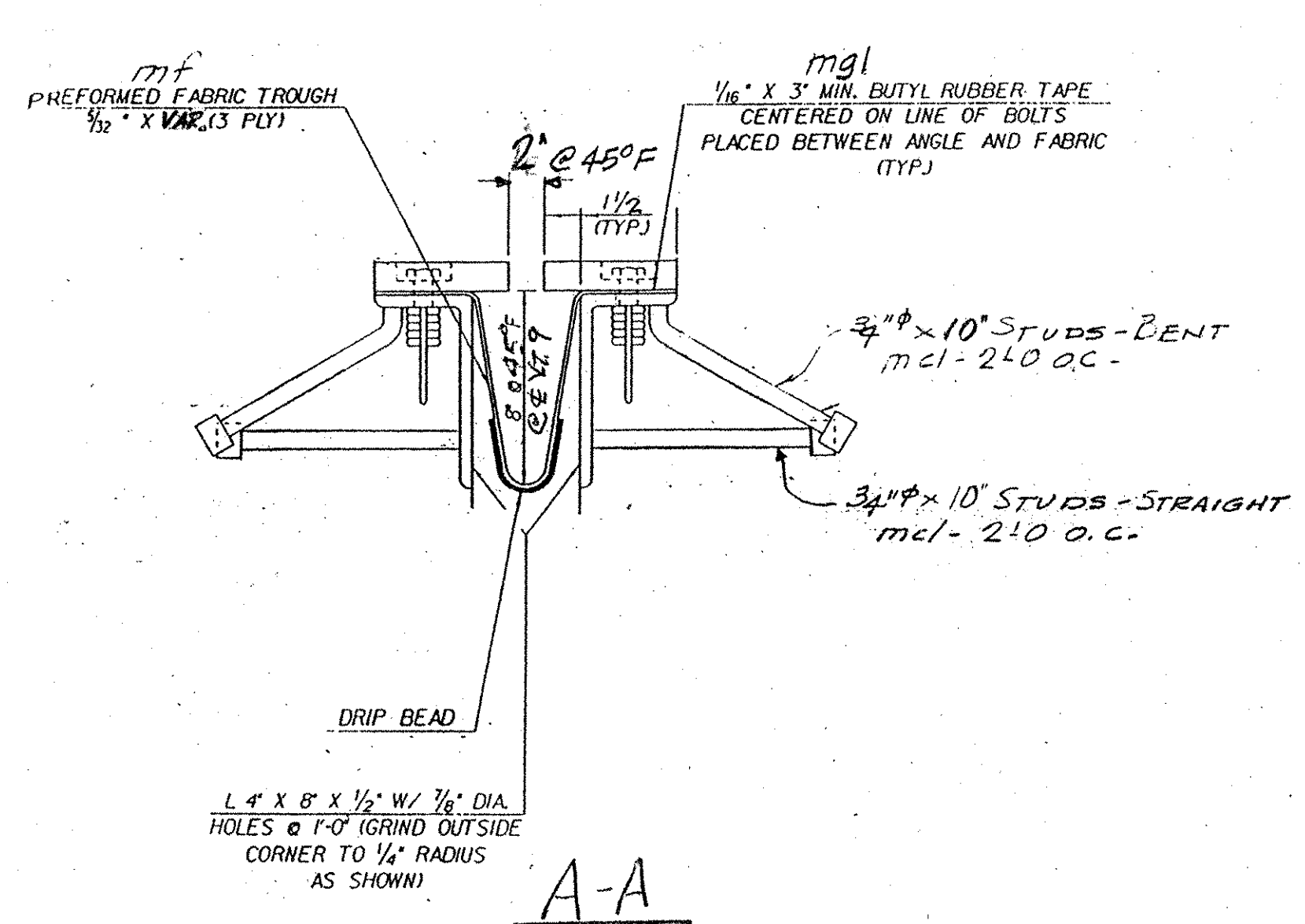
WORK THIS DWG. W/ DWG. J2

note: prior to galvanizing, all corners and edges of steel plates, shapes, etc shall be ground to a 1/16\"/>

AEM INFO		SHOP BILL			JOB NO. 290	DRG. NO. J1			
PAGE	LINE	NO.	DESCRIPTION	FT	IN	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
	1		EXP. INT. ASSY	67	0		EJ1		
	2		L 8x4x1/2	16	0	aa1 1/2			
	2		DO	16	11	bb1 1/2			
	2		DO	16	11	cc1 1/2			
	2		DO	17	0	dd1 1/2			
	2		BAR 5 1/2 x 1/4	16	0	ee1 1/2			
	2		DO	16	11	ff1 1/2			
	2		DO	16	11	gg1 1/2			
	2		DO	17	0	hh1 1/2			
	12		BAR 8 x 1/2	10		ii1			
	12		BAR 6 x 1/2	10		jj1			
	130		3\"/>						



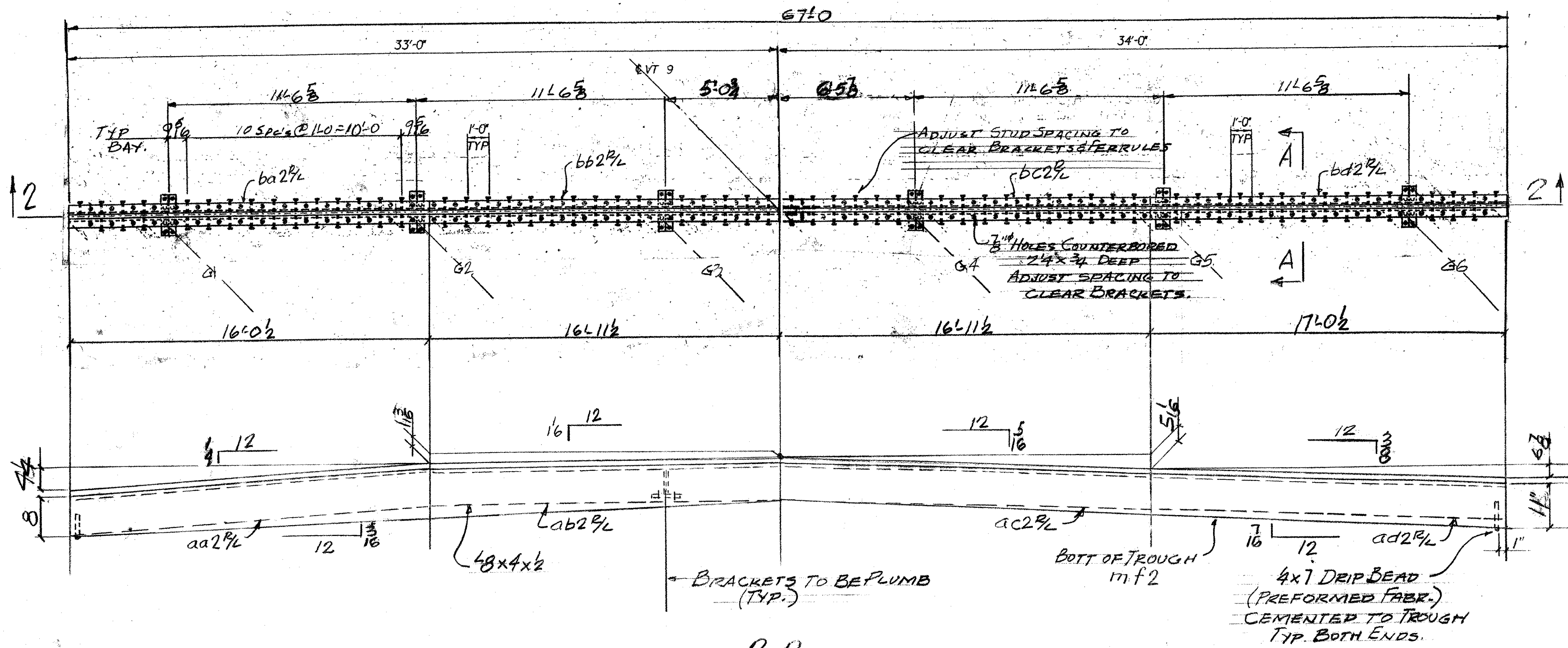
TYPICAL SECTION AT BEAMS



TYPICAL SECTION BETWEEN BEAMS

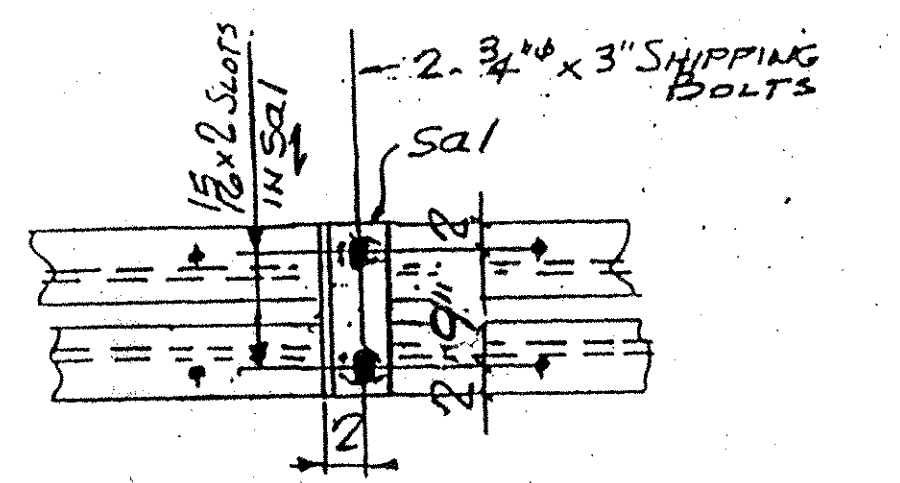
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 OCT 11 2006
 APPROVED Mem
 DATE 10/12/06

OUT FOR APPROVAL	8-8-06										
OUT FOR APPROVAL	7-11-06										
ISSUED TO SHOP											
FIELD & OFFICE											
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	PROJECT NO. BHF-010-1 (29)										STATE PROJECT NO. BR 11
	MATERIAL: AASHTO M270 GALV. 3\"/>										
	SURFACE PREP. & PAINT: GALVANIZED AFTER FAB (ASTM-A123)										
	DESCRIPTION: EXP. INT. ABUT. 1										
	JOB: VT. 9 OVER ROARING BRANCH OF WA. LOOMSAC RIV. WOODFORD, VT.										
	CUSTOMER: RENEAD BROS.										
	CASCO BAY STEEL STRUCTURES, INC.										
	75 SPRING HILL ROAD SAGO, MAINE 04072										
	PHONE (207) 282-7360 FAX (207) 282-1179										
	JOB NO. 290										
	DRG. NO. J1										
	REV. A										

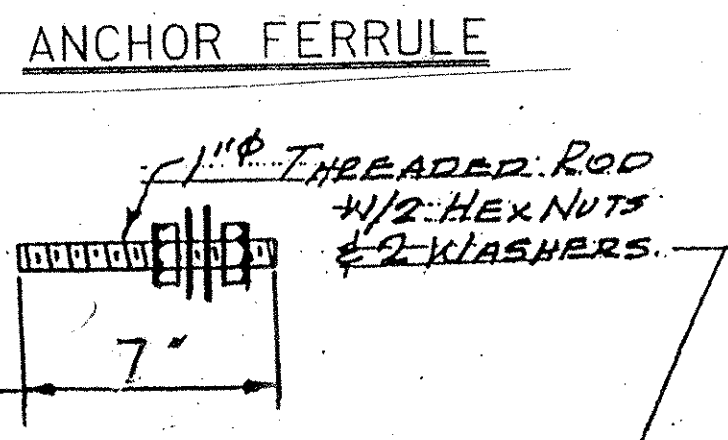


EJ2-ONEREQ'D (ABUT. 2)

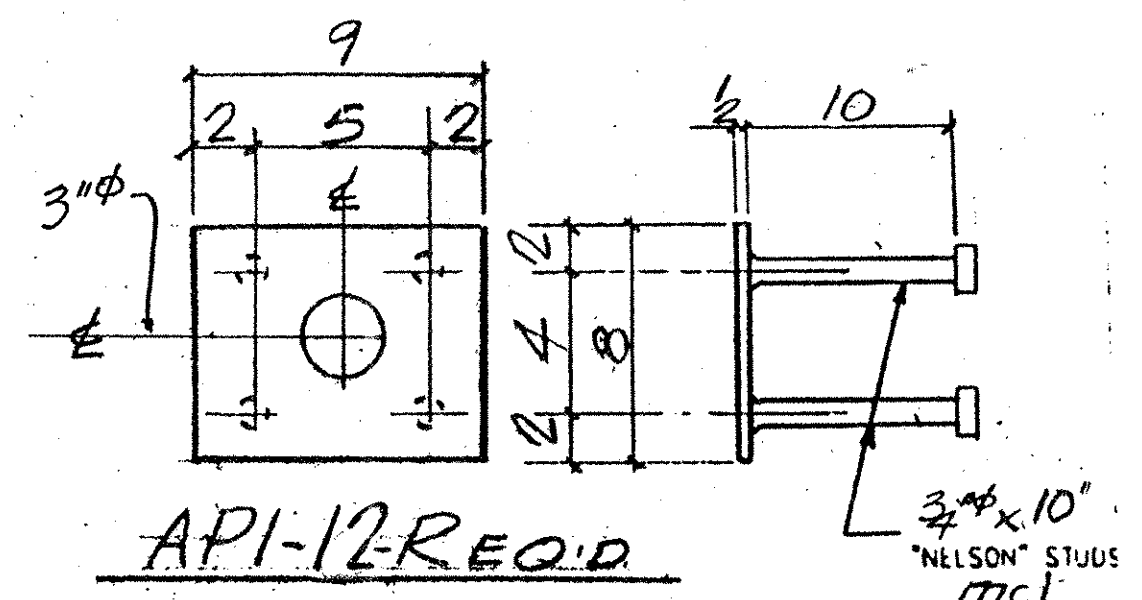
WORK THIS DNG. W/ DNG. J1



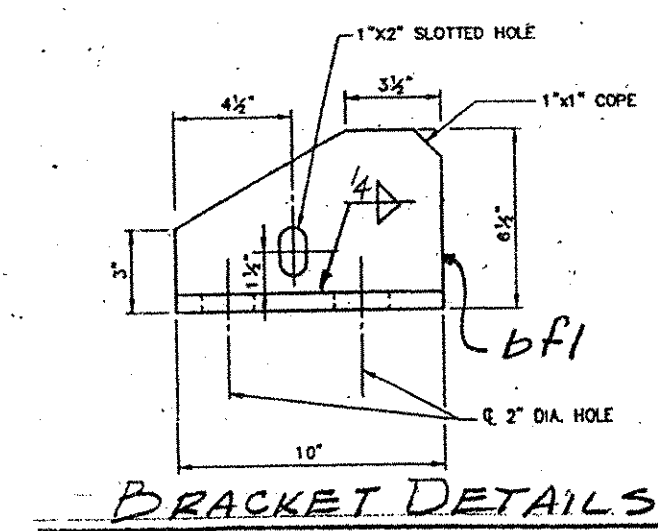
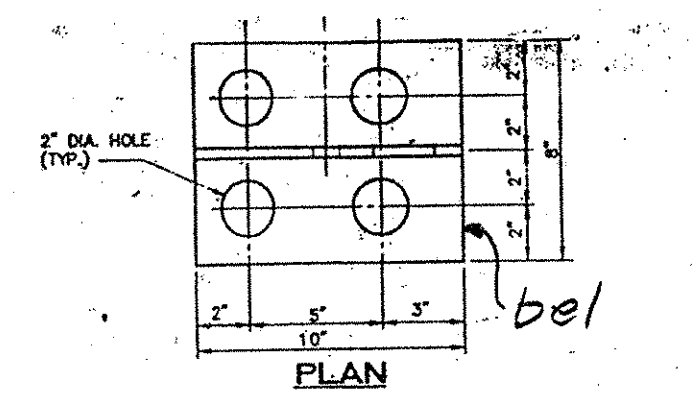
SHIPPING DEVICE
SPACED 5'-0\"/>



WASHER FOR BRACKET
W1



API-12REQ'D
3/4\"/>



BRACKET DETAILS

ADM INFO		SHOP BILL				JOB NO.	DRG. NO.		
PAGE	LINE	NO.	DESCRIPTION	FT	IN	ASSEM. MARK	SHIPPING MARK	REMARKS	WEIGHT
	1		EXP. INT. ASSY	67	0		EJ2		
	2		L 8x4x2	16	0 1/2	bd2%			
	2		DO	16	1 1/2	bd2%			
	2		DO	16	1 1/2	bd2%			
	2		DO	17	0 1/2	bd2%			
	2		BAR 5/2x1/4	16	0 1/2	bd2%			
	2		DO	16	1 1/2	bd2%			
	2		DO	16	1 1/2	bd2%			
	2		DO	17	0 1/2	bd2%			
	12		BAR 8x1/2	10	6 1/2				
	12		BAR 6x1/2	10	6 1/2				
	132		3/4\"/>						
	132		3/4\"/>						
	124		3/4\"/>						
	1		PERFORMED FABR.	68	0 1/2	m12		SPPLY PER SUBMIT 701.07	
	2		BUTYL RUBBER TAPE	68	0 1/2	m1		ASSTG. W/ 70-TYPE B	
48			1/4\"/>						
96			1\"/>						
96			1\"/>						
6			1/2 x 8	9		API			
24			3/4\"/>						
14			L 4x4x2	1	1	S21			
28			3/4\"/>						
PAY ITEM 516.10									

OUT FOR APPROVAL	8-8-06
OUT FOR APPROVAL FINAL	10-6-06
ISSUED TO SHOP	
FIELD & OFFICE	

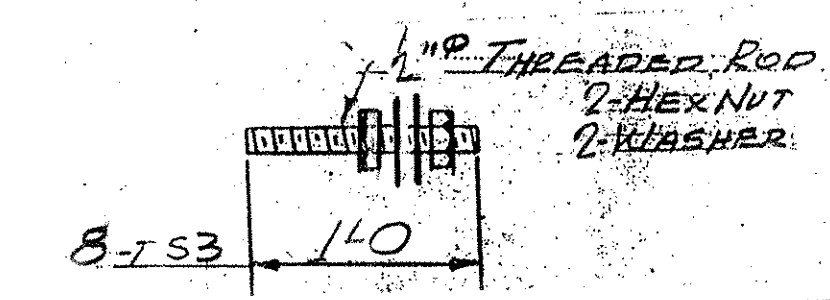
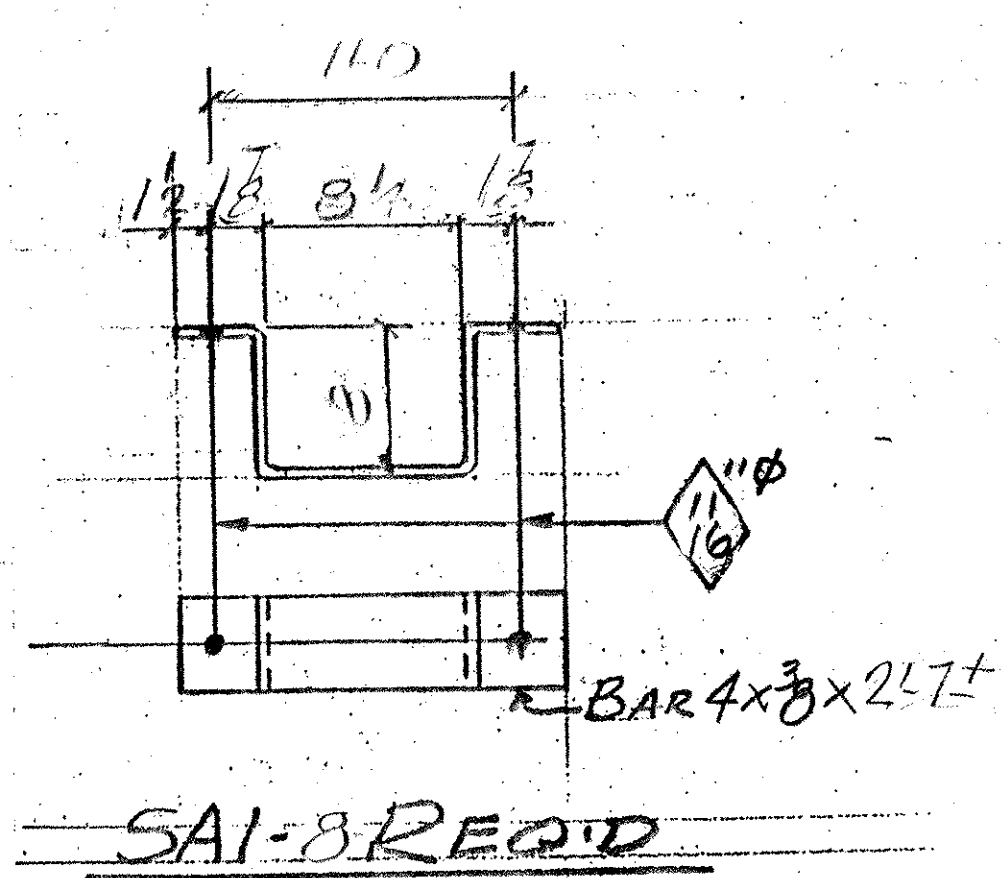
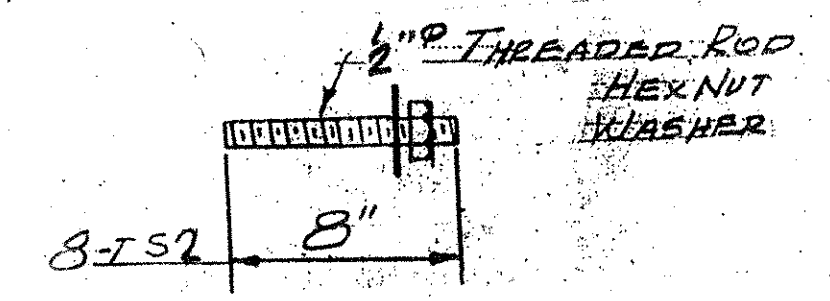
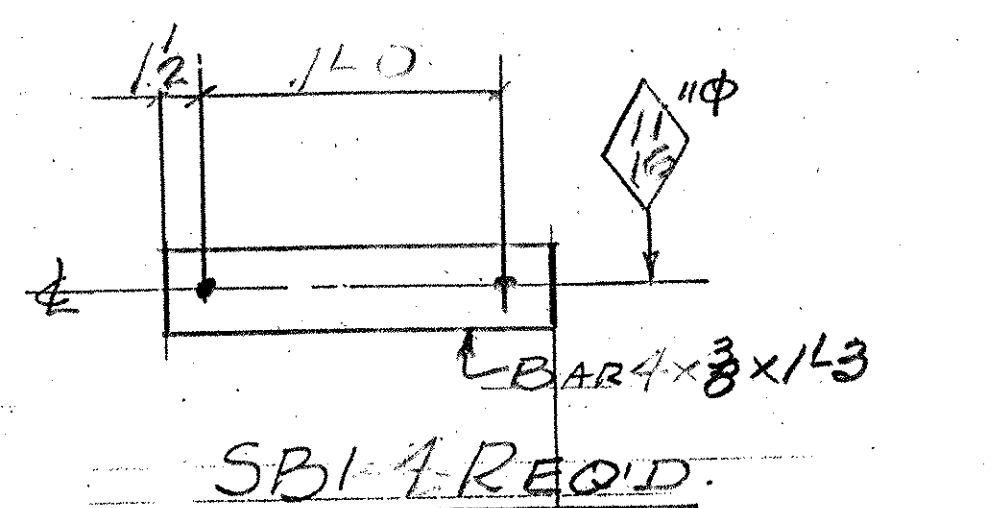
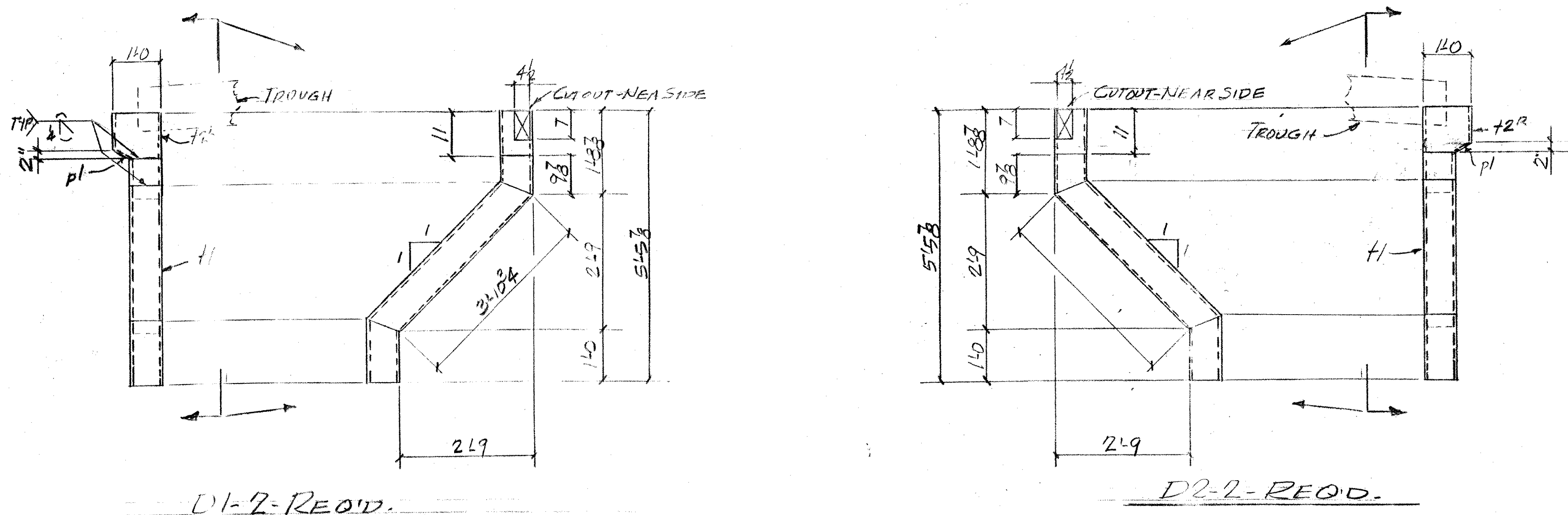
REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
PROJECT NO. BHE-D10-1 (29) STATE PROJECT NO. BR11											
MATERIAL: A572, A513, A36 ELECTRODES: SEE PROC. HOLES: AS NOTED SHOP BOLTS: 5/16\"/>											
SURFACE PREP. & PAINT: GALVANIZE AFTER FAB (ASTM-A123)											

DESCRIPTION: EXP. JOINT - ABUT. 2	DRAWN BY	DATE
JOB: VT. 9 OVER ROARING BRANCH OF WILLOOMSAC RIV. WOODFORD, VT.	JPE	7-06
	CHKD BY	
	EJ	
	APPROV BY	
	Q.A.	

CUSTOMER: RENEAUD BROS.	JOB NO.	DRG. NO.
CASCO BAY STEEL STRUCTURES, INC.	290	J2
75 SPRING HILL ROAD SACO, MAINE 04072		
PHONE (207) 282-7360 FAX (207) 282-1179		

RECEIVED
OCT 11 2006
RESUBMIT APPROVED
DATE 10/12/06

A/M INFO		SHOP BILL				JOB NO. 290	DRG. NO. D1		
PAGE	LINE	NO.	DESCRIPTION	FT	IN	ASSEM MARK	SHIPPING MARK	REMARKS	WEN#
	2		DOWNSPOUT	5	6 \pm		D1		
	2		DO	5	6 \pm		D2		
		1	TS8x8x4	250	4			A500-62B	
		4	TS12x8x4	11	12 \pm			A500-62B	
		4	BAR4x4	8					
	3		BAR4x8	2	7 \pm			SA1 BR11	
	4		DO	1	3			SBI	
	8		1/2" THREADED ROD	8				TS2 A307	
	8		DO	1	0			TS2 A307	
	24		1/2" HEX NUTS					FIELD	
	24		1/2" WASHERS					DO	

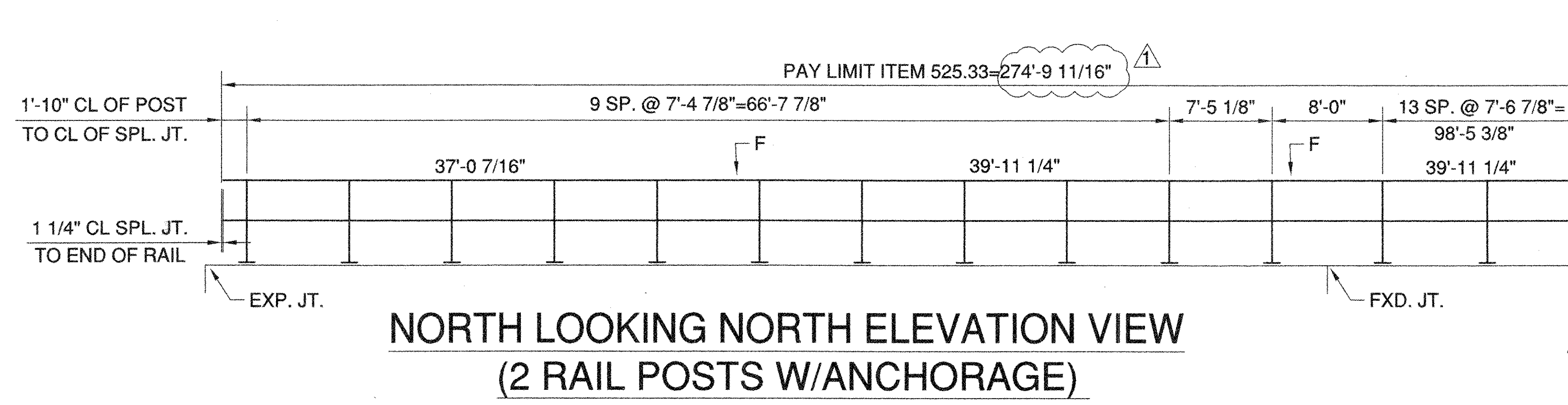


OUT FOR APPROVAL	8-8-06								
OUT FOR APPROVAL									
ISSUED TO SHOP									
FIELD & OFFICE									

REV.	REMARKS	DATE	DWN	CHK	APP	Q.A.	NO.	DIA.	LGT	TYPE	WASHER
	PROJECT NO. BHF-010-1 (29) STATE PROJECT NO. BR11										
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	SURFACE PREP. & PAINT:										

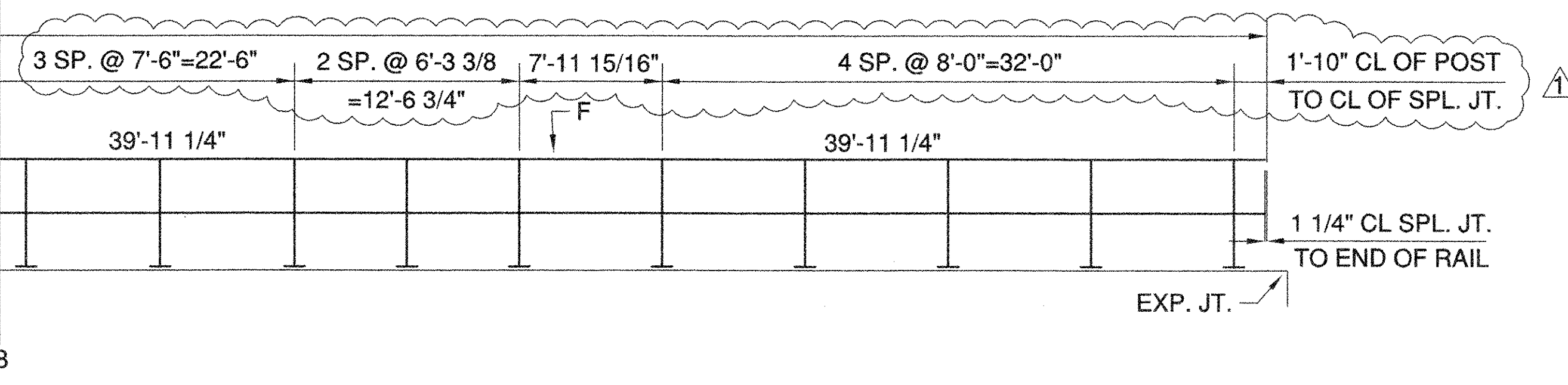
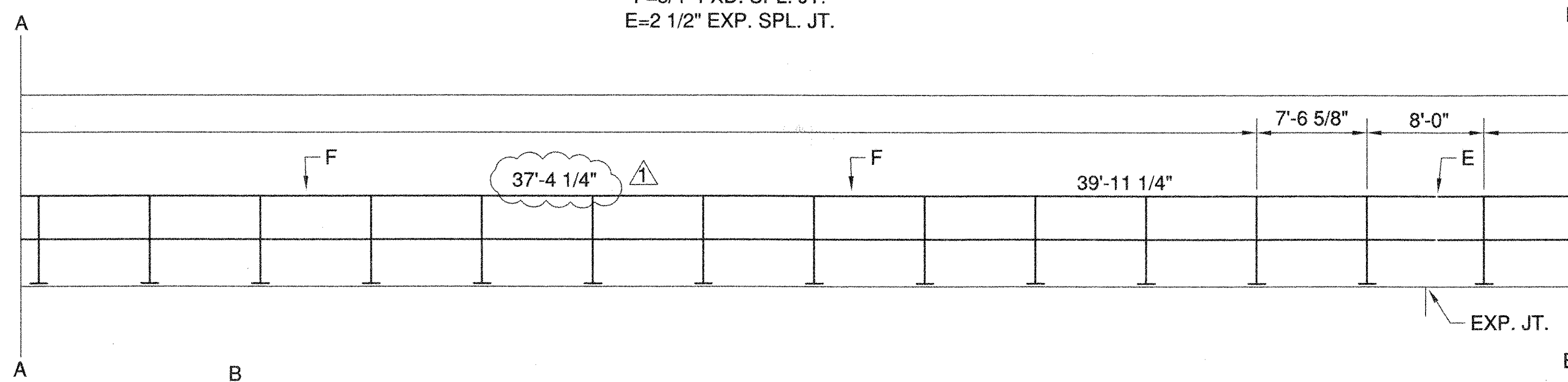
GALVANIZED AFTER FAB (ASTM-A123)	
DESCRIPTION: DOWNSPOUTS	DRAWN BY: JPK
JOB: VT. 9 OVER ROARING BRANCH OF WALLOOMSAC RIV. WOODFORD, VT.	DATE: 8-06
	CHKD BY: EJ
	APPROV BY: [Signature]
	Q.A.:
CUSTOMER: RENEAU BROS.	
CASCO BAY STEEL STRUCTURES, INC.	JOB NO. 290 DRG. NO. D1
75 SPRING HILL ROAD SACO, MAINE 04072	PHONE (207) 282-7360 FAX (207) 282-1179

RECEIVED
 CHK'D BY: JPK OK'D BY: Mem
 AUG 14 2006
 RESUBMIT APPROVED
 BY DATE 10/11/06



**NORTH LOOKING NORTH ELEVATION VIEW
(2 RAIL POSTS W/ANCHORAGE)**

KEY
F=3/4" FXD. SPL. JT.
E=2 1/2" EXP. SPL. JT.



BILL OF MATERIAL						
ITEM NO.	LBS. EACH	MARK OR USE	QTY.	SHAPE (AMERICAN)		REMARKS
				FT.	IN.	
ITEM NO. 525.33						
932.1		RAIL	4	T.S. 8"x4"x5/16" WALL	39 11 1/4	A500 GR B
932.1		RAIL	6	T.S. 8"x4"x5/16" WALL	39 11 1/4	A500 GR B W/EXP. SLOTS @ 1 END.
871.9		RAIL	2	T.S. 8"x4"x5/16" WALL	37 4 1/4	A500 GR B
864.9		RAIL	1	T.S. 8"x4"x5/16" WALL	37 0 11/16	A500 GR B W/EXP. SLOTS @ 1 END.
864.4		RAIL	1	T.S. 8"x4"x5/16" WALL	37 0 7/16	A500 GR B W/EXP. SLOTS @ 1 END.
37.31		SPLICE	16	T.S. 7"x3"x3/8" WALL	1 8	A500 GR B W/2-5/8" O H.S. NUTS
.29		FXD. SPL. BOLT	40	5/8" O HEX BOLT	1 3/4	A325-1 W/FW
.34		EXP. SPL. BOLT	24	5/8" O HEX BOLT	1 3/4	A325-1 W/FW
						W/3/4" O NOM. SCH. STD. PIPE X 1/2" LG. A53
487.6		RAIL	4	T.S. 4"x4"x1/4" WALL	39 11 1/4	A500 GR B
487.6		RAIL	6	T.S. 4"x4"x1/4" WALL	39 11 1/4	A500 GR B W/EXP. SLOTS @ 1 END.
456.1		RAIL	2	T.S. 4"x4"x1/4" WALL	37 4 1/4	A500 GR B
452.5		RAIL	1	T.S. 4"x4"x1/4" WALL	37 0 11/16	A500 GR B W/EXP. SLOTS @ 1 END.
452.2		RAIL	1	T.S. 4"x4"x1/4" WALL	37 0 7/16	A500 GR B W/EXP. SLOTS @ 1 END.
17.68		SPLICE	16	T.S. 3"x3"x5/16" WALL	1 8	A500 GR B W/2-5/8" O H.S. NUTS
.29		FXD. SPL. BOLT	40	5/8" O HEX BOLT	1 3/4	A325-1 W/FW
.34		EXP. SPL. BOLT	24	5/8" O HEX BOLT	1 3/4	A325-1 W/FW
						W/3/4" O NOM. SCH. STD. PIPE X 1/2" LG. A53
1.0		RAIL POST BOLT	296	3/4" O ROUND HEAD SLOTTED BOLT	6	A325-1 W/ FW&PREVAILING TORQUE NUT
88.4		POST	74	W6X25X1'-11 3/8"	2 0 3/8	A572 GR 50 W/PL1"X10"X 14" CVN
13.0		SPACER PLATE	74	PL3/8"X3 3/8"	1 1	A36
.67		FABCO PAD	74	1/8"X10"	1 2	
3.5		ANCHOR STUD	296	1" O FULLY THREADED	1 0	A449 W/3N, 1FW
.13		SILVER DELIN.	16	.10"X5"	5 3/4	B209 ALLOY 5052-H32, REFLECTIVE D4956
.3		BOLT	16	5/8" O HEX HEAD	1 1/2"	A325-1 W/N, LW

RECEIVED
MAY 11 2006
DATE 05/10/06

ALL DIMENSIONS MUST BE FIELD VERIFIED
PRIOR TO FABRICATION BY CONTRACTOR

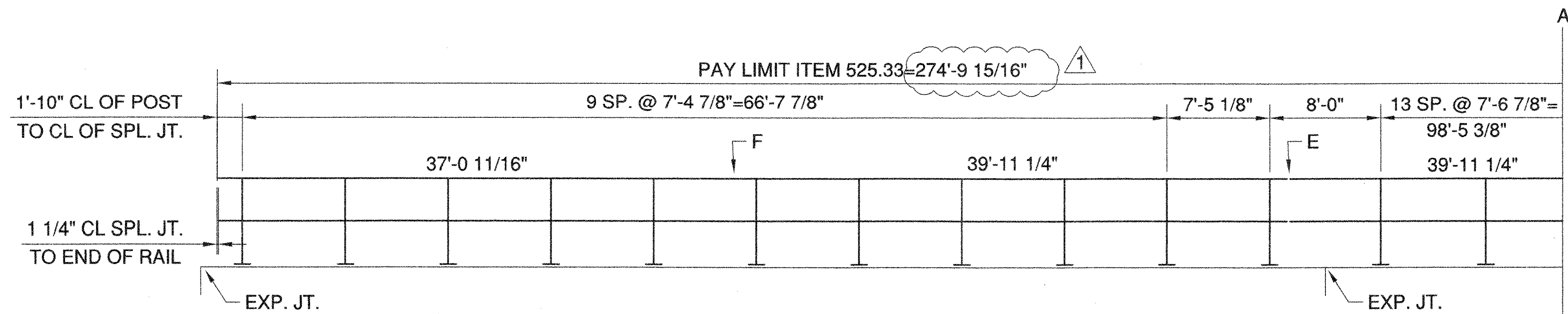
PAY LIMIT FOR 2 RAIL= 549.6354FT. (APPROX.)

DRAWN BY: THW DATE: 2/6/06 CHECKED BY: DCK SHEET NO. 1 OF 3

BRIDGE RAILING LAYOUT
STATE OF VERMONT AGENCY OF TRANSPORTATION
VT. 9 (BR. 11) OVER ROARING BRANCH
IN THE TOWN OF WOODFORD

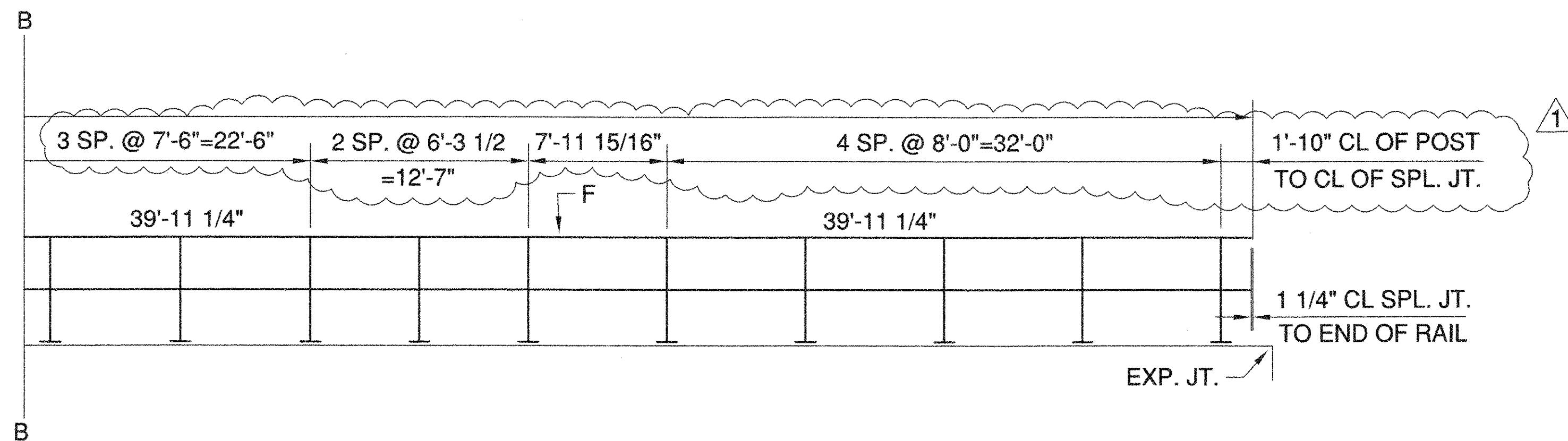
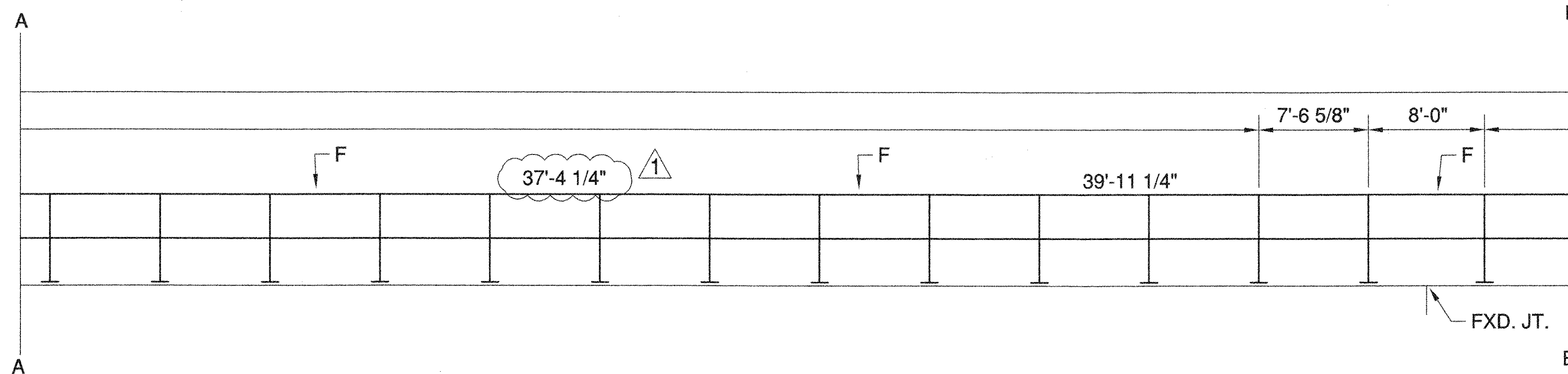
CONT. NO. BHF010-1(29)
GEN. CONT. RENAUD BROTHERS, INC.
ERECTOR: RENAUD BROTHERS, INC.
FABRICATOR: PH. (315)736-8312
DI HIGHWAY SIGN & STRUCTURE CORPORATION
P.O. BOX 123(40 GREENMAN AVE.) NEW YORK MILLS, N.Y. 13417

JOB NO. **B15-02**



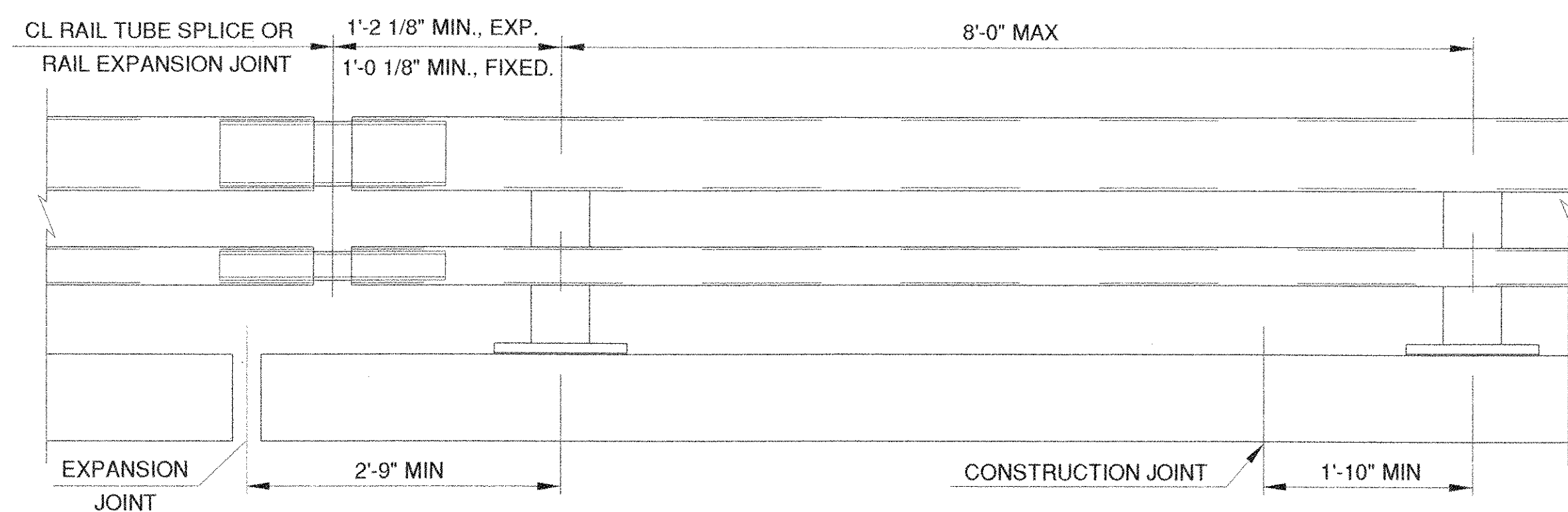
**SOUTH LOOKING SOUTH ELEVATION VIEW
(2 RAIL POSTS W/ANCHORAGE)**

KEY
 F=3/4" FXD. SPL. JT.
 E=2 1/2" EXP. SPL. JT.

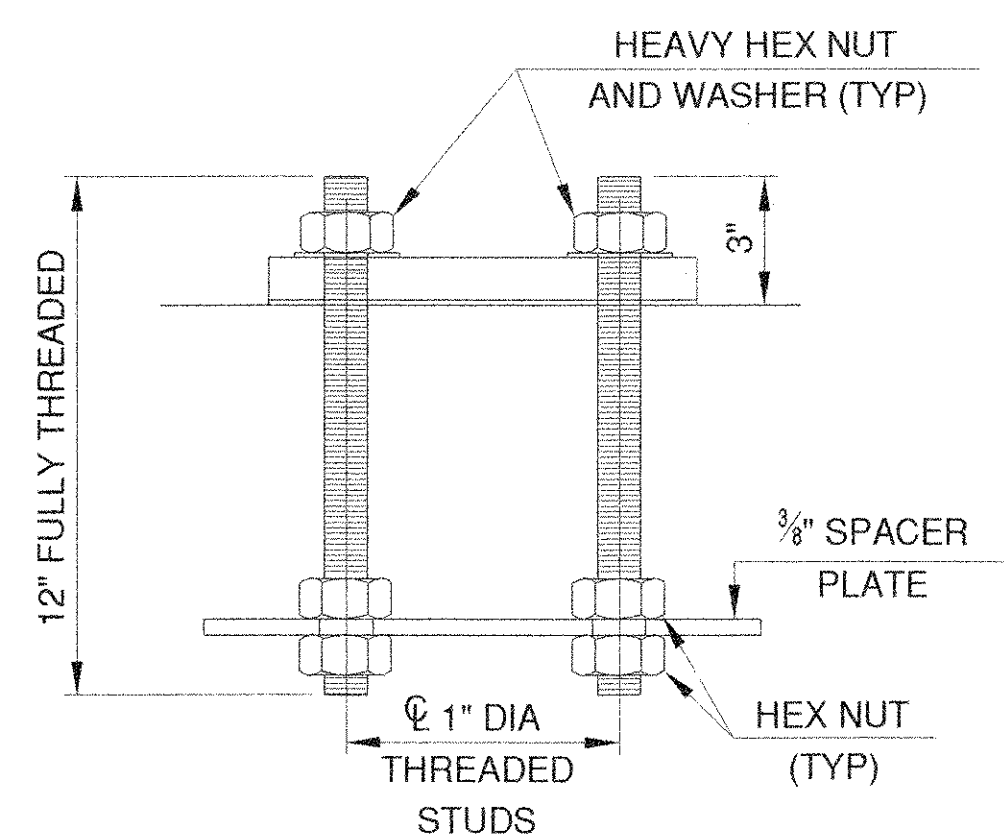


RECEIVED
 OK'D BY: *WME* DATE: *05/11/06*
 RESUBMIT BY: _____ APPROVED: *WME* DATE: *05/11/06*

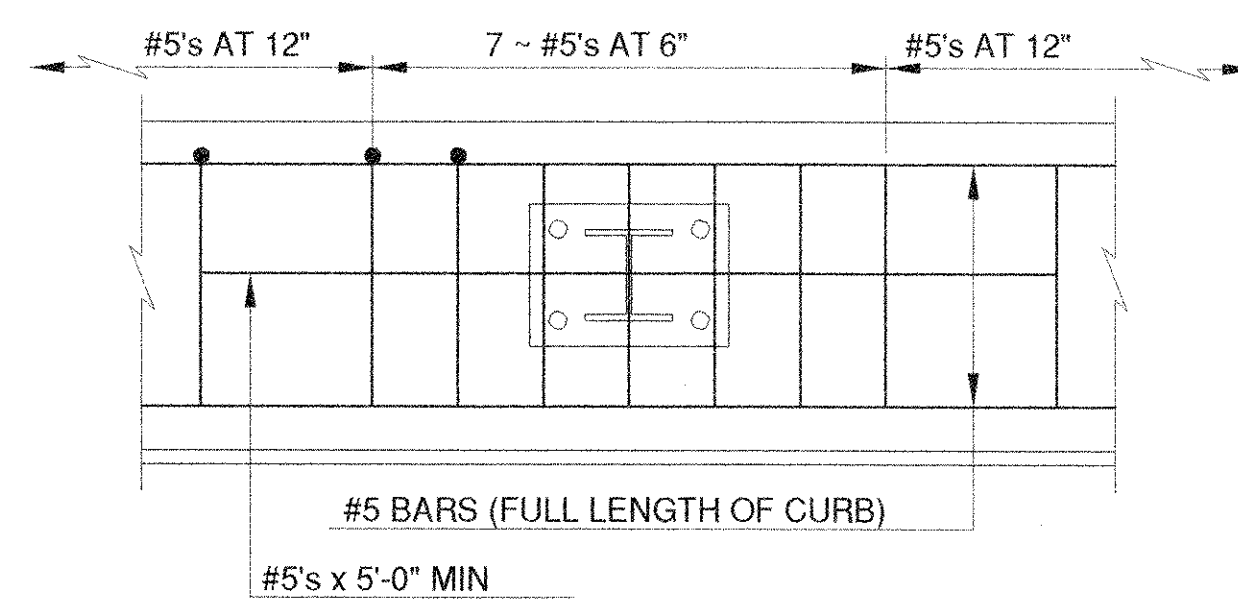
REVISED PER PHONE CONVERSATION W/MARTHA EVANS-MONGEON 3/24/06	DESCRIPTION:	DRAWN BY: THW	DATE: 2/6/06	CHECKED BY: DCK	SHEET NO. 2 OF 3
		BRIDGE RAILING LAYOUT STATE OF VERMONT AGENCY OF TRANSPORTATION VT. 9(BR. 11) OVER ROARING BRANCH IN THE TOWN OF WOODFORD			
3/24/06	DATE:	CONT. NO. BHF010-1(29)			
△	REV. DATE:	GEN. CONT. RENAUD BROTHERS, INC. ERECTOR: RENAUD BROTHERS, INC.			
		FABRICATOR: PH. (315)736-8312 DI HIGHWAY SIGN & STRUCTURE CORPORATION P.O. BOX 123(40 GREENMAN AVE.) NEW YORK MILLS, N.Y. 13417			
		JOB NO. R15-02			



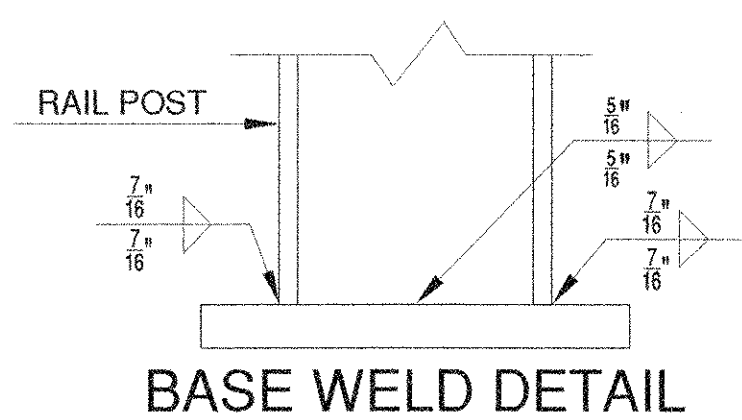
BRIDGE RAILING ELEVATION



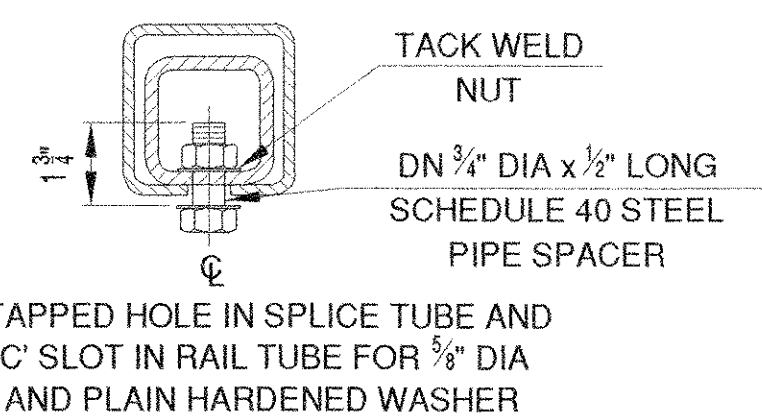
RAIL POST ANCHORAGE



CURB REINFORCING PLAN

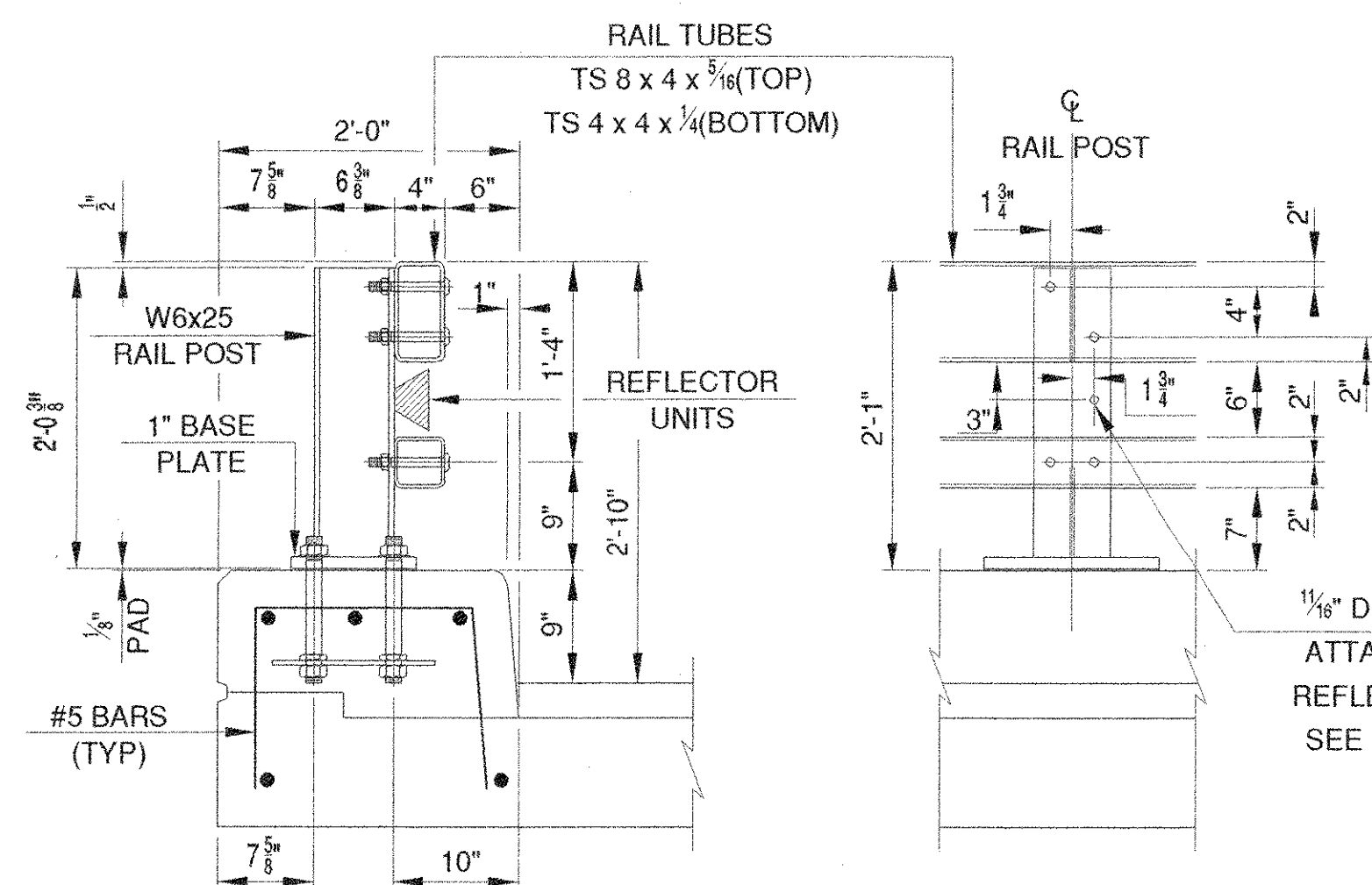


BASE WELD DETAIL

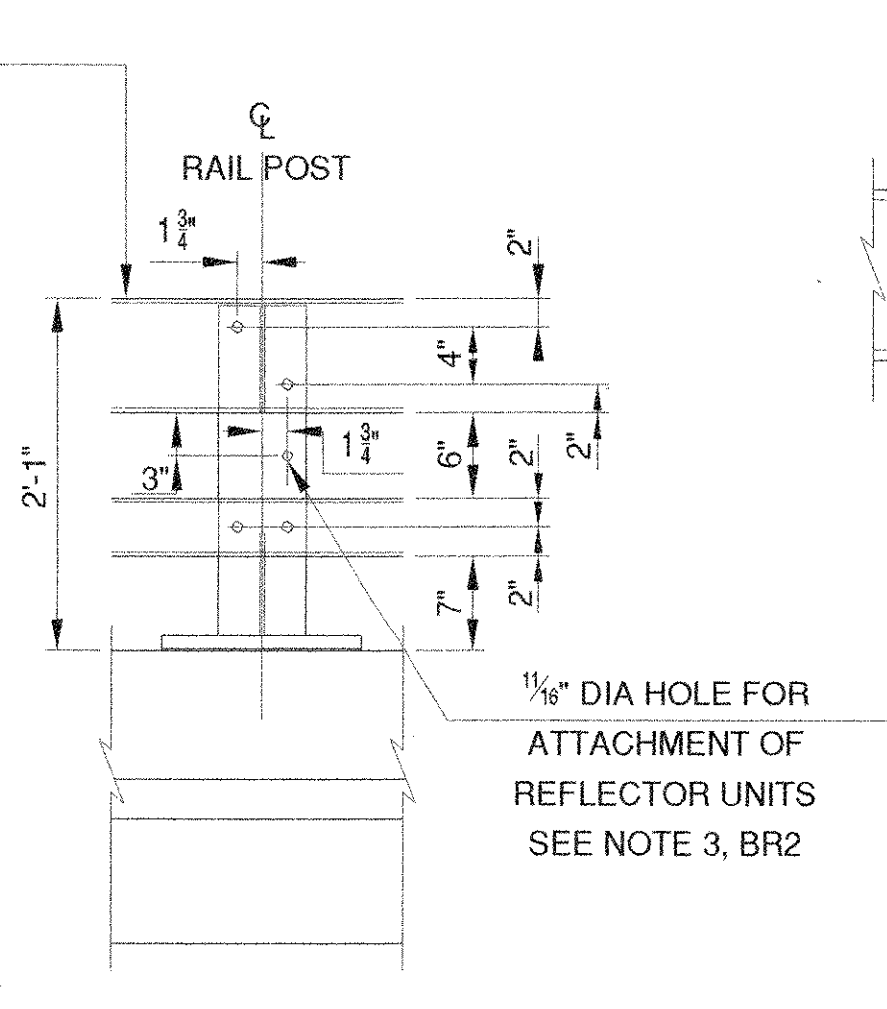


EXPANSION JOINT SECTION

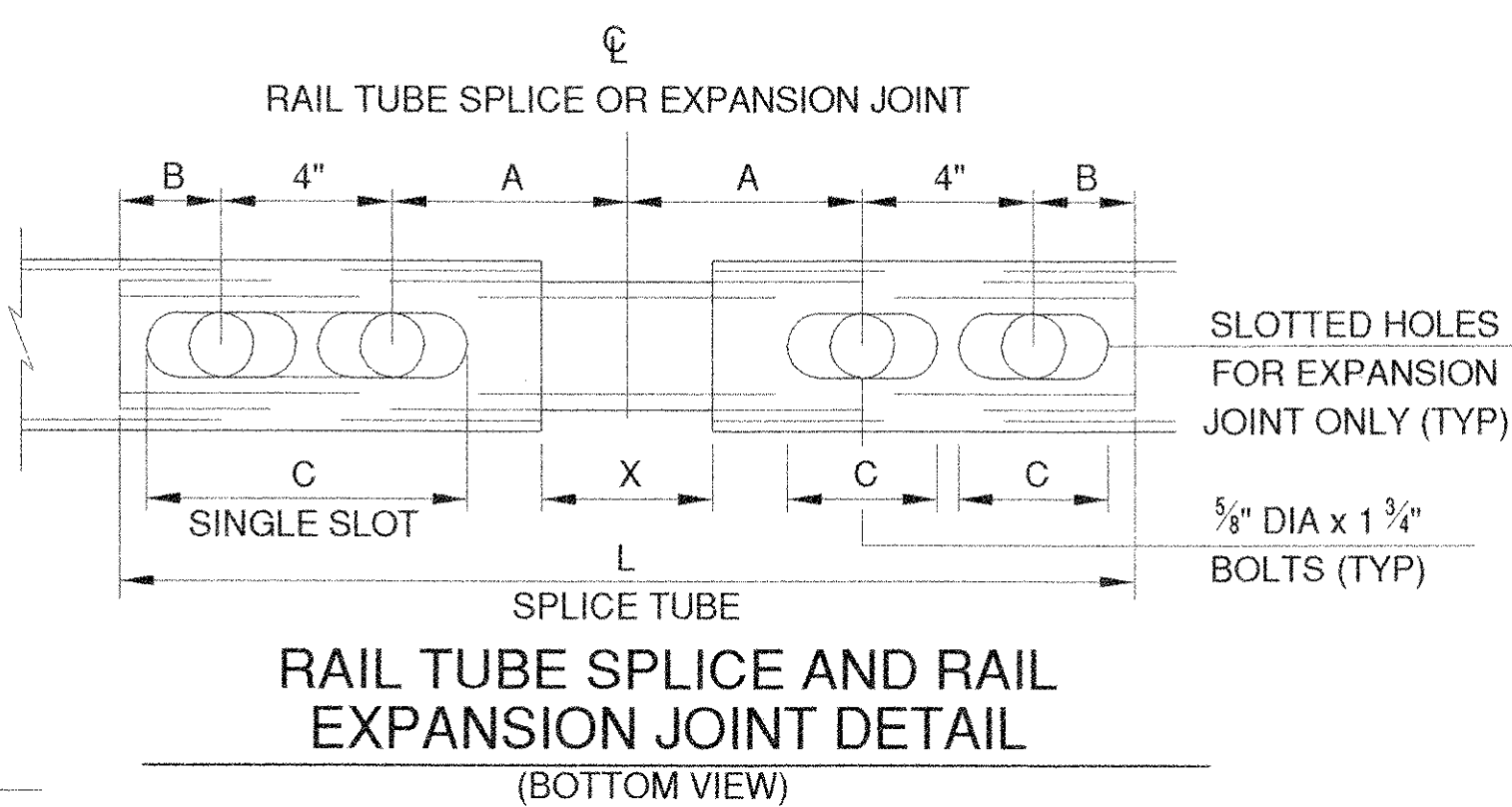
FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION."



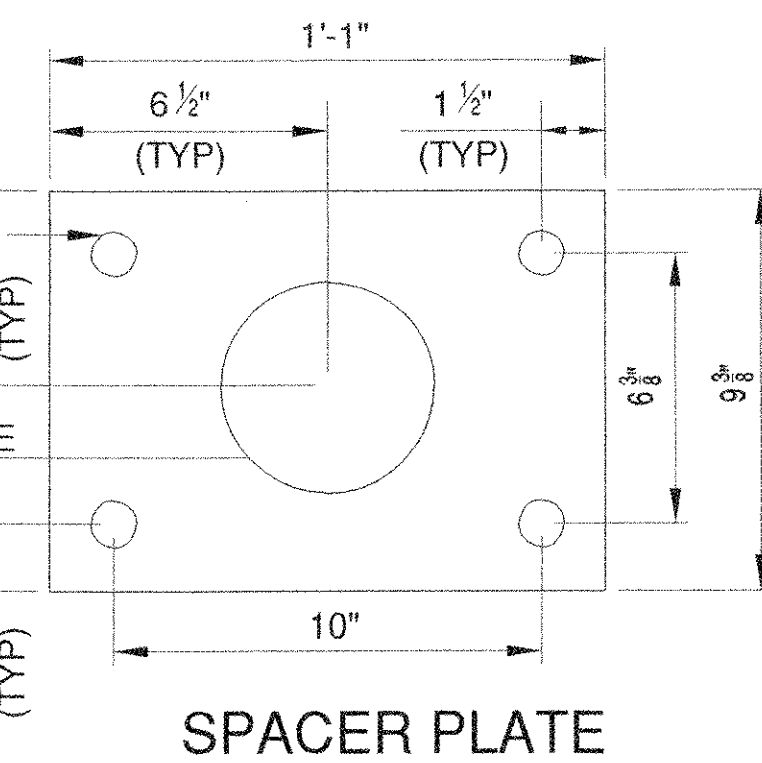
TYPICAL SECTION



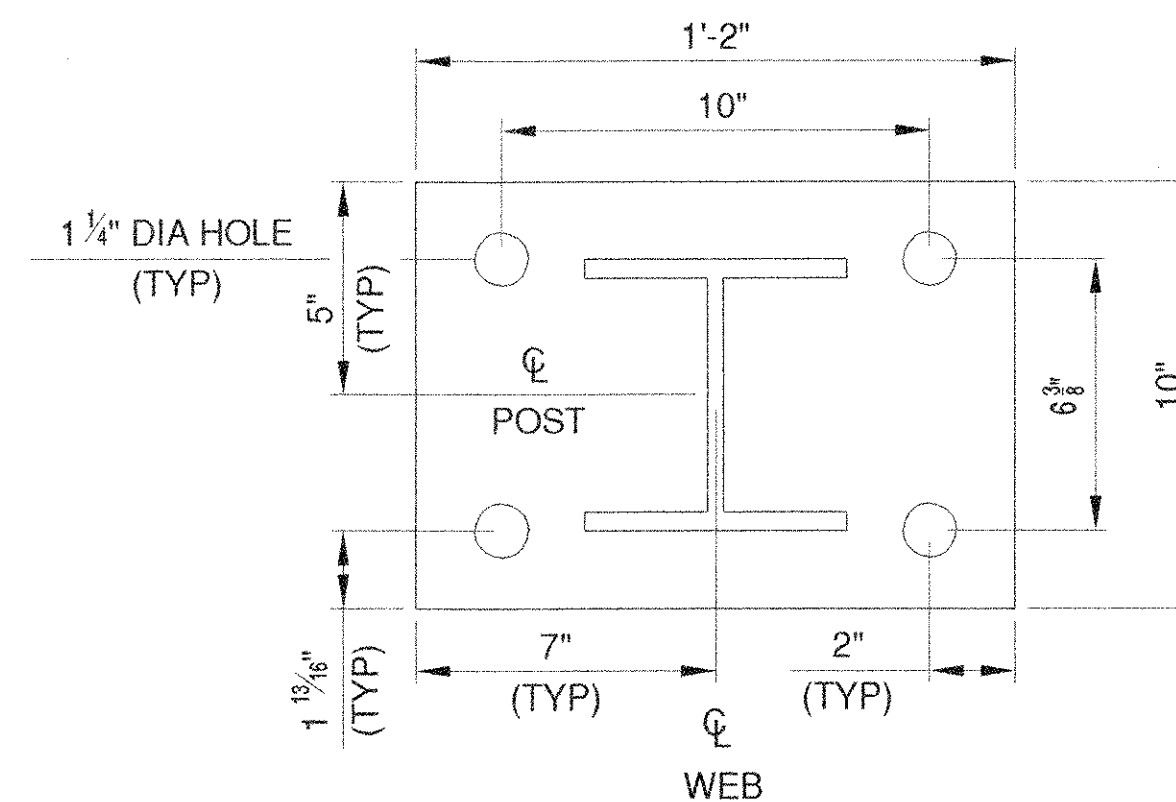
ELEVATION



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL (BOTTOM VIEW)



SPACER PLATE

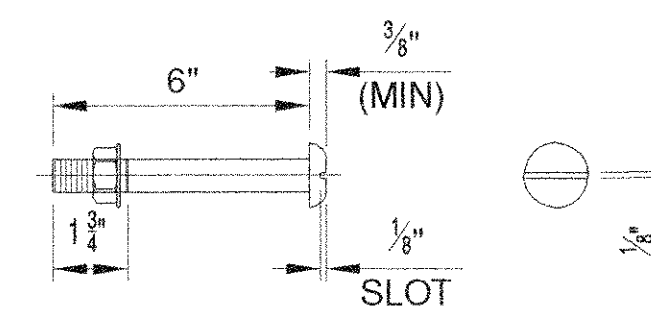


POST AND BASE PLATE

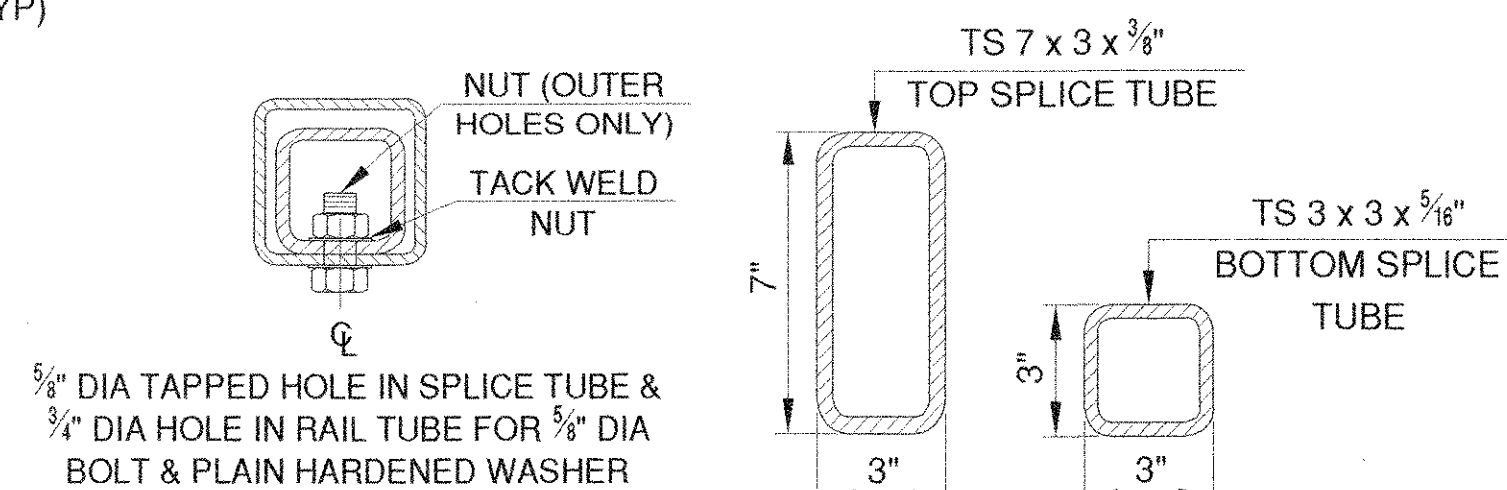
SPLICE TABLE					
T	A	B	C	L	X
N/A	4"	2"	--	20"	3/4"
EXPANSION JOINT TABLE					
<4"	4"	2"	2 1/2"	20"	2 1/2"
>4" <6 1/2"	5 1/2"	2 3/8"	3 1/2"	23 3/4"	4"
>6 1/2" <9"	6 1/2"	3 3/8"	9"	27 3/4"	5"
>9" <13"	8 1/2"	4 3/8"	11"	33 3/4"	7"

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6.

* = SINGLE SLOT



3/4" DIA M164 (TYPE I) ROUND HEAD BOLT (WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #9) ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



RAIL TUBE SPLICE SECTION

NOTES

- ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525, RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION.
- TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION" EXCEPT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING IN THIS STANDARD.
- ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/8" RADIUS AND BE FREE OF BURRS.
- RAIL POSTS SHALL BE SET NORMAL TO GRADE.
- SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
- RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111(A123), EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232(A153).
- RAIL POSTS ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
- RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE I)(A325-1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/8" LARGER THAN THE BOLT SIZE.
- HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
- IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
- ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
- THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
- RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
 RAIL POSTS AND BASE PLATES.....ASTM A709A709M, GRADE 50
 ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 36
 ANCHOR STUDS.....ASTM A449
 ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE I(A325-1)

NUTS FOR AASHTO M164(A325) BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M291 (ASTM A563).

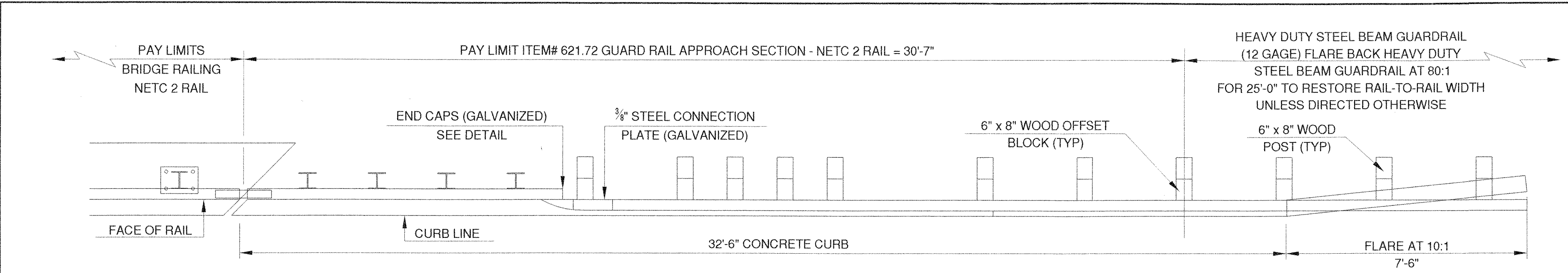
WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFICATIONS.

1/2" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

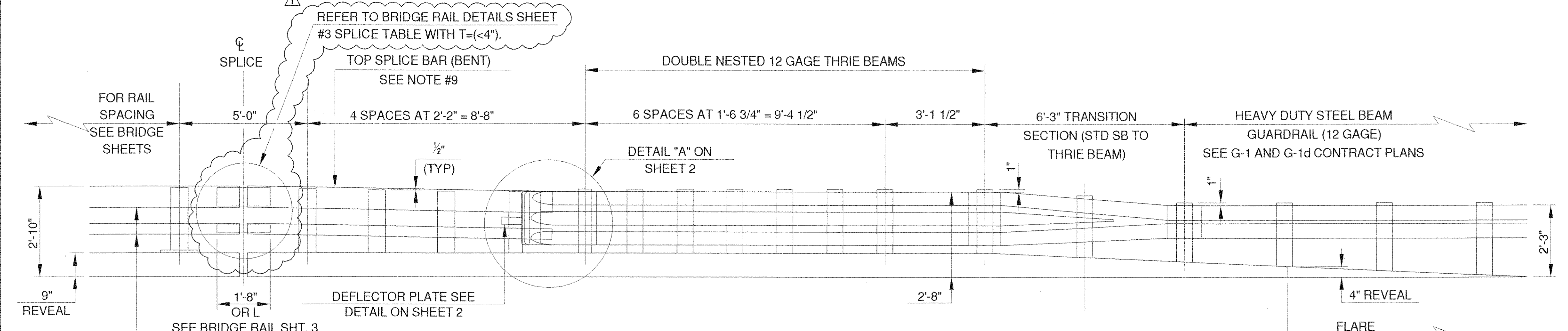
RECEIVED
 CWD BY: WLF CWD BY: _____
 MAY 11 2006
 RESUBMIT _____ APPROVED X
 BY: _____ DATE 05/10/06

REV. DATE: DESCRIPTION:	DRAWN BY: THW	DATE: 2/6/06	CHECKED BY: DCK	SHEET NO. 3 OF 3
	BRIDGE RAILING DETAILS STATE OF VERMONT AGENCY OF TRANSPORTATION VT. 9 (BR. 11) OVER ROARING BRANCH IN THE TOWN OF WOODFORD			
	CONT. NO. BHF010-1(29)			
	GEN. CONT. RENAUD BROTHERS, INC. ERECTOR: RENAUD BROTHERS, INC.			
FABRICATOR: PH. (315)736-8312 DI HIGHWAY SIGN & STRUCTURE CORPORATION P.O. BOX 123(40 GREENMAN AVE.) NEW YORK MILLS, N.Y. 13417			JOB NO. R15-02	

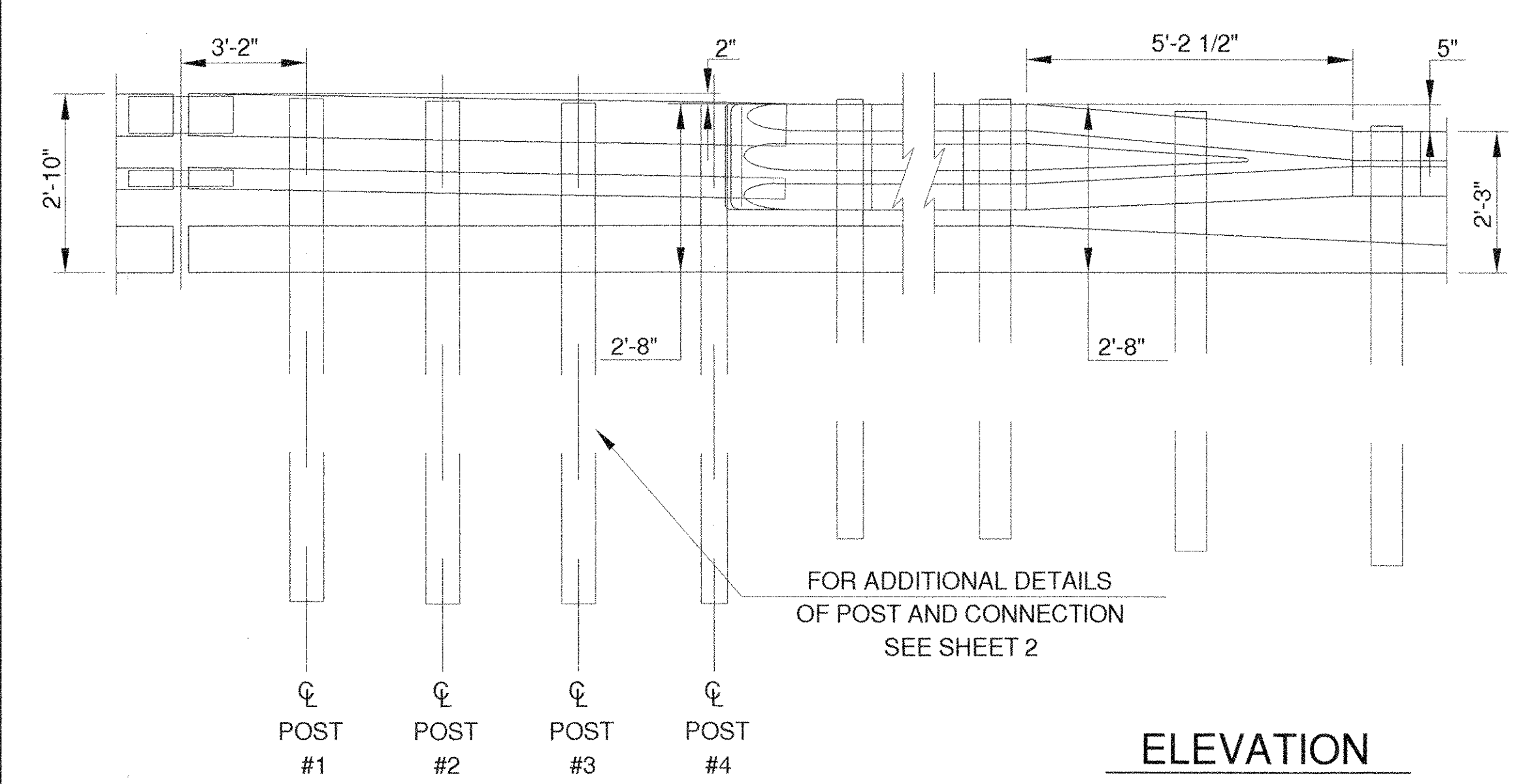
BRIDGE RAILING - NETC 2 RAIL



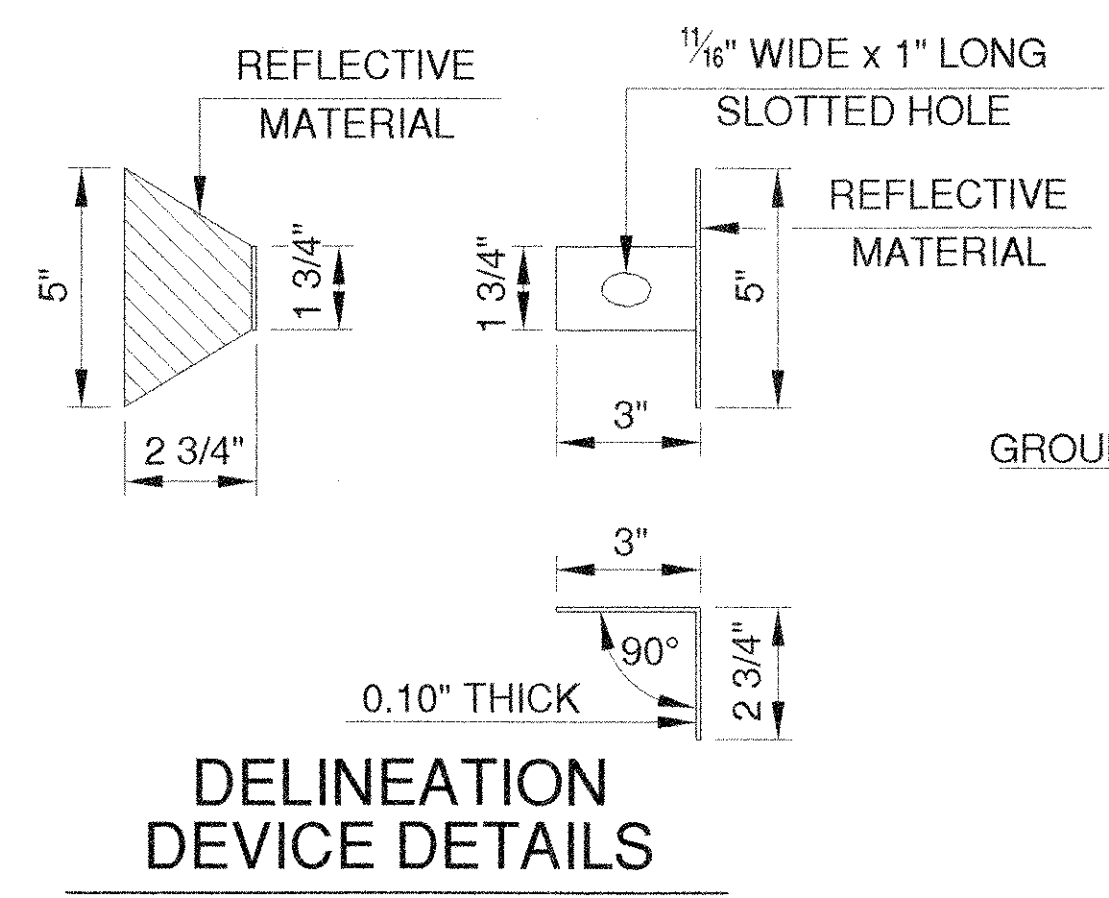
RAILING TRANSITION PLAN



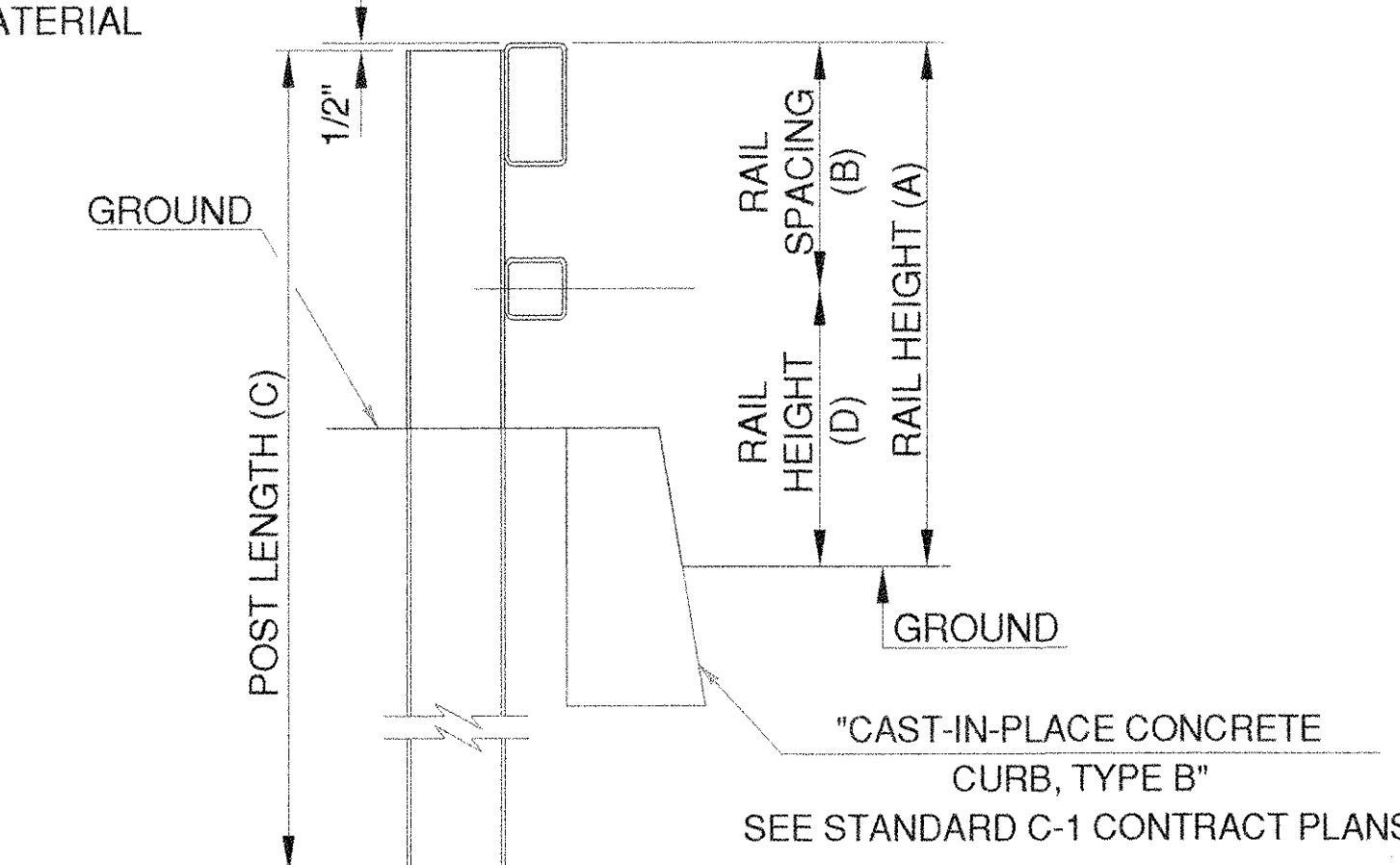
RAILING TRANSITION ELEVATION



ELEVATION



DELINEATION DEVICE DETAILS



TYPICAL SECTION

POST NUMBER	RAIL HEIGHT (A)	RAIL SPACING (B)	POST LENGTH (C)	RAIL HEIGHT (D)
1	2'-9 1/2"	1'-3 1/4"	8'-0"	1'-5 3/4"
2	2'-9"	1'-3 1/2"	8'-0"	1'-5 1/2"
3	2'-8 1/2"	1'-3 1/8"	8'-0"	1'-5 1/8"
4	2'-8"	1'-2 3/8"	8'-0"	1'-5 1/8"

BRIDGE RAILING - NETC 2 RAIL - THRIE BEAM APPROACH RAIL

BILL OF MATERIAL

MARK OR USE	QTY.	SHAPE (AMERICAN)	SHAPE		REMARKS
			FT.	IN.	
ITEM NO. 621.72					
POST	16	W6X25	8	0	M270 GR.250(A36)
WOOD POST	36	6"x8"	7	0	728.01(a)SO. PINE
OFFSET BLOCK	36	6"x8"	1	6	A500 GR. B/W/EXP. SLOTS @ 1 END ONLY.
RAIL	4	T.S. 8"x4"x5/16" WALL	10	10 3/4	A500 GR. B/W/EXP. SLOTS @ 1 END ONLY.
RAIL	4	T.S. 4"x4"x1/4" WALL	10	10 3/4	A500 GR. B/W/EXP. SLOTS @ 1 END ONLY.
TOP DRIVE CAPS	4	PL. 1/4"x4"		8	A36 W/4 PL. 1/4"x1"x1"
BTM DRIVE CAPS	4	PL. 1/4"x4"		4	A36 W/4 PL. 1/4"x1"x1"
TRANS. RAIL	8	12 GA. THRIE BEAM	13	6 1/2	M180 CL. A TYPE II
TRANS. RAIL	4	12 GA. THRIE BEAM	7	3 1/2	M180 CL. A TYPE II
END SHOE	4	10 GA. THRIE BEAM	2	6	M180 CL. A TYPE II
BACKUP PL.	4	PL. 3/8"x20"	2	3	A36
DEFLECTOR PL.	4	PL. 3/8"x4"	1	0 1/2	A36
SILVER DELIN.	4	.10"x5"		5 3/4	B209 ALLOY 5052-H32 REFLECTIVE D4956
BOLT	4	3/4"Ø BTN. HEADED BOLT		1 1/2	A307 W/N, FW
BOLT	92	3/4"Ø CGE. BOLT		6	A307 W/N, LW
BOLT	72	5/8"Ø BTN. HEADED BOLT	1	5	A307 W/N, PLATE WASHER
CORR. SPL. BOLT	96	5/8"Ø CORR. SPL. BOLT		2	A307 W/N
CORR. SPL. BOLT	32	5/8"Ø CORR. SPL. BOLT		1 1/4	A307 W/N
BOLT	4	5/8"Ø HEX HEAD		1 1/2	A325-1 W/N, LW

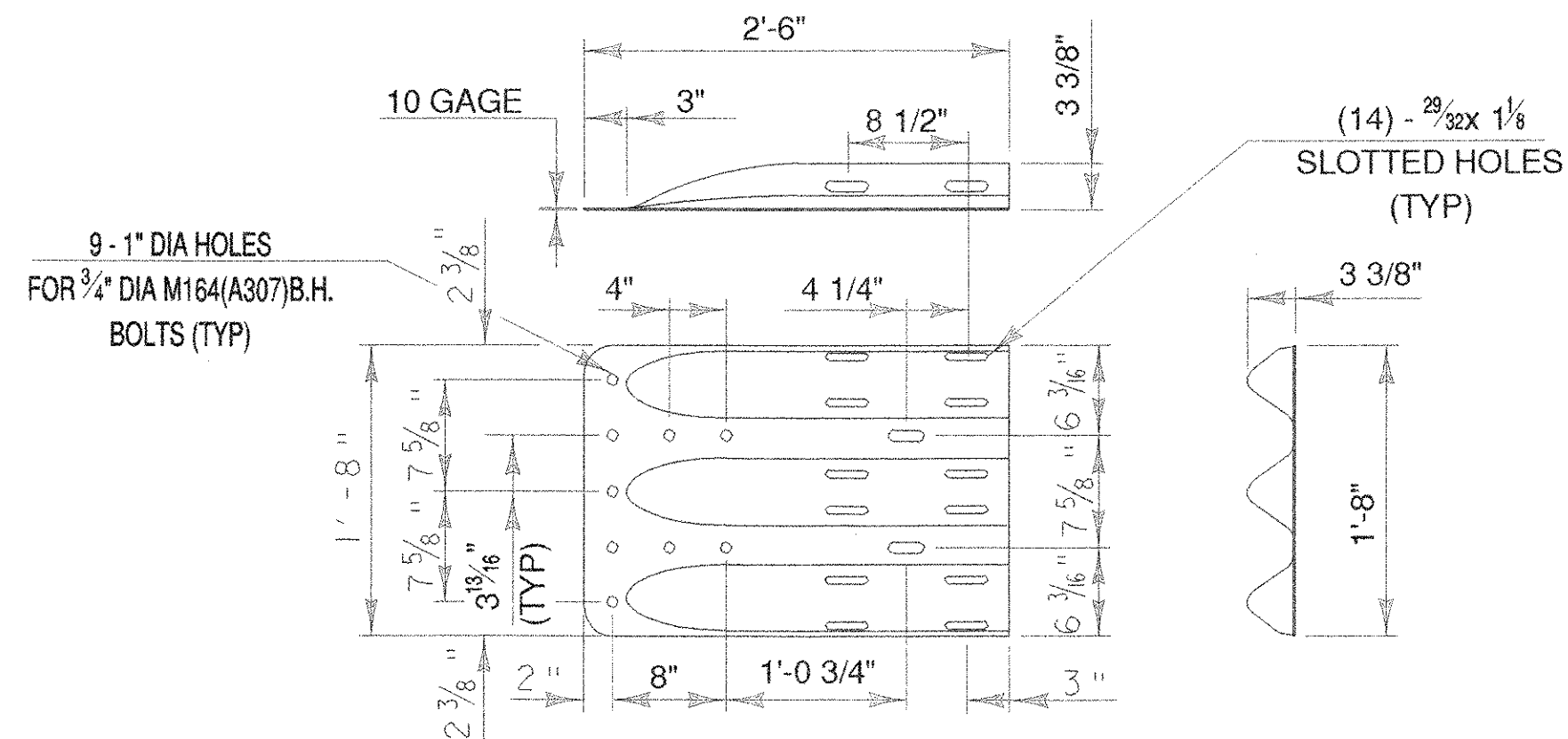
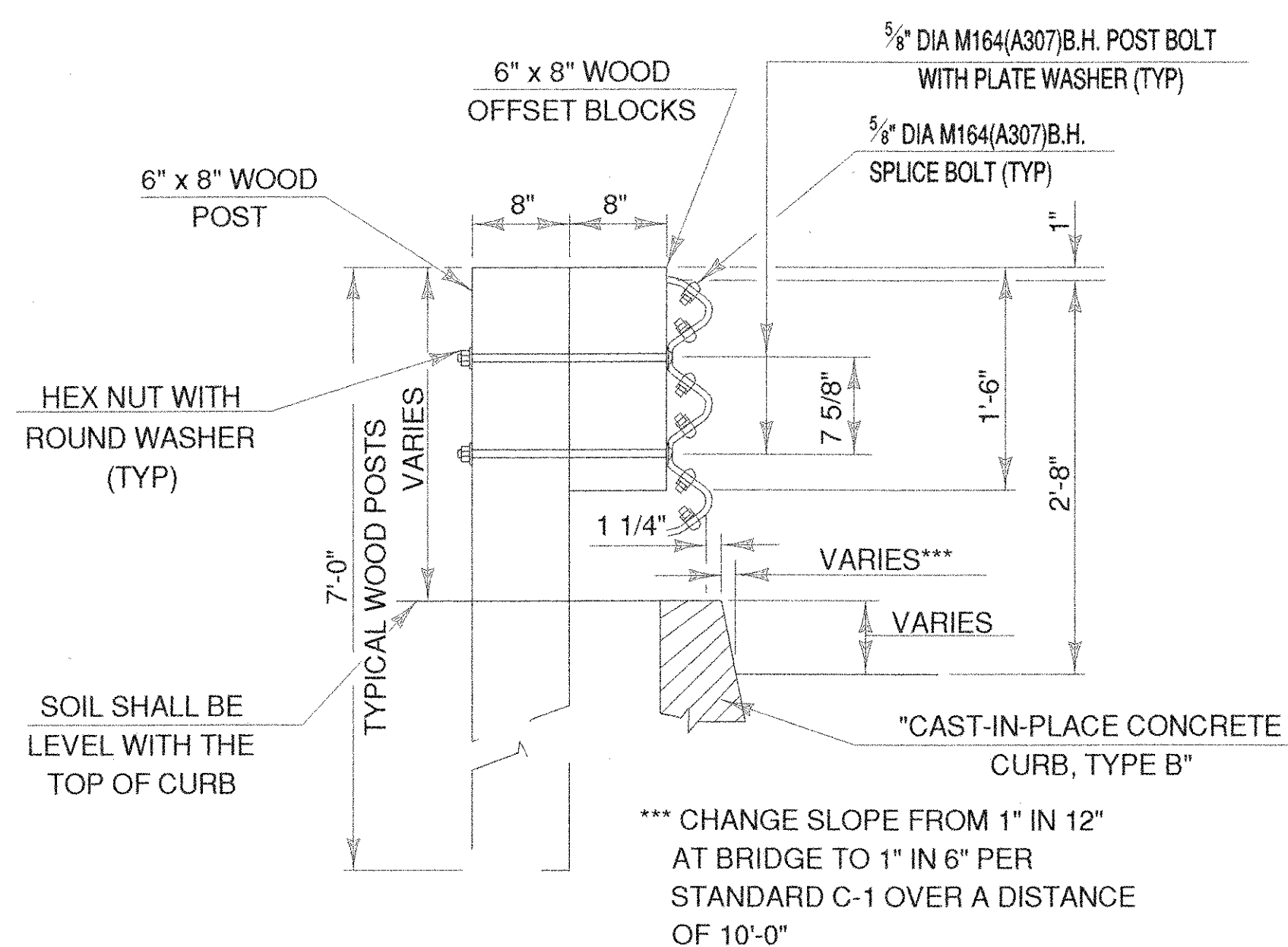
NOTES

- REFER TO BRIDGE RAIL SHEET 3 FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
- PAYMENT FOR GUARD RAIL APPROACH SECTION - NETC 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.
- THE REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERRECTED EVERY 30'(OR CLOSEST POST) WITH A 5/8" DIAMETER BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
- REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.
- ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH ON THE CURB SIDE). PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.
- ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
- ALL BRIDGE APPROACH RAIL MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL, UNLESS OTHERWISE NOTED.
- CARRIAGE BOLTS SHALL BE AASHTO M164(A325-1) AND NUTS SHALL BE ASTM A563 GRADE A OR BETTER (GALVANIZED).
- WELD TOP SPLICE BAR TO FIT BEND, IF REQ'D. USE COMPLETE PENETRATION WELD (B-U2).
- THE CONCRETE CURB WILL BE PAID FOR AS ITEM 616.28, "CAST-IN-PLACE CONCRETE CURB, TYPE B." PAY LIMIT FOR 2 RAIL= 122.3333FT. (APPROX.)

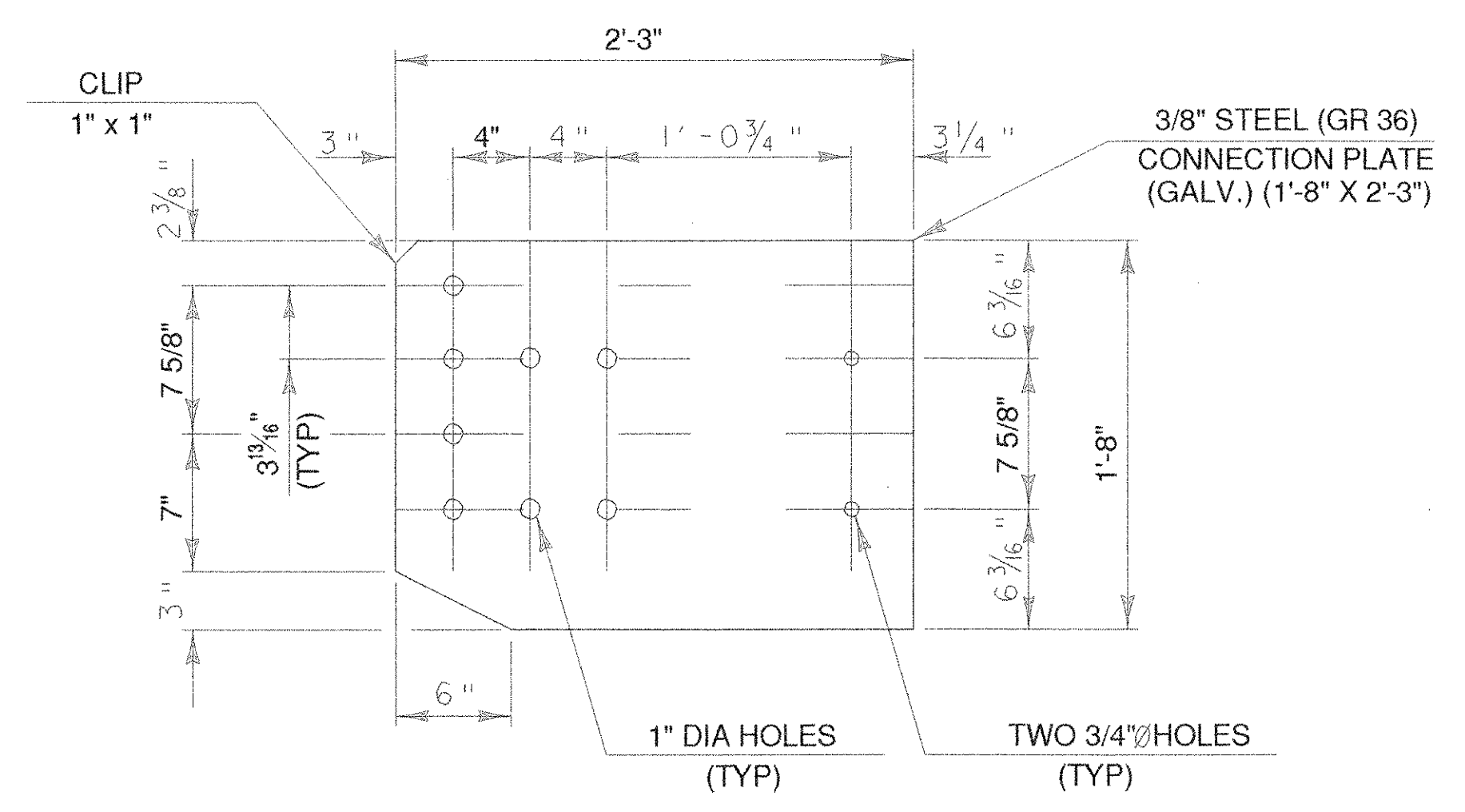
RECEIVED
 CK'D BY: *WTF* CK'D BY: _____
 MAY 11 2006
 RESUBMIT APPROVED: *K*
 BY DATE 05/10/06

REVISED 5306 PER PROJECT MANAGER COMMENTS	DRAWN BY: THW	DATE: 3/28/06	CHECKED BY: DCK	SHEET NO. 1 OF 2
	TRANSITION RAILING LAYOUT STATE OF VERMONT AGENCY OF TRANSPORTATION VT. 9 (BR. 11) OVER ROARING BRANCH IN THE TOWN OF WOODFORD			
5306	CONT. NO. BHF010-1(29)			
	GEN. CONT. RENAUD BROTHERS, INC.			
REV. DATE: DESCRIPTION:	ERECTOR: RENAUD BROTHERS, INC.			
	FABRICATOR: PH. (315)736-8312 DI HIGHWAY SIGN & STRUCTURE CORPORATION P.O. BOX 123(40 GREENMAN AVE.) NEW YORK MILLS, N.Y. 13417			
JOB NO. R15-02				

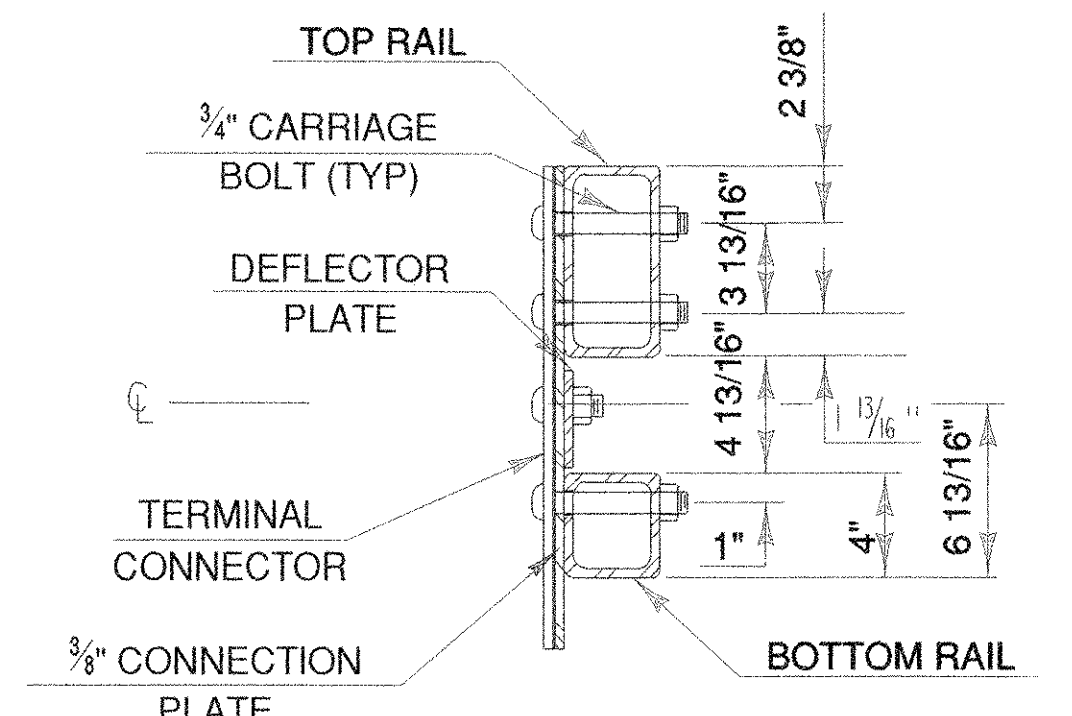
ALL DIMENSIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION BY CONTRACTOR



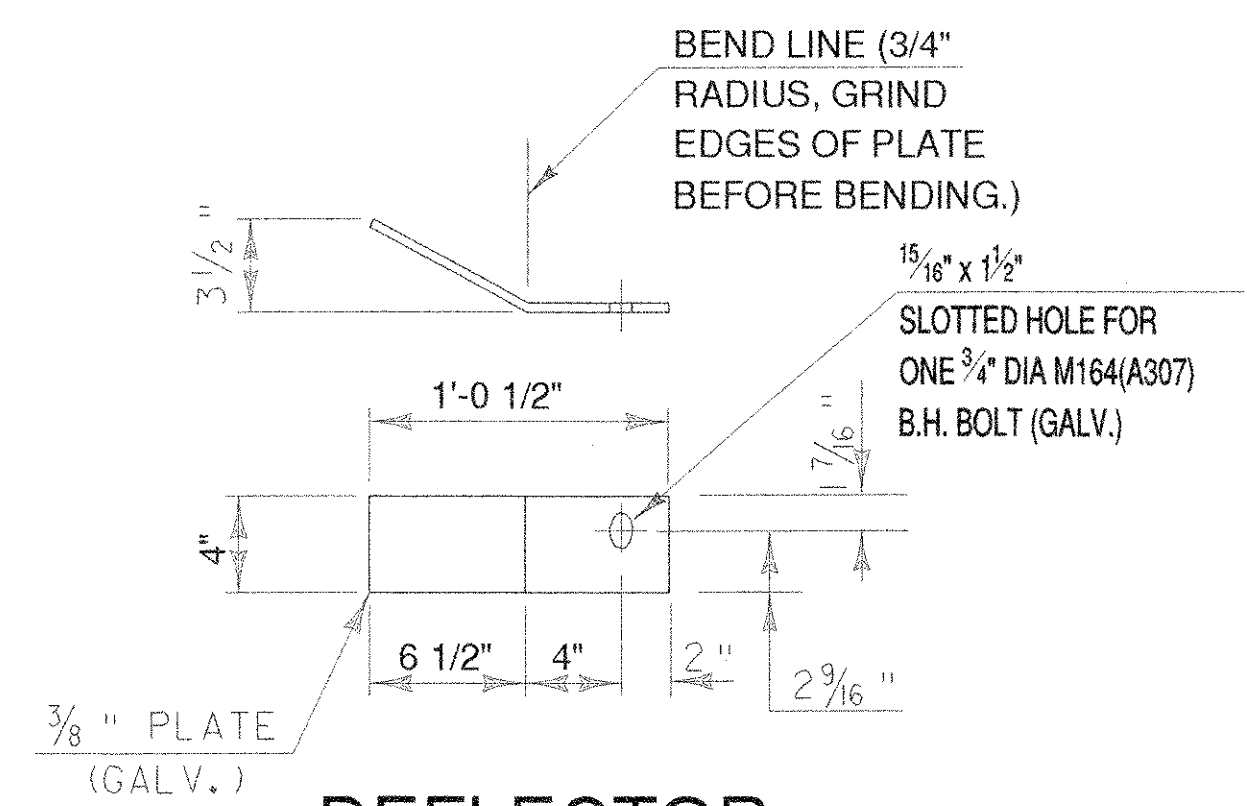
THREE-BEAM TERMINAL CONNECTOR



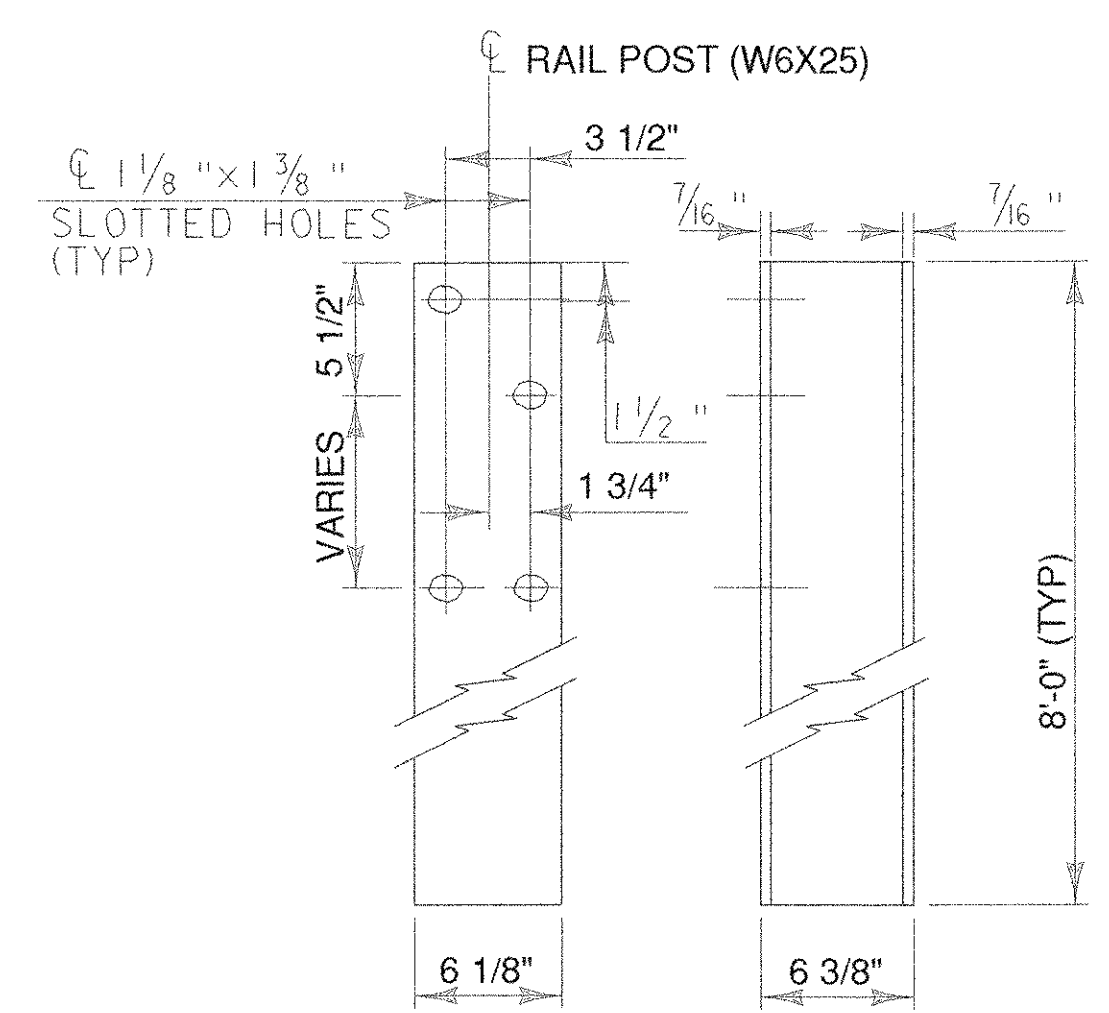
CONNECTION PLATE



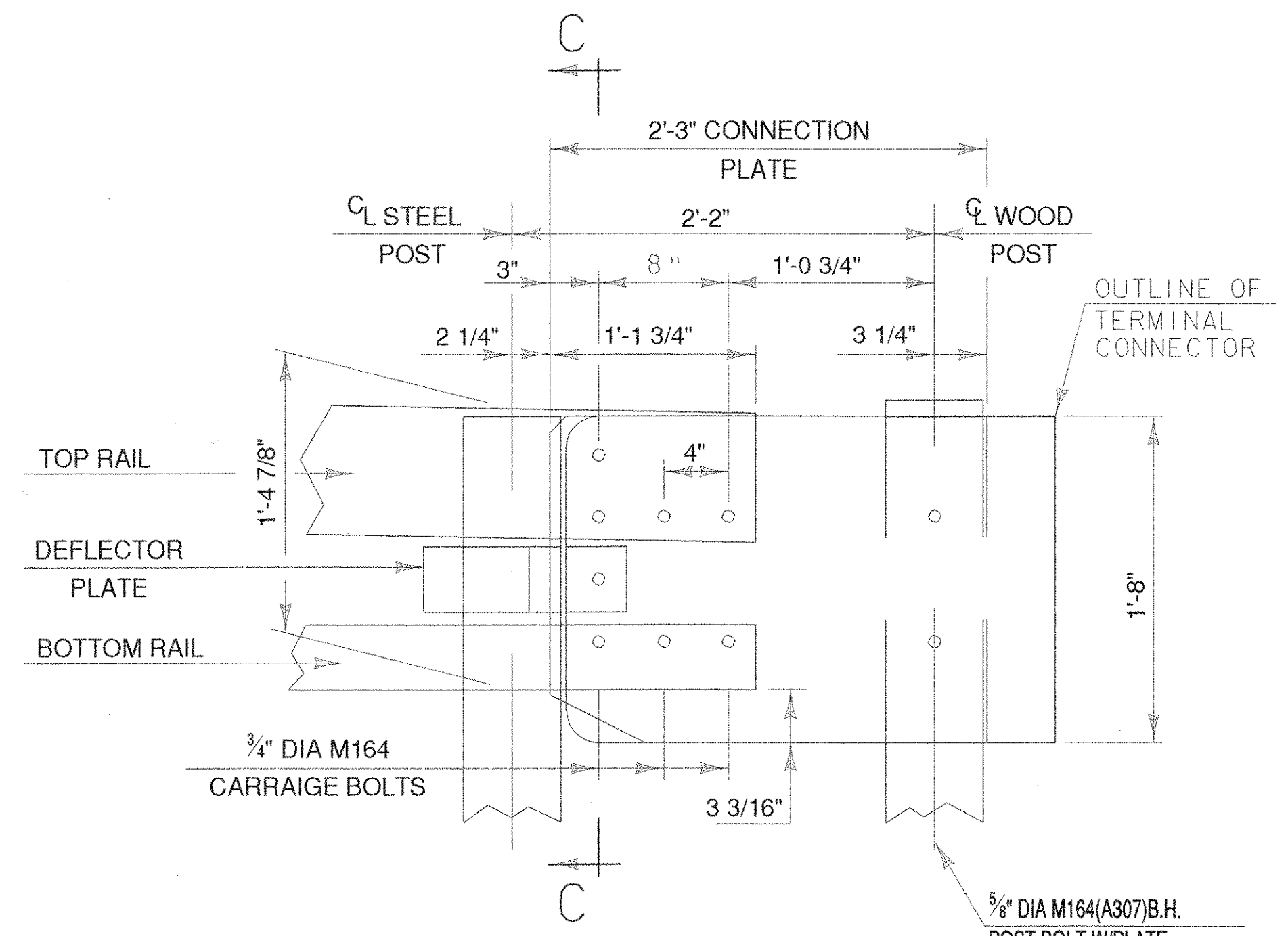
SECTION C-C (CONNECTION PLATE)



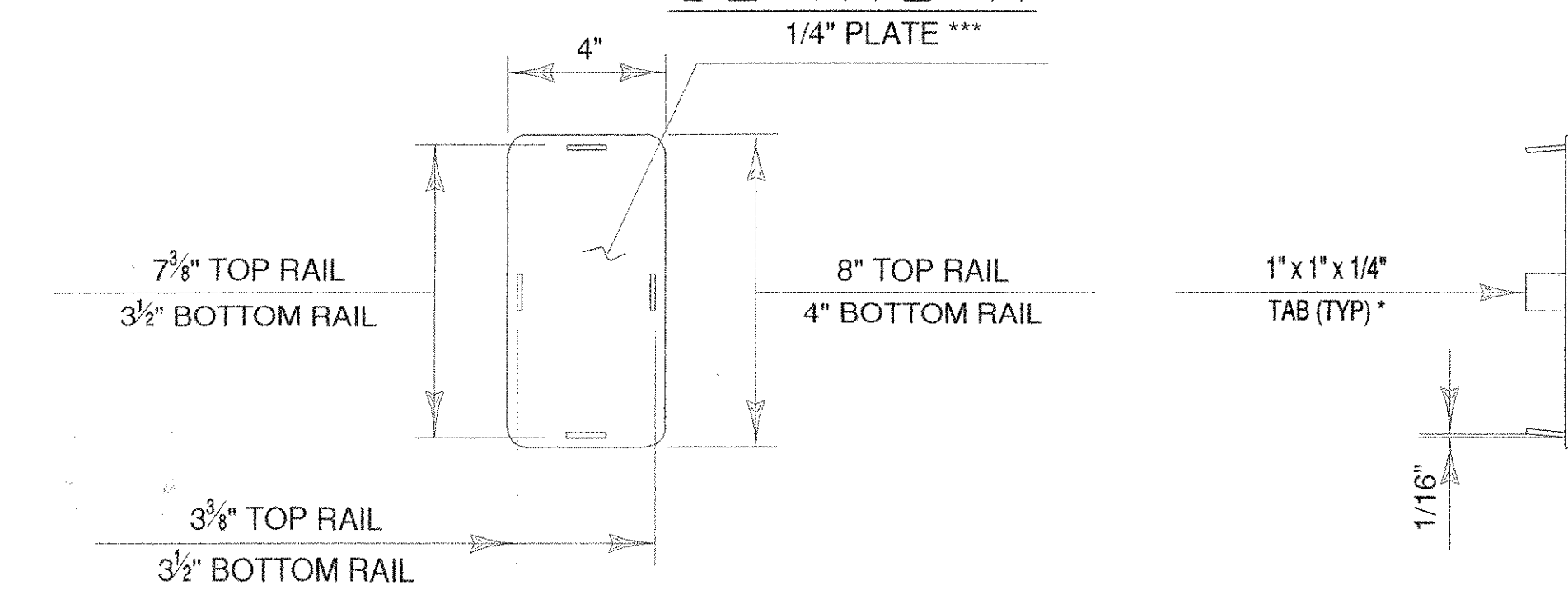
DEFLECTOR PLATE DETAIL



FRONT VIEW SIDE VIEW
RAIL POST

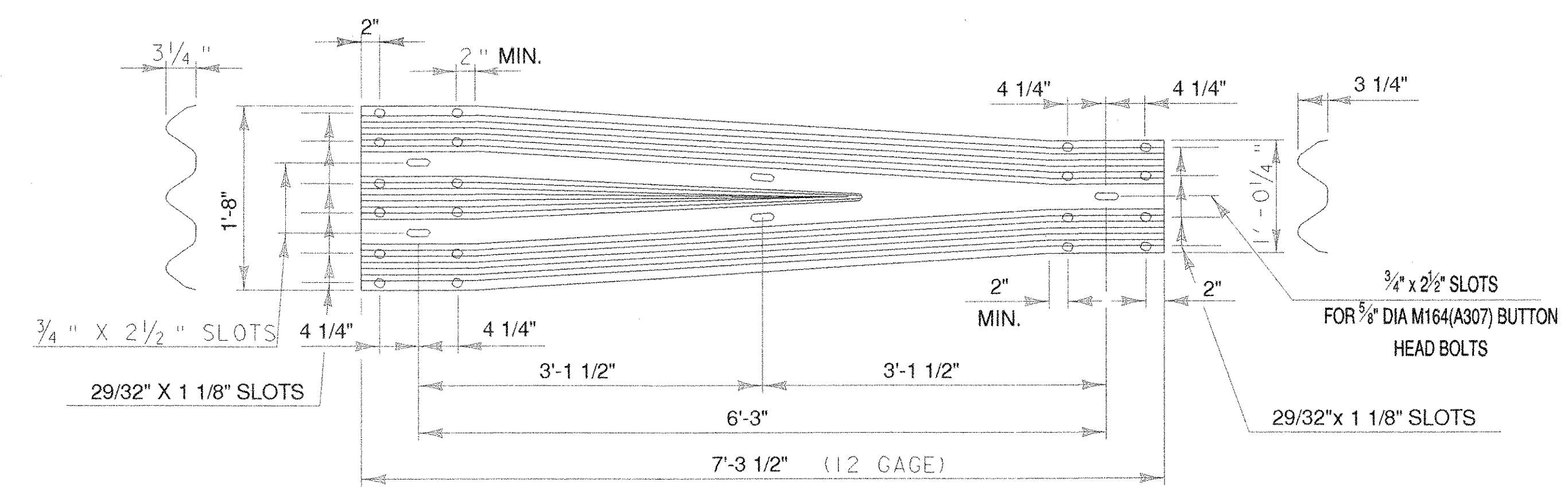


DETAIL A



END CAP DETAIL

* WELD TABS TO END CAP PLATE IN TAPERED POSITION SO CAP CAN BE JAMMED INTO END OF RAIL TUBE.
** ROUND CORNERS 1/2" RADIUS (TYP)



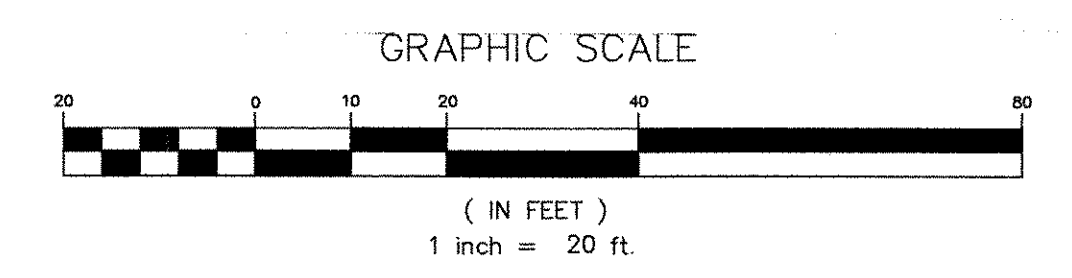
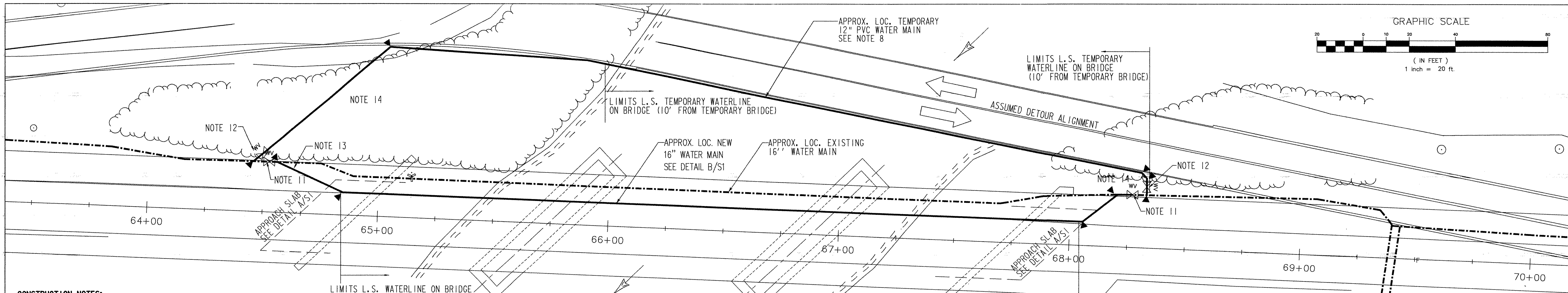
THREE-BEAM TO STD SB TRANSITION SECTION

RECEIVED
OK'D BY *WDF* CK'D BY
MAY 11 2006
RESUBMIT APPROVED *X*
BY DATE 05/10/06

BRIDGE RAILING - NETC 2 RAIL
- THREE BEAM APPROACH RAIL

ALL DIMENSIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION BY CONTRACTOR

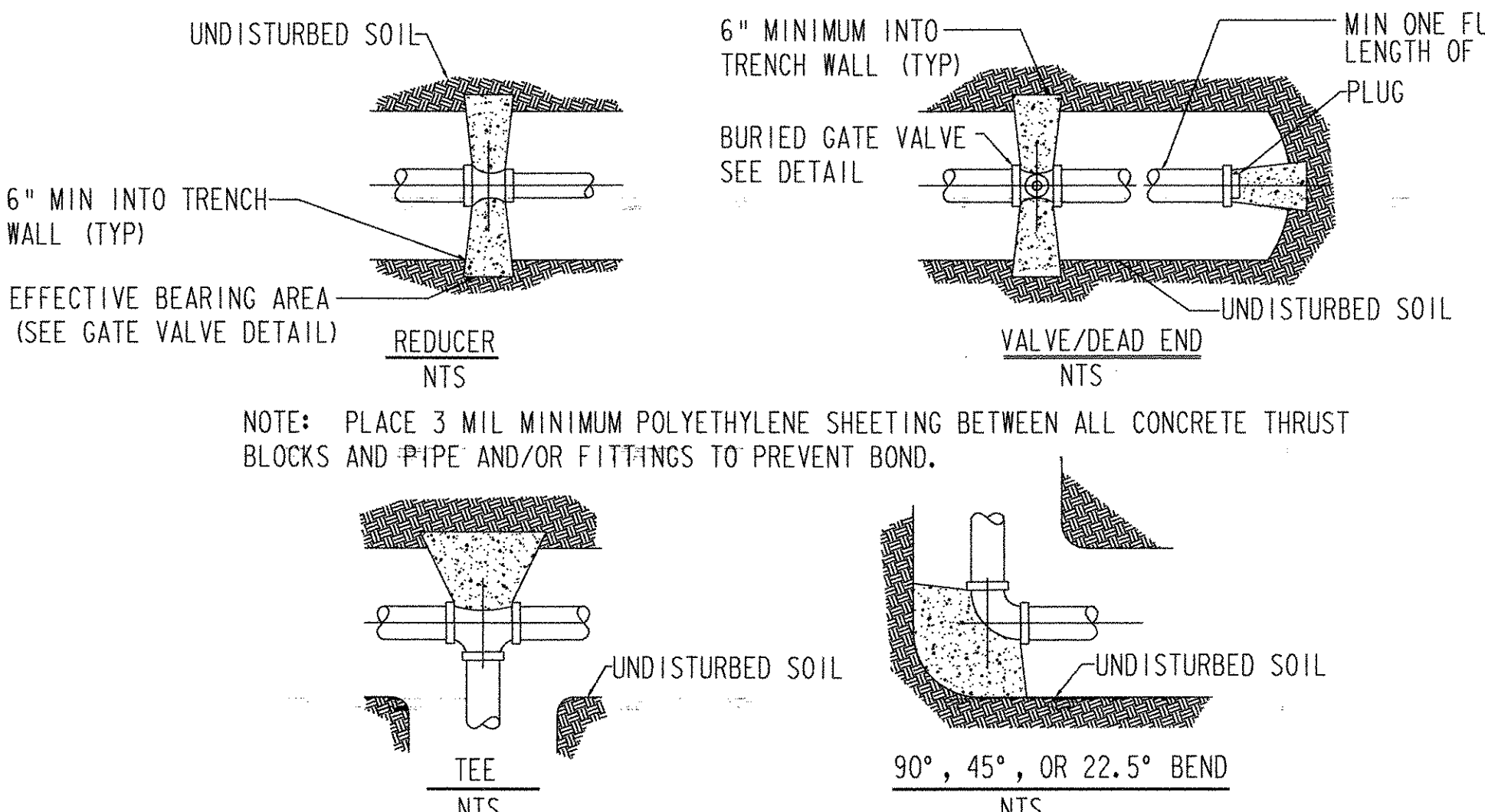
REV. DATE: DESCRIPTION:	DRAWN BY: THW	DATE: 3/28/06	CHECKED BY: DCK	SHEET NO. 2 OF 2
	TRANSITION RAILING DETAILS			
	STATE OF VERMONT AGENCY OF TRANSPORTATION VT. 9 (BR. 11) OVER ROARING BRANCH IN THE TOWN OF WOODFORD			
	CONT. NO. BHF010-1(29) GEN. CONT. RENAUD BROTHERS, INC. ERECTOR: RENAUD BROTHERS, INC.			
FABRICATOR:	PH. (315) 736-8312 DI HIGHWAY SIGN & STRUCTURE CORPORATION		JOB NO. R15-02	
P.O. BOX 123(40 GREENMAN AVE.) NEW YORK MILLS, N.Y. 13417				



CONSTRUCTION NOTES:

- ALL WORK SHALL BE COMPLETED AND TESTED IN ACCORDANCE WITH THE TOWN OF BENNINGTON CONSTRUCTION ORDINANCE, STATE AGENCY OF NATURAL RESOURCES REGULATIONS, STATE AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 1990 EDITION AND AWWA WATERLINE CONSTRUCTION STANDARDS C600 AND C652.
 - EXISTING UTILITIES ARE APPROXIMATE ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS PRIOR TO THE PLACEMENT OF PIPE. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL CONTACT 'DIG SAFE' (800.225.4977) PRIOR TO ANY CONSTRUCTION.
 - THE CONTRACTOR SHALL PROTECT AND SUPPORT EXISTING UTILITIES (i.e. POWER POLES, SEWER LINES, ETC.) AS NECESSARY DURING CONSTRUCTION. UTILITY COMPANIES SHALL BE CONTACTED BY THE CONTRACTOR WHEN CONSTRUCTION IS INITIATED IN THE VICINITY OF THEIR UTILITIES. THE CONTRACTOR SHALL COMPACT ALL MATERIAL UNDER EXISTING UTILITIES TO PREVENT SETTLEMENT. SPECIAL CARE AND COORDINATION SHALL BE OBSERVED WHILE WORKING NEAR POWER POLE. CONTRACTOR TO COORDINATE AND PAY FOR ANY NECESSARY UTILITY COMPANY CHARGES FOR TEMPORARY BRACING OF POLE.
 - THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL FOUNDATIONS, ROADS, TREES AND VEGETATION DURING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR/RESTORE ALL DAMAGE TO EXISTING UTILITIES, ROADS/DRIVES, WALKWAYS AND WALLS AS A DIRECT OR INDIRECT RESULT OF THE CONSTRUCTION AT NO COST TO THE OWNER.
 - INSTALL EXPANSION JOINT NEAR BRIDGE WEST END ABUTMENT TO ALLOW FOR MAINTENANCE ACCESS. JOINT TO BE "EX-TEND 200" SINGLE BALL TYPE AS MANUFACTURED BY EBAA IRON SALES (817-629-1731) OR ENGINEER APPROVED EQUAL. SUPPORT JOINT TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
 - PIPING MATERIALS TO BE ATLANTIC STATES OR APPROVED EQUAL, CLASS 52 MECHANICAL JOINT DUCTILE IRON PIPE WITH MEGALUG RESTRAINTS. ALL PIPE TO BE MECHANICALLY RESTRAINED AT JOINTS.
- PIPE INSULATION: 2" THICKNESS POLYISOCYANURATE, 'TRYMER 2000'
- PIPE INSULATION JACKET: 'PERMA-JAC SX' PVC JACKET ON MAIN PIPE AND CORRUGATED ALUMINUM JACKET AT BRIDGE DIAPHRAGM LOCATIONS.

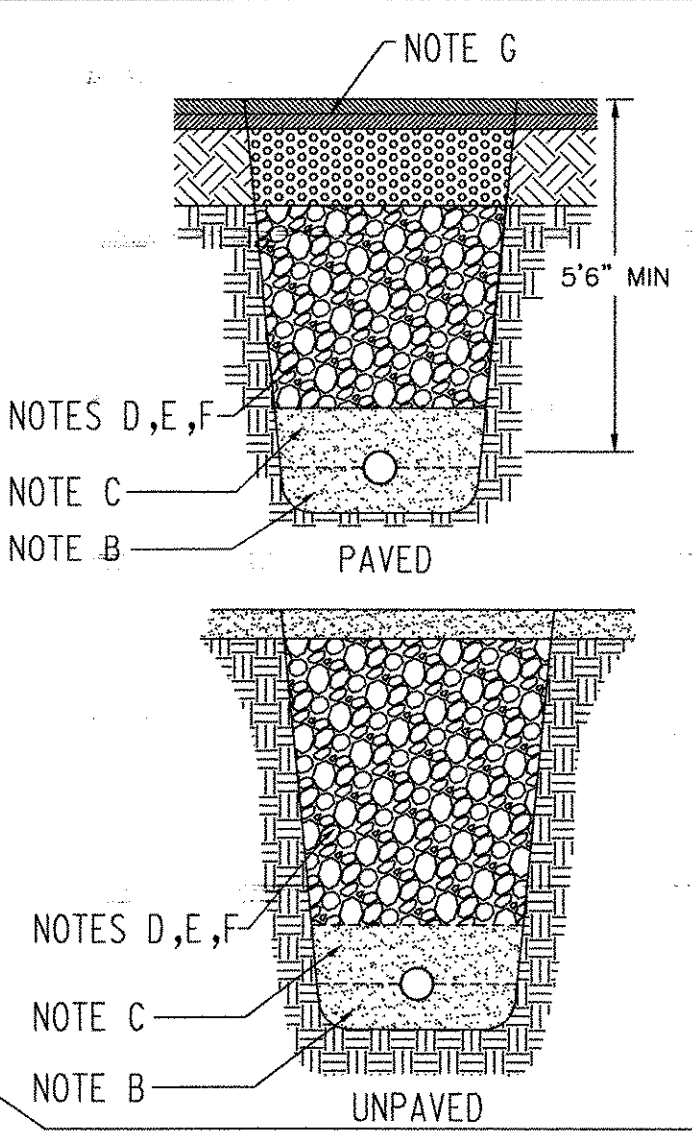
- PIPE ROLLER HANGERS: DOUBLE ADJUSTABLE PIPE ROLLER SUPPORT, ROLLER TO BE BY PHD MANUFACTURING, INC OR ENGINEER APPROVED EQUAL. INSTALL STEEL SADDLE PROTECTION AT ROLLER. ROLLER/SUPPORT TO BE INSTALLED AT BELL SIDE OF PIPE, SEE DETAIL B&E.
- IF THERE ARE ANY CONFLICTS OR INCONSISTENCIES WITH THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR VERIFICATION BEFORE WORK CONTINUES ON THE ITEM IN QUESTION.
- CONTRACTOR TO DESIGN PVC WATERLINE AS PART OF TEMPORARY BRIDGE PROJECT. DESIGN WILL BE IN ACCORDANCE WITH TOWN OF BENNINGTON STATE AGENCY OF NATURAL RESOURCES AND AMERICAN WATER WORKS ASSOCIATION STANDARDS. TOWN ENGINEER TO APPROVE DESIGN PRIOR TO CONSTRUCTION. TEMPORARY WATERLINE TO BE INSULATED IF CONTRACTOR INTENDS TO MAINTAIN WATERLINE OVER WINTER. LUMP SUMP FOR WATERLINE ON BRIDGE TO START AND STOP 10' OFF TEMPORARY BRIDGE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE TOWN OF BENNINGTON OF ALL WORK WITHIN THE STREET RIGHT-OF-WAY. THE CONTRACTOR SHALL COORDINATE WITH THE TOWN FOR ALL STREET EXCAVATIONS AND WATER LINE CONNECTIONS. STATE-CERTIFIED FLAG PERSONS SHALL BE UTILIZED AT ALL TIMES WHENEVER WORK IS TO BE PERFORMED WITHIN ROADWAY LIMITS.
- CONTRACTOR SHALL CHLORINATE AND PRESSURE TEST NEW SEGMENT OF WATER PIPE PRIOR TO FINAL CONNECTION OF SYSTEM. TESTING SHALL BE IN ACCORDANCE WITH AWWA STANDARDS C600 AND C652.
- INSTALL IN LINE VALVE. INSTALLATION TO BE DONE LIVE. CONTRACTOR TO INSTALL ALL NEW PIPING FROM NEW IN LINE VALVE.
- INSTALL STAINLESS STEEL TAPPING SLEEVE AND 12" VALVE. NEW SLEEVE TO BE MODEL 3490AS BY POWER SEAL OR ENGINEER APPROVED EQUAL. AFTER PROJECT IS COMPLETED/TESTED/APPROVED BY TOWN CONTRACTOR TO INSTALL CAP ON VALVE AND ROD BACK TO SLEEVE/VALVE ASSEMBLY AND CLOSE VALVE.
- INSTALL "T" AND VALVE FOR FLUSHING. AFTER COMPLETION OF TESTING AND ACCEPTANCE BY TOWN/STATE CAP AND THRUST BLOCK "T".
- INSTALL TAPS FOR TESTING AND CHLORINATION AS REQUIRED. REVIEW LOCATIONS WITH TOWN PRIOR TO INSTALLATION.



MINIMUM BEARING SURFACE AREA OF CONCRETE THRUST BLOCKS (IN SQUARE FEET)

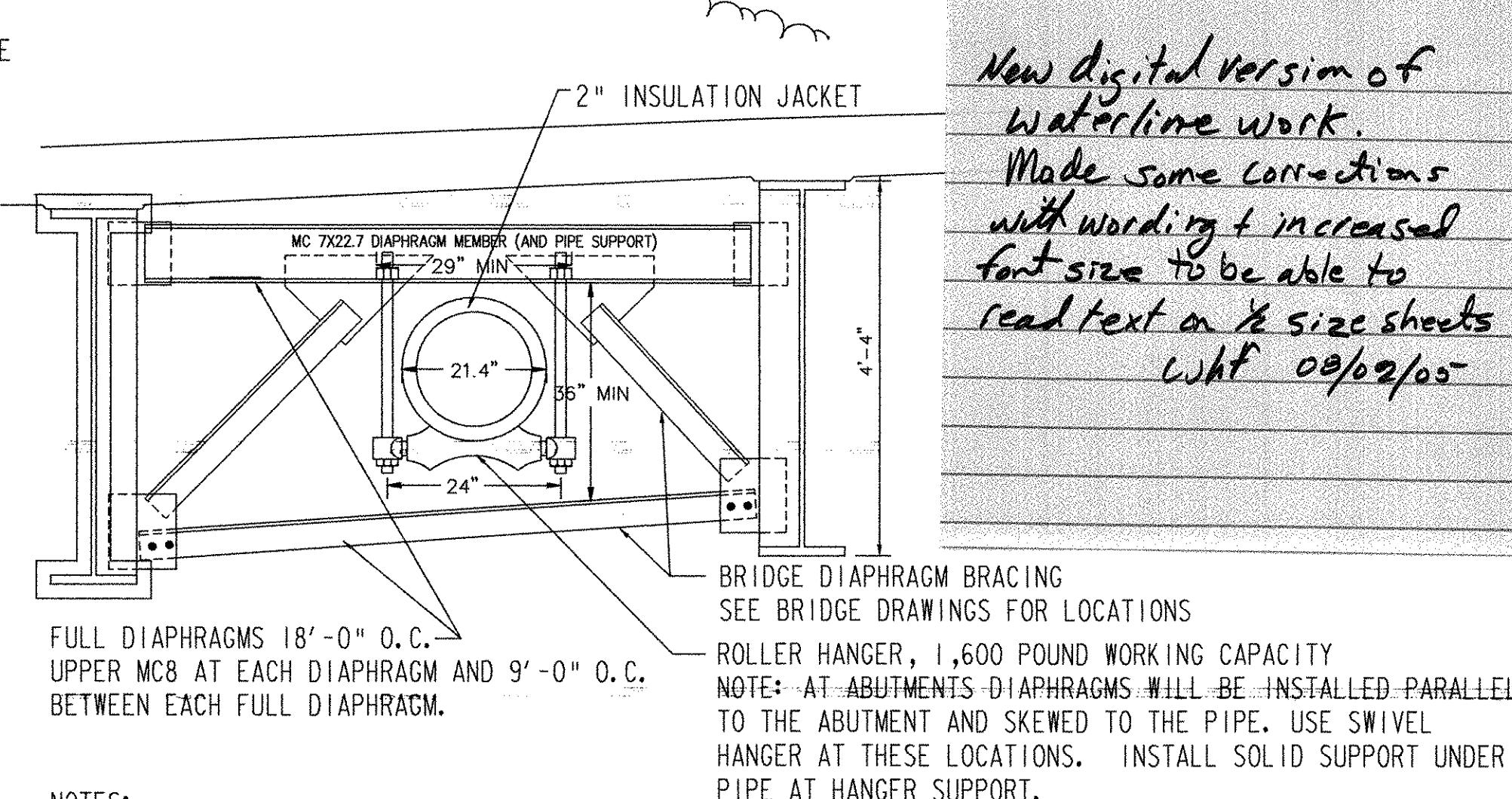
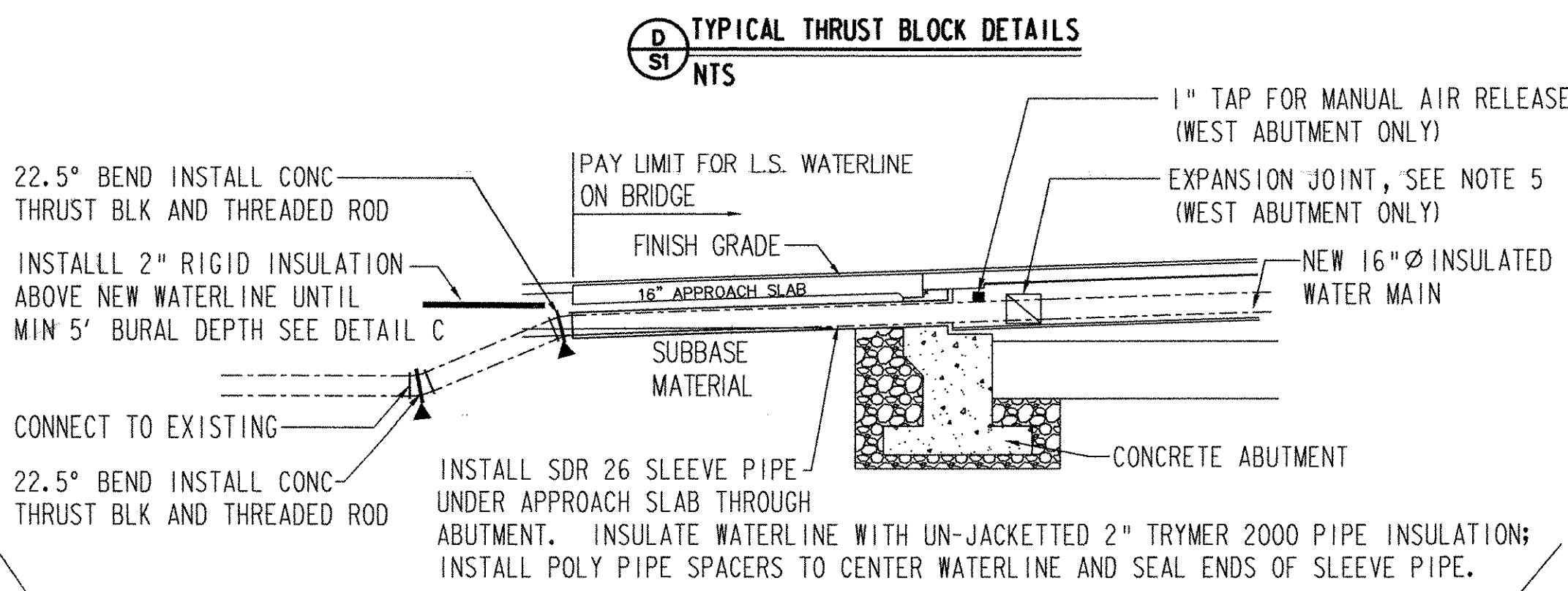
ENDS & TEES	4"			6"			8"			12"			SOIL CONDITION	SAFE BEARING LOAD (PSF)			
	90° ELB	45° ELB	225° ELB	90° ELB	45° ELB	225° ELB	90° ELB	45° ELB	225° ELB	90° ELB	45° ELB	225° ELB					
0.5	1.0	0.5	0.5	1.0	1.5	1.0	0.5	2.0	2.5	1.5	1.0	4.0	5.5	3.0	1.5	SOUND SHALE	10000
1.5	2.0	1.0	0.5	3.0	4.0	2.0	1.0	4.5	6.5	3.5	2.0	10.0	14.0	7.5	2.0	CEMENTED GRAVEL AND SAND	4000
2.0	2.5	1.5	1.0	3.5	5.0	3.0	1.5	6.0	8.5	5.0	2.5	13.0	18.5	10.0	5.0	COARSE AND FINE COMPACT SAND	3000
2.5	3.5	2.0	1.0	5.5	7.5	4.0	2.0	9.0	13.0	7.0	3.5	20.0	27.5	15.0	8.0	MEDIUM CLAY (CAN BE SPADED)	2000
5.0	7.0	4.0	2.0	10.5	15.0	8.0	4.0	18.0	25.0	14.0	7.0	39.0	55.0	30.0	15.0	SOFT CLAY	1000

NOTE: REDUCER BEARING AREA = 45° BEND, ONE SIZE LARGER PIPE



INSTALLATION SPECIFICATIONS:

- MINIMUM BURIAL DEPTH 5'6" (4'-0" FOR SEWER) IF CONDITIONS PREVENT MINIMUM BURIAL DEPTH, ALL SECTIONS OF LINE LESS THAN MIN. DEPTH SHALL BE INSULATED WITH 1" THICKNESS RIGID FOAM INSULATION PER FOOT LESS THAN MINIMUM.
- BED PIPE IN 6" OF CRUSHED STONE (PASSING 1/2" BUT RETAINED ON #4 SIEVE) IF IN WET CONDITIONS. PIPE SHALL NOT BE LAID IN UNCOMPACTED SOIL OR IN WATER. IF IN LEDGE CONDITIONS, BED PIPE IN A MINIMUM OF 6" OF CLEAN SAND. DO NOT REST PIPE ON LEDGE ROCK.
- BACKFILL OVER PIPE W/ 12" MINIMUM SAND, COMPACTED ENTIRE WIDTH OF TRENCH. BACKFILL WITH BEDDING STONE TO 12" DEPTH IF IN WATER.
- REMAINDER OF BACKFILL TO BE SELECT EARTH OR BANK RUN GRAVEL NOT GREATER THAN 6" IN LARGEST DIMENSION. BACKFILL TO BE COMPACTED IN 6" LIFTS UNDER ROADS AND PAVED AREAS.
- BACKFILL SHALL CONSIST OF SUITABLE MATERIAL REMOVED FROM EXCAVATION, AND SHALL BE FREE OF CLODS, DEBRIS, FROZEN CHUNKS, PAVEMENT PIECES, LARGE STONES, ORGANIC MATERIAL OR ANY OTHER MATERIAL DEEMED UNSUITABLE BY THE ENGINEER.
- BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY IN ALL TRENCH EXCAVATIONS.
- EDGES OF PAVEMENT SHALL BE CUT PRIOR TO EXCAVATION TO PREVENT LIFTING OF REMAINING PAVEMENT, AND FOLLOWING EXCAVATION PRIOR TO PAVEMENT PATCHING. PAVEMENT PATCH TO CONSIST OF 2" BASE, 1" TOPCOAT OVER COMPACTED BACKFILL.



New digital version of waterline work. Made some corrections with wording + increased font size to be able to read text on 1/2 size sheets wht 08/02/05

- NOTES:
- PROVIDE MC7X22.7 PIPE SUPPORT BEAMS AND ROLLER HANGERS 9'-0" ON CENTER. DIAPHRAGM AND INTERMEDIATE MC8X20 LOCATIONS WILL BE INDICATED ON THE BRIDGE SHOP DRAWINGS. SUBMIT BRIDGE SHOP DRAWINGS TO MSK ENGINEERING. FOR FINAL COORDINATION OF PIPE SUPPORTS.
 - THE BRIDGE DIAPHRAGM BRACING WILL ALLOW CLEARANCE FOR A 24" OVERALL PIPE AND JACKET DIMENSION. COORDINATE THE FINAL LOCATION OF THE PIPE WITH THE BRIDGE DIAPHRAGM BRACING. REMOVE AND RE-INSTALL THE BOTTOM DIAPHRAGM MEMBER AS REQUIRED TO INSTALL THE PIPE.

- LEGEND:
- RESILIENT-WEDGE VALVE, 'OPEN-RIGHT' KENNEDY OR APPROVED EQUAL WITH 'MUELLER' CURB SERVICE BOX ROD TYPE, TWO HOLE COVER.
 - NOTE: SEE CONSTRUCTION NOTES 11&12

REV.	DESCRIPTION	BY	DATE
Δ	REVISED SECTION B/S1 BASED ON AOT COMMENTS	JMD	07/22/02
Δ	REVISED PER STATE AOT COMMENTS	JMD	07/15/2002

MSK ENGINEERING AND DESIGN, INC.
P.O. BOX 168, HARWOOD HILL
BENNINGTON, VT 05201
PH: (802) 447-3340 FAX: (802) 447-0702

WOODFORD WATER LINE BRIDGE CROSSING AT TREATMENT PLANT WOODFORD, VERMONT	DRAWN BY: JFE	CHECKED BY: JRS
	SCALE: 1" = 20'	DATE: 11-13-00
DESCRIPTION: WATERLINE PLAN	rt9water.dwg	SHEET 57 OF 106

NTS

NTS

10/7 WL



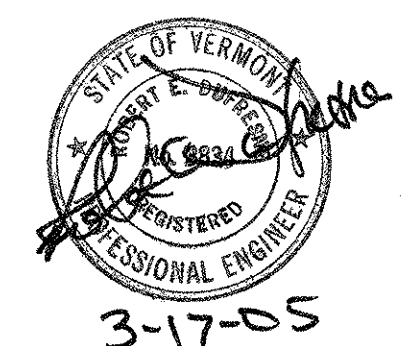
Dufresne & Associates, P.C.
 54 Main Street, P.O. Box B
 Windsor, Vermont 05089
 Tel: (802) 674-2904 Fax: (802) 674-2913
 E-mail: dufresne@vermont.net
 Home page: http://www.dufresneassociates.com

Project #	413007
Project Mgr.	RAW
Design	RAW
Drawn	EAE
Checked by	JRP
Date	DEC. 10, 2004
Scale	1" = 20'-0"
Approved by	RED

Revisions:

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Dufresne & Associates, P.C.



WATER TREATMENT FACILITY AND INTAKE UPGRADES

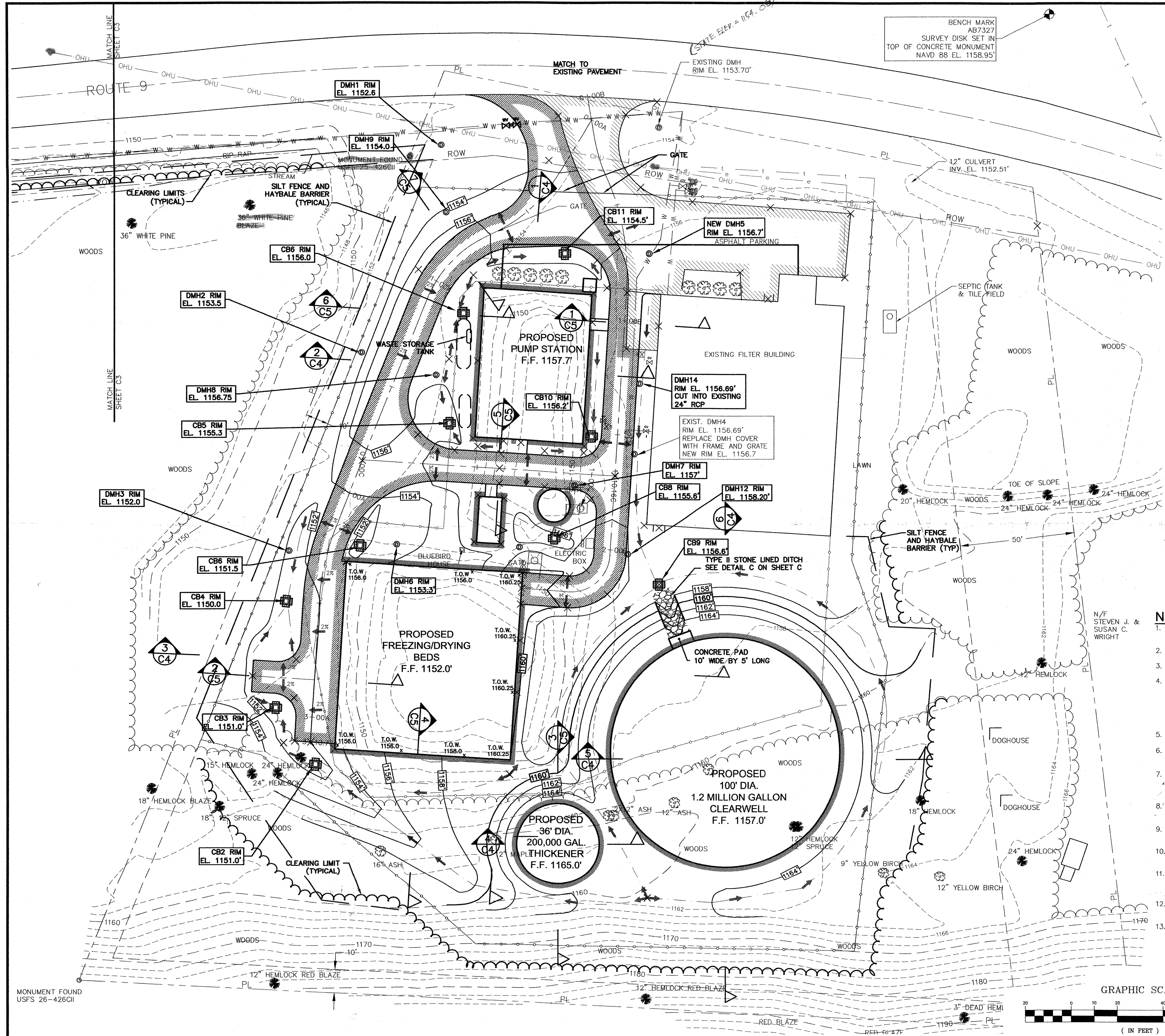
SITE GRADING, DRAINAGE AND ROAD LAYOUT

BENNINGTON, VERMONT

C2

DWG. NO. 413007-C2

SHEET 3 OF 99

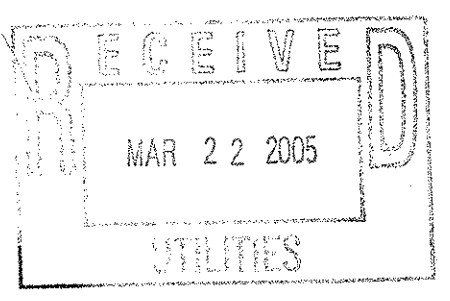


- EXISTING**
- MAJOR CONTOURS
 - MINOR CONTOURS
 - PL EDGE OF ROAD
 - PL PROPERTY LINE
 - ROW RIGHT OF WAY
 - SETBACK LINES
 - WETLAND BUFFER
 - OHU UNDERGROUND TELEPHONE
 - OHU OVERHEAD UTILITY LINES
 - UNDERGROUND ELECTRIC
 - CHAIN LINK FENCE
 - TREE LINE
 - WETLAND AREA
 - BUILDING
 - UTILITY POLE
 - MONUMENT
 - HYDRANT
 - GATE VALVE
 - STORM DRAIN MANHOLE
 - TREES

- PROPOSED**
- 1180 MAJOR CONTOURS
 - 1154 MINOR CONTOURS
 - CLEARING LIMITS
 - EDGE OF ACCESS ROAD
 - x 1157.7 SPOT ELEVATIONS
 - CHAIN LINK FENCE
 - SILT FENCE
 - STORM DRAIN MAHMHOLE
 - CATCH BASIN
 - HYDRANT
 - BUILDING
 - SURFACE WATER FLOW DIRECTION
 - HAY BALE DIKE
 - NO MOW STRIP

NOTES:

1. REFER TO GENERAL CONSTRUCTION NOTES AND ABBREVIATIONS ON SHEET G1.
2. REFER TO SHEET C13 FOR TYPICAL PAVEMENT SECTION.
3. REFER TO SHEET C12 FOR STORM DRAINAGE DETAILS.
4. THE EROSION CONTROL PLANS IS TO BE USED AS A GUIDELINE ONLY. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR ALL MAINTENANCE AND REPAIRS OF SILT FENCES AND HAY BALE DIKES AS NECESSARY. REFER TO SHEET C 13 FOR EROSION CONTROL DETAILS.
5. HAY BALE DIKES TO BE INSTALLED AT ALL CATCH BASINS.
6. REMOVE ALL SILT FENCES AND HAY BALE DIKES PRIOR TO SUBSTANTIAL COMPLETION.
7. CLEAR, GRUB, FINE GRADE AND RESTORE TO CLASS A ALL AREAS WITHIN THE CLEARING LIMITS SHOWN WHETHER DISTURBED OR NOT. RESTORE AREAS NOT SHOWN OTHERWISE TO CLASS A.
8. PROVIDE "NO MOW STRIP" AS SHOWN ON SHEET C13 BELOW ALL FENCING, AND ADJACENT TO ALL STRUCTURES AND CONCRETE PADS.
9. ALL SLOPES STEEPER THAN 2H:1V TO HAVE EROSION CONTROL FABRIC DURING ESTABLISHMENT OF GROWTH.
10. SEE SITE SECTIONS AND ACCESS ROAD CENTER LINE PROFILE ON SHEET C5.
11. ALL TOP SOIL ON SITE SHALL BE SCREENED AND STORED ON SITE AND USED TO RESTORE THE SITE. ADDITIONAL TOP SOIL IS ALSO REQUIRED TO RESTORE SITE.
12. STRIP ALL EXISTING GROWTH AND TOP SOIL (6" MIN) UNDER ALL AREAS REQUIRING GRADE MODIFICATIONS.
13. PROPOSED GRADE TO MATCH EXISTING GRADE IN RIGHT-OF-WAY AREA BETWEEN MATCH LINE AND WEST PROPERTY LINE.



GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.

BID DOCUMENTS
DO NOT REVISE

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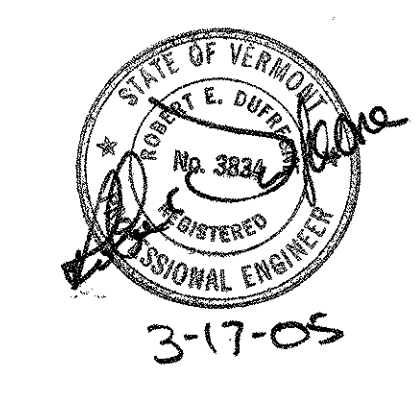
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 Home page: http://www.dufresneassociates.com

Project #	413007
Project Mgr.	RAW
Design	RAW
Drawn	DAL
Checked by	JRP
Date	DEC. 10, 2004
Scale	1" = 20'-0"
Approved by	RED

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Dufresne & Associates, P.C.



WATER TREATMENT FACILITY AND INTAKE UPGRADES

SITE GRADING PLAN AND YARD PIPING PLAN
ROUTE 9 WEST

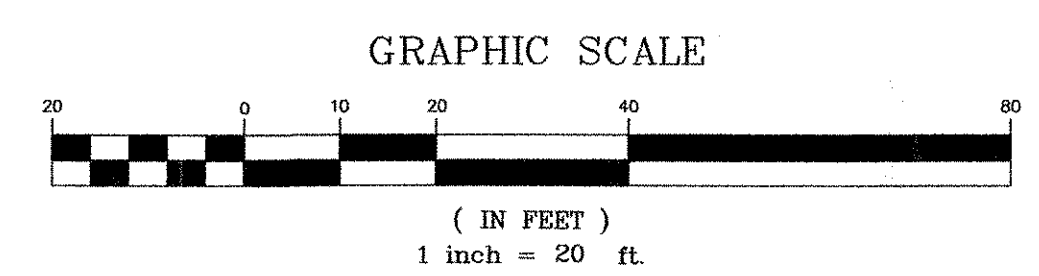
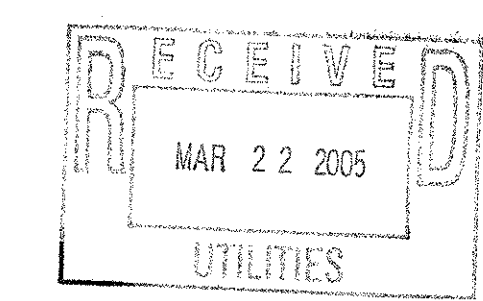
BENNINGTON, VERMONT

C3

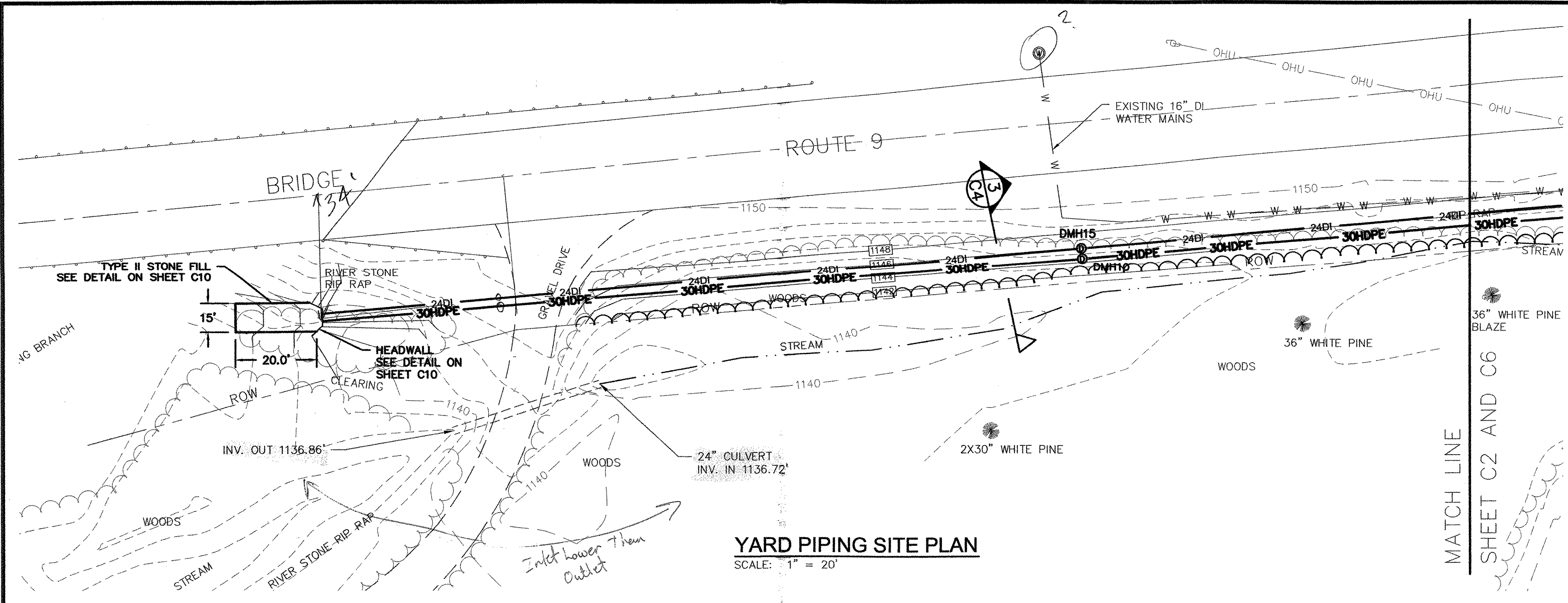
DWG. NO. 413007C3-C6
 SHEET 4 OF 99

EXISTING	
---	MAJOR CONTOURS
---	MINOR CONTOURS
PL	EDGE OF ROAD
---	PROPERTY LINE
---	RIGHT OF WAY
---	SETBACK LINES
---	WETLAND BUFFER
t	UNDERGROUND TELEPHONE
OHU	OVERHEAD UTILITY LINES
e	UNDERGROUND ELECTRIC
w	WATER MAIN
- - -	DRAIN
---	EDGE OF ACCESS ROAD
---	CHAIN LINK FENCE
---	STREAM
---	TREE LINE
□	BUILDING
⊕	UTILITY POLE
○	MONUMENT
⊕	HYDRANT
⊕	GATE VALVE
⊕	STORM DRAIN MANHOLE
⊕	TREES
PROPOSED	
---	MAJOR CONTOURS
---	MINOR CONTOURS
---	CLEARING LIMITS
---	EDGE OF ACCESS ROAD
---	24" DUCTILE IRON PIPE
---	30" HIGH DENSITY POLYETHYLENE
---	SILT FENCE
⊕	STORM DRAIN MANHOLE

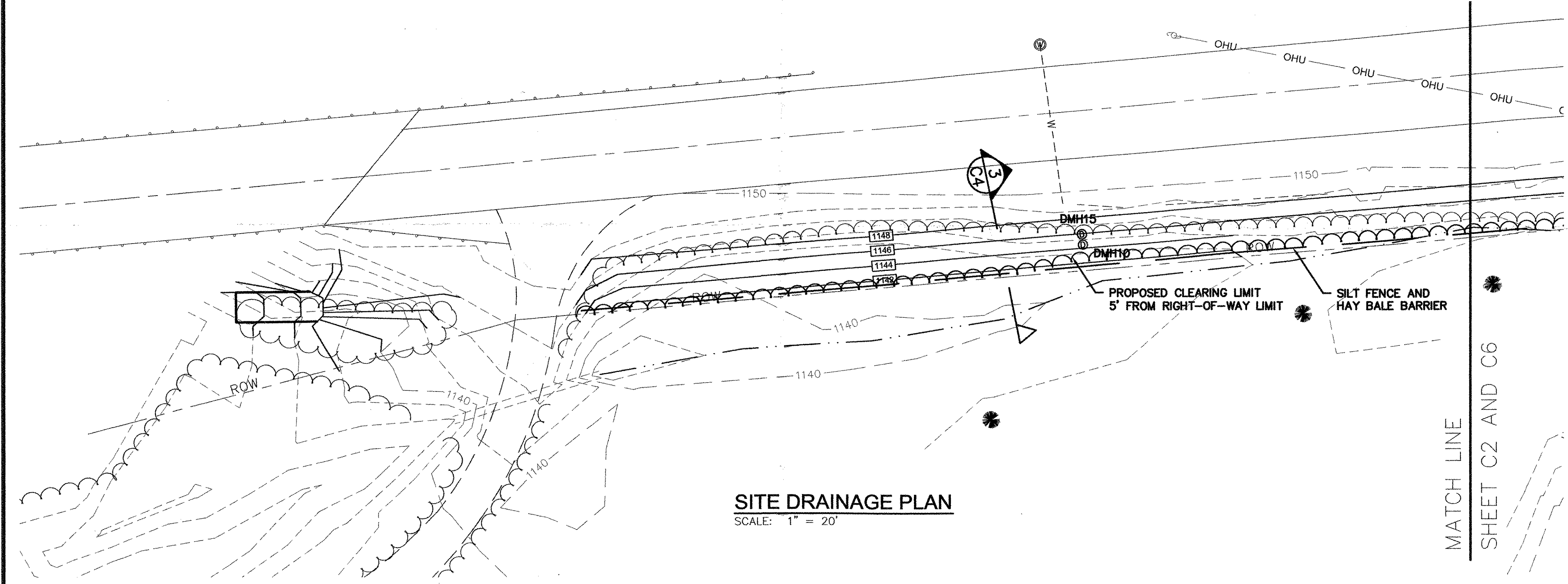
- NOTES:**
- REFER TO GENERAL CONSTRUCTION NOTES AND ABBREVIATIONS ON SHEET C1.
 - REFER TO SHEET C12 FOR STORM DRAINAGE DETAILS.
 - CLEAR, GRUB, FINE GRADE AND RESTORE TO CLASS A ALL AREAS WITHIN THE CLEARING LIMITS SHOWN WHETHER DISTURBED OR NOT. RESTORE AREAS NOT SHOWN OTHERWISE TO CLASS A.
 - FILL SLOPES TO HAVE EROSION CONTROL FABRIC DURING ESTABLISHMENT OF GROWTH.
 - REFER TO UTILITY PROFILE ON SHEET C10.
 - STRIP ALL EXISTING GROWTH AND TOPSOIL (6" MIN) UNDER ALL AREAS REQUIRING GRADE MODIFICATIONS.
 - ALL EXISTING TOPSOIL ON SITE SHALL BE SCREENED AND STORED ON SITE FOR SITE RESTORATION. ADDITIONAL TOPSOIL WILL ALSO BE REQUIRED.



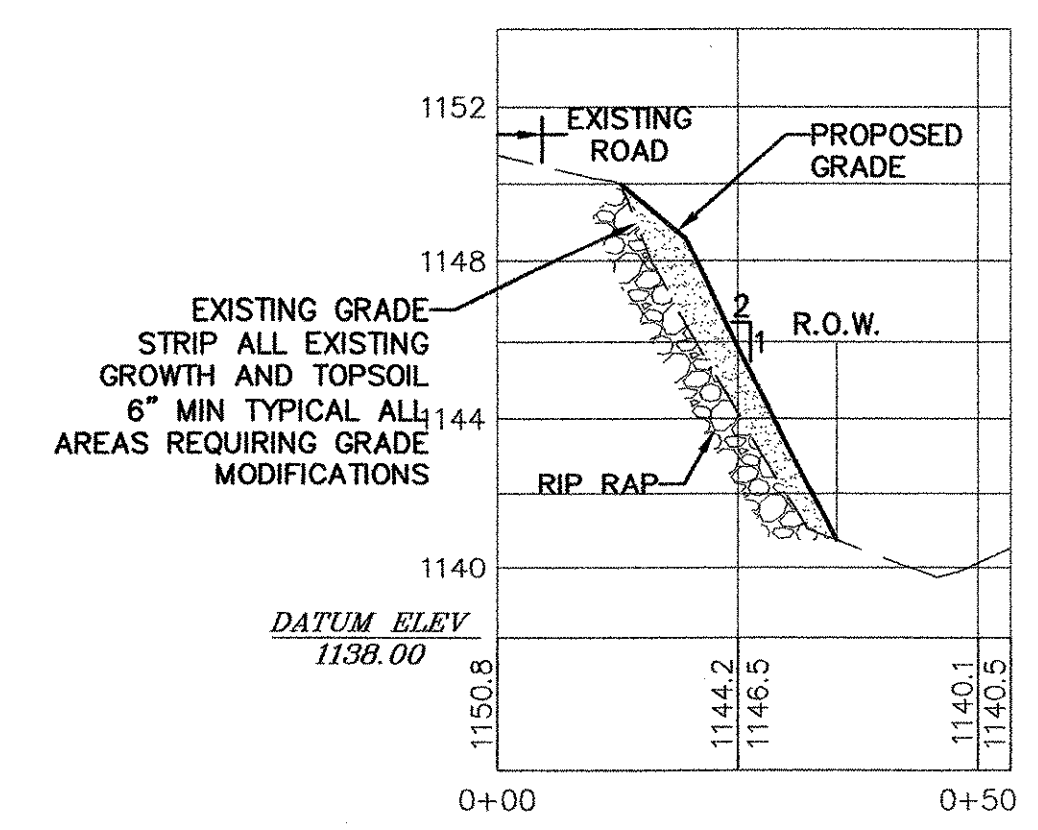
BID DOCUMENTS
 DO NOT REVISE



YARD PIPING SITE PLAN
 SCALE: 1" = 20'



SITE DRAINAGE PLAN
 SCALE: 1" = 20'



SECTION 1
 HORIZONTAL SCALE: 1" = 20'-0"
 VERTICAL SCALE: 1" = 5'-0"

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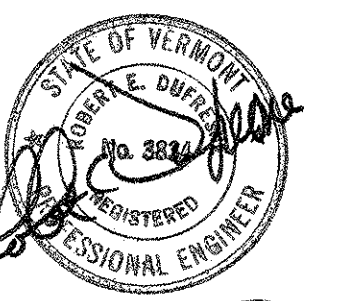
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Project Mgr.	RAW
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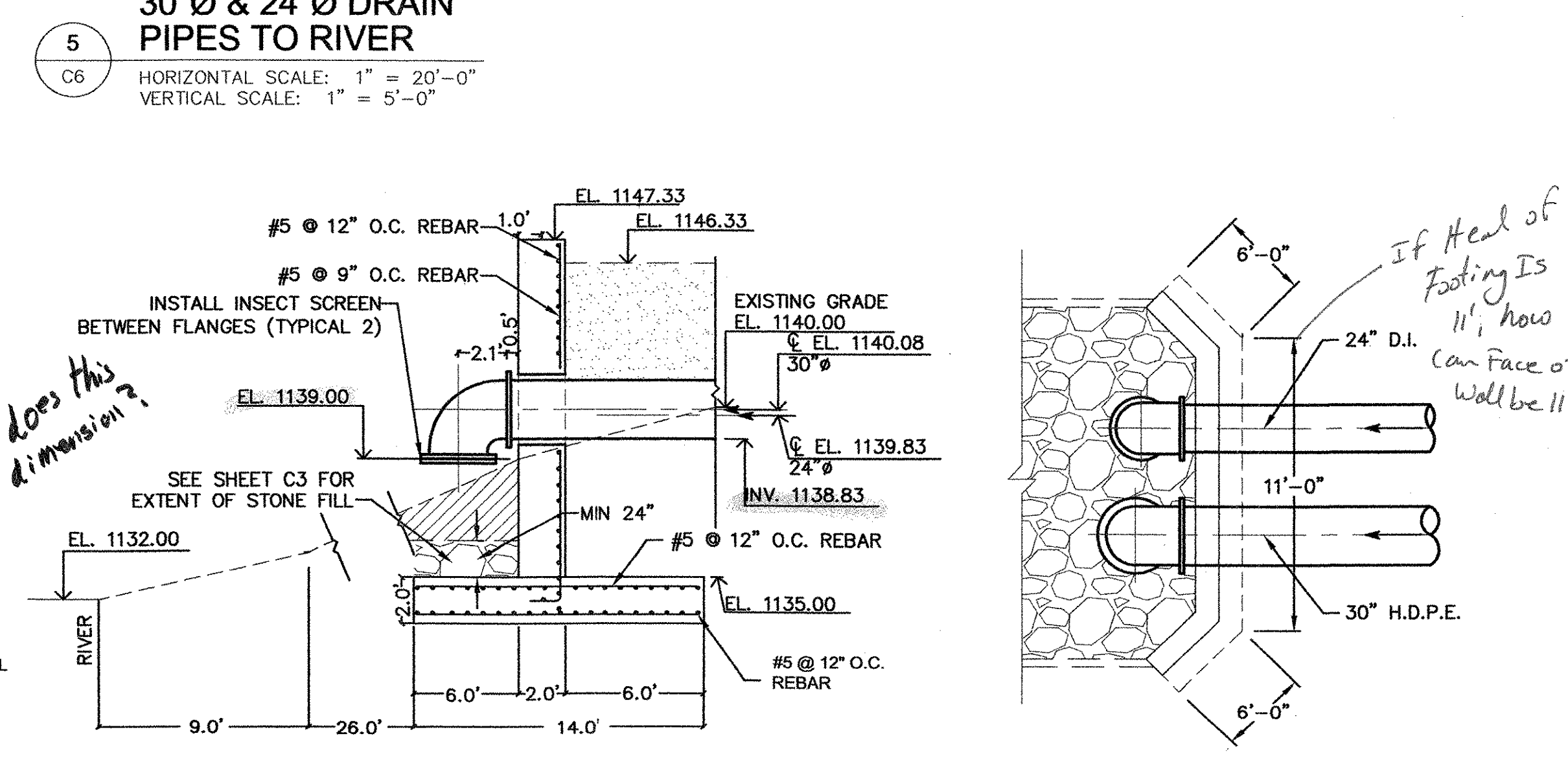
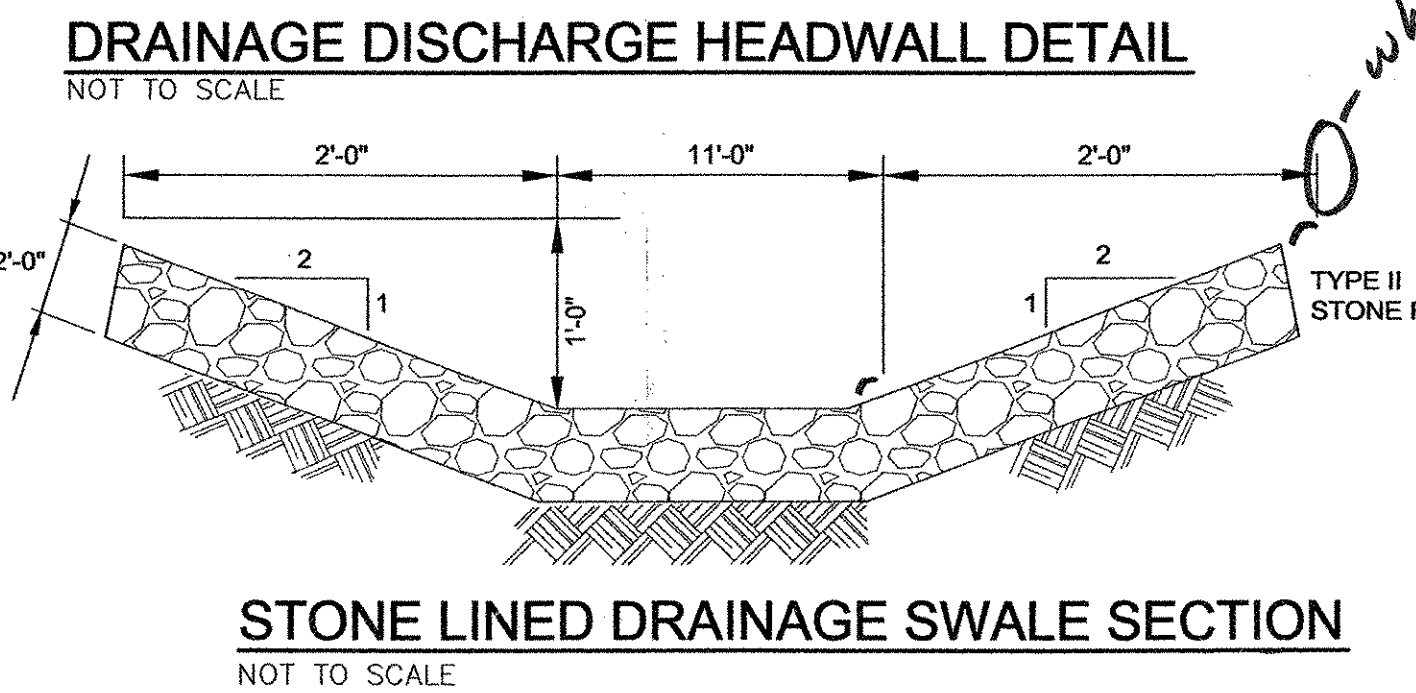
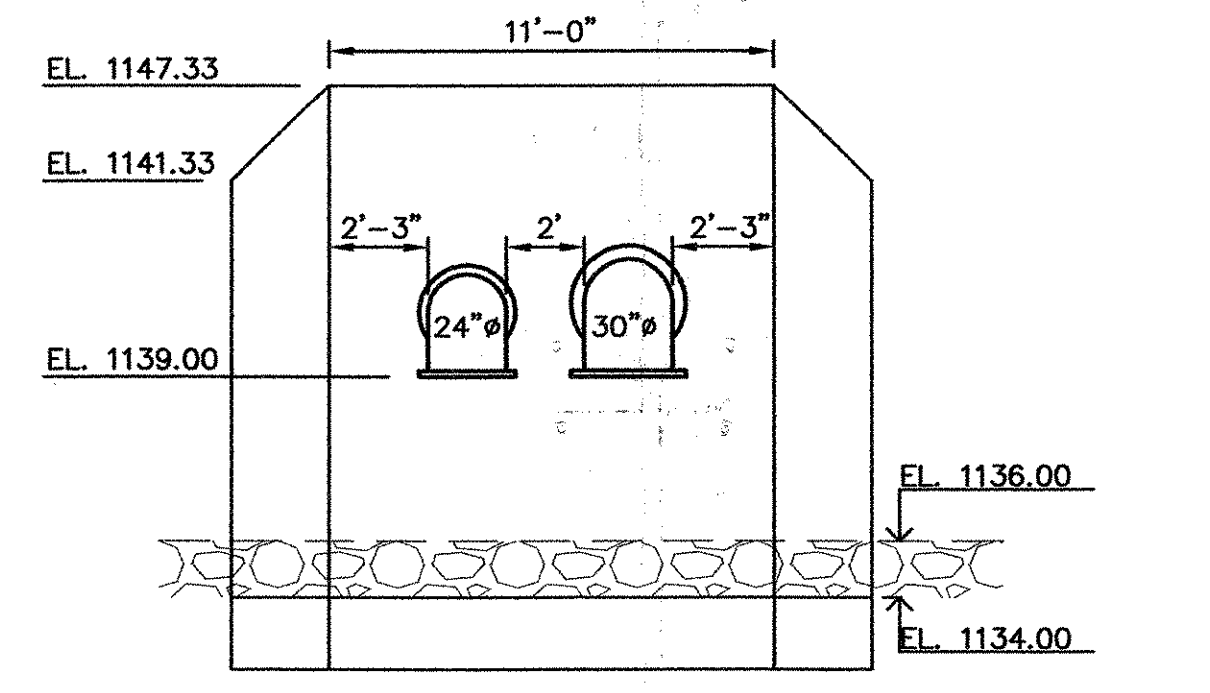
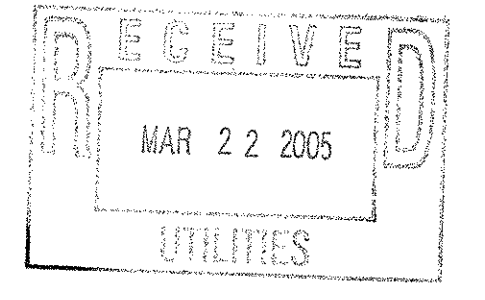
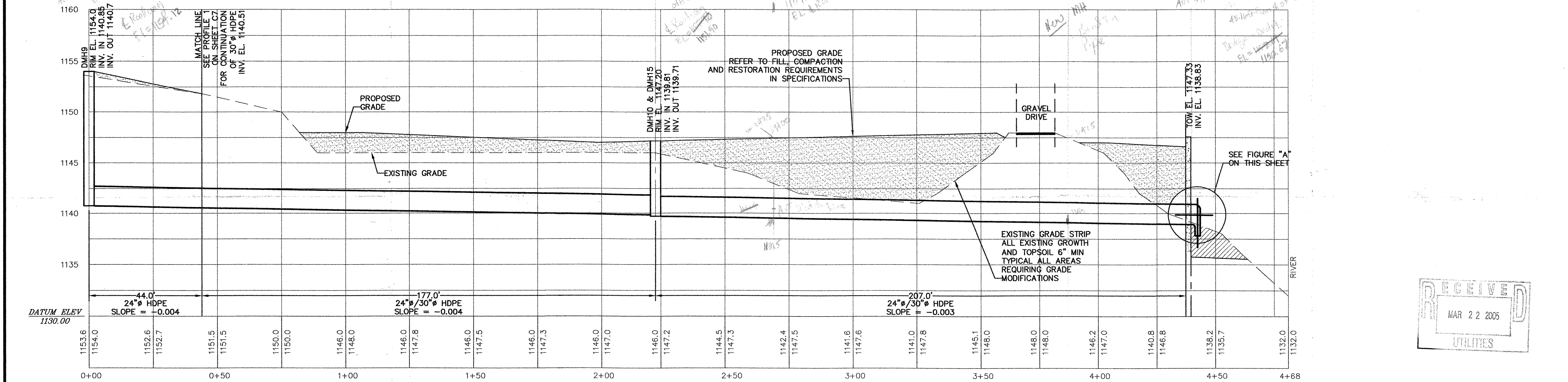
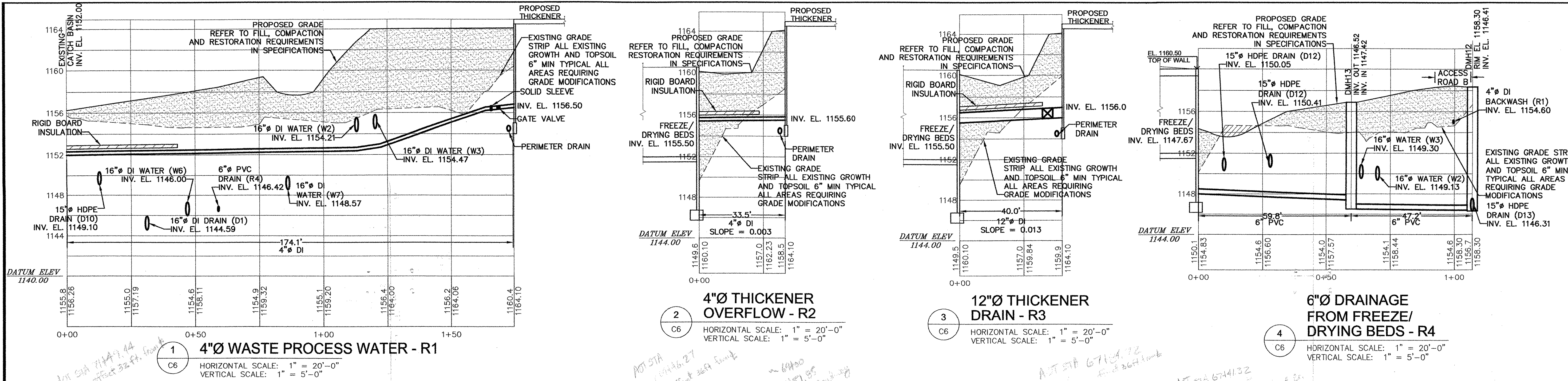


3-17-05

WATER TREATMENT FACILITY AND INTAKE UPGRADES

UTILITY PROFILES

BENNINGTON, VERMONT



- NOTES:**
- REFER TO GENERAL CONSTRUCTION NOTES AND ABBREVIATIONS ON SHEET G1.
 - SEE SHEET C6 FOR YARD PIPING PLAN.
 - WATER MAINS SHALL HAVE A MINIMUM 5.5 FEET OF COVER. WHERE 5.5 FEET OF COVER CANNOT BE MAINTAINED OVER THE WATER MAIN, 4 INCHES OF RIGID BOARD INSULATION SHALL BE INSTALLED AS SHOWN ON SHEET C11.
 - ALL MECHANICAL JOINT FITTINGS, VALVES, AND HYDRANTS SHALL INCORPORATE THE MEGA-LUG RETAINER GLAND INSTEAD OF THE COMMON FOLLOWER GLAND.
 - REFER TO THRUST BLOCK, HYDRANT BRANCH, AND TRENCH SECTION DETAILS SHOWN ON SHEET C11.
 - REFER TO SHEET E2 FOR UNDERGROUND ELECTRICAL AND TELEPHONE SERVICE. VERIFY EXACT LOCATION WITH UTILITY COMPANIES.
 - HIGH PRESSURE GAS MAIN, AIR AND WATER PIPING TO LIME SILO NOT SHOWN ON PROFILES. LOCATION OF THESE UTILITIES TO BE FIELD COORDINATED.
 - REFER TO SHEET C10 FOR HEADWALL DETAILS.
 - DASHED LINES DENOTE APPROXIMATE EXISTING GRADE.
 - SOLID LINES DENOTE PROPOSED FINISHED GRADE AND STRUCTURES.
 - REFER TO PIPE BEDDING AND COMPACTION REQUIREMENTS IN SPECIFICATION SECTION 02300.

BID DOCUMENTS
 DO NOT REVISE