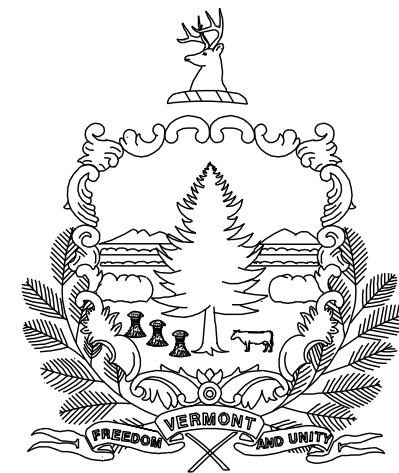


STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF BRIDGE I
COUNTY OF WINDSOR

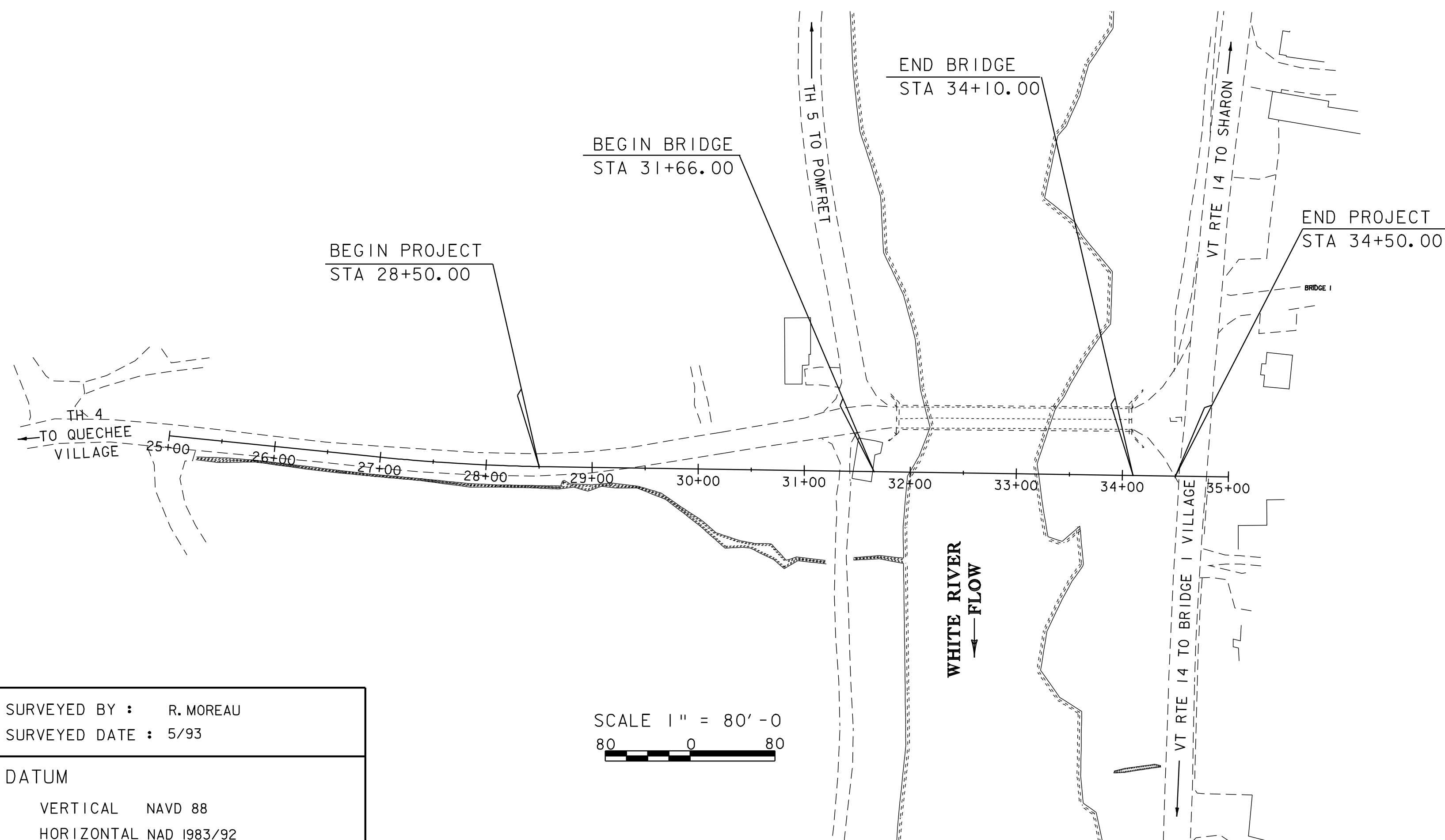
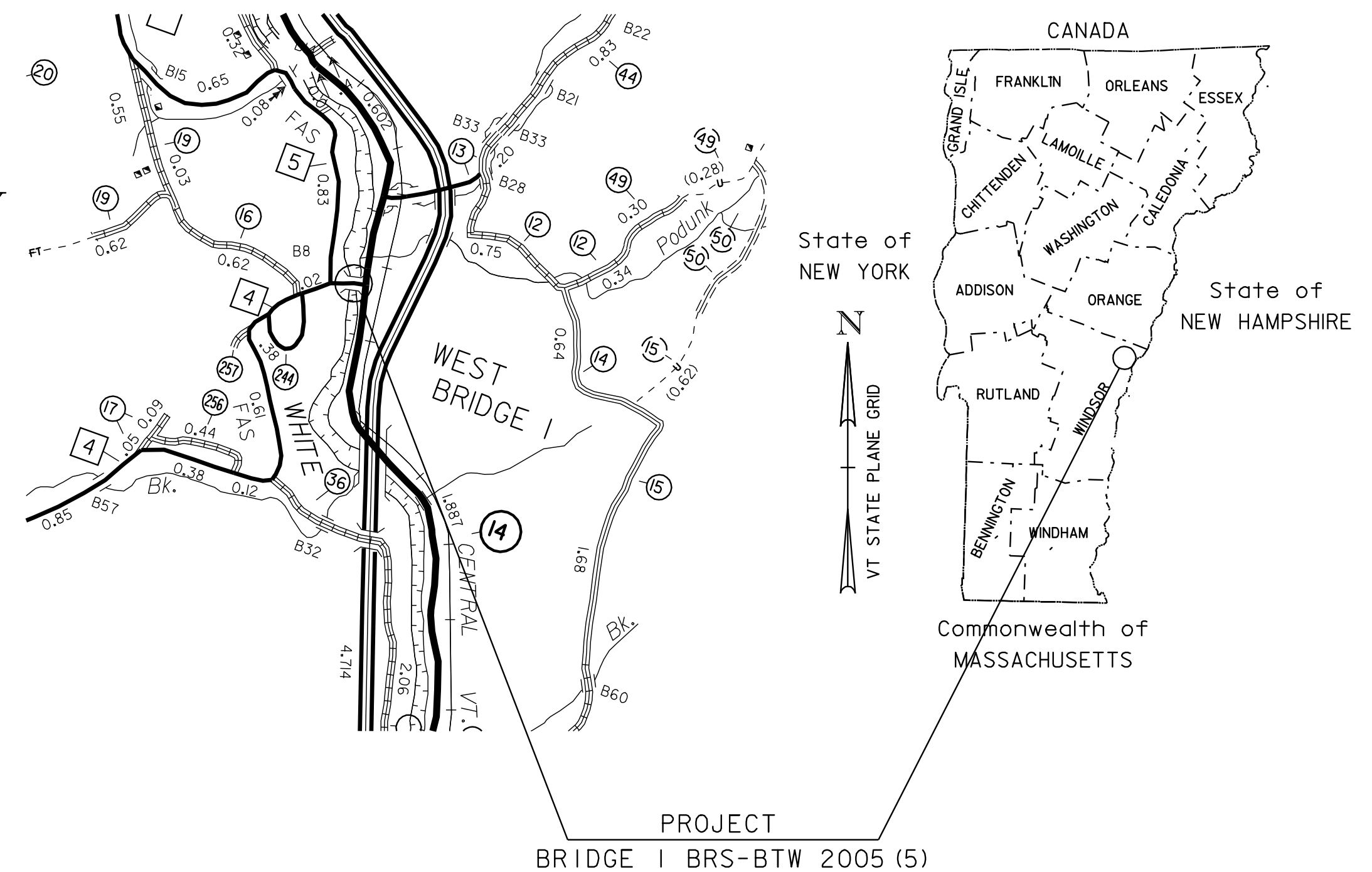
ROUTE NO : TH 4 FAS I66

BRIDGE NO : 8

PROJECT LOCATION : LOCATED IN THE COUNTY OF WINDSOR, TOWN OF BRIDGE I, ON
TH 4; BRIDGE 8 OVER THE WHITE RIVER, APPROXIMATELY 0.1
MILE WEST OF THE JUNCTION WITH VT ROUTE 14.

PROJECT DESCRIPTION : THE REPLACEMENT OF THE EXISTING STRUCTURE ALONG
WITH RELATED CHANNEL AND ROADWAY WORK.

LENGTH OF STRUCTURE : 244.00 FEET.
LENGTH OF ROADWAY : 356.00 FEET.
LENGTH OF PROJECT : 600.00 FEET.



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 : R. MOREAU
SURVEYED DATE : 5/93

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 1983/92

SCALE 1" = 80'-0"
80 0 80

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.

89j001/structures/sj001bdr.dgn sj001tit.1

DIRECTOR OF PROGRAM DEVELOPMENT

APPROVED _____ DATE _____

PROJECT MANAGER : C. P. MANAGER

PROJECT NAME : BRIDGE I

PROJECT NUMBER : BRS-BTW 2005 (5)

SHEET 1 OF 97 SHEETS

PRELIMINARY INFORMATION SHEET

INDEX OF SHEETS

1.	TITLE SHEET
2.	PRELIMINARY INFORMATION SHEET
3.-5.	QUANTITY SHEETS
6.	BRIDGE TYPICAL SECTIONS
7.	ROADWAY TYPICAL SECTIONS
8.	TRAVERSE & GEODETIC CONTROL INFORMATION
9.	ALIGNMENT TIE SHEET
10.-13.	LAYOUT SHEET 1-4
14.-15.	TH 4 PROFILE
16.	TH 5 PROFILE
17.	DRIVE PROFILE
18.-21.	TRAFFIC CONTROL PLAN 1-4
22.	DRAINAGE SHEET
23.	DRAINAGE PIPE SECTIONS
24.	TRAFFIC SIGNS AND LINES
25.	TRAFFIC SIGNS SUMMARY SHEET
26.	BORING INFORMATION SHEET
27.-31	BORING PROFILE SHEET 1-5
32.	PLAN AND ELEVATION
33.	GENERAL NOTES
34.	SPAN #1 DETAILS
35.	SPAN #3 DETAILS
36.	SPAN #2 MAIN SPAN REINFORCING DETAILS
37.	MAIN SPAN FRAMING PLAN
38.	CAMBER DIAGRAM
39.	MISCELLANEOUS STEEL DETAILS
40.	EXPANSION BEARING DETAILS
41.	FIXED BEARING DETAILS
42.	BEARING NOTES
43.	EXPANSION JOINT DETAILS
44.	EXPANSION JOINT PLAN
45.	CURB PLATE DETAILS
46.	DOWNSPOUT DETAILS
47.	APPROACH SLAB 1 & 2 DETAILS
48.	ABUTMENT #1 DETAILS
49.	ABUTMENT #2 DETAILS
50.	WINGWALL 1 & 2 DETAILS
51.	WINGWALL 3 & 4 DETAILS
52.	FOOTING REINFORCEMENT DETAILS
53.	PIER #1 DETAILS
54.	PIER #2 DETAILS
55.	CURB DETAILS
56.	RAILING LAYOUT PLAN
57-59.	ALUMNUM RAILING DETAILS 1-3
60-61.	REINFORCING STEEL SCHEDULE SHEET #1-#2
62-64.	RIGHT OF WAY SHEETS
65-70.	TH 4 CROSS SECTIONS
71-73.	TH 5 CROSS SECTIONS
74-76.	DRIVE CROSS SECTIONS
77-81.	VT RT 14 CROSS SECTIONS
82-87.	CHANNEL CROSS SECTIONS
88.	EROSION CONTROL NARRATIVE
89-90	EROSION CONTROL PLAN #1-#2
91.	FINAL CONDITIONS
92.	SILT FENCE DETAILS
93.	CHECK DAM DETAILS
94.	DROP INLET PROTECTION DETAILS
95.	CONSTRUCTION ENTRANCE DETAILS
96.	DITCH AND SIDE SLOPE PROTECTION DETAILS
97.	TURBIDITY CURTAIN DETAILS

INDEX OF STANDARDS

B-5	6/1/1994
E-100	1/2/2004
E-100A	1/2/2004
E-101	3/10/1997
E-102	5/30/2003
E-102A	5/1/2004
E-107	6/30/2003
E-107A	8/8/1995
E-123	3/16/2004
E-124	8/8/1995
E-138	5/30/2003
E-142	9/20/1995
E-143	6/15/2004
E-191	2/1/1999
E-193	8/18/1995
G-1	1/3/2000
G-1D	1/3/2000
G-6A	6/1/1994

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 9-25-01

DRAINAGE AREA : 692.0 sq. mi.
CHARACTER OF TERRAIN : Hilly to mountainous
STREAM CHARACTERISTICS : Straight to sinuous, semi-alluvial, probably incised and stable
NATURE OF STREAMBED : Mostly ledge with some gravel, cobbles and boulders

PEAK FLOW DATA

Q 2.33 =	17,300 cfs	Q 50 =	53,800 cfs
Q 10 =	33,100 cfs	Q 100 =	65,100 cfs
Q 25 =	44,100 cfs	Q 500 =	98,700 cfs

DATE OF FLOOD OF RECORD : November 4, 1927
ESTIMATED DISCHARGE: 120,000 cfs at USGS gage 700' upstream of bridge #8.
WATER SURFACE ELEV.: 403.8' at USGS gage 700' upstream of bridge #8.
NATURAL STREAM VELOCITY: @ Q25 = 11.3 fps
ICE CONDITIONS : Moderate to heavy
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? NO
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE:

WATERSHED STORAGE: 1% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single span steel truss bridge
YEAR BUILT: 1929
CLEAR SPAN(NORMAL TO STREAM): 216'
VERTICAL CLEARANCE ABOVE STREAMBED: 32' maximum
WATERWAY OF FULL OPENING: 4,670 sq. ft.
DISPOSITION OF STRUCTURE: Remove after new bridge is completed.
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Abutments founded on ledge.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	385.7'	VELOCITY =	7.5 fps
Q10 =	390.0'	"	10.8 fps
Q25 =	392.3'	"	12.9 fps
Q50 =	394.1'	"	14.6 fps
Q100 =	396.3'	"	16.8 fps

LONG TERM STREAMBED CHANGES: Little or no changes anticipated due to ledge.

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q60
RELIEF ELEVATION: 393.8'
DISCHARGE OVER ROAD @Q100: 140 cfs

UPSTREAM STRUCTURE

TOWN: Sharon DISTANCE: 22,000'
HIGHWAY #: Central VT Railway STRUCTURE #: NA
CLEAR SPAN: Not Available CLEAR HEIGHT: NA
YEAR BUILT: NA FULL WATERWAY: NA
STRUCTURE TYPE: NA

DOWNSTREAM STRUCTURE

TOWN: Hartford DISTANCE: 4,000'
HIGHWAY #: 89 STRUCTURE #: 11
CLEAR SPAN: 1014' CLEAR HEIGHT: 60'+-
YEAR BUILT: 1967 FULL WATERWAY: NA
STRUCTURE TYPE: six span steel beam bridge

LFD - LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY (A=2.17)	37	50					
POSTED (A=1.55)	52	70	99		58	60	85
OPERATING (A=1.3)		83	119	114	69	72	

COMMENTS: STRENGTH RF = $\frac{0.9M_n - 1.3 M_{UH}}{A \times M_{UHL}}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
1996	1670	230	69	<1	3.5
2016	2280	320	69	<1	1.5

20 year ESAL for flexible pavement from 1996 to 2016 : 258000
40 year ESAL for flexible pavement from 1996 to 2036 : 685000
Design Speed : 35 mph

PROPOSED STRUCTURE

STRUCTURE TYPE: 3 span bridge. Plate girder main span w/ conc. slab approach spans.

CLEAR SPAN(NORMAL TO STREAM): 232' total
VERTICAL CLEARANCE ABOVE STREAMBED: 32' maximum
WATERWAY OF FULL OPENING: 5,200 sq. ft.

WATER SURFACE ELEVATIONS AT:

Q2.33 =	385.7'	VELOCITY=	7.4 fps
Q10 =	389.9'	"	10.4 fps
Q25 =	392.2'	"	12.3 fps
Q50 =	394.0'	"	13.8 fps
Q100 =	395.9'	"	15.7 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: Yes
FREQUENCY: Q80
RELIEF ELEVATION: 393.8'
DISCHARGE OVER ROAD @Q100: 45 cfs

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 396.7' (395.6 minimum)
VERTICAL CLEARANCE: @ Q25 = 4.5' average (3.2' minimum)

SCOUR: Ledge is exposed in the channel with shallow overburden on the banks.
Calculated scour depths are to ledge. All substructures should be founded on ledge.
REQUIRED CHANNEL PROTECTION: Stone Fill, Type IV where required.

PERMIT INFORMATION

AVERAGE DAILY FLOW: 1,300 cfs DEPTH OR ELEVATION:
ORDINARY LOW WATER: 500 cfs Elevation 375.0' at bridge
ORDINARY HIGH WATER: 7,000 cfs Elevation 378.0' at bridge

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: Traffic will be maintained on existing bridge.
CLEAR SPAN (NORMAL TO STREAM): 216'
VERTICAL CLEARANCE ABOVE STREAMBED: 32'
WATERWAY AREA OF FULL OPENING: 4,670 sq. ft.

ADDITIONAL INFORMATION

DESIGN CRITERIA

- DESIGN LIVE LOAD AASHTO HS-25
- DESIGN SPAN 46'-150'-46'
- ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ---
ON LEDGE 10 ksi
- ALLOWABLE LOAD FOR PILING ---
TYPE ---
ESTIMATED LENGTH ---
- STRUCTURAL STEEL AASHTO GRADE 50W + 70W
- REINFORCING STEEL GRADE 60
- CONCRETE CLASS A (HPC-A) f'c : 5000 psi
- CONCRETE CLASS B (HPC-B) f'c : 3500 psi
- SOIL UNIT WEIGHT 140 pcf
- DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL ---

TRAFFIC MAINTENANCE

- IS TRAFFIC TO BE MAINTAINED? YES
IF YES, ON EXISTING STRUCTURE? YES
OR ON TEMPORARY BRIDGE? NO
ONE OR TWO-WAY TRAVEL? ---
- TRAFFIC CONTROL SIGNALS REQUIRED? ---
- ARE SIDEWALKS REQUIRED? ---
IF SO, ON WHAT SIDE? ---

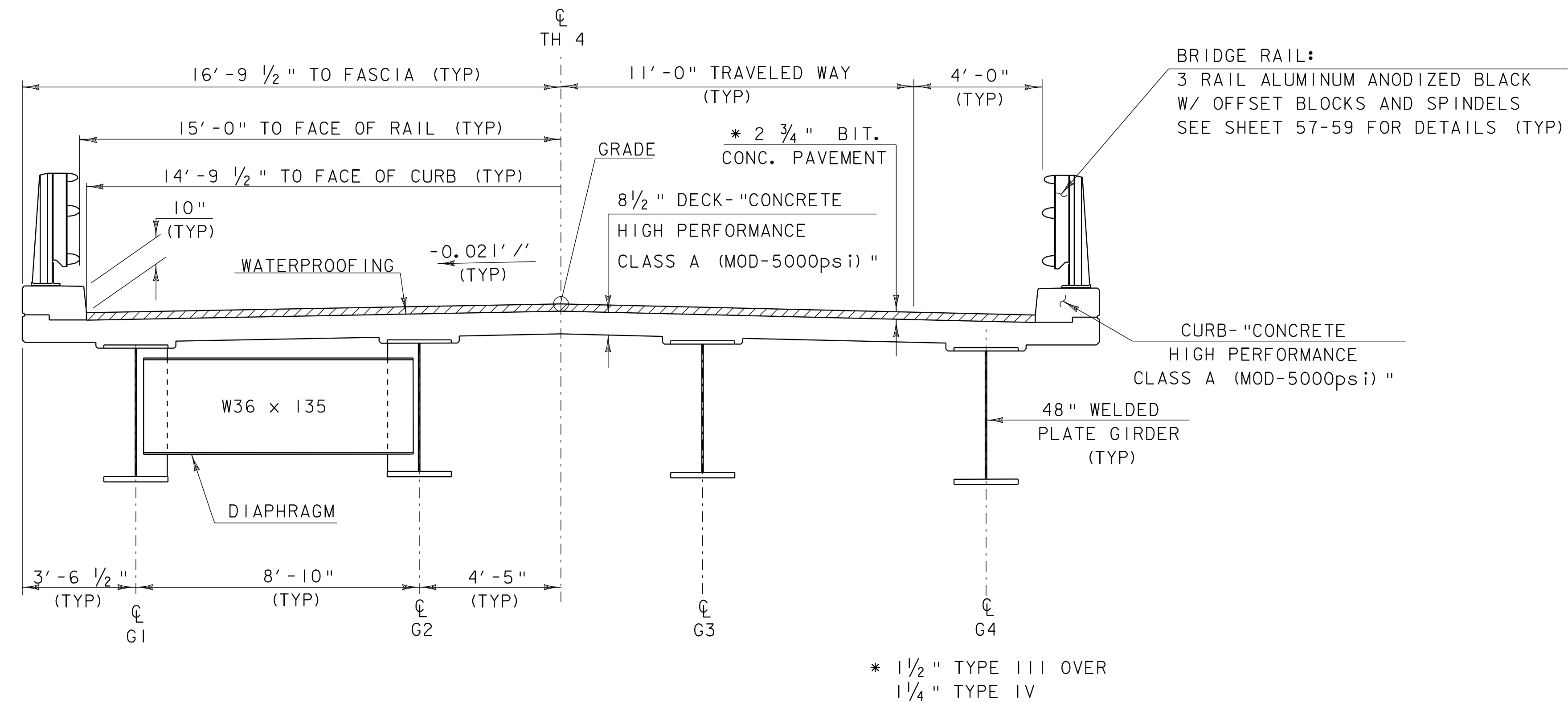
PROJECT NAME:	Hartford	PLOT DATE:	2/16/2005
PROJECT NUMBER:	BRO-BTN 2004(1)	DRAWN BY:	R.S. Young
FILE NAME: sj045pi.xls	PROJECT MANAGER: C.P. Williams	CHECKED BY:	K.M. Higgins
DESIGNED BY: K.M. Higgins	PRELIMINARY INFORMATION SHEET	SHEET	2 OF 97

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES																	TOTALS			DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES					
ROADWAY	APPR. SLAB #1	APPR. SLAB #2		SPAN #1	SPAN #2	SPAN #3		ABUT. #1	ABUT. #2		PIER #1	PIER #2		EROSION CONTROL	E & C ITMES	BRIDGE QUANTITY	ROUND	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS			
1																		1			LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10					
2500																		2500			CY	COMMON EXCAVATION	203.15					
								750	470									1220			CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27					
90																		90			CY	EXCAVATION OF SURFACES AND PAVEMENTS	203.28					
680																		680			CY	EARTH BORROW	203.30					
530																		530			CY	SAND BORROW	203.31					
70														10				80			CY	TRENCH EXCAVATION OF EARTH	204.20					
								820	1380									2200			CY	GRANULAR BACKFILL FOR STRUCTURES	204.30					
								480	150		80	700						1410			CY	COFFERDAM EXCAVATION, EARTH	208.30					
								525	15		280	5						825			CY	COFFERDAM EXCAVATION, ROCK	208.35					
								1										1			LS	COFFERDAM (Abutment No. 1)	208.40					
									1									1			LS	COFFERDAM (Pier No. 1)	208.40					
											1							1			LS	COFFERDAM (Pier No. 2)	208.40					
												1						1			LS	COFFERDAM (Abutment No. 2)	208.40					
925																		925			SY	COLD PLANING-BIT.PAVEMENT	210.10					
1340														10				1350			CY	SUBBASE OF GRAVEL	301.15					
40																		40			CY	AGGREGATE SURFACE COURSE	401.10					
7	.25	.25		.5	.5	1.5												10			CWT	EMULSIFIED ASPHALT	404.65					
890	9	6		13	41	13												972			TON	BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	406.25					
								46	107		48	18						219			CY	CONCRETE, CLASS C	501.30					
				149	175	135												459			CY	CONCRETE, HIGH PERFORMANCE CLASS A (MOD.-5000 Psi)	501.33					
	50	31						278	199		134	100						792			CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34					
					166738													166738			LB	STRUCTURAL STEEL(PLATE GIRDER)	506.55					
					78900													78900			LB	STRUCTURAL STEEL(PLATE GIRDER)(MOD.-HPS70W)	506.55					
								28410	20710		16663	11809						77592			LB	REINFORCING STEEL	507.15					
								80	70		230	70						450			LF	DRILLING AND GROUTING DOWELS	507.16					
	5660	3360		22411	56693	19057		623	483		343	217						108847			LB	EPOXY COATED REINFORCING STEEL	507.17					
					1													1			EA	SHEAR CONNECTORS (1208 - 7/8" DIA.x 7" SHEAR STUDS)	508.15					
					1													1			LS	STRUCTURAL PAINTING,SHOP APPLIED (3.2 TONS)	513.25					
					1													1			LS	SURFACE PREPARATION,SHOP (3.2 TONS)	513.40					
				4	10	3		6	4		11	7						45			GAL	WATER REPELLENT (MOD.-SILANE)	514.10					
					34													34			LF	BRIDGE EXPANSION JOINT (VERMONT)	516.10					
					34													34			LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG TYPE)	516.10					
				160	508	152												820			SY	SHEET MEMBRANE WATERPROOFING (MOD.-TORCH APPLIED)	519.20					
					491													491			LF	BRIDGE RAILING-ALUMNUM / PEDESTRIAN (ANODIZED BLACK)	525.23					
					1													1			LS	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	527.10					
570																		570			SY	REMOVAL OF BRIDGE PAVEMENT	529.10					
1																		1			EACH	REMOVAL OF STRUCTURE	529.15					
1																		1			EACH	REMOVAL OF STRUCTURE (MOD. RELOCATE BARN)	529.15					
					4													4			EACH	BEARING DEVICE ASSEMBLY STA. 32+12.00 (PEDSTL.)	531.10					
					4													4			EACH	BEARING DEVICE ASSEMBLY STA. 33+33.00 (ELAST.)	531.10					
																							PROJECT NAME: HARTFORD			PROJECT NUMBER: BRO-BTN 2004 (1)		
																							FILE NAME: s89j045quant.xls			PLOT DATE: 1/13/2005		
																							PROJECT MANAGER: C.P. WILLIAMS			DRAWN BY: M.LONGSTREET		
																							DESIGNED BY: K.M. HIGGINS			CHECKED BY: K.M. HIGGINS		
																							QUANTITY SHEET #1			SHEET 3 OF 97		

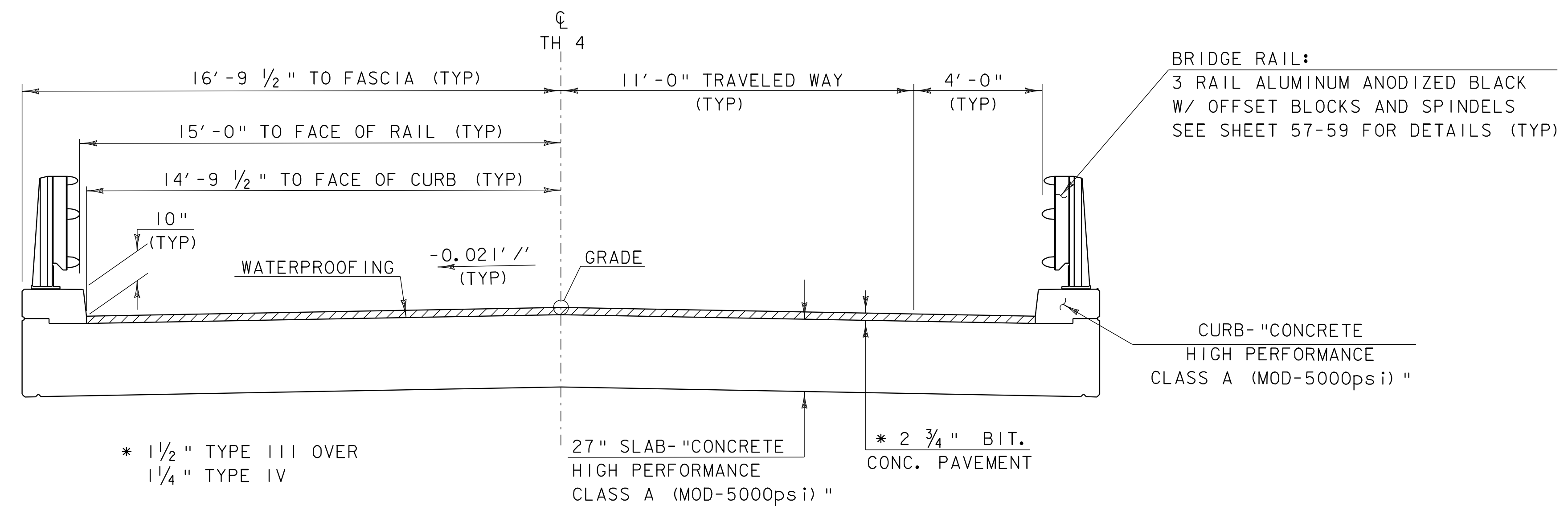
QUANTITY SHEET

[illegible]



TYPICAL BRIDGE SECTION MAIN SPAN (SPAN #2)

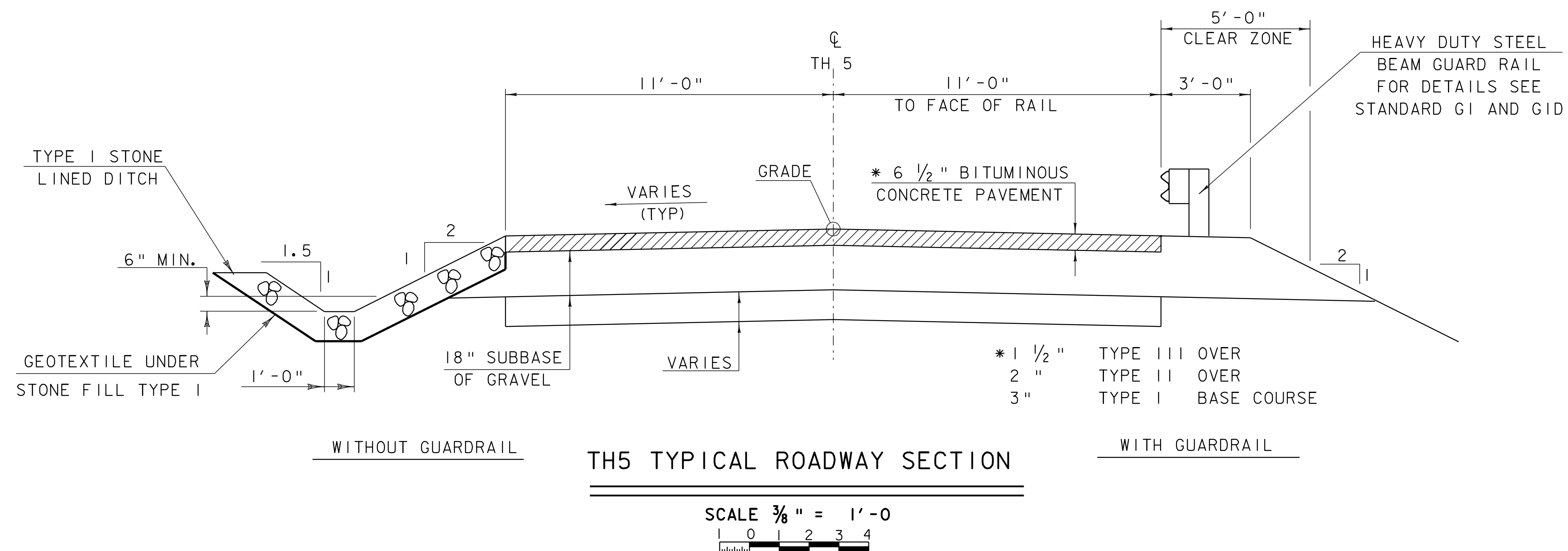
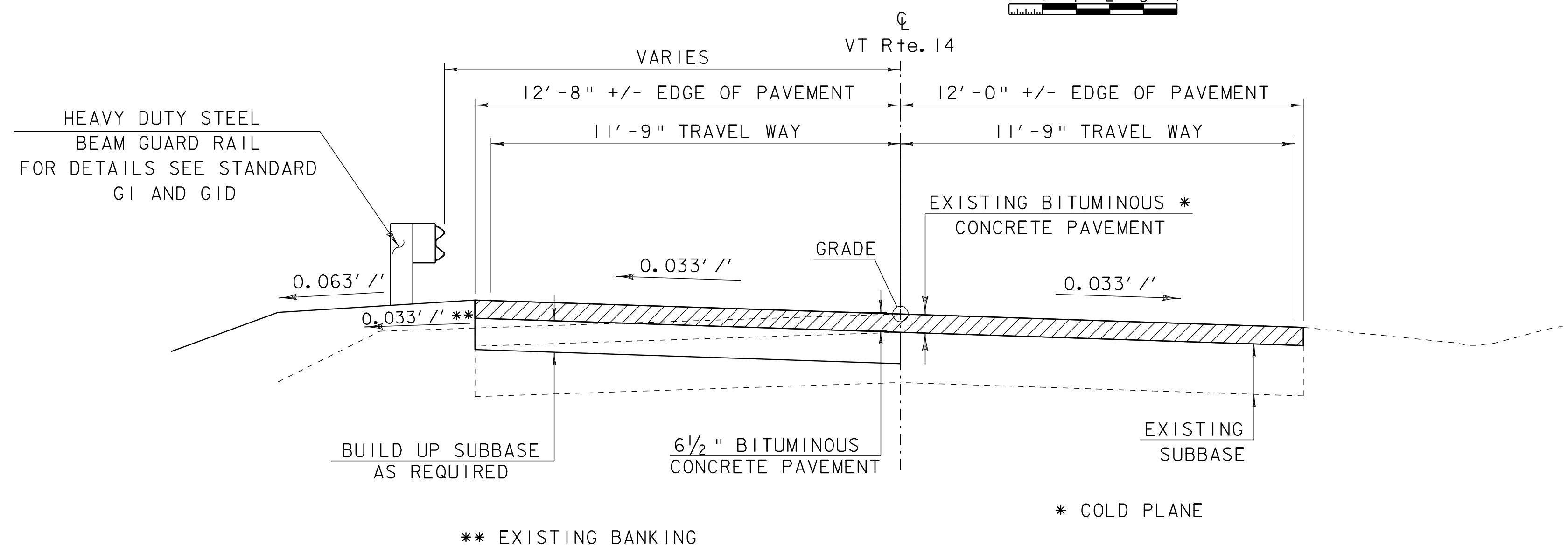
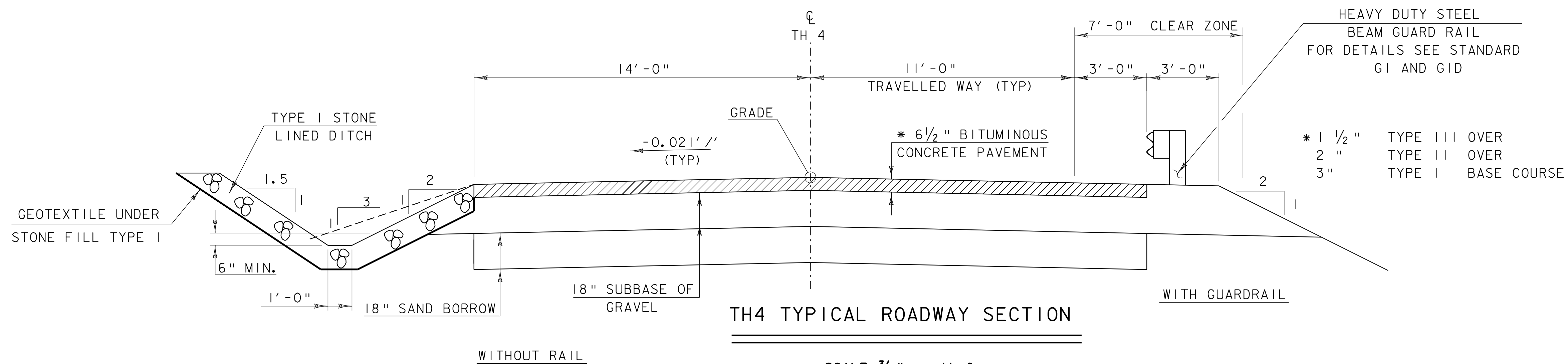
SCALE 3/8" = 1'-0"



TYPICAL BRIDGE SECTION (SPANS 1 & 3)

SCALE 3/8" = 1'-0"

PROJECT: BRIDGE I	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89j00l/structures/sj00ltyp.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00ltyp.l	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K.M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 6 OF 97
BRIDGE TYPICAL SECTIONS	



NOTE:
ALUMINUM APPROACH RAIL SHALL BE ANODIZED BLACK

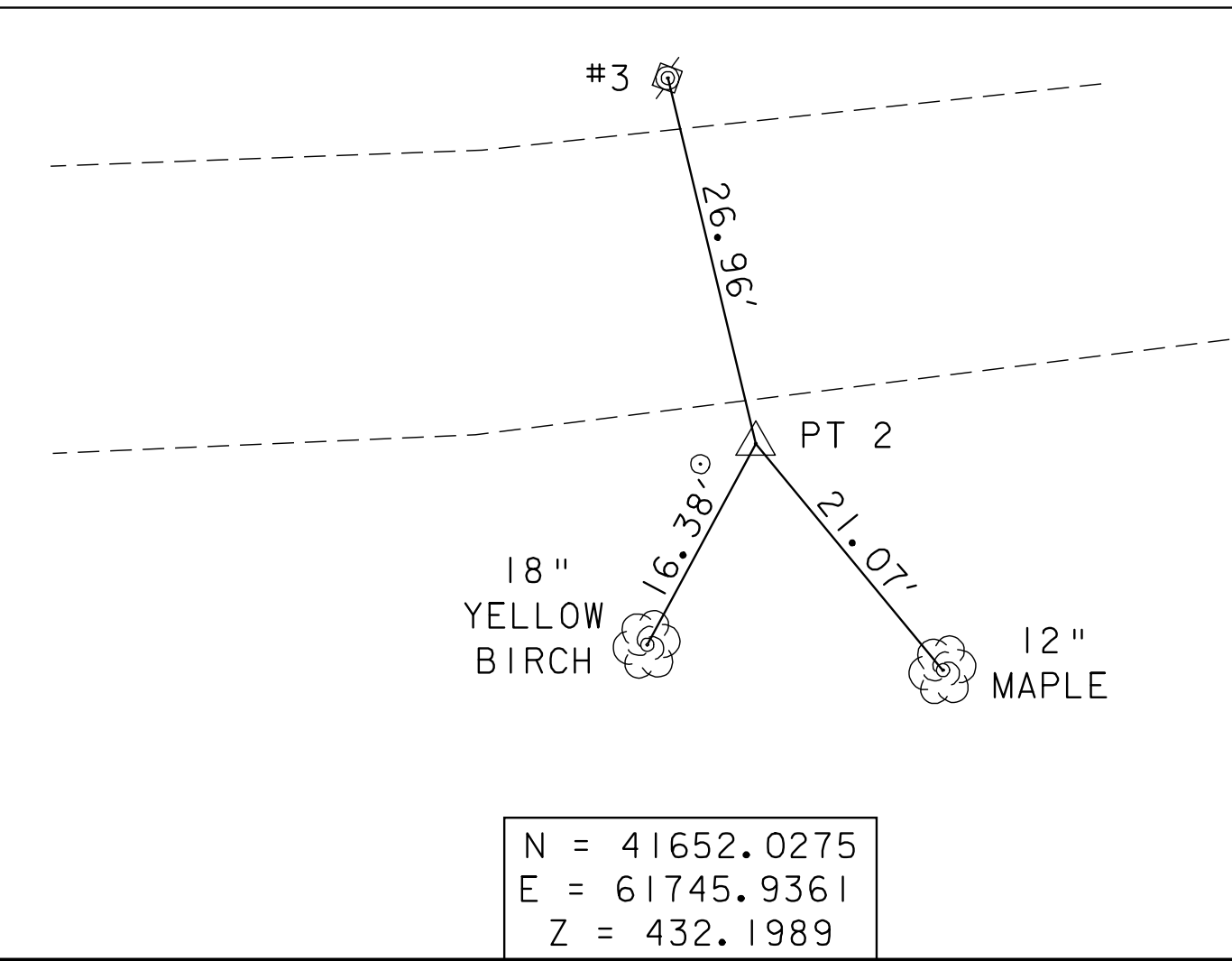
MATERIAL ITEM	TOLERANCE
PAVEMENT	$\pm \frac{1}{4}$ " TOTAL THICKNESS
AGGREGATE SURFACE COURSE	$\pm \frac{1}{2}$ "
BASE COURSE	$\pm \frac{1}{2}$ "
SUBBASE	± 1 "
SAND BORROW	± 1 "
GRANULAR BORROW	± 1 "

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J001/structures/sj001typ.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001typ2.1	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K.M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 7 OF 97
ROADWAY TYPICAL SECTIONS	

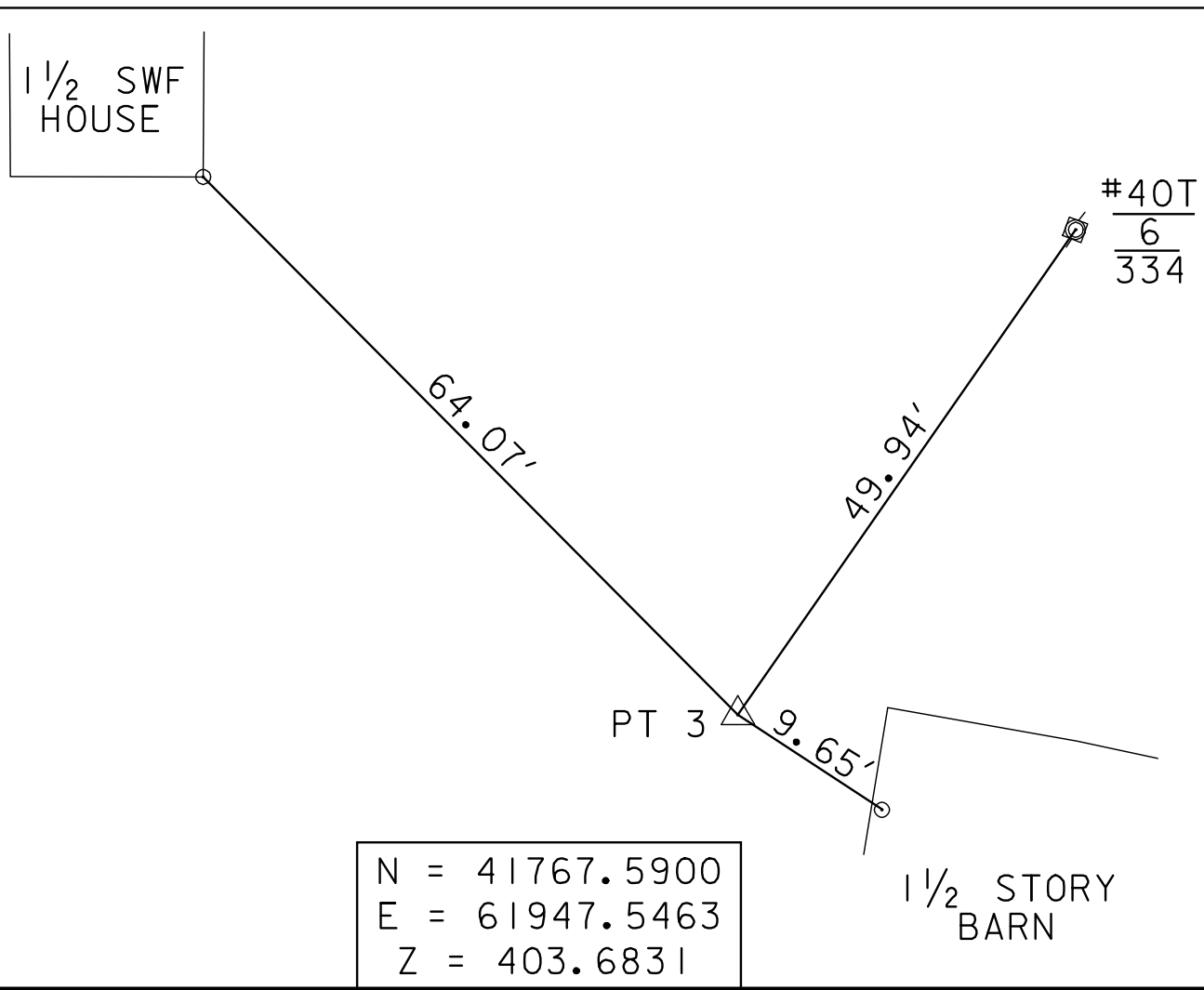
GEODETIC CONTROL INFORMATION

TRAVERSE TIE INFORMATION

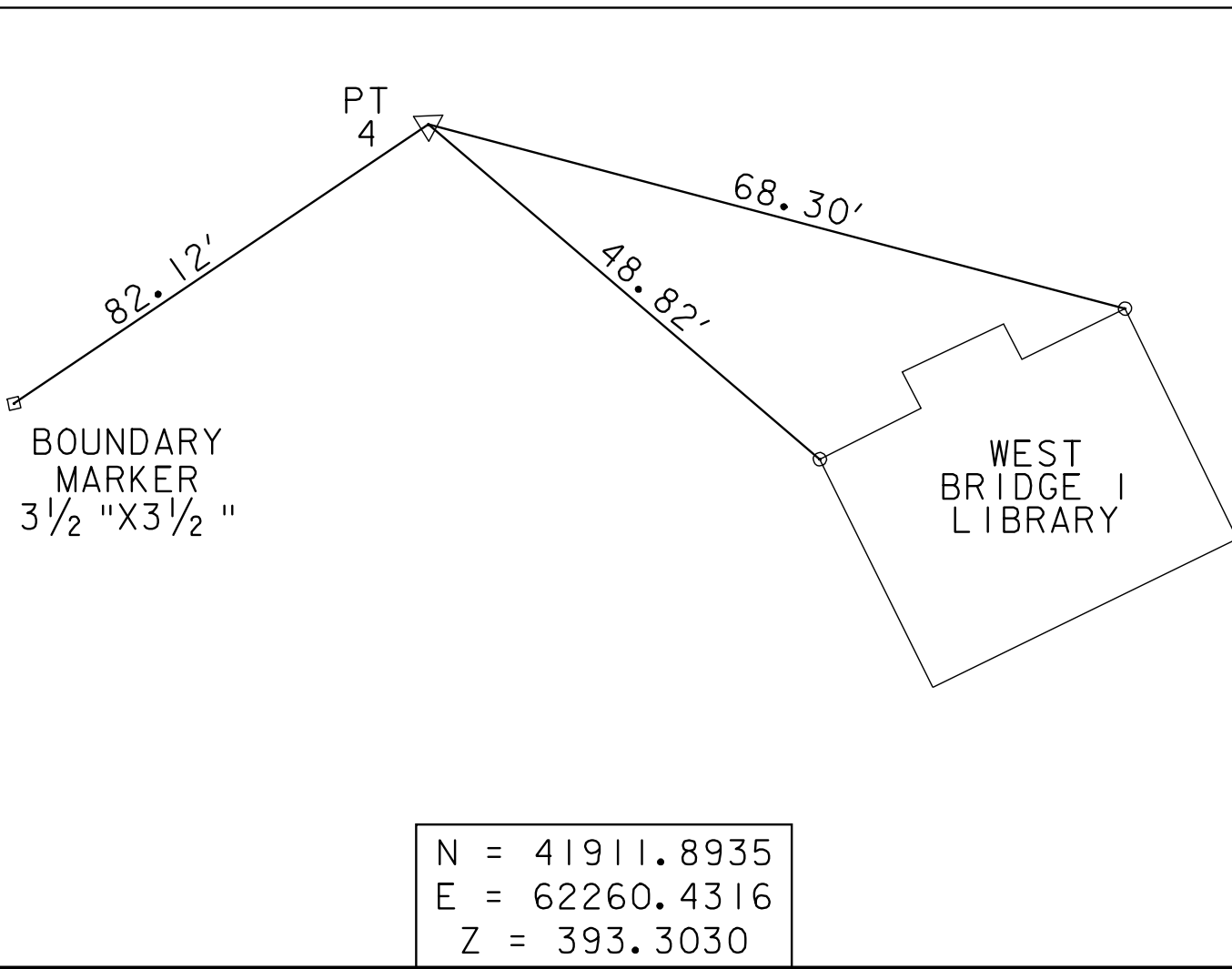
POINT #2



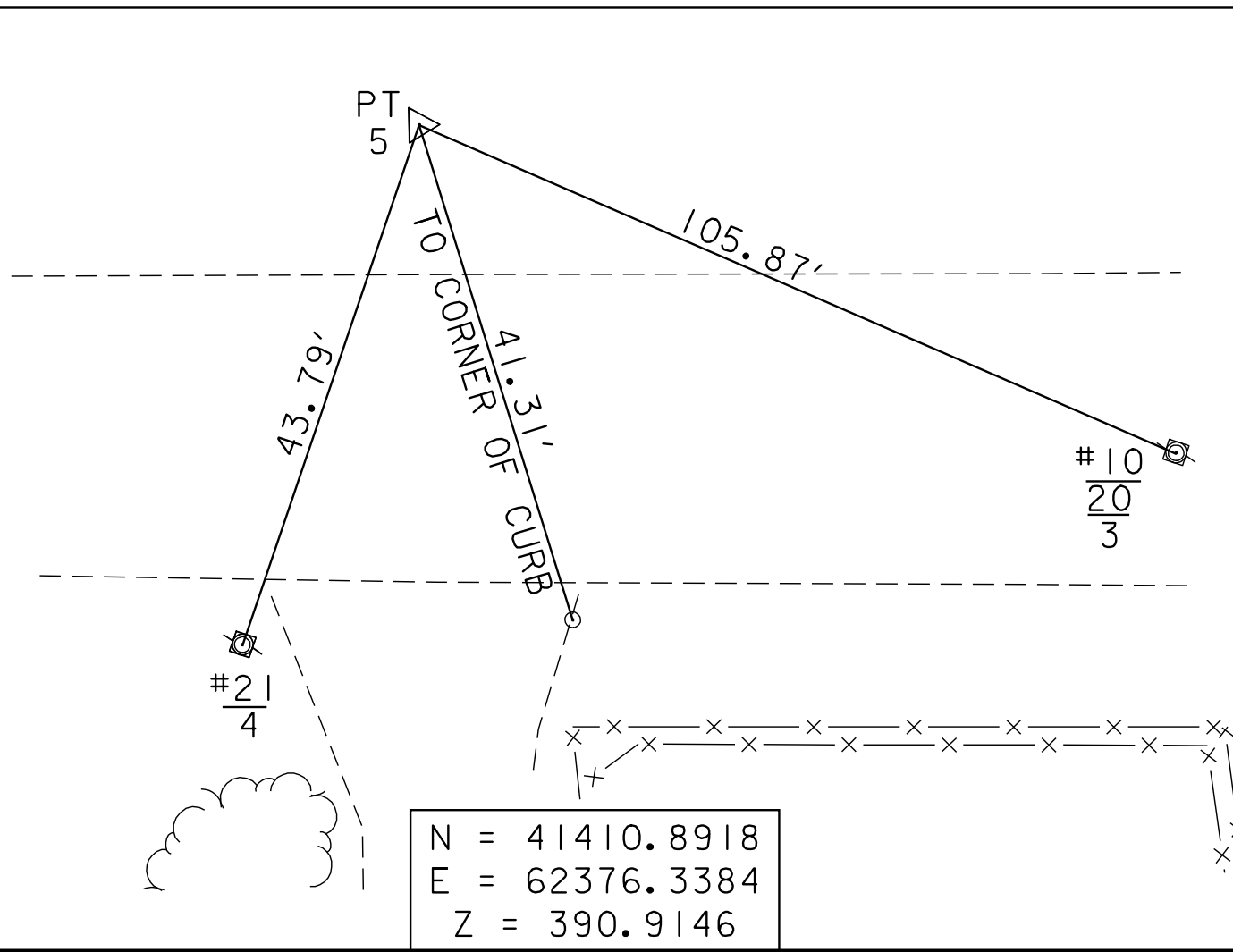
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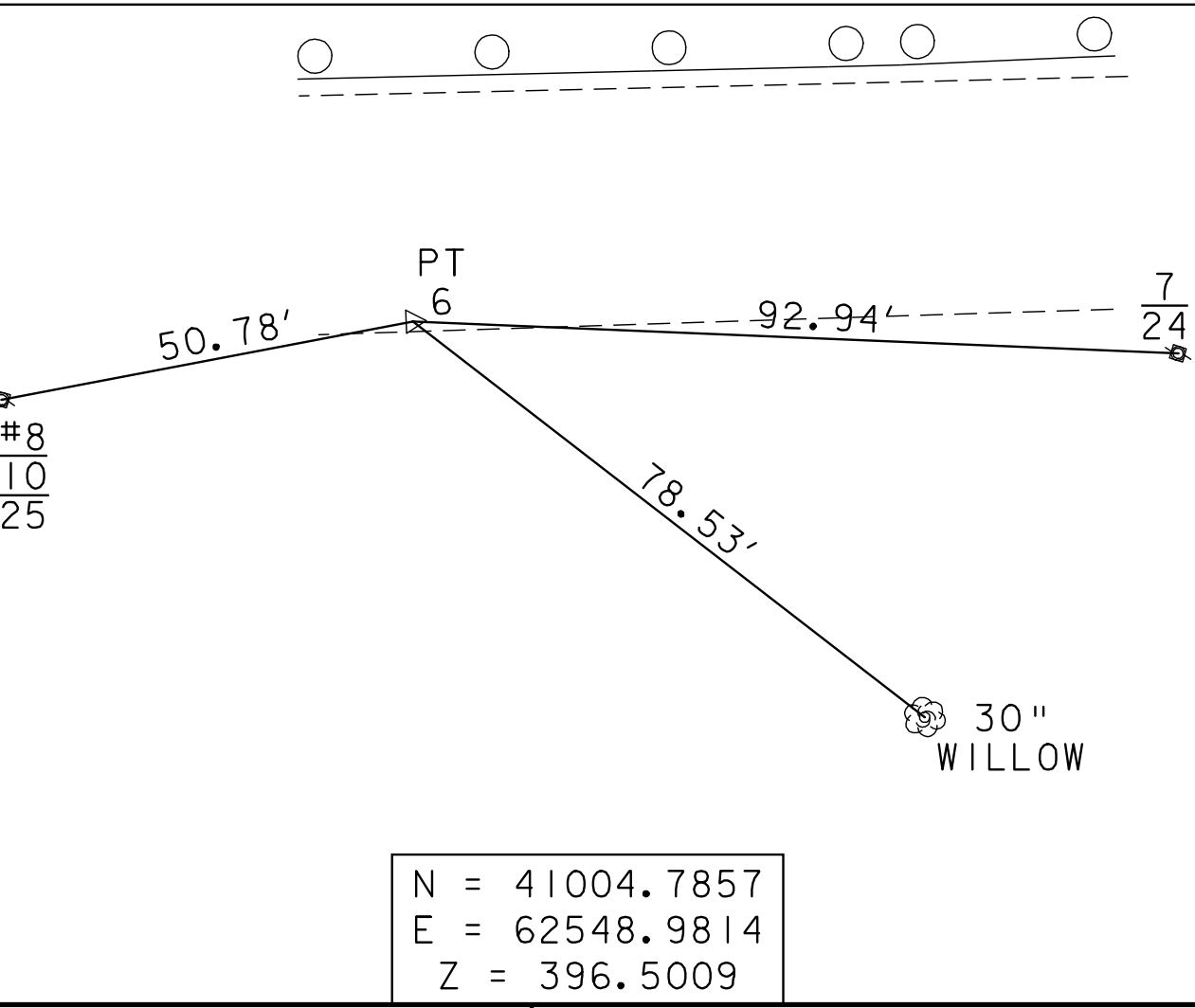
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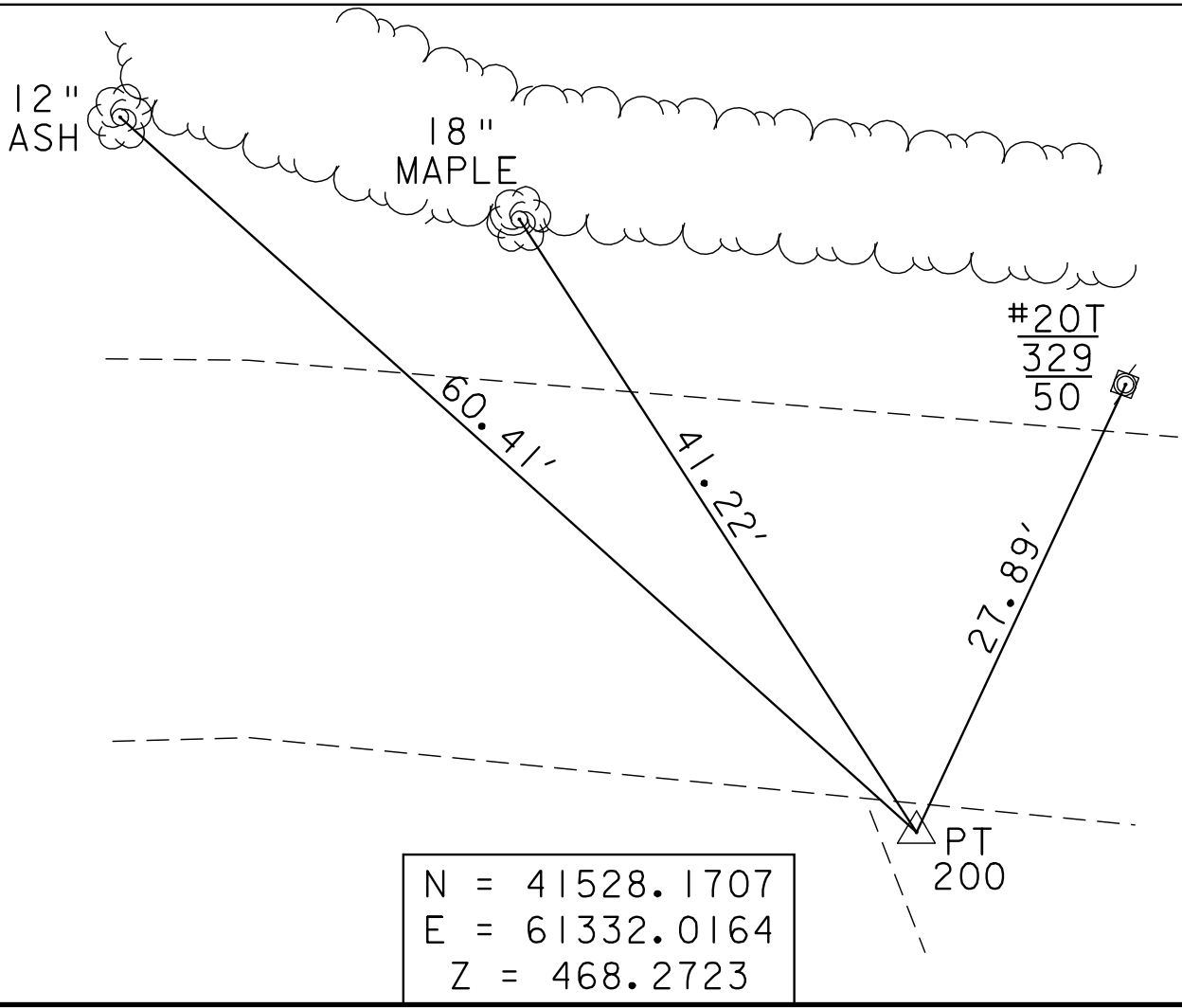
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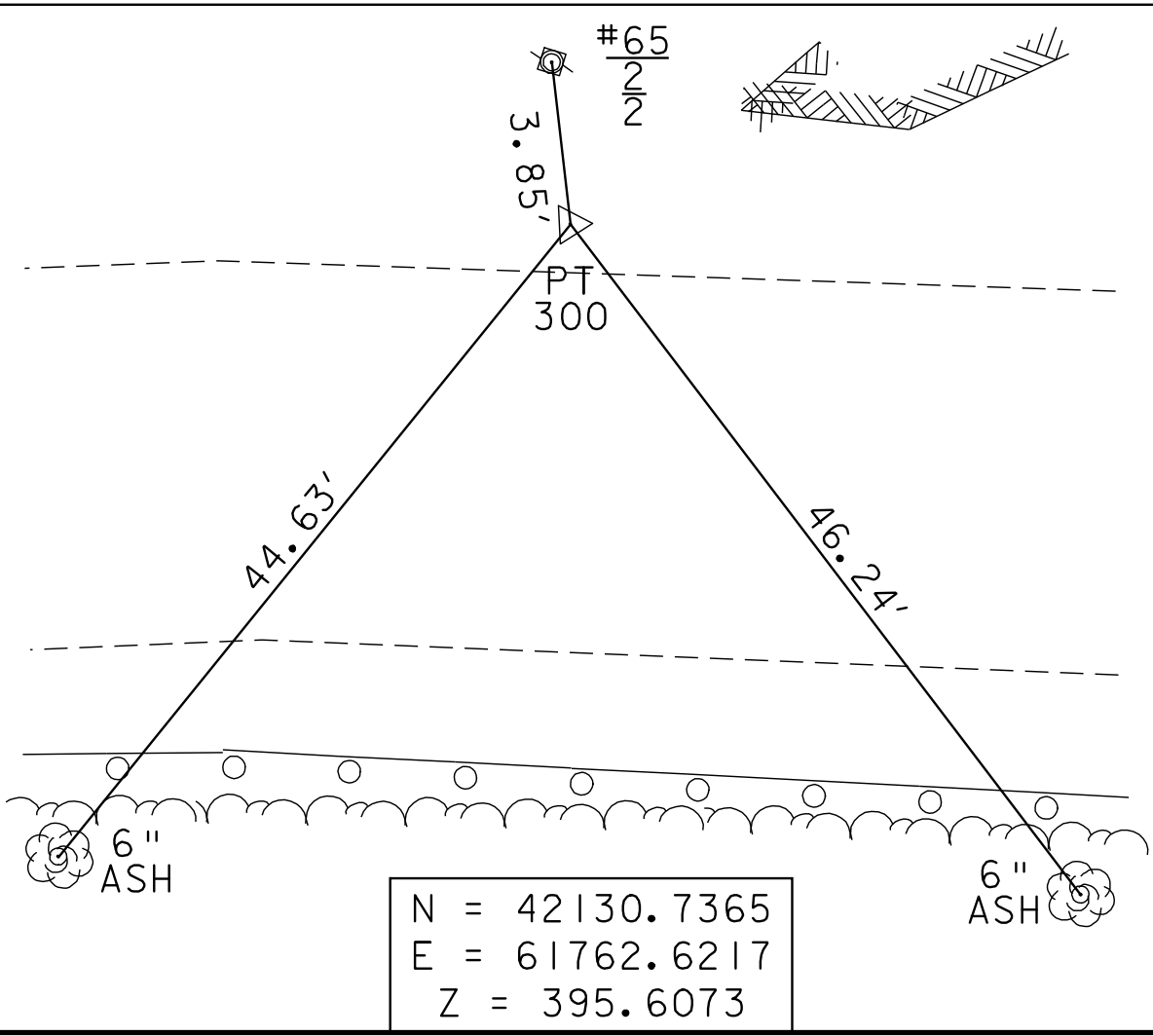
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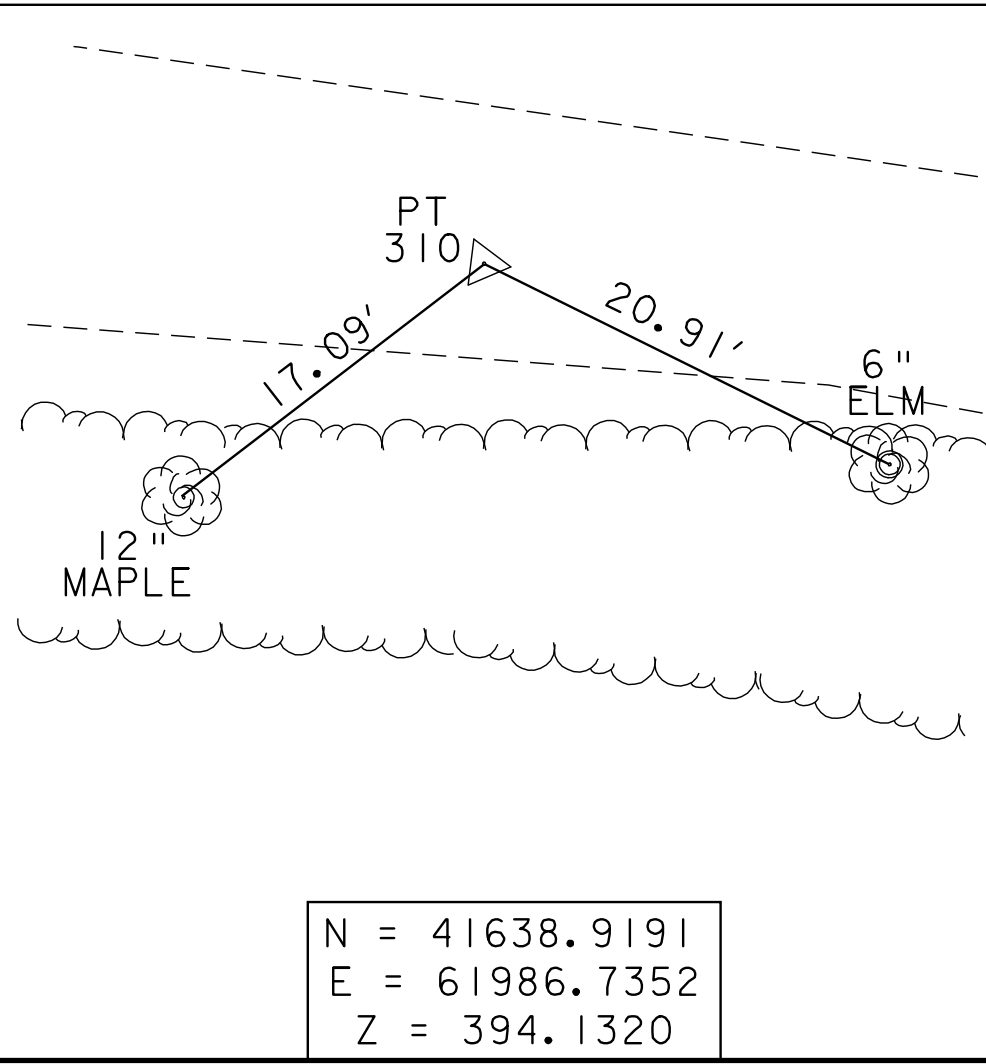
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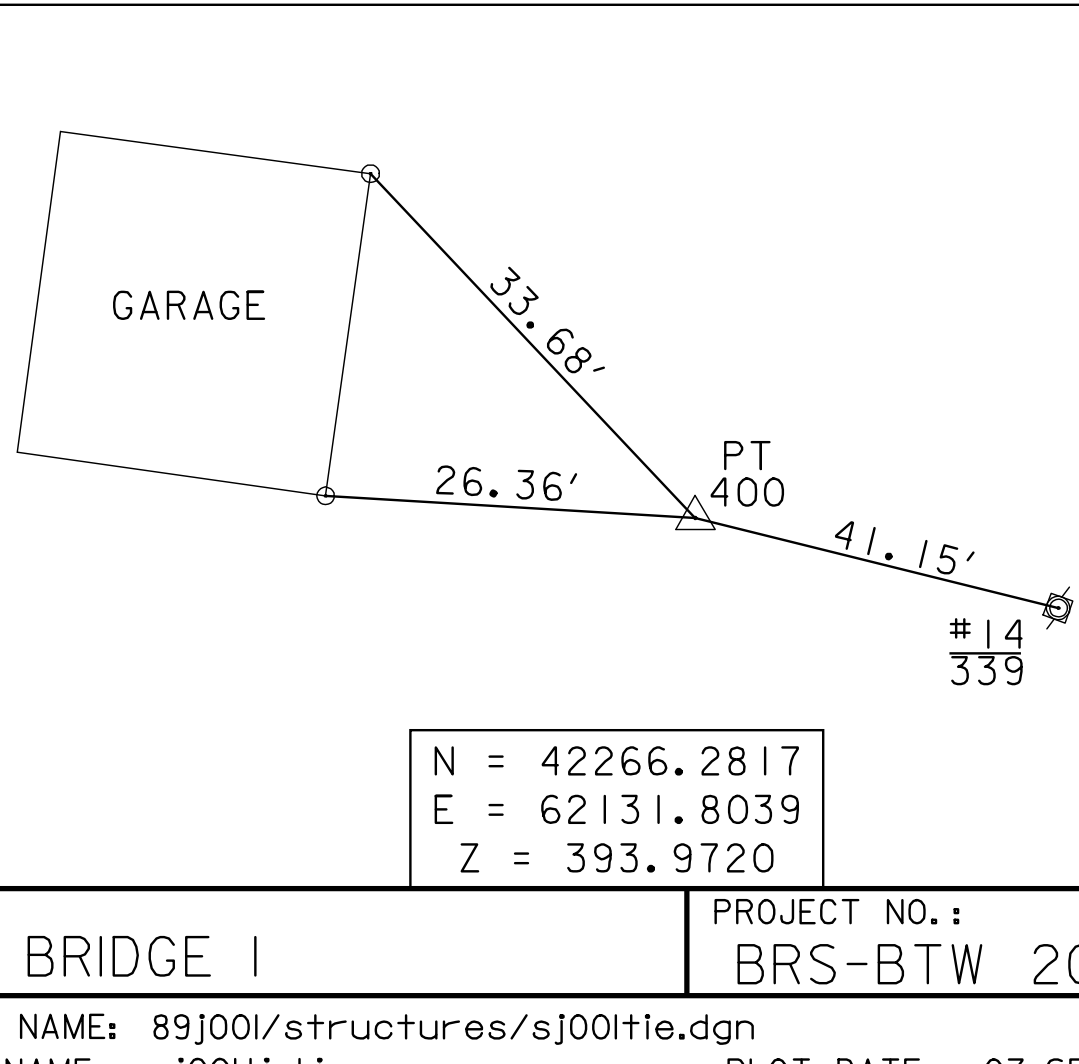
POINT #300



POINT #310



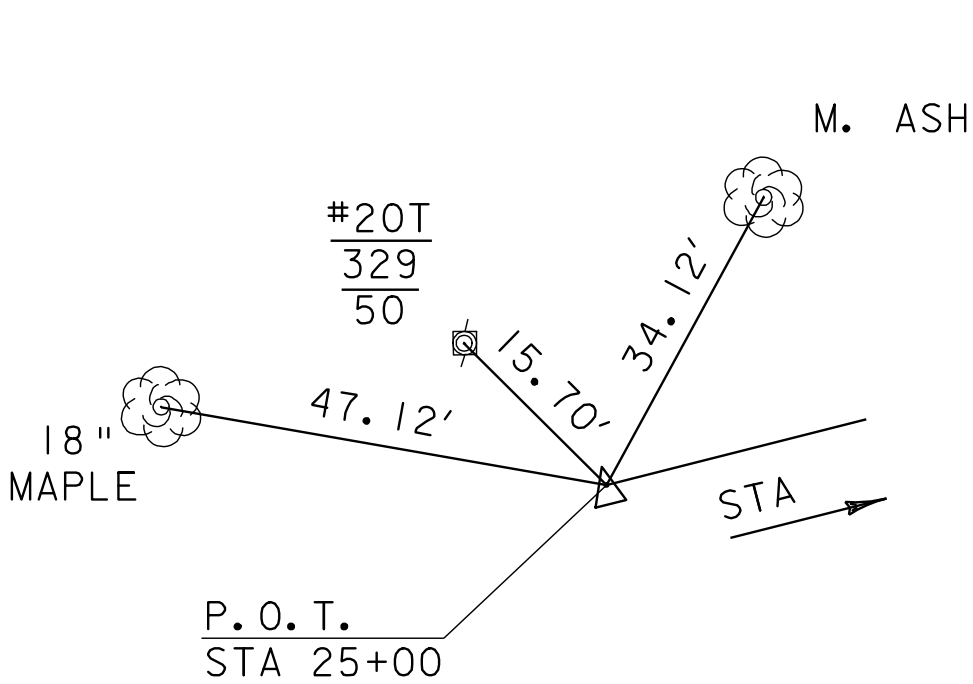
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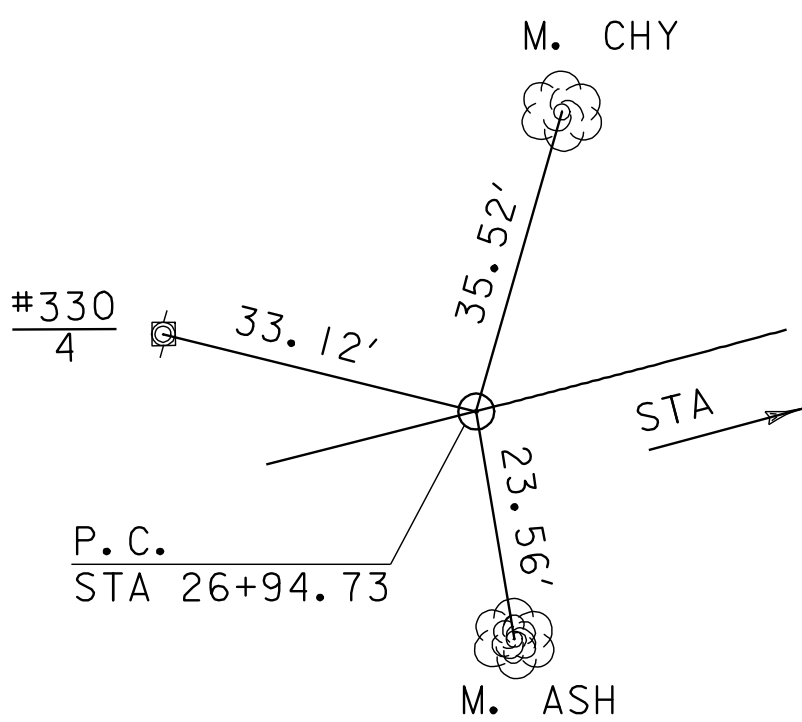
ALL TIES SHOWN NOT TO SCALE

NEW ALIGNMENT TIE INFORMATION

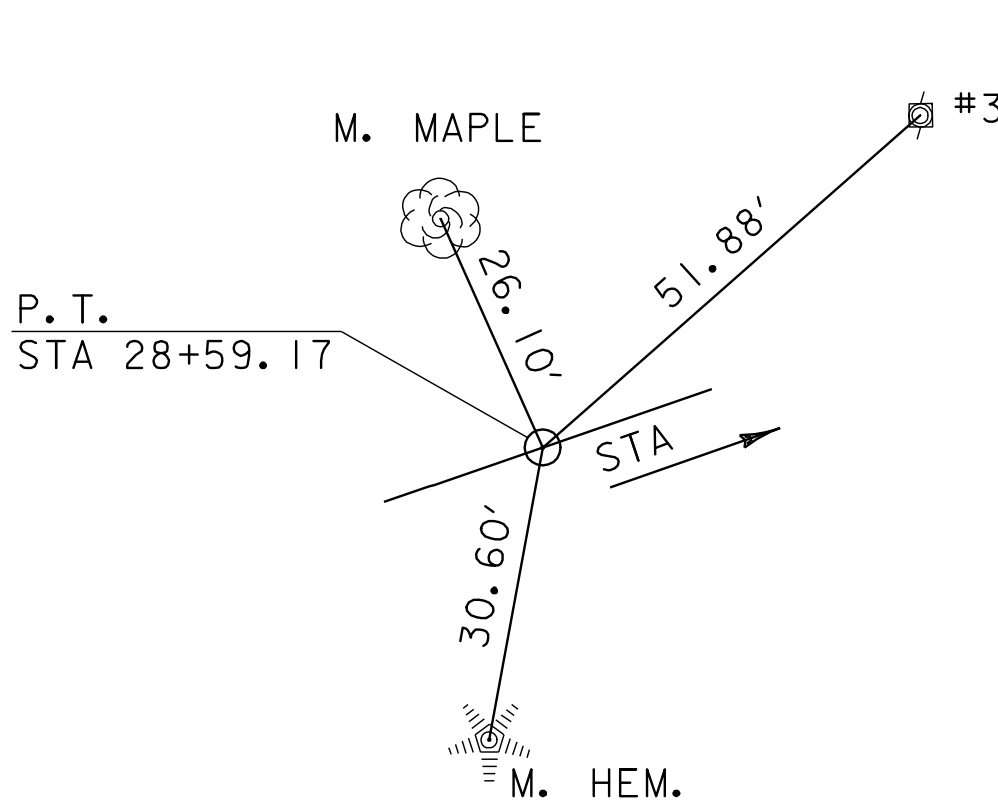
MAINLINE POB STA 25+00.00



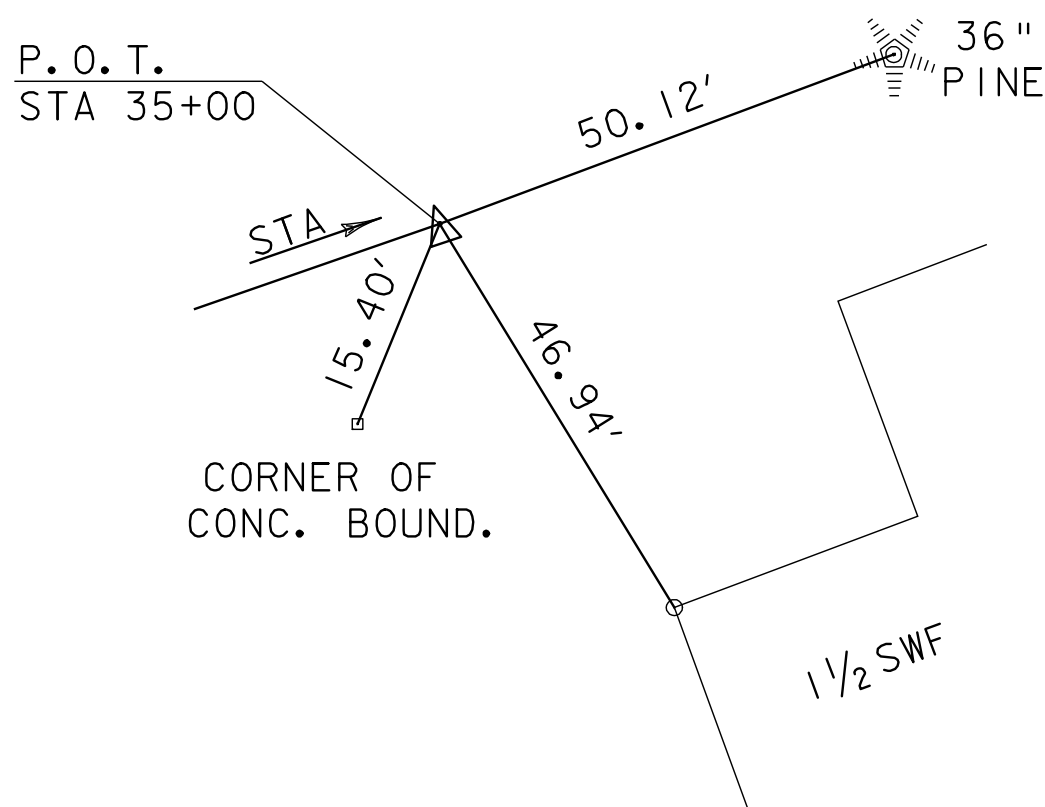
MAINLINE PC STA 26+94.73



MAINLINE PT STA 28+59.17



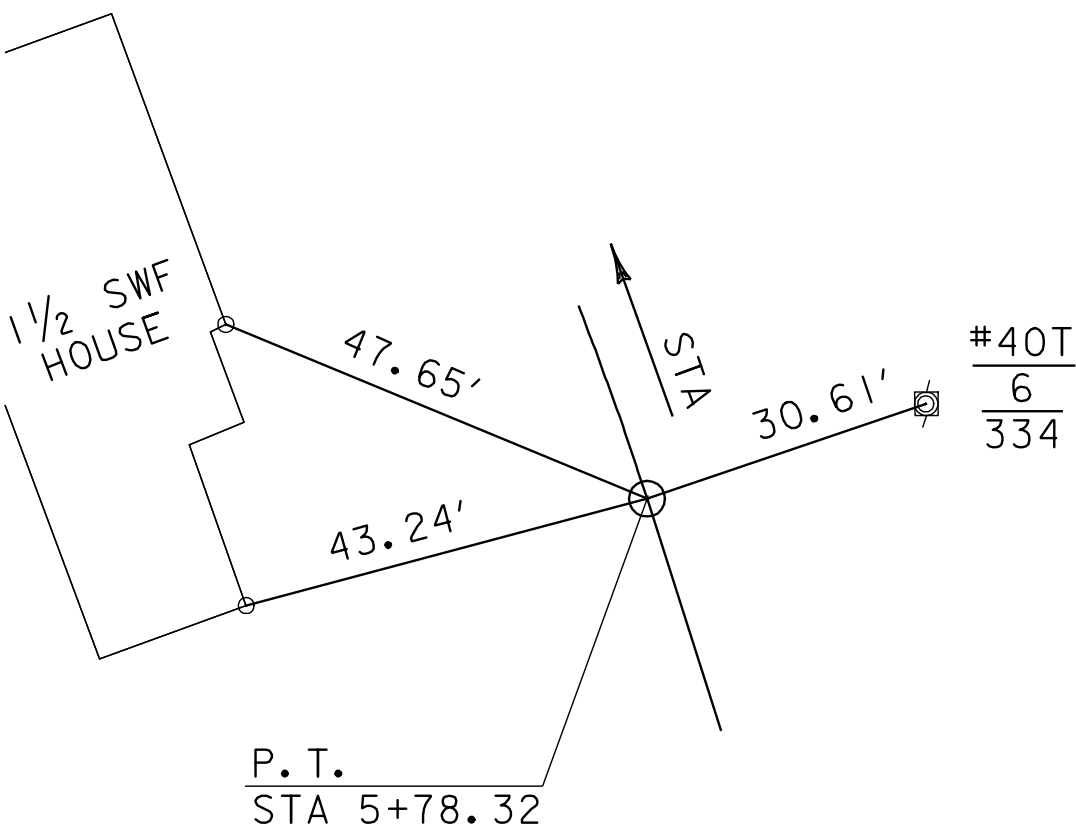
MAINLINE POE STA 35+00.00



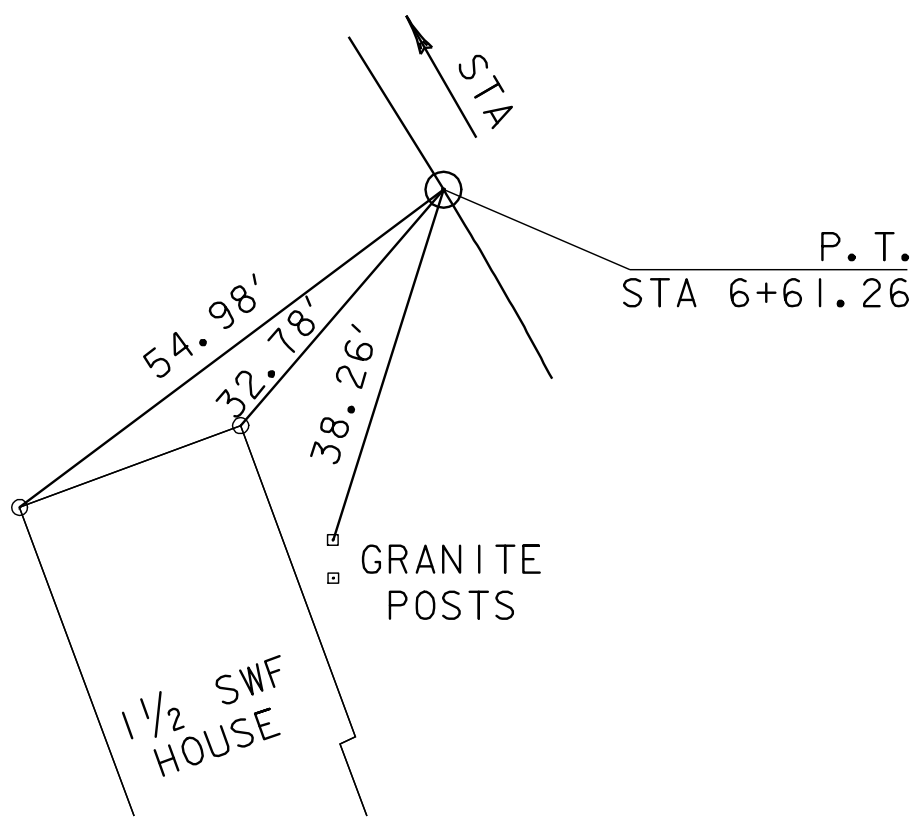
TH5 POB STA 5+00.00

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E = 61955.1574

TH5 PC STA 5+78.32



TH5 PT STA 6+61.26



TH5 POE STA 6+80.00

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E = 61886.7357

DRIVE POB STA 10+00.00

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DRIVE PC #1 STA 10+31.99

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DRIVE PT #1 STA 10+66.52

N = 41664.8800
E = 61964.5647

DRIVE PC #2 STA 10+74.20

N = 41658.8417
E = 61969.3050

DRIVE PT #2 STA 11+14.90

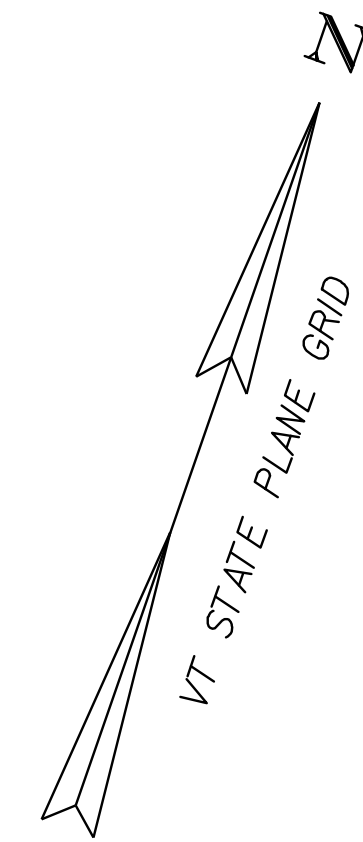
N = 41623.8424
E = 61989.8390

DRIVE POE STA 11+84.43

N = 41559.6877
E = 62016.6317

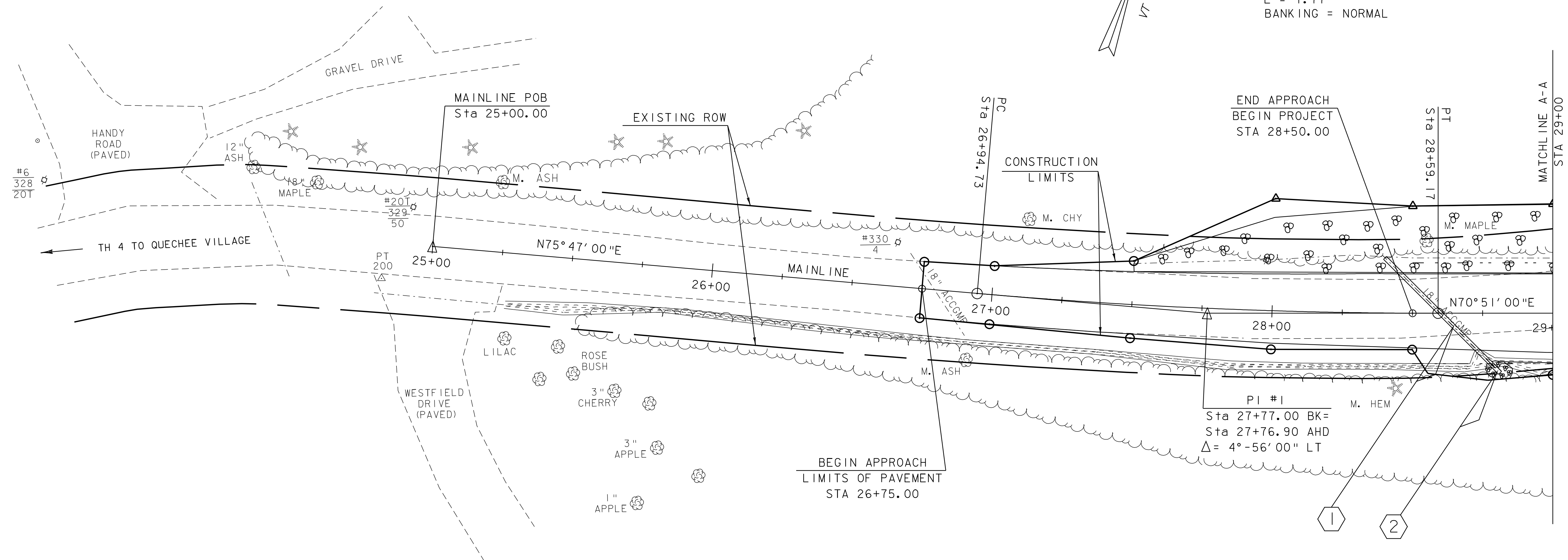
DATUM
VERTICAL NAVD 1988
HORIZONTAL NAD 1983/92

PROJECT: BRIDGE I PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89j001/structures/sj001tie.dgn PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001tie2.i SURVEYED BY: R. MOREAU SURVEY DATE: 05/93
SQUAD LEADER: C.P. MANAGER DRAWN BY: K. M. HIGGINS
ALIGNMENT TIE SHEET SHEET: 9 OF 97



CURVE 1 (TH4)

D = 3°00' 00.00 "
R = 1909.86
T = 82.27'
L = 164.44'
E = 1.77'
BANKING = NORMAL

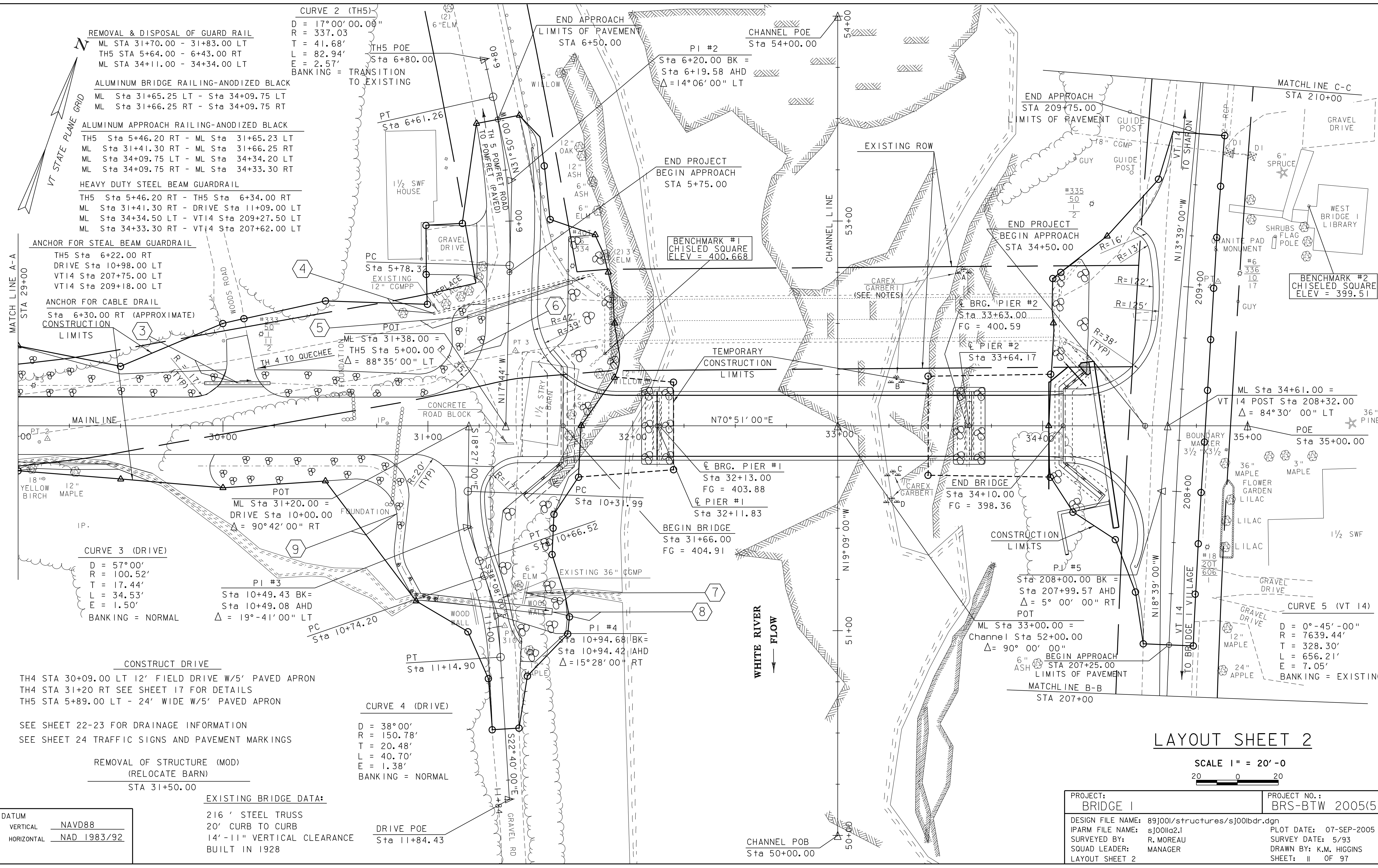


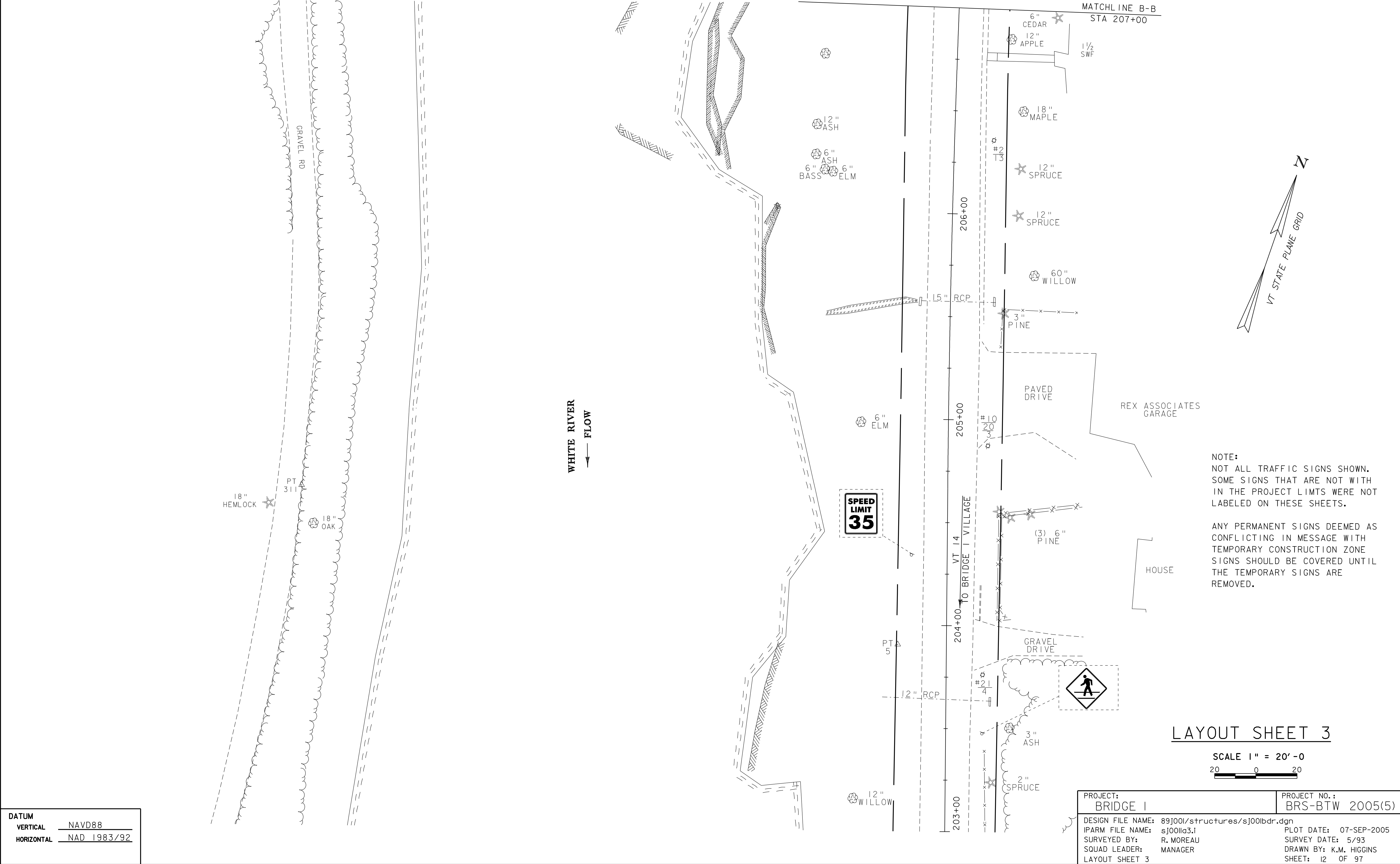
SEE SHEET 22-23 FOR
DRAINAGE INFORMATION

LAYOUT SHEET 1

SCALE 1" = 20'-0"
20 0 20

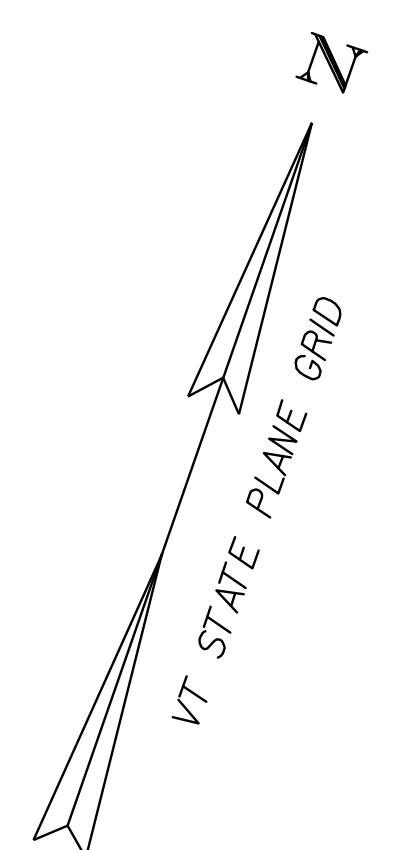
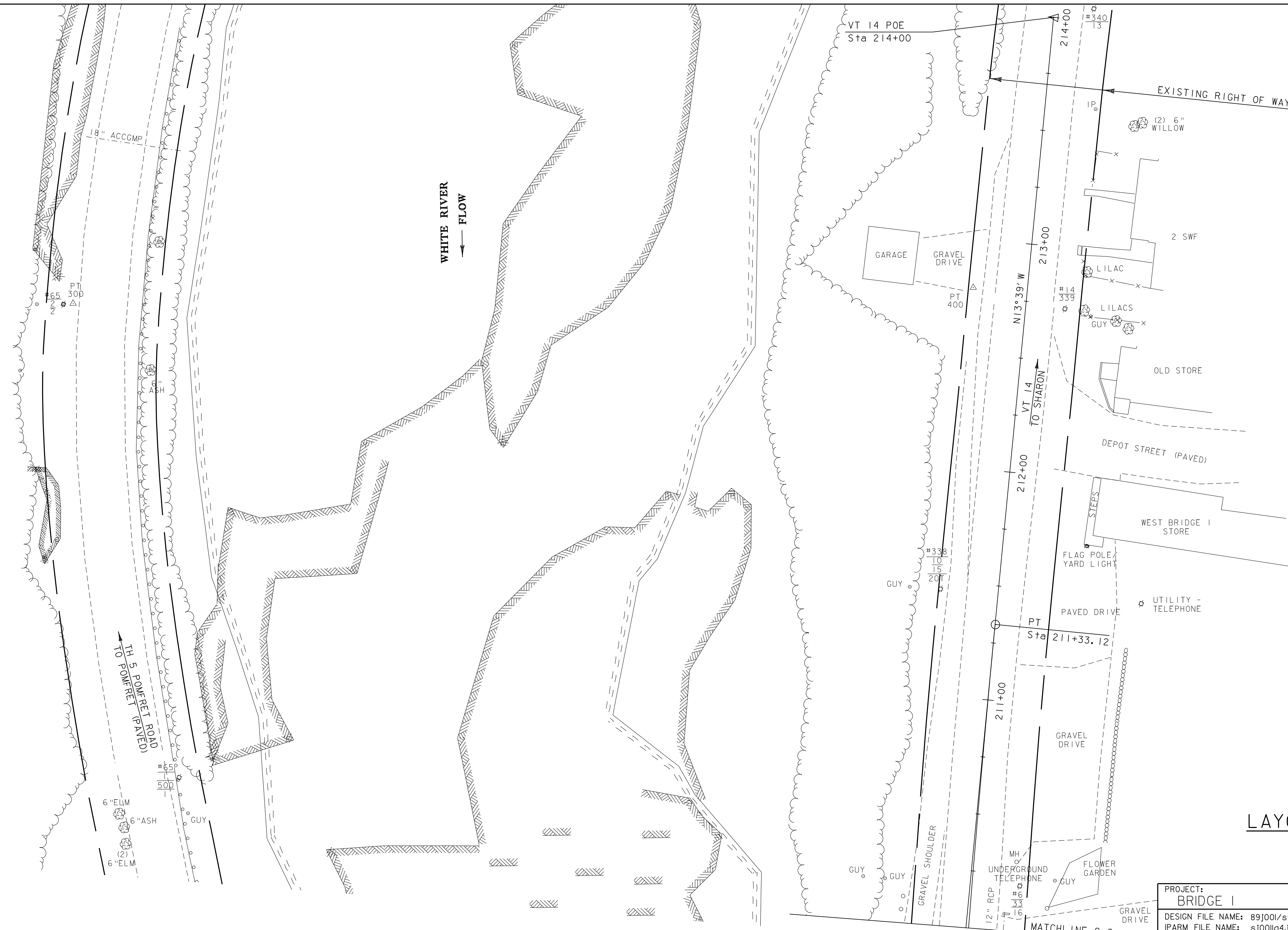
DATUM	PROJECT:		PROJECT NO.:	
	BRIDGE 1		BRS-BTW 2005(5)	
	DESIGN FILE NAME: 89J001/structures/sj001bdr.dgn		PLOT DATE: 07-SEP-2005	
	IPARM FILE NAME: sj001ld.l		SURVEY DATE: 5/93	
	SURVEYED BY: R. MOREAU		DRAWN BY: K.M. HIGGINS	
HORIZONTAL	SQUAD LEADER: MANAGER		SHEET: 10 OF 97	
	LAYOUT SHEET 1			
HORIZONTAL		NAD 1983/92		





DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 1983/92

PROJECT:	BRIDGE 1	PROJECT NO.:	BRS-BTW 2005(5)
DESIGN FILE NAME:	89J001/structures/sj001bdr.dgn	PLOT DATE:	07-SEP-2005
IPARM FILE NAME:	sj001la3.1	SURVEY DATE:	5/93
SURVEYED BY:	R. MOREAU	DRAWN BY:	K.M. HIGGINS
SQUAD LEADER:	MANAGER	SHEET:	12 OF 97
LAYOUT SHEET 3			



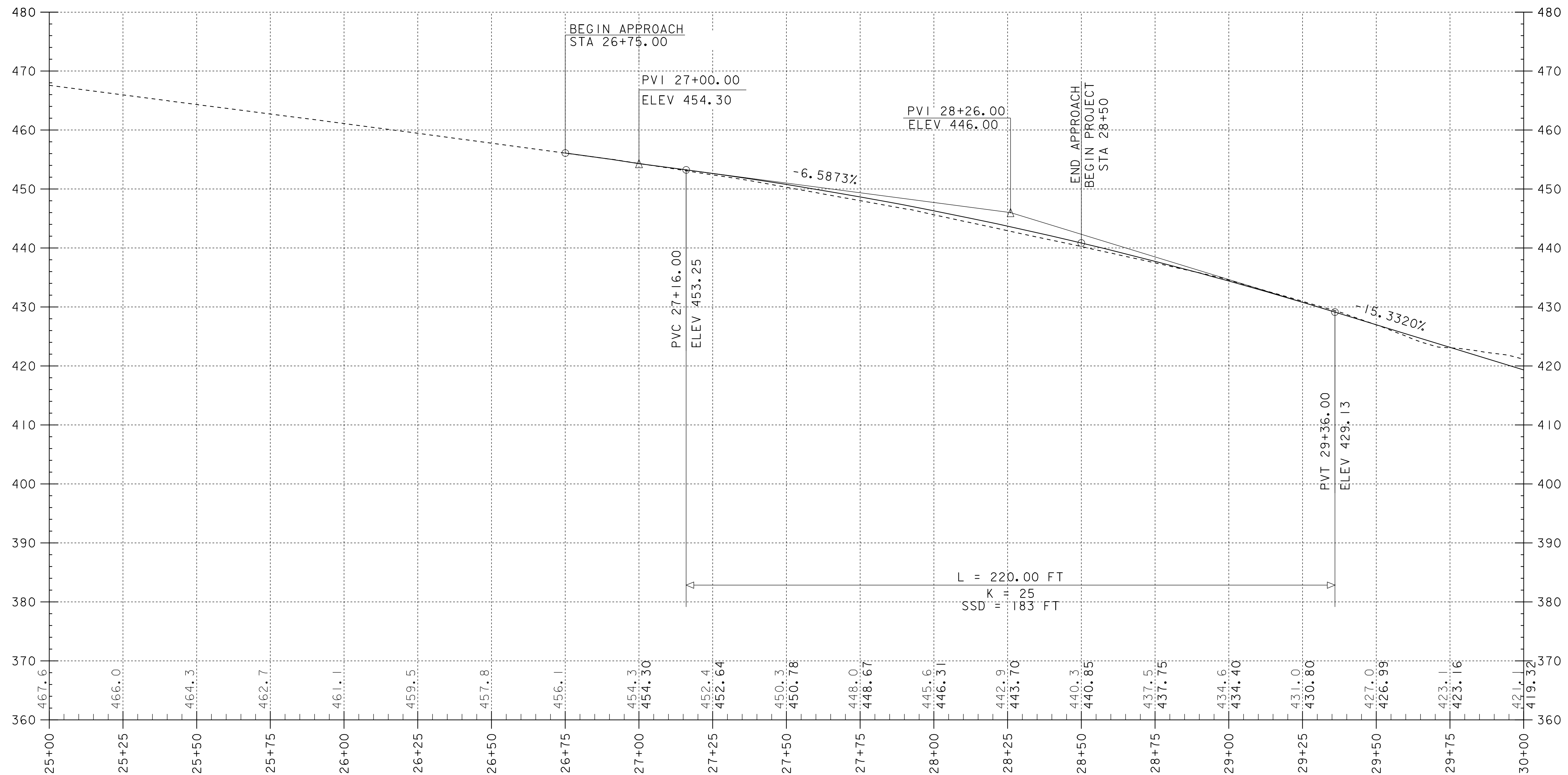
NOTE:
 NOT ALL TRAFFIC SIGNS SHOWN.
 SOME SIGNS THAT ARE NOT WITH
 IN THE PROJECT LIMITS WERE NOT
 LABELED ON THESE SHEETS.

ANY PERMANENT SIGNS DEEMED AS
 CONFLICTING IN MESSAGE WITH
 TEMPORARY CONSTRUCTION ZONE
 SIGNS SHOULD BE COVERED UNTIL
 THE TEMPORARY SIGNS ARE
 REMOVED.

LAYOUT SHEET 4

SCALE 1" = 20' -0
 20 0 20

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001la4.1	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K.M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 13 OF 97
LAYOUT SHEET 4	

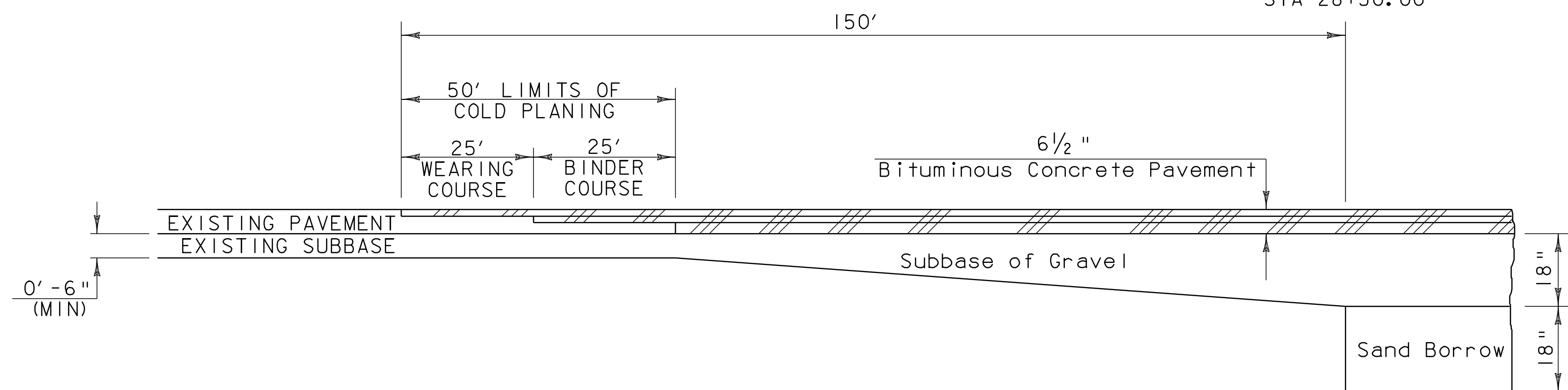


Profile TH4

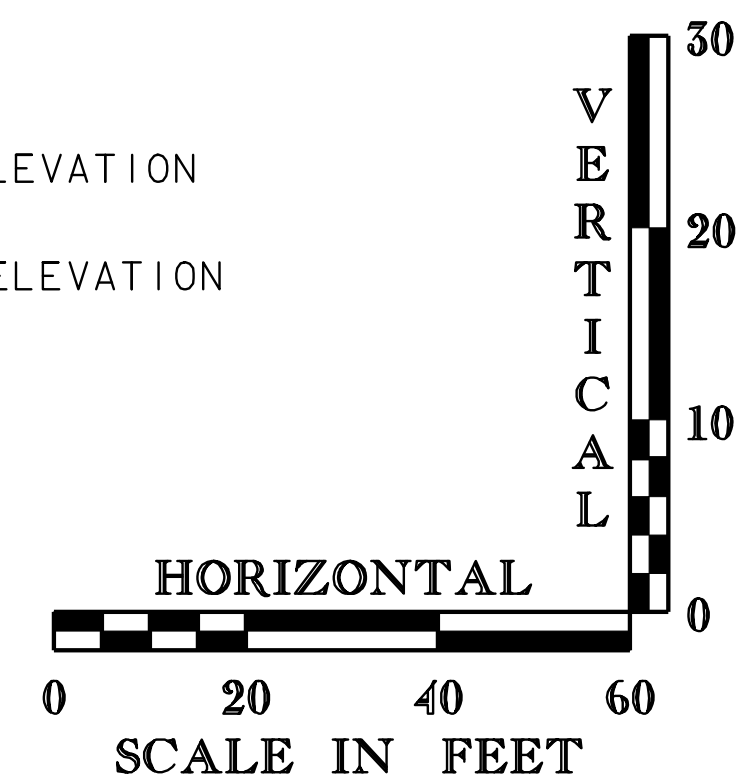
BEGIN APPROACH
STA 26+75.00

END APPROACH
BEGIN PROJECT
STA 28+50.00

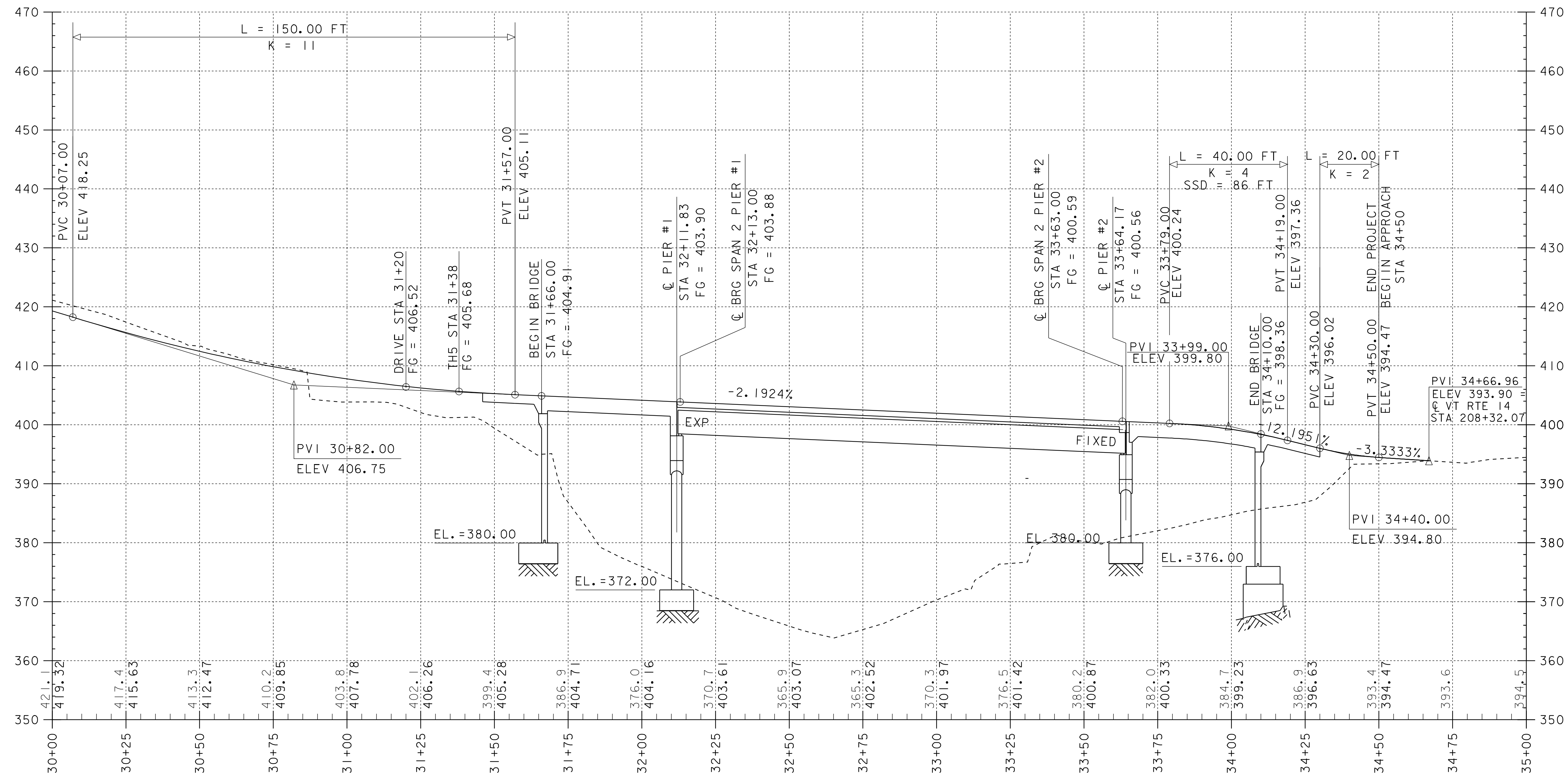
NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION
ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION
ALONG THE REVISED CENTERLINE.



SUBBASE TAPER @ BEGIN PROJECT
nts

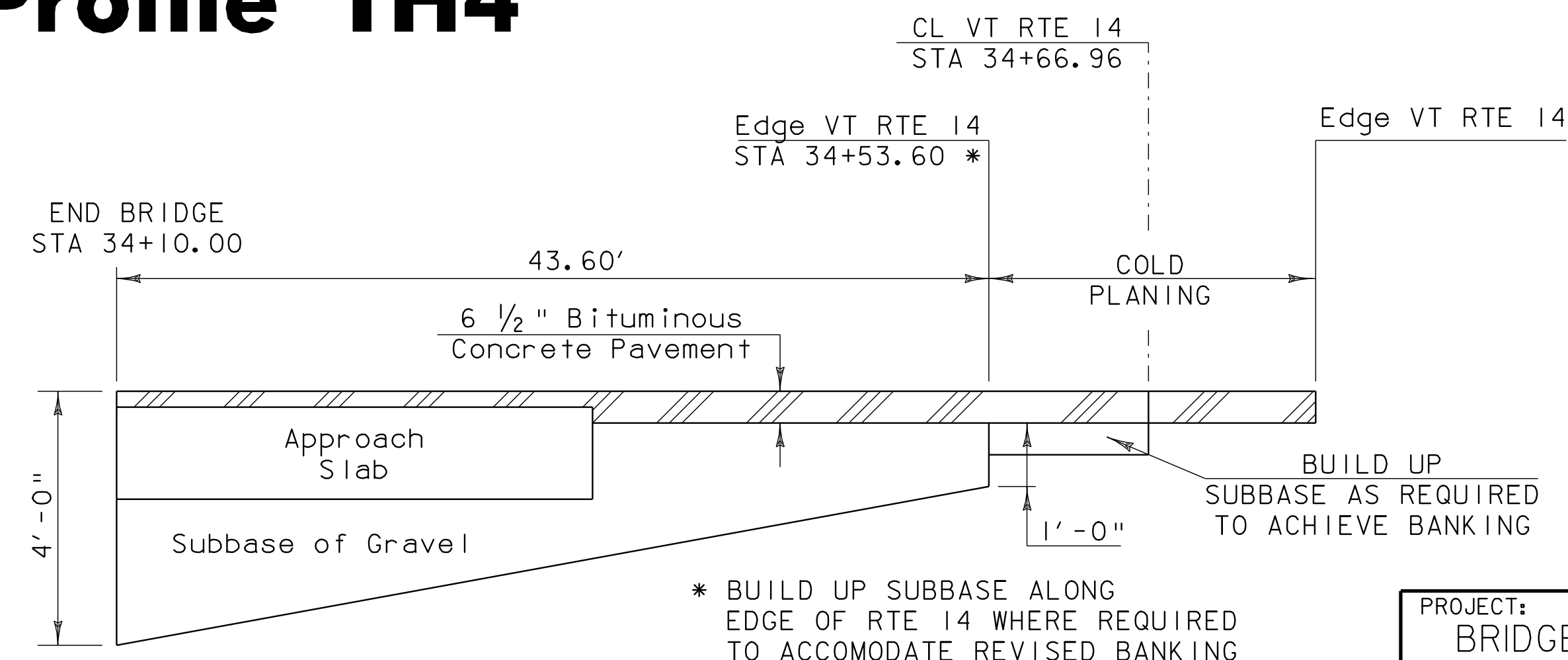


DATUM VERTICAL <u>NAVD88</u> HORIZONTAL <u>NAD 1983/92</u>	PROJECT: BRIDGE I	PROJECT NO.: BRS-BTW 2005(5)
	DESIGN FILE NAME: /89j00i/structures/sj00lpro.dgn IPARM FILE NAME: sj00lprl.i SURVEYED BY: R. MOREAU SQUAD LEADER: C. P. MANAGER TH 4 PROFILE	PLOT DATE: 07-SEP-2005 SURVEY DATE: 5/93 DRAWN BY: K. M. HIGGINS SHEET: 14 OF 97

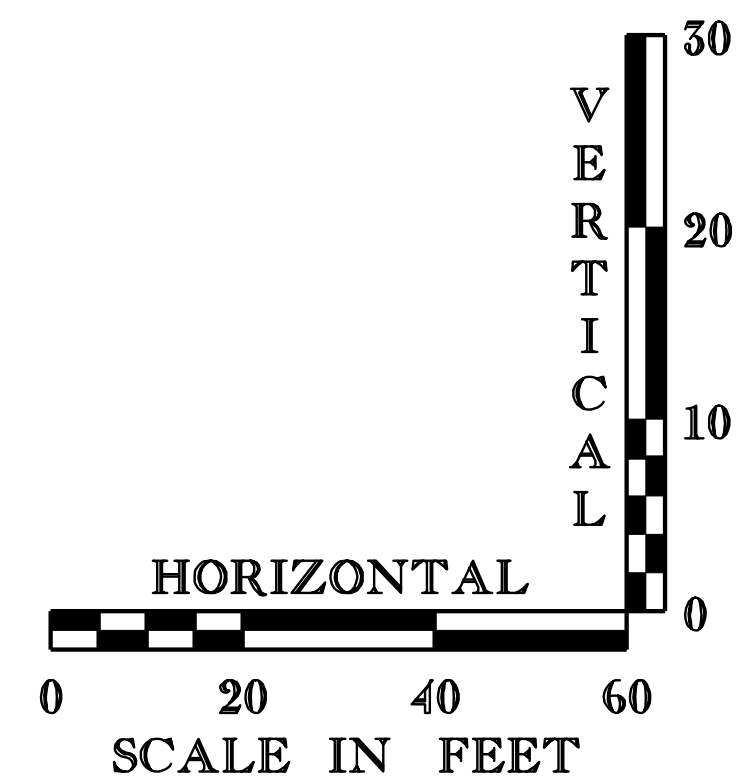


NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION
ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION
ALONG THE REVISED CENTERLINE.

Profile TH4



* BUILD UP SUBBASE ALONG
EDGE OF RTE 14 WHERE REQUIRED
TO ACCOMMODATE REVISED BANKING



SUBBASE TAPER @ INTERSECTION OF TH 4 & VT RTE 14

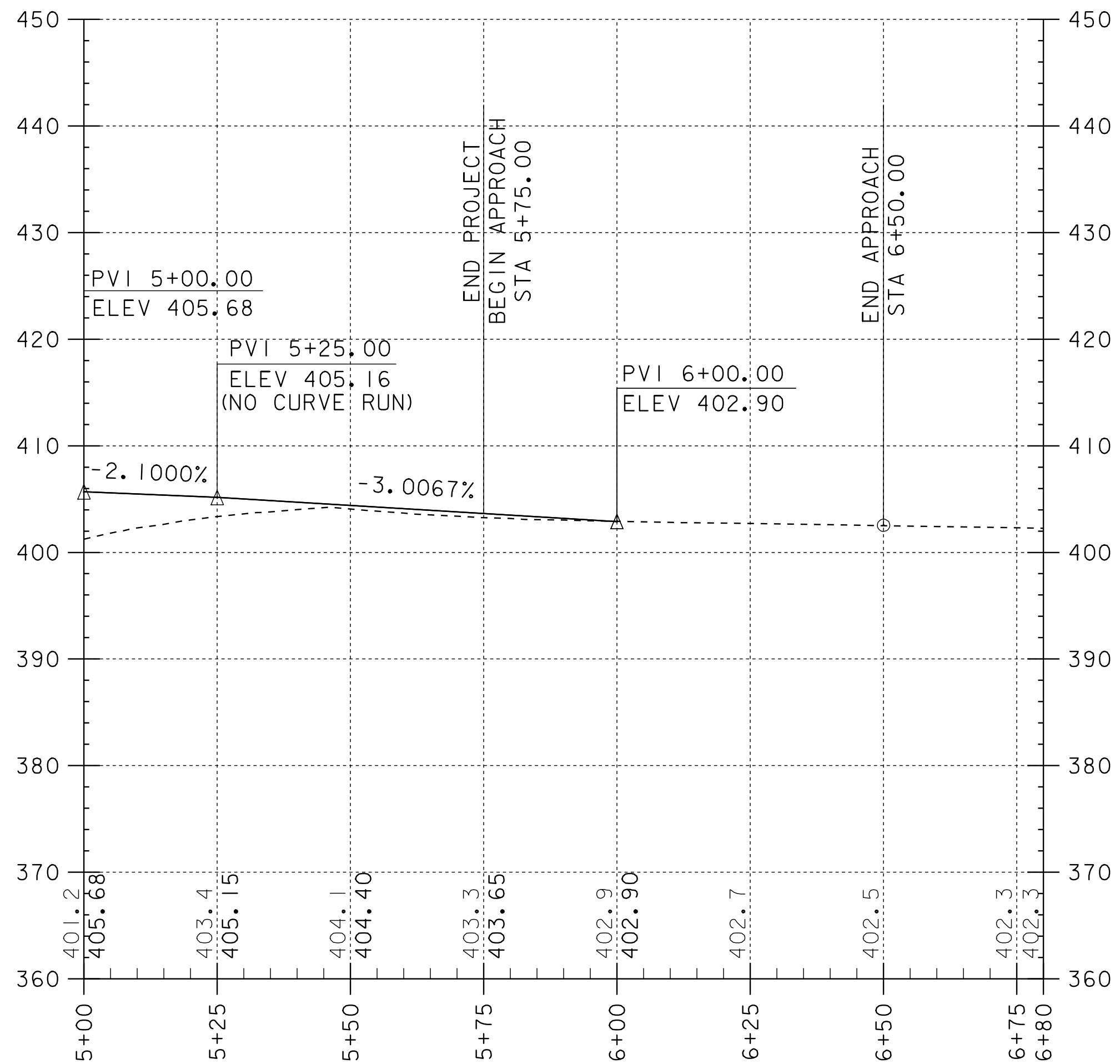
nts

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

PROJECT: BRIDGE I	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: /89j001/structures/sj001pro.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001pr2.i	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 15 OF 97
TH 4 PROFILE	

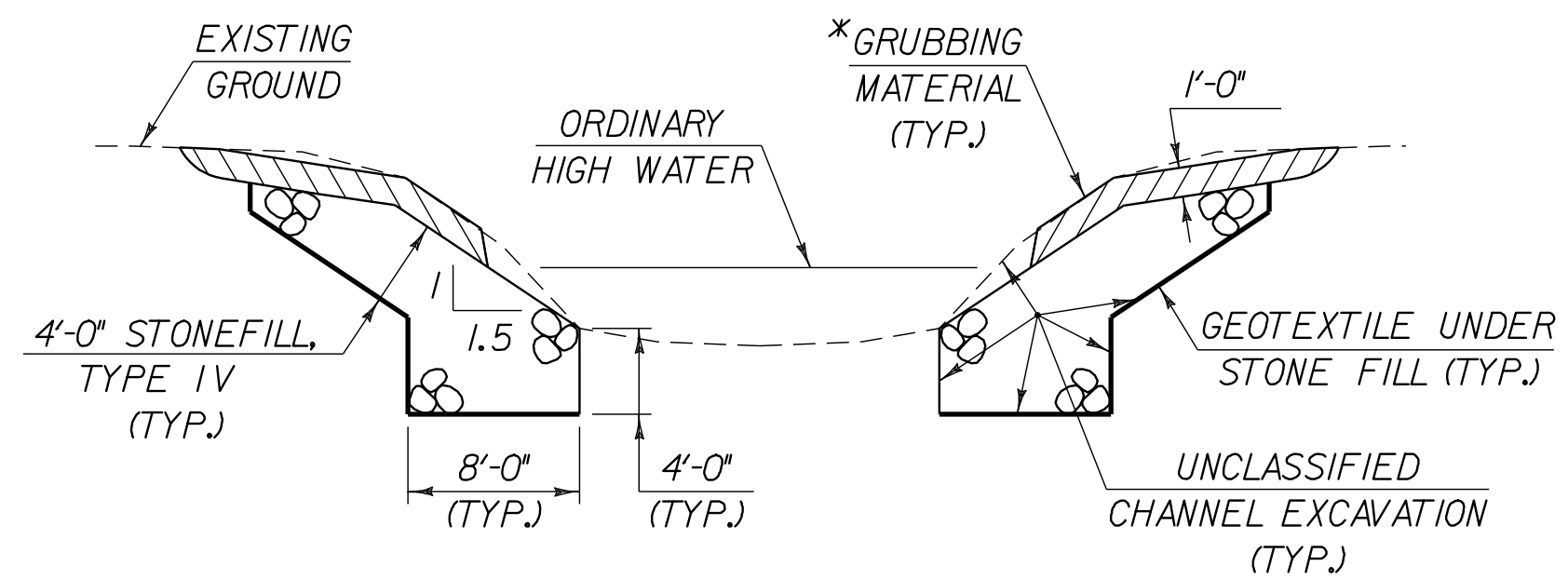
NOTES

1. ACTUAL COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE DESIGN LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING OR SUBFOOTING, UP TO EXISTING GROUND OR BOTTOM OF SUBBASE, WHICHEVER IS LOWER.
3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE INDICATED COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION. IF A COFFERDAM IS CONSTRUCTED WHICH IS SMALLER THAN THE INDICATED COFFERDAM PAY LIMITS, PAYMENT WILL BE MADE FOR WHAT IS EXCAVATED WITHIN THE CONSTRUCTED COFFERDAM UNDER THE APPROPRIATE COFFERDAM EXCAVATION ITEMS LISTED ABOVE.



Profile TH5

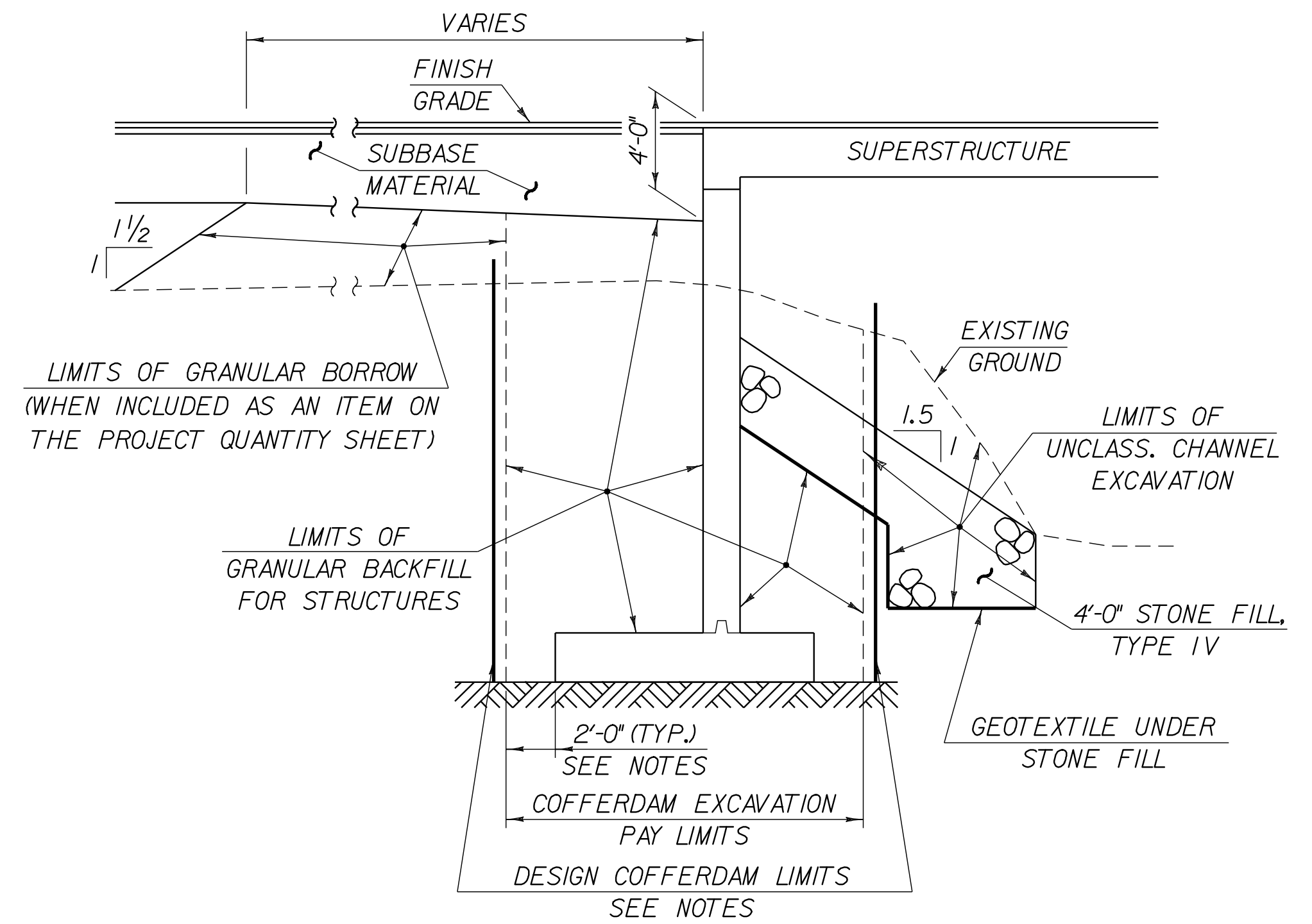
NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION
ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION
ALONG THE REVISED CENTERLINE.



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.

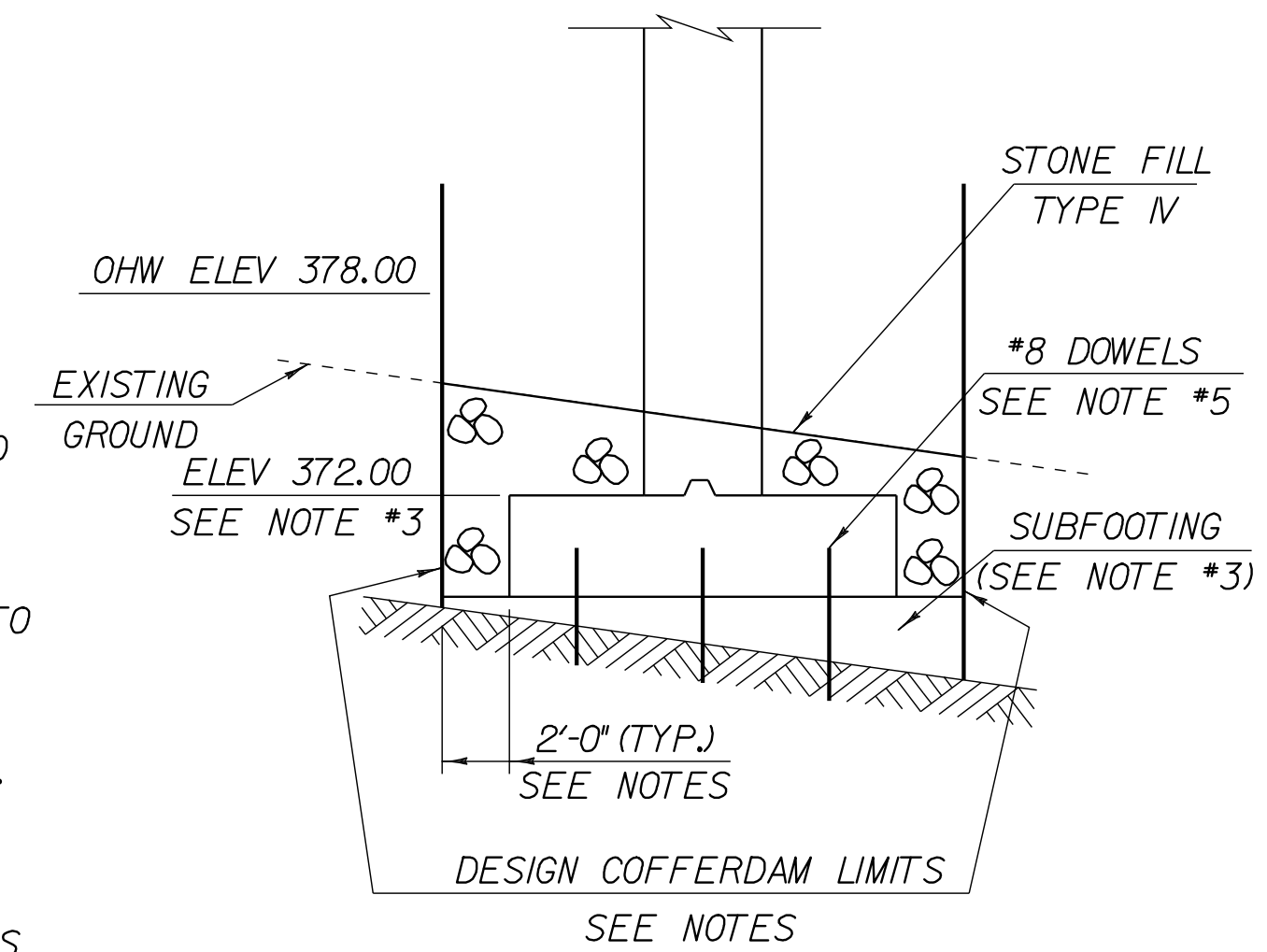


TYPICAL ABUTMENT SECTION
PIER NO. 2 SIMILAR

(NOT TO SCALE)

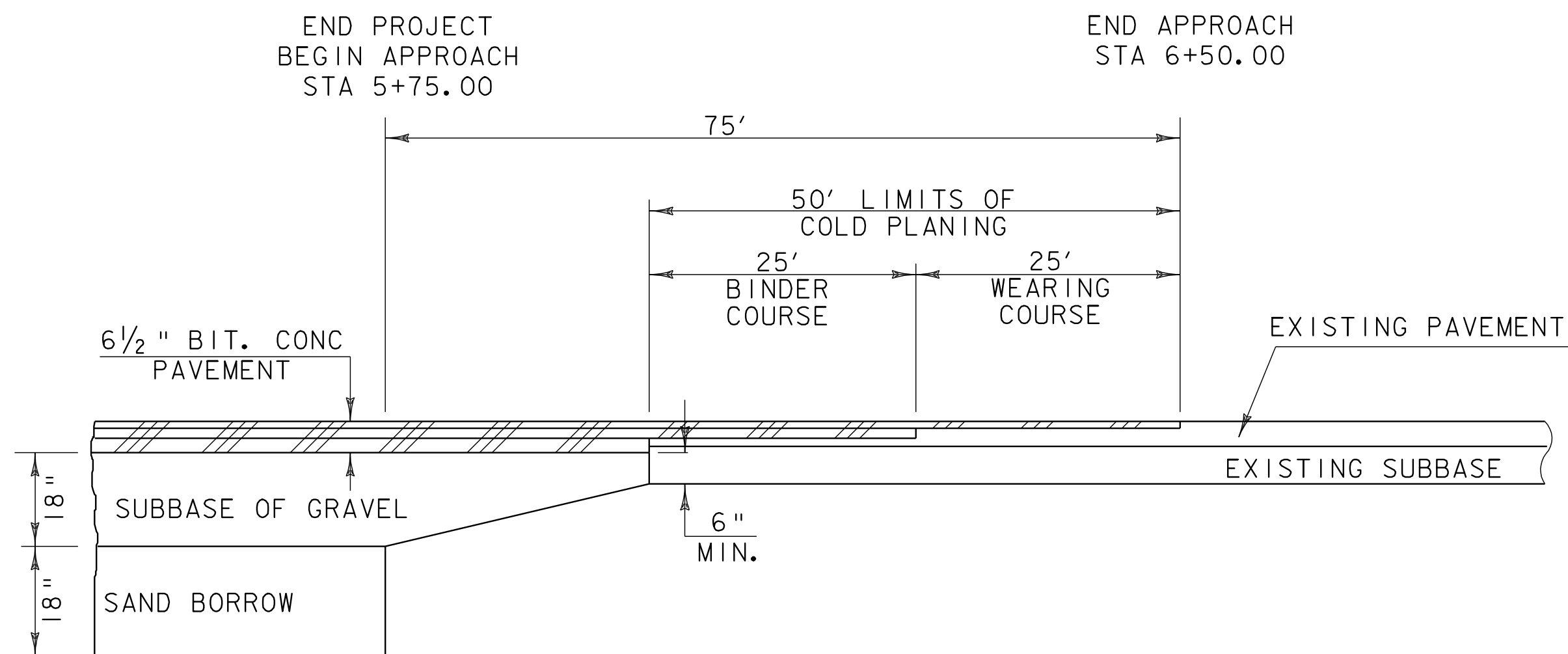
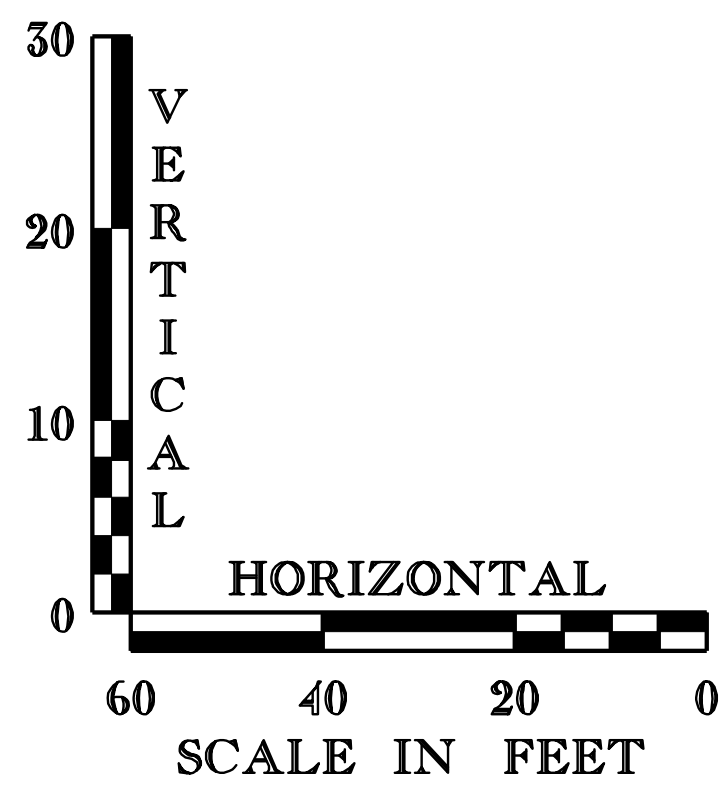
NOTES

1. ACTUAL COFFERDAM LIMITS TO BE DETERMINED BY THE CONTRACTOR.
2. THE DESIGN LIMITS OF "COFFERDAM EXCAVATION, EARTH" AND "COFFERDAM EXCAVATION, ROCK" SHALL BE 2'-0" OUTSIDE THE PERIMETER OF THE FOOTING, UP TO EXISTING GROUND.
3. A MAXIMUM OF 6" OF LEDGE REMOVAL HAS BEEN ASSUMED TO REACH COMPETENT ROCK. IF A SEAL IS PROPOSED BY THE CONTRACTOR TO DEWATER THE COFFERDAM, THE FOOTING MAY BE RAISED AND MAY BE CAST ON THE CONCRETE SEAL. ANY EXCAVATION REQUIRED BEYOND 6" SHALL BE INCIDENTAL TO ITEM 208.40 "COFFERDAM"
4. CONCRETE FOR SUBFOOTING SHALL MEET THE REQUIREMENTS OF ITEM 501.30 "CONCRETE CLASS C"
5. *8 DOWELS HAVE BEEN EXTENDED TO 8' IN LENGTH TO ALLOW FOR DRILLING AND GROUTING THROUGH THE CONCRETE SUBFOOTING AND 2' INTO THE LEDGE.



TYPICAL PIER #1 SECTION

(NOT TO SCALE)



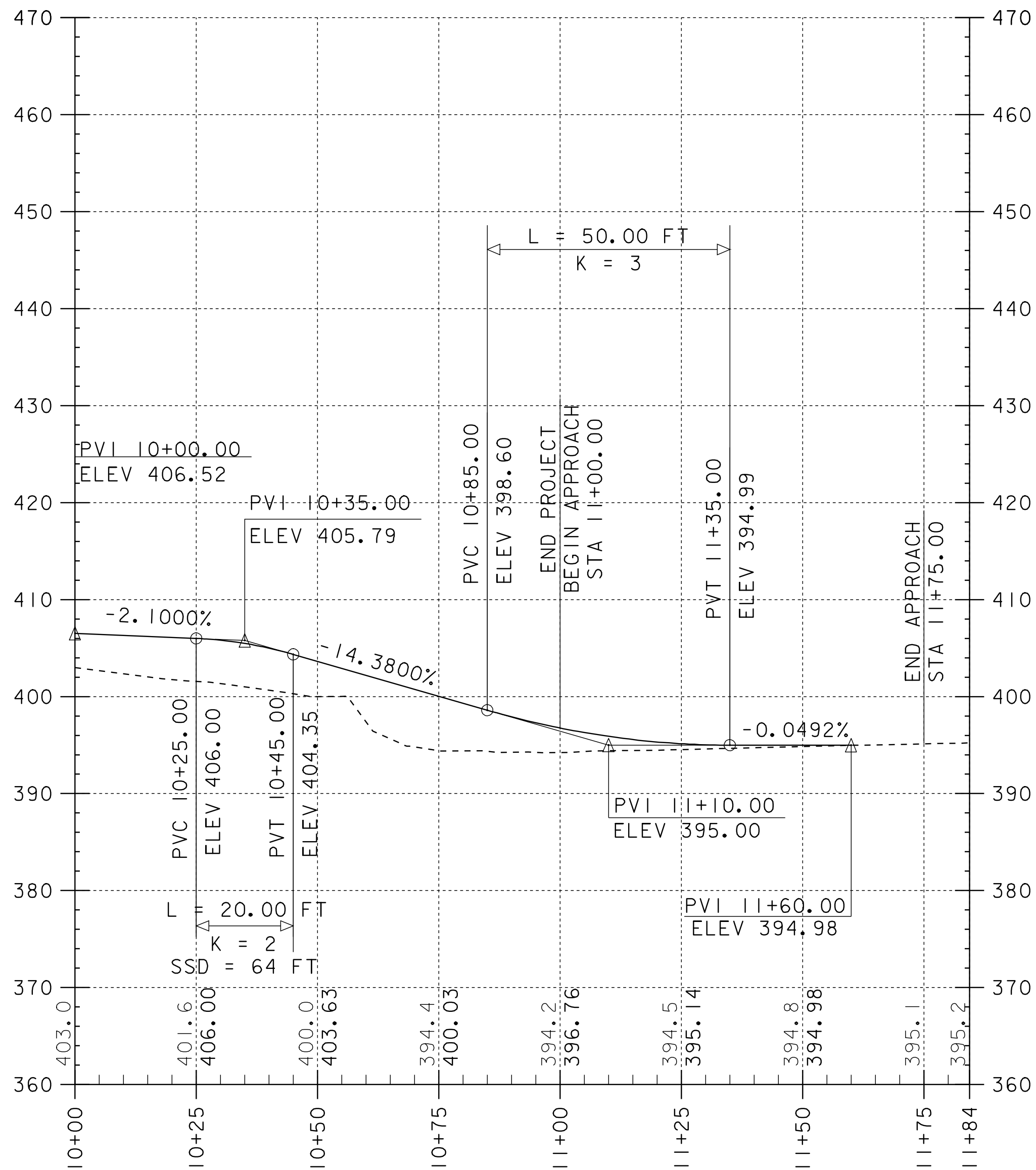
SUBBASE TAPER @ END PROJECT (TH5)

nts

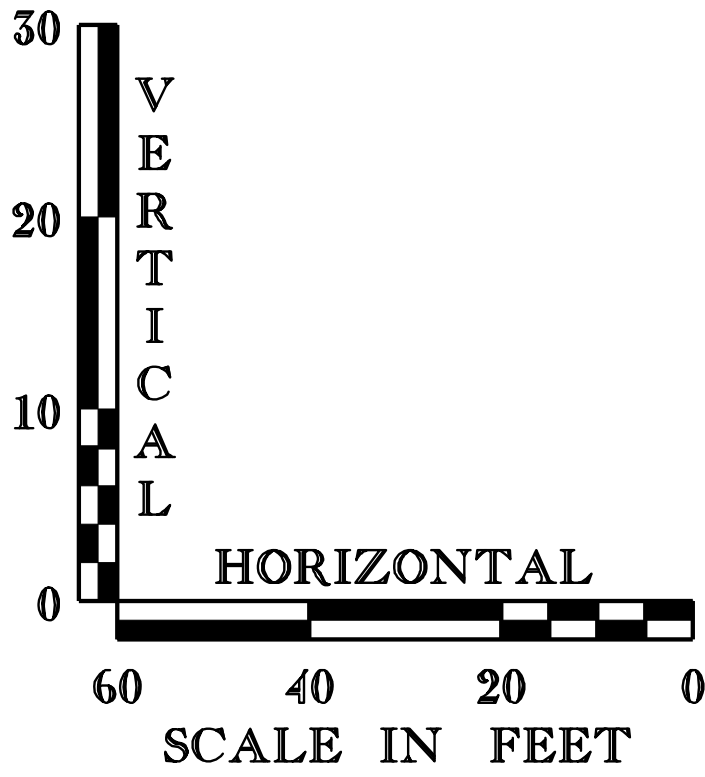
DATUM

VERTICAL	<u>NAVD88</u>
HORIZONTAL	<u>NAD 1983/92</u>

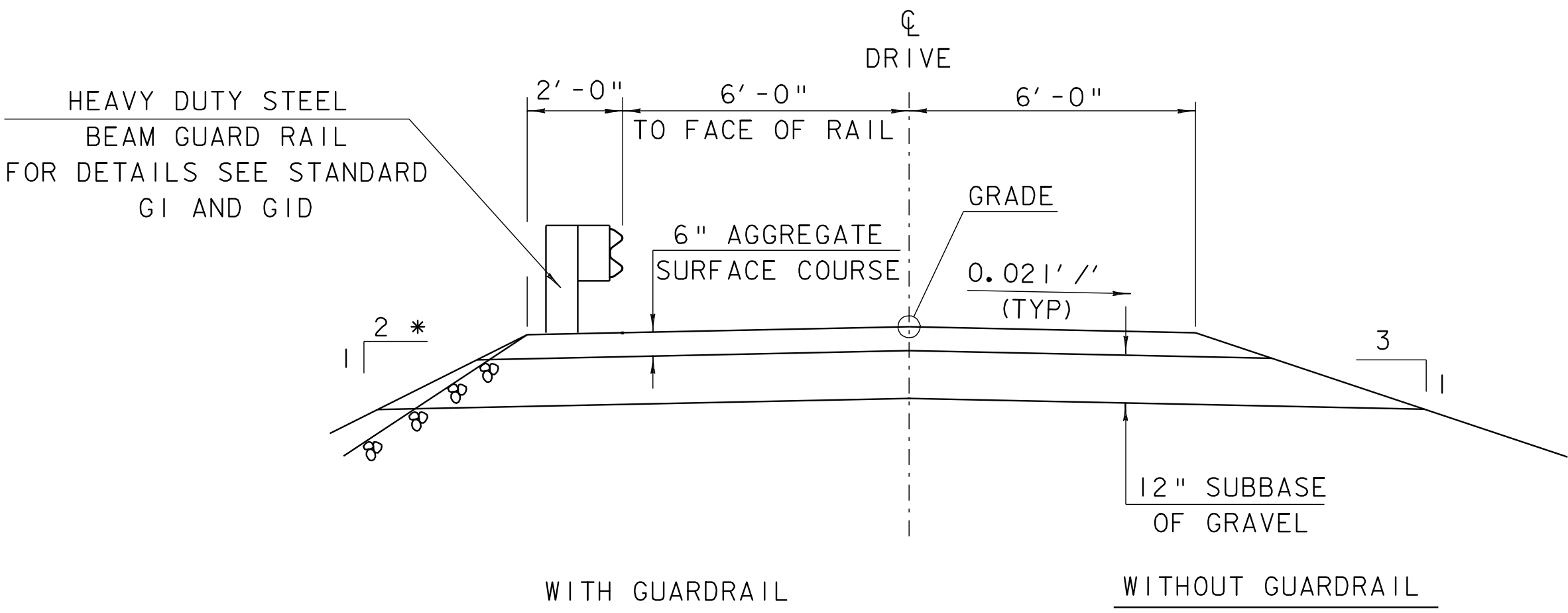
PROJECT: BRIDGE I	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: /89j00i/structures/sj00lpro.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lpr3.i	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 16 OF 97
TH 5 PROFILE & EARTHWORK TYPICALS	



Profile Drive

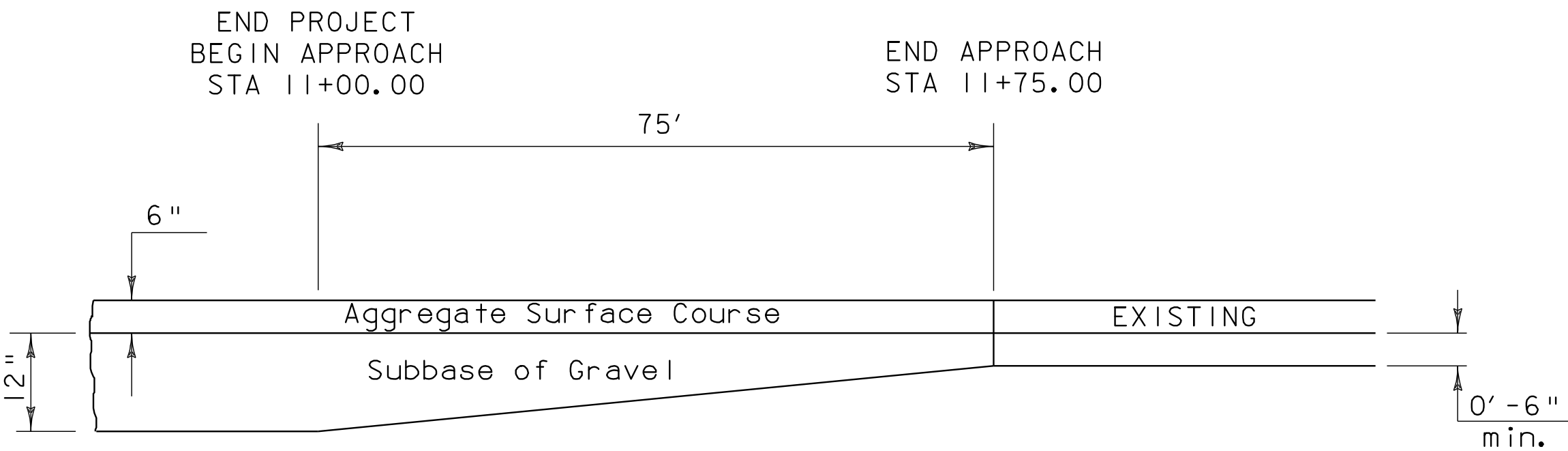
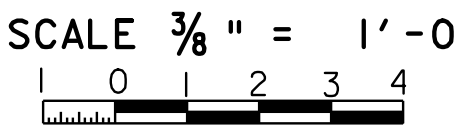


NOTE: GRADES SHOWN TO THE NEAREST TENTH REPRESENT EXISTING GROUND ELEVATION ALONG THE REVISED CENTERLINE.
GRADES SHOWN TO THE NEAREST HUNDREDTH REPRESENT FINISH GRADE ELEVATION ALONG THE REVISED CENTERLINE.



* SLOPE VARIES FROM 1 ON 1 1/2. GUARDRAIL POSTS SHALL BE LONGER AND DRIVEN 2' DEEPER TO ACCOUNT FOR REDUCED WIDTH BEHIND FACE OF RAIL

DRIVE TYPICAL SECTION



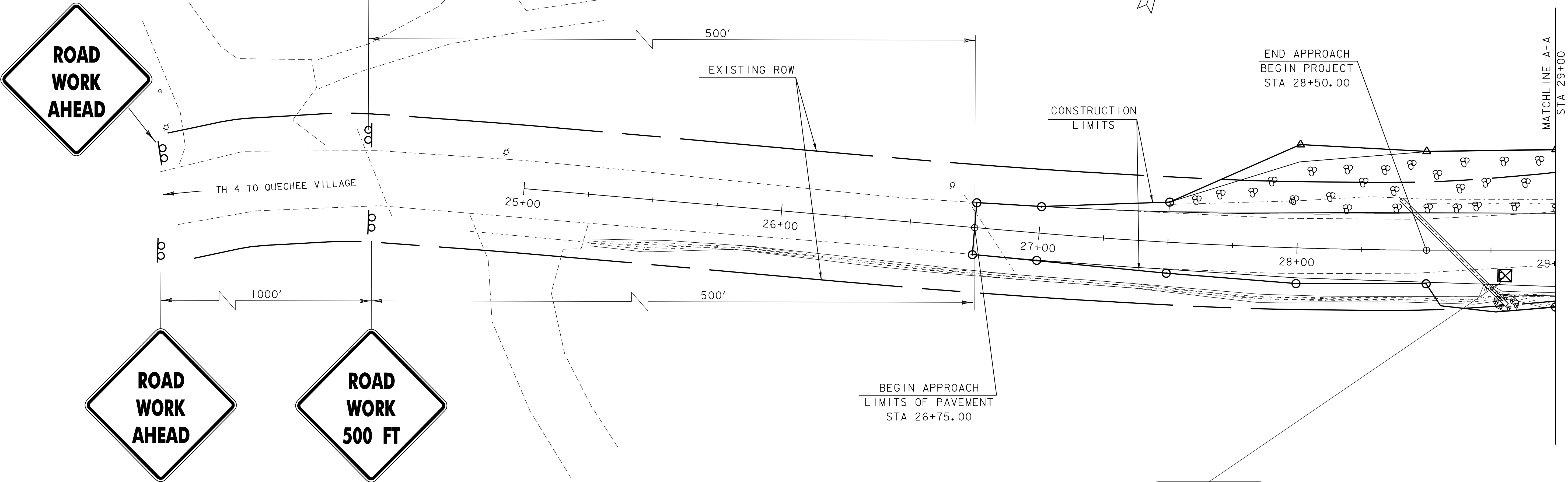
SUBBASE TAPER @ END PROJECT (DRIVE)

nts

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: /89j001/structures/sj001pro.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001pr4.i	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 17 OF 97
DRIVE PROFILE	



END
ROAD WORK



MAINTENANCE OF TRAFFIC NOTES:

1. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE ACCORDING TO VERMONT STANDARD E-107 AND E-100A UNLESS DETAILED OTHERWISE ON THIS SHEET.
2. FOR ADDITIONAL SIGNING INSTRUCTION SEE STDS E-100, E100A, E101, E102, E102A, AND E106.

LEGEND

⌘ - SIGN POSTS

▨ - TEMP. TRAFFIC BARRIER

⊠ - TYPE III BARRICADES MOD. (WITH CHEVRONS)

DATUM

VERTICAL NAVD88

HORIZONTAL NAD 1983/92

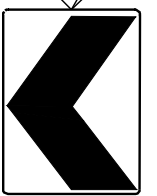
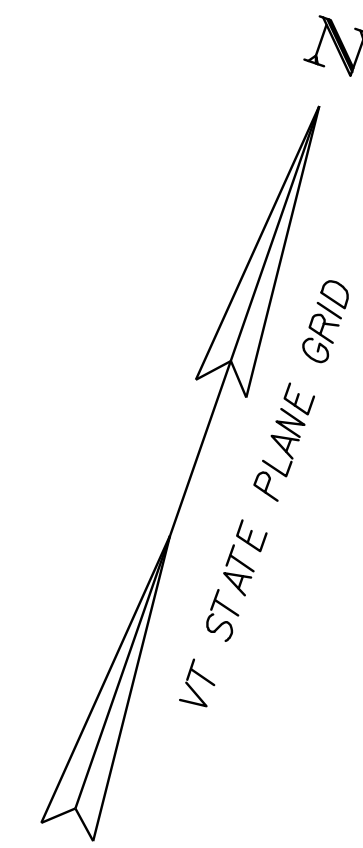
TRAFFIC CONTROL PLAN
SHEET 1

NTS

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001topl.1	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K.M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 18 OF 97
TRAFFIC CONTROL PLAN SHEET 1	

MAINTENANCE OF TRAFFIC NOTES:

- 1. TEMPORARY APPROACH TRAFFIC SIGNS SHALL BE ACCORDING TO VERMONT STANDARD E-107 AND E-100A UNLESS DETAILED OTHERWISE ON THIS SHEET.
- 2. FOR ADDITIONAL SIGNING INSTRUCTION SEE STDS E-100, E100A, E101, E102, E102A, AND E106.
- 3. SWITCH BARRICADES AND SIGNING TO OLD BRIDGE ONCE TRAFFIC IS ON NEW BRIDGE (PHASE 2).



LEGEND

- ⊙ - SIGN POSTS
- ▨ - TEMP. TRAFFIC BARRIER
- ⊠ - TYPE III BARRICADES MOD. (WITH CHEVRONS)

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00



END PROJECT
BEGIN APPROACH
STA 5+75.00

EXISTING ROW

END APPROACH
STA 209+75.00
LIMITS OF PAVEMENT

MATCHLINE C-C
STA 210+00

END PROJECT
BEGIN APPROACH
STA 34+50.00

CAREX
GARBER I
(SEE NOTES)

CL BRG. PIER #2
Sta 33+63.00
FG = 400.59

CL PIER #2
Sta 33+64.17

TEMPORARY
CONSTRUCTION
LIMITS

CL BRG. PIER #1
Sta 32+13.00
FG = 403.88

CL PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

END BRIDGE
Sta 34+10.00
FG = 398.36

CAREX
GARBER I
(SEE NOTES)

CONSTRUCTION
LIMITS

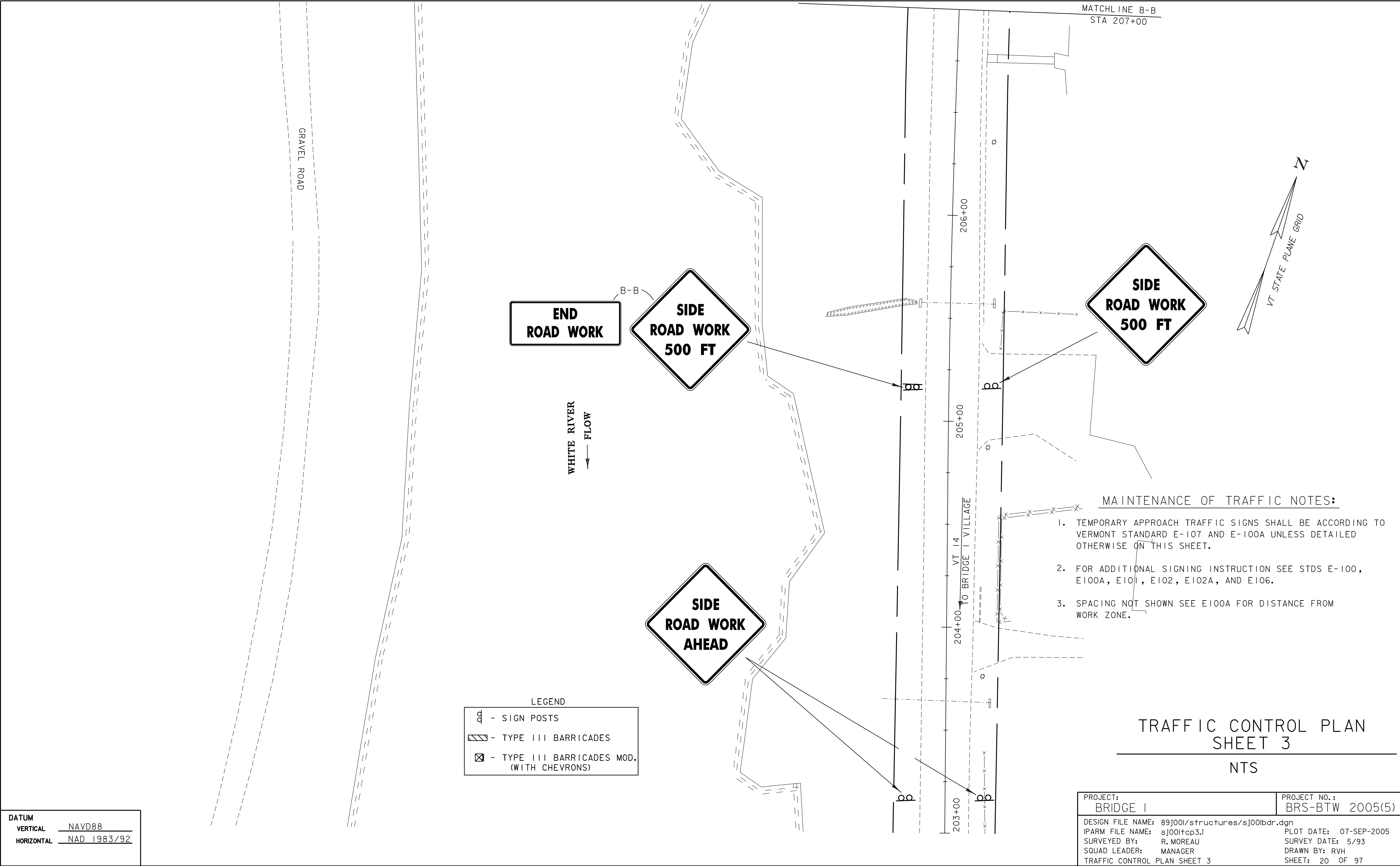
BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

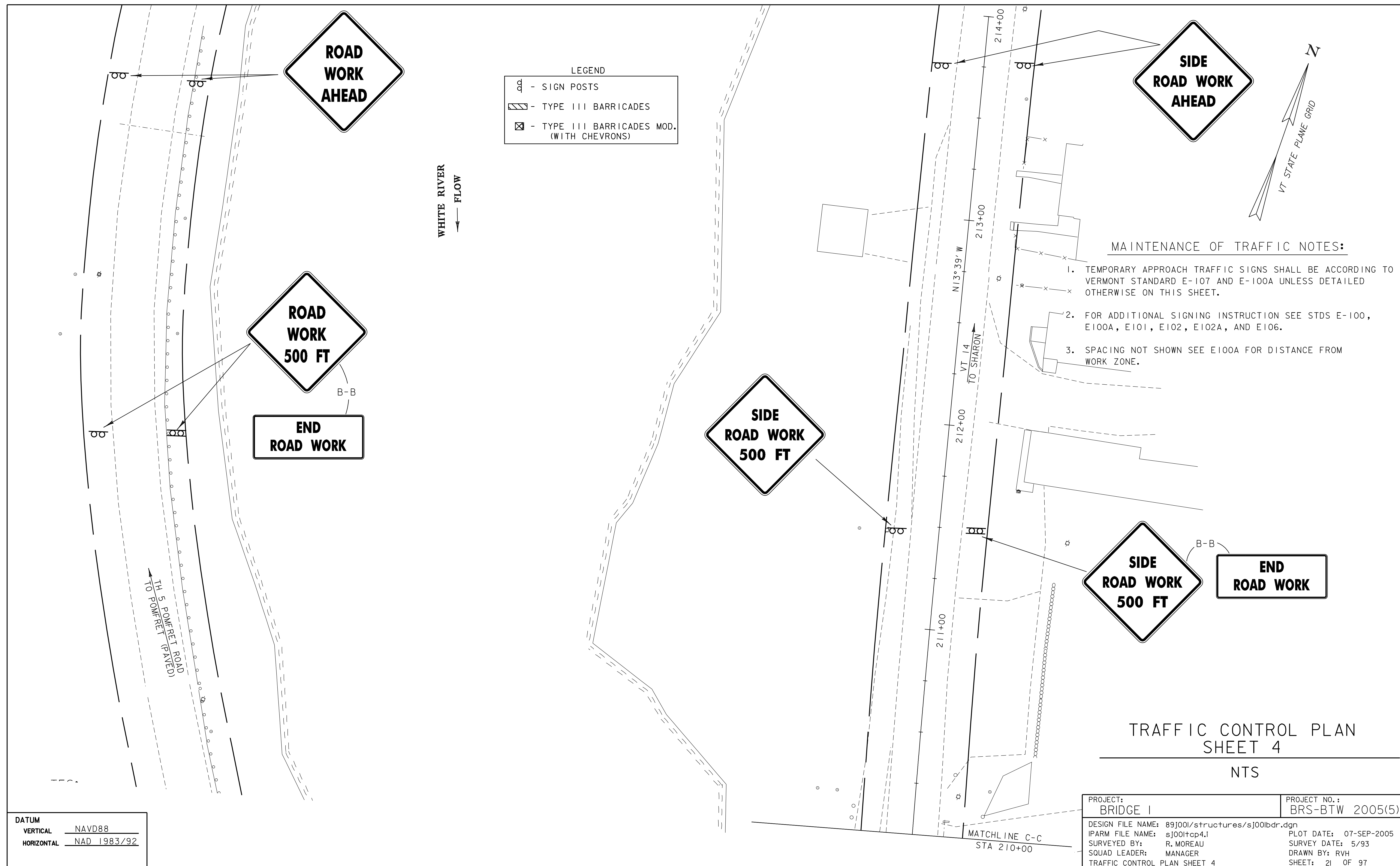
MATCHLINE B-B
STA 207+00

WHITE RIVER
FLOW

TRAFFIC CONTROL PLAN
SHEET 2
NTS

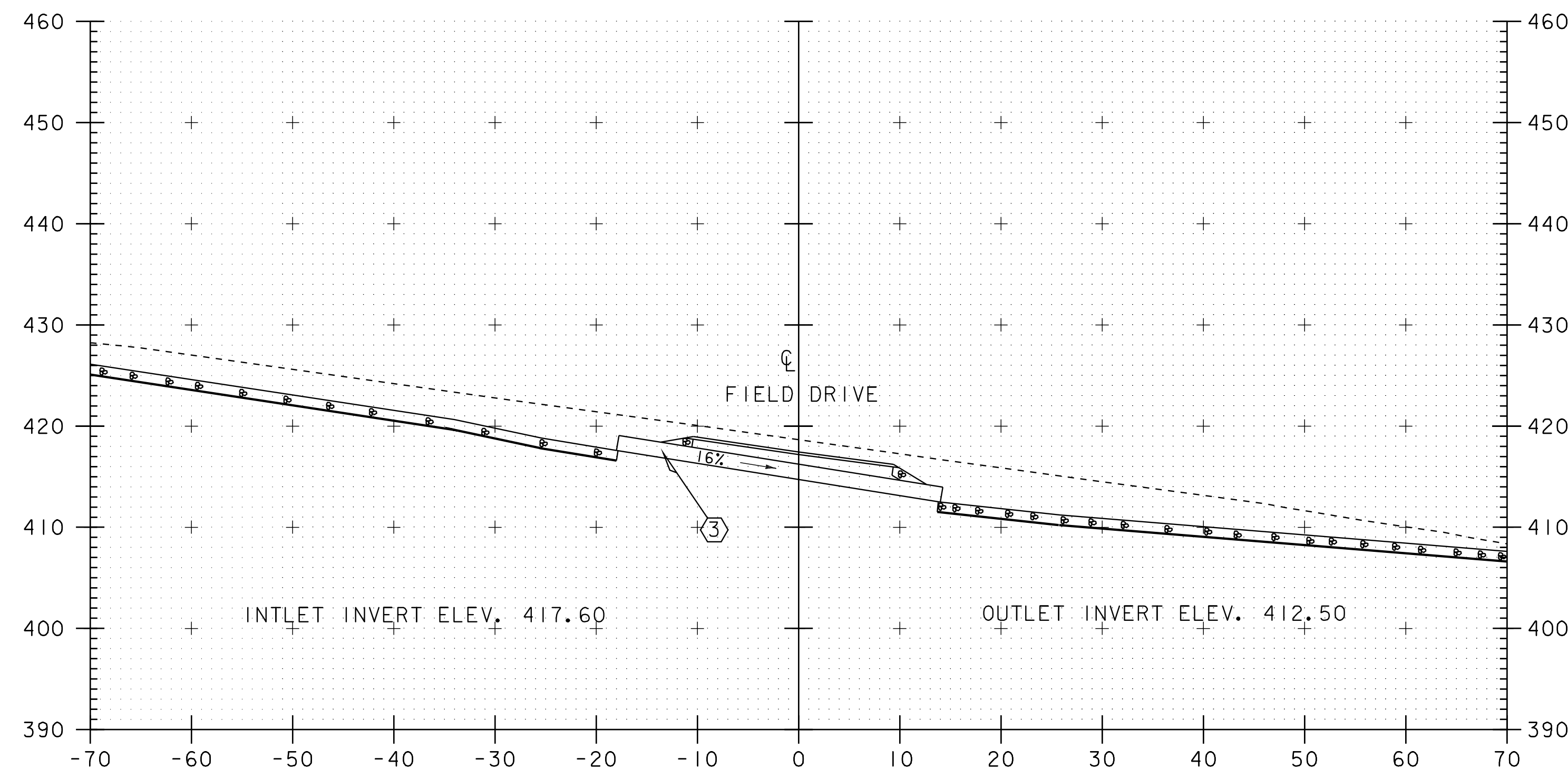
PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001top2.1	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: K.M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 19 OF 97
TRAFFIC CONTROL PLAN SHEET 2	



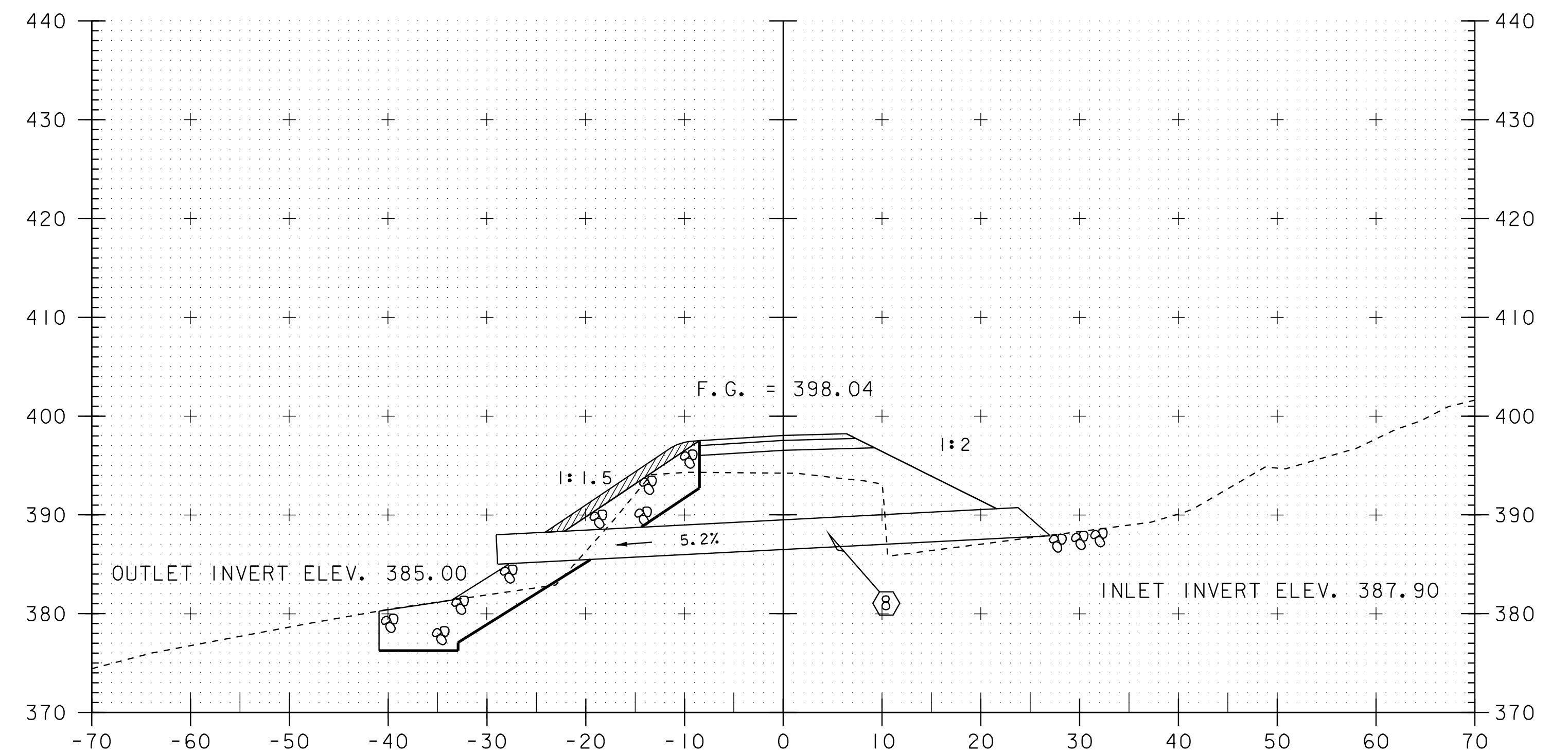


STATE OF VERMONT
AGENCY OF TRANSPORTATION

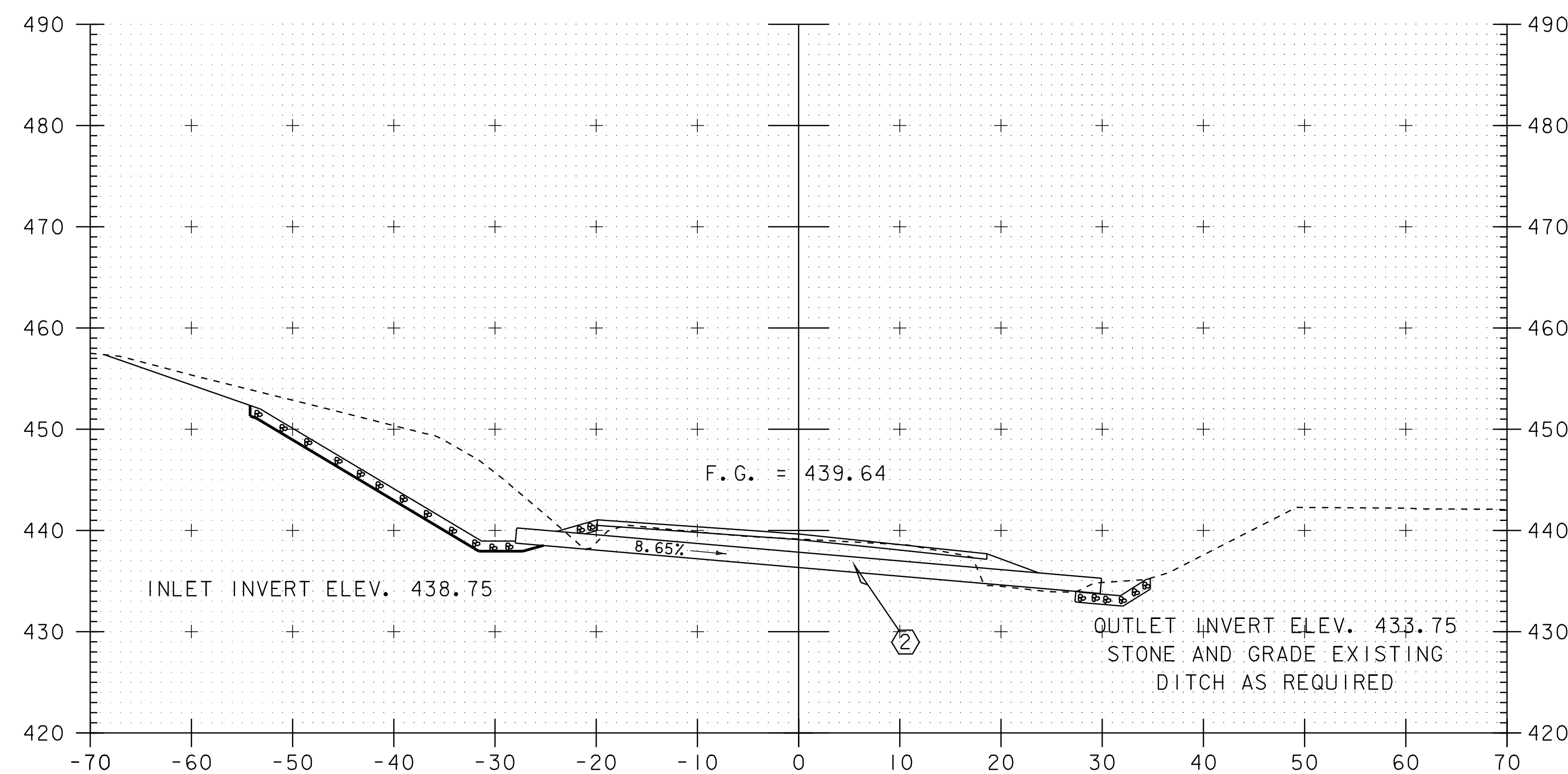
NOTE: FINAL LOCATION AND ELEVATION OF DRAINAGE ITEMS MAY BE ADJUSTED IN THE FIELD AS DEEMED NECESSARY BY THE RESIDENT ENGINEER.



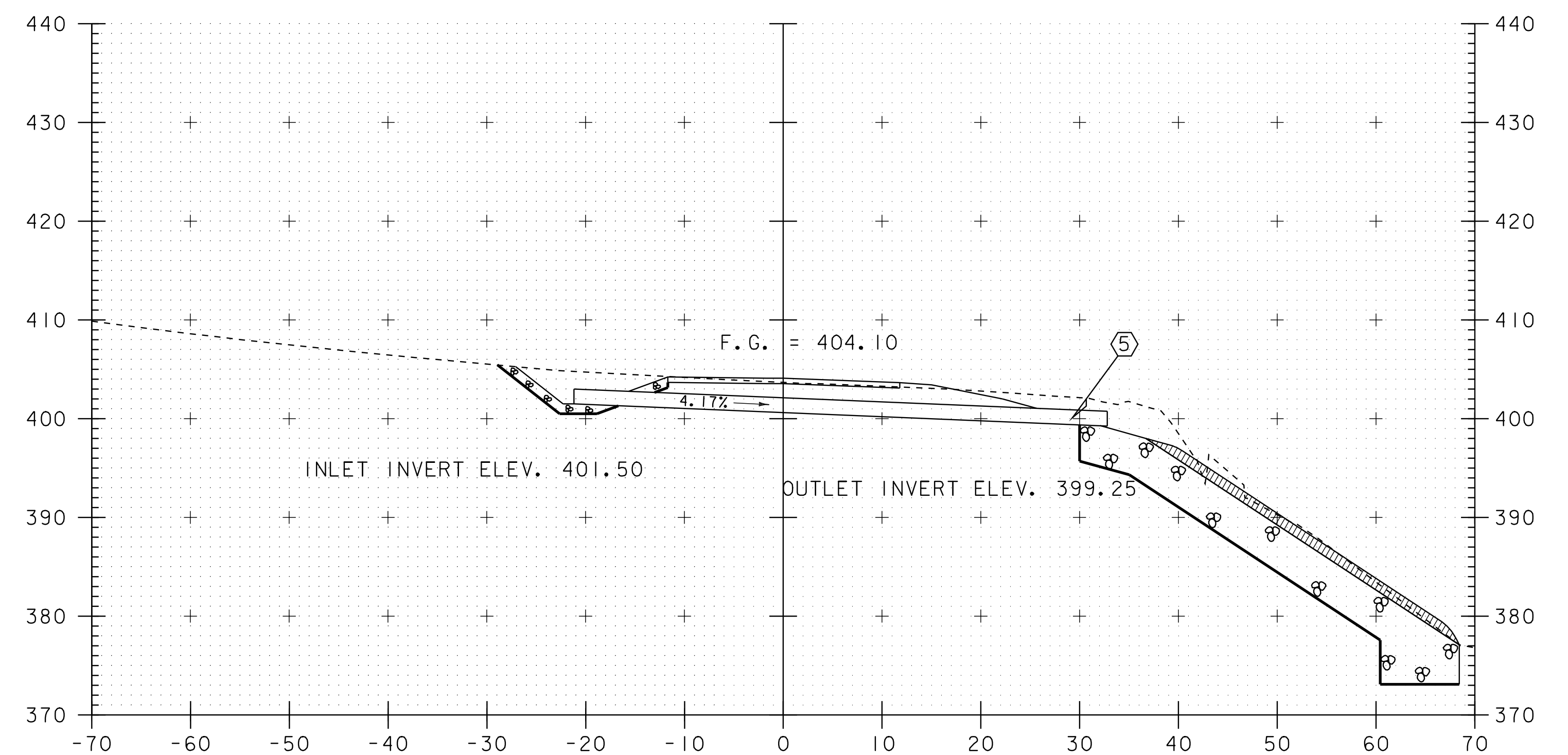
STA 30+09 20.85' LT
SECTION THROUGH PIPE @ ϕ FIELD DRIVE)



10+89
(SKEWED PIPE SECTION - DRIVE STA 10+75 RT - 10+98 LT)



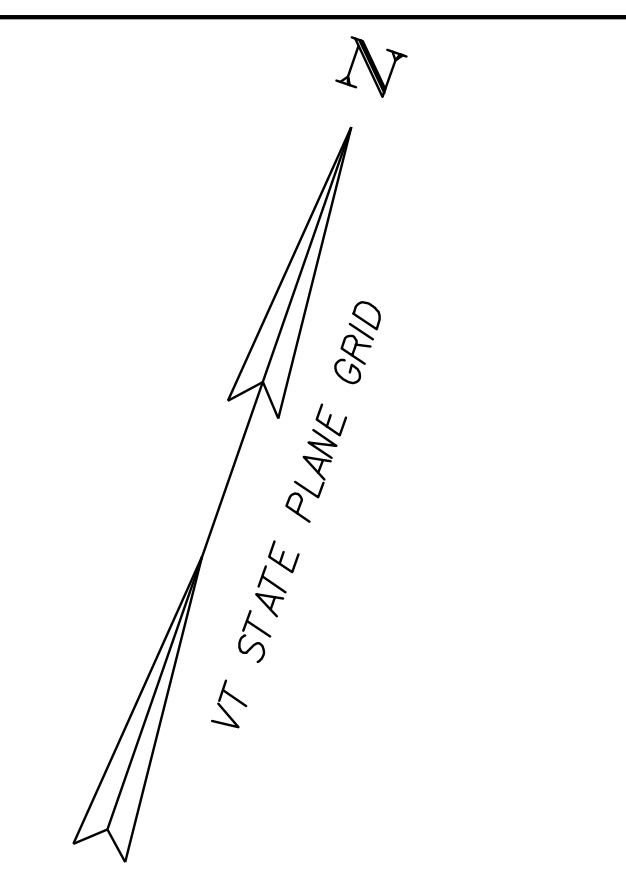
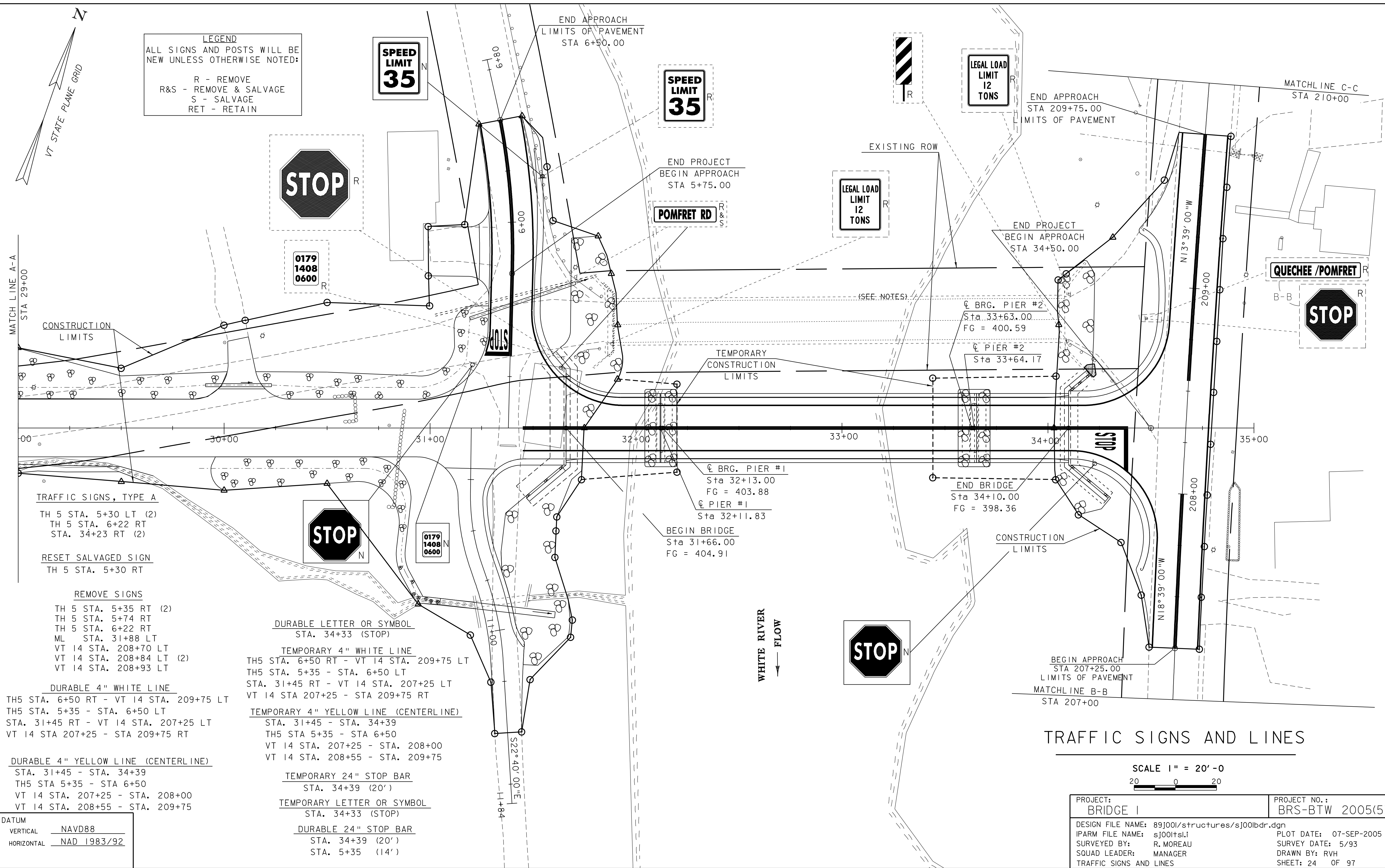
28+60
(SKEWED PIPE SECTION - ML STA 28+40 LT - 28+81 RT)



5+60
(SKEWED PIPE SECTION - TH5 STA 5+53 LT - 5+71 RT)

SCALE 1" = 10' - 0
10 0 10

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89j001/structures/sj001xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001pipsec.i	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: KMH
SQUAD LEADER: C.P. MANAGER	SHEET: 23 OF 97
DRAINAGE PIPE SECTIONS	



LEGEND
ALL SIGNS AND POSTS WILL BE NEW UNLESS OTHERWISE NOTED:

R - REMOVE
R&S - REMOVE & SALVAGE
S - SALVAGE
RET - RETAIN

MATCH LINE A-A
STA 29+00

CONSTRUCTION LIMITS

TRAFFIC SIGNS, TYPE A
TH 5 STA. 5+30 LT (2)
TH 5 STA. 6+22 RT
STA. 34+23 RT (2)

RESET SALVAGED SIGN
TH 5 STA. 5+30 RT

REMOVE SIGNS

TH 5 STA. 5+35 RT (2)
TH 5 STA. 5+74 RT
TH 5 STA. 6+22 RT
ML STA. 31+88 LT
VT 14 STA. 208+70 LT
VT 14 STA. 208+84 LT (2)
VT 14 STA. 208+93 LT

DURABLE 4" WHITE LINE

TH5 STA. 6+50 RT - VT 14 STA. 209+75 LT
TH5 STA. 5+35 - STA. 6+50 LT
STA. 31+45 RT - VT 14 STA. 207+25 LT
VT 14 STA 207+25 - STA 209+75 RT

DURABLE 4" YELLOW LINE (CENTERLINE)

STA. 31+45 - STA. 34+39
TH5 STA 5+35 - STA 6+50
VT 14 STA. 207+25 - STA. 208+00
VT 14 STA. 208+55 - STA. 209+75

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

DURABLE LETTER OR SYMBOL
STA. 34+33 (STOP)

TEMPORARY 4" WHITE LINE
TH5 STA. 6+50 RT - VT 14 STA. 209+75 LT
TH5 STA. 5+35 - STA. 6+50 LT
STA. 31+45 RT - VT 14 STA. 207+25 LT
VT 14 STA 207+25 - STA 209+75 RT

TEMPORARY 4" YELLOW LINE (CENTERLINE)
STA. 31+45 - STA. 34+39
TH5 STA 5+35 - STA 6+50
VT 14 STA. 207+25 - STA. 208+00
VT 14 STA. 208+55 - STA. 209+75

TEMPORARY 24" STOP BAR
STA. 34+39 (20')

TEMPORARY LETTER OR SYMBOL
STA. 34+33 (STOP)

DURABLE 24" STOP BAR
STA. 34+39 (20')
STA. 5+35 (14')

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

SPEED LIMIT 35

END PROJECT
BEGIN APPROACH
STA 5+75.00

POMFRET RD

LEGAL LOAD LIMIT 12 TONS

LEGAL LOAD LIMIT 12 TONS

END APPROACH
STA 209+75.00
LIMITS OF PAVEMENT

MATCHLINE C-C
STA 210+00

END PROJECT
BEGIN APPROACH
STA 34+50.00

CL BRG. PIER #2
Sta 33+63.00
FG = 400.59

CL PIER #2
Sta 33+64.17

TEMPORARY
CONSTRUCTION
LIMITS

CL BRG. PIER #1
Sta 32+13.00
FG = 403.88

CL PIER #1
Sta 32+11.83

BEGIN BRIDGE
Sta 31+66.00
FG = 404.91

END BRIDGE
Sta 34+10.00
FG = 398.36

CONSTRUCTION
LIMITS

BEGIN APPROACH
STA 207+25.00
LIMITS OF PAVEMENT

MATCHLINE B-B
STA 207+00

WHITE RIVER
FLOW

TRAFFIC SIGNS AND LINES

SCALE 1" = 20'-0"



PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001tsi.l	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: RVH
SQUAD LEADER: MANAGER	SHEET: 24 OF 97
TRAFFIC SIGNS AND LINES	

TRAFFIC SIGN SUMMARY SHEET

[illegible]

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.Q.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

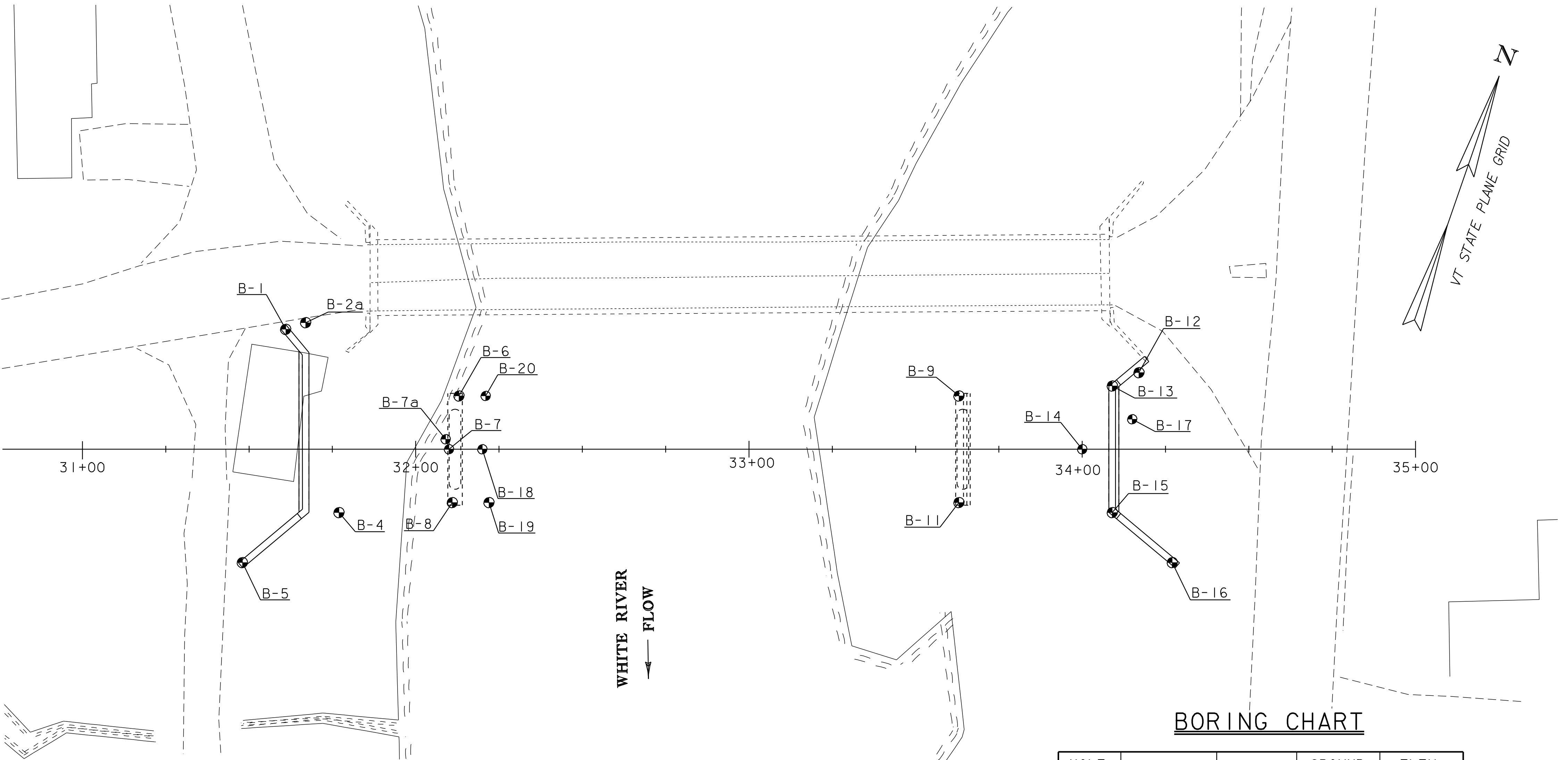
CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR			
blk	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	mltc	Multicolored
or	Orange		



BORING CHART

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-1	31+61	36' LT	403.04	391.8
B-2a	31+67	38' LT	402.83	386.3
B-4	31+77	19' RT	381.56	375.8
B-5	31+48	34' RT	397.18	385.4
B-6	32+13	16' LT	375.54	367.0
B-7	32+10	0	374.69	368.9
B-7a	32+09	3' LT	374.91	368.9
B-8	32+11	16' RT	374.18	365.8

BORING LAYOUT

SCALE 1" = 20' - 0'

BORING CHART

HOLE NO.	STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-9	33+63	16' LT	381.76	377.8
B-11	33+63	16' RT	380.56	376.6
B-12	34+17	23' LT	388.19	365.2
B-13	34+09	19' LT	386.47	365.0
B-14	34+00	0	384.55	369.6
B-15	34+09	19' RT	385.93	372.4
B-16	34+27	34' RT	386.63	379.6
B-17	34+15	9' LT	385.63	367.6
B-18	32+20.50	0	372.40	368.4
B-19	32+22	16' RT	373.40	360.9
B-20	32+21	9' LT	372.19	364.2

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 > 0.078" (#10 sieve).

SAND - Particles of rock < 0.078" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#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 7/30/01 and 8/28/01 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.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	BRIDGE 1	Bridge No.	8
Highway No.	TH 4	Log Sta.	
		Surv. Sta.	
TH 4 OVER WHITE RIVER			
BORING INFORMATION SHEET			
Designed By	K. M. HIGGINS	Drawn By	K. M. HIGGINS
Checked By	Date	Bridge Design Supervisor	
	6/2000	C. P. MANAGER	Date 6/2000
PROJECT	BRIDGE 1	PROJECT NO.	BRS-BTW 2005 (5)
I.G.C. Info. 89j001/structures/sj001bor.dgn		sj001bor.i	
Bridge Sheet No.		Sheet 26 of 97	

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-01 SHEET 1 OF 1 DATE STARTED: 7/30/01 DATE COMPLETED: 7/30/01						
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 31+61.00 GROUND EL.: 403.04				PROJECT NUMBER: BTN 2004(I) SITE NO.: TH #4 OFFSET: -36.00 G.W.DEPTH: No water found 7/31/01						
BORING CREW CREW CHIEF: YOUNG DRILLER: CHABOT LOGGER: RUSSELL				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL						
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI	
5		A-2-4, SiSa, brn, Moist, Rec. = 1.25'	6	19.4	19.3	50.3	30.4			
10		A-1-a, SaGr, Lt/gry, Dry, Rec. = 0.60'	R	7.3	52.7	37.8	9.5			
		Run#1: BXDC, 11.2'-16.2', Rec. = 4.5', See Geologist's Report.	RUN	REC%	RQD%	Dip°				
15		Run#2: BXDC, 16.2'-21.2', Rec. = 4.0', See Geologist's Report.	2	80	40	50				
20										
25		Hole stopped @ 21.80'								
30		DRILLER'S NOTES: Small seam @ 15.50'. No water found on 07/31/01.								
35		GEOLOGIST'S REPORT: Run#1: Gray quartz muscovite schist with quartz veins, Hard, Unweathered, Competent. Run#2: Same as Run#1 with closely spaced jointing along foliation.								
40										
45										

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-02A SHEET 1 OF 1 DATE STARTED: 7/30/01 DATE COMPLETED: 7/31/01						
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 31+67.00 GROUND EL.: 402.83				PROJECT NUMBER: BTN 2004(I) SITE NO.: TH #4 OFFSET: -38.00 G.W.DEPTH: No water found 8/1/01						
BORING CREW CREW CHIEF: YOUNG DRILLER: CHABOT LOGGER: RUSSELL				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL						
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI	
5		A-4, SiSa, brn, MTW, Rec. = 0.01', Stone in end of sampler.	5	23	2.1	55.8	42.1			
10		A-2-4, SiSa, brn, Moist, Rec. = 0.45'	9	19.5	9.6	63.8	26.6			
		Run#1: BXGDC, 11.5'-16.5', Rec. = 1.5', Possible Boulders See Geologist's Report.	RUN	REC%	RQD%	Dip°				
15		Run#2: BXGDC, 16.5'-21.5', Rec. = 0.9', See Geologist's Report.	2	18	0	35				
20										
25		Run#3: BXGDC, 21.5'-22.5', Rec. = 0.9', See Geologist's Report.	3	90	0	35				
		Run#4: BXGDC, 22.5'-27.5', Rec. = 2.8', See Geologist's Report.	4	56	0	40				
30		Hole stopped @ 27.5'								
35		DRILLER'S NOTES: No water found 08/01/01.								
40		GEOLOGIST'S REPORT: Run#1: Run consists of short pieces of quartz, schist and quartz schist with garnet. Core is very broken up. Run does not appear to represent bedrock. Possible boulders. Drillers report numerous breaks from 12.4'-15.5' Run#2: Gray quartz muscovite schist, Hard, Unweathered, May contain numerous foliation joints, Not competent. Run#3: Same as Run#2, Not competent. Run#4: Same as Run#2, Not competent.								
45										

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-04 SHEET 1 OF 1 DATE STARTED: 8/7/01 DATE COMPLETED: 8/7/01						
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 31+77.00 GROUND EL.: 381.56				PROJECT NUMBER: BTN 2004(I) SITE NO.: TH #4 OFFSET: 19.00 G.W.DEPTH: 4.5 (08/07/01)						
BORING CREW CREW CHIEF: YOUNG DRILLER: CHABOT LOGGER: RUSSELL				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL						
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI	
5		BXGDC, 3.75'-4.75', Boulder								
		Run#1: BXGDC, 5.75'-8.75', Rec. = 1.33', See Geologist's Report.	RUN	REC%	RQD%	Dip°				
10		Run#2: BXGDC, 8.75'-13.75', Rec. = 2.66', See Geologist's Report.	2	53	32	40				
15		Run#3: BXGDC, 13.75'-17.75', Rec. = 2.0', See Geologist's Report.	3	50	25	40				
20		Hole stopped @ 17.75'								
25		DRILLER'S NOTES: Water elev. @ 4.5' (8/07/01)								
30		GEOLOGIST'S REPORT: Run#1: Gray quartz schist, Hard, Unweathered. Run#2: Same as Run#1. Run#3: Same as Run#1.								
35										
40										
45										

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-05 SHEET 1 OF 1 DATE STARTED: 8/1/01 DATE COMPLETED: 8/1/01						
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 31+48.00 GROUND EL.: 397.18				PROJECT NUMBER: BTN 2004(I) SITE NO.: TH #4 OFFSET: 34.00 G.W.DEPTH: No water found 8/1/01						
BORING CREW CREW CHIEF: YOUNG DRILLER: CHABOT LOGGER: TALLMAN				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL						
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI	
5		A-4, SaSi, brn, Moist, Rec. = 0.9'	4	16	16	41	43			
10		No Sample, Boulder								
		Run#1: BXGDC, 11.8'-16.8', Rec. = 1.85', See Geologist's Report.	RUN	REC%	RQD%	Dip°				
15		Run#2: BXGDC, 16.8'-21.8', Rec. = 4.5', See Geologist's Report.	2	90	65	45				
20		Run#3: BXGDC, 21.8'-24.8', Rec. = 2.5', See Geologist's Report.	3	83	75	45				
25		Hole stopped @ 24.80'								
30		DRILLER'S NOTES: No water found 08/01/01.								
35		GEOLOGIST'S REPORT: Run#1: Light gray quartz schist, Hard, Unweathered, Poor RQD Run#2: Same as Run#1. Run#3: Same as Run#1.								
40										
45										

* THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET
BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04.
ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED
AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH
EXCAVATION.

SURVEYED BY	J. TOUCHETTE	DATE	10/01
DRAWN BY	C. C. BENDA	DATE	10/01
SQUAD LEADER			
DESIGN FILE NO.	/M&R/89J001/mj001bor.dgn		
IPARM FILE	89J001/sj001bol.1	DATE PLOTTED	07-SEP-2005
PROJ. NAME	BRIDGE 1		
PROJ. NO.	BTN 2004 (I)		
SHEET	27 OF 97	SHEETS	

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-06 SHEET 1 OF 1 DATE STARTED: 8/2/01 DATE COMPLETED: 8/2/01					
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 32+13.00 GROUND EL.: 375.54				PROJECT NUMBER: BTN 2004(1) SITE NO.: TH #4 OFFSET: -16.00 G.W. DEPTH:					
BORING CREW CREW CHIEF: YOUNG DRILLER: TALLMAN LOGGER: CHABOT				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL					
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Sand							
5		Run#1: BXGDC, 3.5'-8.5', Rec. = 0.65', Boulders See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1			Boulders			
						Top of bedrock @ 8.5'			
10		Run#2: BXGDC, 8.5'-11.5', Rec. = 1.95', See Geologist's Report.	2	65	53	40			
		Run#3: BXGDC, 11.5'-16.5', Rec. = 3.25', See Geologist's Report.	3	65	50	45			
Hole stopped @ 16.50'									
GEOLOGIST'S REPORT: Run#1: Boulders Run#2: Light gray quartz schist, Hard, Unweathered. Run#3: Same as Run#2.									

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-07 SHEET 1 OF 1 DATE STARTED: 8/8/01 DATE COMPLETED: 8/8/01					
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 32+10.00 GROUND EL.: 374.69				PROJECT NUMBER: BTN 2004(1) SITE NO.: TH #4 OFFSET: 0.00 G.W. DEPTH: Drilled in water.					
BORING CREW CREW CHIEF: YOUNG DRILLER: CHABOT LOGGER: SOMERS				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL					
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		Sand							
5		A-2-4, Sa with Rock Chips, brn, Moist, Rec. = 1.1', Run#1: BXGDC, 5.8'-8.8', Rec. = 1.1', See Geologist's Report.	R	13.9		Visual Class.			
			RUN	REC%	RQD%	Dip°			
			1	37	12	45			
10		Run#2: BXGDC, 8.8'-13.8', Rec. = 2.8', See Geologist's Report.	2	56	28	45			
		Run#3: BXGDC, 13.8'-18.3', Rec. = 2.9', See Geologist's Report.	3	73	68	45			
Hole stopped @ 18.30'									
GEOLOGIST'S REPORT: Run#1: Gray quartz schist, Hard, Unweathered, Poor RQD. Run#2: Same as Run#1, but weathered open joint at 10.3', Poor RQD. Run#3: Same as Run#1, but color becomes darker at 14.8'									

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-07A SHEET 1 OF 1 DATE STARTED: 10/1/01 DATE COMPLETED: 10/3/01					
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 32+09.00 GROUND EL.: 374.91				PROJECT NUMBER: BTN 2004(1) SITE NO.: TH #4 OFFSET: -3.00 G.W. DEPTH: River level					
BORING CREW CREW CHIEF: YOUNG DRILLER: YOUNG LOGGER: SOMERS				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL					
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>							
		Sand							
5		4.5'-5.5', Boulder				Top of bedrock @ 6.0'			
		Run#1: BXMDC, 6.0'-9.0', Rec. = 1.55', See Geologist's Report.	RUN	REC%	RQD%	Dip°	SD	Co	Eo
			1	52	0	40			
10		Run#2: NXMDC, 9.0'-10.5', Rec. = 1.10', See Geologist's Report.	2	73	0	40			
		Run#3: NXMDC, 10.5'-14.5', Rec. = 3.90', See Geologist's Report.	3	98	65	40	11.2	3,212	2450
15		Run#4: NXMDC, 14.5'-19.0', Rec. = 4.25', See Geologist's Report.	4	94	92	40	15.2 16.3 17.5 18.0	2,640 13,553 5,087 2,071	1243 9131 2927 1214
Hole stopped @ 19.0'									
GEOLOGIST'S REPORT: Run#1: BXMDC, Gray quartz-biotite-sericite schist, Hard, Slightly weathered, Close to very closely spaced jointing, Poor RQD. Run#2: NXMDC, Same as Run#1, Poor RQD. Run#3: NXMDC, Gray quartz-sericite schist, Hard, Unweathered. Run#4: NXMDC, Gray quartz-sericite schist, Hard, Unweathered. SD = Sample Center Depth, ft. Co = Uniaxial Compressive Strength of Intact Rock, psi Eo = Elastic Modulus of Intact Rock, ksi									

STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS & RESEARCH DIVISION SUBSURFACE INFORMATION				HOLE NO.: B-08 SHEET 1 OF 1 DATE STARTED: 8/6/01 DATE COMPLETED: 8/6/01					
PROJECT NAME: BRIDGE 1 SITE NAME: BR #8 STATION: 32+11.00 GROUND EL.: 374.83				PROJECT NUMBER: BTN 2004(1) SITE NO.: TH #4 OFFSET: 16.00 G.W. DEPTH: Drilled in River					
BORING CREW CREW CHIEF: YOUNG DRILLER: CHABOT LOGGER: TALLMAN				BORING RIG: TRACK RIG BORING TYPE: WASH BORE SAMPLE TYPE: SPLIT BARREL					
DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
		1.5'-2.5, Boulder							
5		4.5'-5.5, No Sample, Boulders							
10		Run#1: BXGDC, 9.0'-14.0', Rec. = 1.83', See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1	37	0	40			
15		Run#2: BXGDC, 14.0'-16.0', Rec. = 1.63', See Geologist's Report.	2	82	82	40			
		Run#3: BXGDC, 16.0'-19.0', Rec. = 2.58', See Geologist's Report.	3	86	86	40			
Hole stopped @ 19.0'									
GEOLOGIST'S REPORT: Run#1: Gray quartz sericite schist, Hard, Unweathered, Poor Recovery and RQD. Run#2: Same as Run#1. Run#3: Same as Run#1.									

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-14
SHEET 1 OF 1
DATE STARTED: 8/20/01
DATE COMPLETED: 8/21/01

PROJECT NAME: BRIDGE 1
SITE NAME: BR #8
STATION: 34+00.00
GROUND EL.: 384.55

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 0.00
G.W.DEPTH: 6.2 (08/21/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

BORING RIG: TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		No Rec. , Boulder	3						
10		A-1-a, Gr, gry, Dry, Rec. = 0.5'	17	9.2	80.2	15.2	4.6		
15		BXGDC, 13.9'-15.0', No Rec. , Boulder	Top of bedrock @ 15.0'						
		Run#1: BXGDC, 15.0'-20.0' Rec. = 2.75' See Geologist's Report.	RUN	REC%	RQD%	Dip°			
			1	55	42	40			
20		Run#2: BXGDC, 20.0'-25.0' Rec. = 2.6', See Geologist's Report.	2	52	52	40			
25		Run#3: BXGDC, 25.0'-30.0' Rec. = 1.5', See Geologist's Report.	3	30	30	40			
30		Hole stopped @ 30.0'							
35		DRILLER'S NOTES: Water elev. @ 6.2' (08/21/01)							
40		GEOLOGIST'S REPORT: Run#1: Dark gray quartz biotite sericite schist, Moderately hard, Unweathered. Run#2: Same as Run#1, but with some garnet porphyroblasts Run#3: Same as Run#2.							
45									

TOP OF FTG ABUT #2
ELEV. = 376.00

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-15
SHEET 1 OF 1
DATE STARTED: 8/21/01
DATE COMPLETED: 8/22/01

PROJECT NAME: BRIDGE 1
SITE NAME: BR #8
STATION: 34+09.00
GROUND EL.: 385.93

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 19.00
G.W.DEPTH: 7.7 (08/22/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

BORING RIG: TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-1-a, SaGr with Wood particles, brn, Moist, Rec. = 0.75'	7	11.1	51.8	42.3	5.9		
10		A-1-b, Sa, gry, Moist, Rec. = 0.5'	10	15.1	1.2	94.8	4		
15		Run#1: BXGDC, 13.5'-18.0' Rec. = 1.0', See Geologist's Report.	Top of bedrock @ 13.5'						
			RUN	REC%	RQD%	Dip°			
			1	22	0	40			
20		Run#2: BXGDC, 18.0'-23.0' Rec. = 2.5', See Geologist's Report.	2	50	50	40			
25		Run#3: BXGDC, 23.0'-28.0' Rec. = 1.6', See Geologist's Report.	3	32	32	40			
30		Hole stopped @ 28.0'							
35		DRILLER'S NOTES: Water elev. @ 7.7' (08/22/01)							
40		GEOLOGIST'S REPORT: Run#1: Gray quartz sericite schist, Hard, Unweathered. Run#2: Same as Run#1, but with some biotite and garnet porphyroblasts. Run#3: Same as Run#2, but with quartz vein at 24.5'.							
45									

TOP OF FTG ABUT #2
ELEV. = 376.00

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-16
SHEET 1 OF 1
DATE STARTED: 8/22/01
DATE COMPLETED: 8/22/01

PROJECT NAME: BRIDGE 1
SITE NAME: BR #8
STATION: 34+27.00
GROUND EL.: 386.63

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: 34.00
G.W.DEPTH: 5.5 (08/23/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

BORING RIG: TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>	BLOWS PER FOOT	M.C. %	GRAVEL %	SAND %	FINES %	LL	PI
5		A-2-4, SiSa with Trace of Organics, gry, MTW, Rec. = 1.2', Tested 1.2% Organic	4	29.3	3.3	74.7	22		
		Run#1: BXGDC, 7.0'-11.0', Rec. = 3.0', See Geologist's Report.	Top of bedrock @ 7.0'						
			RUN	REC%	RQD%	Dip°			
			1	75	0	40			
10		Run#2: BXGDC, 11.0'-16.0' Rec. = 2.75', See Geologist's Report.	2	55	20	40			
15		Run#3: BXGDC, 16.0'-18.0' Rec. = 1.9', See Geologist's Report.	3	95	80	45			
20		Hole stopped @ 18.0'							
25		DRILLER'S NOTES: Water elev. @ 5.5' (08/22/01)							
30		GEOLOGIST'S REPORT: Run#1: Gray quartz-sericite schist, Very close to closely spaced jointing, Hard, Unweathered, Poor RQD. Run#2: Same as Run#1, but less jointing, Poor RQD. Run#2: Same as Run#1, but with minor jointing, Competent.							
35									
40									
45									

TOP OF FTG WW #4
ELEV. = 380.00

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MATERIALS & RESEARCH DIVISION
SUBSURFACE INFORMATION

HOLE NO.: B-17
SHEET 1 OF 1
DATE STARTED: 10/3/01
DATE COMPLETED: 10/4/01

PROJECT NAME: BRIDGE 1
SITE NAME: BR #8
STATION: 34+15.00
GROUND EL.: 385.63

PROJECT NUMBER: BTN 2004(I)
SITE NO.: TH #4
OFFSET: -9.00
G.W.DEPTH: 7.5 (10/4/01)

BORING CREW
CREW CHIEF: YOUNG
DRILLER: YOUNG
LOGGER: SOMERS

BORING RIG: TRACK RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

DEPTH	SYMBOL	CLASSIFICATION OF MATERIALS <i>(Description)</i>																	
5		4.5'-5.5', Boulder, No sample																	
10		10.0'-12.0', No sample																	
15		14.0'-15.5', Boulder, No sample																	
20		Run#1: NXMDC, 18.0'-23.0' Rec. = 4.45', See Geologist's Report.	Top of bedrock @ 18.0'																
			RUN	REC%	RQD%	Dip°	SD	Co	EO										
			1	89	85	40-45	18.9 20.1 20.7	3,112 6,167 2,957	1616 3249 878										
25		Run#2: NXMDC, 23.0'-28.0' Rec. = 5.00', See Geologist's Report.	2	100	90	40-45	24.2 25.4	10,094 3,147	5640 2130										
30		Hole stopped @ 28.0'																	
35		DRILLER'S NOTES: Water elev. @ 7.5' (10/4/01)																	
40		GEOLOGIST'S REPORT: Run#1: Gray quartz-sericite schist with some quartz veins and scattered garnet, Hard, Unweathered, Run#2: Same as Run#1.																	
45		SD = Sample Center Depth, ft. Co = Uniaxial Compressive Strength of Intact Rock, psi EO = Elastic Modulus of Intact Rock, ksi																	

TOP OF FTG ABUT #2
ELEV. = 376.00

SURVEYED BY
DRAWN BY
SQUAD LEADER

J.TOUCHETTE
C.C. BENDA

DATE
DATE

10/01
10/01

DESIGN FILE NO.
IPARM
FILE

/M&R/89J001/mj001bor.dgn
89J001/sj001bo4.1

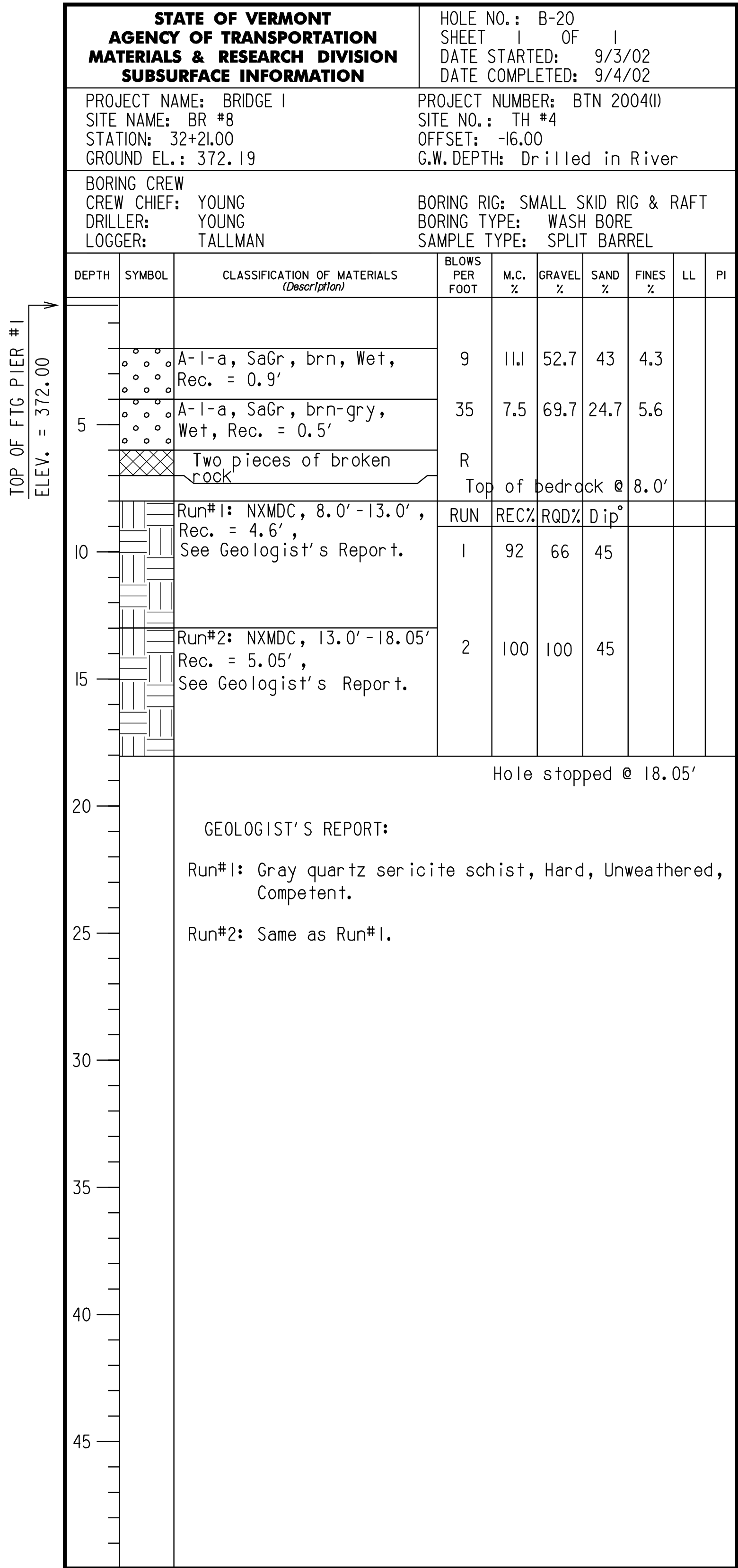
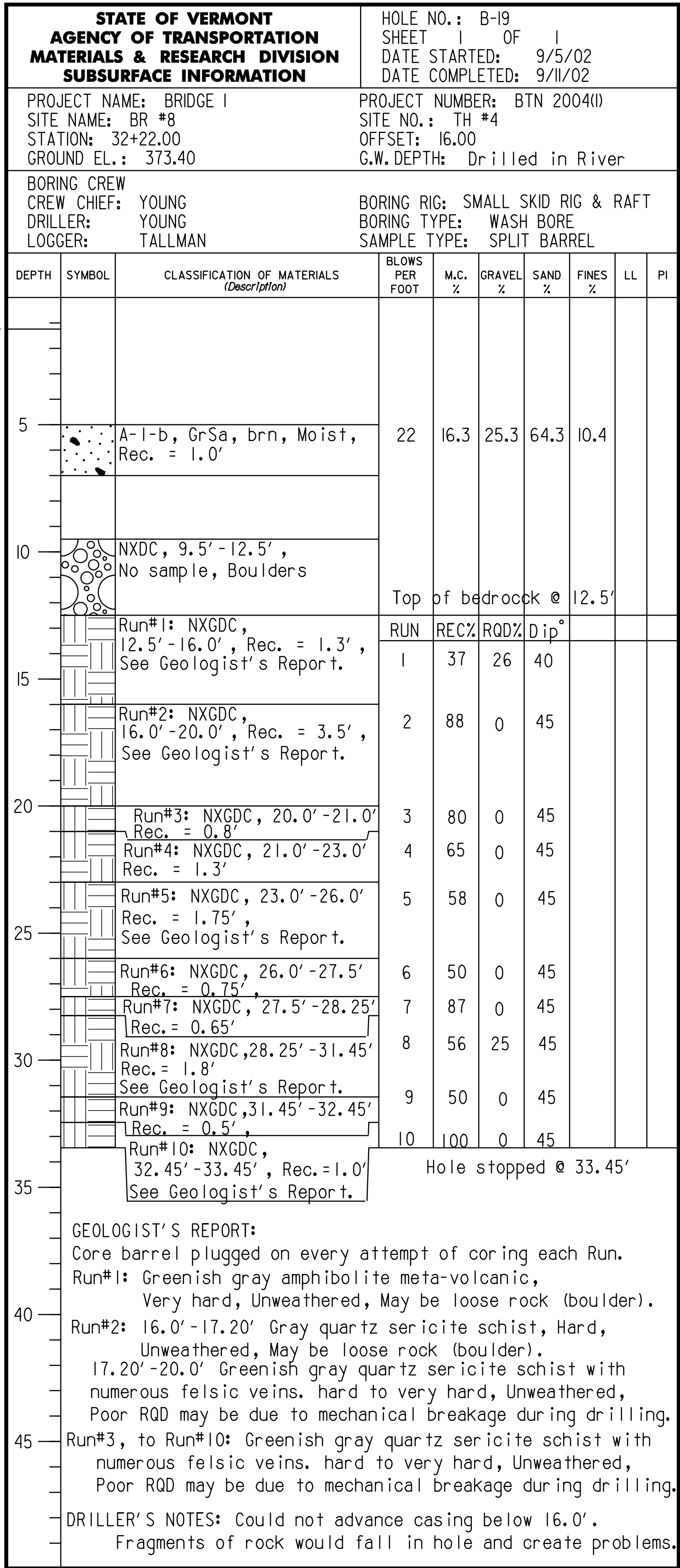
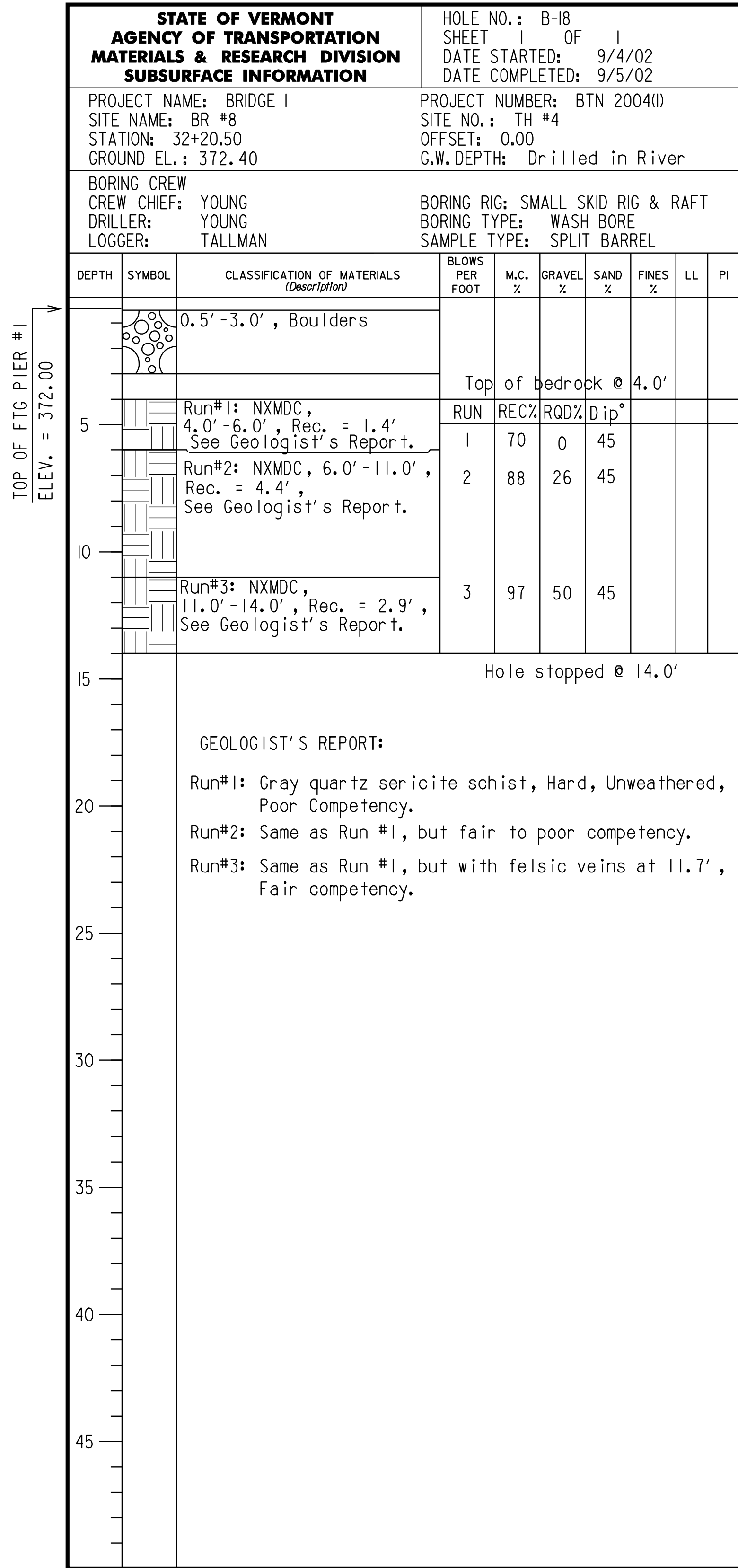
DATE
PLOTTED

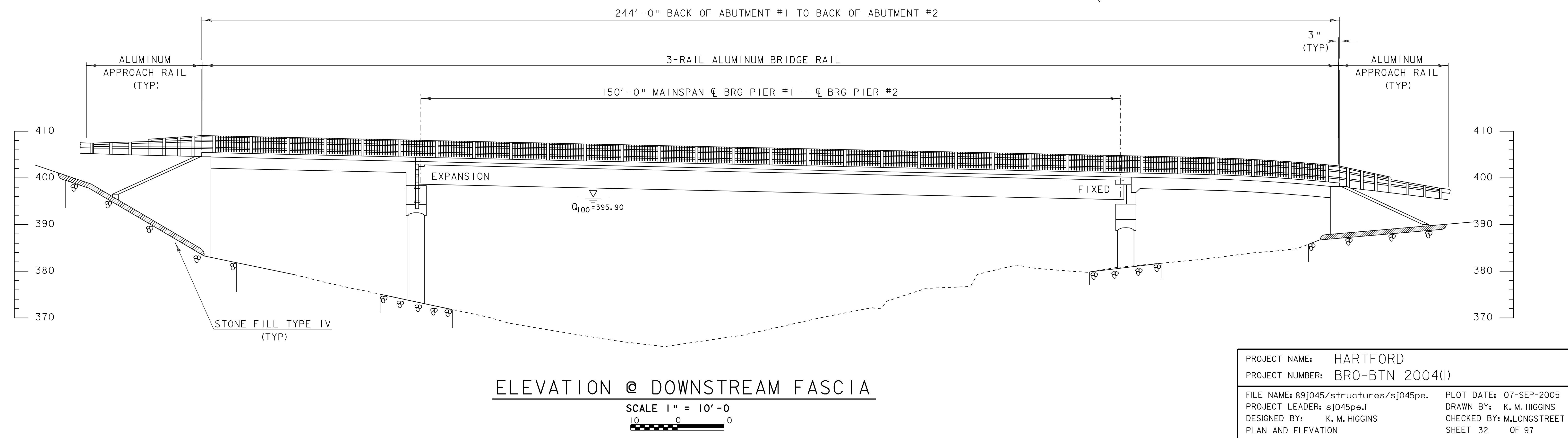
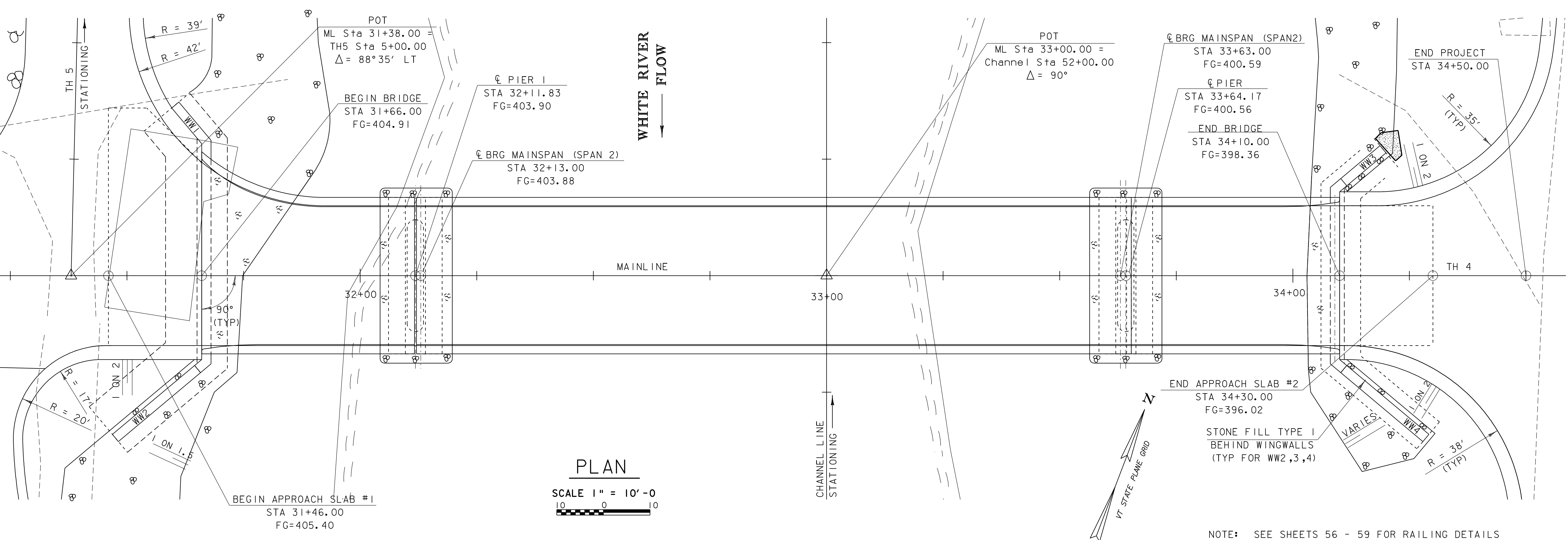
07-SEP-2005

PROJ. NAME
PROJ. NO.
SHEET

BRIDGE 1
BTN 2004 (I)
30 OF 97

SHEETS





PROJECT NAME:	HARTFORD
PROJECT NUMBER:	BRO-BTN 2004(I)
FILE NAME:	89J045/structures/sj045pe.
PROJECT LEADER:	sj045pe.i
DESIGNED BY:	K. M. HIGGINS
PLAN AND ELEVATION	
PLOT DATE:	07-SEP-2005
DRAWN BY:	K. M. HIGGINS
CHECKED BY:	M.LONGSTREET
SHEET	32 OF 97

GENERAL NOTES:

1.

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2001, AND ITS LATEST REVSIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 1996, AND ITS LATEST REVISIONS.
2.

DESIGN IS FOR HS-25-44 LIVE LOADING.
3.

TWO-WAY TRAFFIC SHALL BE MAINTAINED ON THE EXISTING BRIDGE UPSTREAM OF THE NEW STRUCTURE.
4.

THE TOWN WILL MAINTAIN RESPONSIBILITY FOR SNOW REMOVAL ON THE EXISTING BRIDGE THROUGHOUT THE DURATION OF THE PROJECT.
5.

ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES F OR AS NOTED OTHERWISE.
6.

ALL ON-PROJECT SIGNS AND BARRICADES AS REQUIRED BY THE RESIDENT ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCIDENTAL TO THE ITEM "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS". ALL OFF-PROJECT SIGNING SHALL BE THE RESPONSIBILITY OF THE TOWN.
7.

EXISTING SIGNS NOT REUSED SHALL REMAIN THE PROPERTY OF THE TOWN OF BRIDGE 1. THESE SIGNS SHALL BE STOCKPILED ON THE PROJECT AND THEN LOADED ON A TRUCK SUPPLIED BY THE TOWN. CONTACT DIRECTOR OF PUBLIC WORKS RICH MENGE AT (802)295-3622 TO ARRANGE REMOVAL.
8.

ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF THE EXISTING TRUSS SUPERSTRUCTURE AND ANY PORTIONS OF THE SUBSTRUCTURE NOT REMOVED UNDER THE ITEMS "COFFERDAM EXCAVATION, ROCK" OR "UNCLASSIFIED CHANNEL EXCAVATION".
9.

THE EXISTING STEEL IN THE TRUSS 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 DISPOSE OF IT OR RETAIN IT FOR FUTURE USE. THE CONTRACTOR SHALL INFORM THE ENGINEER OF HIS/HER PLANS FOR THE STEEL PRIOR TO ITS REMOVAL.
10.

ITEM 529.15 "REMOVAL OF STRUCTURE (MOD)SHALL BE USED FOR THE REMOVAL AND RELOCATION OF THE EXISTING BARN AT STATION 31+ 50 SEE SPECIAL PROVISIONS.
11.

THE STONEFILL TYPE IV UNDER THE BRIDGE SHALL BE PLACED BEFORE THE SUPERSTRUCTURES ARE SET.
12.

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.
13.

THE MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE TWO INCHES ALONG WALL FACES AGAINST EARTH, AND THREE INCHES ELSEWHERE UNLESS DETAILED OTHERWISE.
14.

REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE AS FOLLOWS:

SPACING

+/- 1"

CLEARANCE

+/-¼"
15.

ALL REINFORCING STEEL IN THE CONCRETE DECK AND BRIDGE CURBS SHALL BE EPOXY COATED AND PAID FOR UNDER THE ITEM 507.17. WHEN EPOXY COATED REINFORCING STEEL IS CUT THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.
16.

THE BANKING ON VT RTE 14 SOUTHBOUND SHALL BE MODIFIED AS SHOWN ON THE BANKING DIAGRAM ON SHEET 81. ALL SIGNS REQUIRED FOR THIS WORK SHALL BE PAID FOR UNDER THE ITEM 527.10 "MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS". ALL OTHER NECESSARY ITEMS HAVE BEEN INCLUDED UNDER THEIR APPROPRIATE ITEM NUMBERS.
- CONCRETE NOTES:
17.

ALL PORTIONS OF THE SUPERSTRUCTURE , SHALL BE "CONCRETE, HIGH PERFORMANCE- CLASS A" (MOD-5000PSI).
18.

ALL PORTIONS OF THE SUBSTRUCTURES INCLUDING PIERS SHALL BE "CONCRETE, HIGH PERFORMANCE - CLASS B".
19.

ALL PORTIONS OF THE SUBFOOTING SHALL BE "CONCRETE, CLASS C".
20.

SURFACES OF BRIDGE SEATS UNDER THE BEARING DEVICES SHALL BE LEVEL. OTHER AREAS OF THE BRIDGE SEAT SHALL BE SLOPED ¼" PER FOOT TOWARD MIDSPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A STEEL TROWEL OR MAGNESIUM FLOAT FINISH.
21.

SPAN #2 DECK IS TO BE PLACED IN ONE CONTINUOUS PLACEMENT WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTORS CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED. A 96 HOUR DELAY BETWEEN THE COMPLETION OF ONE DAYS PLACEMENT AND THE BEGINNING OF ANOTHER PLACEMENT SHALL BE OBSERVED.

22.

CONCRETE PORTIONS OF THE ABUTMENT AND WINGWALLS ABOVE THE ADJACENT BRIDGE SEAT ELEVATIONS SHALL NOT BE PLACED UNTIL THE FINISH GRADE HAS BEEN DETERMINED BY THE RESIDENT ENGINEER.
23.

THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT. UPWARD KEYS SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
24.

JOINTS AND SCORE MARKS IN THE CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
25.

ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1"X1".
- STRUCTURAL STEEL NOTES:
26.

ALL STRUCTURAL STEEL PAID UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER (MOD-ERECTION PLAN)) " SHALL CONFORM TO AASHTO M-270 GRADE 50W. ALL STRUCTURAL STEEL PAID FOR UNDER THE ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER) (MOD HPS70W) SHALL CONFORM TO ASTM A709-00 GRADE HPS70W. SEE SPECIAL PROVISIONS FOR SPECIFICATIONS FOR GRADE HPS70W STEEL
27.

AFTER THE SUPERSTRUCTURE STEEL HAS BEEN SET ON THE BEARINGS, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF EACH BEAM UNDER THE DIRECTION OF THE RESIDENT ENGINEER. THESE ELEVATIONS SHALL BE USED IN DETERMINING THE FINAL GRADE.
28.

FLEMMING BRACKETS SHALL BE DESIGNED BY THE CONTRACTOR, BUT SHALL BE LIMITED TO A MAXIMUM SPACING OF 4'-0".
29.

ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FILLED WITH BOLTS CONFORMING TO AASHTO M 164 TYPE III.
30.

THE END OF THE GIRDERS AT PIER #1 SHALL BE GIVEN A SHOP APPLIED PAINT SYSTEM FOR A DISTANCE EQUAL TO 8' AND GREASED AFTER INSTALLATION PER SUPPLEMENTAL SPECIFICATION 513. THE DIAPHRAGMS AT PIER #1 SHALL ALSO BE PAINTED AND GREASED. THE PAINT SHALL BE BROWN COLOR CHIP #20059
31.

THE FAYING SURFACES ON THE CONNECTION PLATES SHALL BE PREPARED AS CLASS "C". THESE SURFACES SHALL BE PROTECTED FROM DAMAGE AND CORROSION PRIOR TO THE CONNECTION.
- SUBSTRUCTURE ON LEDGE:
32.

FOOTINGS AND SUB-FOOTINGS SHALL BE FOUNDED ON LEDGE WHICH HAS BEEN CLEANED OF ALL LOOSE ROCK AND DEBRIS TO ENSURE THAT SUBSTRUCTURES ARE PLACED ON COMPETENT ROCK.
33.

LEDGE THAT IS EXCAVATED FOR PLACEMENT OF FOOTINGS SHALL BE EXCAVATED TO PROVIDE A LEVEL SURFACE OR AS DIRECTED BY THE RESIDENT ENGINEER.
34.

A MAXIMUM OF 6" OVERBREAKAGE WILL BE REPLACED WITH " HIGH PERFORMANCE CLASS B CONCRETE". OVERBREAKAGE BEYOND 6" SHALL BE REPLACED WITH HIGH PERFORMANCE CLASS B CONCRETE" AT THE EXPENSE OF THE CONTRACTOR.
35.

THE LIMITS OF THE SUBFOOTING SHALL BE 1'-0" OUTSIDE THE LIMITS OF THE FOOTING.
36.

THE SUBSTRUCTURE UNITS HAVE BEEN DESIGNED FOR THE TOP OF FOOTING ELEVATIONS SHOWN ON THE PLANS. IF THE LEDGE ELEVATION IS GREATER THAN 1'-0" BELOW THE DESIGN BOTTOM OF FOOTING, A SUBFOOTING SHALL BE POURED SO THAT THE DESIGN TOP OF FOOTING IS AT THE REQUIRED ELEVATION.
37.

FOR ALL SUBSTRUCTURE, WHERE LEDGE IS WITHIN ONE FOOT FROM THE BOTTOM OF THE FOOTING AS DESIGNED, THE FOOTING MAY BE POURED TO THE TOP OF THE LEDGE USING "HIGH PERFORMANCE CLASS B CONCRETE".
38.

FOR ALL SUBSTRUCTURE UNITS WHERE LEDGE IS BELOW TOP OF FOOTING BY LESS THAN THE DEPTH OF FOOTING, THE LEDGE SHALL BE EXCAVATED DOWN TO THE INDICATED BOTTOM OF FOOTING FOR THE FULL WIDTH (TOE TO HEEL) OF THE CONFIGURATION.
39.

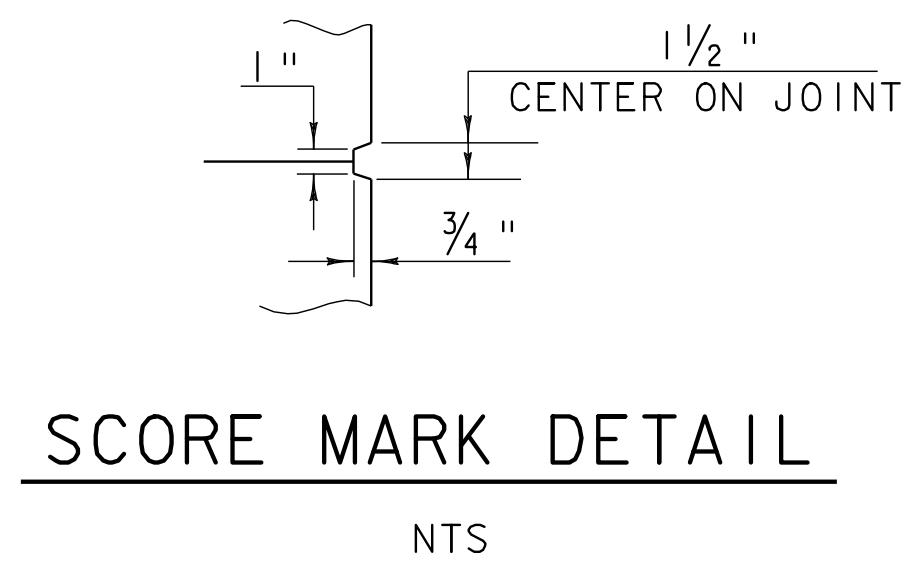
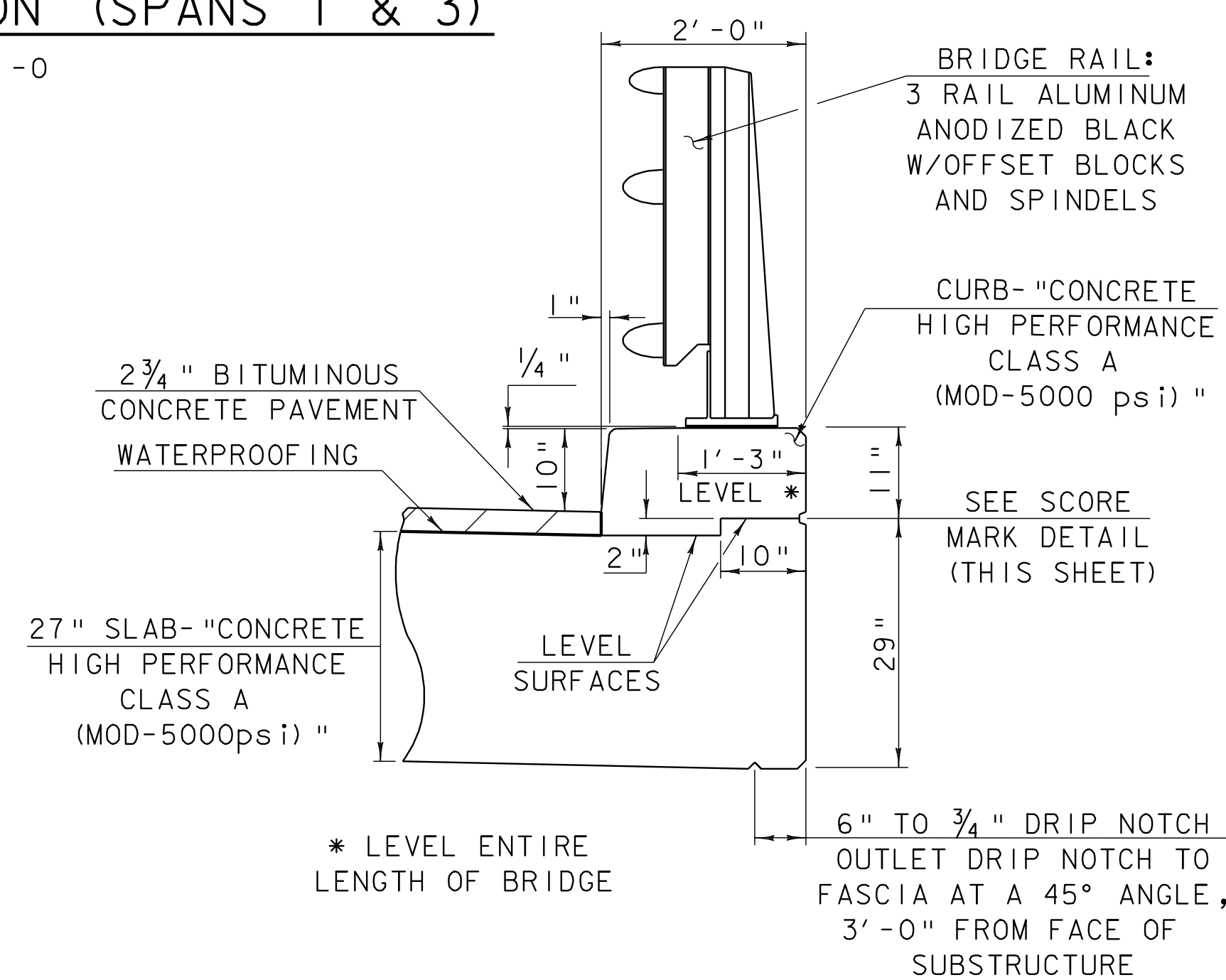
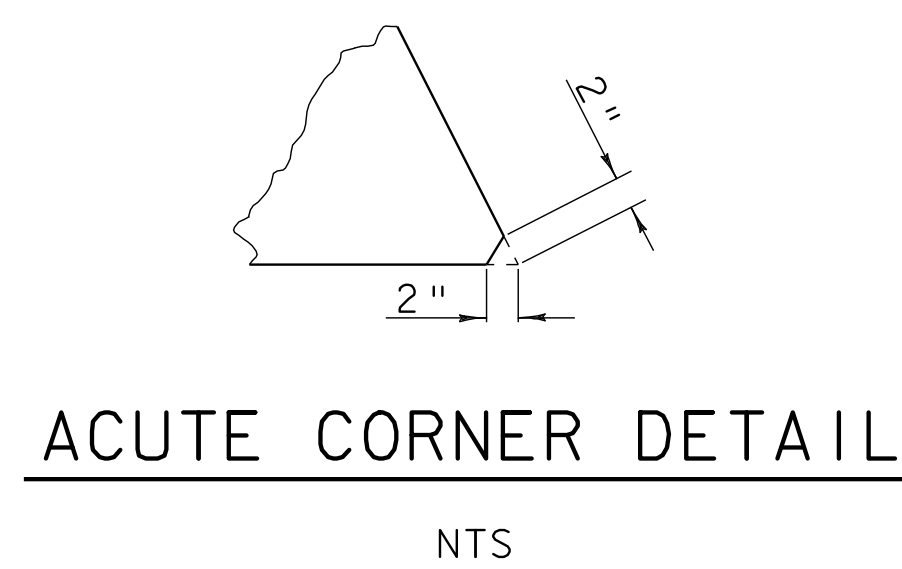
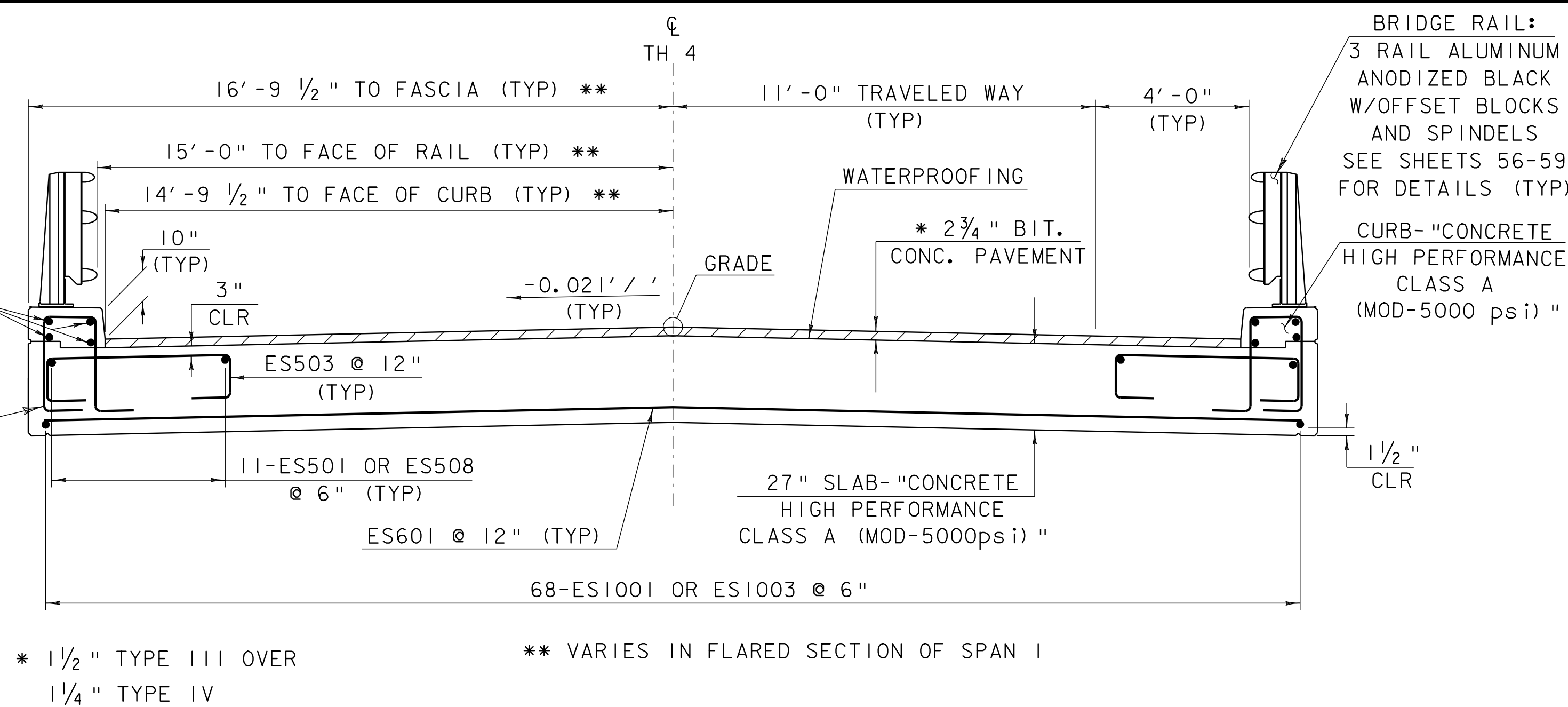
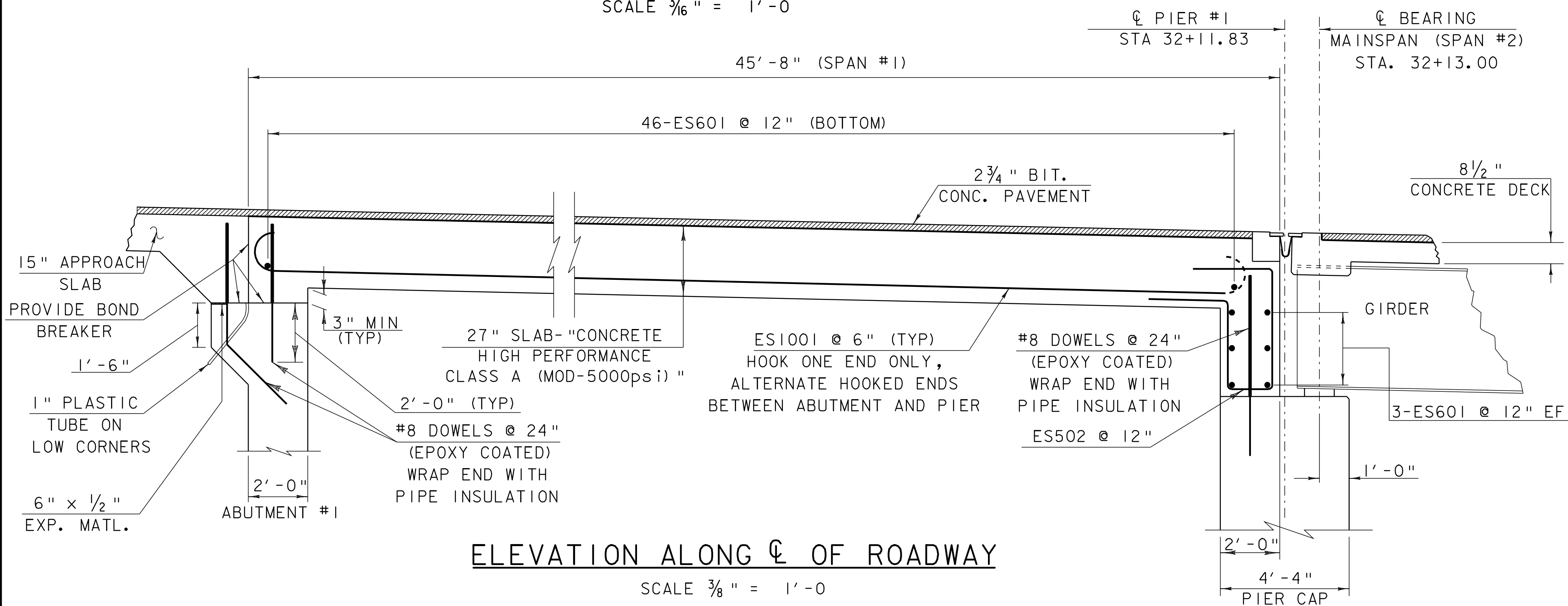
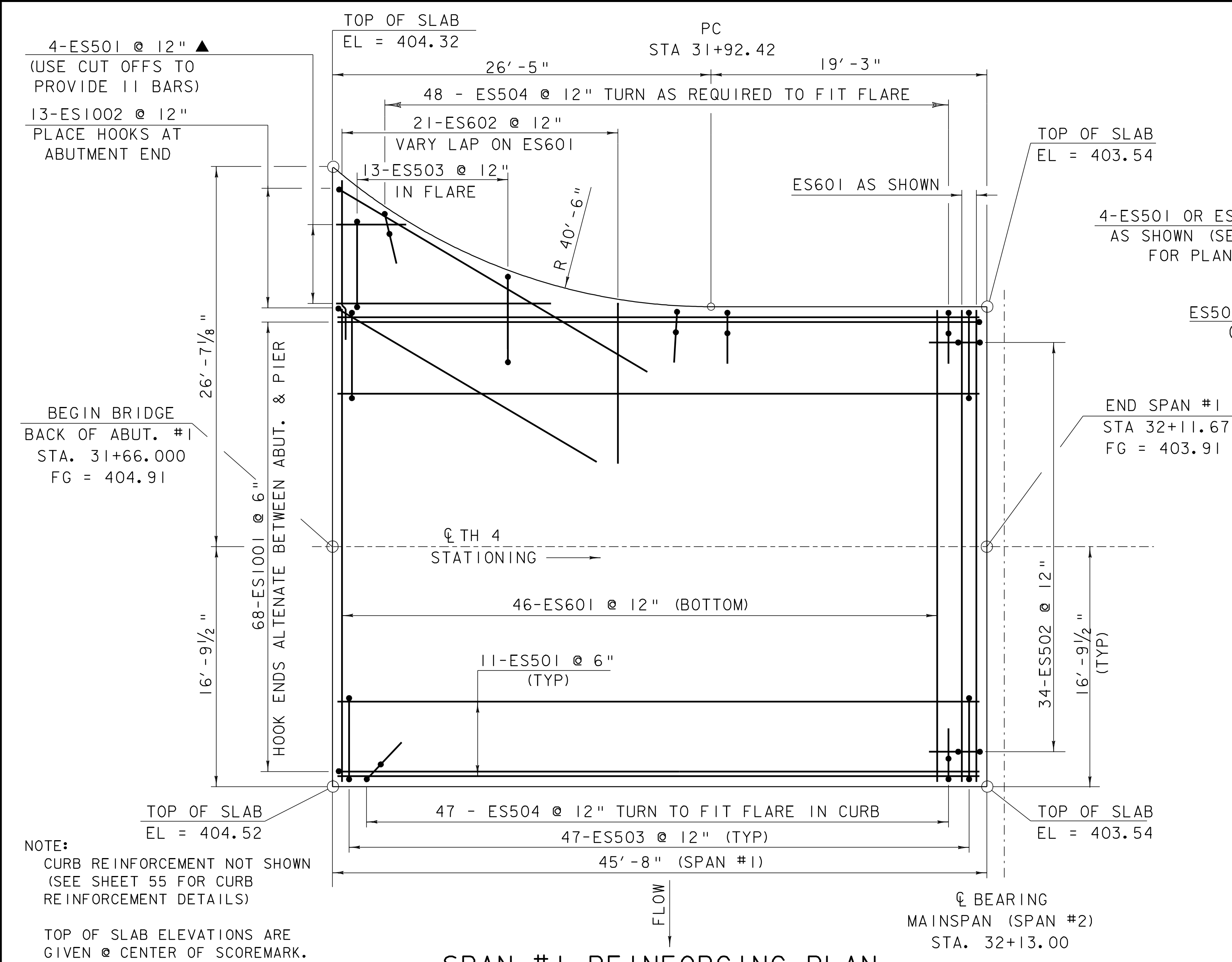
IF LEDGE IS ABOVE THE DESIGN TOP OF FOOTING, THE FOOTING MAY BE RAISED. BEFORE ANY UPWARD ADJUSTMENT IS MADE IN FOOTING ELEVATION, THE PROJECT MANAGER SHALL BE CONTACTED AND PROVIDED WITH A LEDGE PROFILE. NO FURTHER WORK SHALL BE DONE UNTIL APPROVAL OF THE CONFIGURATION IS RECEIVED.
40.

#8 DOWELS SHALL BE DRILLED AND GROUTED INTO THE LEDGE AS SHOWN ON THE PLANS. THE DOWELS SHALL HAVE A 2'-0" EMBEDMENT INTO THE LEDGE AND SHALL EXTEND INTO THE FOOTING A MINIMUM OF 1'-6". IN AREAS WHERE A SUBFOOTING IS REQUIRED # 8 DOWELS WILL ALSO BE USED AT THE INTERFACE BETWEEN SUBFOOTING AND FOOTING. THE DRILLING AND GROUTING SHALL BE PAID FOR UNDER THE ITEM 507.16 DRILLING AND GROUTING DOWELS", HOWEVER, THE DOWELS SHALL BE PAID FOR UNDER THE ITEM 507.15 "REINFORCING STEEL".
41.

IF BLASTING IS REQUIRED AND/OR PERMISSIBLE IN THIS LOCATION, THE CONTRACTOR SHALL ACT IN ACCORDANCE WITH VERMONT STANDARD SPCIFICATION 501.10 (f).
- ENVIRONMENTAL CONCERNS:
42.

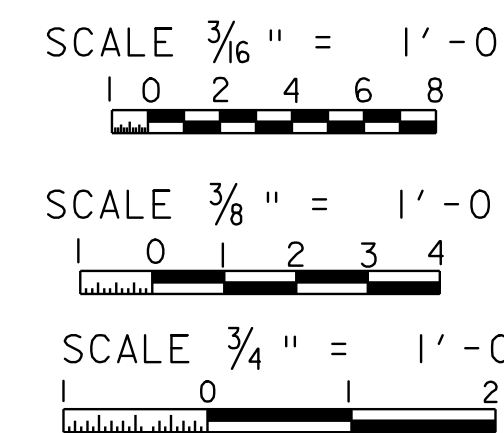
DUE TO THE PRESENCE OF AN ENDANGERED PLANT (CAREX GARBERI) AT PIER #2 AND ABUTMENT #2, SNOW FENCING SHALL BE ERECTED TO PROTECT THESE PLANTS DURING CONSTRUCTION. APPROXIMATE PLANT LOCATION IS SHOWN ON THE PLANS. VTRANS BIOLOGIST JOHN LEPORE SHALL BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION AND SHALL DETERMINE THE EXACT LOCATION OF THE FENCING. PAYMENT FOR THE FENCING SHALL BE MADE UNDER THE ITEM 620.70 SNOW FENCE (MOD-PDF). HAY BALES MAY BE USED TO SECURE THE FENCING WHERE LEDGE PREVENTS THE DRIVING OF POSTS.

PROJECT:	PROJECT NO.:
BRIDGE 1	BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001notes.dgn	
IPARM FILE NAME: sj001notes.i	PLOT DATE: 07-SEP-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	CHECKED BY: M. LONGSTREET
GENERAL NOTES	SHEET: 33 OF 97

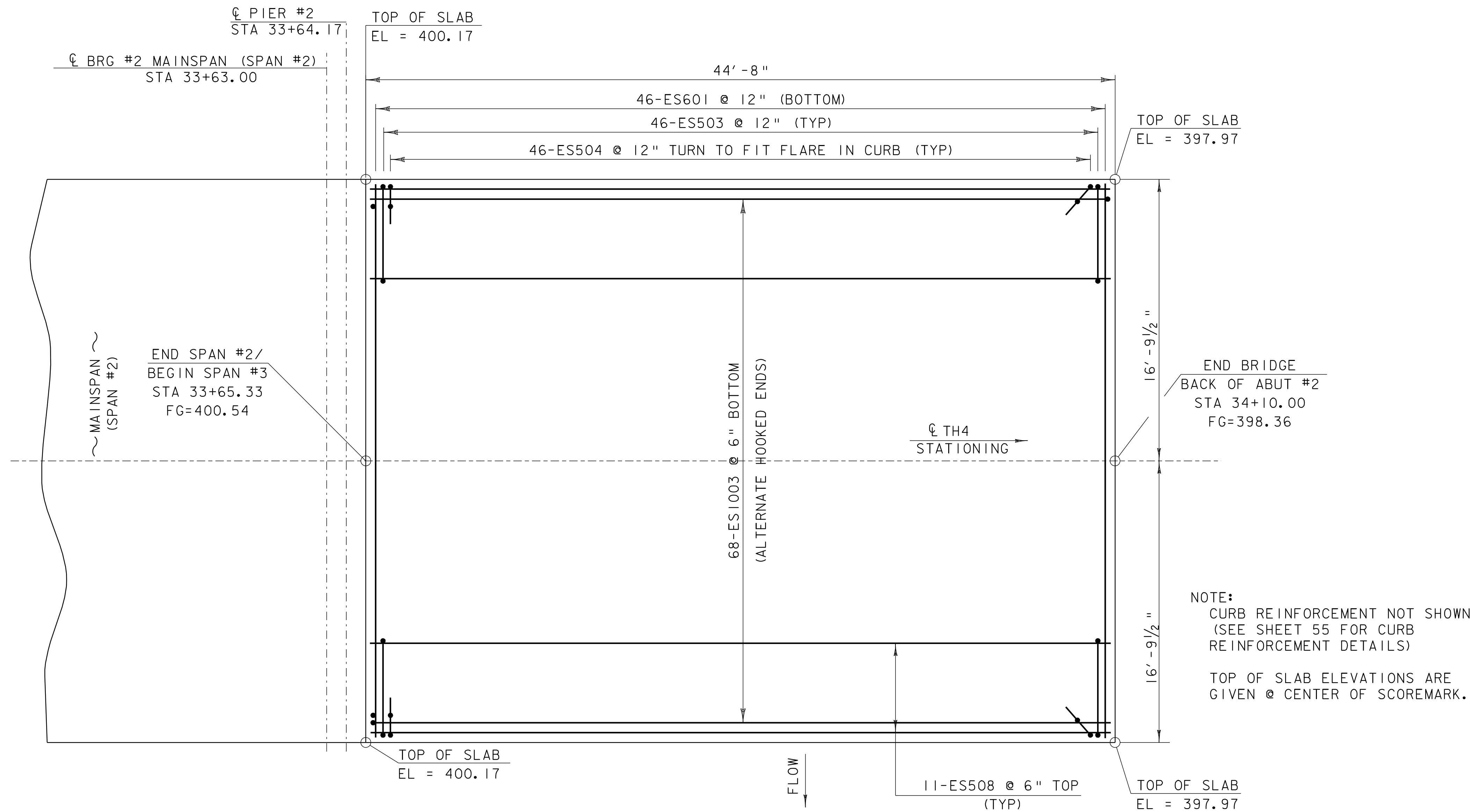


NOTE:

- ▲ = CUT TO FIT IN FIELD
- 3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS

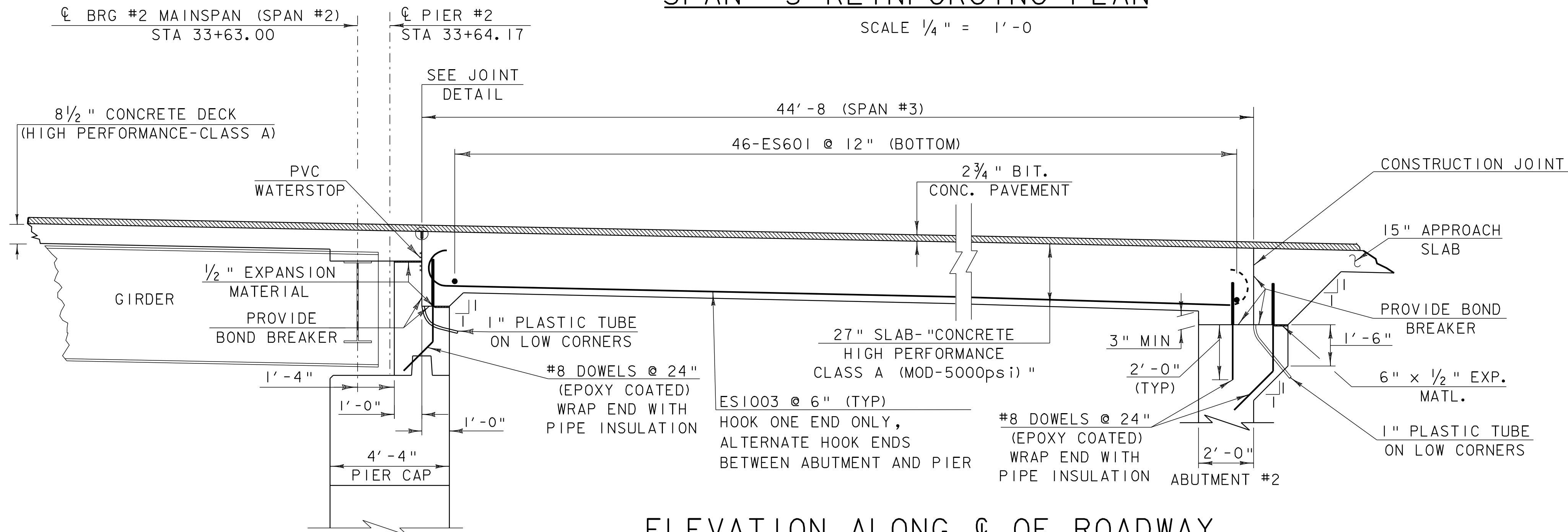


PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001asup.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001span1.i	DRAWN BY: T. HUSK
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 34 OF 97
SPAN #1 DETAILS	



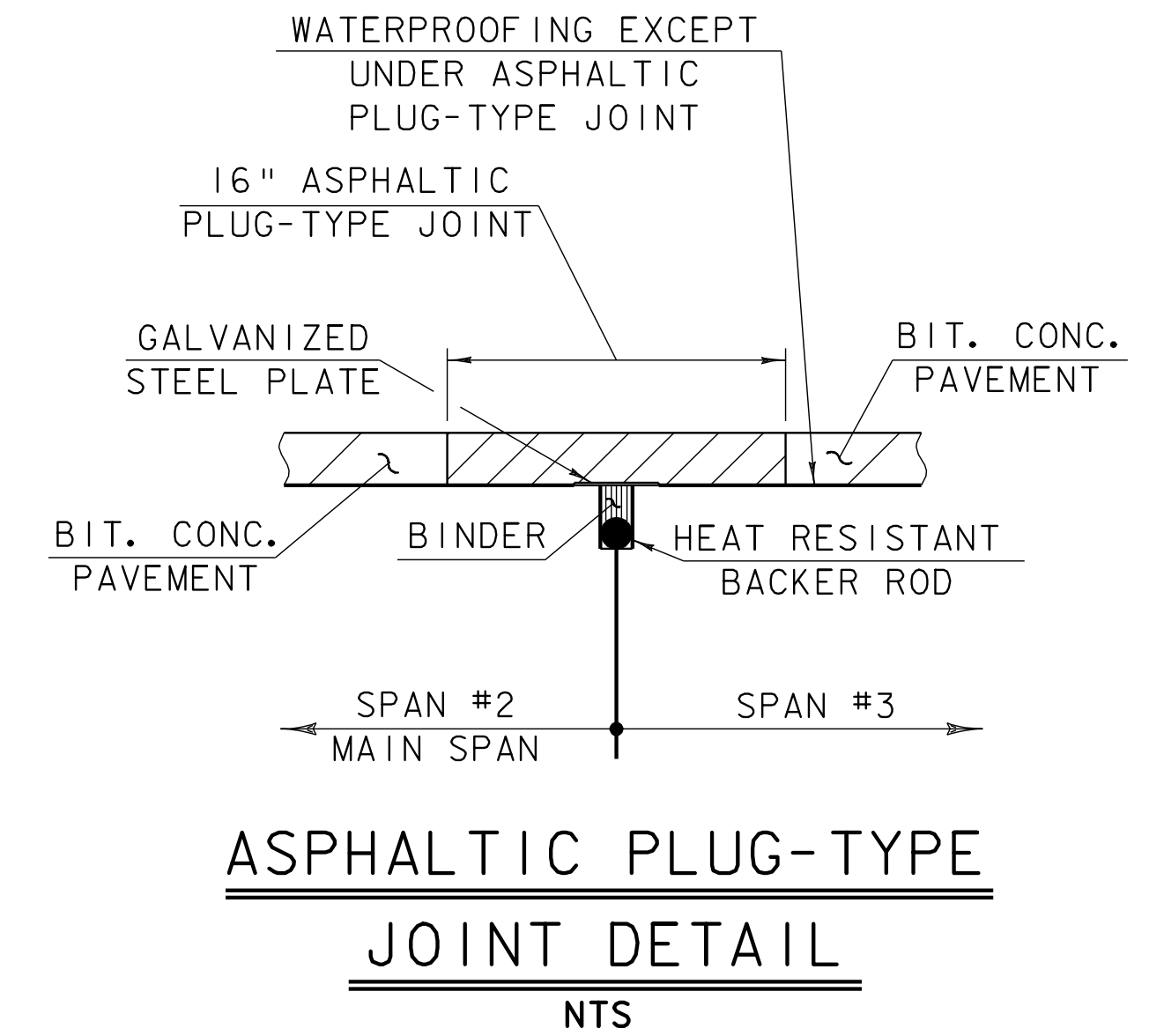
SPAN #3 REINFORCING PLAN

SCALE 1/4" = 1'-0



ELEVATION ALONG CL OF ROADWAY

SCALE 3/8" = 1'-0



NOTE:

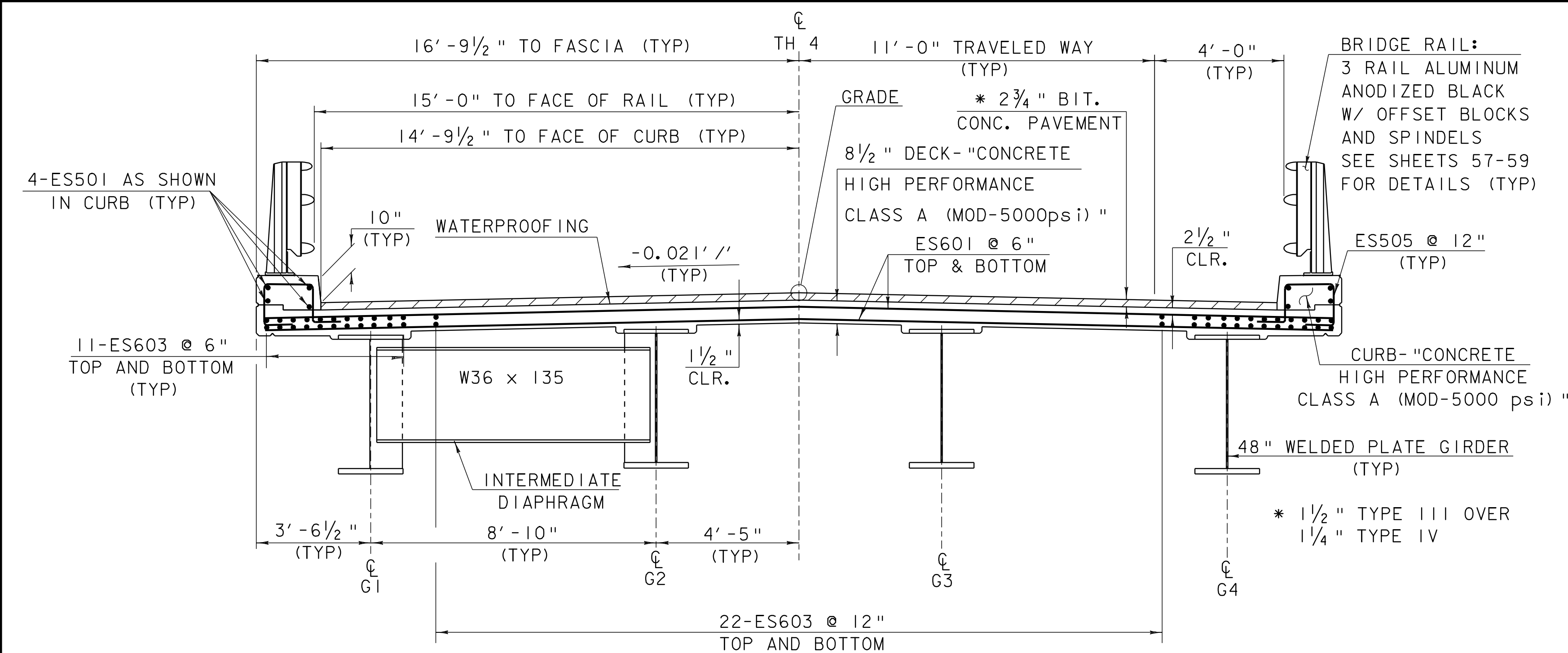
- SEE SHEET 38 FOR BRIDGE CAMBER
- ▲ = CUT TO FIT IN FIELD
- 3" CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS

SCALE 1/4" = 1'-0

SCALE 3/8" = 1'-0

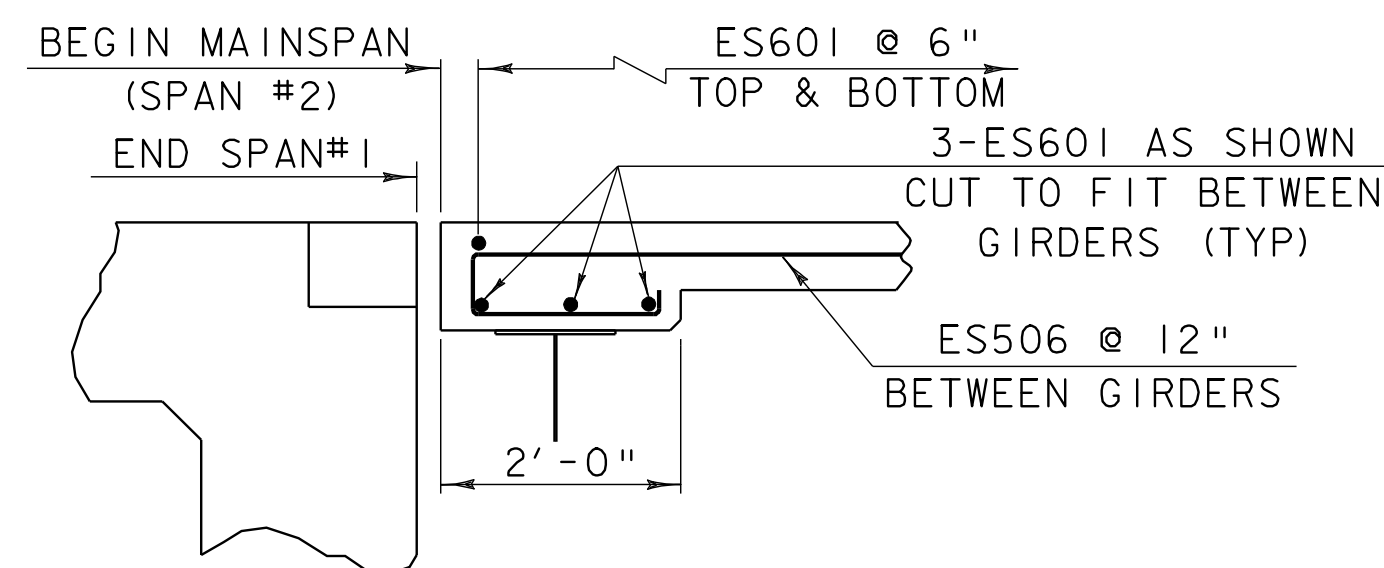
SCALE 3/4" = 1'-0

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001asup.dgn	IPARM FILE NAME: sj001span3.i
DESIGNED BY: K. M. HIGGINS	PLLOT DATE: 07-SEP-2005
SQUAD LEADER: C. P. MANAGER	DRAWN BY: T. HUSK
SPAN #3 DETAILS	CHECKED BY: K. M. HIGGINS
	SHEET: 35 OF 97



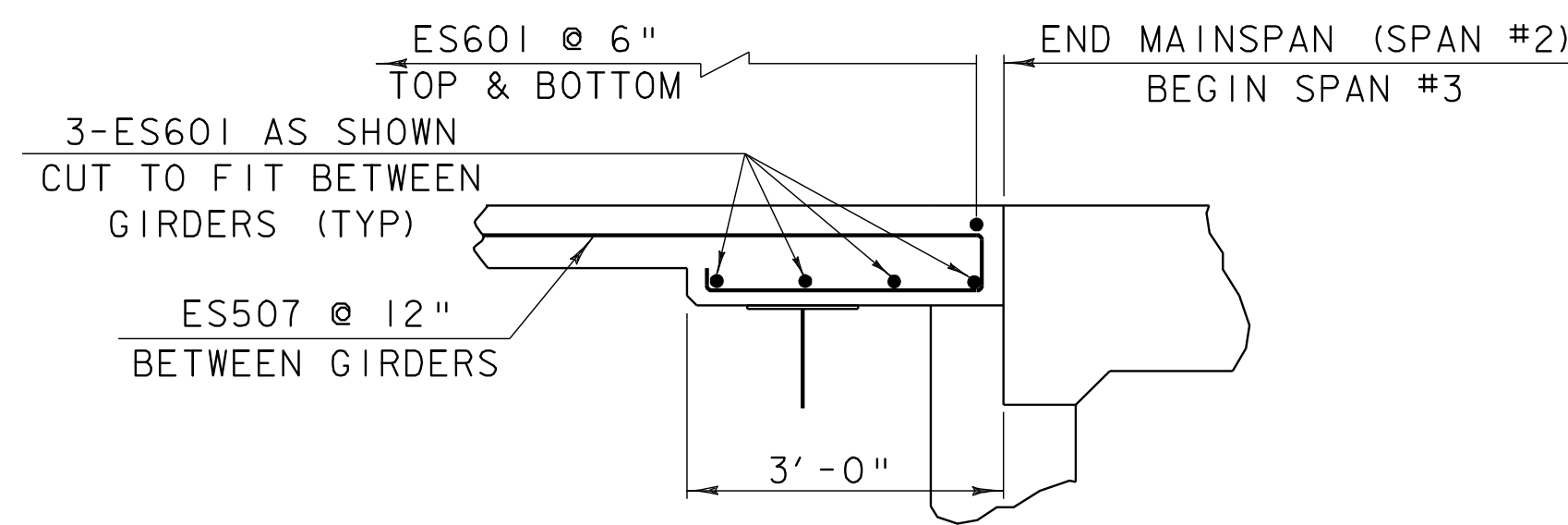
TYPICAL BRIDGE SECTION MAINSPAN (SPAN #2)

SCALE 3/8" = 1'-0



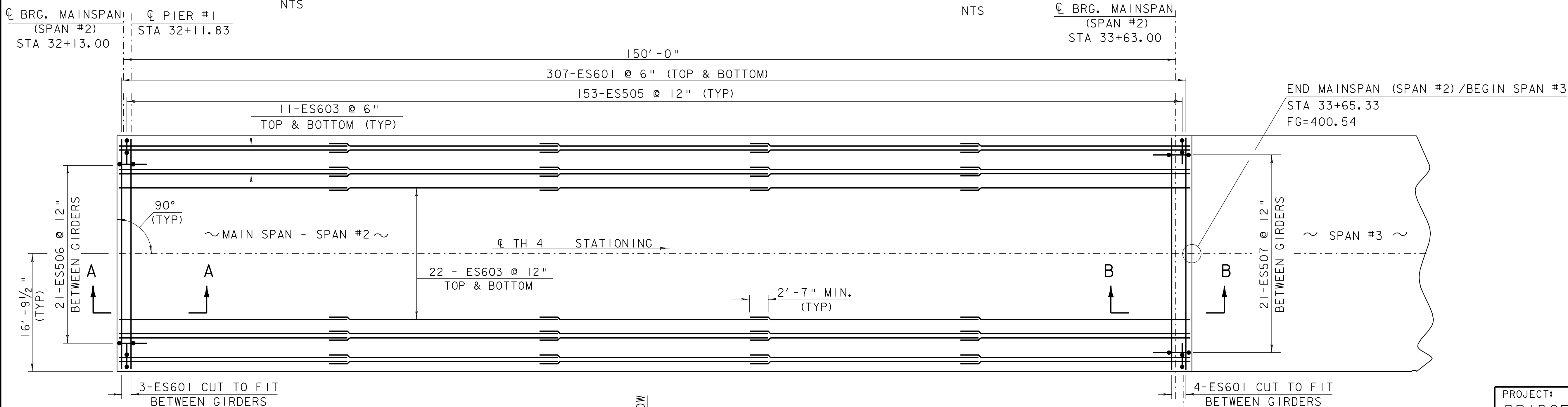
SECTION A-A

NTS



SECTION B-B

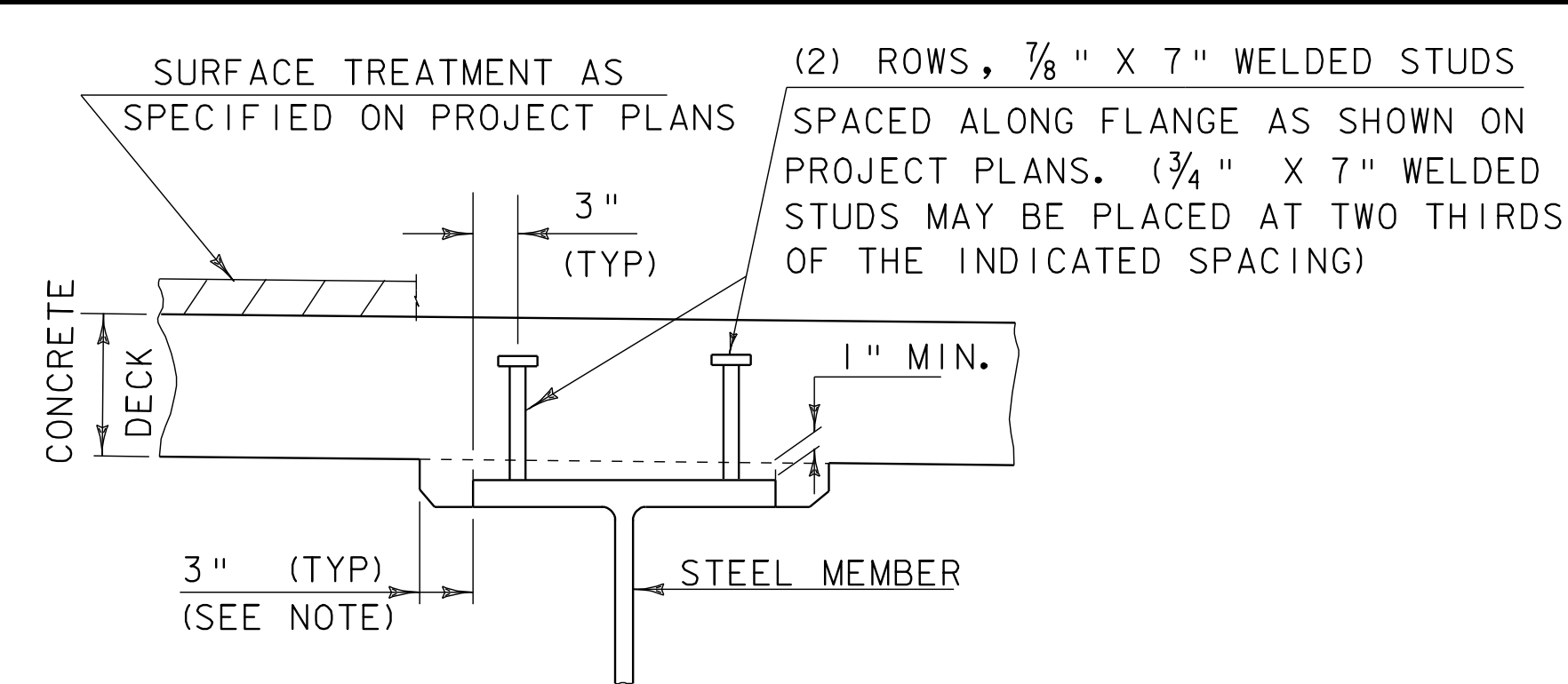
NTS



MAINSPAN (SPAN #2) REINFORCING PLAN

SCALE 1/8" = 1'-0

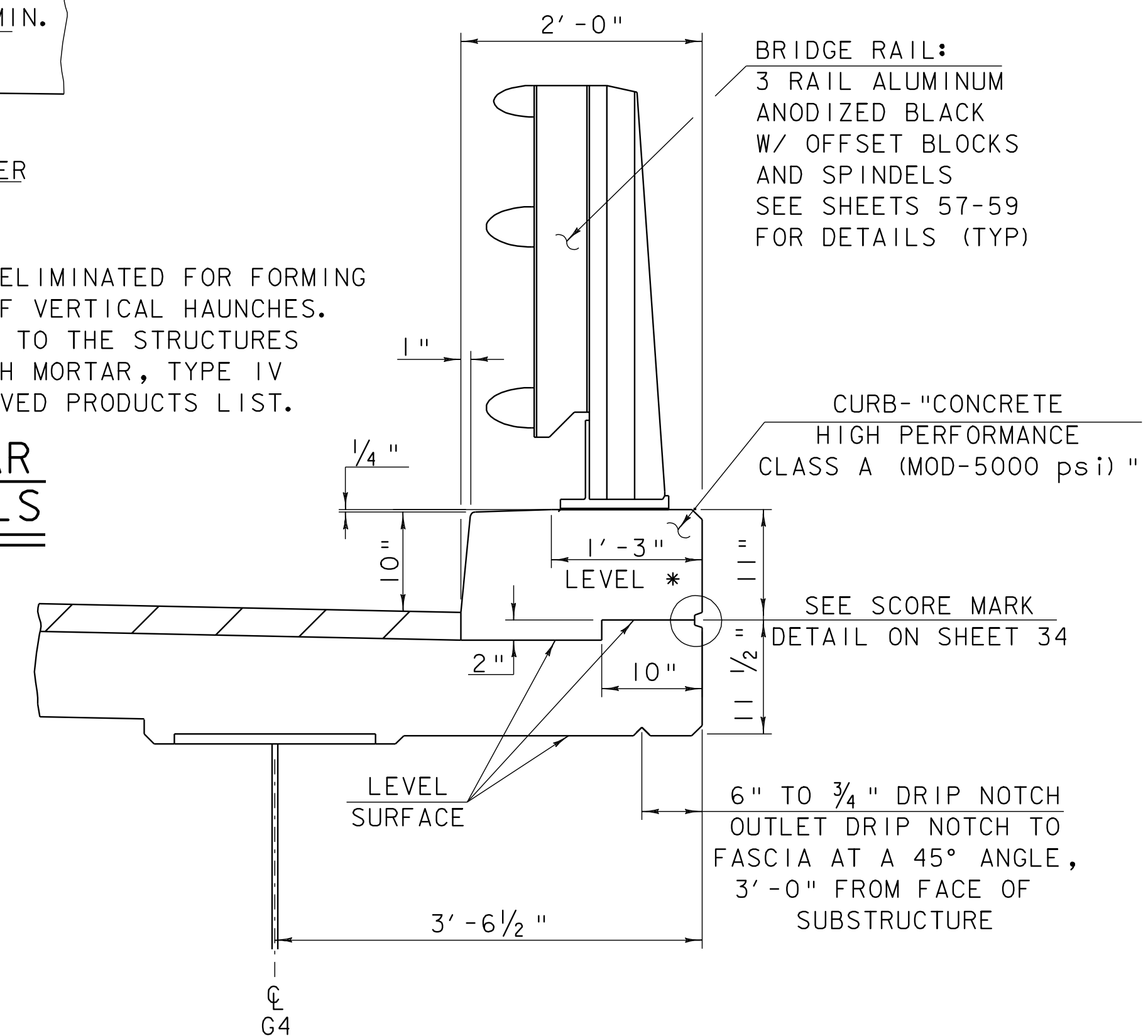
NOTE:
CURB BARS NOT SHOWN
(SEE SHEET 55 FOR CURB BAR DETAILS)



NOTE: THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. SYSTEMS SHALL BE SUBMITTED FOR APPROVAL TO THE STRUCTURES ENGINEER. ALL VOIDS SHALL BE FILLED WITH MORTAR, TYPE IV OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST.

HAUNCH AND SHEAR CONNECTOR DETAILS

NTS



CURB DETAIL

SCALE 1" = 1'-0

* LEVEL ENTIRE LENGTH OF BRIDGE

SCALE 1/8" = 1'-0

1 0 2 4 6 8

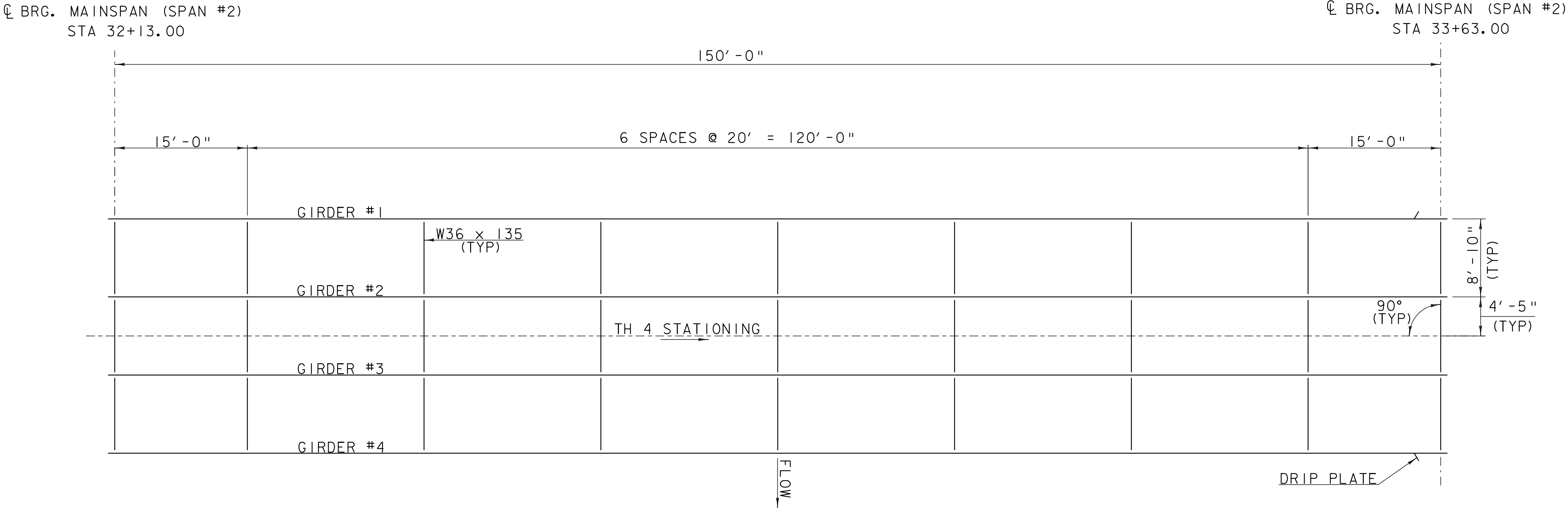
SCALE 3/8" = 1'-0

1 0 1 2 3 4

SCALE 1" = 1'-0

1 9 6 3 0 1 2

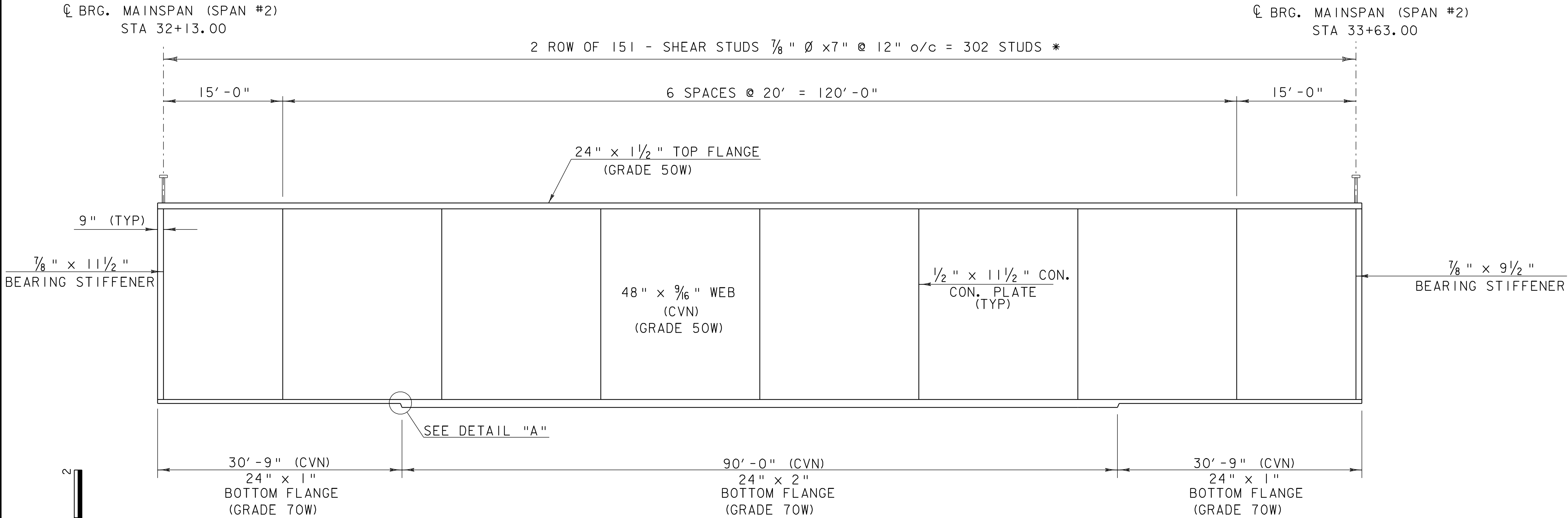
PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89J045/structures/sj001msup.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001deckplan.i	DRAWN BY: T. HUSK
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	
SPAN #2 MAINSPAN REINFORCING DETAILS	SHEET: 36 OF 97



FRAMING PLAN

SCALE 1/8" = 1'-0"

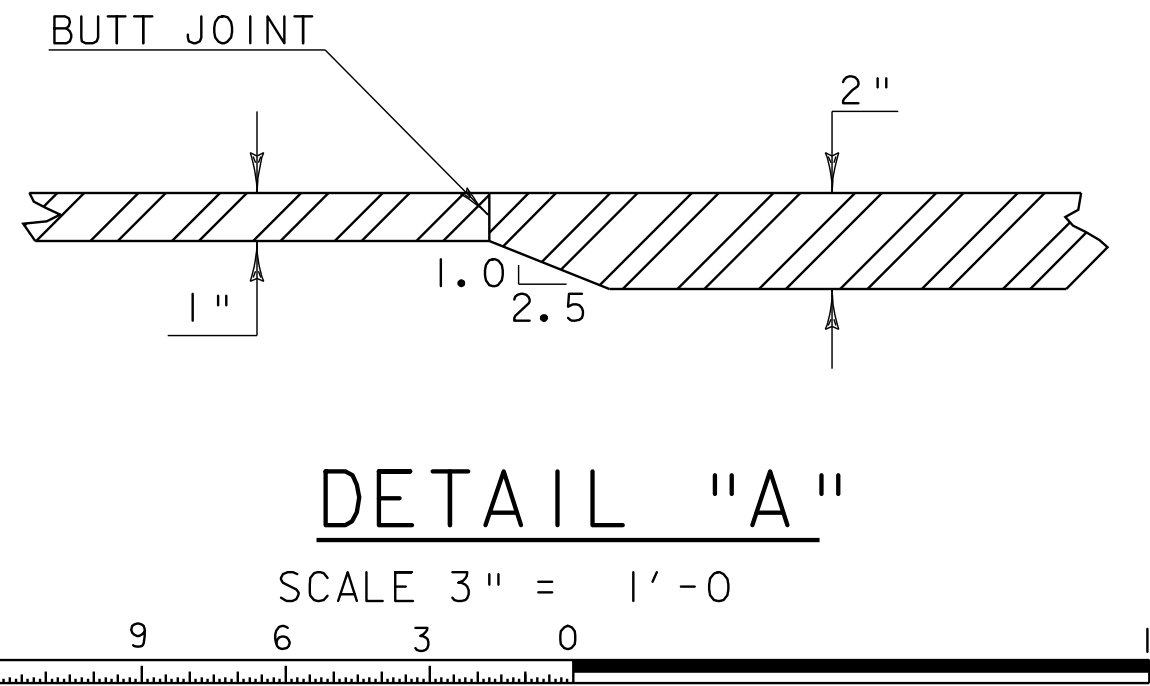
10 2 4 6 8



GIRDER ELEVATION

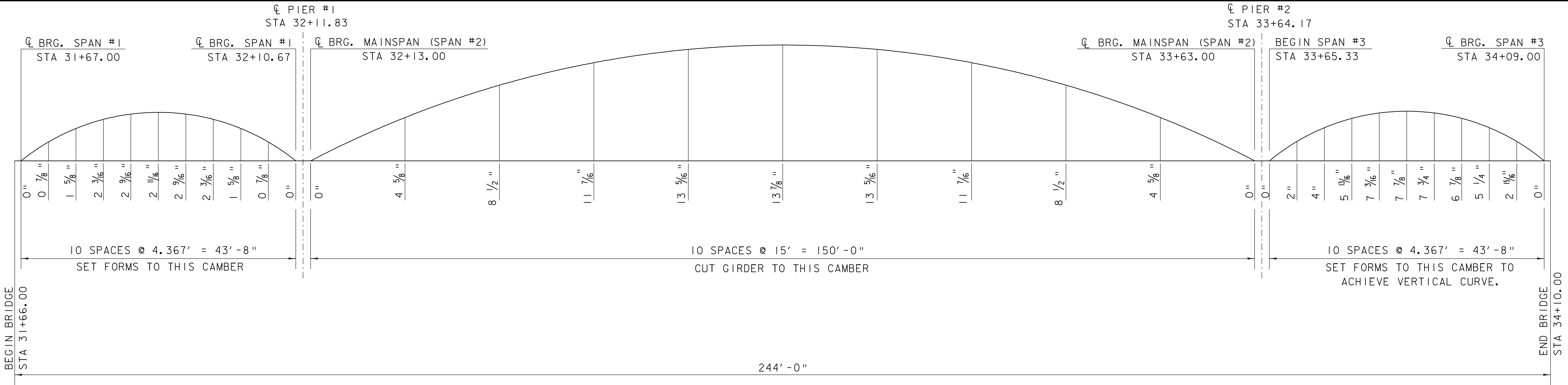
HORIZONTAL SCALE: 1/8" = 1'-0"

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



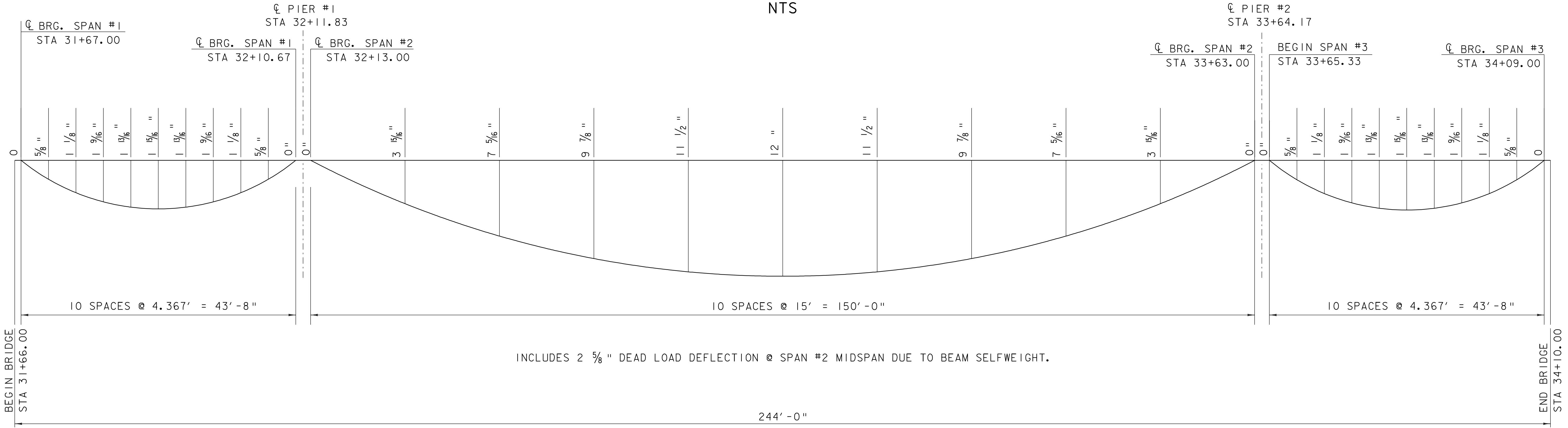
* SEE HAUNCH DETAIL ON SHEET 36.

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001msup.dgn	
IPARM FILE NAME: sj001framing.i	PLOT DATE: 07-SEP-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: T. HUSK
SQUAD LEADER: C. P. MANAGER	CHECKED BY: K. M. HIGGINS
MAINSPAN FRAMING PLAN	SHEET: 37 OF 97



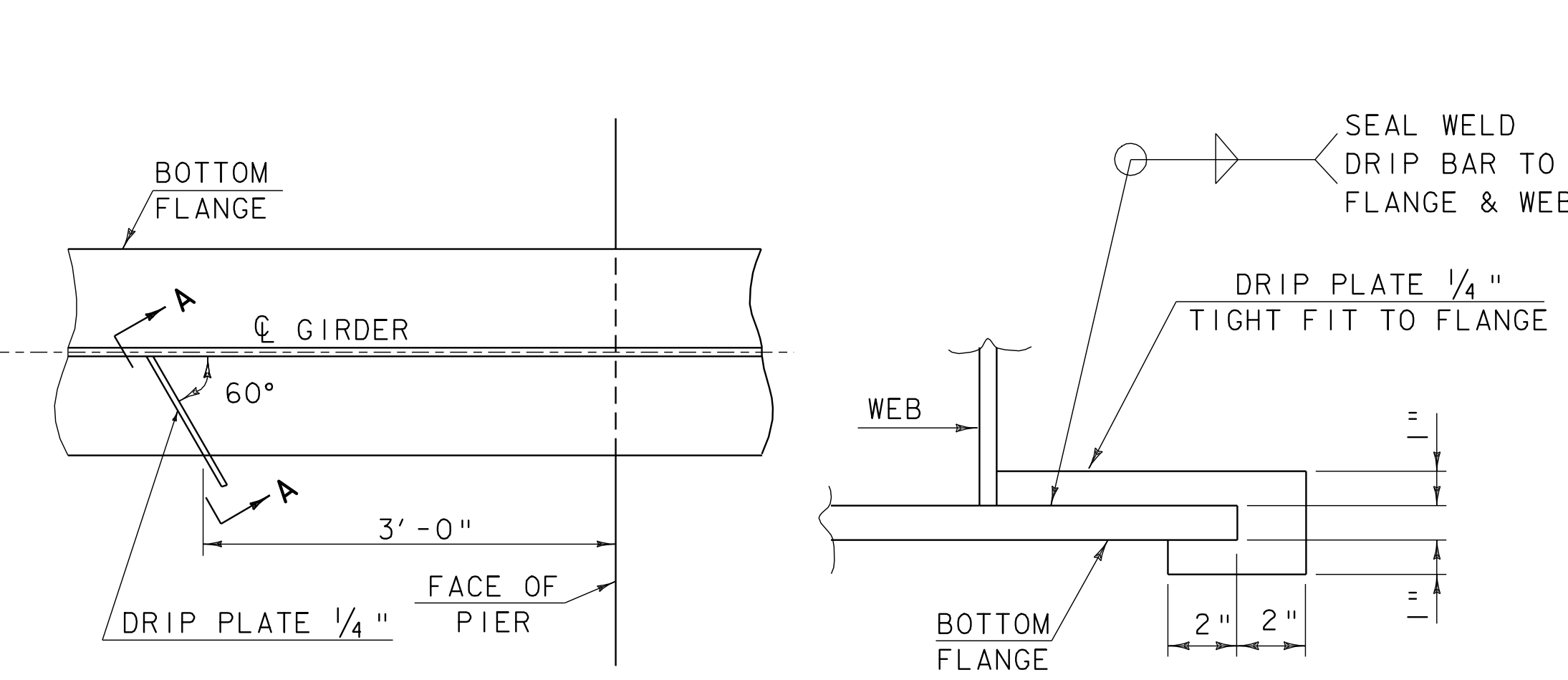
NOTE: CAMBER DIAGRAM INCLUDES 2 5/8" DEAD LOAD DEFLECTION @ SPAN #2 MIDSPAN DUE TO BEAM SELFWEIGHT. CALCULATED CAMBER @ SPAN #2 MIDSPAN MEASURED WHEN BEAM IS SUPPORTED ONLY AT CL BEARING POINTS SHALL BE 11 1/4"

CAMBER DIAGRAM
NTS



DEADLOAD DEFLECTION DIAGRAM
NTS

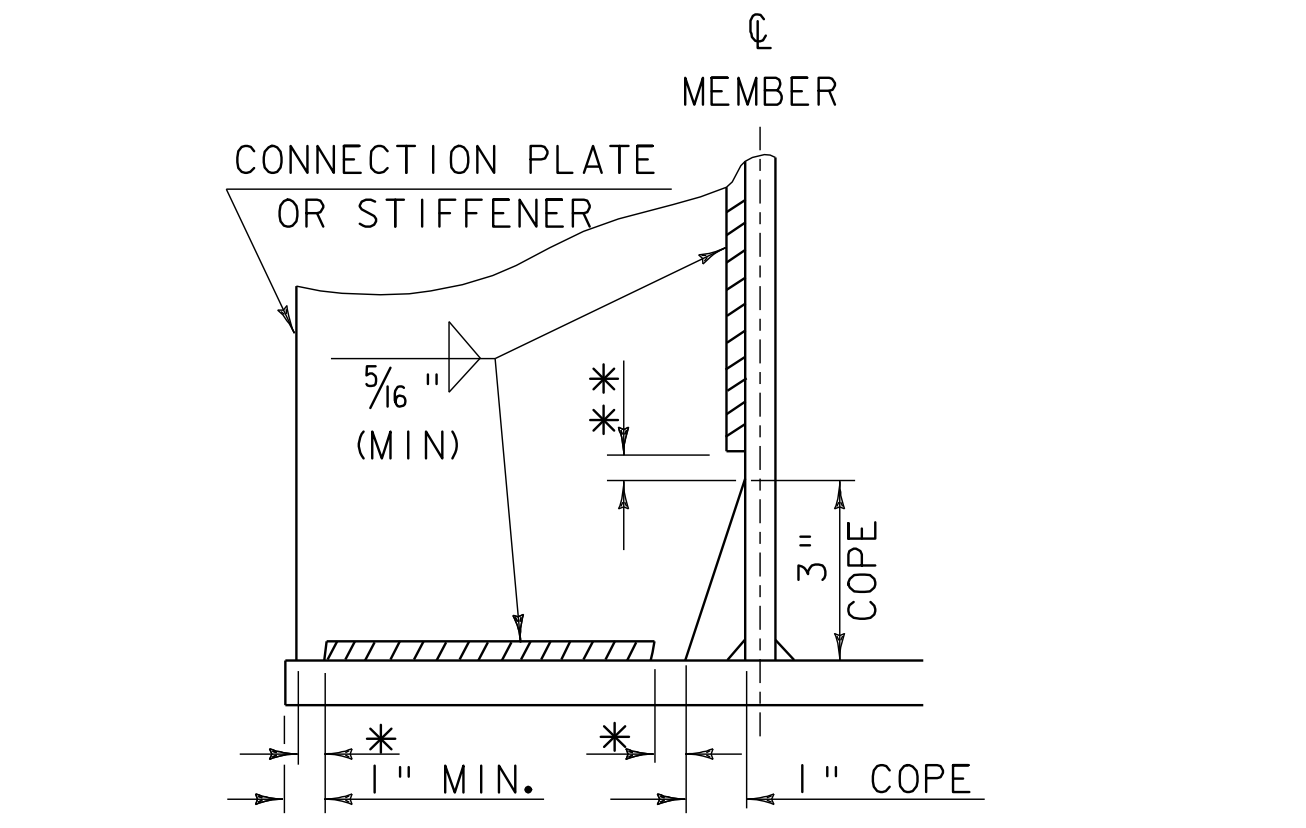
PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001msup.dgn	
IPARM FILE NAME: sj001camber.i	PLOT DATE: 07-SEP-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	CHECKED BY: M. LONGSTREET
CAMBER DIAGRAM	SHEET: 38 OF 97



PLAN DRIP PLATE
NTS

SECTION A - A

NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF PIER AS INDICATED ON PROJECT PLANS.

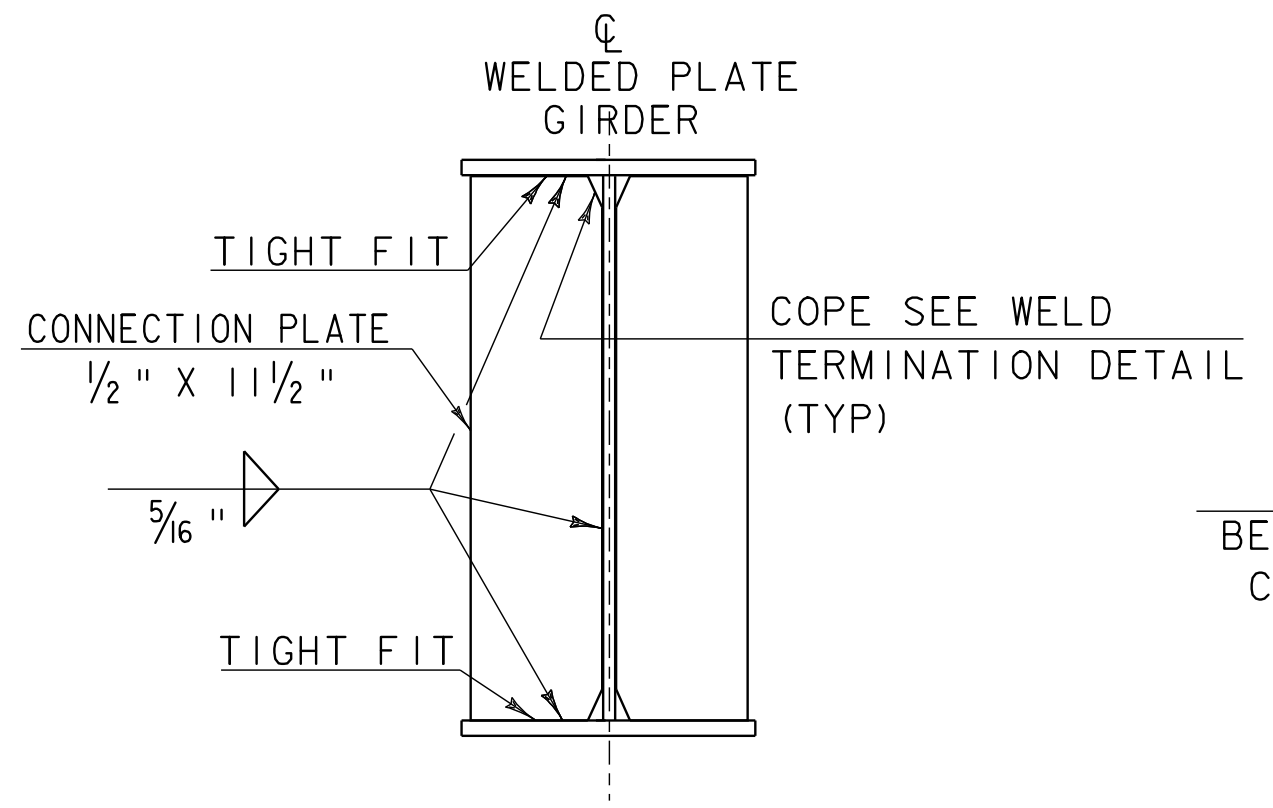


* NO WELD FOR 1/4" MIN. 1/2" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)

** 1/2" ± 1/4" FOR CONNECTION PLATE OR STIFFENER TO WEB WELDS ONLY.

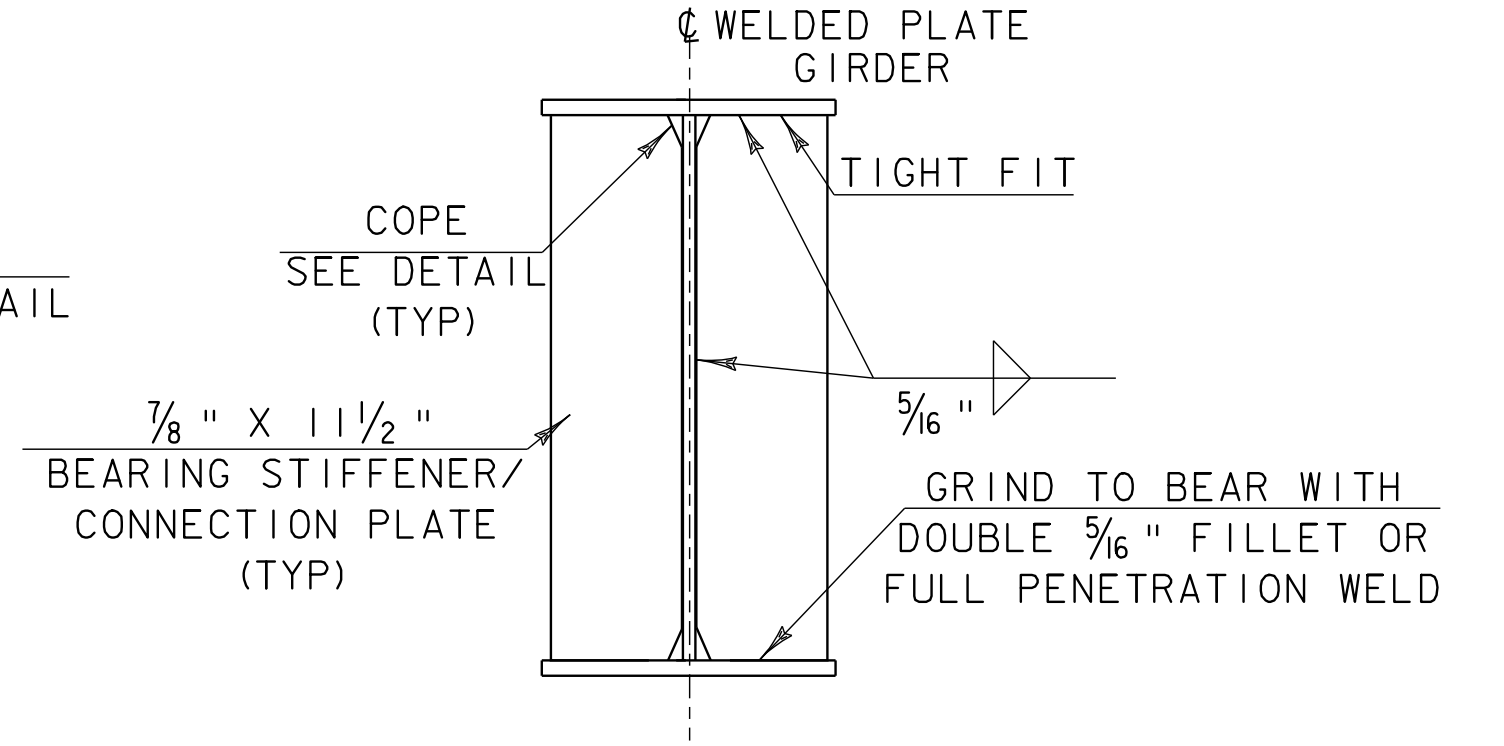
WELD TERMINATION AND COPING
DETAILS FOR STEEL MEMBERS

NTS



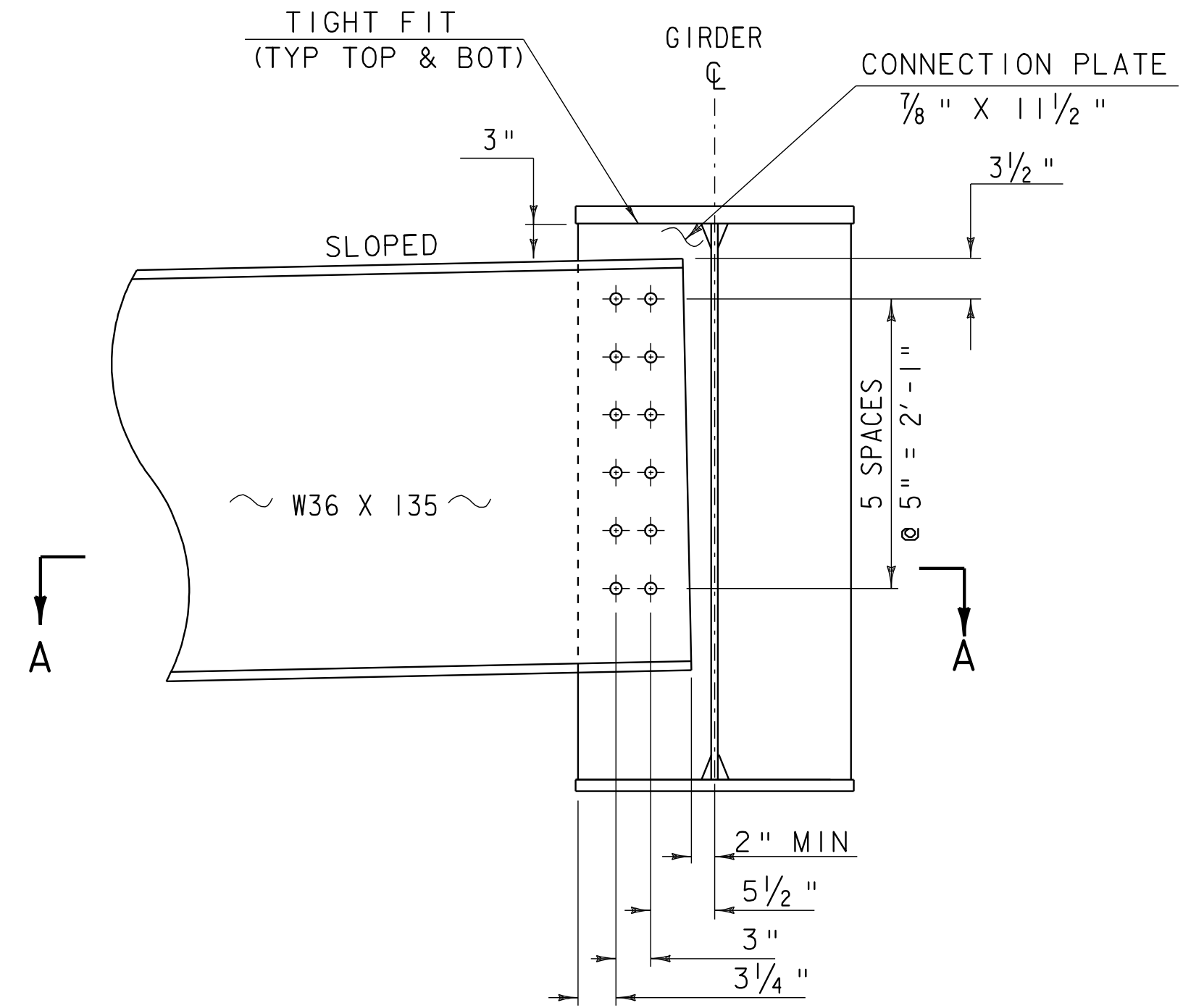
INTERMEDIATE CONNECTION
PLATES

NTS



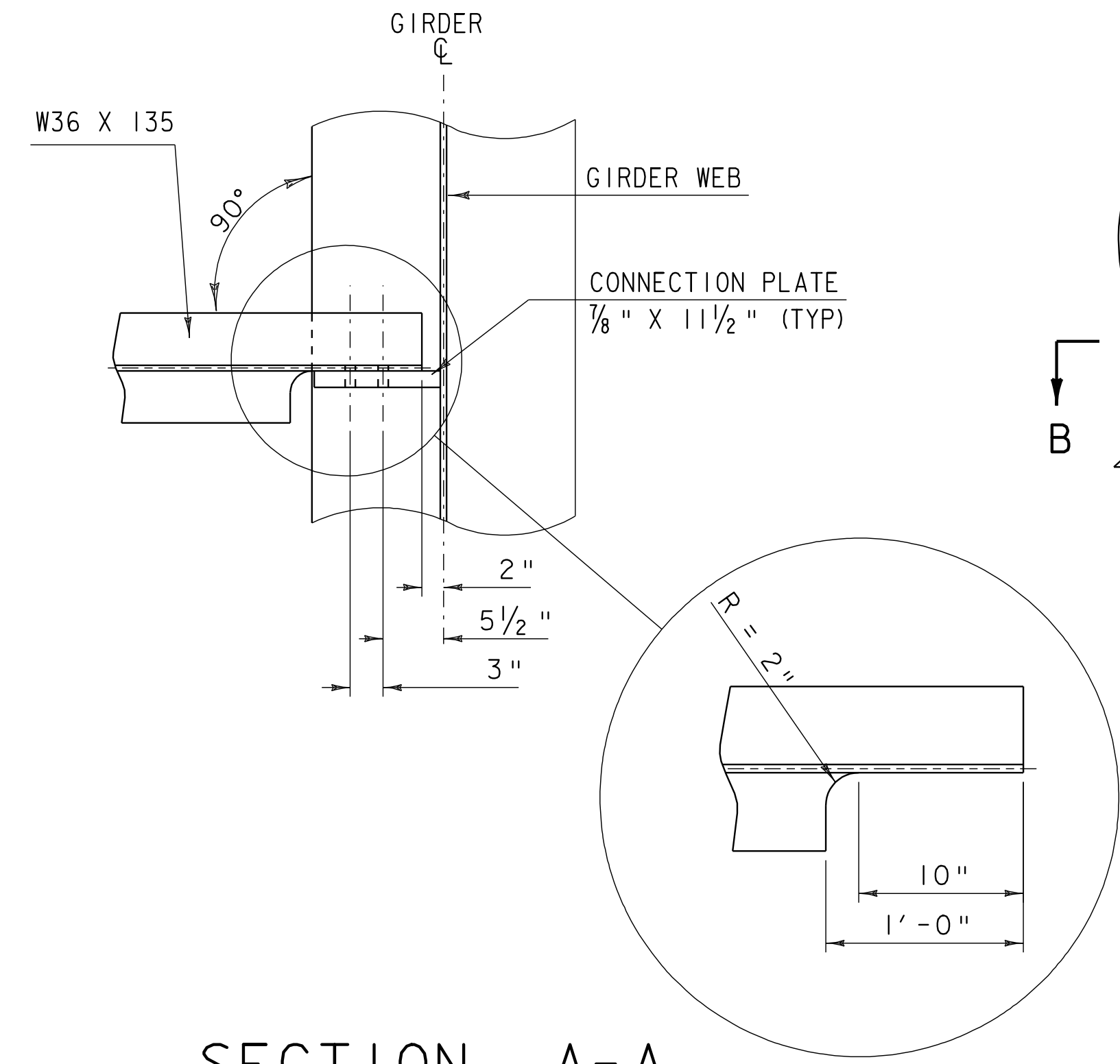
PIER BEARING STIFFENERS/
CONNECTION PLATE

NTS



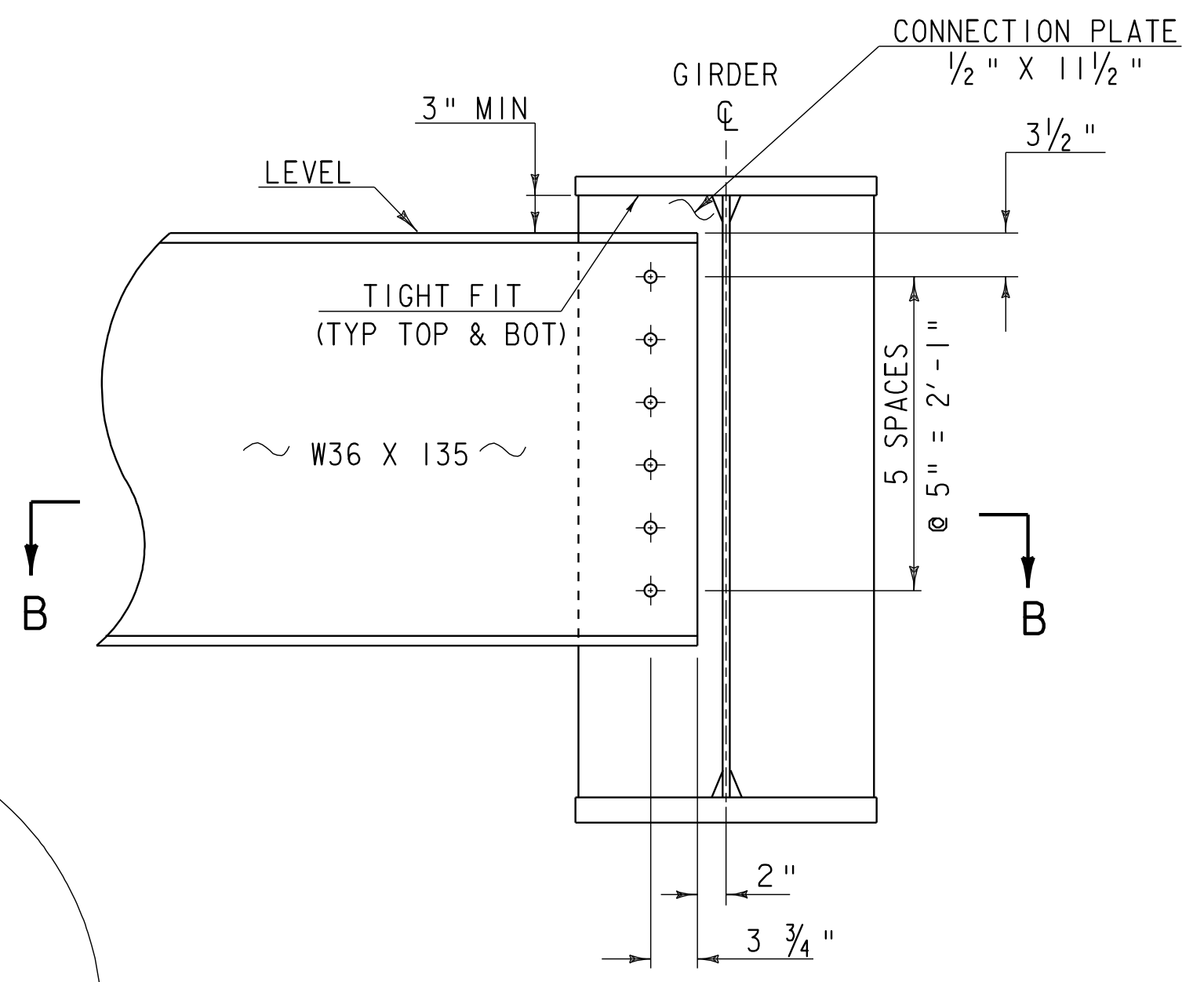
PIER DIAPHRAGM

SCALE 1" = 1'-0"
1 9 6 3 0 1 2



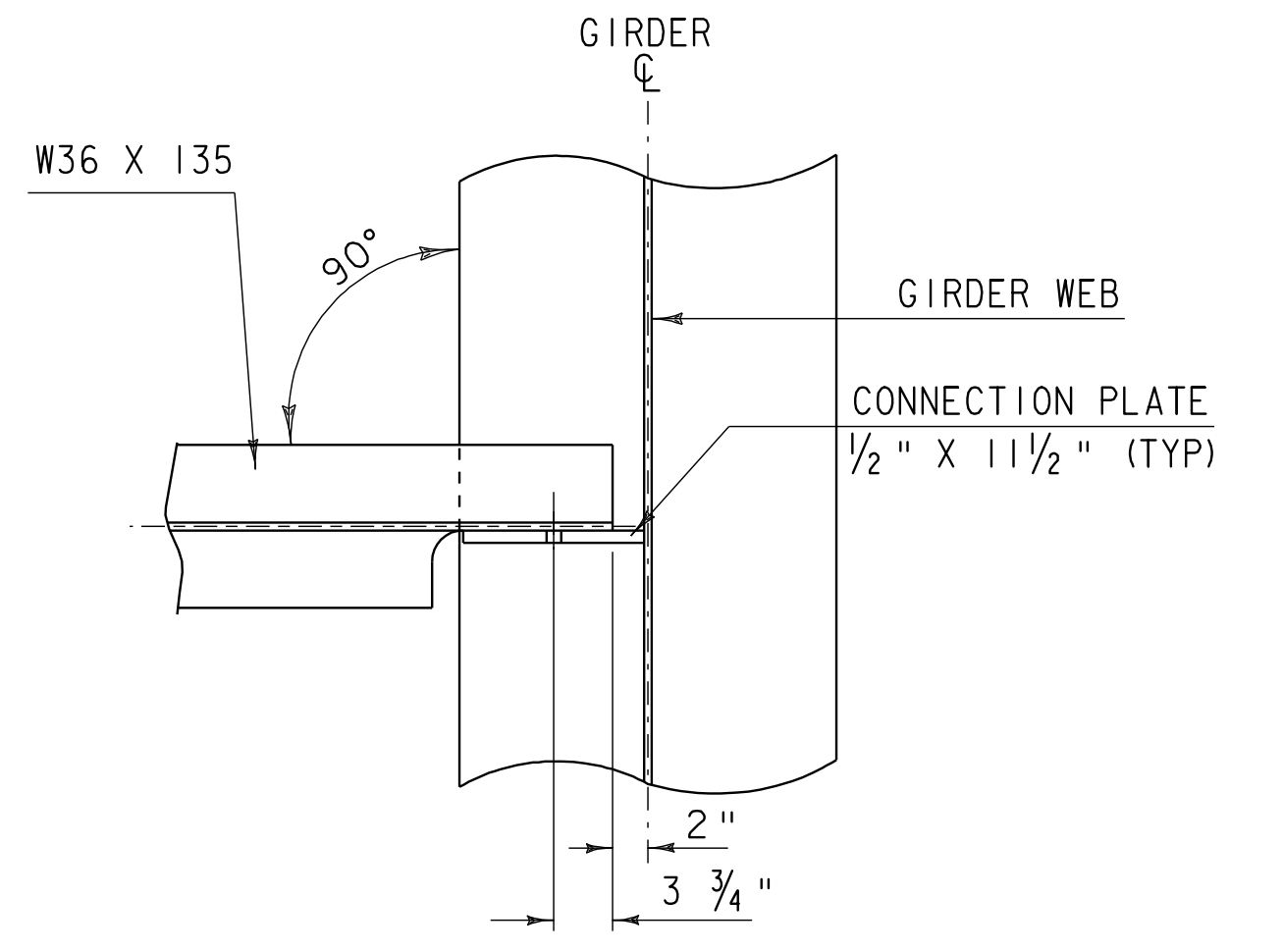
SECTION A-A

SCALE: 1" = 1'-0"
ALL CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER, AASHTO M164 BOLTS. ALL HOLES IN THE DIAPHRAGMS SHALL BE 5/16" DIAMETER. ALL HOLES IN THE CONNECTION PLATES SHALL BE 1" DIAMETER.



INTERMEDIATE DIAPHRAGM

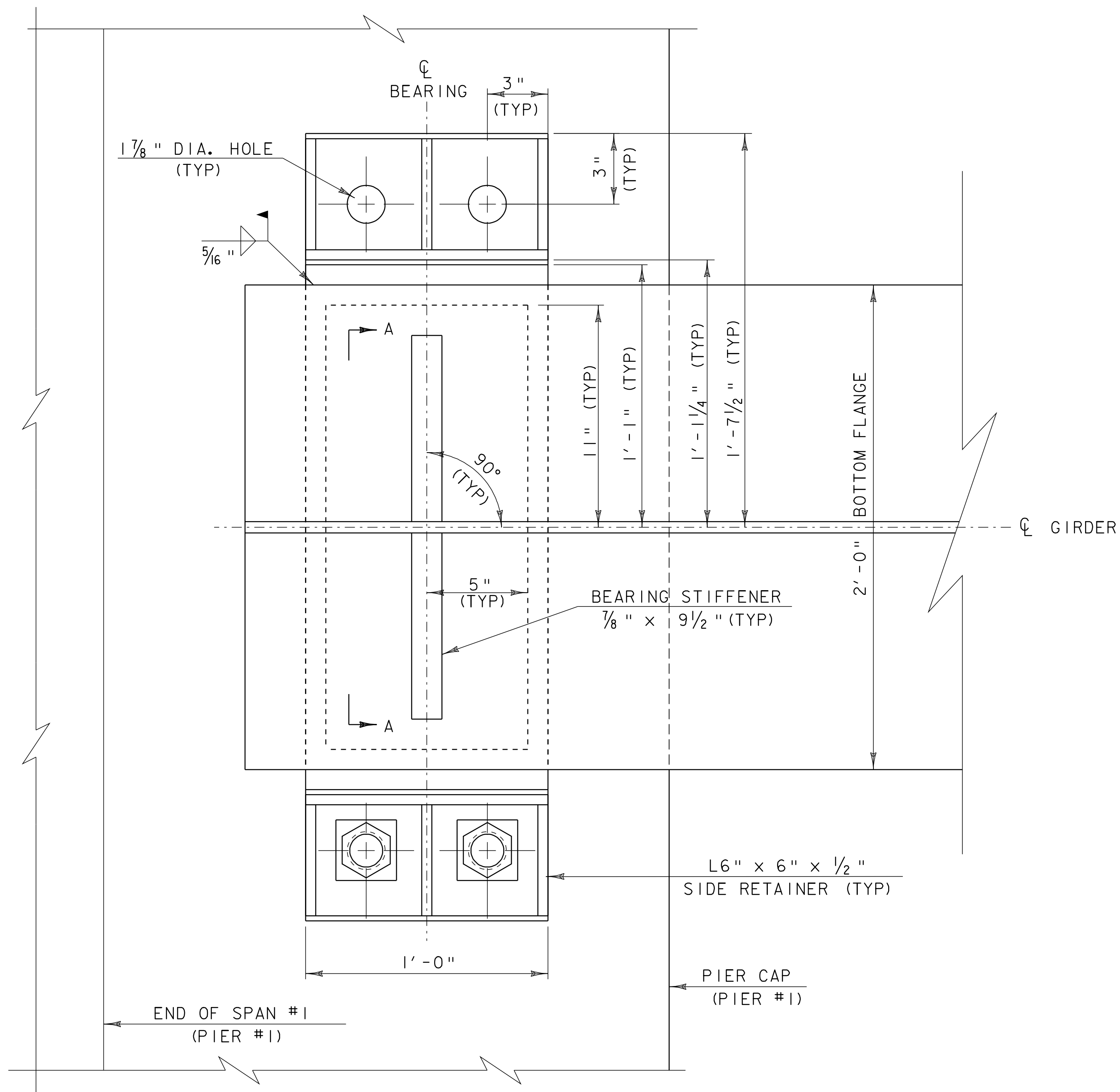
SCALE 1" = 1'-0"
1 9 6 3 0 1 2



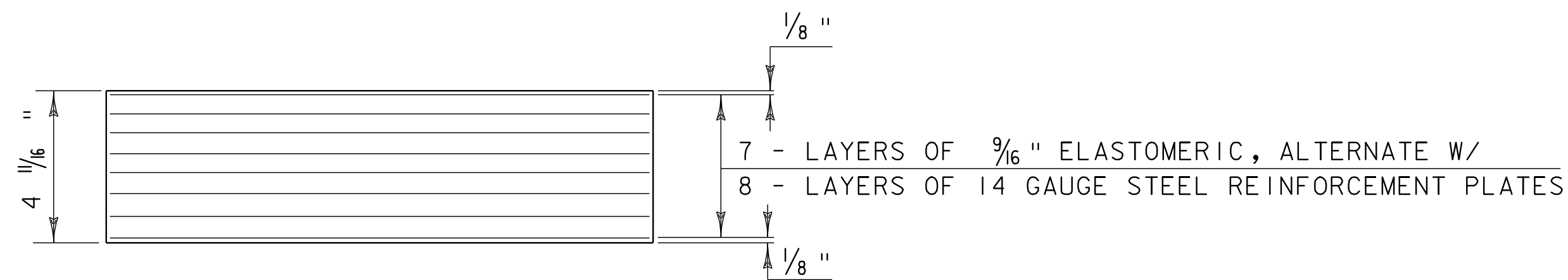
SECTION B-B

SCALE: 1" = 1'-0"
ALL CONNECTIONS SHALL BE MADE USING 7/8" DIAMETER, AASHTO M164 BOLTS. ALL HOLES IN THE DIAPHRAGMS SHALL BE 5/16" DIAMETER. ALL HOLES IN THE CONNECTION PLATES SHALL BE 1" DIAMETER.

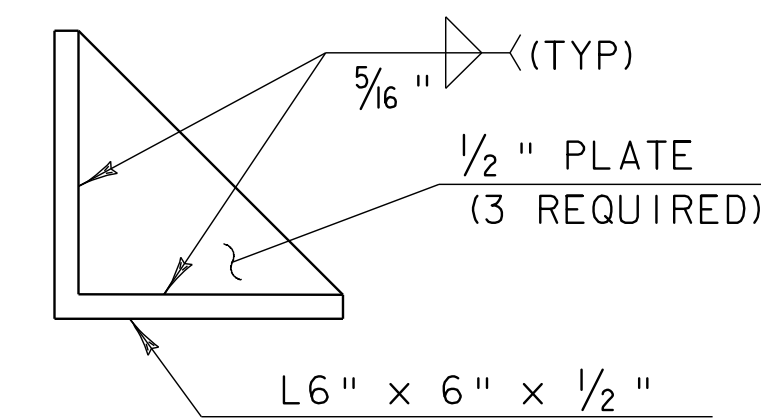
PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001msup.dgn IPARM FILE NAME: sj001steel.dgn DESIGNED BY: K. M. HIGGINS SQUAD LEADER: C. P. MANAGER MISCELLANEOUS STEEL DETAILS	PLOT DATE: 07-SEP-2005 DRAWN BY: T. HUSK CHECKED BY: K. M. HIGGINS SHEET: 39 OF 97



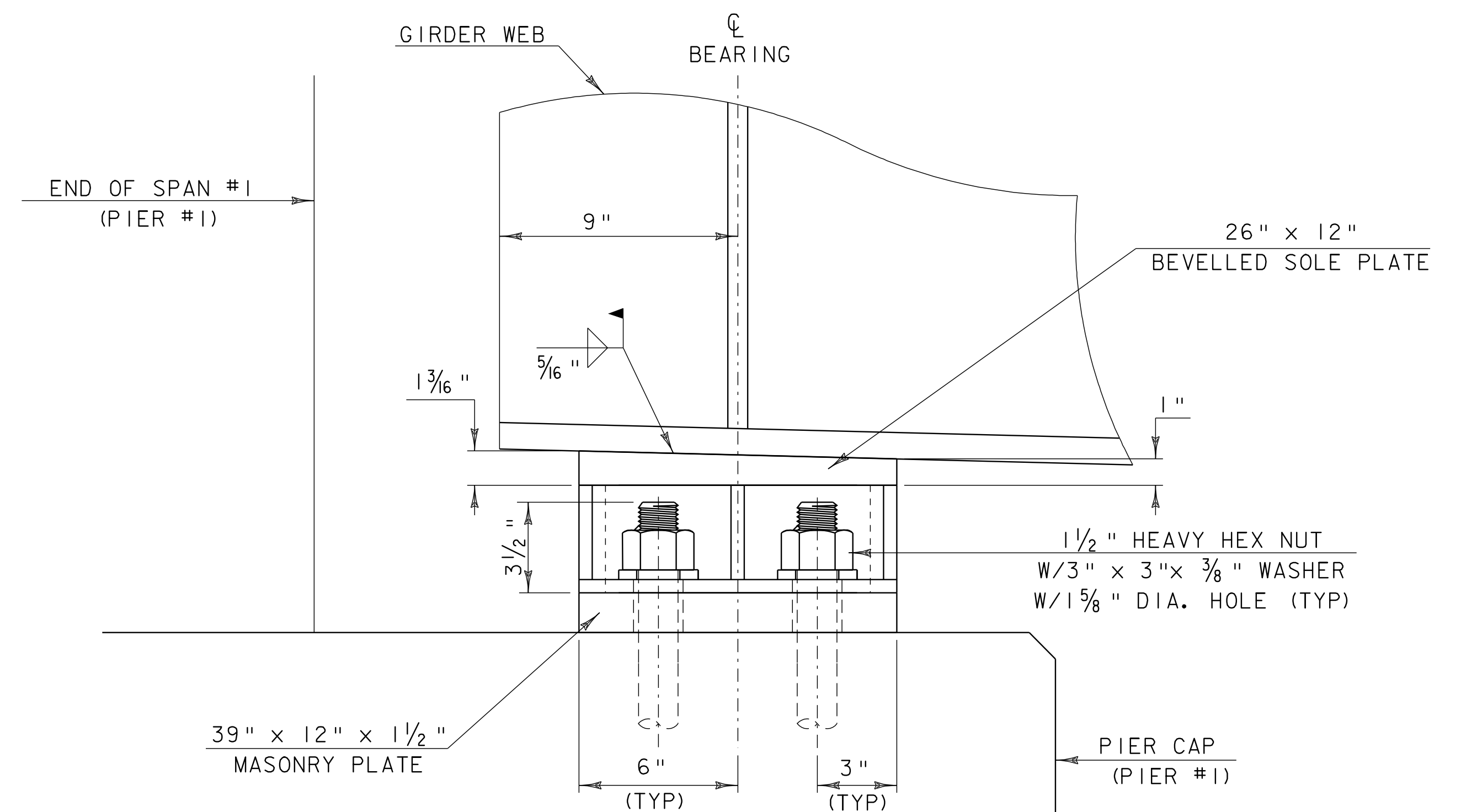
PLAN VIEW



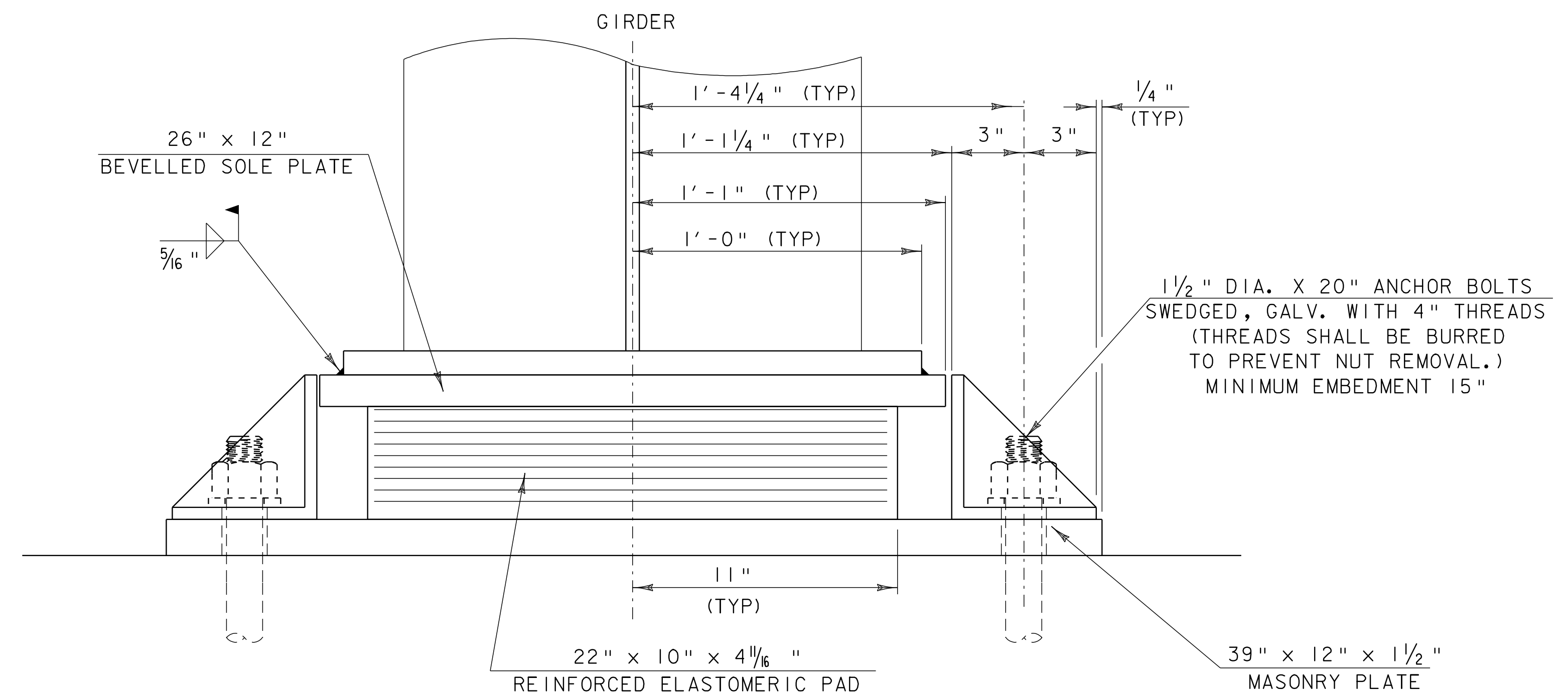
SECTION A-A



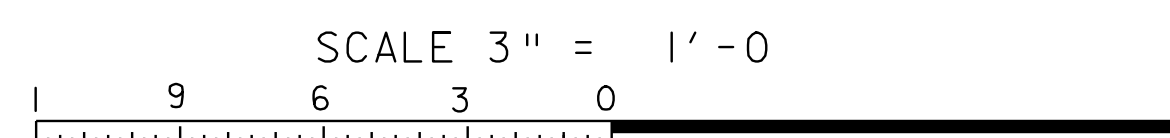
SIDE RETAINER
(2 REQUIRED)



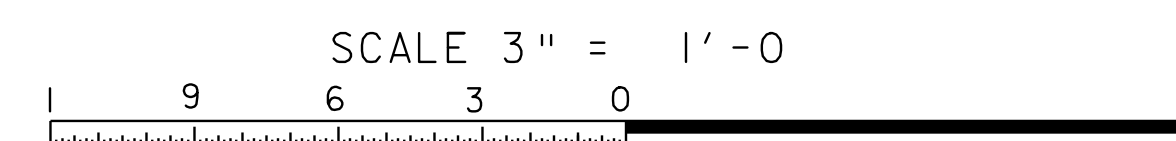
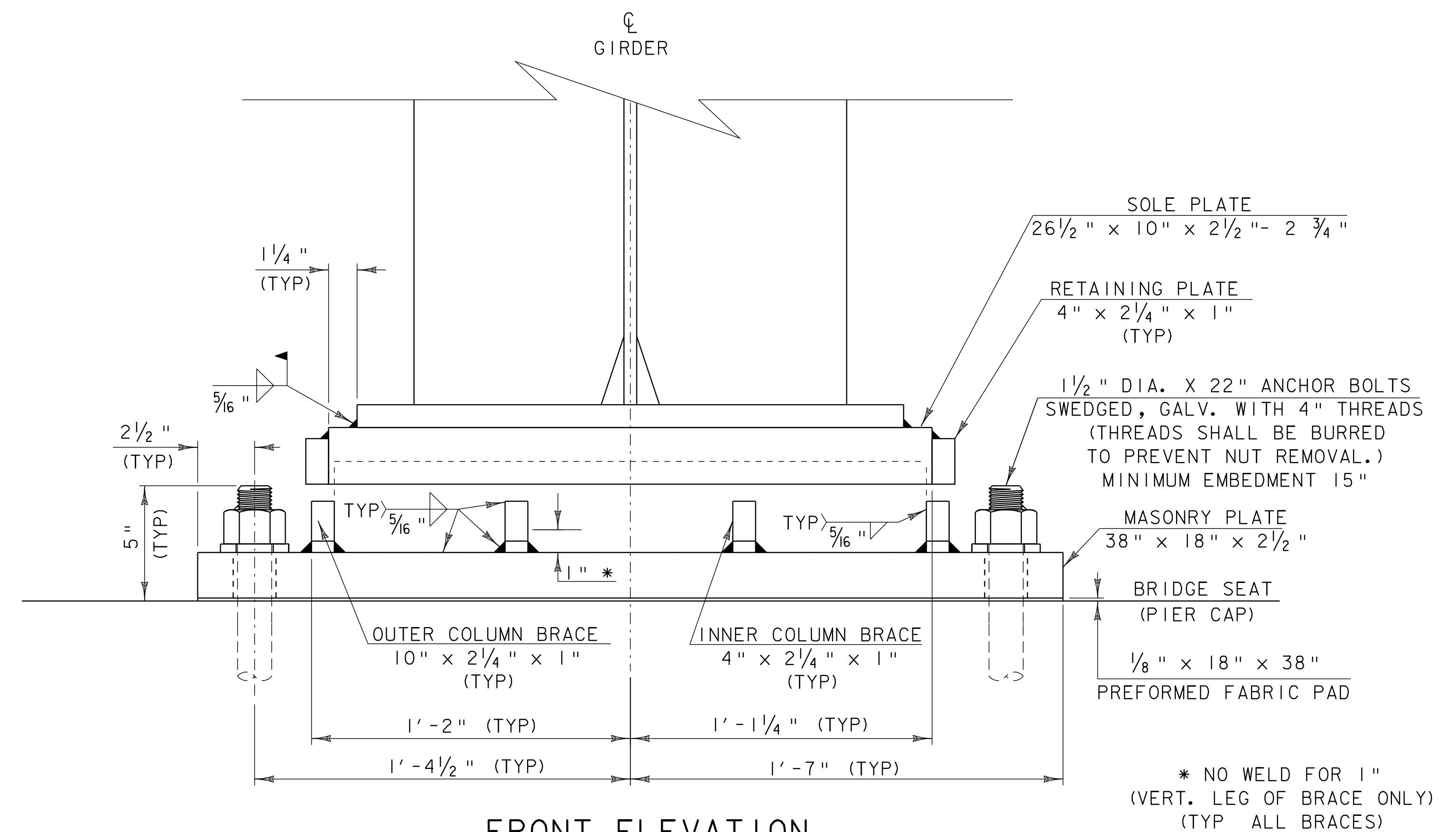
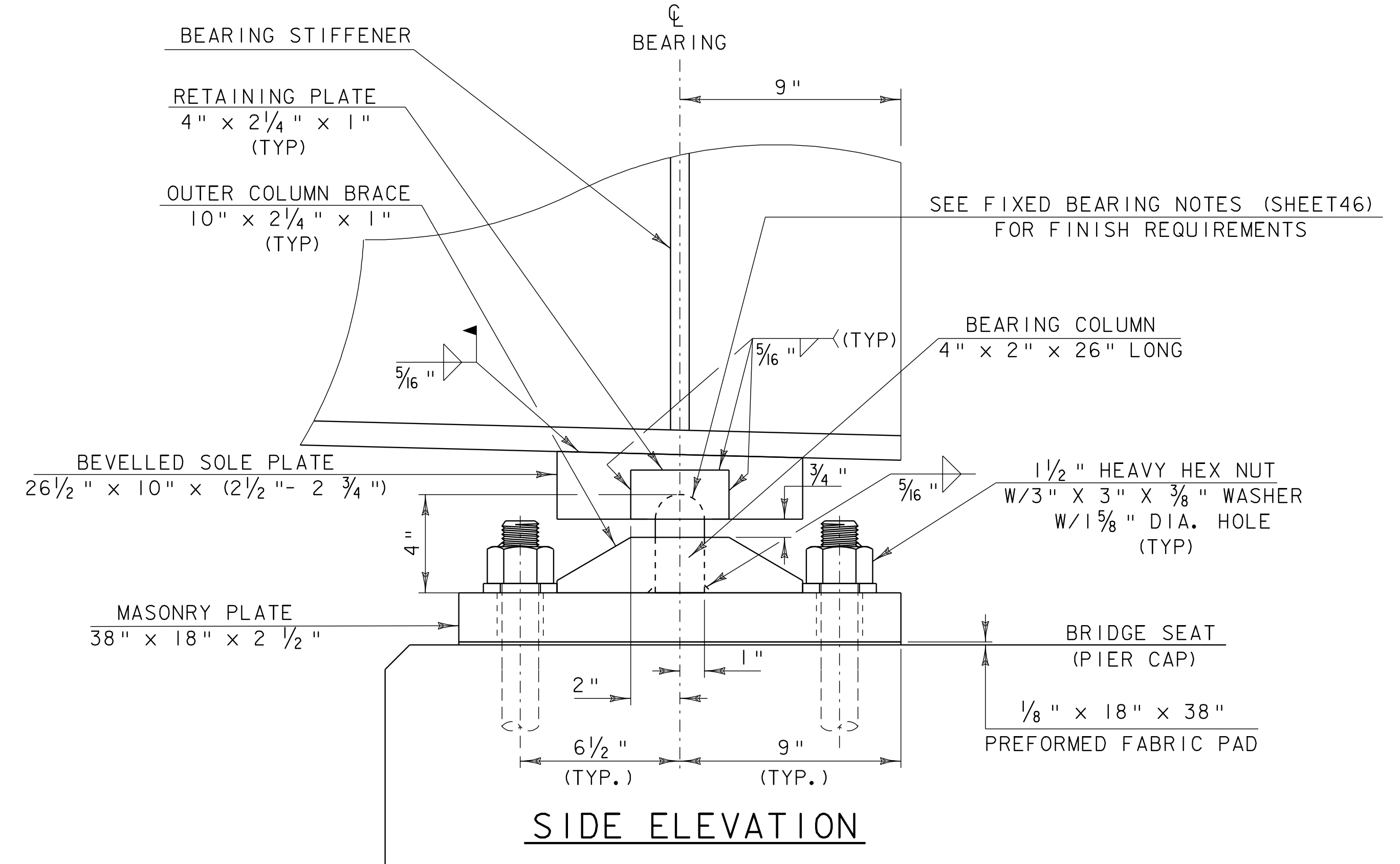
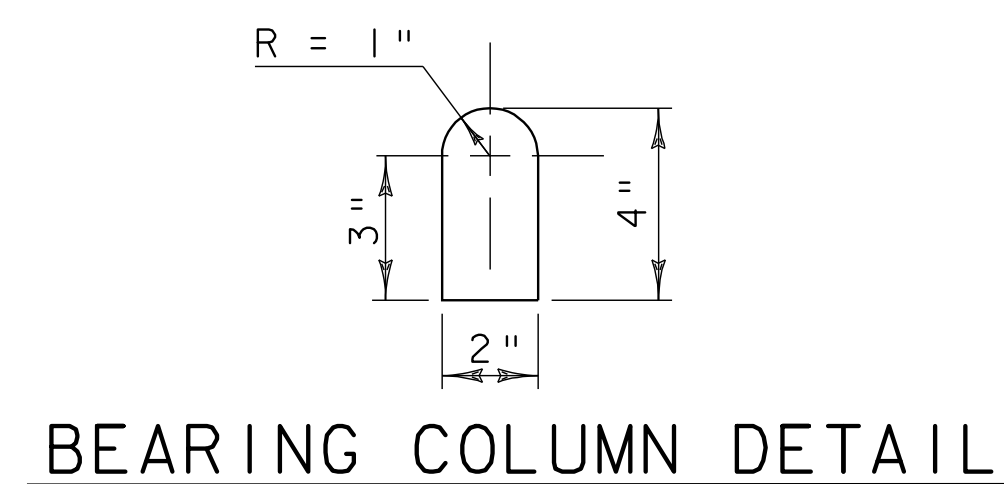
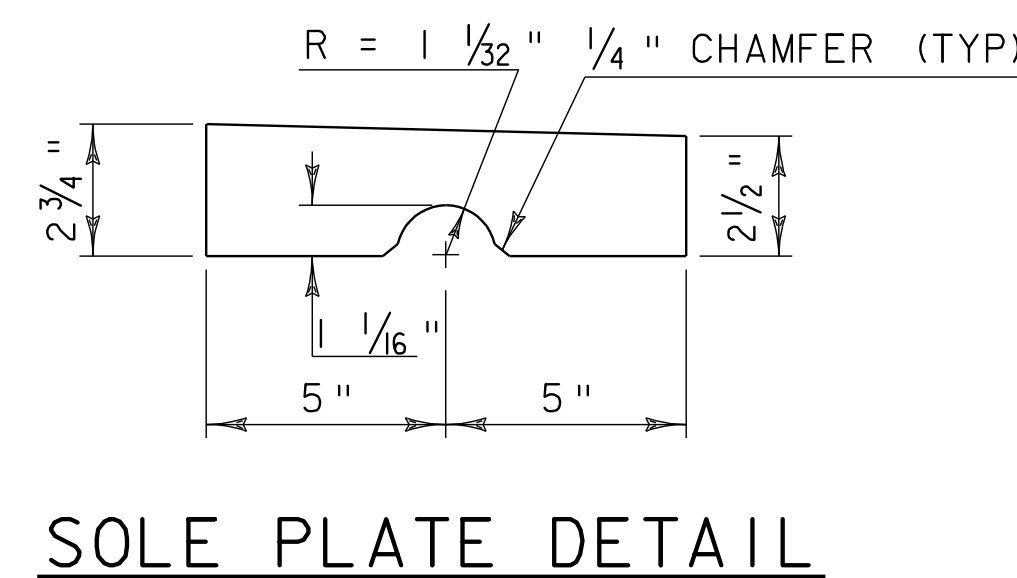
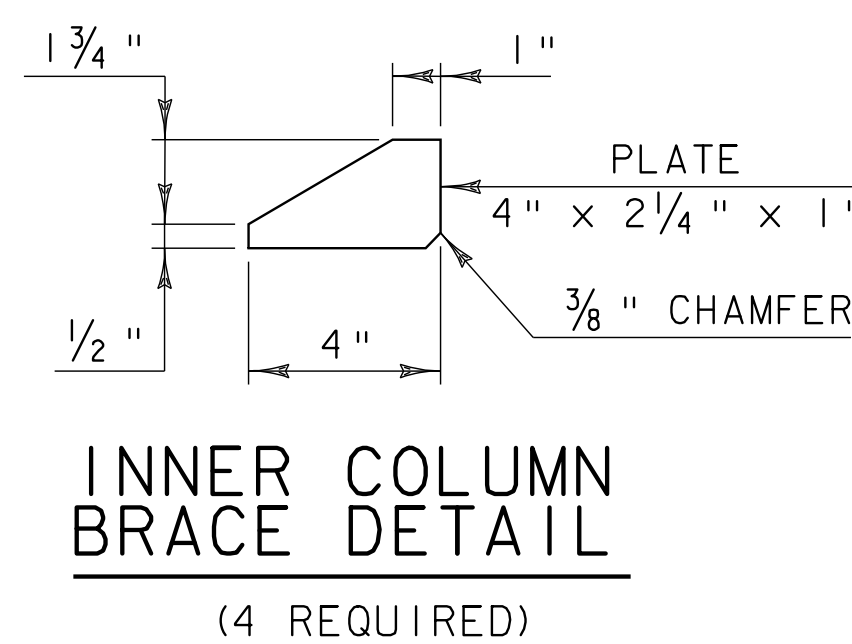
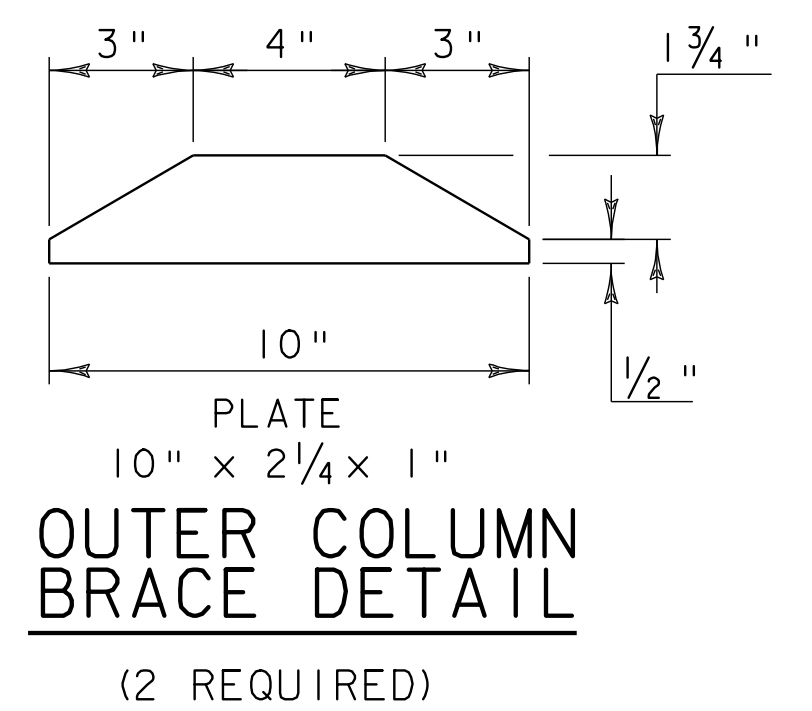
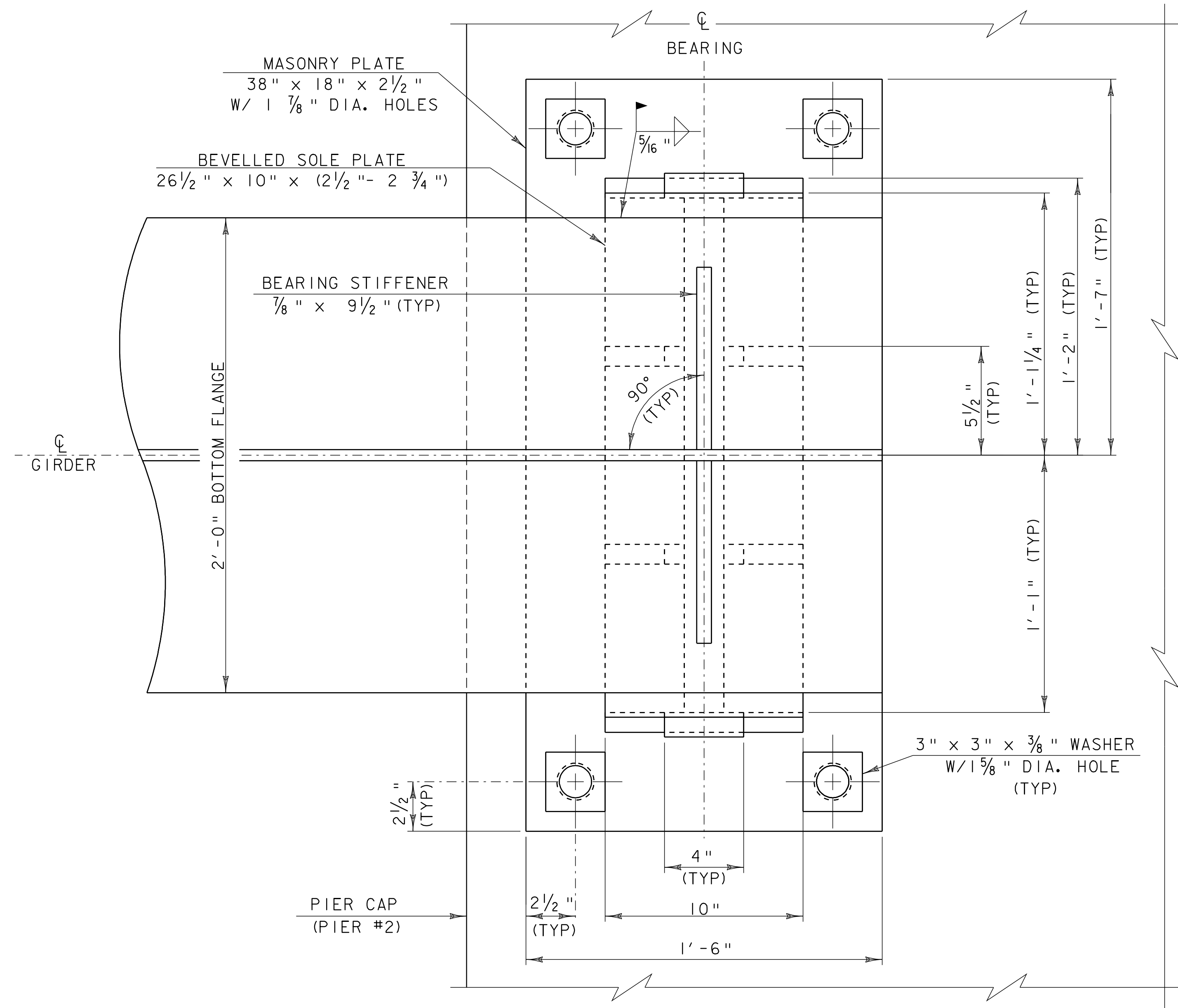
SIDE ELEVATION



FRONT ELEVATION



PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: /89j045/structures/sj045brg.dgn	
IPARM FILE NAME: sj045expbrg.i	PLOT DATE: 07-SEP-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. WILLIAMS	CHECKED BY: M. LONGSTREET
EXPANSION BEARING DETAILS (PIER #1) SHEET: 40 OF 97	



PROJECT:	HARTFORD	PROJECT NO.:	BRO-BTN 2004 (1)
DESIGN FILE NAME:	/89j045/structures/sj045brg.dgn	IPARM FILE NAME:	sj045fixbrg.i
DESIGNED BY:	K. M. HIGGINS	DESIGNED BY:	K. M. HIGGINS
SQUAD LEADER:	C. P. WILLIAMS	CHECKED BY:	M. LONGSTREET
FIXED BEARING DETAILS (PIER #2)		SHEET:	41 OF 97

EXPANSION BEARING NOTES

1. EXPANSION BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY (EXPANSION)" AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.
2. 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.
3. 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 ALL APPLICABLE CERTIFICATIONS FOR ELASTOMERIC MATERIAL.
4. 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 (EXPANSION)". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.
5. ALL STEEL IN BEARING DEVICES SHALL BE AASHTO M 270/M 270M GRADE 50.
6. 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.
7. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL HAVE A MINIMUM OF 1⁄8" EDGE SEAL OF ELASTOMER INTEGRAL WITH THE BEARING OVER ALL INTERNAL PLATES.
8. FOR ELASTOMERIC BEARINGS, ALL MATERIALS AND FABRICATION SHALL BE PER AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, EDITION 1996 AND ITS LATEST REVISIONS AND AASHTO M 251/M 251M.
9. 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 1996 EDITION AND ITS LATEST REVISIONS.
10. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATIVE CONFIGURATION.
11. DESIGN CRITERIA:

A. MASONRY PLATE TO CONCRETE DESIGN PRESSURE = 462 psi

B. DESIGN ROTATION = 0.02 RAD

C. HORIZONTAL CAPACITY SHALL BE MINIMUM OF 20% VERTICAL LOAD IN ANY RESTRAINED DIRECTION.

D. DESIGN LOAD PER BEARING

RDL = 138.30 Kips

RLL = 74.28 Kips

E. TEMPERATURE RANGE = -30° TO 120°F

F. ELASTOMER SHALL HAVE NOMINAL HARDNESS OF 60 ON SHORE 'A' SCALE. ELASTOMER SHALL HAVE A SHEAR MODULUS BETWEEN 140 AND 175 psi. THE RAW ELASTOMER SHALL BE VIRGIN NEOPRENE CLASSIFIED AS LOW TEMPERATURE GRADE 4 AS DEFINED IN TABLE 18.4.5.1 - 1A OF AASHTO, DIVISION II, SECTION 18.

G. NO FABRIC REINFORCEMENT WILL BE ALLOWED IN ELASTOMERIC PADS
12. 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.
13. THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 1996 AND ITS LATESTS REVISIONS, DIVISION II SECTION 18.

FIXED BEARING NOTES

1. FIXED BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 "BEARING DEVICE ASSEMBLY (FIXED)", AND SHALL CONFORM TO APPLICABLE SUBSECTIONS OF 531 AND 731.
2. 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.
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING PROCEDURES.
4. ALL STEEL COMPONENTS SHALL BE METALIZED AS PER SECTION 531.04 (b) AND 506.15 (c). 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 (FIXED)". ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER AASHTO M 232/M 232M.
5. ALL STEEL IN FIXED BEARING DEVICES SHALL BE AASHTO M 270/M 270M GRADE 50.
6. DESIGN CRITERIA:

A. MASONRY PLATE ON CONCRETE DESIGN PRESSURE IS 300 psi.

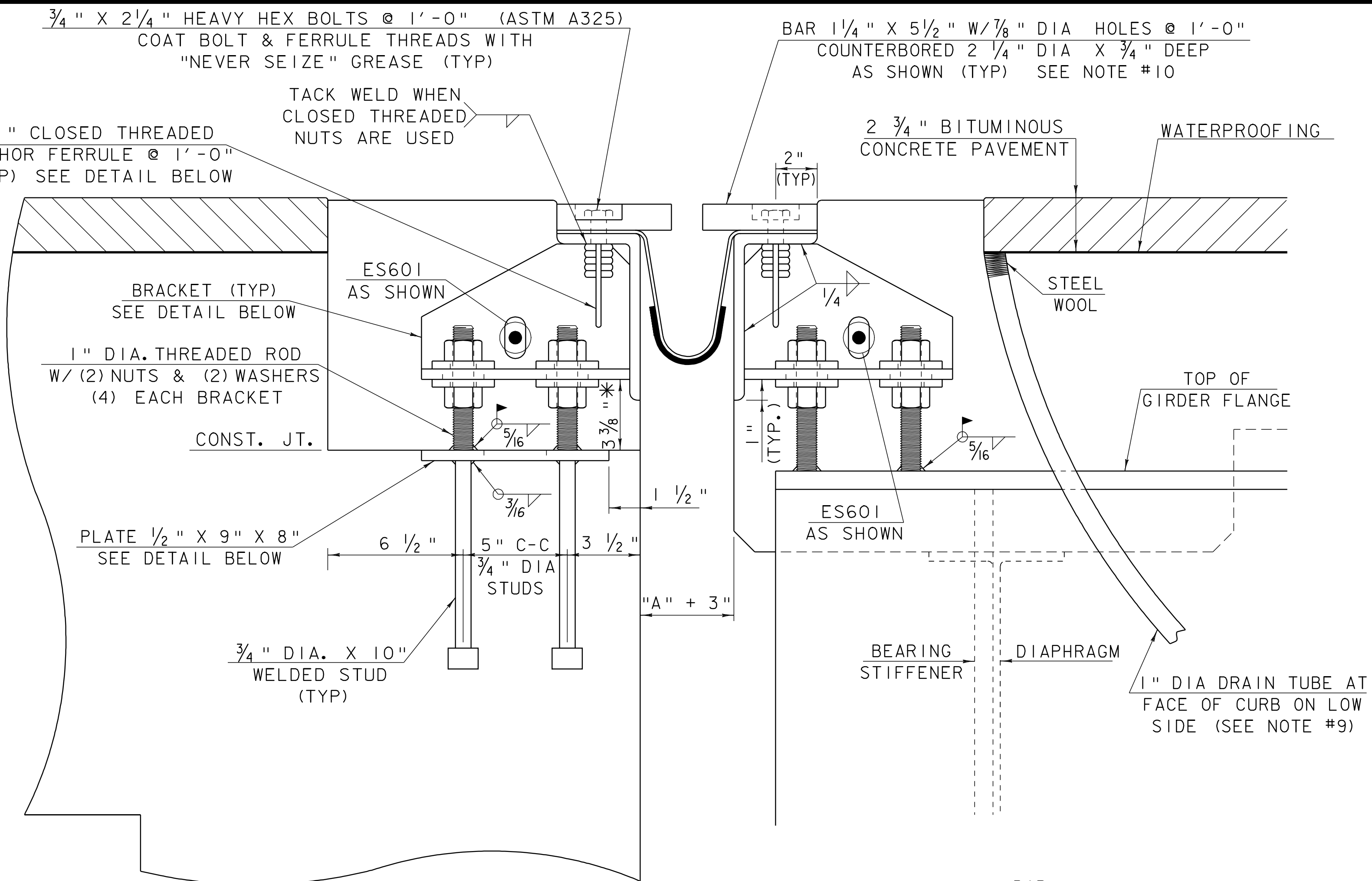
B. HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 20% DEAD LOAD IN ANY RESTRAINED DIRECTION.

C. DESIGN LOAD PER BEARING

RDL = 138.30 Kips

RLL = 74.28 Kips
7. 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 1996 EDITION AND ITS LATEST REVISIONS.
8. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION.
9. THE BEARING TOLERANCES SHALL MEET THOSE GIVEN IN AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED 1996 AND ITS LATEST REVISIONS, DIVISION II SECTION 18. THE CONTACT SUFACES OF THE CURVED BEARING SURFACES OF THE BEARING COLUMN AND SOLE PLATES SHALL MEET THE TOLERANCES AND FINISH REQUIREMENTS OF BEARING PINS AND BUSHINGS.
10. THE CURVED CONTACT SURFACES SHALL NOT BE METALIZED.

PROJECT: HARTFORD	PROJECT NO.: BRO-BTN 2004 (1)
DESIGN FILE NAME: /89j045/structures/sj045brg.dgn IPARM FILE NAME: sj045brgnotes.i DESIGNED BY: K. M. HIGGINS SQUAD LEADER: C. P. WILLIAMS	
PLOT DATE: 07-SEP-2005 DRAWN BY: K. M. HIGGINS CHECKED BY: M. LONGSTREET SHEET: 42 OF 97	



TYPICAL SECTION BETWEEN GIRDERS

TYPICAL SECTION AT GIRDERS

12. A DRIP BEAD OF 1/4 " X 7" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1" FROM THE DOWNSPOUT END OF THE TROUGH.
13. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATION.
14. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.
15. ALL CONCRETE SHALL BE HIGH PERFORMANCE-CLASS A (MOD-5000PSI)

ALL PLATES 1/2 "

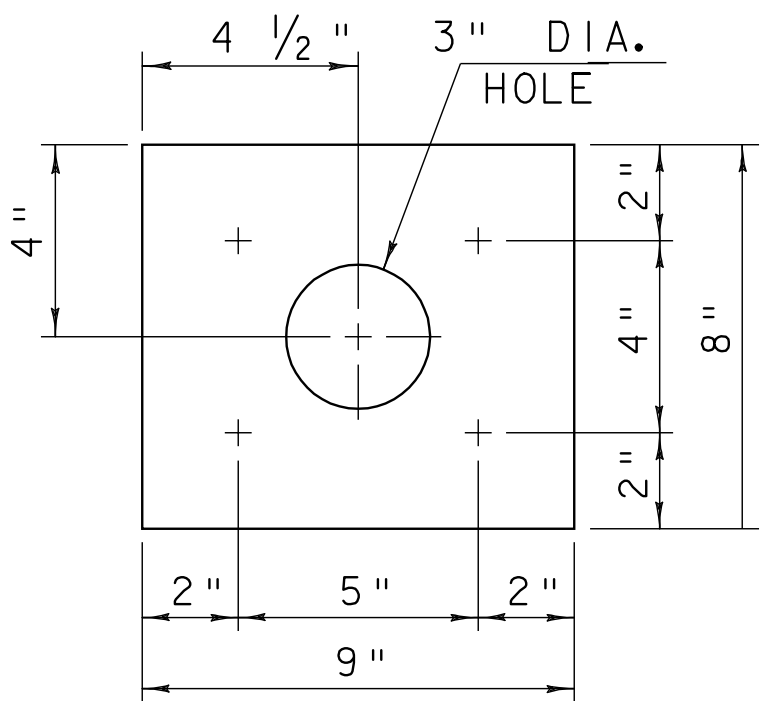
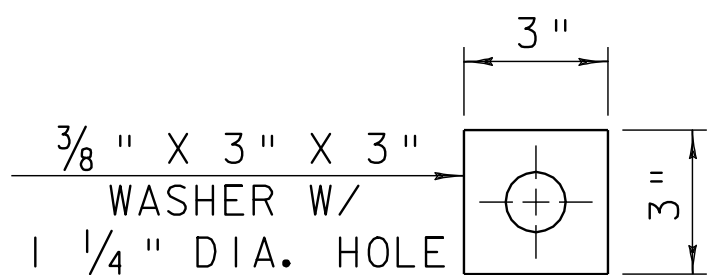
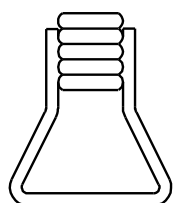


PLATE PLAN

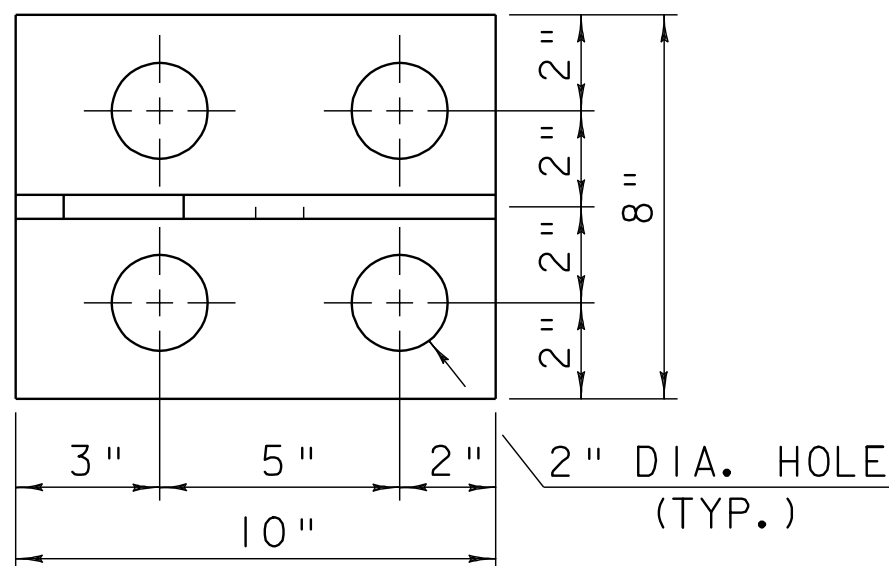


WASHER FOR BRACKET

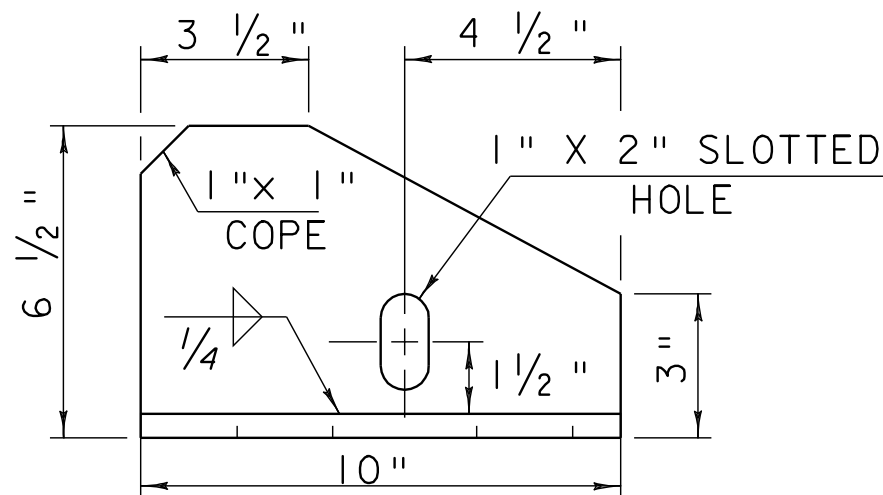


ANCHOR FERRULE DETAIL

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

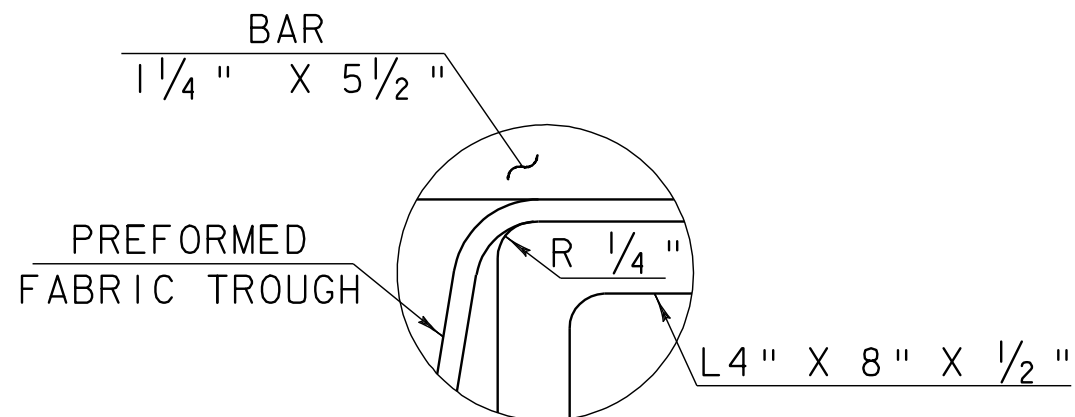


BRACKET PLAN



BRACKET ELEVATION

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



DETAIL "A"

NOT TO SCALE

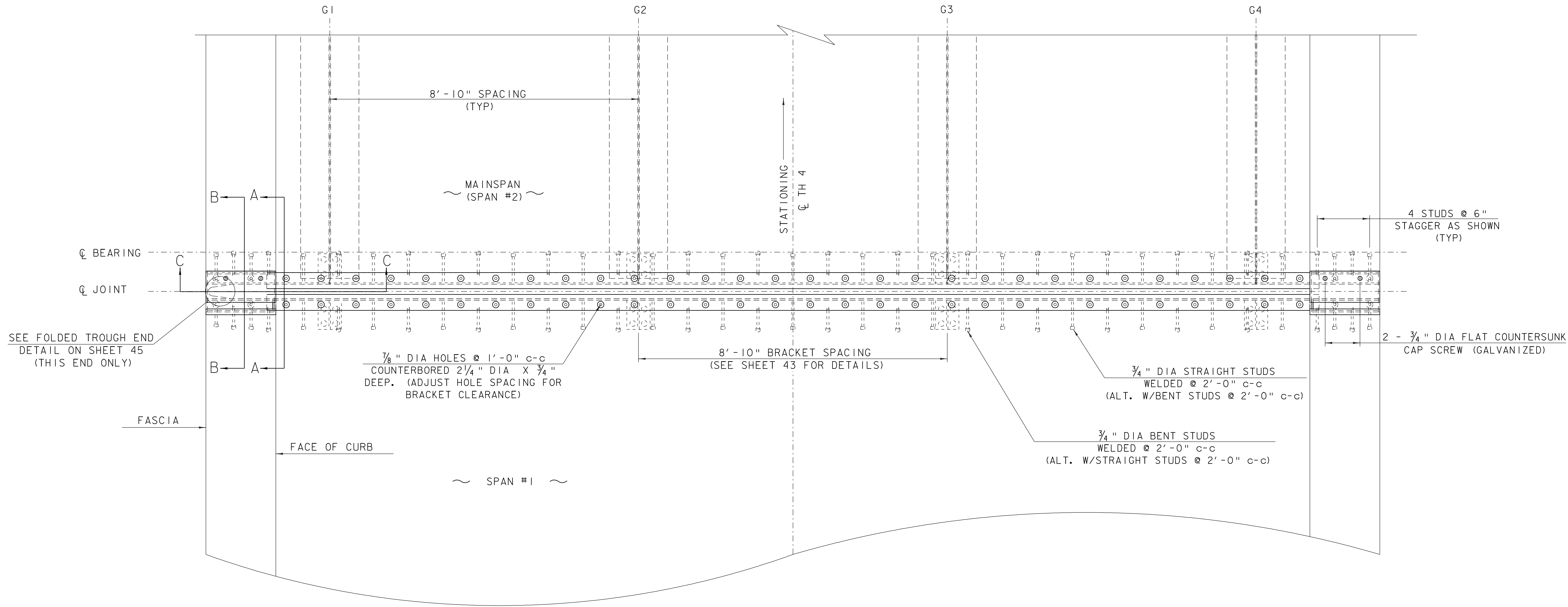
TEMP	"A" DIST
0° F	3 1/16
15° F	2 7/8"
30° F	2 5/16"
45° F	2 1/2"
60° F	2 11/16"
75° F	2 1/8"
90° F	1 15/16"
105° F	1 3/4"

"A" IS THE SETTING BEFORE
DEAD LOADS ARE IN PLACE.

SCALE 3" = 1'-0"



PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001exp.dgn	
IPARM FILE NAME: sj001expl.i	PLOT DATE: 07-SEP-2005
DESIGNED BY: K. M. HIGGINS	DRAWN BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	CHECKED BY: M. LONGSTREET
EXPANSION JOINT DETAILS (PIER #1)	SHEET: 43 OF 97

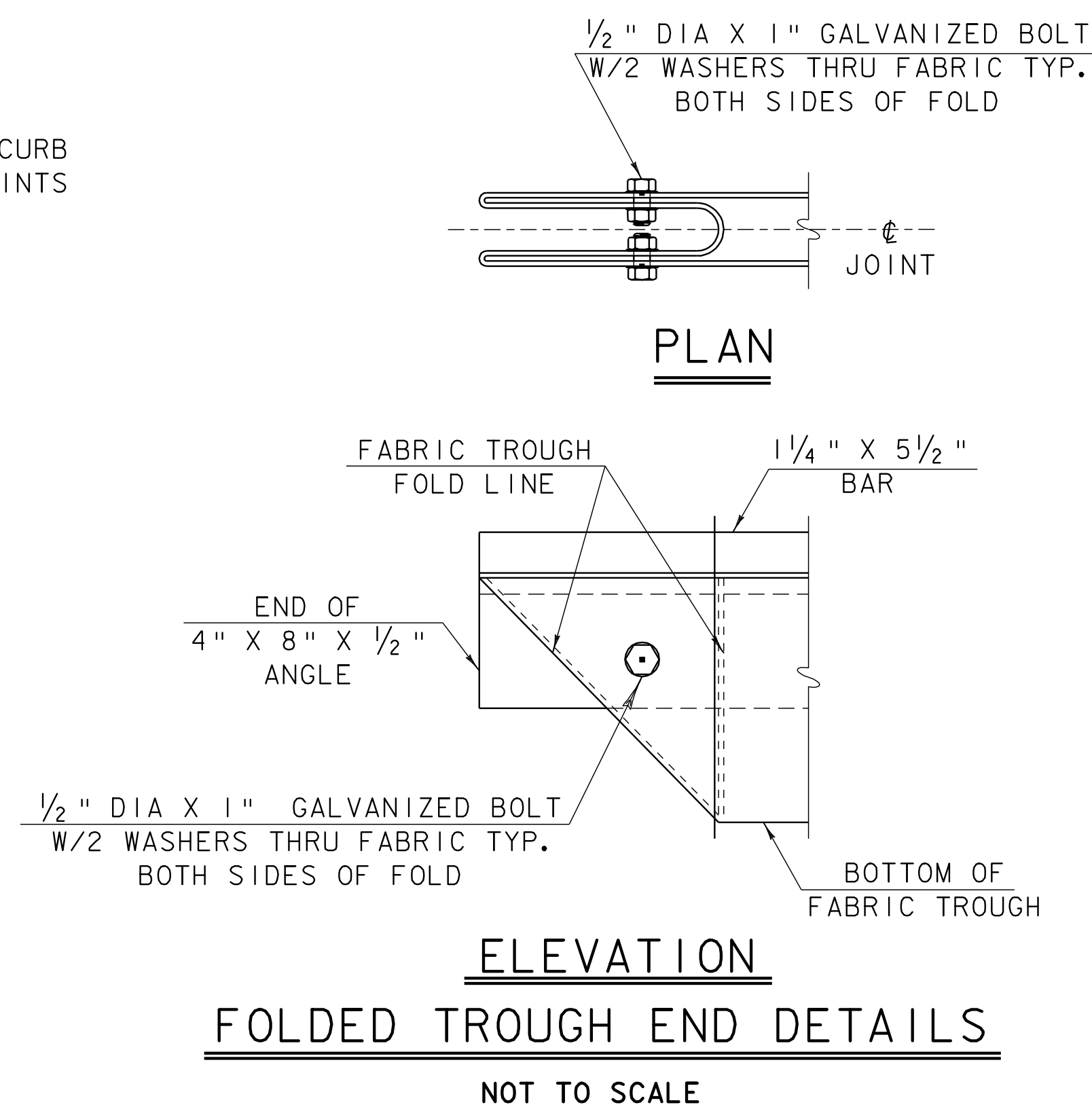
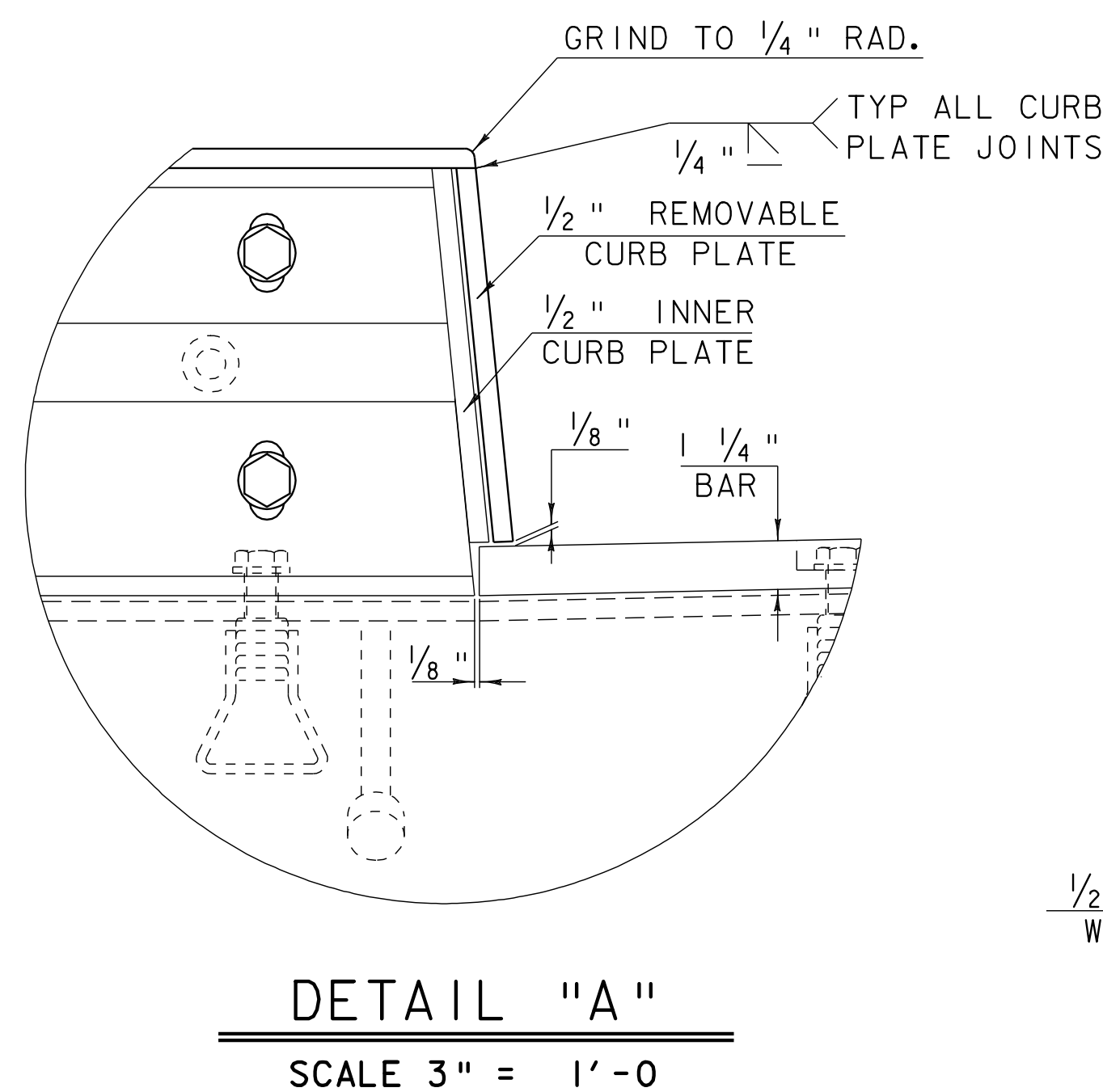
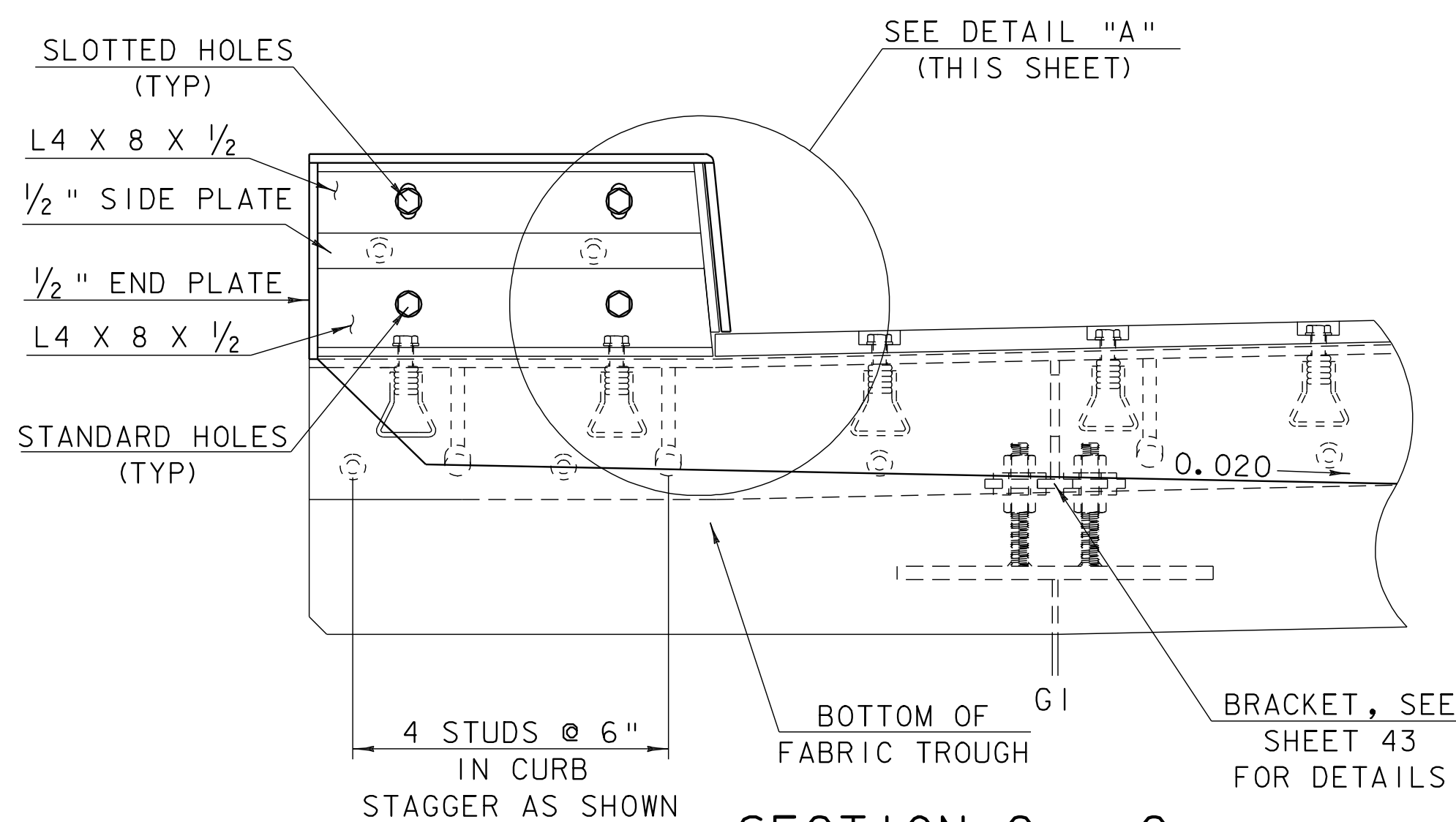
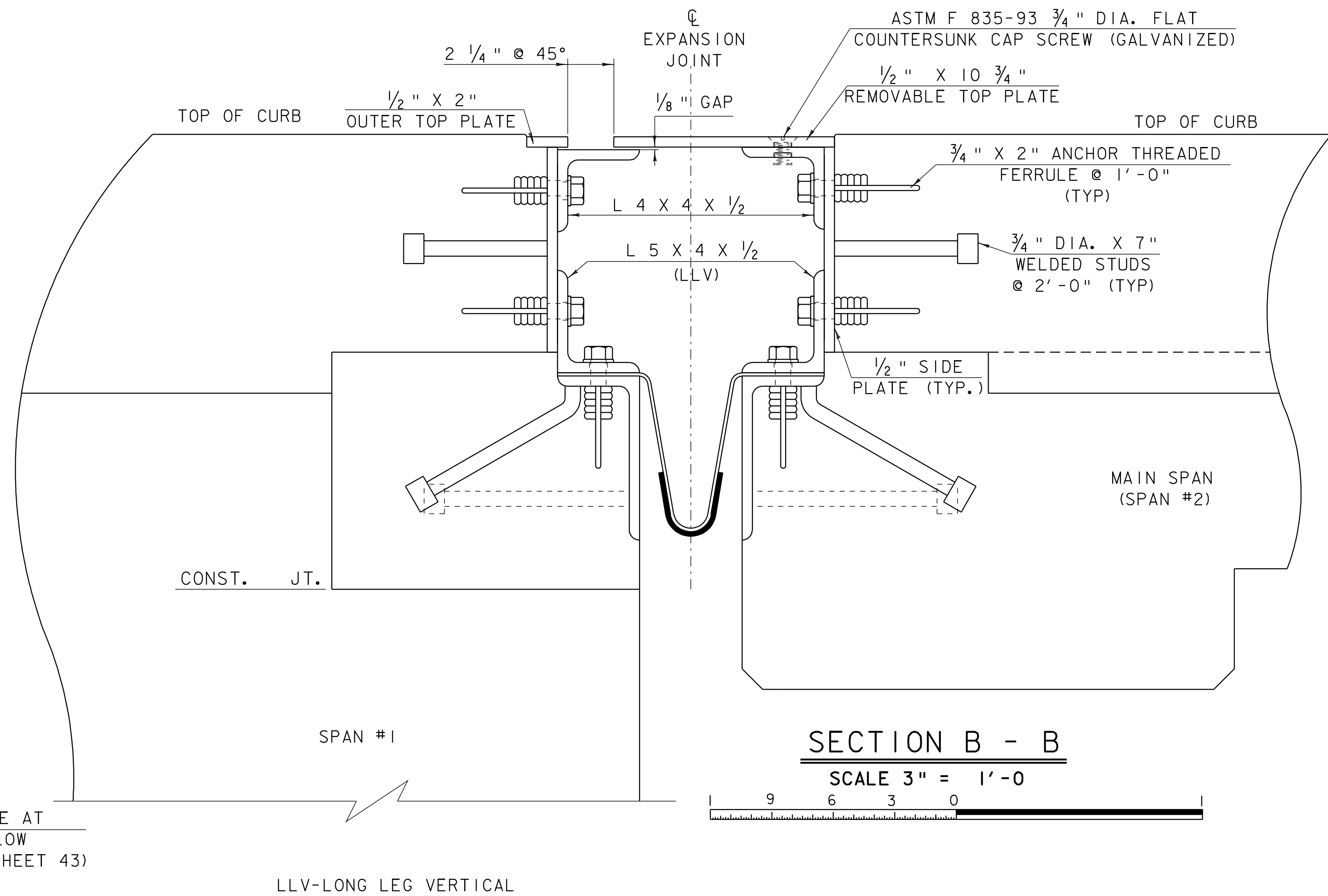
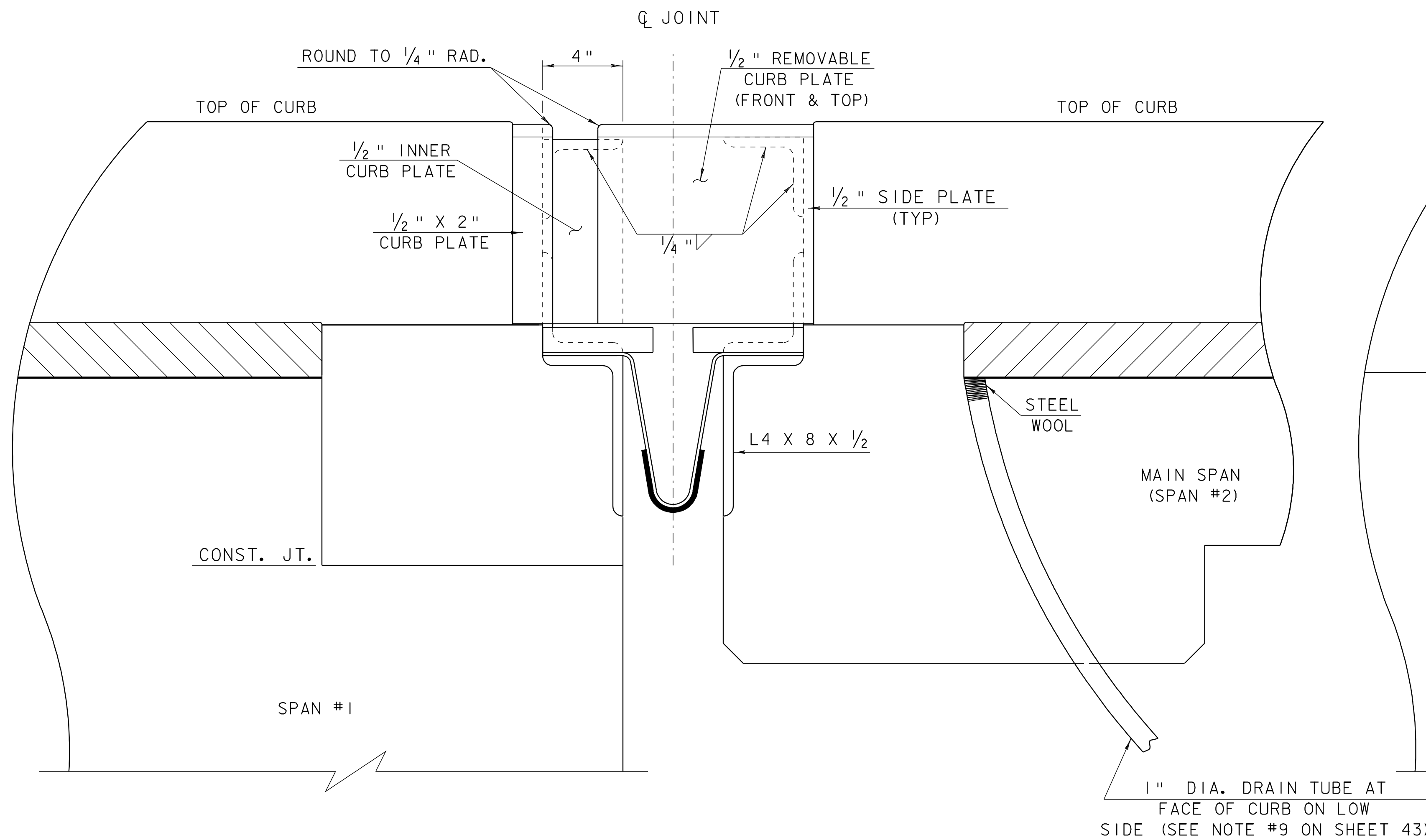


EXPANSION JOINT AT PIER NO. 1

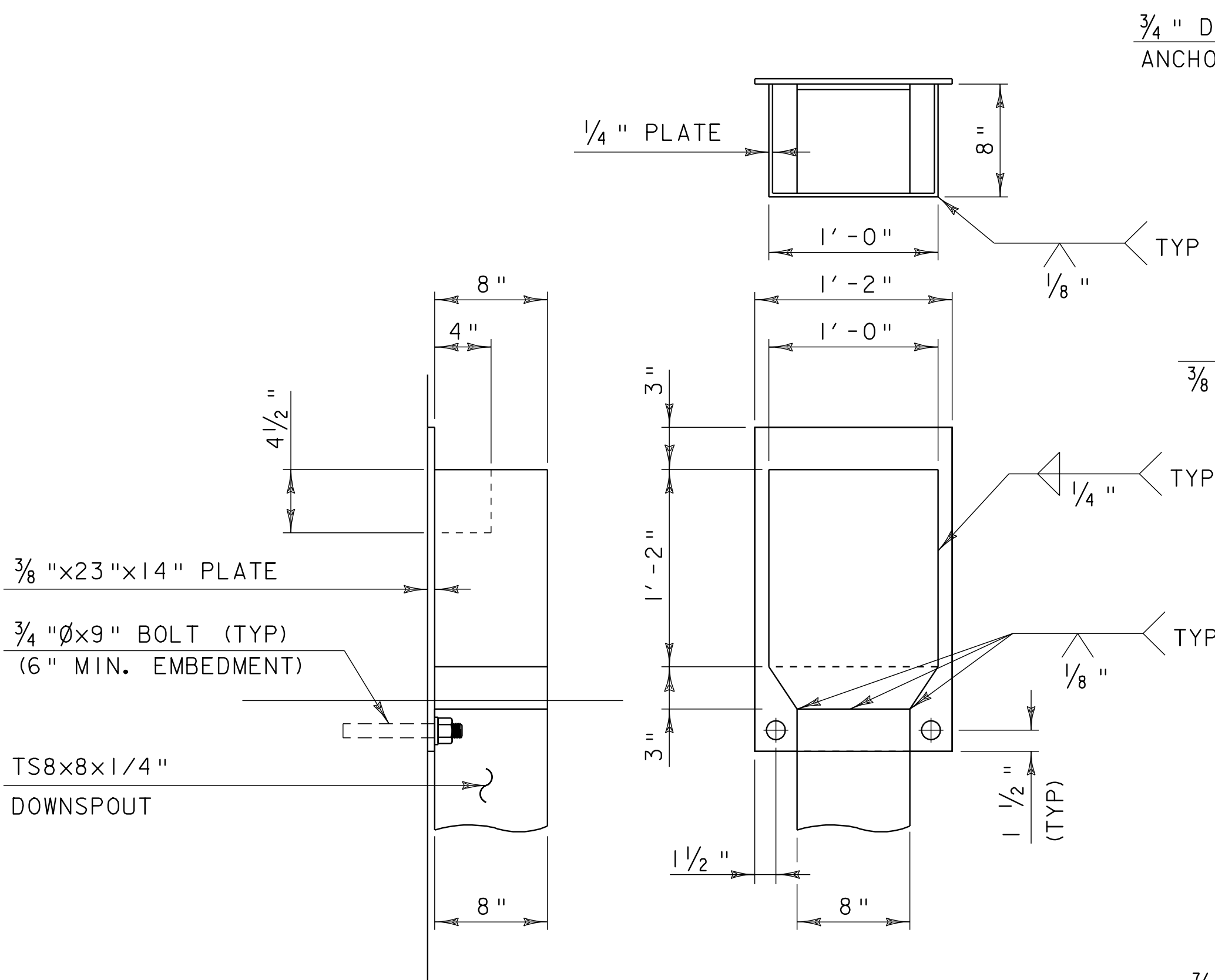
SCALE 3/4" = 1'-0"

SECTIONS A-A , B-B & C-C
ARE SHOWN ON PAGE 45

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001exp.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj-45exp2.i	DRAWN BY: K. M. HIGGINS
DESIGNED BY: K. M. HIGGINS	CHECKED BY: M. LONGSTREET
SQUAD LEADER: C. P. MANAGER	SHEET: 44 OF 97
EXPANSION JOINT PLAN (PIER #1)	

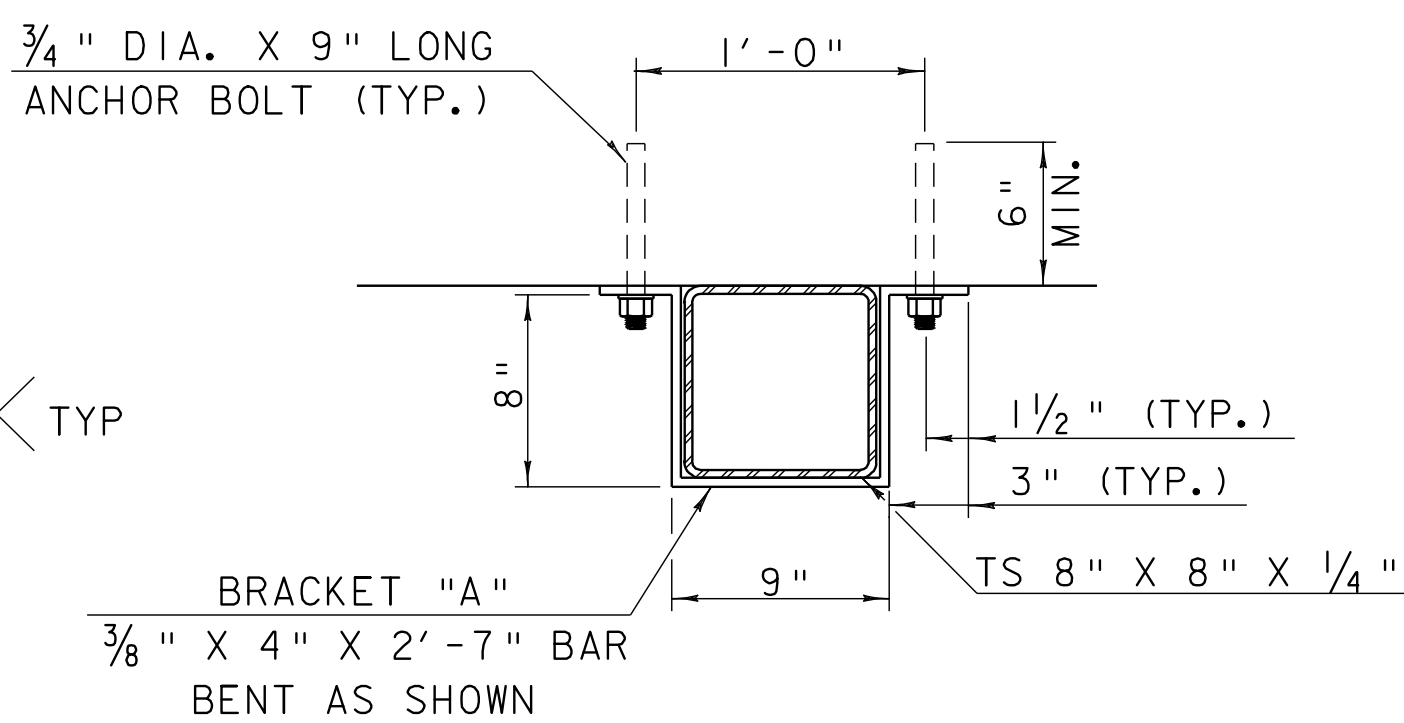


PROJECT: HARTFORD	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j045/structures/sj045exp.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj045exp3.i	DRAWN BY: K. M. HIGGINS
DESIGNED BY: K. M. HIGGINS	CHECKED BY: M. LONGSTREET
SQUAD LEADER: C. P. WILLIAMS	SHEET: 45 OF 97
CURB PLATE DETAILS	



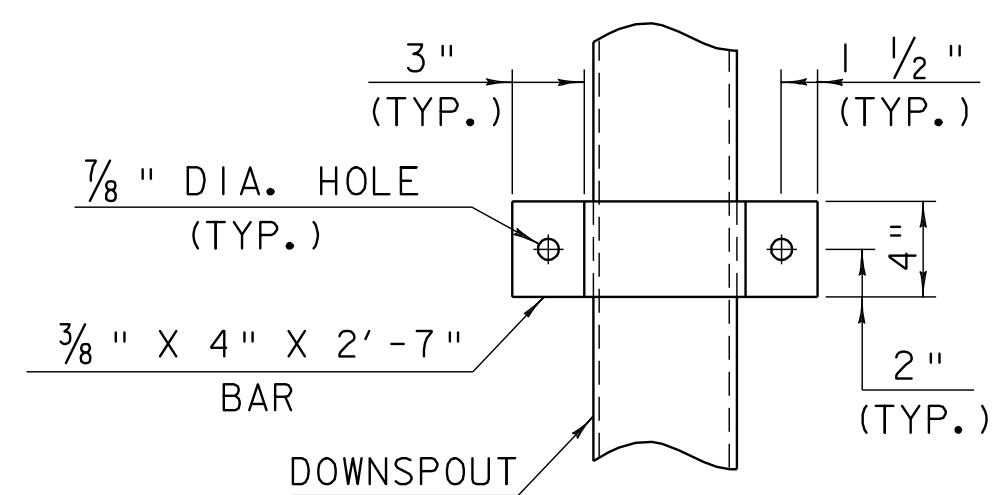
HOPPER DETAILS

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



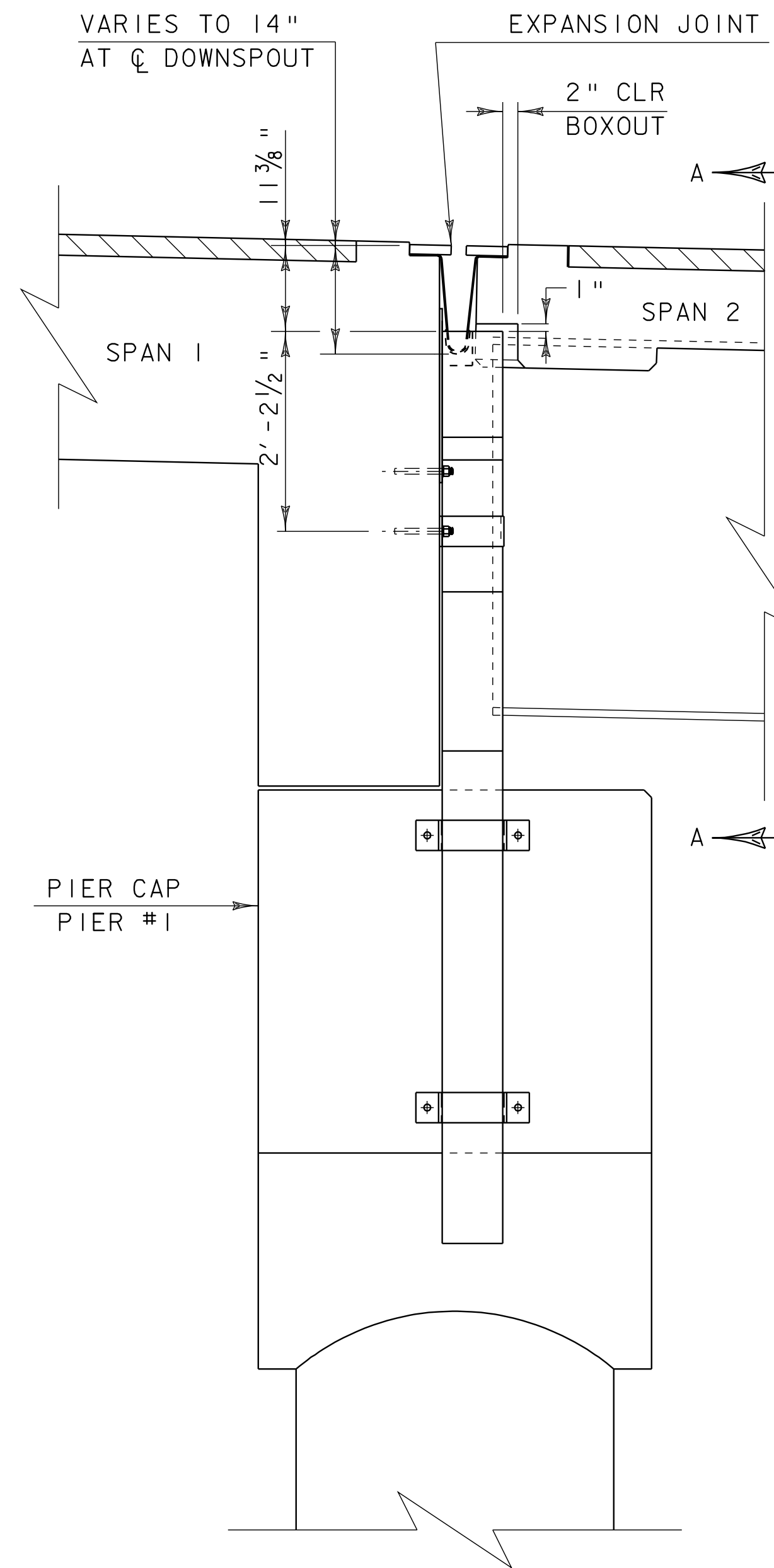
**DETAILS FOR ATTACHING
DOWNSPOUT TO SPAN I & PIER I**

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



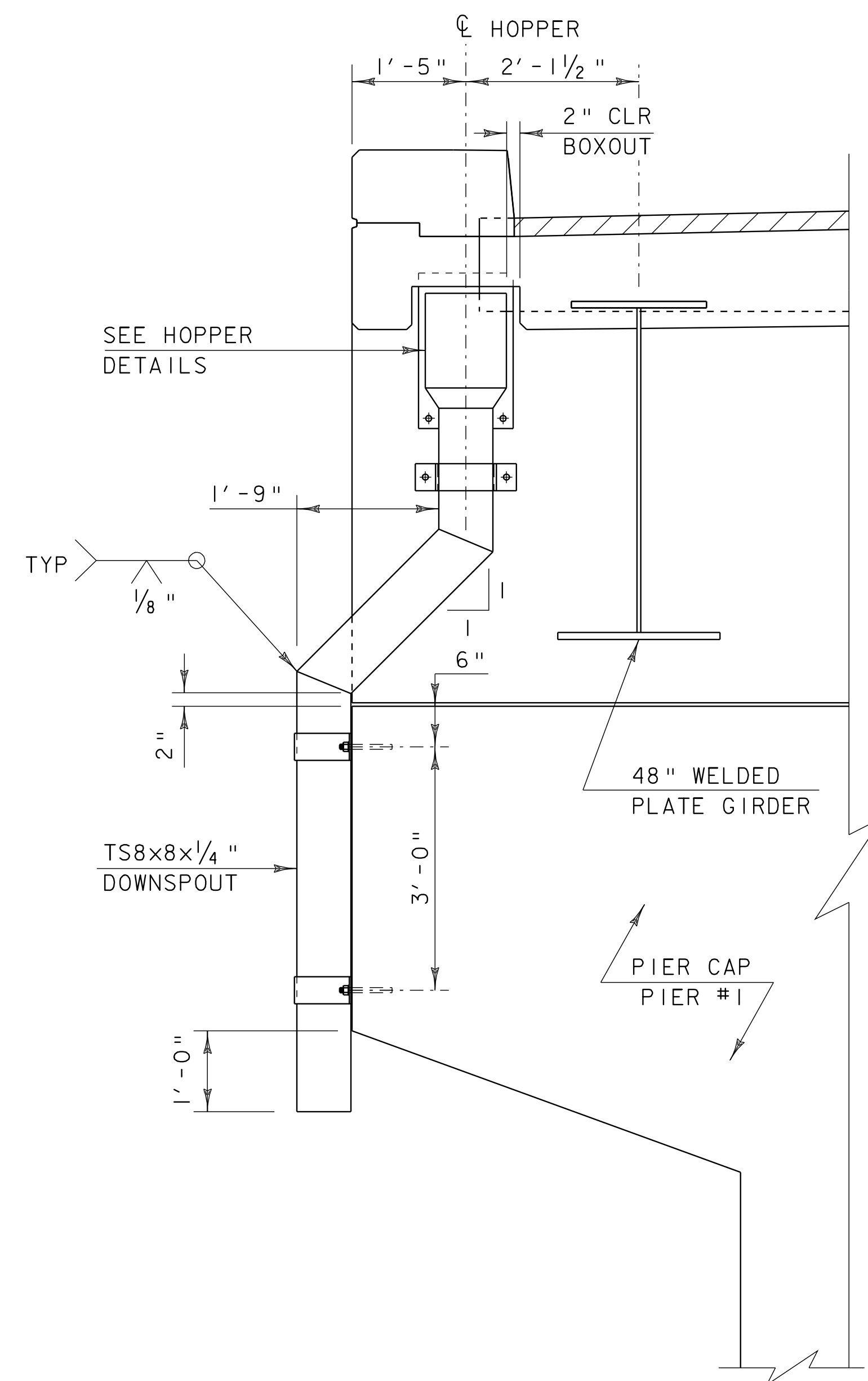
ELEVATION VIEW OF BRACKET "A"

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



DOWNSPOUT ELEVATION

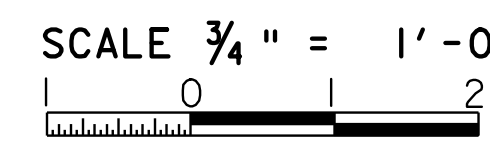
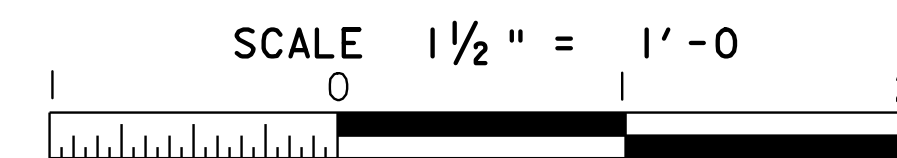
SCALE: 3/4" = 1'-0"



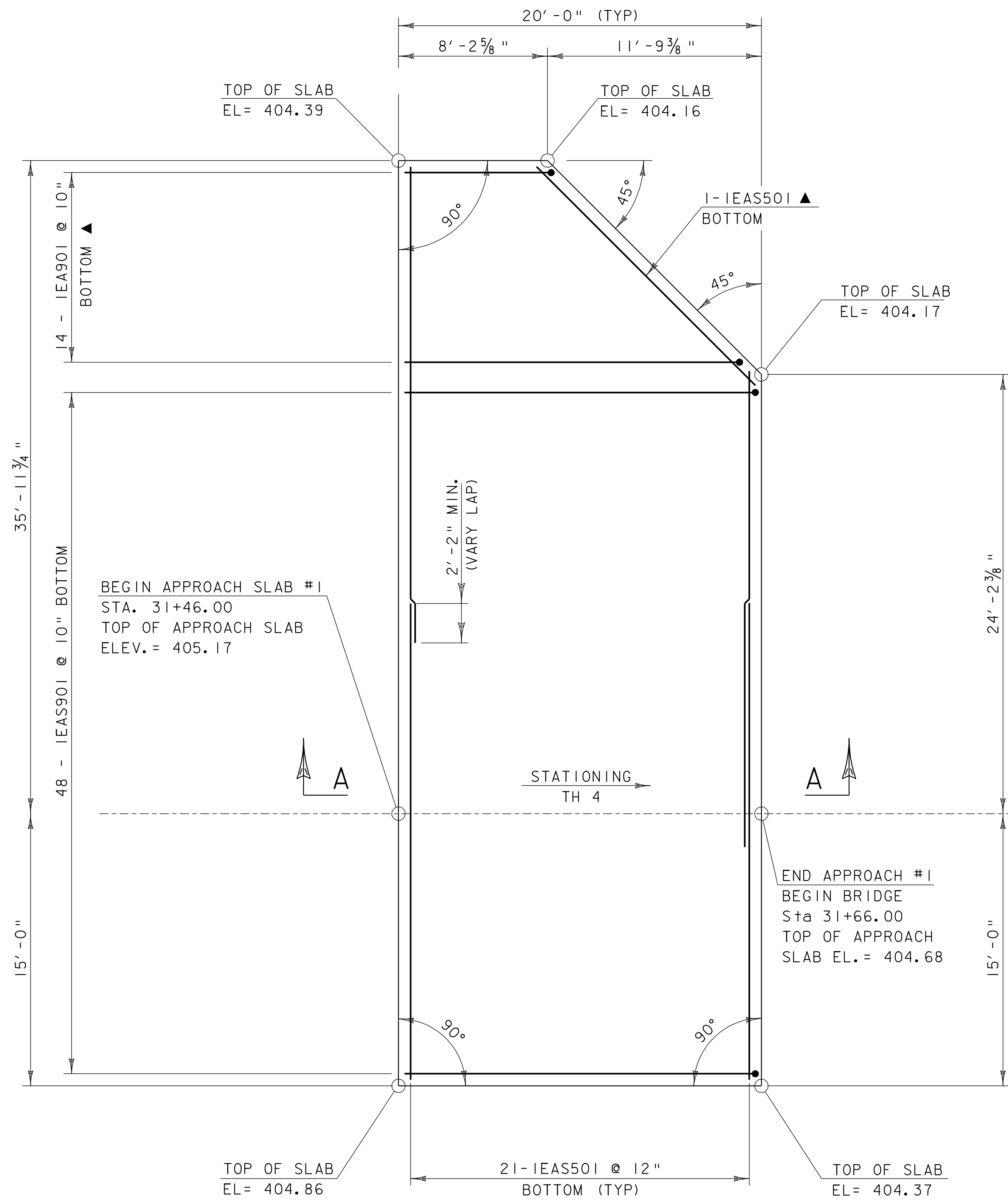
DOWNSPOUT SECTION A-A

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

- HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO A-500 OR A-501.
- ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270 GR. 36.
- DOWNSPOUT SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
- ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A-307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-153 (AASHTO M232).
- ANY PLACE WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE REPAIRED BY THOROUGHLY CLEANING THE DAMAGED AREAS WITH A WIRE BRUSH AND PAINTING THE DAMAGED AREAS WITH AN APPROVED SEALANT.
- ALL STEEL PLATES AND TUBES FOR THE DOWNSPOUT SHALL BE PAID FOR UNDER THE ITEM 506. 55 "STRUCTURAL STEEL (PLATE GIRDER)". ALL ANCHOR BOLTS AND RELATED HARDWARE SHALL BE SUBSIDIARY TO ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".

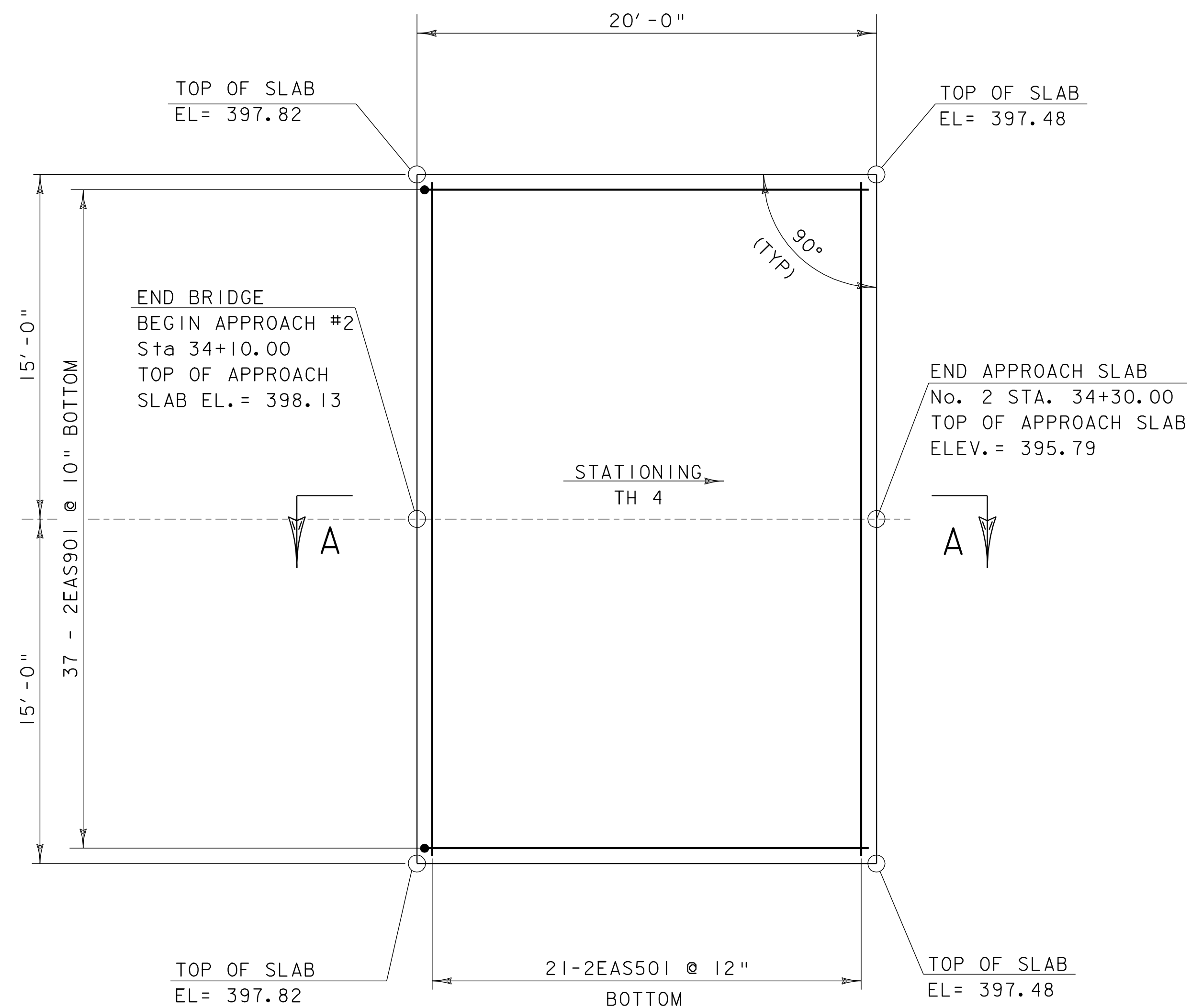


PROJECT: BRIDGE I	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001exp.dgn	IPARM FILE NAME: sj001downspout.i
DESIGNED BY: K. M. HIGGINS	PLLOT DATE: 07-SEP-2005
SQUAD LEADER: C. P. MANAGER	DRAWN BY: M. LONGSTREET
DOWNSPOUT DETAILS	CHECKED BY: K. M. HIGGINS
	SHEET: 46 OF 97



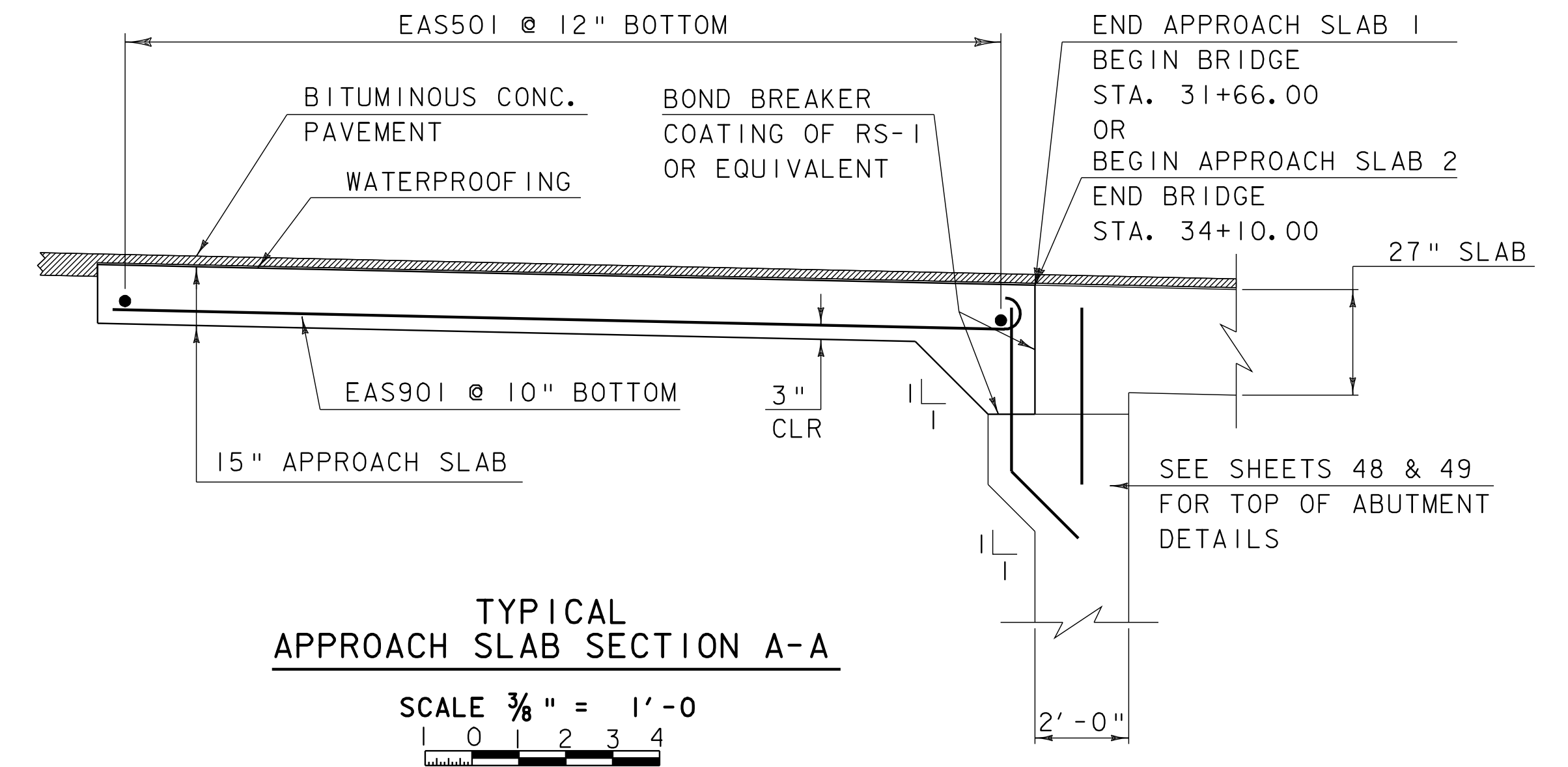
APPROACH SLAB No. 1 PLAN

SCALE $\frac{1}{4}'' = 1'-0$



APPROACH SLAB No. 2 PLAN

SCALE $\frac{1}{4}'' = 1'-0$



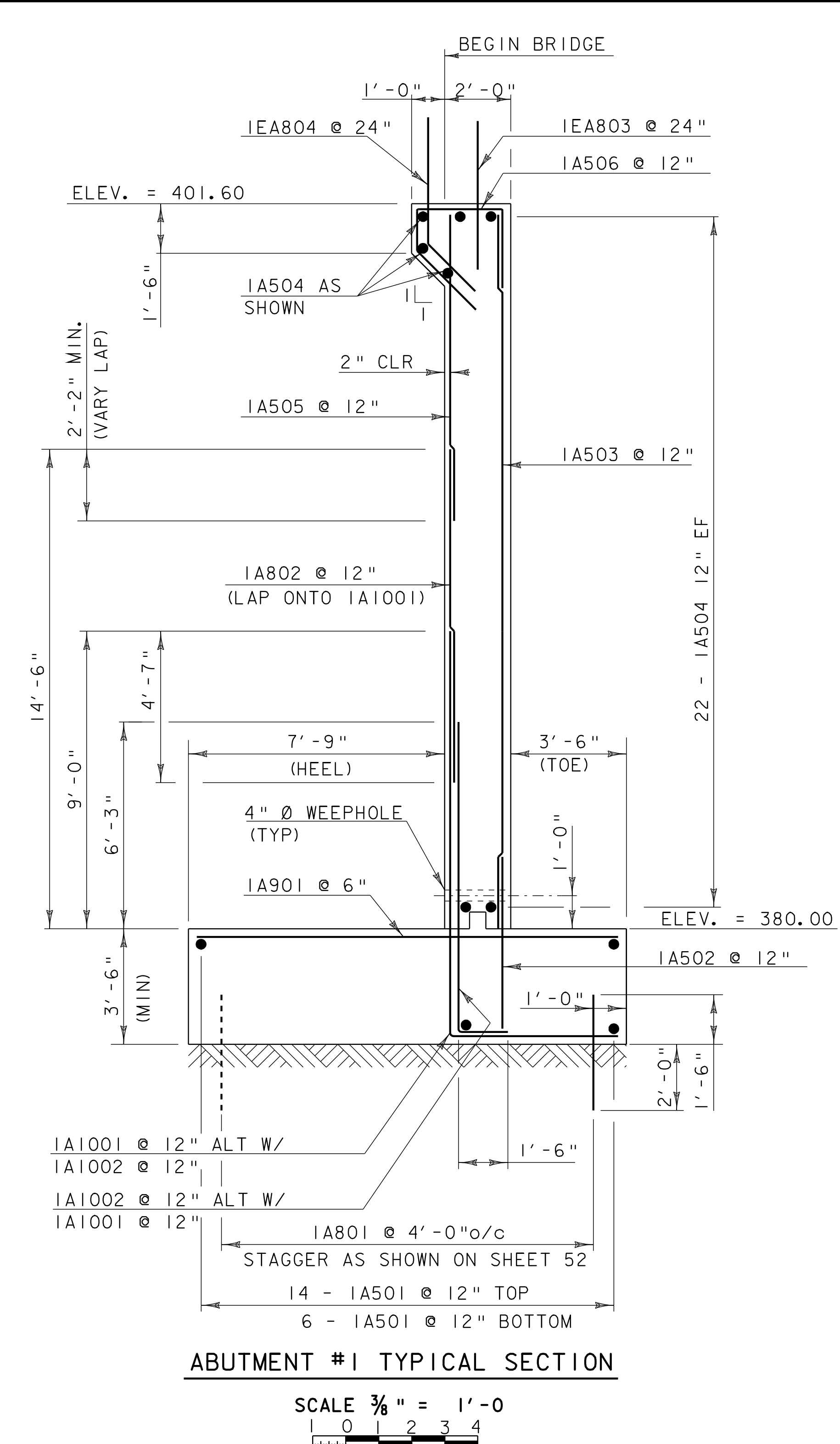
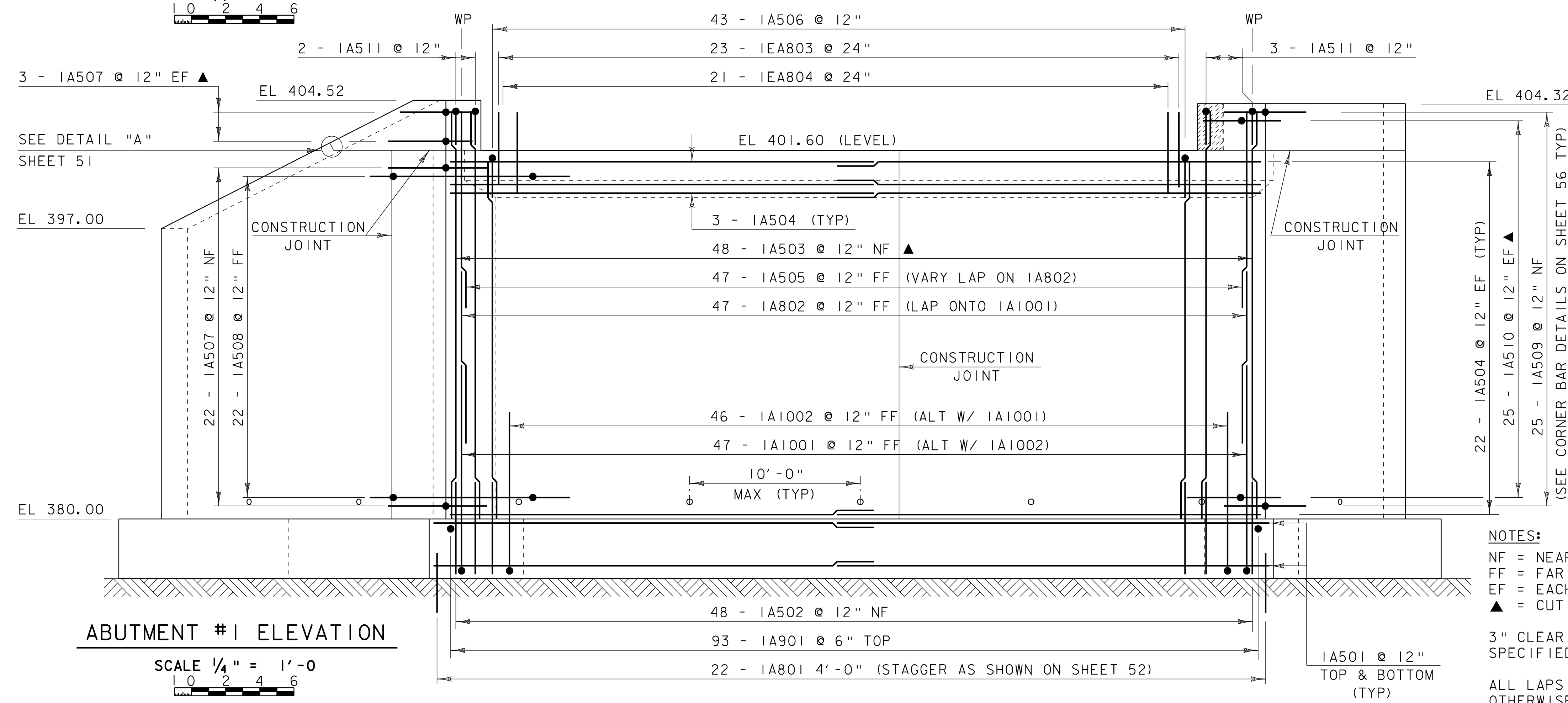
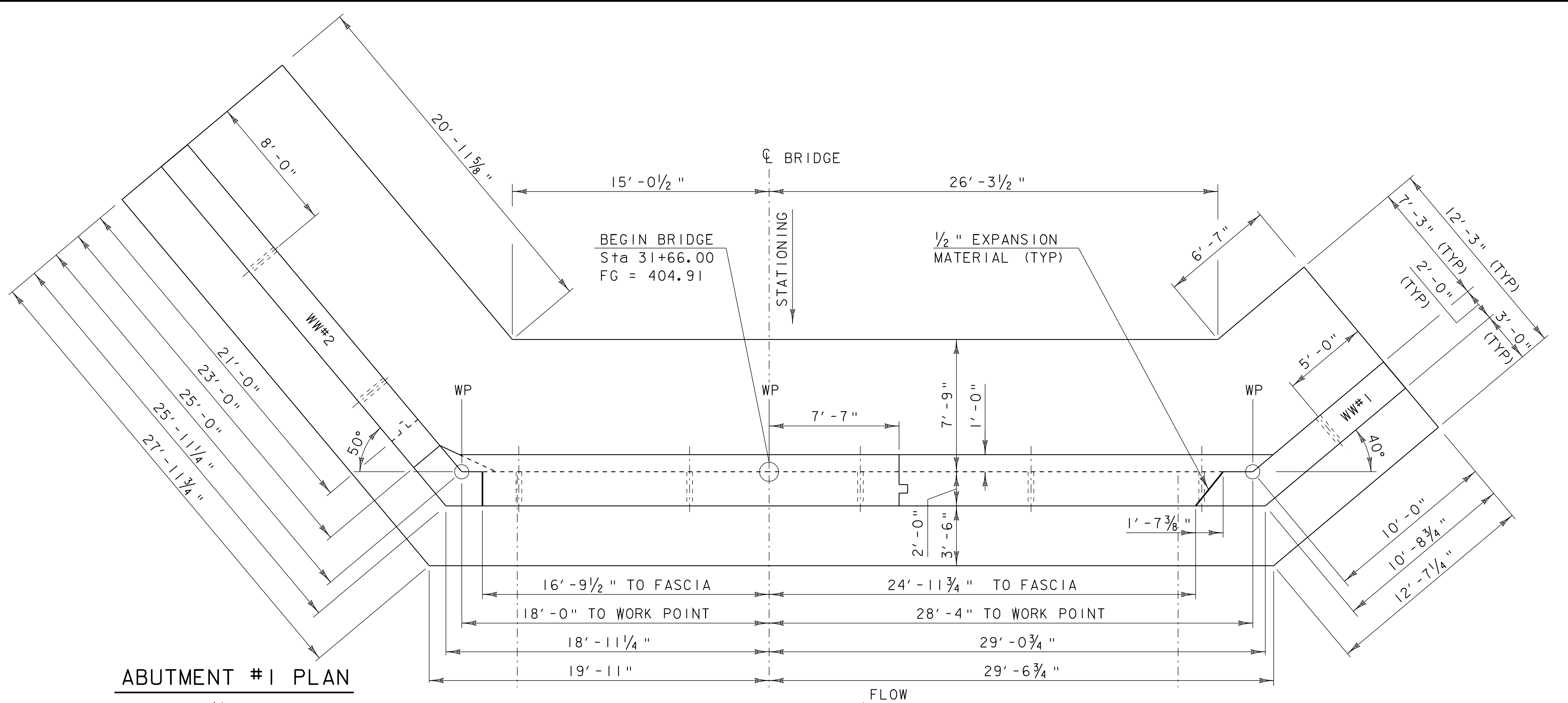
TYPICAL
APPROACH SLAB SECTION A-A

SCALE $\frac{3}{8}'' = 1'-0$

NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE
SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS
OTHERWISE SPECIFIED ON PLANS

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001sub.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001applx2.i	DRAWN BY: M LONGSTREET
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 47 OF 97
APPROACH SLAB 1 & 2 DETAILS	



NOTE:

THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04. ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH EXCAVATION. THE ELEVATION AND GEOMETRY SHOWN REPRESENT THE LOWEST LEDGE ELEVATION EXPECTED.

NOTES:

NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD

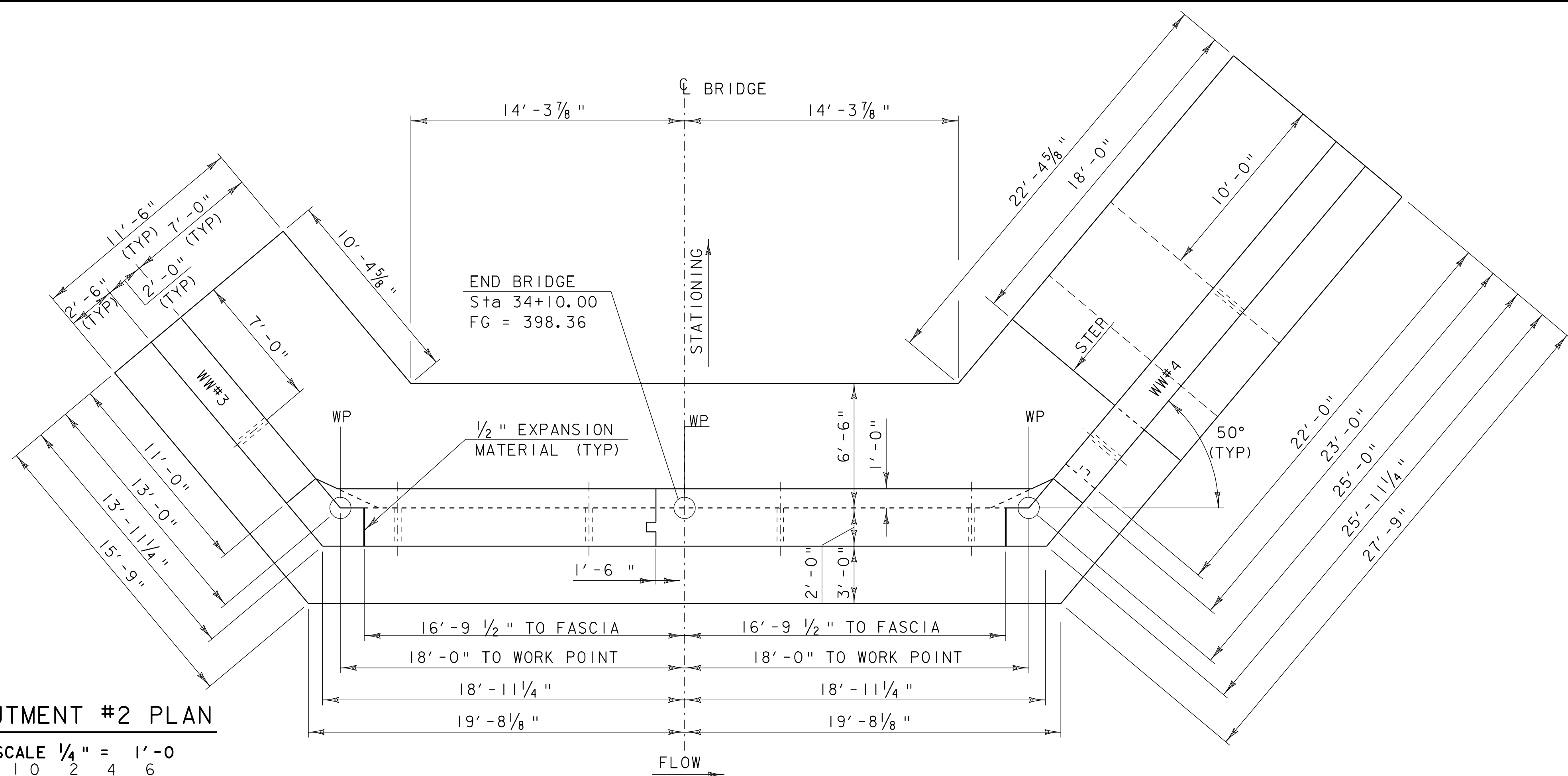
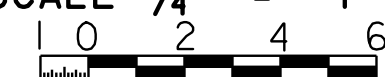
3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: BRIDGE 1	PROJECT NO.: BR5-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001sub.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001abl.i	DRAWN BY: M LONGSTREET
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 48 OF 97
ABUTMENT #1 DETAILS	

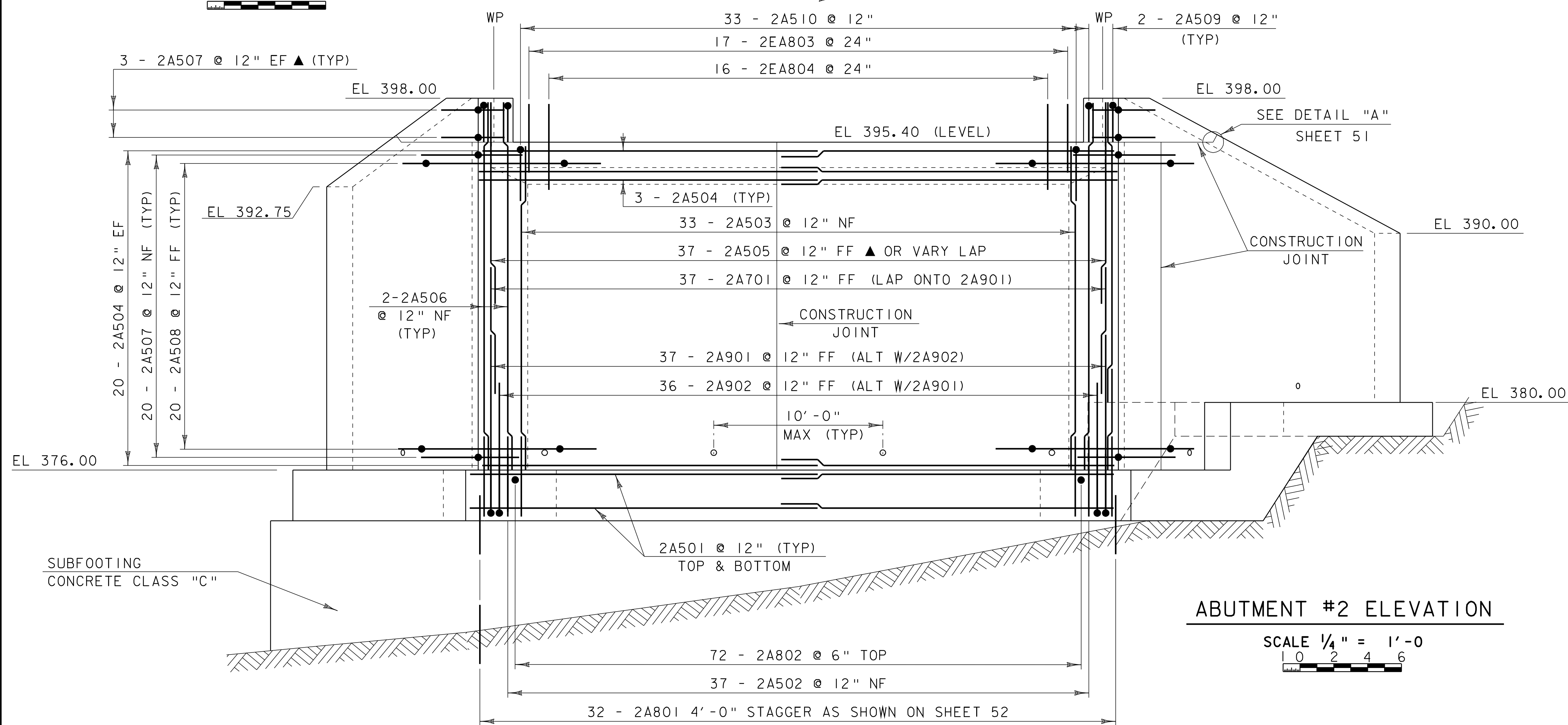
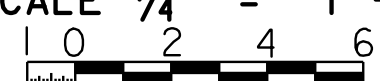
ABUTMENT #2 PLAN

SCALE $\frac{1}{4}" = 1'-0"$



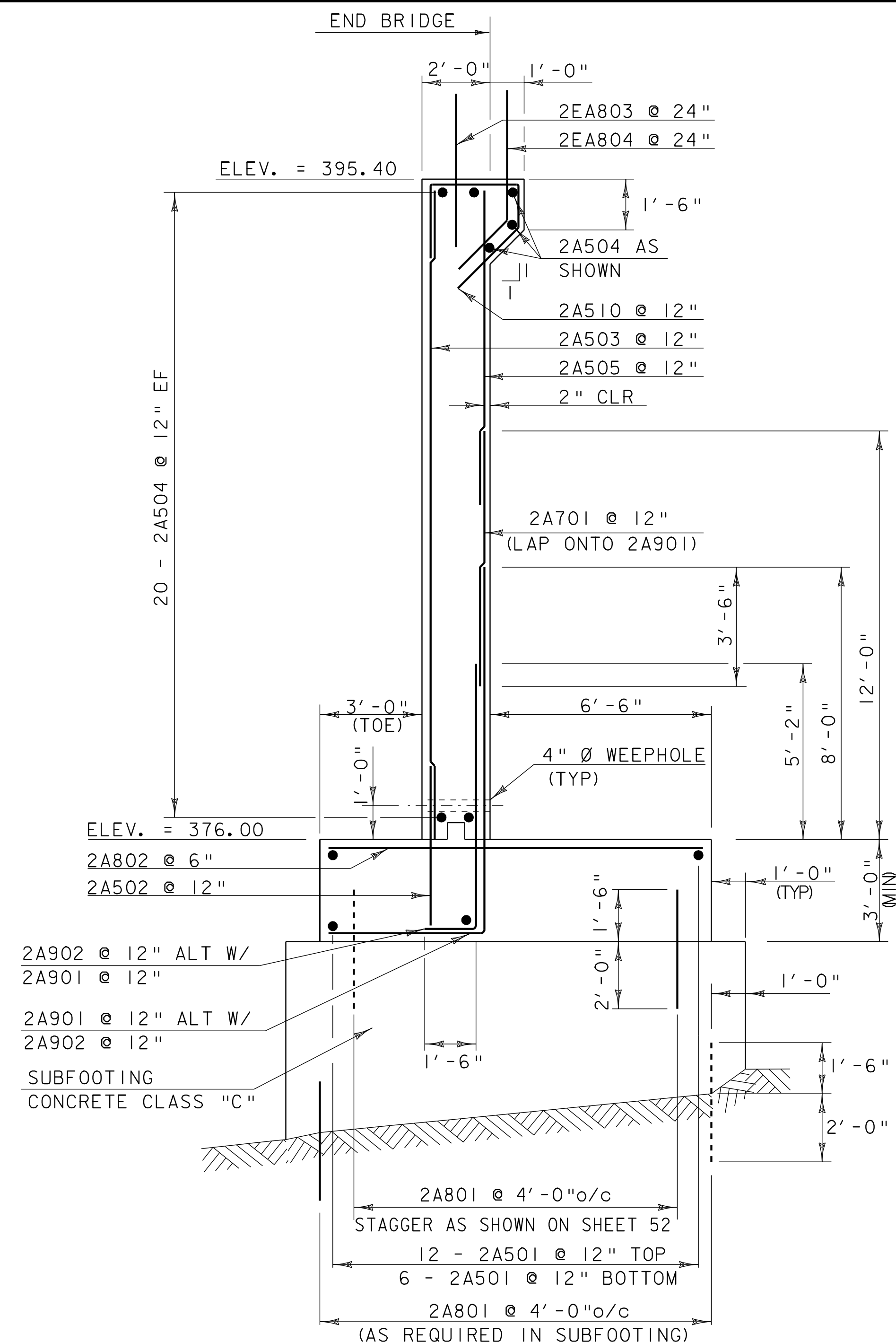
ABUTMENT #2 ELEVATION

SCALE $\frac{1}{4}" = 1'-0"$



ABUTMENT #2 TYPICAL SECTION

SCALE $\frac{3}{8}" = 1'-0"$

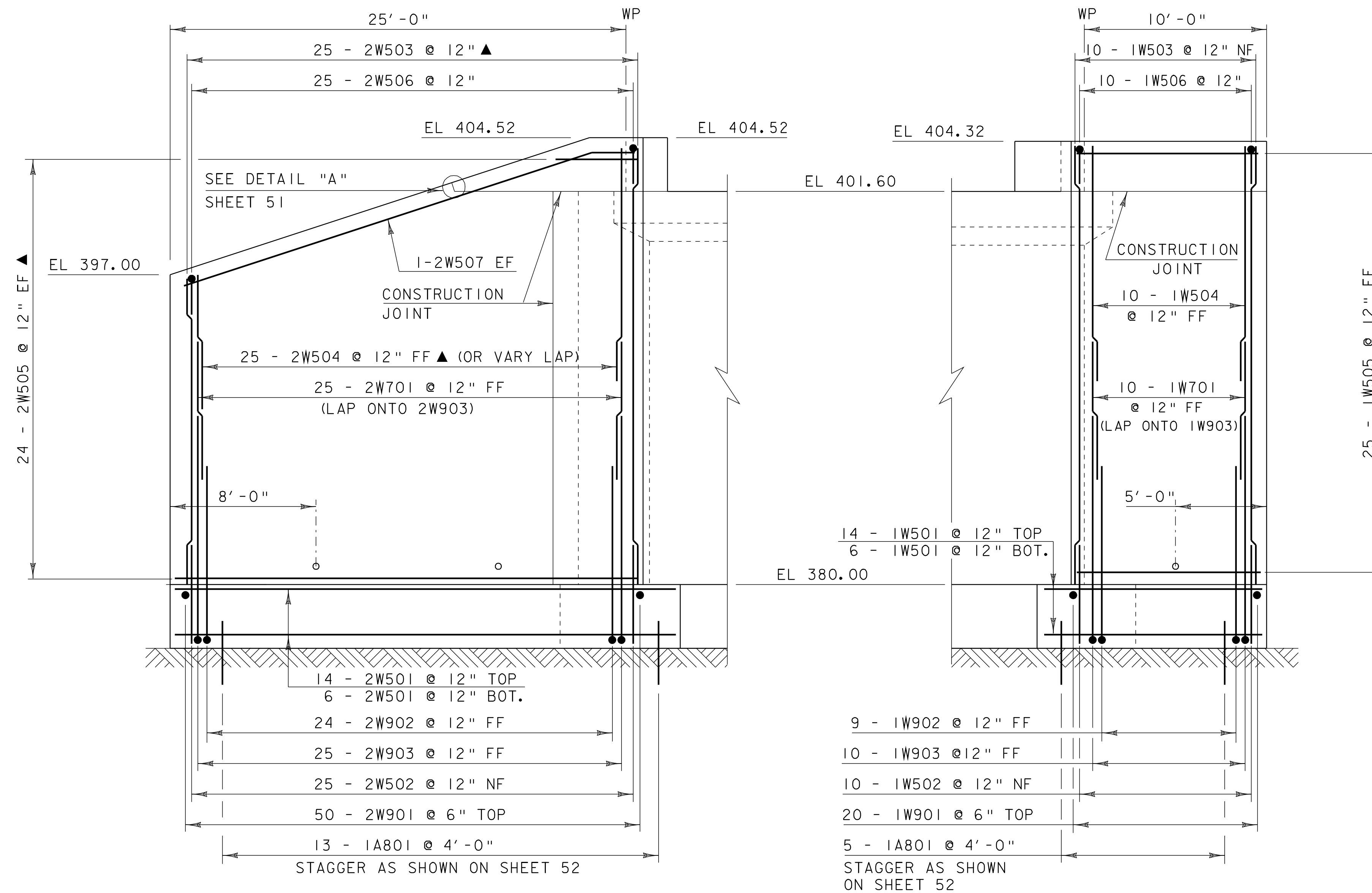


NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001sub.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001ab2.i	DRAWN BY: E. L. RUSTAY
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 49 OF 97
ABUTMENT #2 DETAILS	

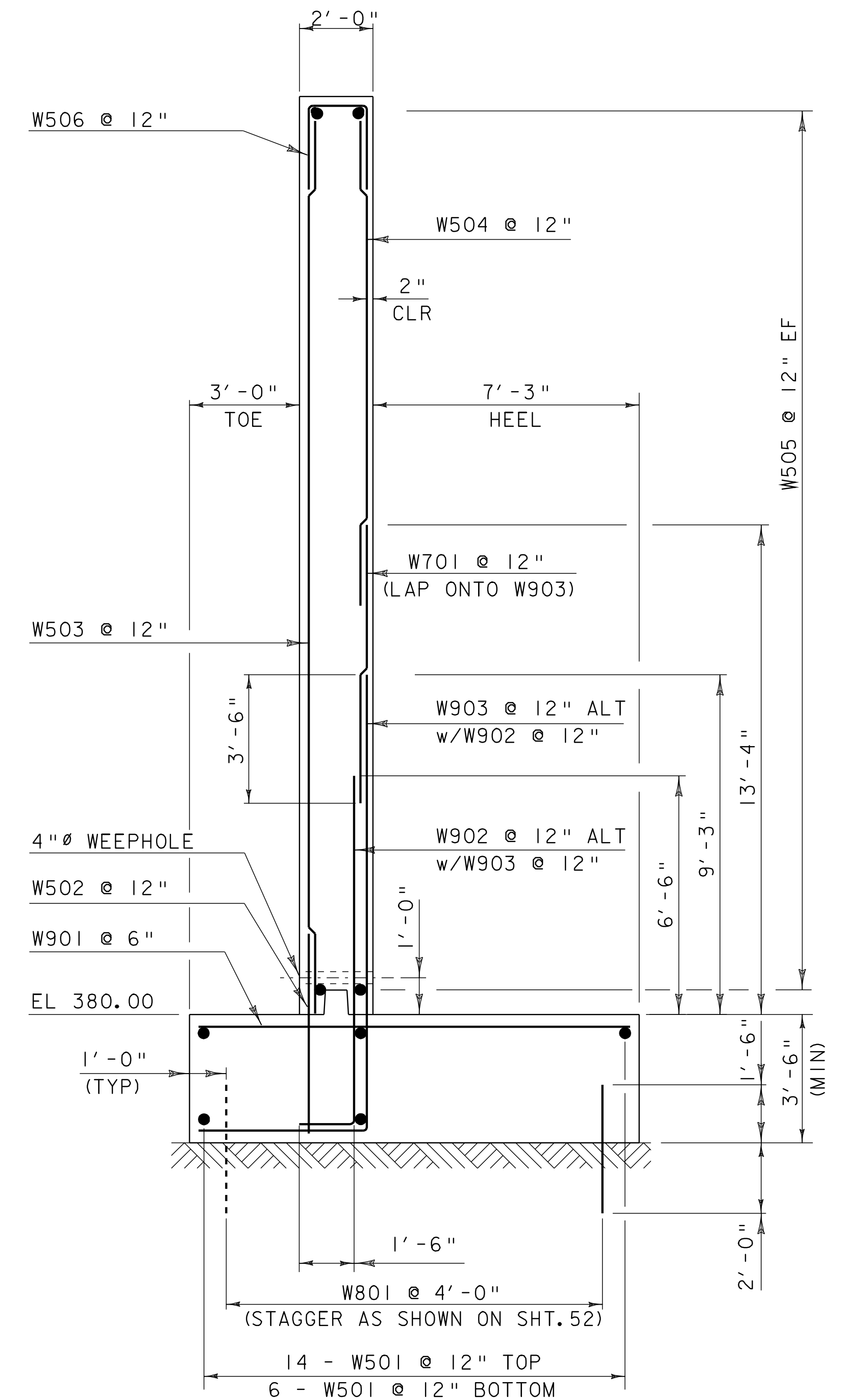


WINGWALL #2 ELEVATION

SCALE $\frac{1}{4}" = 1'-0$
1 0 2 4 6

WINGWALL #1 ELEVATION

SCALE $\frac{1}{4}" = 1'-0$
1 0 2 4 6



WINGWALL #1 & #2 TYPICAL SECTION

SCALE $\frac{3}{8}" = 1'-0$
1 0 1 2 3 4

NOTE:

THE TOP OF THE FOOTING ELEVATION FOR ABUTMENT #1 WAS SET BASED ON THE LEDGE ELEVATION DETERMINED FROM B-04. ADJUSTMENTS IN FOOTING ELEVATION AND GEOMETRY ARE EXPECTED AS ACTUAL LEDGE ELEVATION AND CONDITION IS DETERMINED THROUGH EXCAVATION. THE ELEVATION AND GEOMETRY SHOWN REPRESENT THE LOWEST LEDGE ELEVATION EXPECTED.

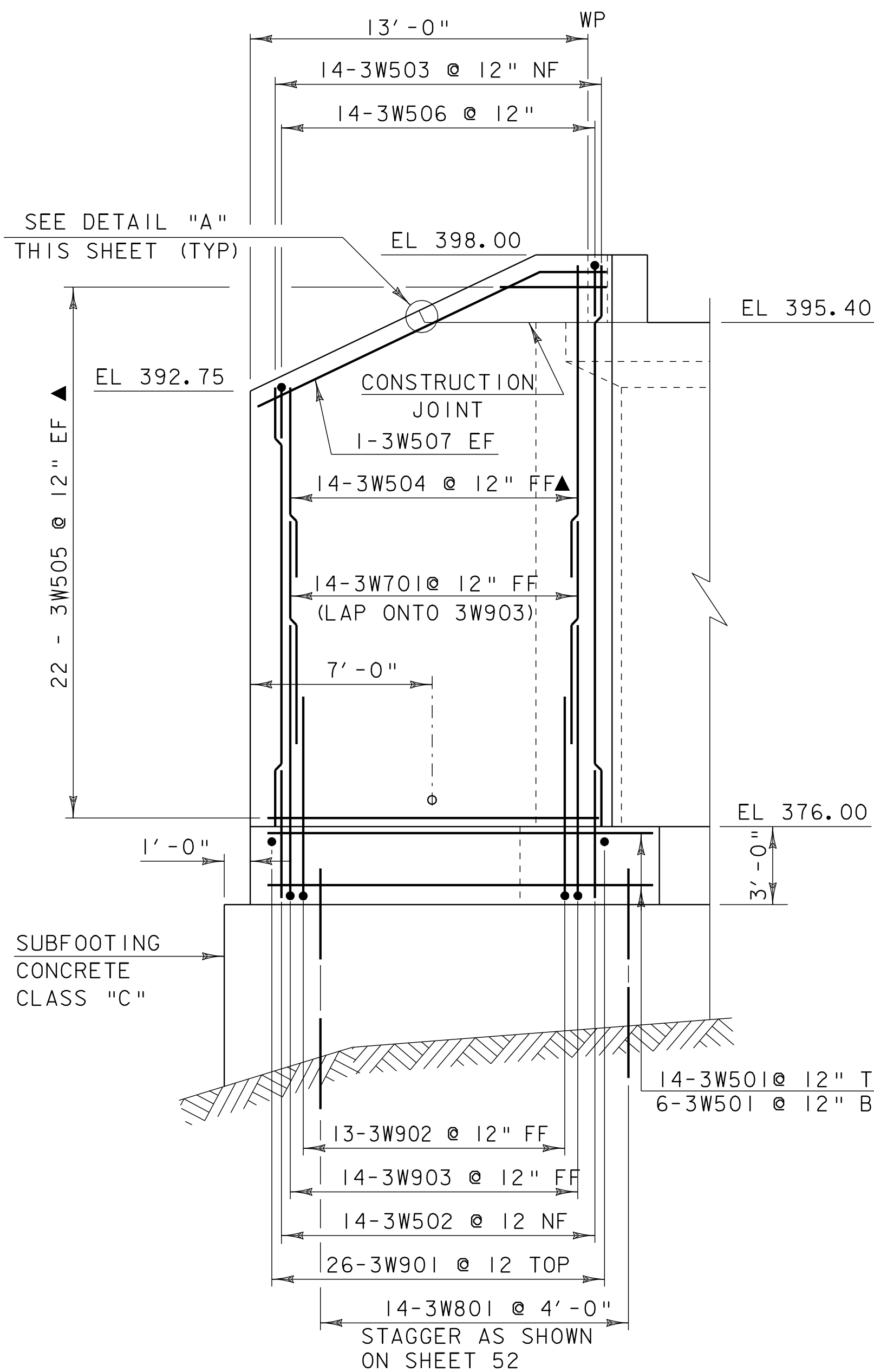
NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

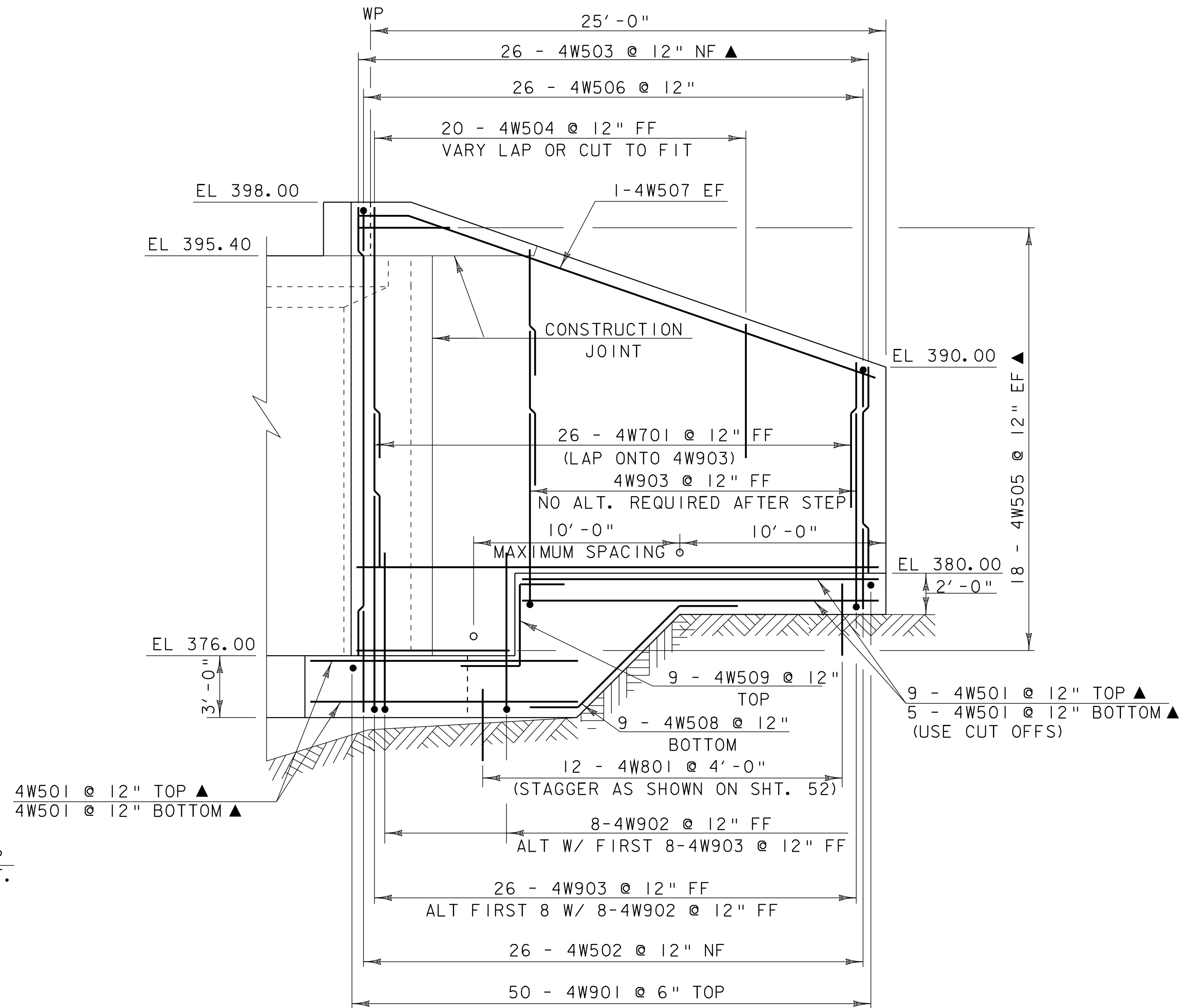
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001sub.dgn IPARM FILE NAME: sj001ww1x2.i DESIGNED BY: K. M. HIGGINS SQUAD LEADER: C. P. MANAGER WINGWALL 1 & 2 DETAILS	PLOT DATE: 07-SEP-2005 DRAWN BY: M LONGSTREET CHECKED BY: K. M. HIGGINS SHEET: 50 OF 97



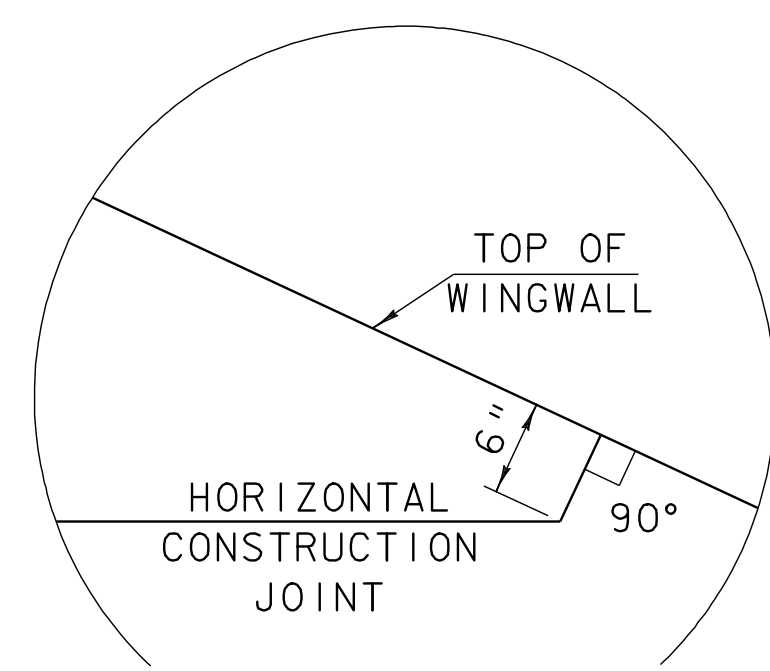
WINGWALL #3 ELEVATION

SCALE $\frac{1}{4}" = 1'-0"$

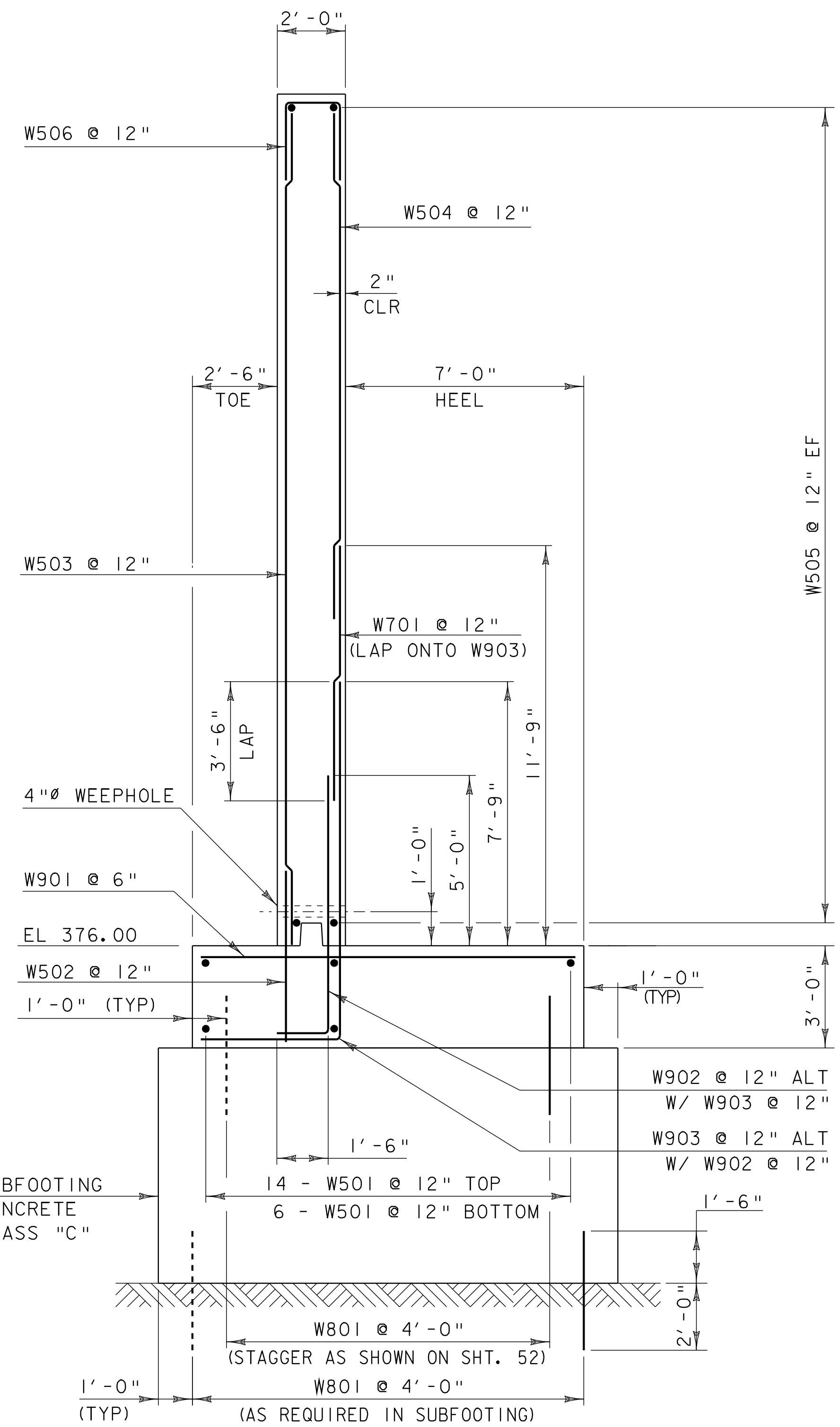


WINGWALL #4 ELEVATION

SCALE $\frac{1}{4}" = 1'-0"$



DETAIL "A"
NTS



WINGWALL #3 & #4 TYPICAL SECTION

SCALE $\frac{3}{8}" = 1'-0"$

NOTES:

NF = NEAR FACE

FF = FAR FACE

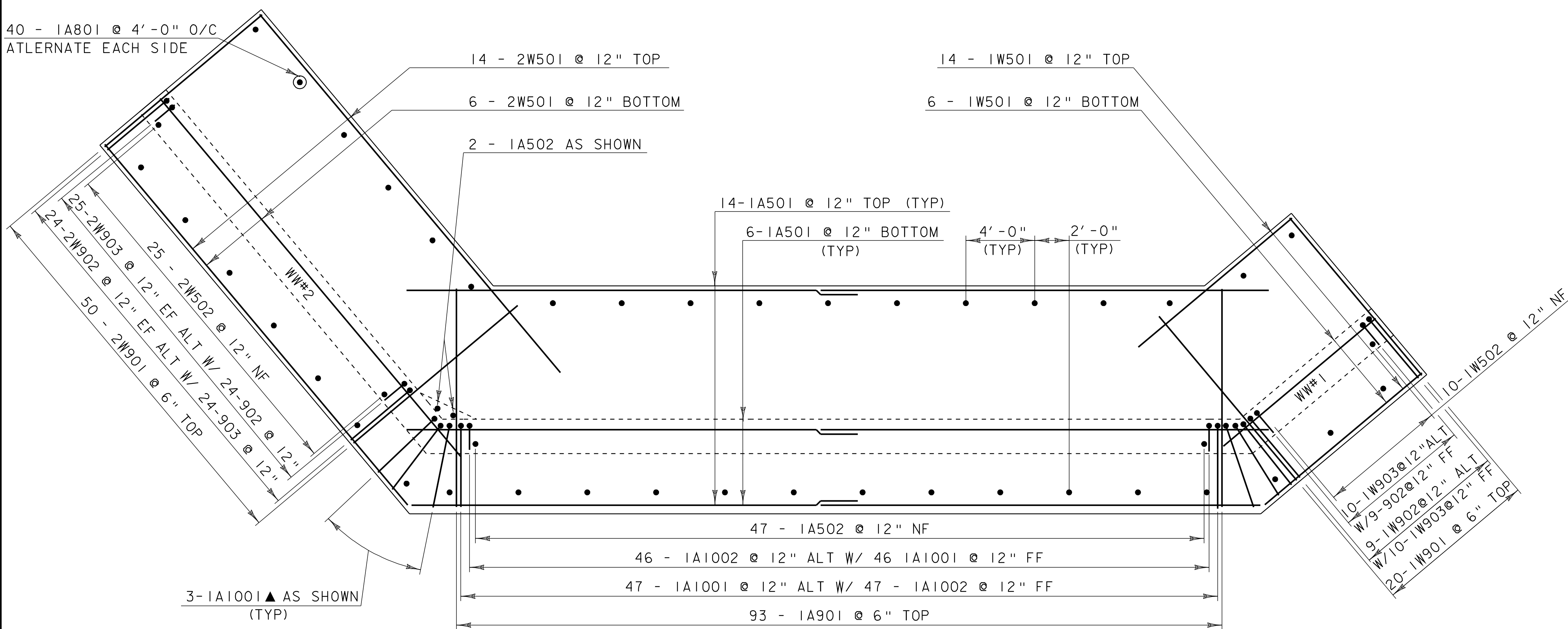
EF = EACH FACE

▲ = CUT TO FIT IN FIELD

3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS

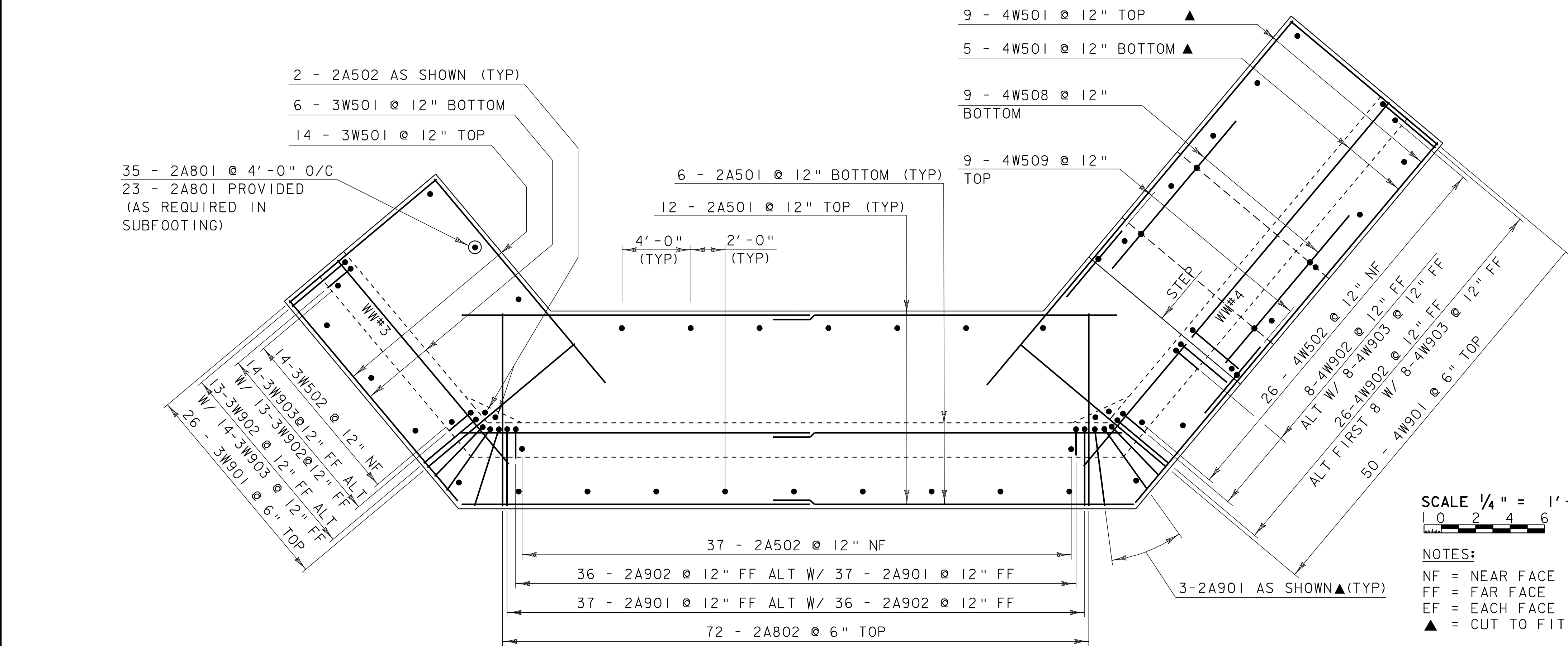
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001sub.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001ww3x4.i	DRAWN BY: M LONGSTREET
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: C. P. MANAGER	SHEET: 51 OF 97
WINGWALL 3 & 4 DETAILS	



ABUTMENT #1 FOOTING PLAN

SCALE 1/4" = 1'-0



ABUTMENT #2 FOOTING PLAN

SCALE 1/4" = 1'-0

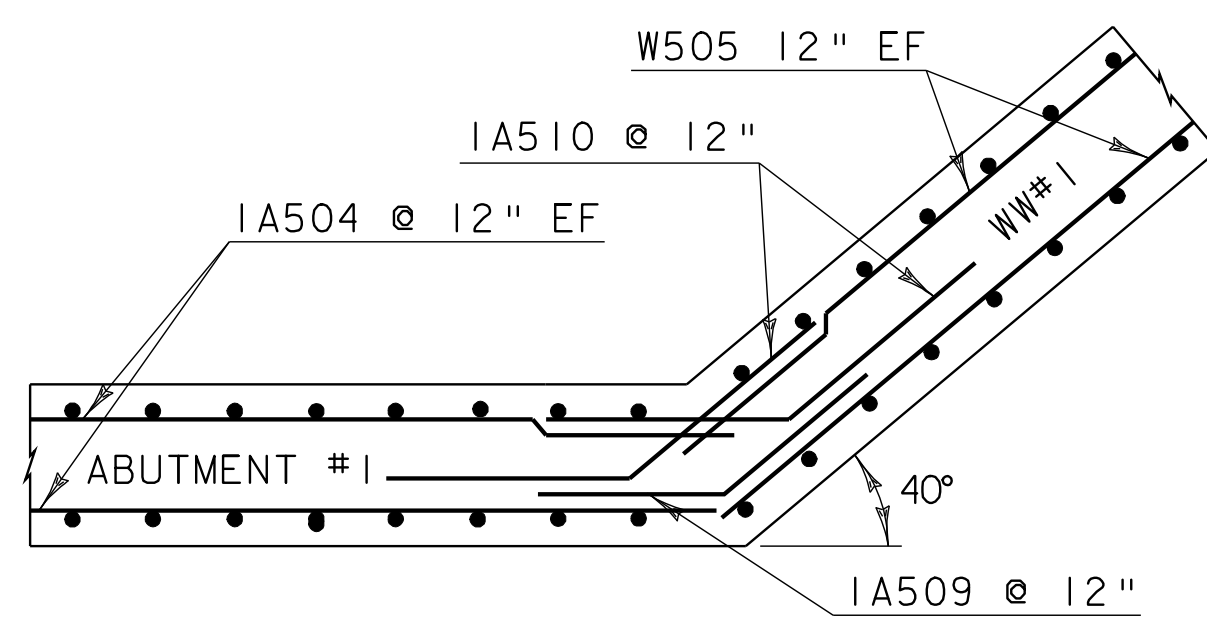
SCALE 1/4" = 1'-0
1 0 2 4 6

NOTES:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD

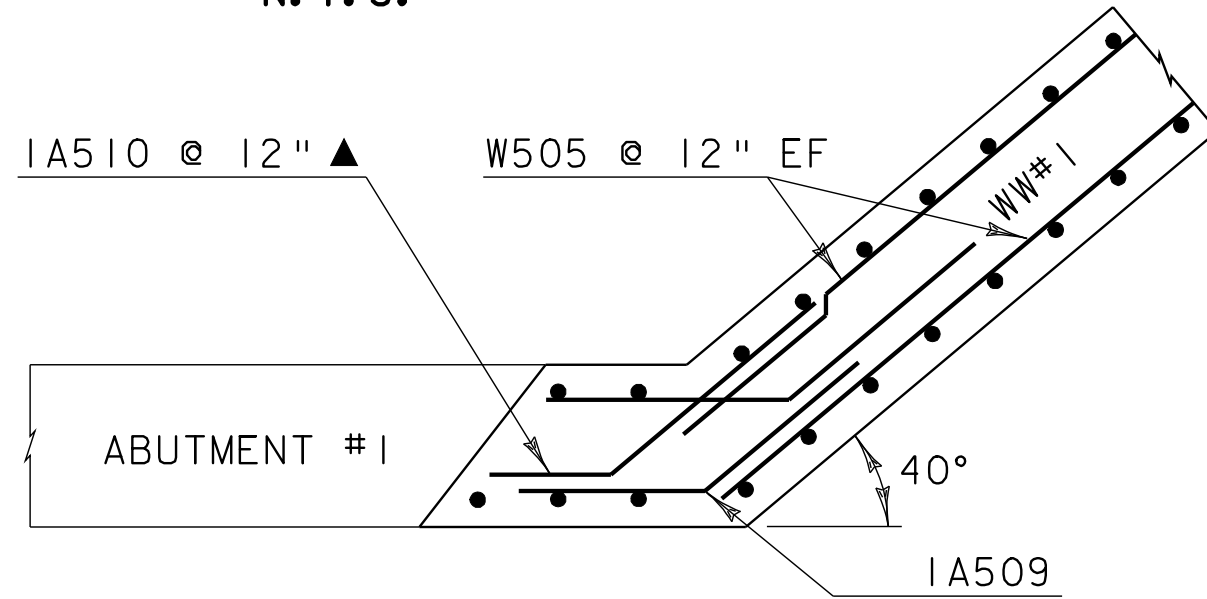
3" CLEAR UNLESS OTHERWISE
SPECIFIED ON PLANS

ALL LAPS ARE 2'-2" UNLESS
OTHERWISE SPECIFIED ON PLANS



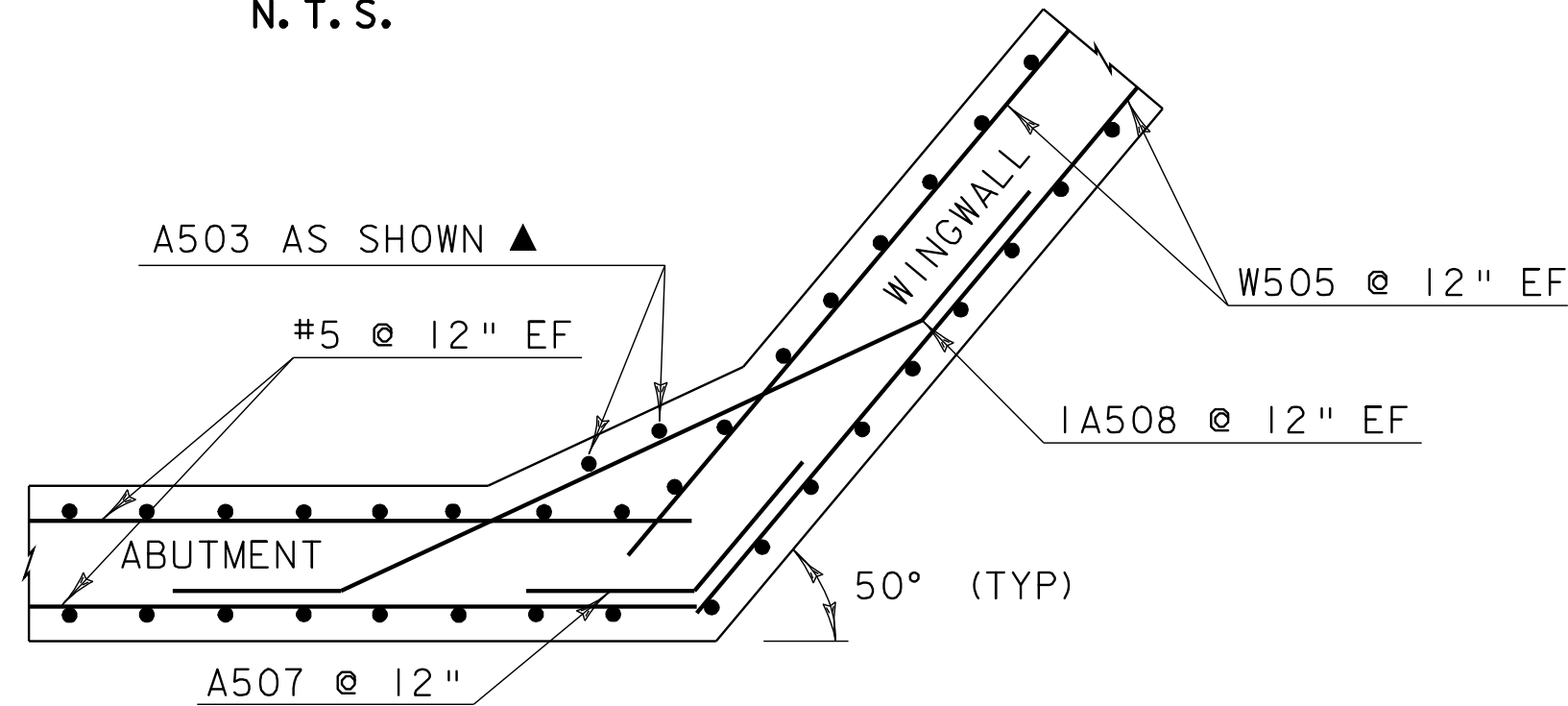
WINGWALL #1 CORNER DETAIL
BELOW BRIDGE SEAT

N. T. S.



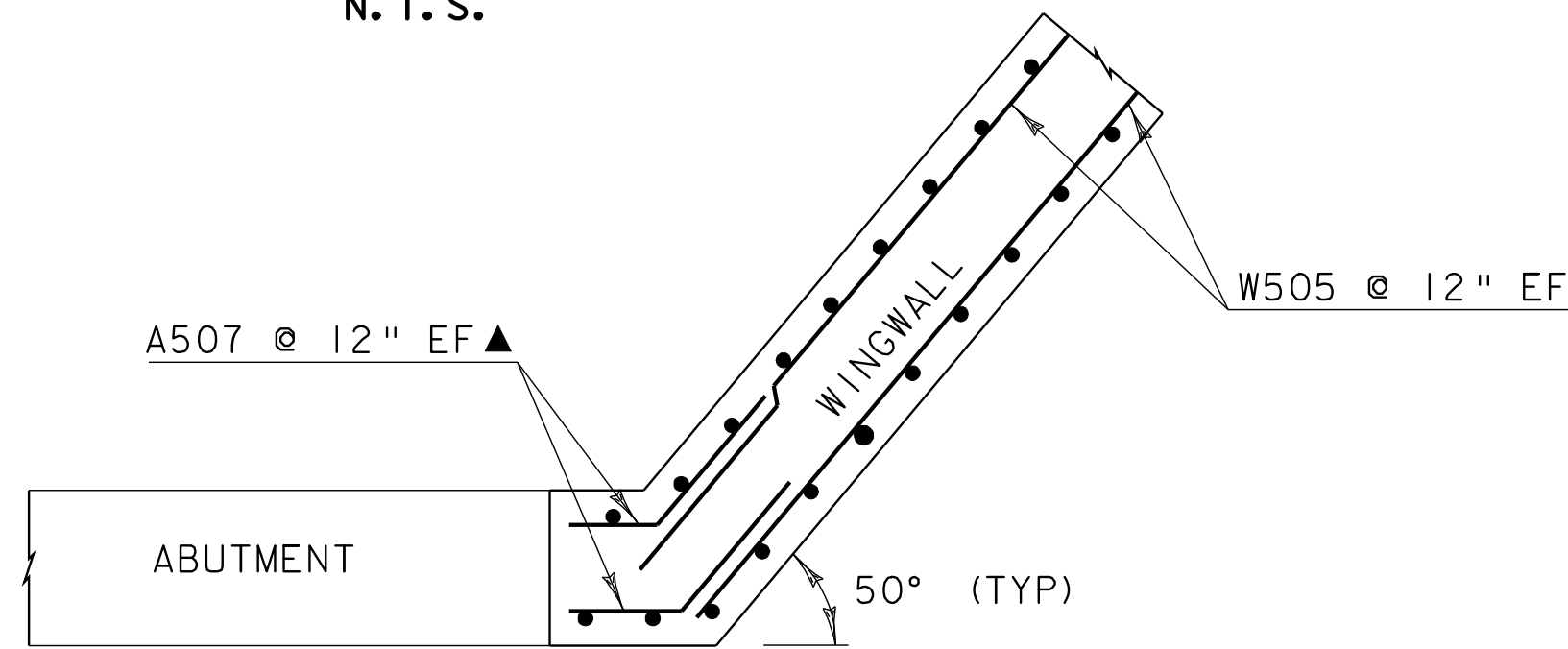
WINGWALL #1 CORNER DETAIL
ABOVE BRIDGE SEAT

N. T. S.



TYPICAL WINGWALL CORNER DETAIL
BELOW BRIDGE SEAT

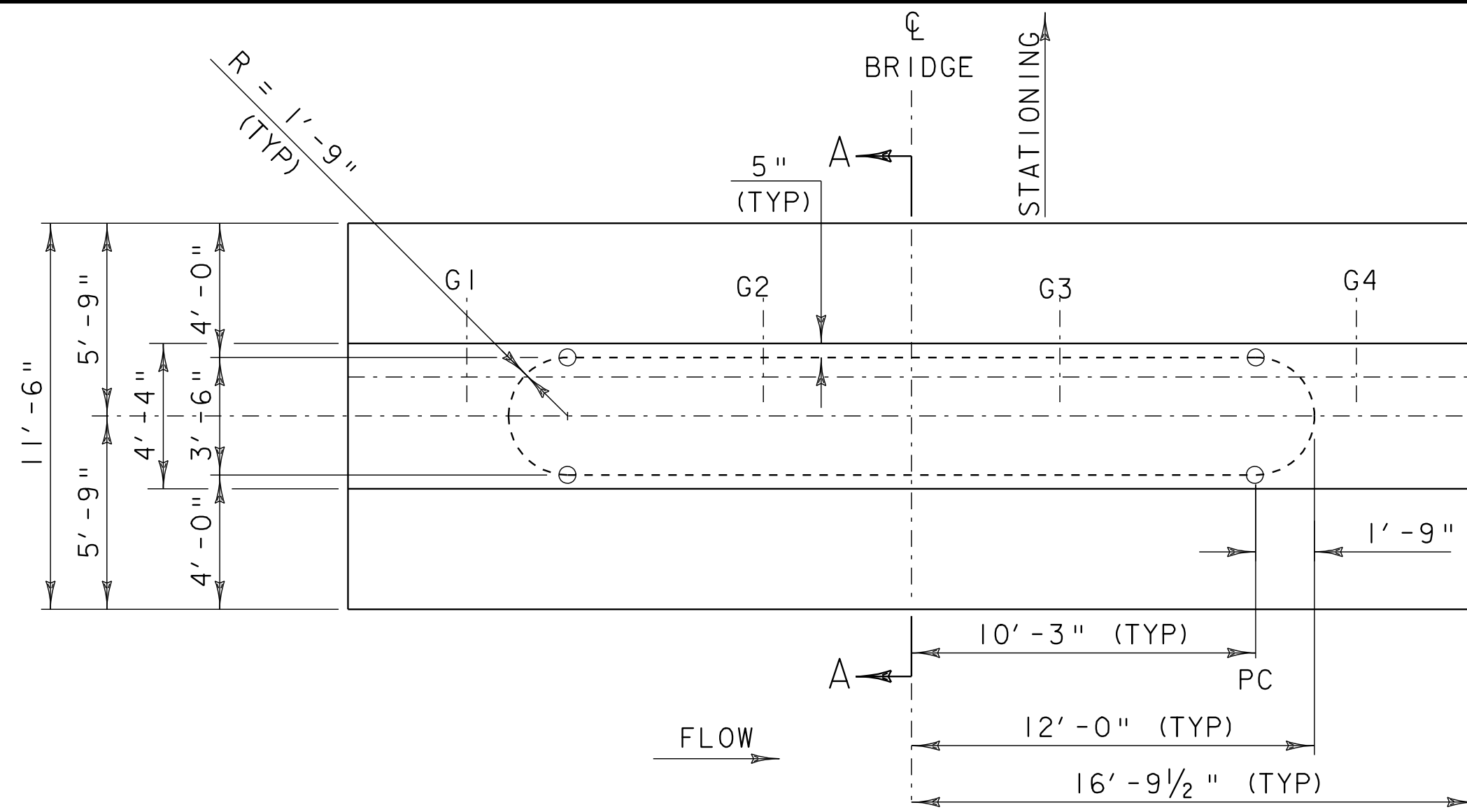
N. T. S.



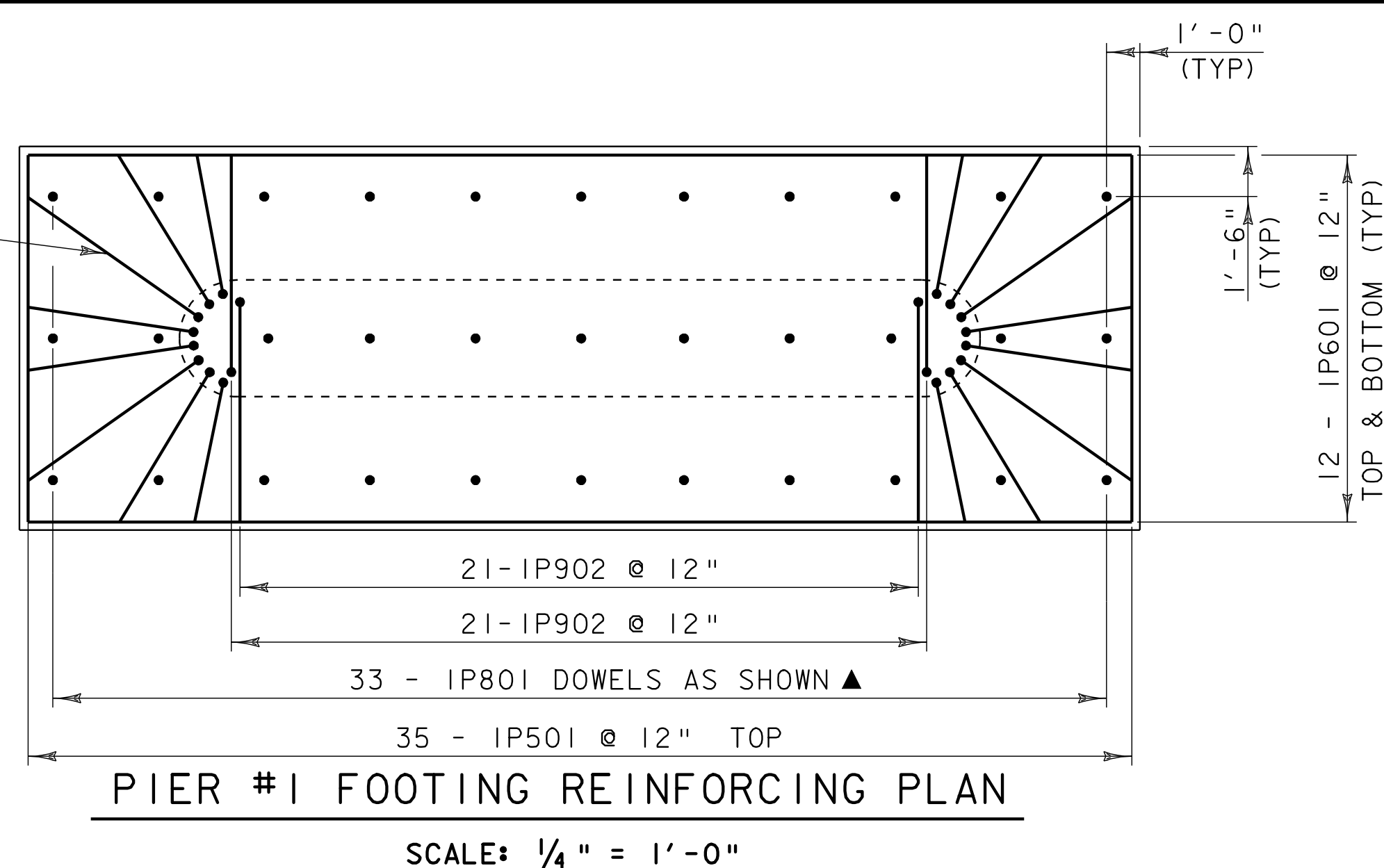
TYPICAL WINGWALL CORNER DETAIL
ABOVE BRIDGE SEAT

N. T. S.

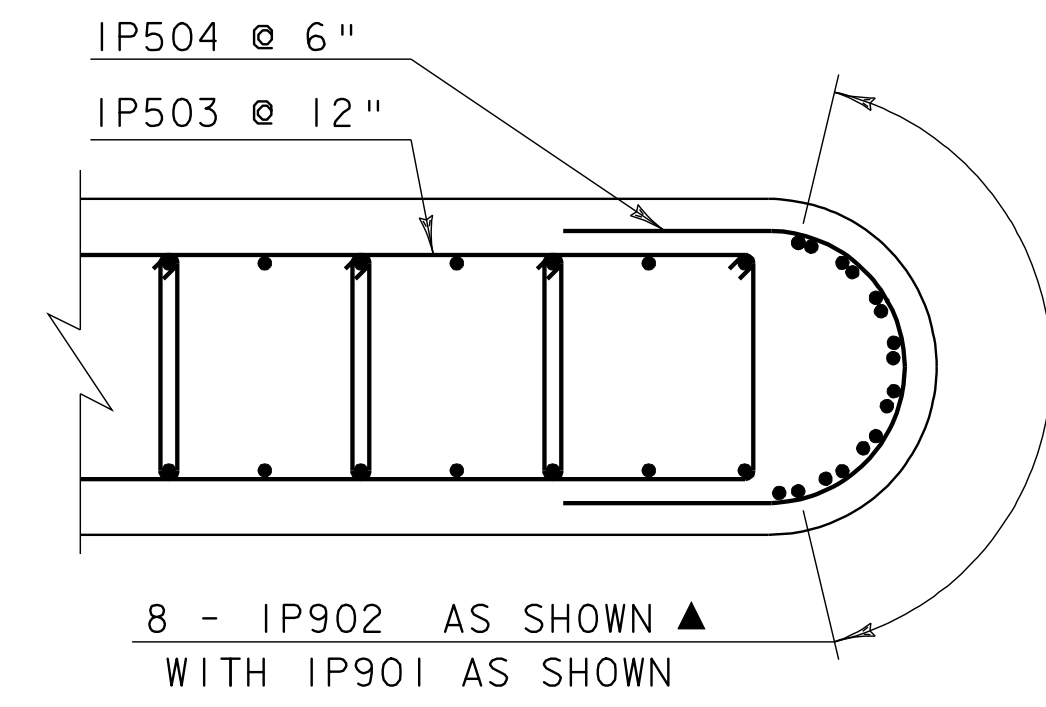
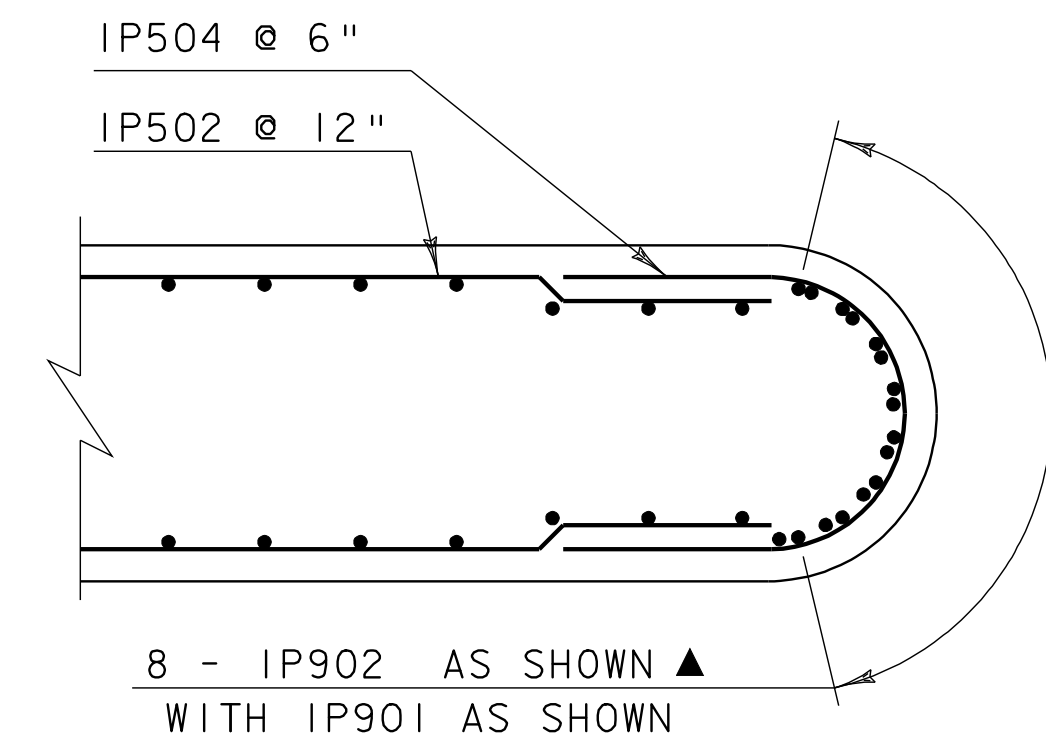
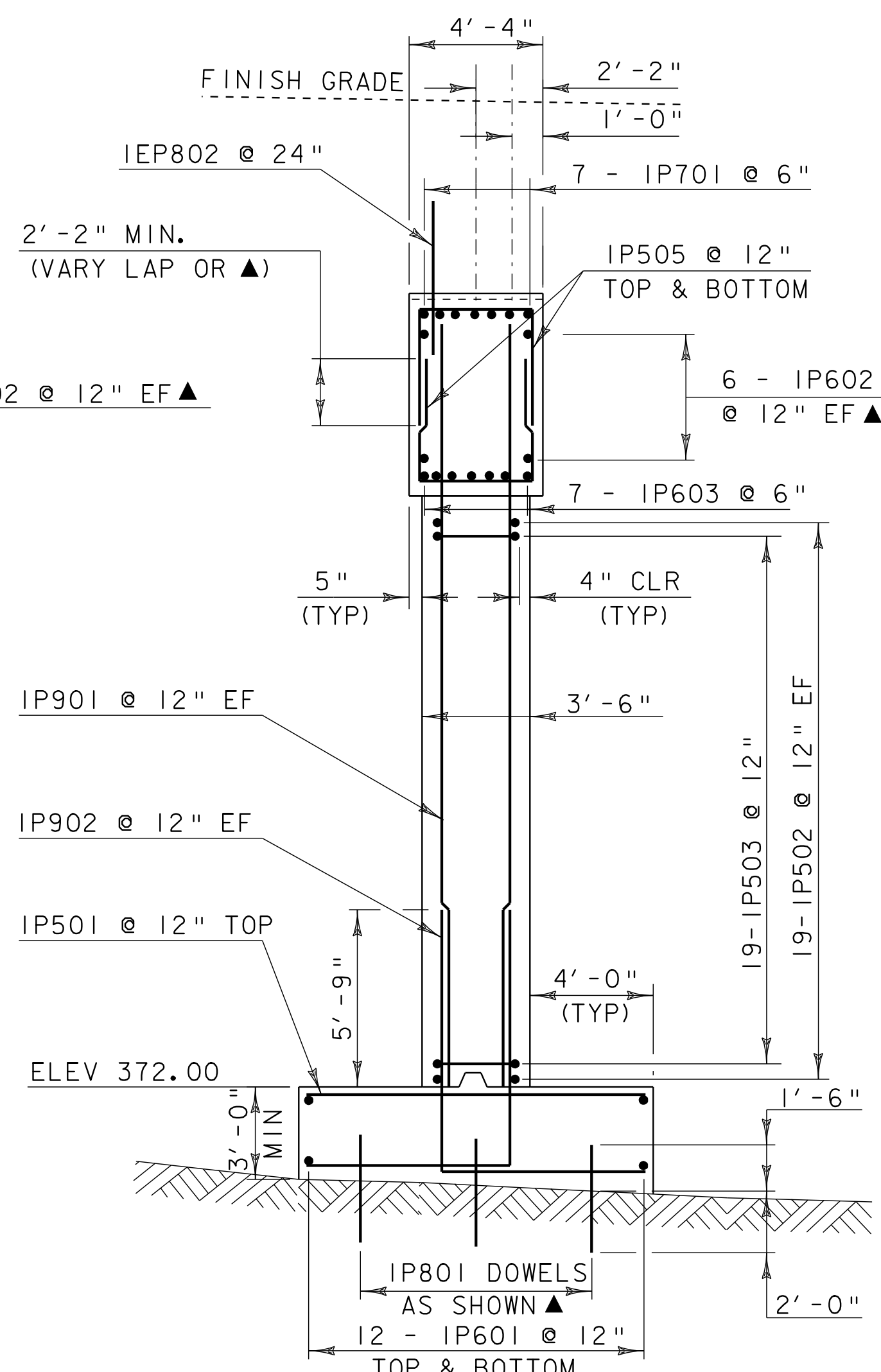
PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001sub.dgn IPARM FILE NAME: sj001ftg.i DESIGNED BY: K. M. HIGGINS SQUAD LEADER: C. P. MANAGER FOOTING REINFORCEMENT DETAILS	PLOT DATE: 07-SEP-2005 DRAWN BY: E. L. RUSTAY CHECKED BY: K. M. HIGGINS SHEET: 52 OF 97



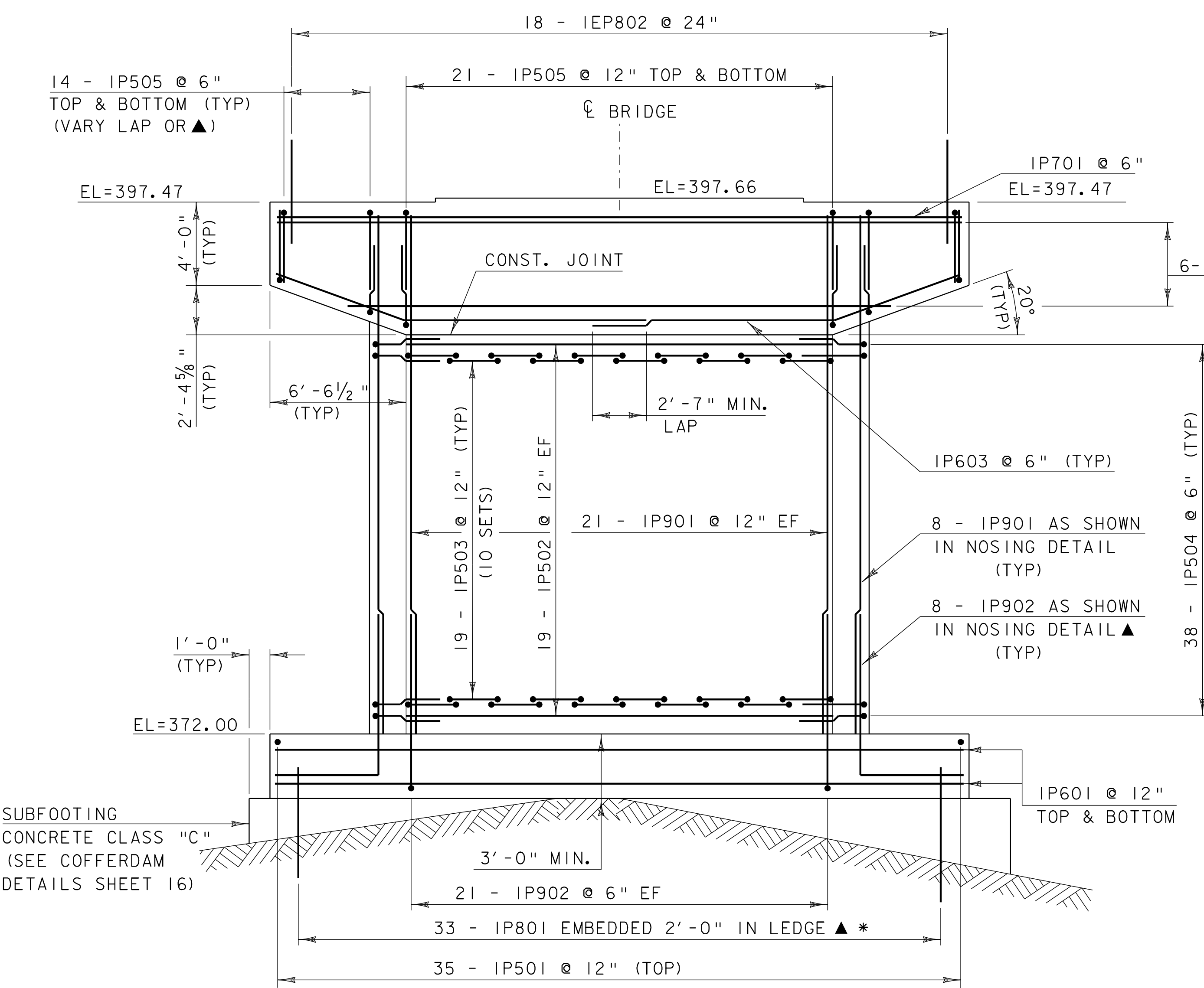
8-IP902 AS SHOWN (TYP) ▲
CL BRG. #1 MAINSPAN (SPAN #2) STA. 32+13.00
CL PIER #1 STA. 32+11.83



CL PIER #1 STA. 32+11.83 CL BRG. #1 MAINSPAN (SPAN #2) STA. 32+13.00

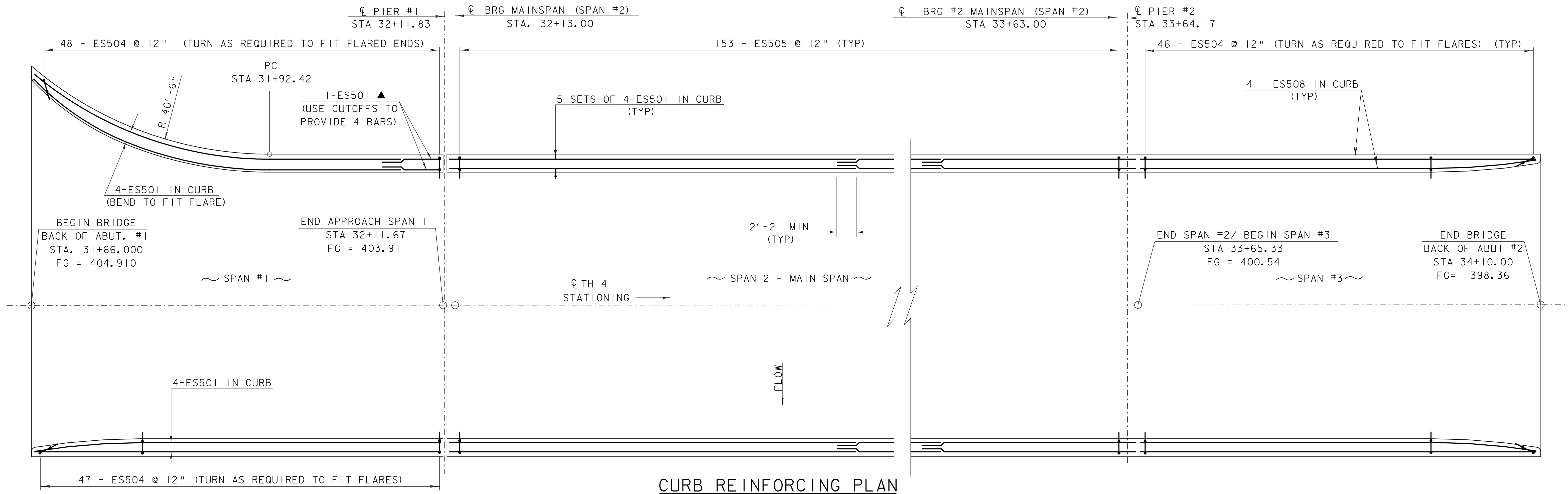


NOTES:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
3" CLEAR UNLESS OTHERWISE SPECIFIED ON PLANS
ALL LAPS ARE 2'-2" UNLESS OTHERWISE SPECIFIED ON PLANS



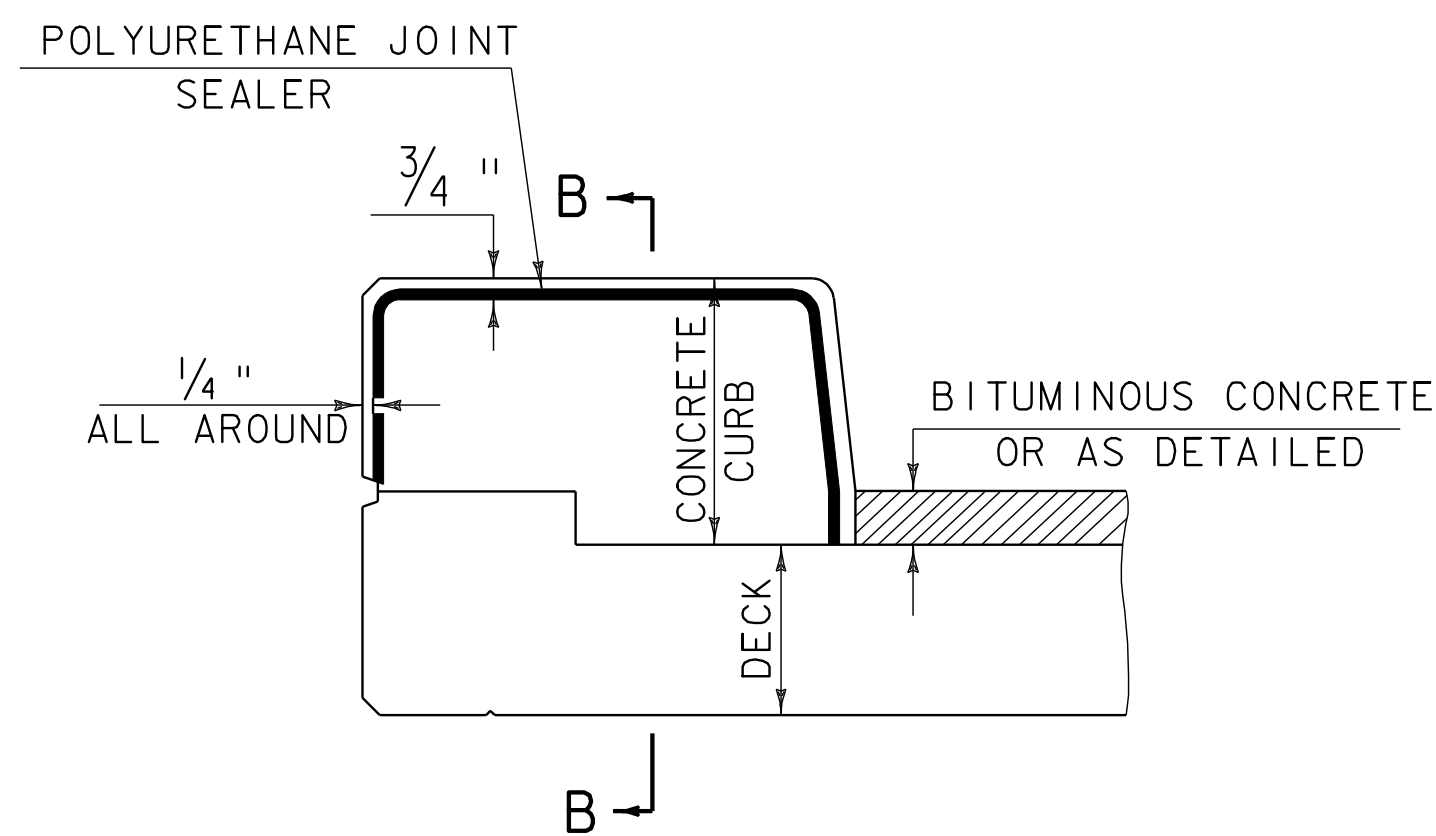
* BAR LENGTH OVERSIZED TO ALLOW EXTENSION THROUGH SUBFOOTING

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001pier.dgn IPARM FILE NAME: sj001pier.i DESIGNED BY: K. M. HIGGINS SQUAD LEADER: C. P. MANAGER PIER #1 DETAILS	PLOT DATE: 07-SEP-2005 DRAWN BY: E. L. RUSTAY CHECKED BY: K. M. HIGGINS SHEET: 53 OF 97



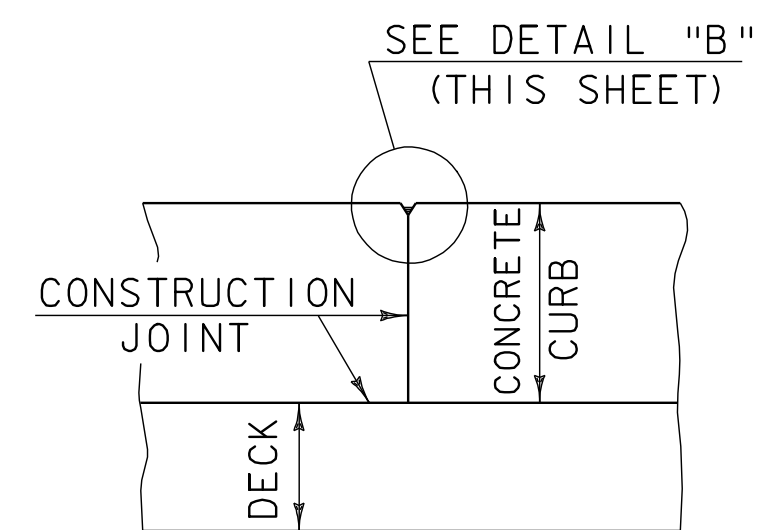
SCALE $\frac{3}{16}" = 1'-0"$

1 0 2 4 6 8



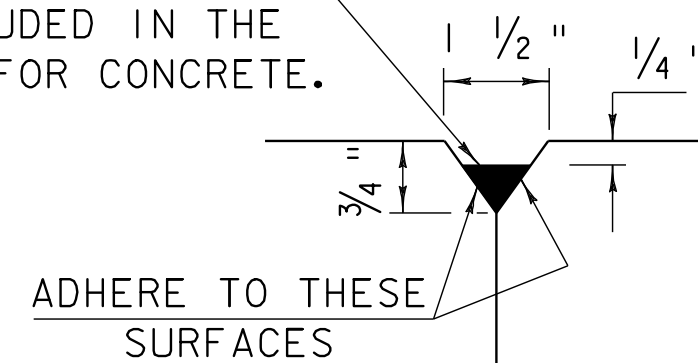
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NTS

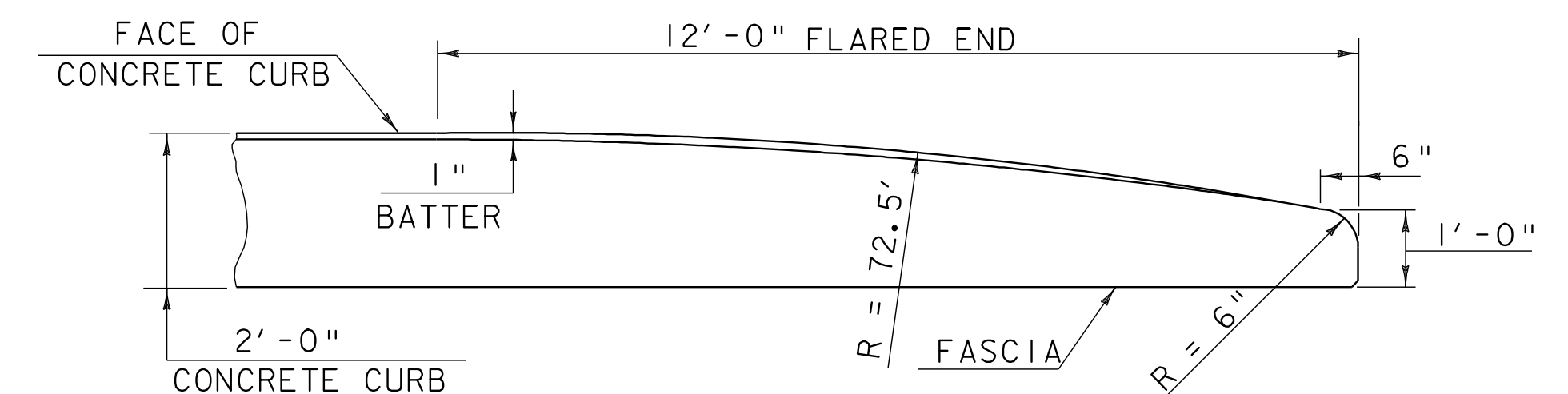


SECTION B - B

POLYURETHANE JOINT SEALER PER SUBSECTION 524.06C COLOR TO MATCH CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.



DETAIL "B"

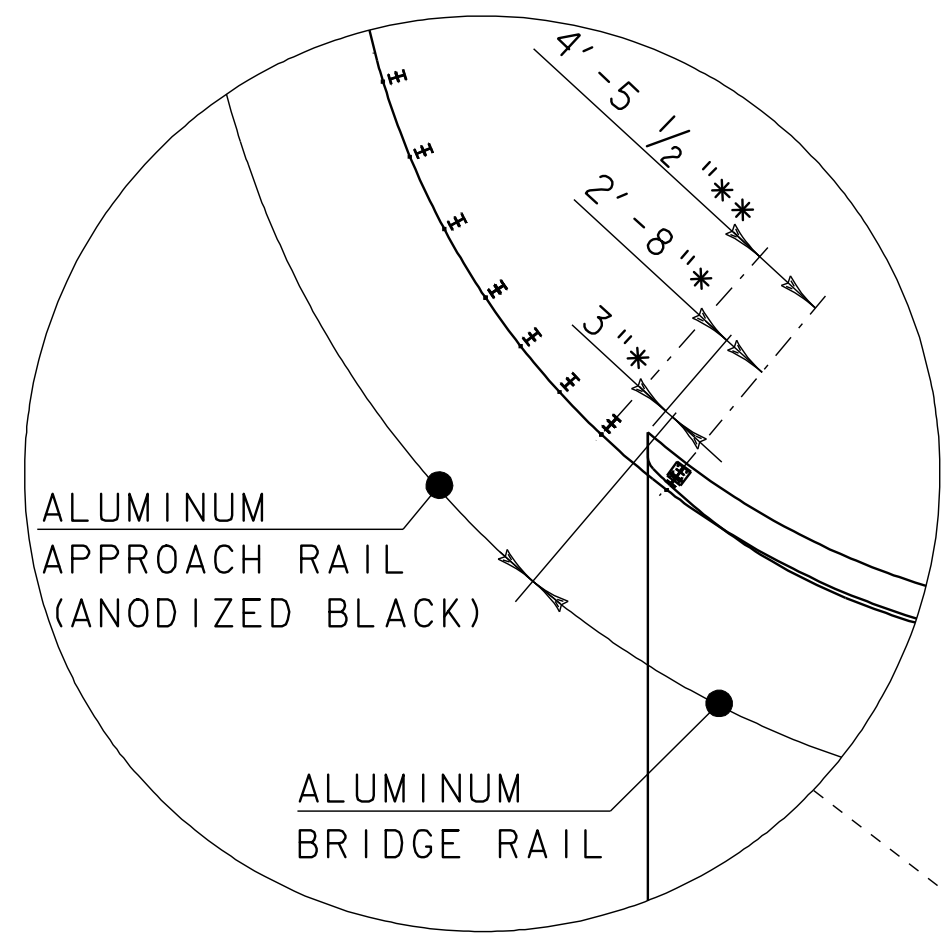


FLARED END DETAIL FOR 2'-0" CURB

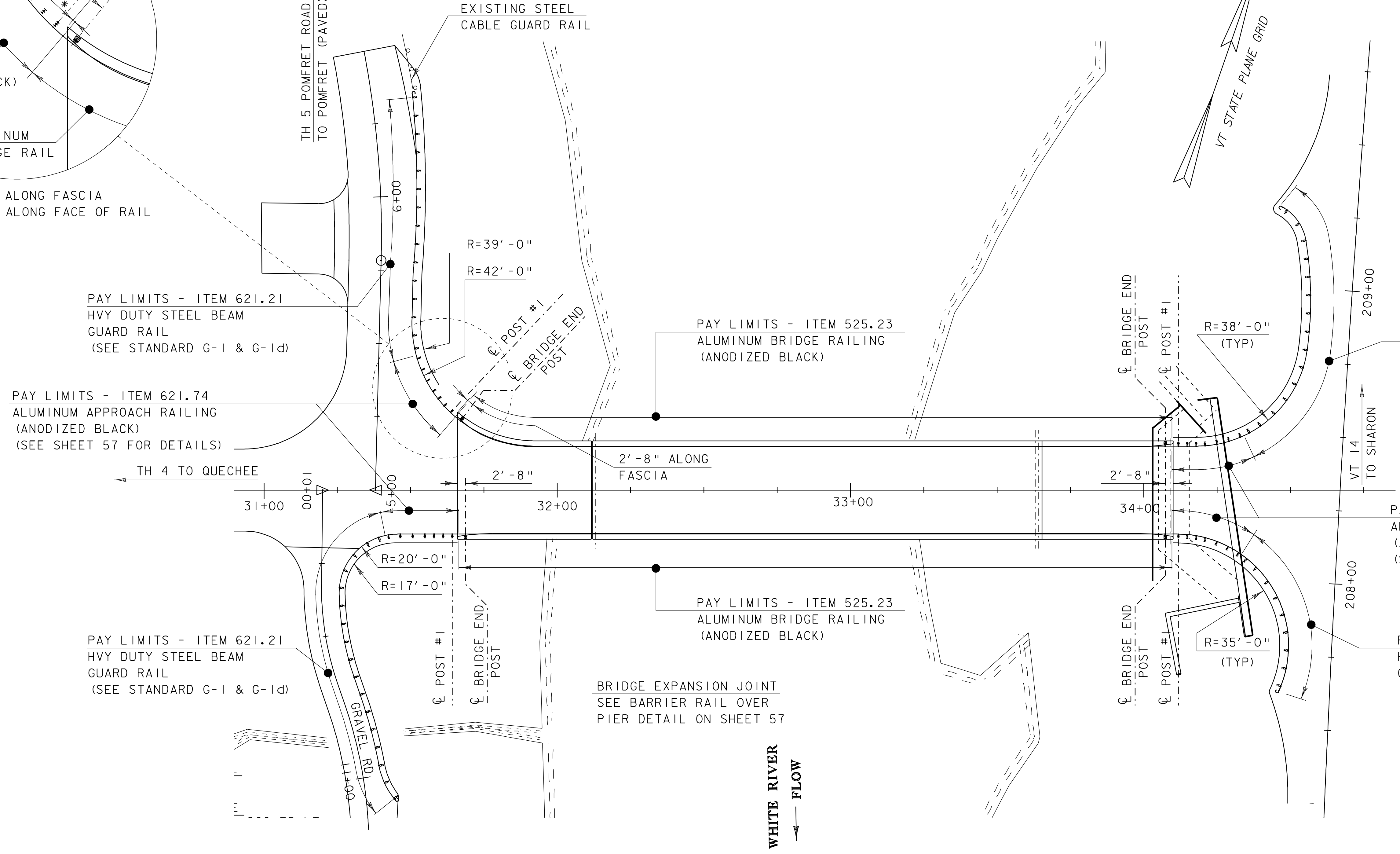
NTS

- 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.
 3. CONSTRUCTION JOINTS THROUGH SIDEWALKS SHALL BE SIMILAR TO CONCRETE CURB CONSTRUCTION JOINTS.

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: 89j001/structures/sj001asup.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001curb.i	DRAWN BY: K. M. HIGGINS
DESIGNED BY: K. M. HIGGINS	CHECKED BY: M. LONSTREET
SQUAD LEADER: C. P. MANAGER	SHEET: 55 OF 97
CURB DETAILS	



* MEASURED ALONG FASCIA
** MEASURED ALONG FACE OF RAIL



HEAVY DUTY STEEL BEAM GUARDRAIL			
TH5	Sta 5+46.20 RT	-	TH5 Sta 6+34.00 RT
ML	Sta 31+41.30 RT	-	DRIVE Sta 11+09.00 LT
ML	Sta 34+34.50 LT	-	VT14 Sta 209+27.50 LT
ML	Sta 34+33.30 RT	-	VT14 Sta 207+62.00 LT

ALUMINUM APPROACH RAILING			
TH5	Sta 5+46.20 RT	-	ML Sta 31+65.23 LT
ML	Sta 31+41.30 RT	-	ML Sta 31+66.25 RT
ML	Sta 34+09.75 LT	-	ML Sta 34+34.50 LT
ML	Sta 34+09.75 RT	-	ML Sta 34+33.30 RT

ALUMINUM BRIDGE RAILING	
ML	Sta 31+65.25 LT - Sta 34+09.75 LT
ML	Sta 31+66.25 RT - Sta 34+09.75 RT

ANCHOR FOR STEEL BEAM GUARDRAIL	
TH5	Sta 6+22.00 RT
DRIVE	Sta 10+98.00 LT
VT14	Sta 209+18.00 LT
VT14	Sta 207+75.00 LT

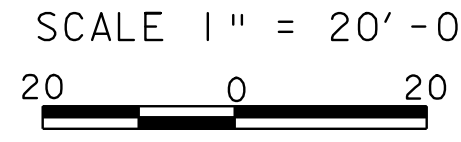
ANCHOR FOR CABLE DRAIL	
Sta	6+30.00 RT (APPROXIMATE)

PAY LIMITS - ITEM 621.21
HVY DUTY STEEL BEAM
GUARD RAIL
(SEE STANDARD G-1 & G-1d)

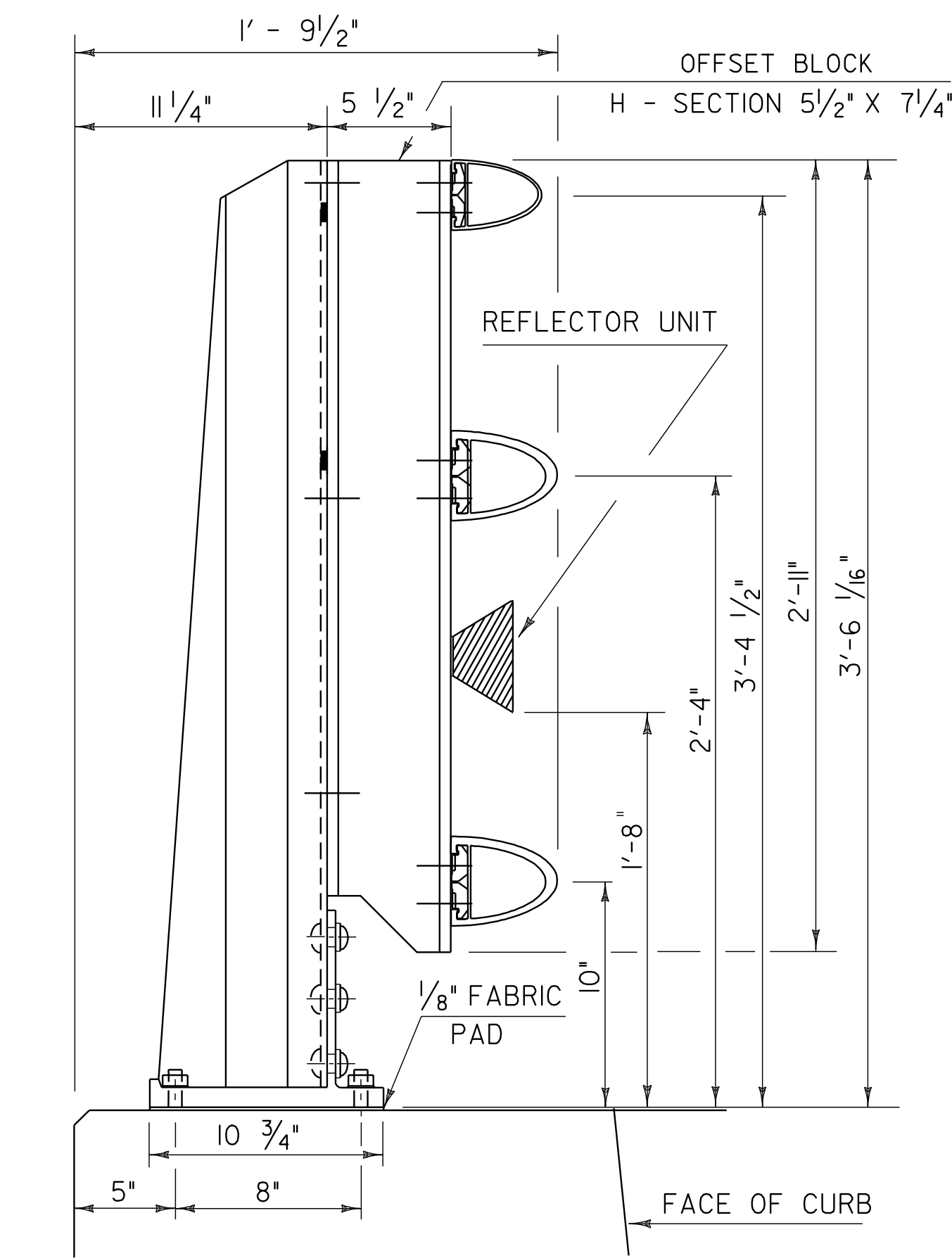
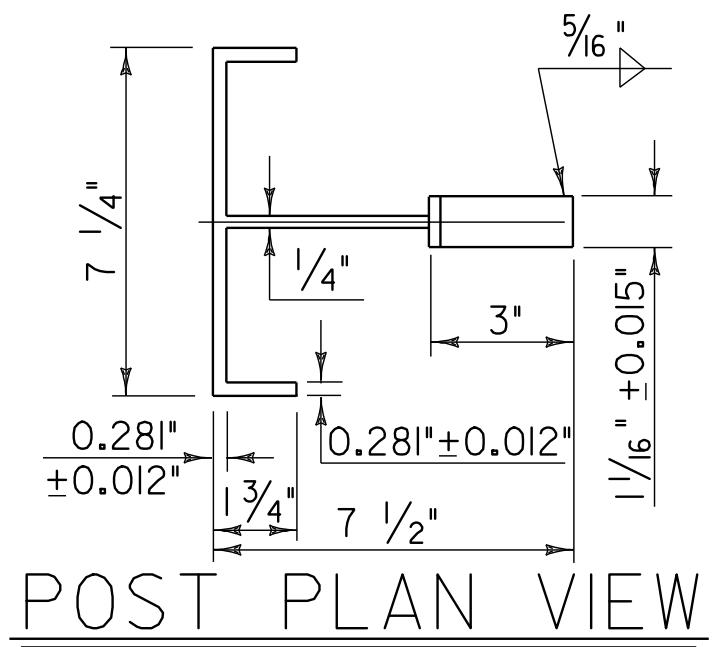
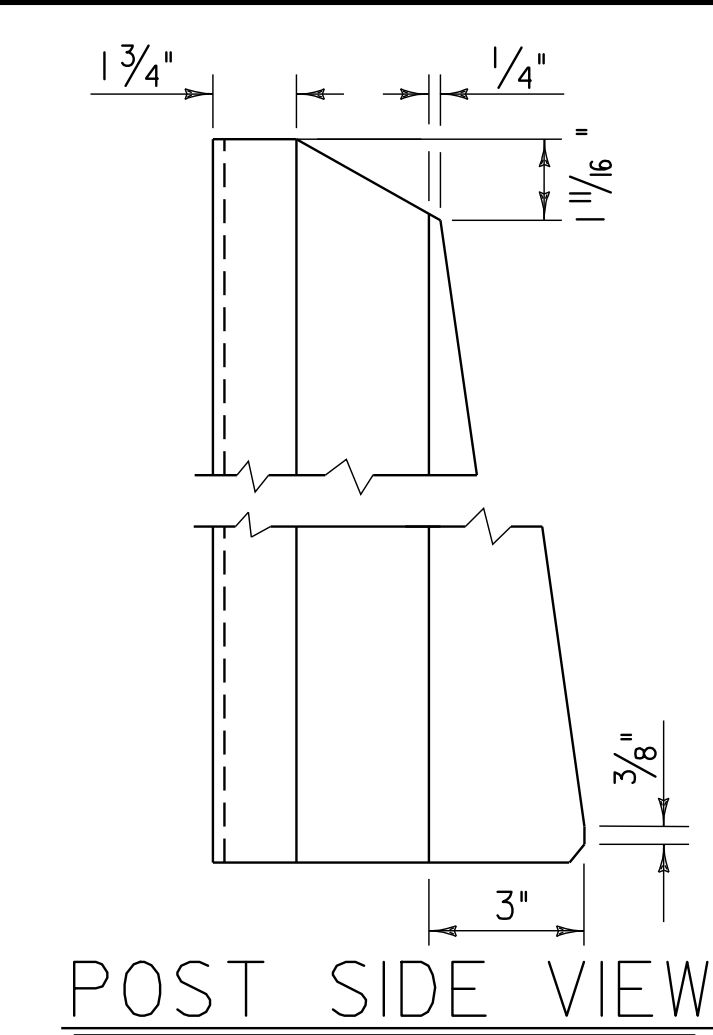
PAY LIMITS - ITEM 621.74
ALUMINUM APPROACH RAILING
(ANODIZED BLACK)
(SEE SHEET 57 FOR DETAILS)

PAY LIMITS - ITEM 621.21
HVY DUTY STEEL BEAM
GUARD RAIL
(SEE STANDARD G-1 & G-1d)

RAILING LAYOUT PLAN

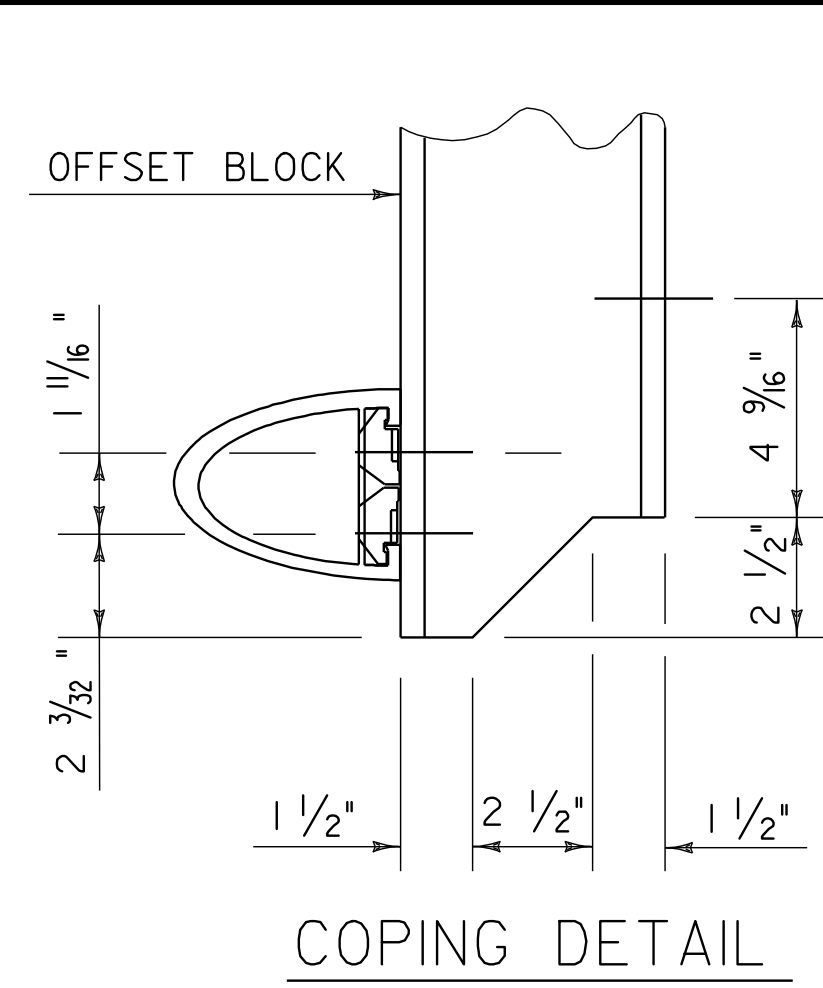


PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004 (I)
DESIGN FILE NAME: 89J00I/structures/sj00Irrall.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00Irrallplan.I	SURVEY DATE: 5/93
DESIGN BY: K.M. HIGGINS	DRAWN BY: M.LONGSTREET
SQUAD LEADER: MANAGER	SHEET: 56 OF 97
RAILING LAYOUT PLAN	



SIDE ELEVATION OF THREE RAIL
TO BE USED ON CURB SIDE

RAIL POST DETAILS ON SUPERSTRUCTURE



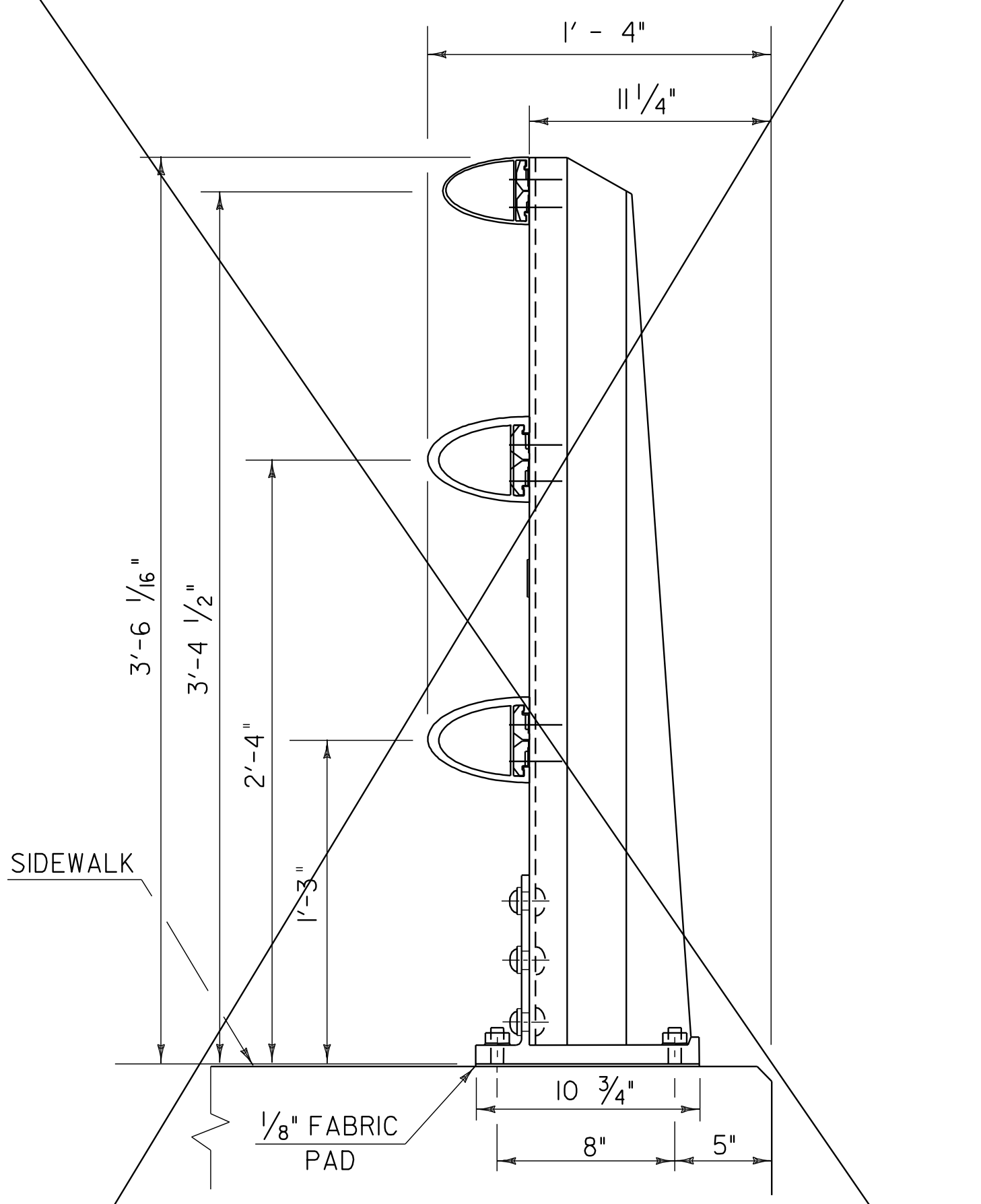
THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 30 FEET (OR CLOSEST POST) WITH 2 NO. 8 X 3/4" SELF-TAPPING SCREWS.

DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.

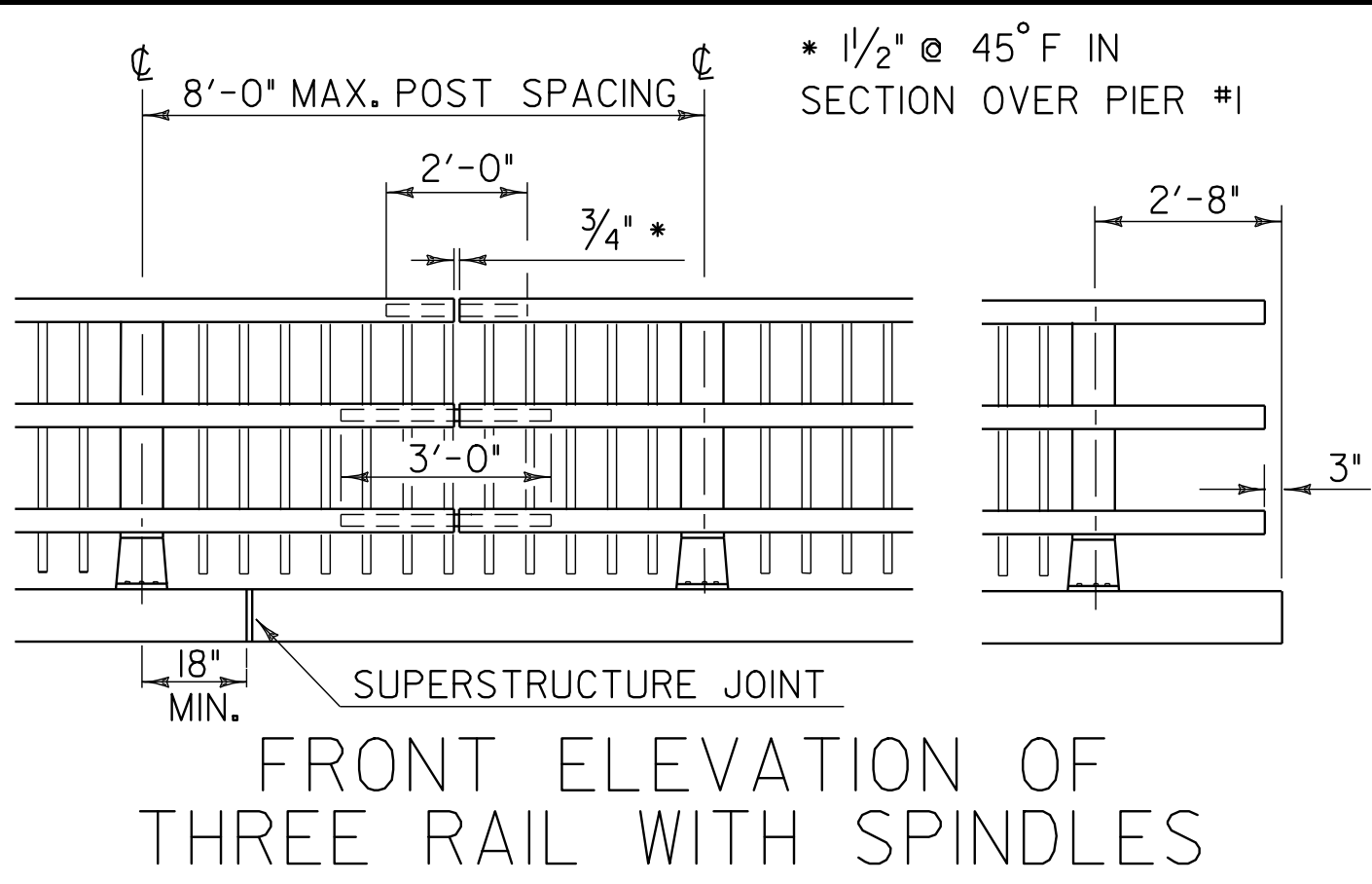
REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ASTM TYPE III SHEETING SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.

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 RAIL ON THE CURB SIDE)

PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.

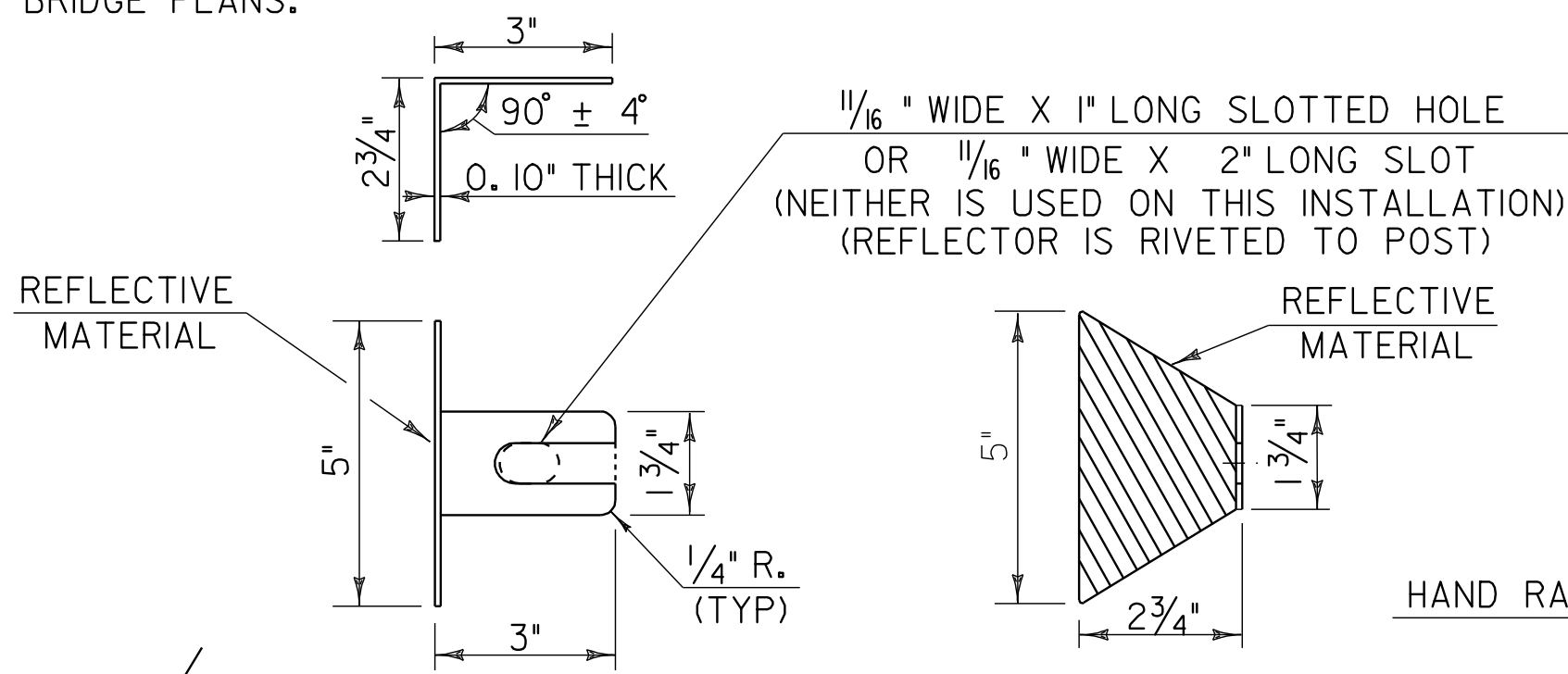


SIDE ELEVATION OF THREE RAIL
TO BE USED ON SIDEWALK SIDE

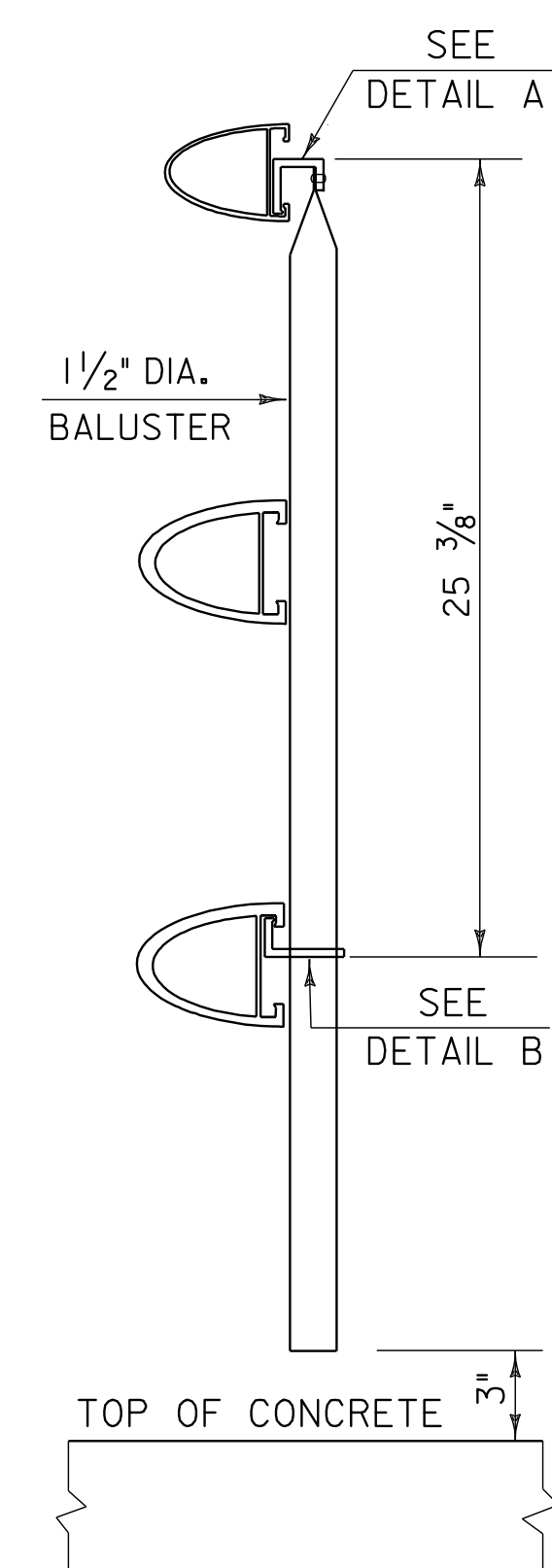


NOTE : RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.

ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.

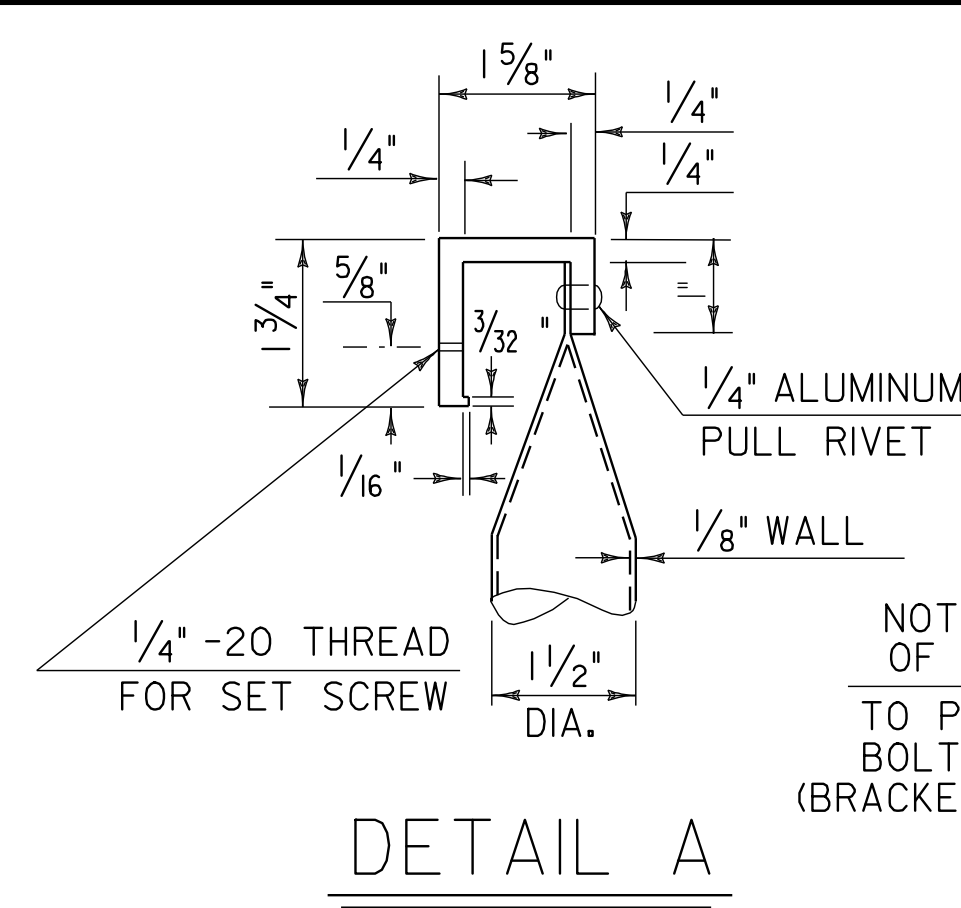


REFLECTOR DETAILS

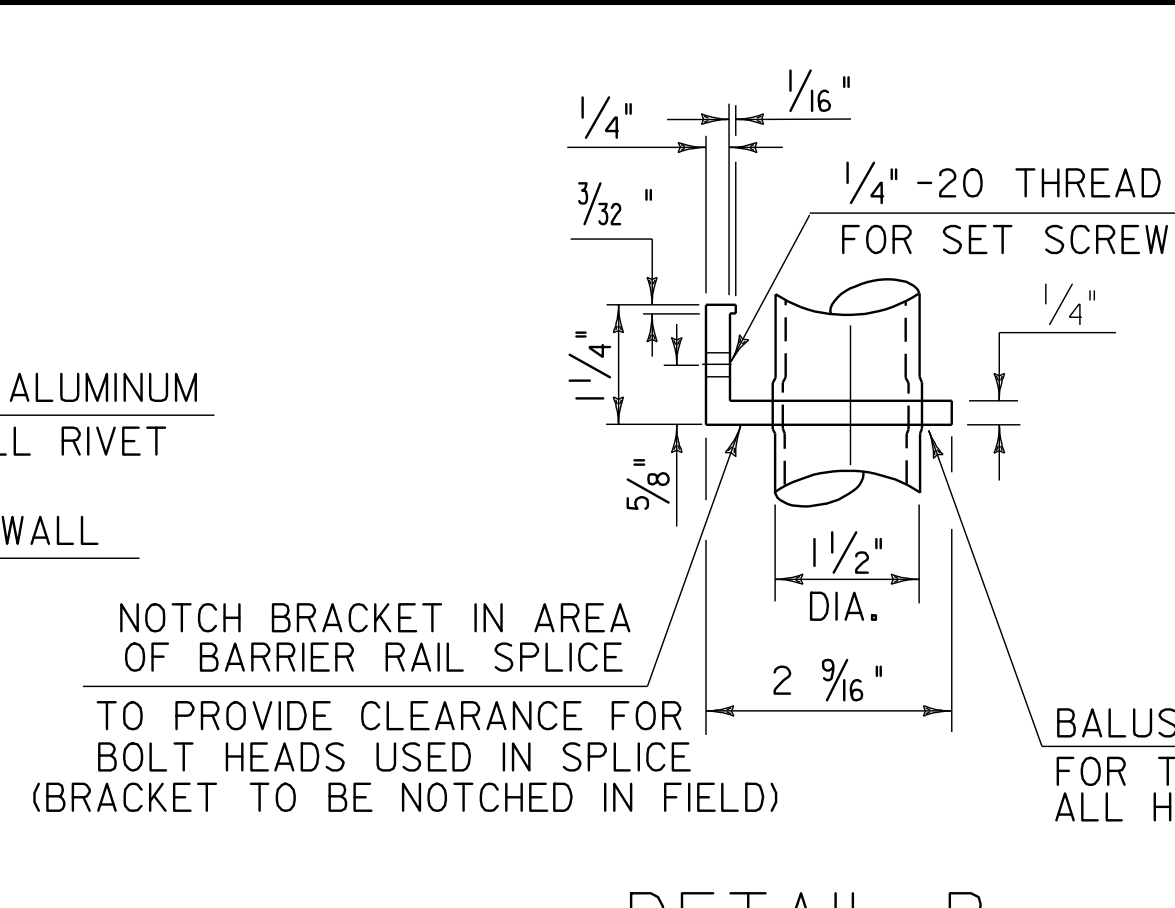


SECTION AA

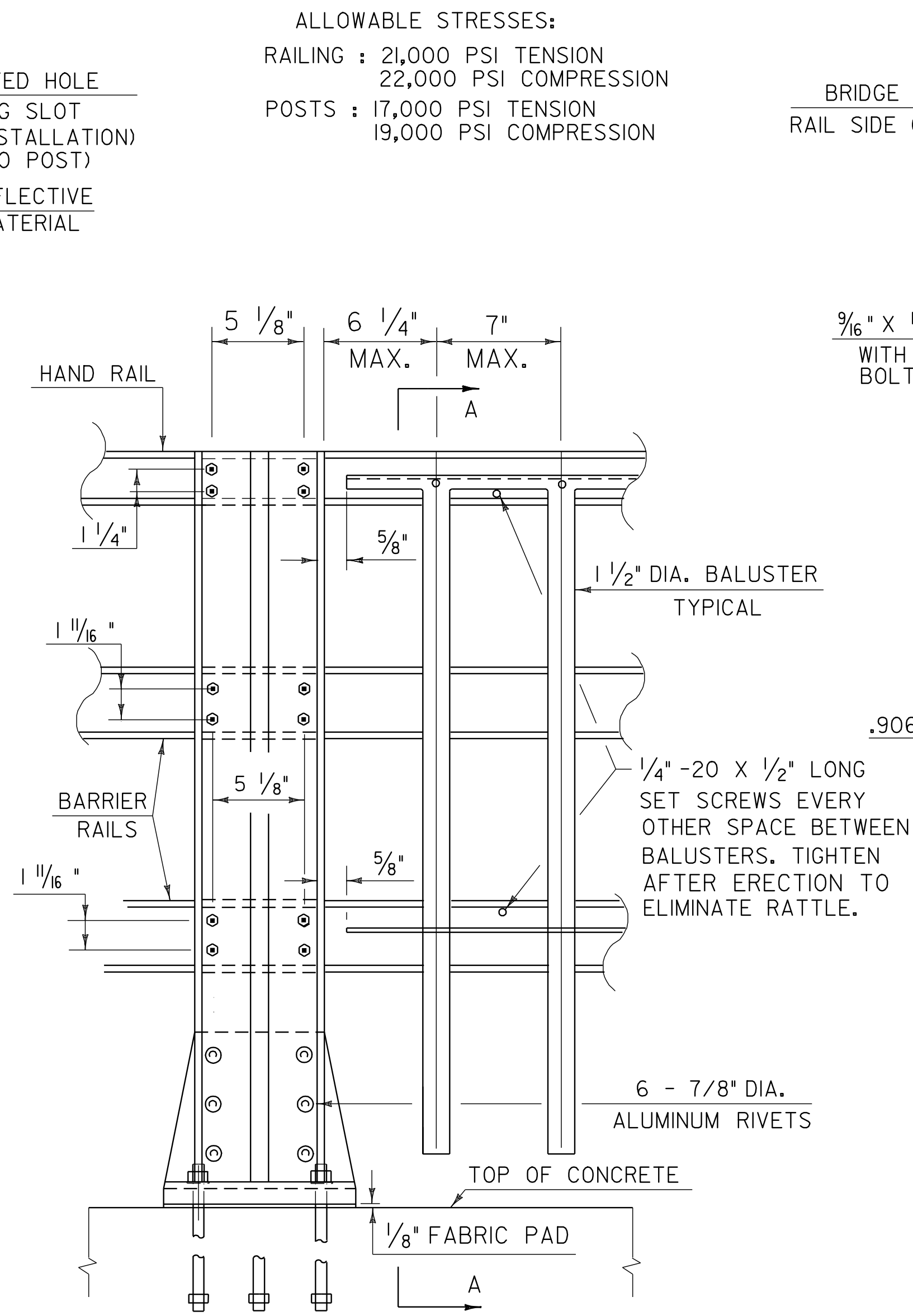
DETAILS OF SPINDLES FOR ALUMINUM RAILING



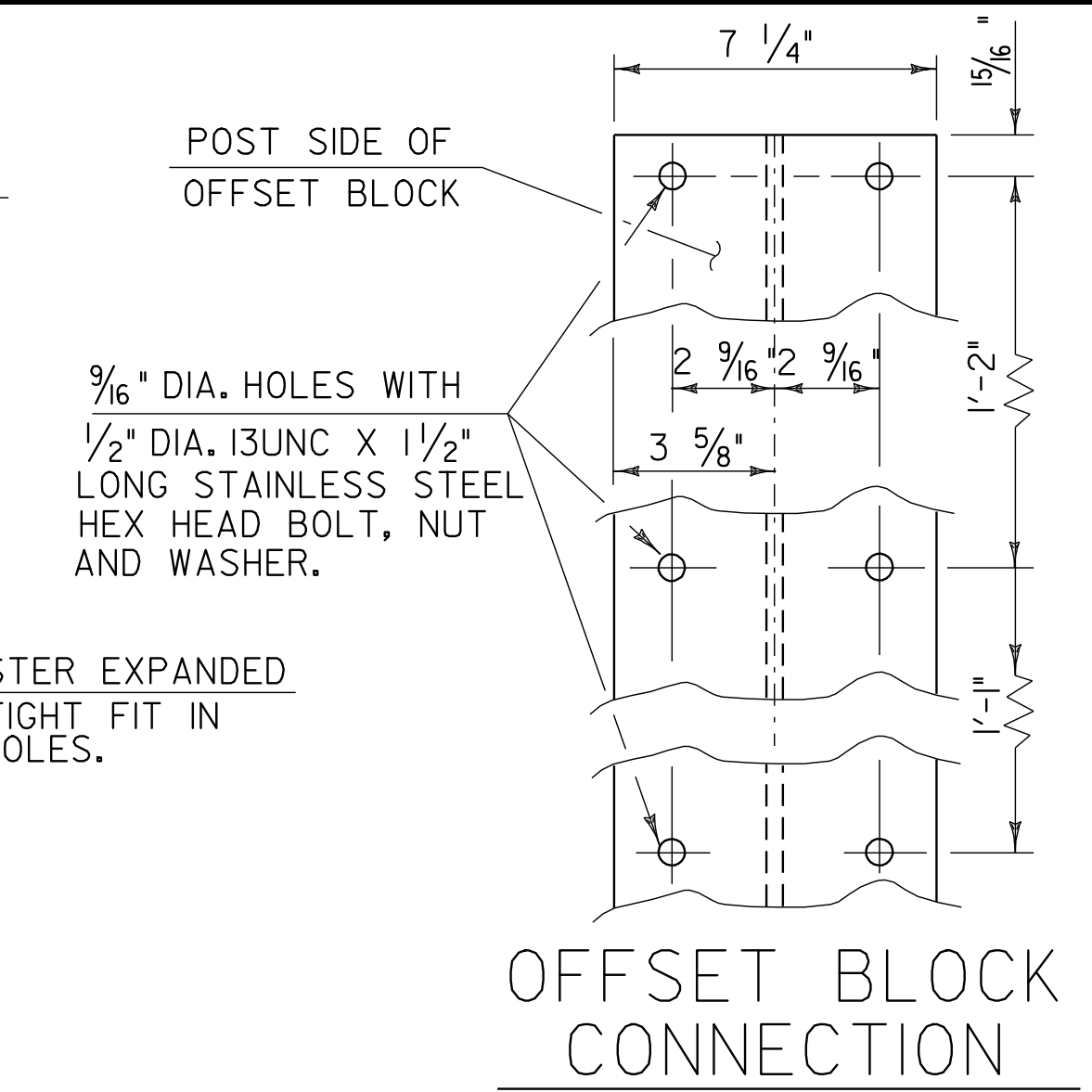
DETAIL A



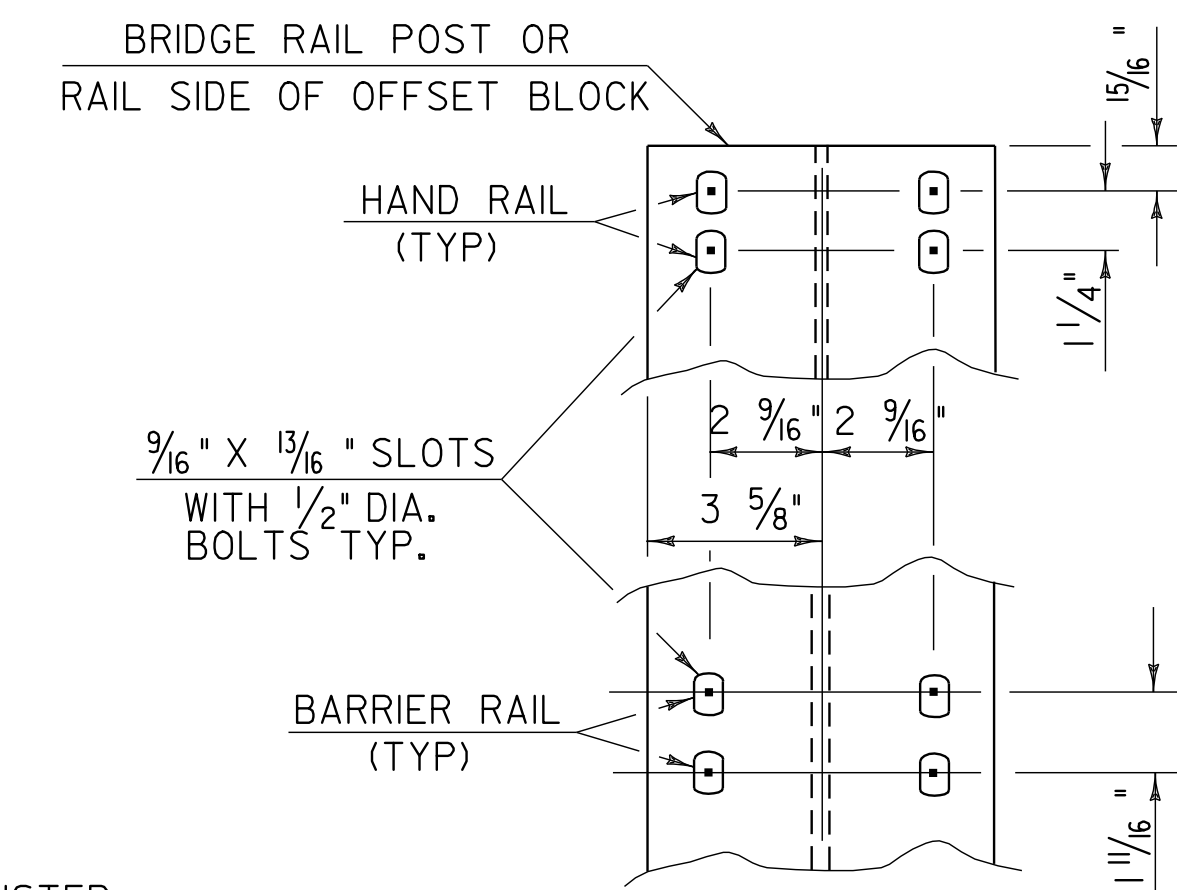
DETAIL B



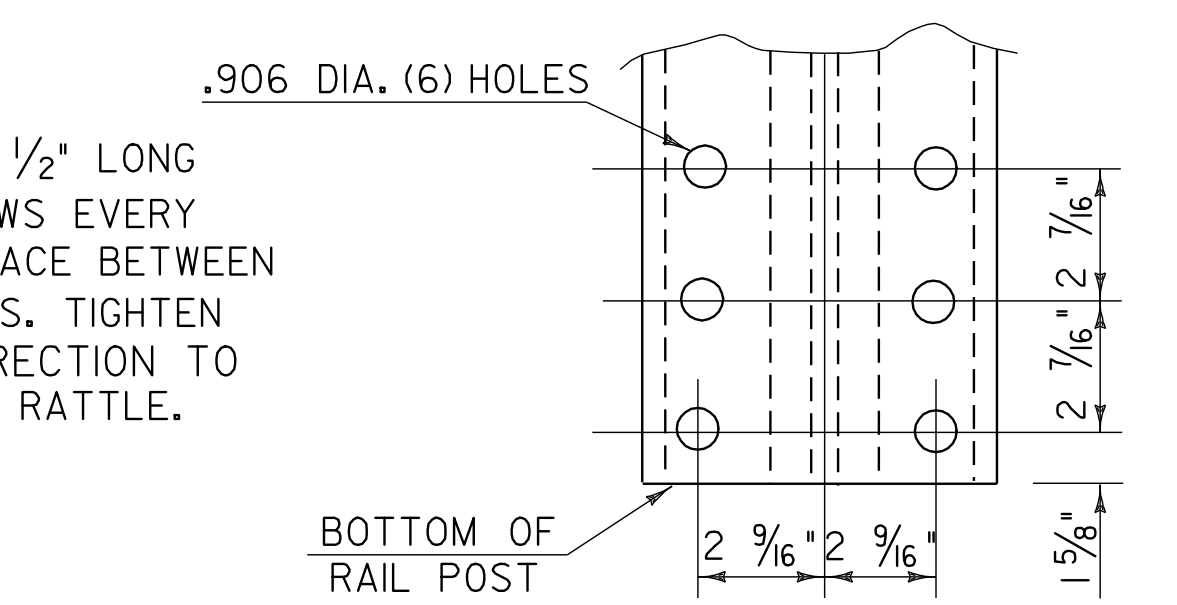
OUTSIDE ELEVATION OF
THREE RAIL POST & SPINDLES



OFFSET BLOCK
CONNECTION



RAIL CONNECTION



POST BASE
BOLT HOLE DETAILS

ALLOWABLE STRESSES:

RAILING : 21,000 PSI TENSION
22,000 PSI COMPRESSION

POSTS : 17,000 PSI TENSION
19,000 PSI COMPRESSION

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: sj001/structures/sj001rail.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001rail2.i	DRAWN BY: M. LONGSTREET
DESIGNED BY: K. M. HIGGINS	CHECKED BY: K. M. HIGGINS
SQUAD LEADER: MANAGER	SHEET: 58 OF 97
ALUMINUM RAILING DETAILS 2	

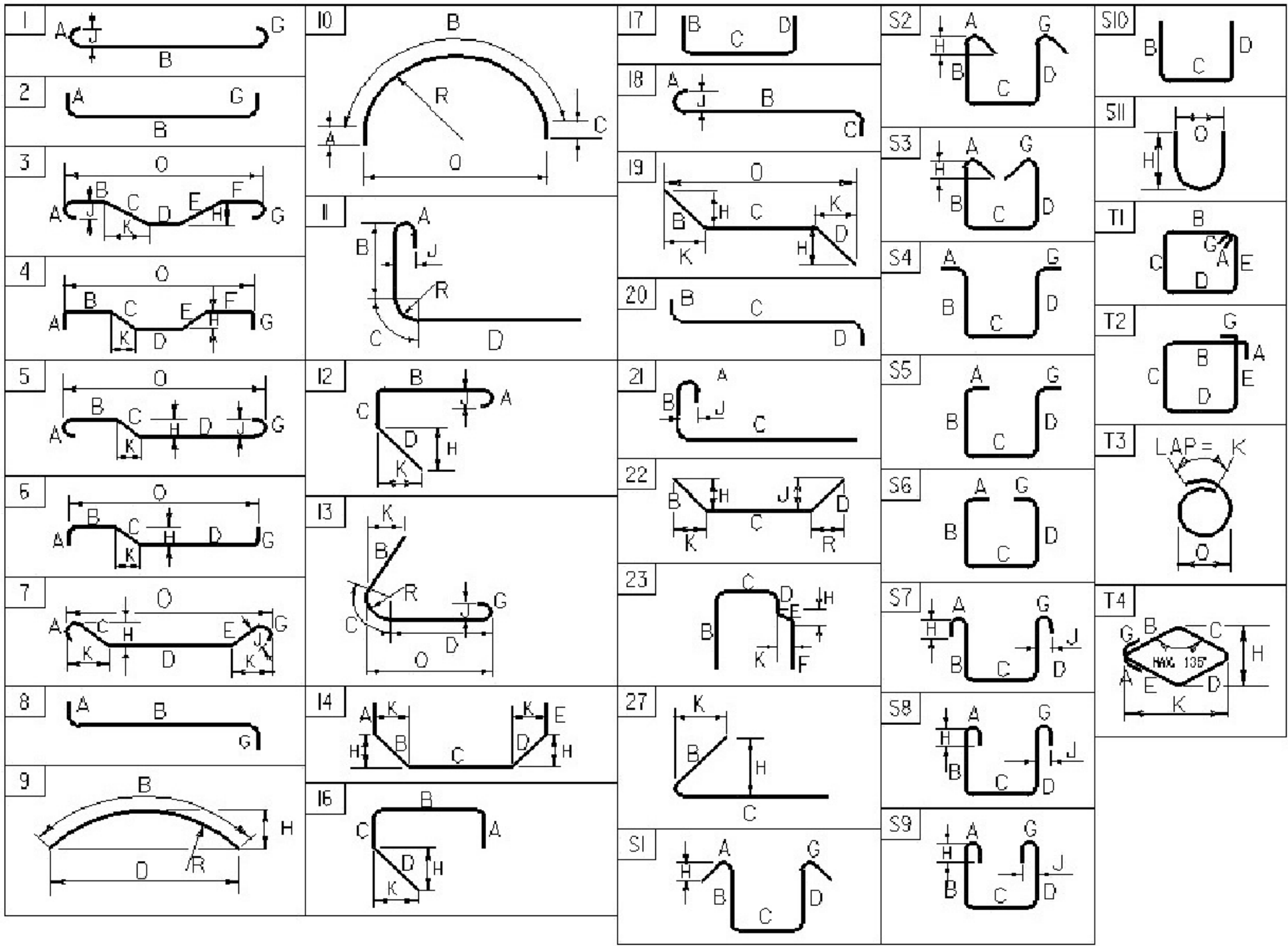
PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005 (5)
DESIGN FILE NAME: g\j001\structures\sj001rail.dgn IPARM FILE NAME: sj001rail3.i PLOT DATE: 07-SEP-2005 DESIGNED BY: K. M. HIGGINS DRAWN BY: M. LONGSTREET SQUAD LEADER: MANAGER CHECKED BY: K. M. HIGGINS ALUMINUM RAILING DETAILS 3 SHEET: 59 OF 97	

REINFORCING STEEL SCHEDULE

[illegible]

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✱ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIGNA- TION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	AREA INCHES ²	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.044	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

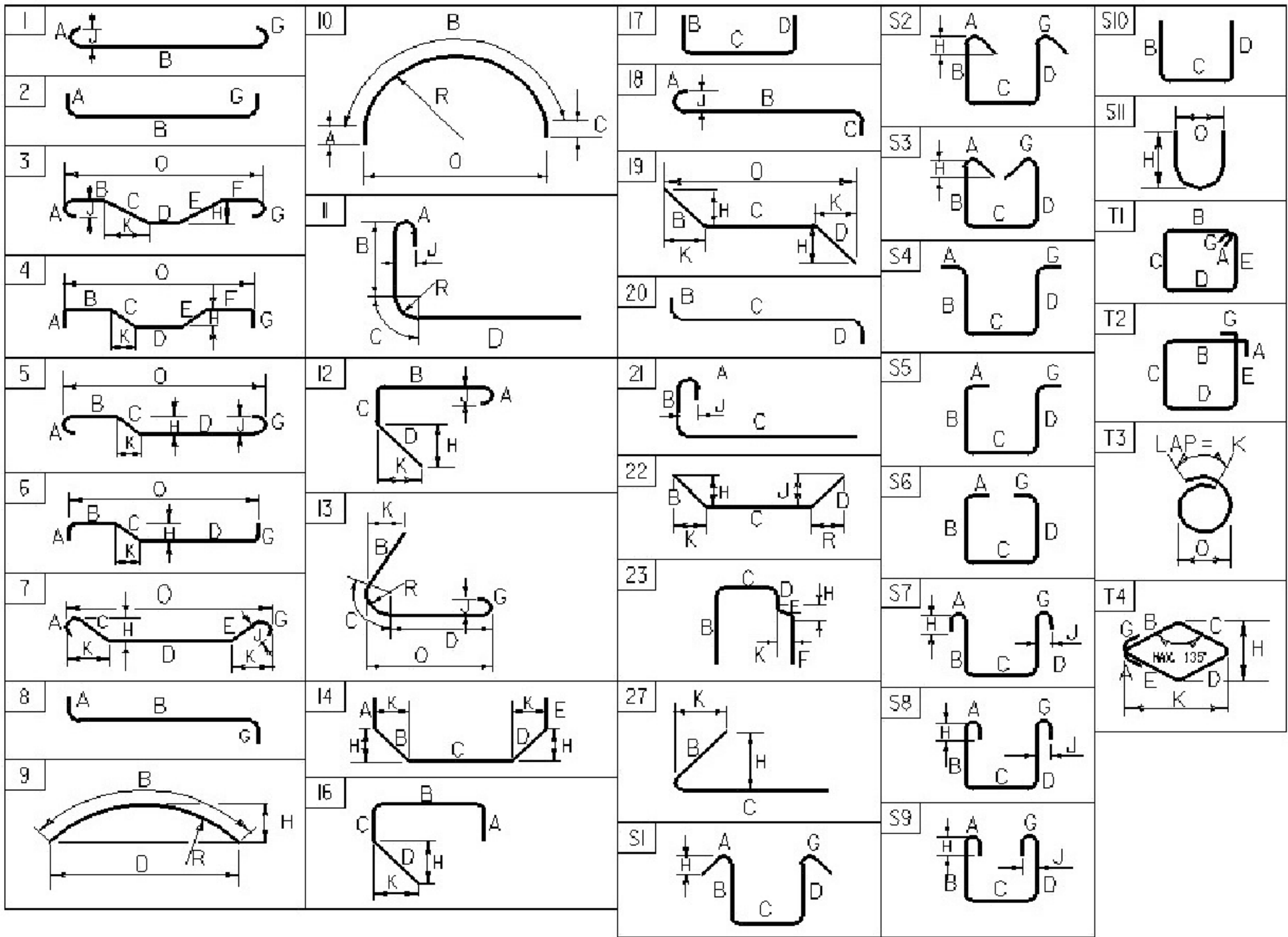
PROJECT NAME: HARTFORD	
PROJECT NUMBER: BRO-BTN 2004 (1)	
FILE NAME: s89j045reinf.xls	PLOT DATE: 11/10/2004
PROJECT MANAGER: C.P. WILLIAMS	DRAWN BY: M. LONGSTREET
DESIGNED BY: K.M. HIGGINS	CHECKED BY: K.M. HIGGINS
REINFORCING STEEL SCHEDULE SHEET #1	SHEET 60 OF 97

REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O	
ABUTMENT #2																		PIER #1																		
	36	5	20'- 4"	2A501	STR													△	37	5	11'- 0"	1P501	STR													
▲	41	5	4'- 11"	2A502	STR														38	5	20'- 6"	1P502	STR													
	33	5	19'- 1"	2A503	STR													*	25	6	33'- 1"	1P601	STR													
	46	5	20'- 0"	2A504	STR													▲	12	6	33'- 1"	1P602	STR													
	38	5	11'- 11"	2A505	STR																															
	4	5	21'- 9"	2A506	STR																															
*	17	8	3'- 6"	2A801	STR													△	10	7	33'- 1"	1P701	STR													
	72	8	11'- 0"	2A802	STR													*	▲	34	8	6'- 6"	1P801	STR												
*	19	8	4'- 3"	2EA803	STR													*	19	8	6'- 9"	1EP802	STR													
*	38	7	7'- 6"	2A701	STR																															
▲	49	5	4'- 8"	2A507	22		2'- 4"	2'- 4"					1'- 9"		1'- 6"				58	9	25'- 0"	1P901	STR													
	40	5	15'- 0"	2A508	22		2'- 2"	10'- 8"	2'- 2"				0'- 11"		2'- 0"			190	5	10'- 10"	1P503	T1	0'- 6"	2'- 1"	2'- 10"	2'- 1"	2'- 10"		0'- 6"		4'- 0"			2'- 10"		
	4	5	5'- 10"	2A509	22	2'- 2"	1'- 6"	2'- 2"											76	5	6'- 6"	1P504	S11													
	34	5	8'- 9"	2A510	16	2'- 2"	2'- 7"	1'- 2"	2'- 10"										98	5	12'- 0"	1P505	S10		4'- 2"	3'- 8"	4'- 2"									
	16	8	6'- 3"	2EA804	22		2'- 6"	3'- 9"										*	15	6	18'- 2"	1P603	22		6'- 8"	11'- 6"	---		2'- 3"		6'- 3"					
	43	9	9'- 5"	2A901	17		1'- 6"	7'- 11"	---									*	▲	59	9	15'- 4"	1P902	17		6'- 11"	8'- 6"	---								
	36	9	15'- 4"	2A902	17		4'- 7"	10'- 9"	---									PIER #2																		
*	21	5	15'- 3"	3W501	STR													△	37	5	11'- 0"	2P501	STR													
	14	5	4'- 11"	3W502	STR														18	5	20'- 6"	2P502	STR													
	14	5	21'- 9"	3W503	STR														70	5	4'- 6"	2P503	STR													
	14	5	12'- 2"	3W504	STR														12	5	32'- 11"	2P504	STR													
▲	44	5	13'- 6"	3W505	STR													*	▲	24	6	33'- 1"	2P601	STR												
																		13	6	32'- 11"	2P602	STR														
*	15	7	7'- 6"	3W701	STR													△	9	7	32'- 11"	2P701	STR													
	7	8	3'- 6"	3W801	STR													△	35	8	3'- 6"	2P801	STR													
	26	9	11'- 3"	3W901	STR													58	8	13'- 10"	2P802	STR														
	14	5	5'- 11"	3W506	S10		2'- 2"	1'- 7"	2'- 2"									18	8	4'- 6"	2EP803	19		1'- 6"	3'- 0"	---										
	2	5	26'- 8"	3W507	19		2'- 8"	24'- 0"	---				0'- 11"		2'- 6"			90	5	11'- 10"	2P505	T1	0'- 6"	2'- 1"	3'- 10"	2'- 1"	2'- 10"		0'- 6"		4'- 0"			2'- 10"		
*	14	9	9'- 3"	3W902	17		1'- 6"	7'- 9"	---									36	5	6'- 6"	2P506	S11														
	14	9	14'- 7"	3W903	17		4'- 1"	10'- 6"	---									98	5	12'- 0"	2P507	17		4'- 2"	3'- 8"	4'- 2"										
WINGWALL #4																		*	15	6	18'- 2"	2P603	22		6'- 8"	11'- 6"	---		2'- 3"		6'- 3"					
▲	14	5	30'- 0"	4W501	STR													△	▲	60	9	15'- 5"	2P901	17		6'- 11"	8'- 6"	---								
	27	5	3'- 11"	4W502	STR																															
	26	5	21'- 9"	4W503	STR																															
	20	5	12'- 2"	4W504	STR																															
▲	36	5	25'- 5"	4W505	STR																															
*	13	8	3'- 6"	4W801	STR																															
	50	8	11'- 0"	4W901	STR																															
	26	5	5'- 11"	4W506	S10		2'- 2"	1'- 7"	2'- 2"																											
	2	5	26'- 1"	4W507	22		2'- 0"	24'- 1"	---				0'- 10"		1'- 10"																					
	9	5	10'- 0"	4W508	19		2'- 2"	5'- 8"	2'- 2"																											
	9	5	8'- 4"	4W509	20		2'- 2"	4'- 0"	2'- 2"																											
	8	9	9'- 3"	4W902	17		1'- 6"	7'- 9"	---																											
*	27	9	14'- 7"	4W903	17		4'- 1"	10'- 6"	---																											

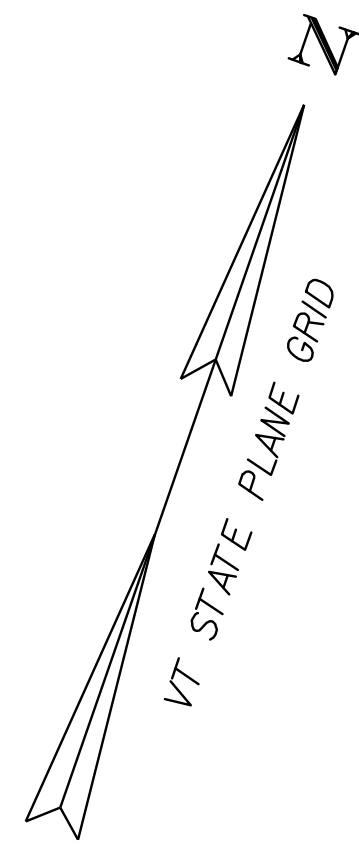
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BAR SIZE DESIGNA- TION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
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#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

PROJECT NAME:	HARTFORD
PROJECT NUMBER:	BRO-BTN 2004 (1)
FILE NAME: s89j045reinf.xls	PLOT DATE: 10/02/2003
PROJECT MANAGER: C.P. WILLIAMS	DRAWN BY: M. LONGSTREET
DESIGNED BY: K.M. HIGGINS	CHECKED BY: K.M. HIGGINS
REINFORCING STEEL SCHEDULE SHEET #2	SHEET 61 OF 97



CURVE 1 (TH4)
D = 3°00' 00.00 "
R = 1909.86
T = 82.27'
L = 164.44'
E = 1.77'
BANKING = NORMAL

JOHNSON, CARL R. & ANNE C.

END APPROACH
BEGIN PROJECT
STA 28+50.00

1B

MATCHLINE A-A
STA 29+00

MATCHLINE 17 OF 17 SHEETS

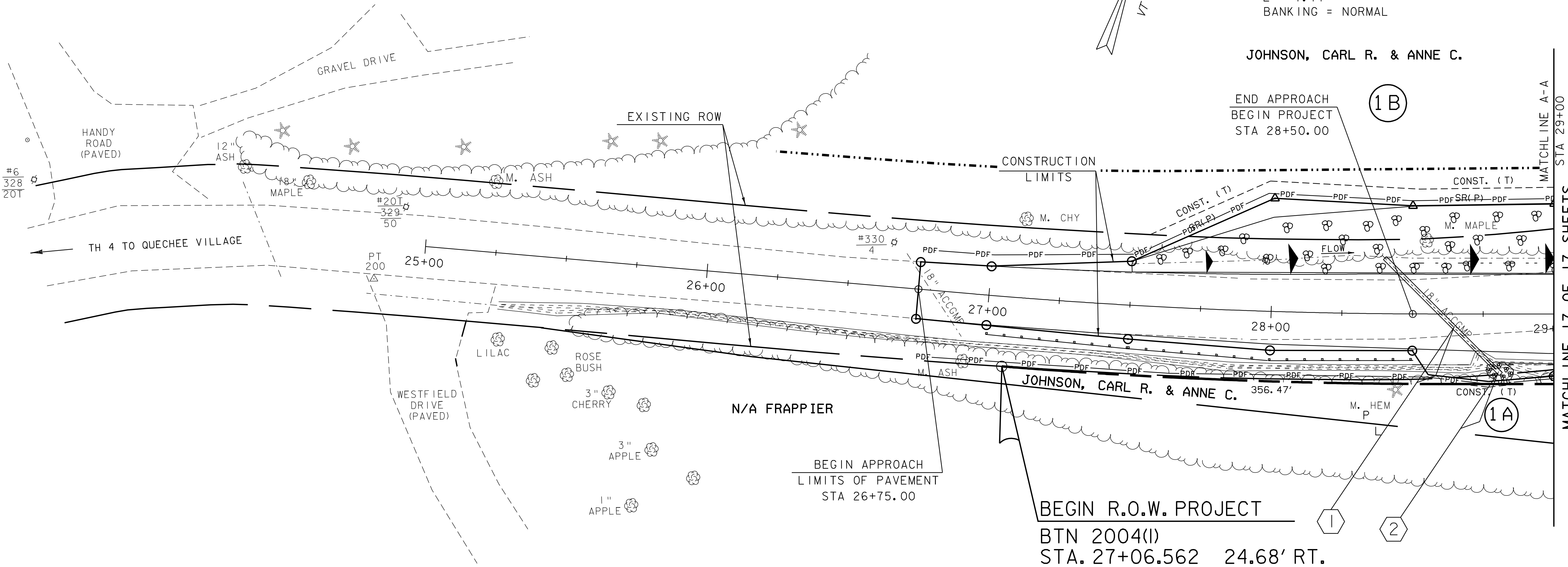
1A

JOHNSON, CARL R. & ANNE C.

BEGIN R.O.W. PROJECT
BTN 2004(I)
STA. 27+06.562 24.68' RT.

BEGIN APPROACH
LIMITS OF PAVEMENT
STA 26+75.00

N/A FRAPPIER



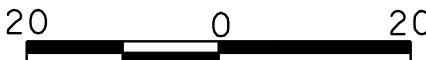
SEE SHEET 22-23 FOR
DRAINAGE INFORMATION

LEGEND	
	FILTER CURTAIN
	SILT FENCE
	SAND BAGS
	STONE CHECK DAMS
	SOIL BOUNDARY
	PROPERTY LINE
	PROJECT DEMARCATION FENCE

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
TOWN OF HARTFORD'S ACQUISITION OF LAND
AND RIGHTS FOR THIS PROJECT.

R. O. W. LAYOUT SHEET 1

SCALE 1" = 20' -0



PROJECT: BRIDGE 1		PROJECT NO. : BRS-BTW 2005(5)
DESIGN FILE NAME:	89J001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME:	sj001ldl.1	SURVEY DATE: 5/93
SURVEYED BY:	R. MOREAU	DRAWN BY: K.M. HIGGINS
SQUAD LEADER:	MANAGER	
LAYOUT SHEET 1	R.O.W. SHEET 16 OF 17	SHEET 62 OF 97

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

MATCHLINE 16 OF 17 SHEETS

MATCHLINE A-A

MATCHLINE B-B

MATCHLINE C-C

MATCHLINE D-D

MATCHLINE E-E

REMOVAL & DISPOSAL OF GUARD RAIL
ML STA 31+70.00 - 31+83.00 LT
TH5 STA 5+64.00 - 6+43.00 RT
ML STA 34+11.00 - 34+34.00 LT

ALUMINUM BRIDGE RAILING-ANODIZED BLACK
ML STA 31+65.25 LT - STA 34+09.75 LT
ML STA 31+66.25 RT - STA 34+09.75 RT

ALUMINUM APPROACH RAILING-ANODIZED BLACK
TH5 STA 5+46.20 RT - ML STA 31+65.23 LT
ML STA 31+41.30 RT - ML STA 31+66.25 RT
ML STA 34+09.75 LT - ML STA 34+34.20 LT
ML STA 34+09.75 RT - ML STA 34+33.30 RT

HEAVY DUTY STEEL BEAM GUARDRAIL

TH5 STA 5+46.20 RT - TH5 STA 6+34.00 RT
ML STA 31+41.30 RT - DRIVE STA 11+09.00 LT
ML STA 34+34.50 LT - VT14 STA 209+27.50 LT
ML STA 34+33.30 RT - VT14 STA 207+62.00 LT

ANCHOR FOR STEEL BEAM GUARDRAIL
TH5 STA 6+22.00 RT (CONTRACTOR TO PROVIDE
DRIVE STA 10+98.00 LT DETAILS AND METHODOLOGY
VT14 STA 207+75.00 LT WITH COFFERDAM DESIGN,
VT14 STA 209+18.00 LT SEE EROSION AND SEDIMENT
CONTROL NOTES 9 & 10)

ANCHOR FOR CABLE DRAIL

STA 6+30.00 RT (APPROXIMATE)

CONSTRUCTION LIMITS

EXISTING DRAINAGE

CONSTRUCTION LIMITS

EXISTING DRAINAGE

CONSTRUCTION LIMITS

EXISTING DRAINAGE

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EXISTING DRAINAGE

CONSTRUCTION LIMITS

CURVE 2 (TH5)
D = 17°00'00.00"
R = 337.03
T = 41.68'
L = 82.94'
E = 2.57'
BANKING =

TRANSITION TO EXISTING

GOBERG, LAWRENCE H. & GERDA

1 1/2 SWF HOUSE

DRIVE GRAVEL DRIVE

SEPTIC TANK (APPROX.)

EXISTING 12" CGMP

CONSTR. (T)

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CURVE 4 (DRIVE)

D = 38°00'
R = 150.78'
T = 20.48'
L = 40.70'
E = 1.38'
BANKING = NORMAL

EXISTING BRIDGE DATA:

216' STEEL TRUSS

20' CURB TO CURB

14'-11" VERTICAL CLEARANCE

BUILT IN 1928

EXISTING BRIDGE DATA:

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

CHANNEL POE
Sta 54+00.00

EXISTING ROW

GOBERG, LAWRENCE H. & GERDA

END PROJECT
BEGIN APPROACH
STA 5+75.00

INSTALL (T)

BENCHMARK #1
CHISELED SQUARE
ELEV = 400.668

CONSTR. (T)

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END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

CHANNEL POE
Sta 54+00.00

EXISTING ROW

GOBERG, LAWRENCE H. & GERDA

END PROJECT
BEGIN APPROACH
STA 5+75.00

INSTALL (T)

BENCHMARK #1
CHISELED SQUARE
ELEV = 400.668

CONSTR. (T)

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END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

CHANNEL POE
Sta 54+00.00

EXISTING ROW

GOBERG, LAWRENCE H. & GERDA

END PROJECT
BEGIN APPROACH
STA 5+75.00

INSTALL (T)

BENCHMARK #1
CHISELED SQUARE
ELEV = 400.668

CONSTR. (T)

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END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

CHANNEL POE
Sta 54+00.00

EXISTING ROW

GOBERG, LAWRENCE H. & GERDA

END PROJECT
BEGIN APPROACH
STA 5+75.00

INSTALL (T)

BENCHMARK #1
CHISELED SQUARE
ELEV = 400.668

CONSTR. (T)

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STA 6+50.00

CHANNEL POE
Sta 54+00.00

EXISTING ROW

GOBERG, LAWRENCE H. & GERDA

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BEGIN APPROACH
STA 5+75.00

INSTALL (T)

BENCHMARK #1
CHISELED SQUARE
ELEV = 400.668

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

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CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

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CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

END APPROACH
LIMITS OF PAVEMENT
STA 6+50.00

CHANNEL POE
Sta 54+00.00

EXISTING ROW

GOBERG, LAWRENCE H. & GERDA

END PROJECT
BEGIN APPROACH
STA 5+75.00

INSTALL (T)

BENCHMARK #1
CHISELED SQUARE
ELEV = 400.668

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

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CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

CONSTR. (T)

STATE OF VERMONT

AGENCY OF TRANSPORTATION

TABLE OF PROJECT PROPERTY ACQUISITION

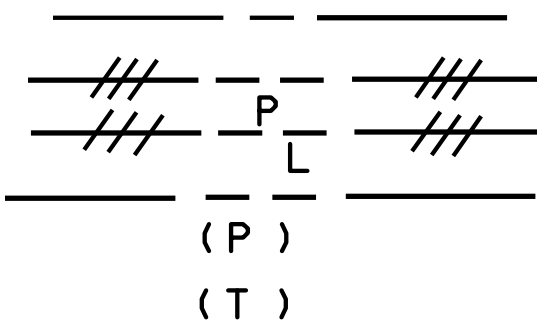
RIGHT OF WAY PLANS

DETAIL SHEET

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
1A	JOHNSON, CARL R. & ANNE C.	16,17	27+06.562 RT. 28+67.673 RT. 29+11.548 RT. 29+35.746 RT. 29+63.436 RT. 30+77.821 RT. 30+97.788 RT. 31+25.000 RT. 30+71.803 RT. 31+31.501 RT. 31+34.734 RT. 31+49.390 RT. 31+22.281 RT.	30+60.776 RT. 28+86.838 RT. 30+62.915 RT. 30+62.137 RT. 30+97.267 RT. 31+61.521 RT. 31+26.485 RT. 31+45.973 RT. 31+63.711 RT. 31+69.099 RT. 31+47.663 RT.	0.07A±		CONST. (T) 12 S.F. ± CONST. (T) 866 S.F. ± DITCH (P) 481 S.F. ± DRAINAGE (P) DIT. & DR. (P) 116 S.F. ± CULVERT & DRAINAGE (P) DRIVE (T) INSTALL (T) 525 S.F. ± INSTALL & MAINTAIN (P) CHANNEL (P) 1,004 S.F. ± INSTALL (T) 438 S.F. ± REMOVE (T)	WD0E	01-29-04	BRIDGE 1	368	628-631	3038 S.F. ± INCLUDES EROSION CONTROL INCLUDES EROSION CONTROL 14' GRAVEL DRIVE EROSION CONTROL GUARDRAIL EROSION CONTROL DEVICE CULVERT & WOOD WALLS	1	15,17	PARCEL NO. 2 CHANGE SLOPE (P) STA. 30+58.154LT.-30+77.884LT. FROM (P) TO (T). ALSO, TITLE CHANGE FROM CONROY, FRANK L. & BARBARA D. TO GOFBERG, LAWRENCE H. & GERDA PER C.O. 9284	03-10-03	P. J. H.	R. P. D.
1B			27+55.772 LT. 27+69.831 LT. 29+79.674 LT. 29+84.380 LT. 30+09.000 LT. 30+10.134 LT.	29+30.423 LT. 29+27.996 LT. 29+98.878 LT. 30+58.194 LT. 30+58.172 LT.			CONST. (T) 944 S.F. ± SLOPE (P) 1,522 S.F. ± CONST. (T) 31 S.F. ± SLOPE (T) 310 S.F. ± CONST. (T) 99 S.F. ±						INCLUDES EROSION CONTROL INCLUDES EROSION CONTROL 12' GRAVEL DRIVE INCL. EROSION CONTROL			ELECTRONIC FILES TO STRUCTURES	06-01-04		
2A	GOFBERG, LAWRENCE H. & GERDA	17	30+58.428 LT. 31+45.158 RT.	32+12.382 LT. 31+73.772 LT.	0.27A±		ALL R. T. & I.			BRIDGE 1			11,637 S.F. ± BARN						
2B			30+58.163 LT. 30+58.154 LT. TH5 5+89.000 LT.	30+82.314 LT. 30+77.884 LT. 			CONST. (T) 32 S.F. ± SLOPE (T) 40 S.F. ± DRIVE (T)						INCLUDES EROSION CONTROL 24' GRAVEL						
2C			31+68.712 LT. 31+68.644 LT.	31+87.695 LT. 31+92.363 LT.			CHANNEL (P) 274 S.F. ± INSTALL (T) 137 S.F. ±						EROSION CONTROL						
3	VERIZON NEW ENGLAND, INC.												UTILITY						
4	CENTRAL VERMONT PUBLIC SERVICE CORPORATION												UTILITY						
5	ADELPHIA CABLE COMMUNICATIONS												UTILITY						

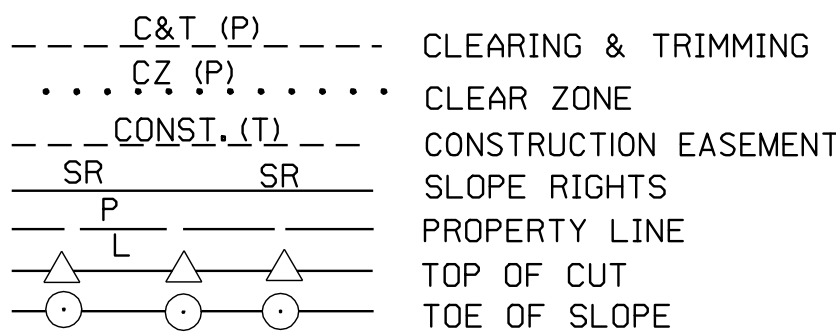
ACCT.mlongstreet
C:\Projects\89J045\RightOfWay\rj045.dgn
DATE PLOTTED 07-SEP-2005

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

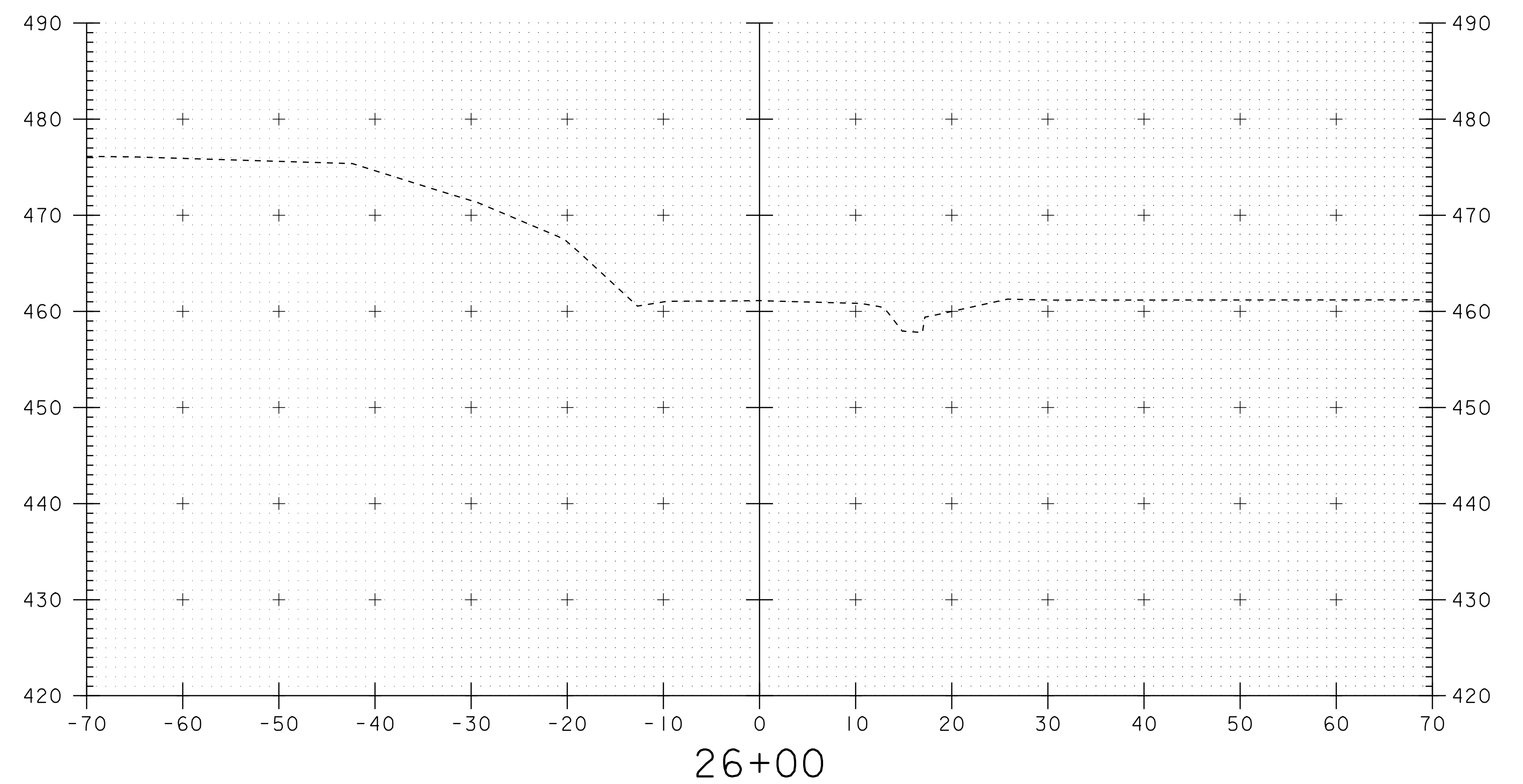
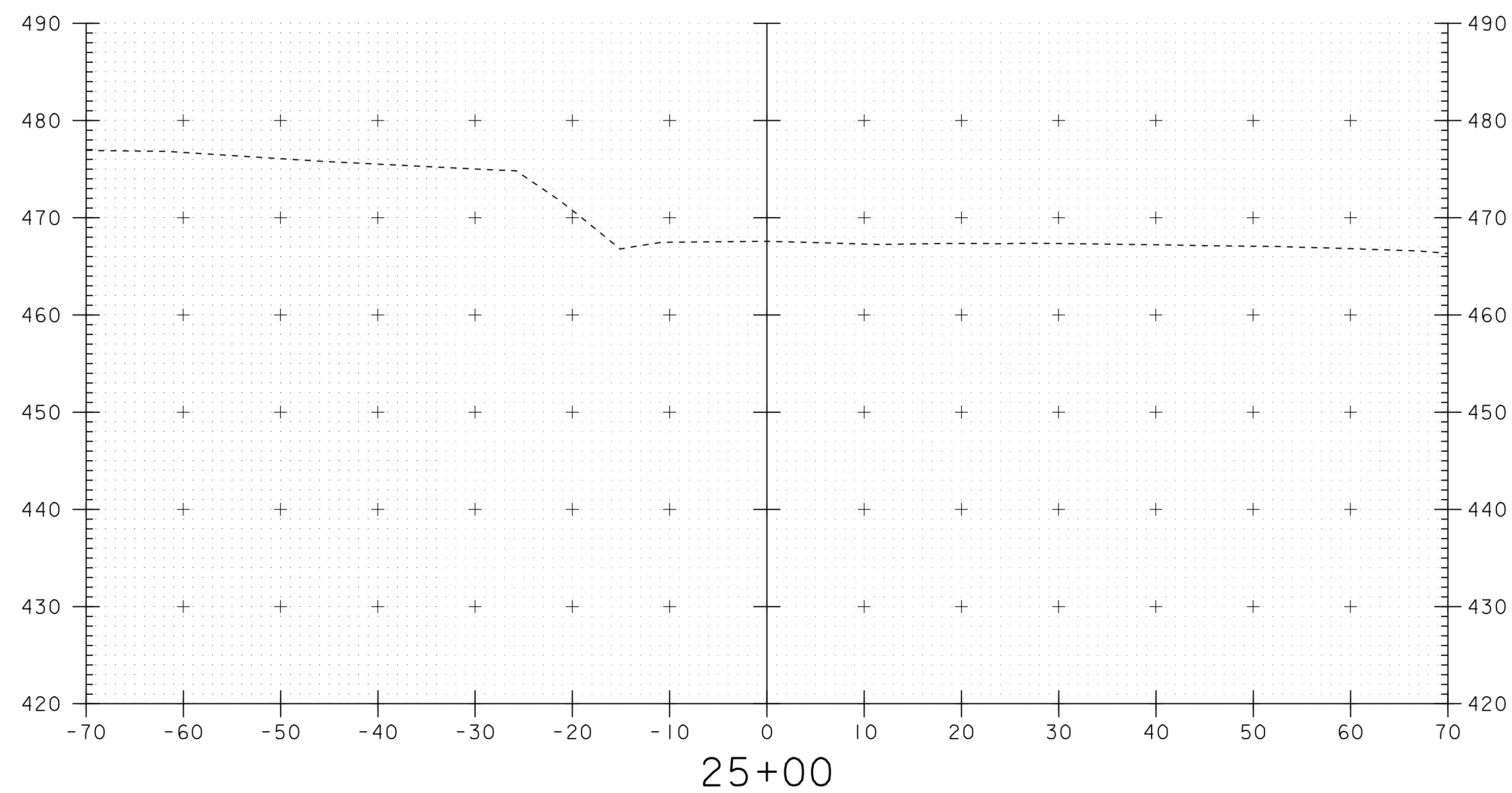
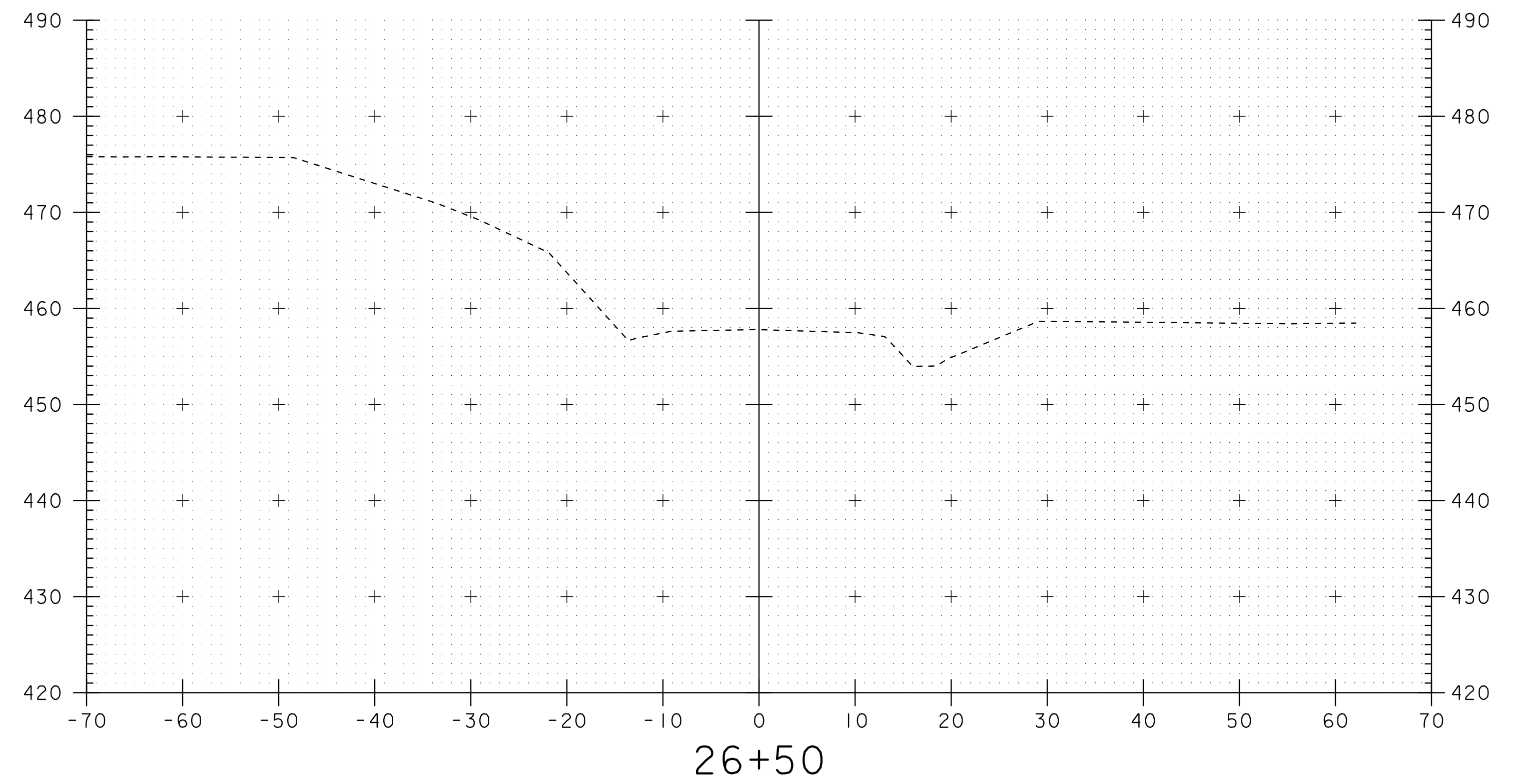
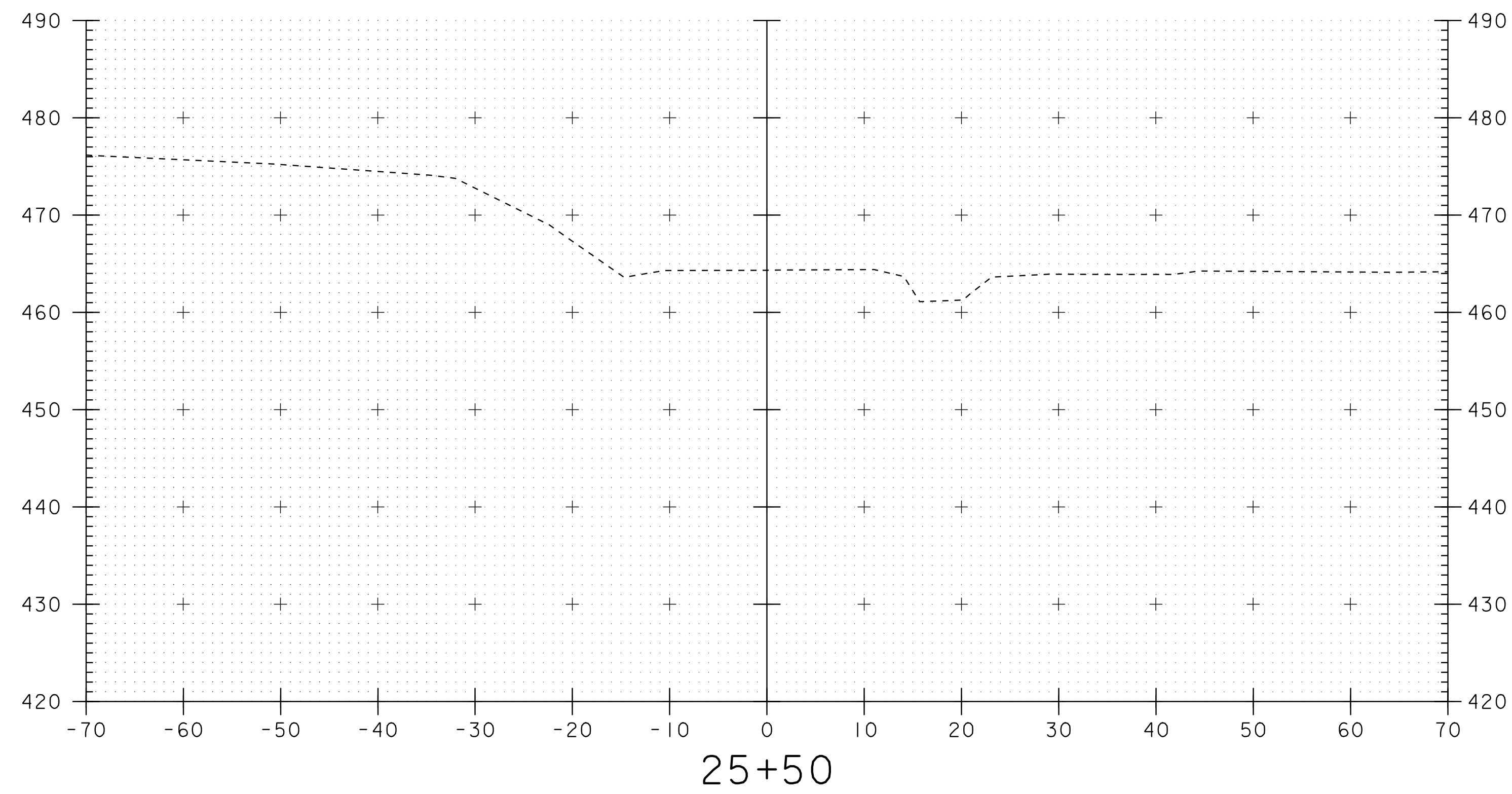


APPROVED: ROGER P. DUMAS DATE: 07-18-02
AGENT D, PLANS & TITLES

R. O. W. PLANS

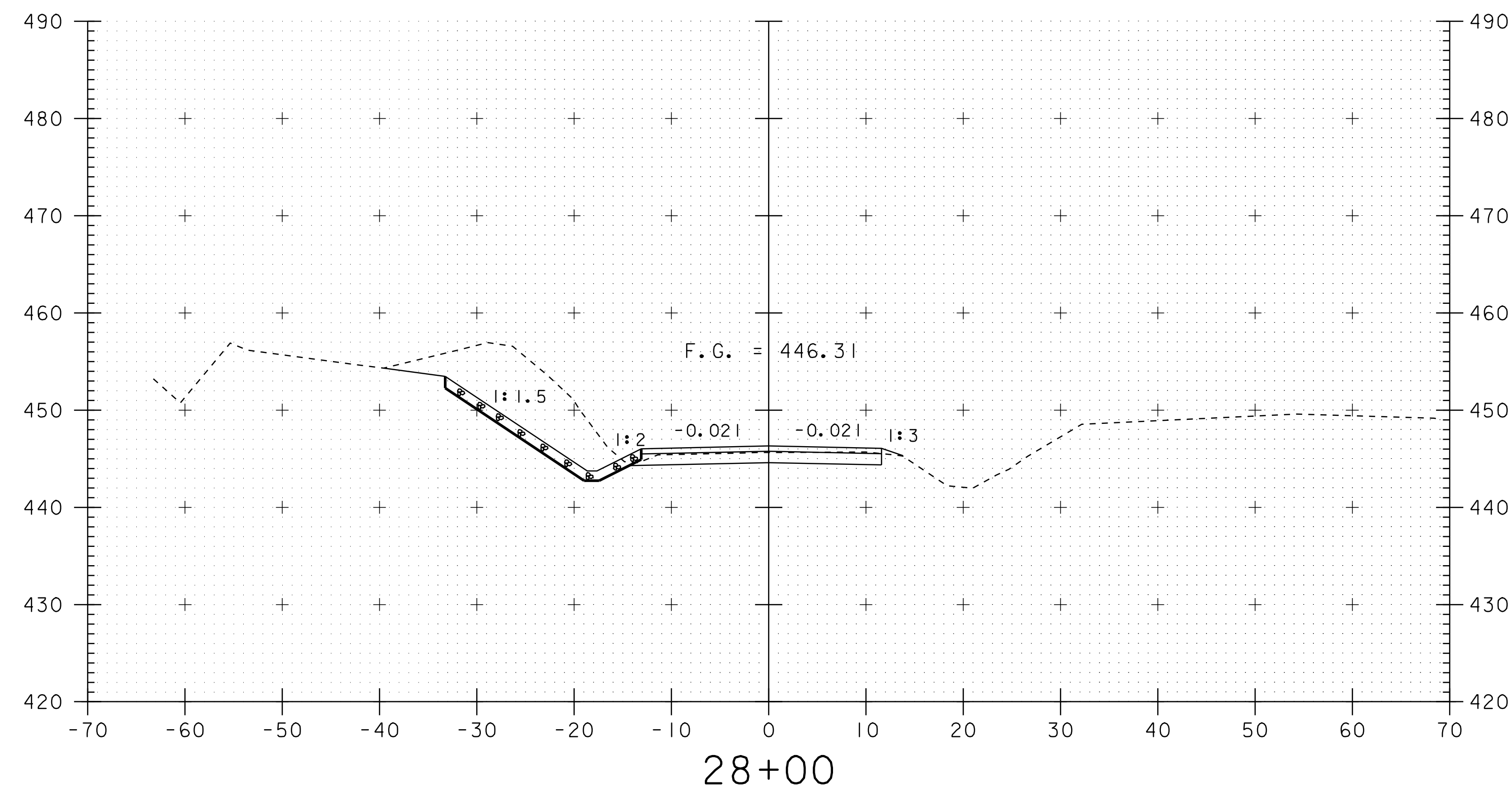
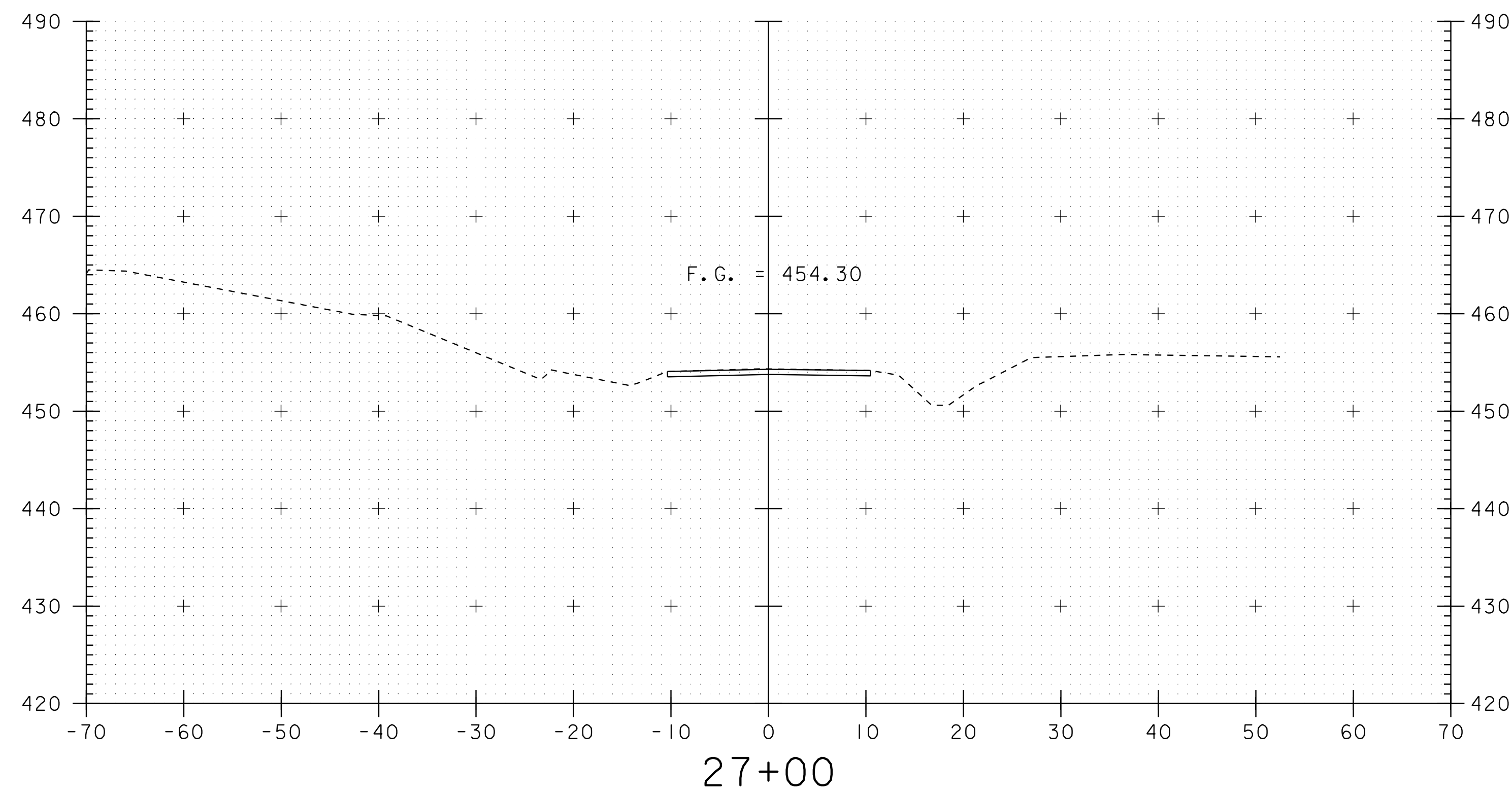
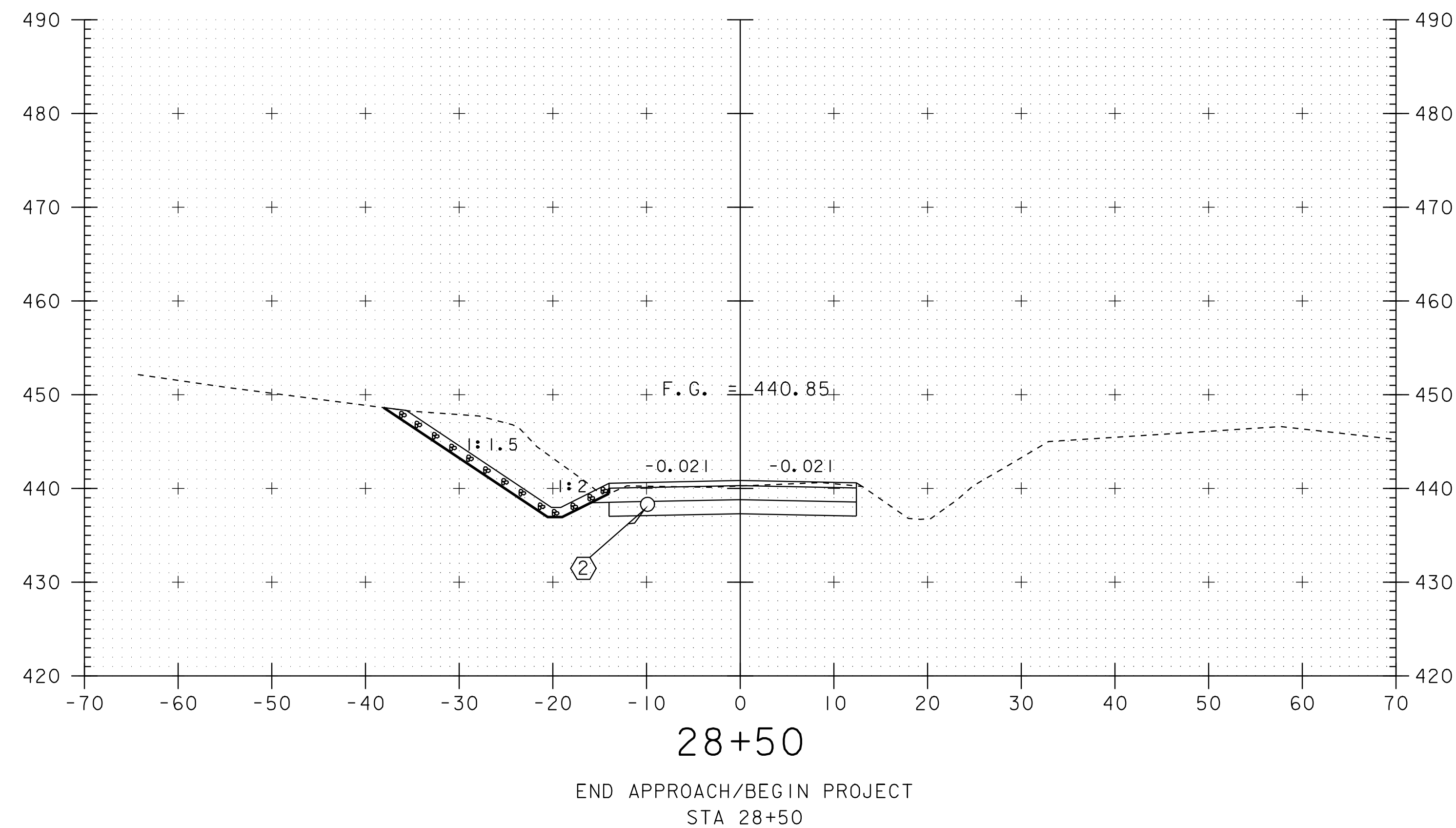
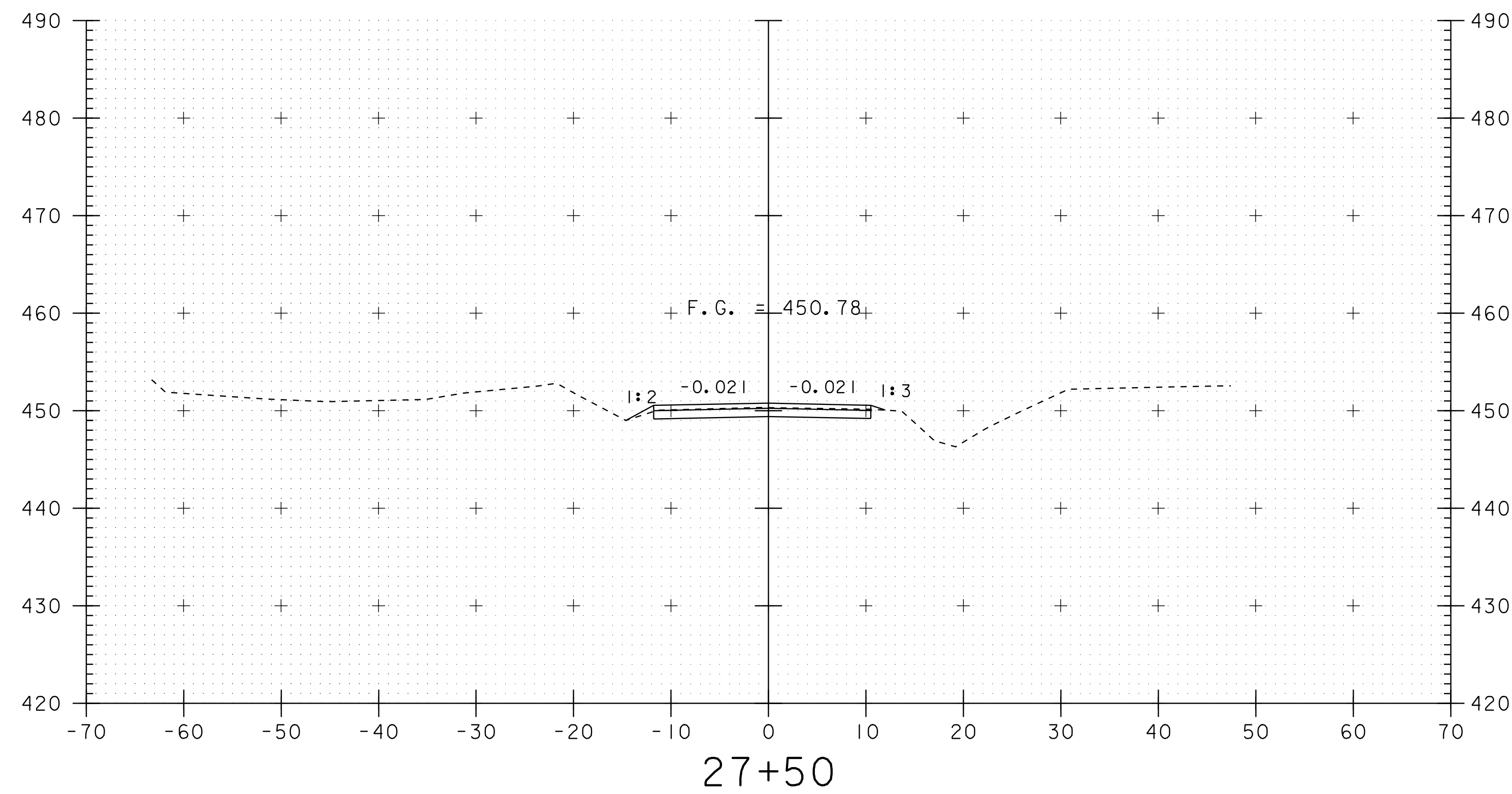
BRIDGE 1
BTN 2004(1)

15 17
SHEET 64 OF 97



SCALE 1" = 10' - 0
10 0 10

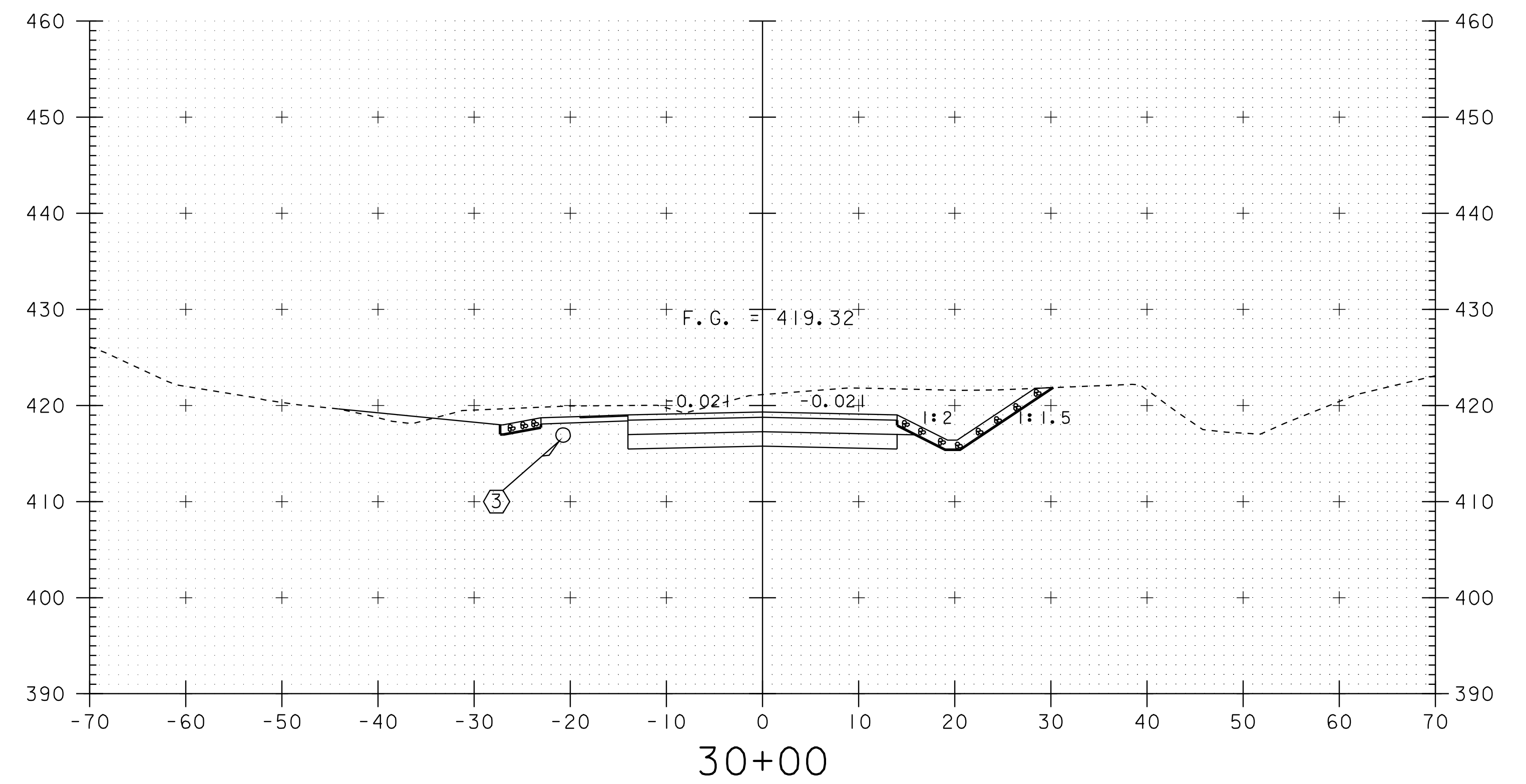
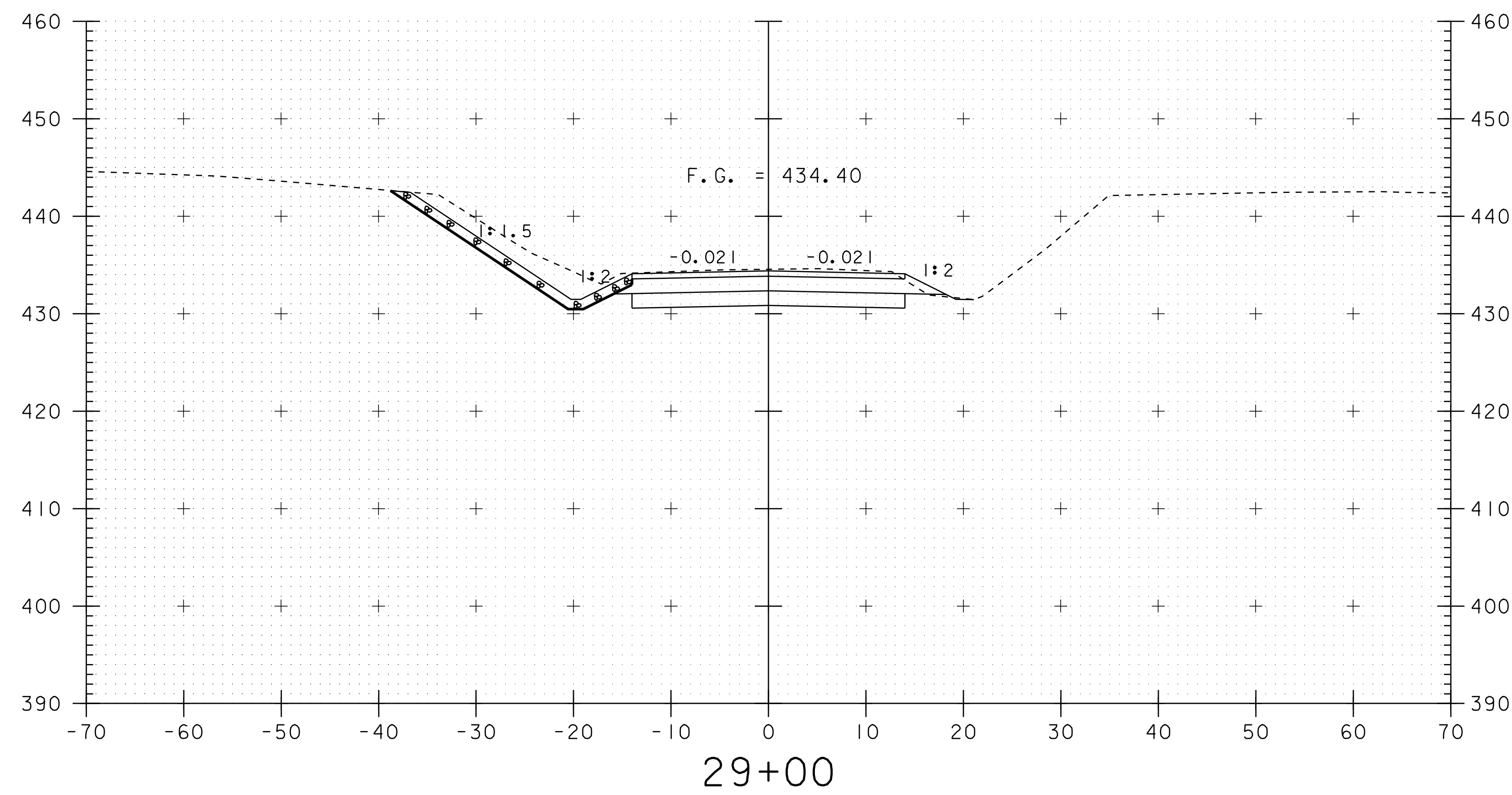
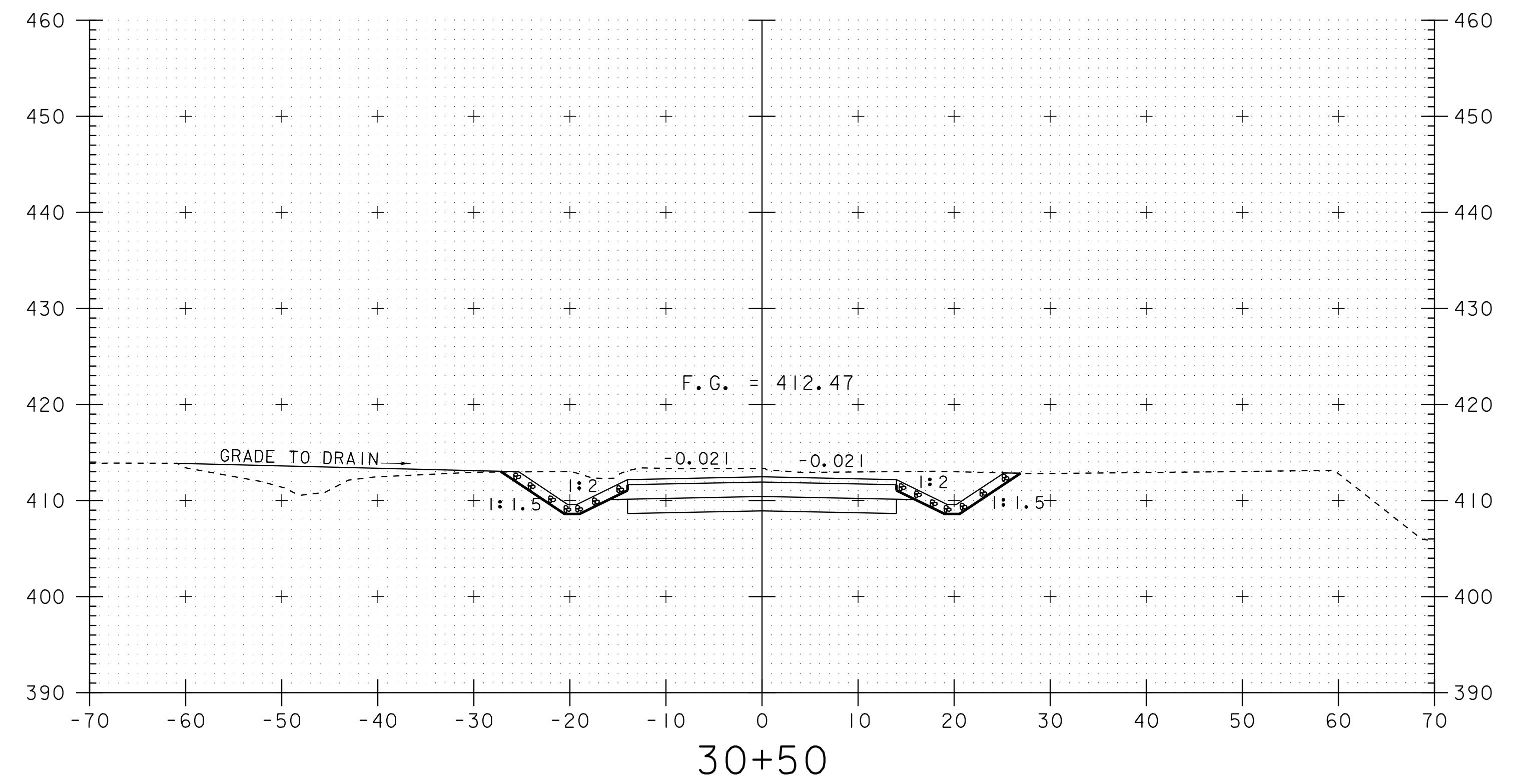
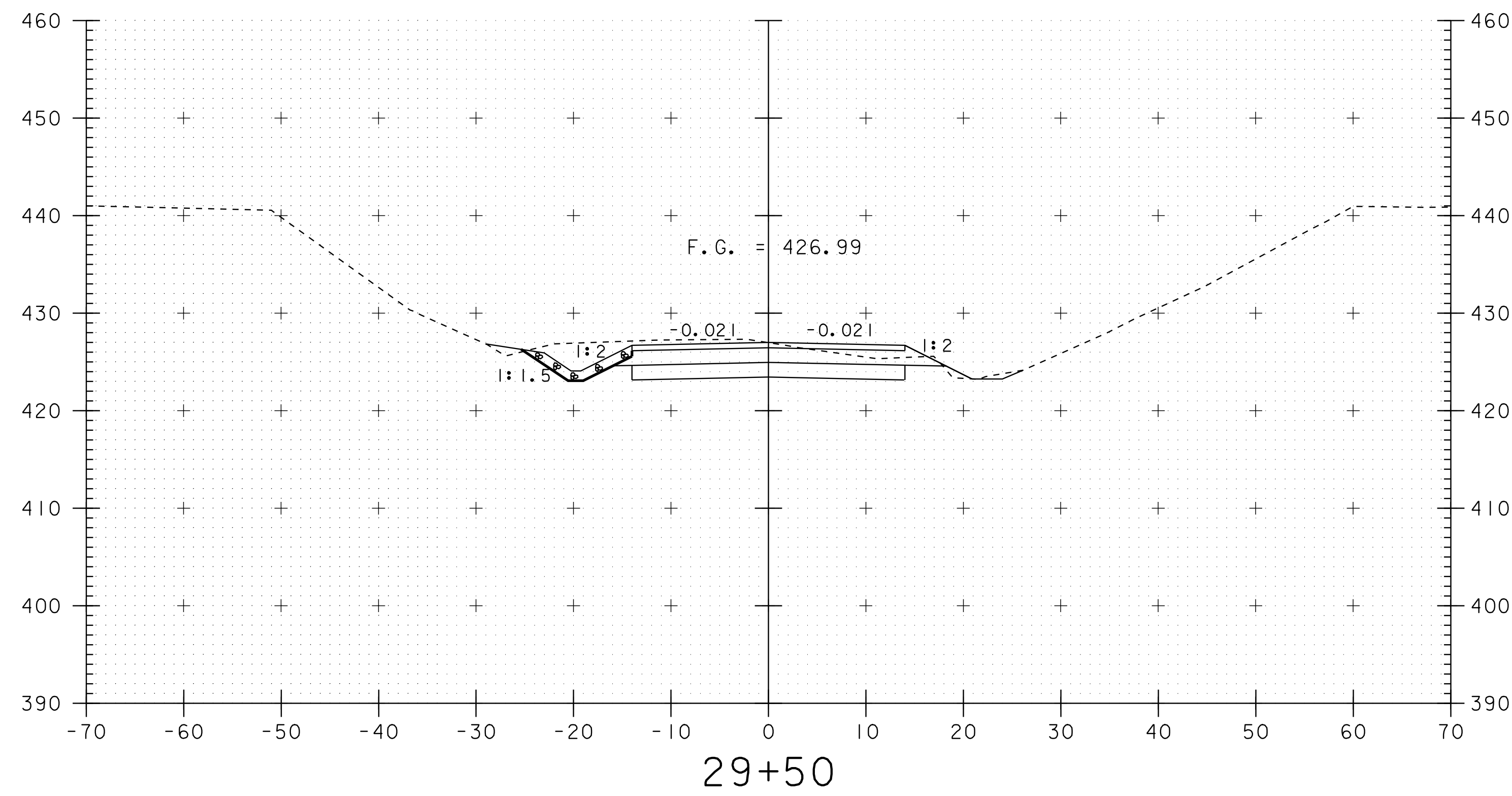
PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00ml.l	
TH 4 CROSS SECTIONS	
SECTION 25+00 THROUGH 26+50	SHEET: 65 OF 97



BEGIN APPROACH
STA 26+75.00

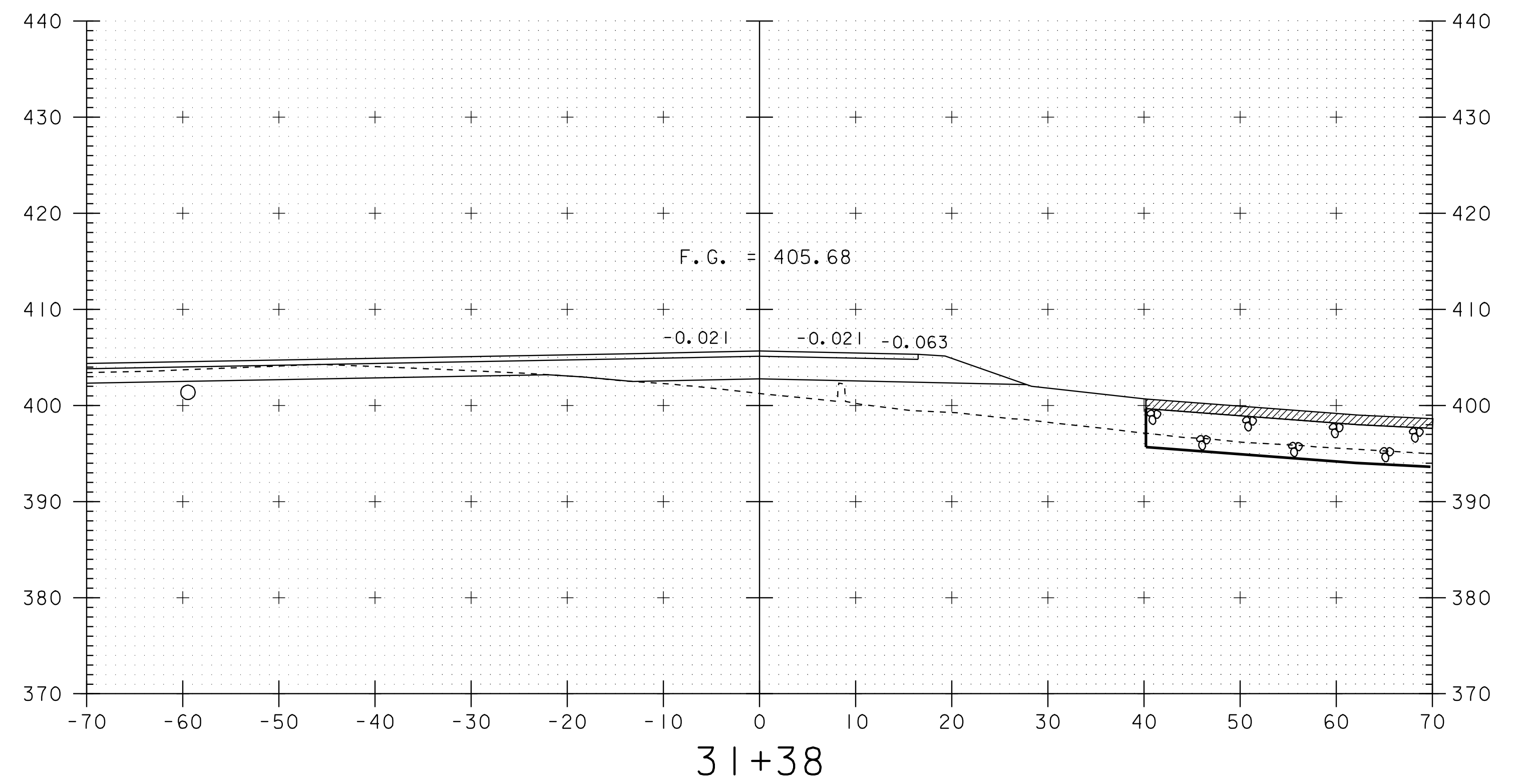
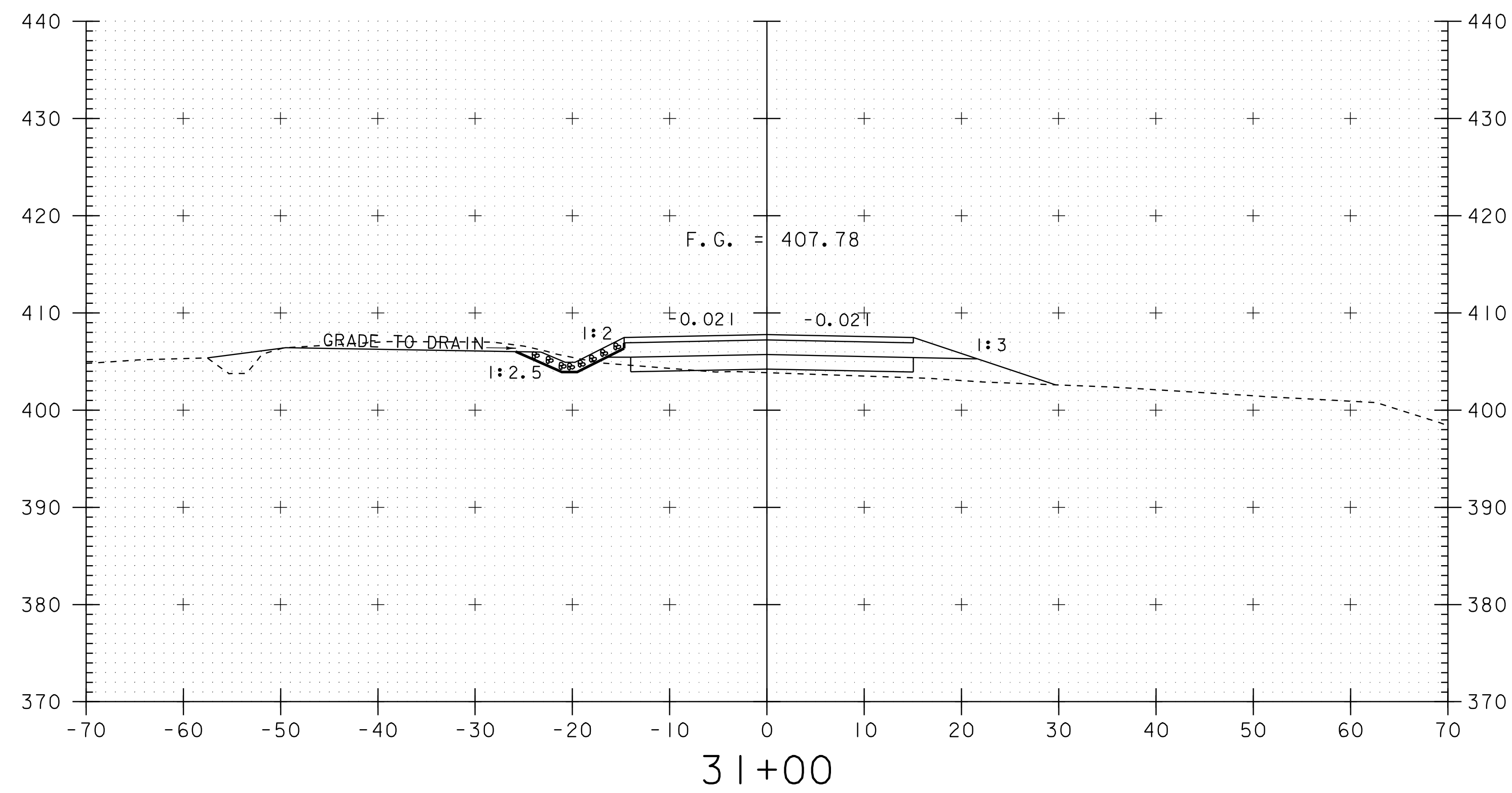
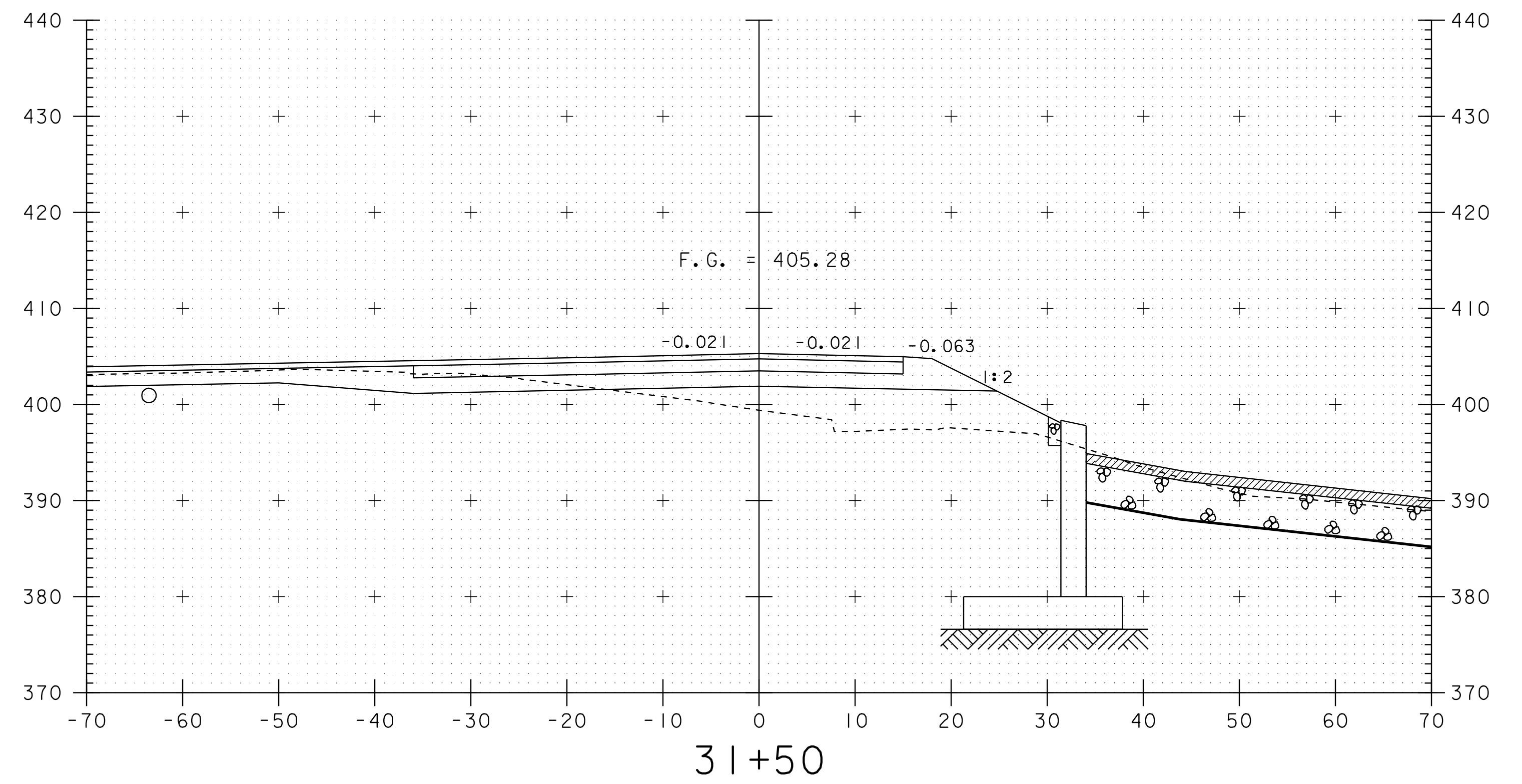
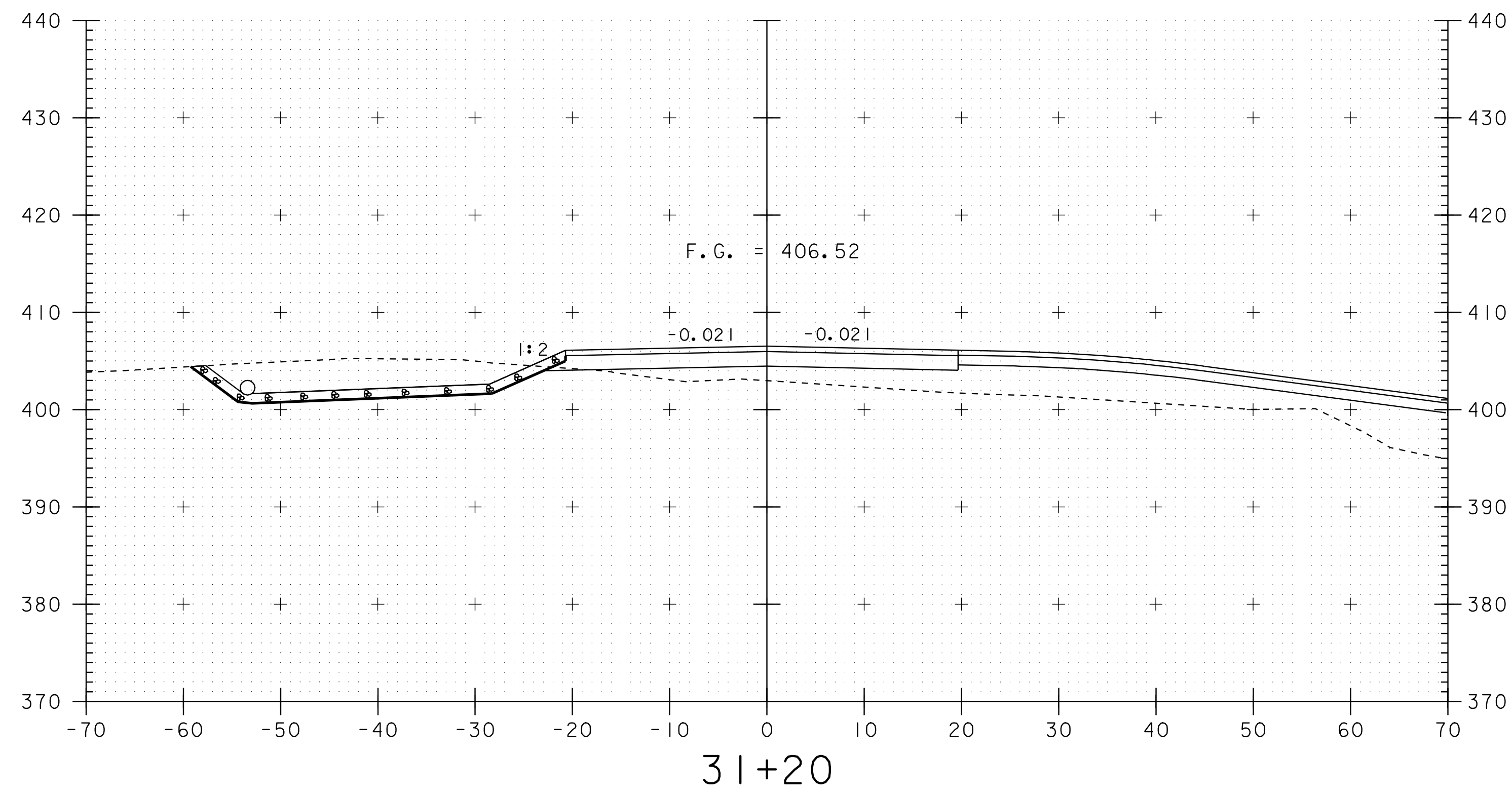
SCALE 1" = 10'-0"
10 0 10

PROJECT: BRIDGE 1	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lm2.i	
TH 4 CROSS SECTIONS	
SECTION 27+00 THROUGH 28+50	SHEET: 66 OF 97



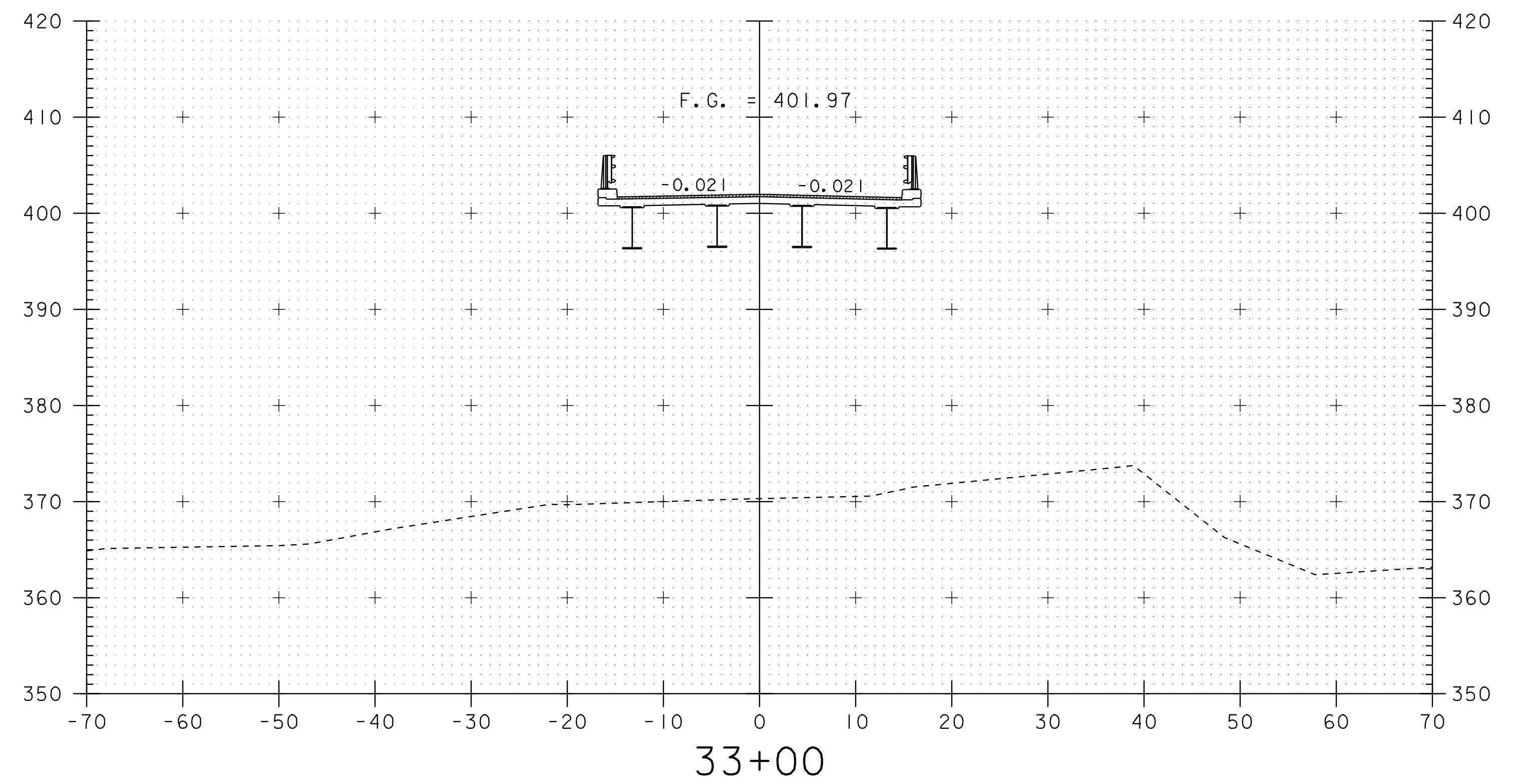
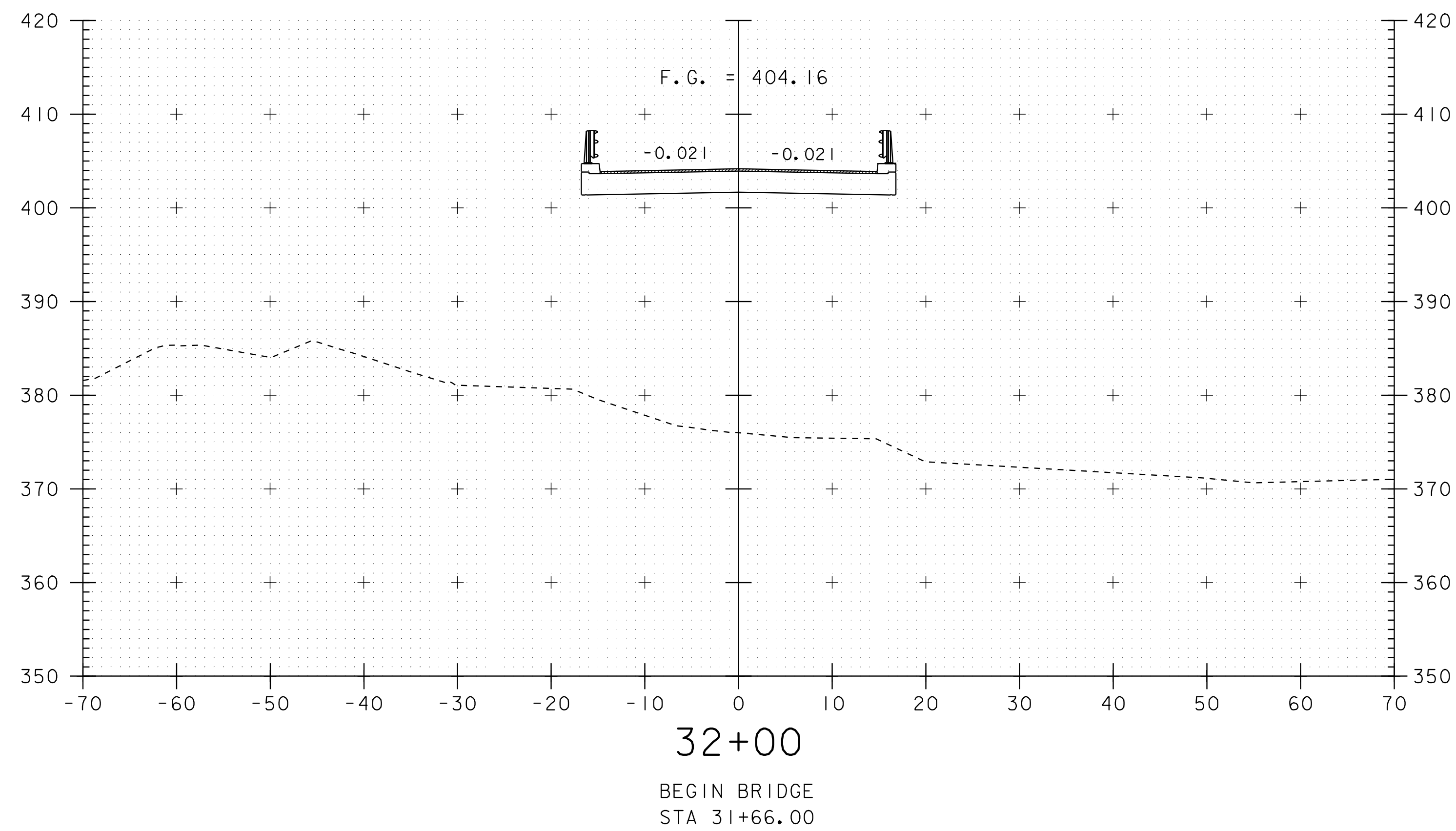
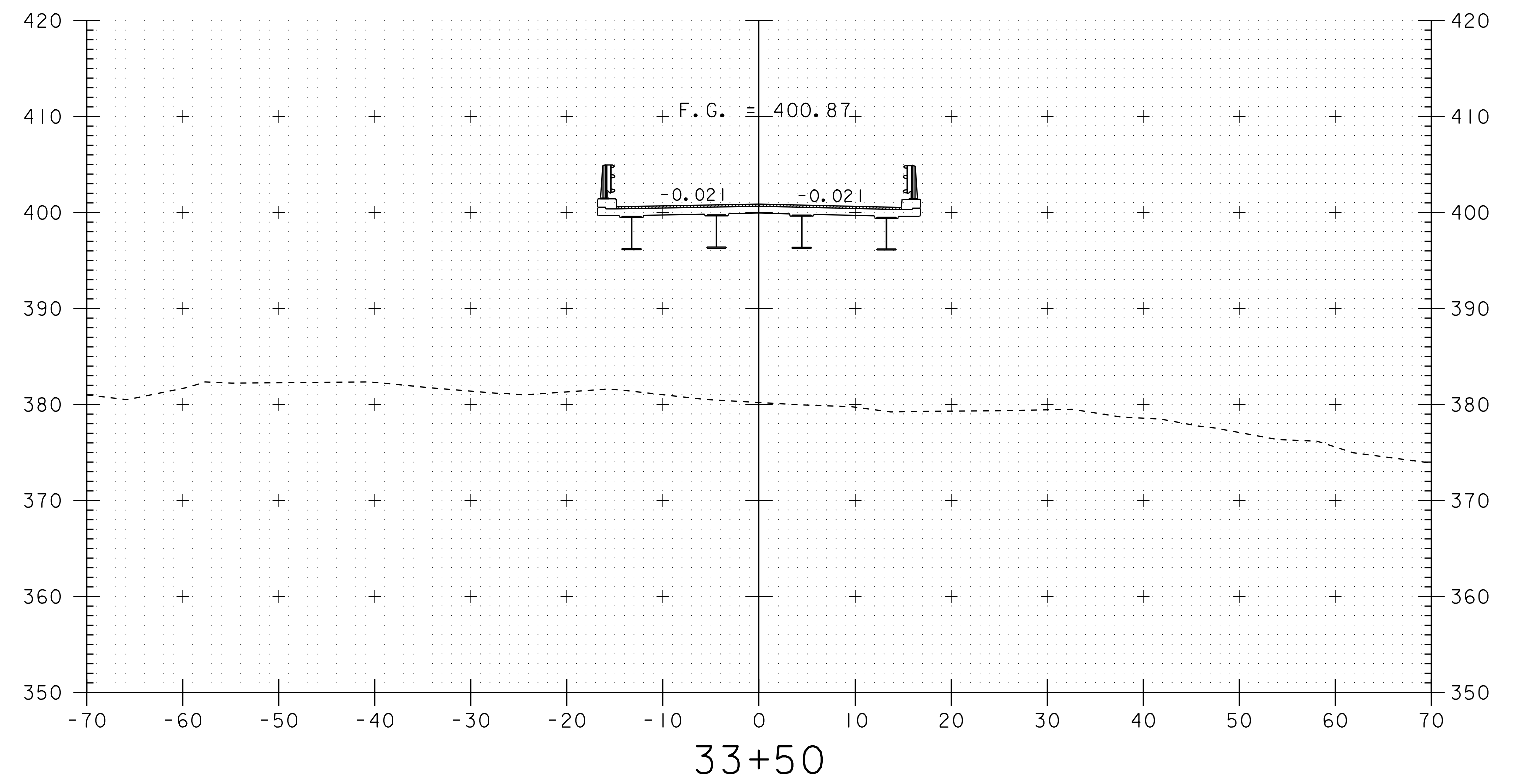
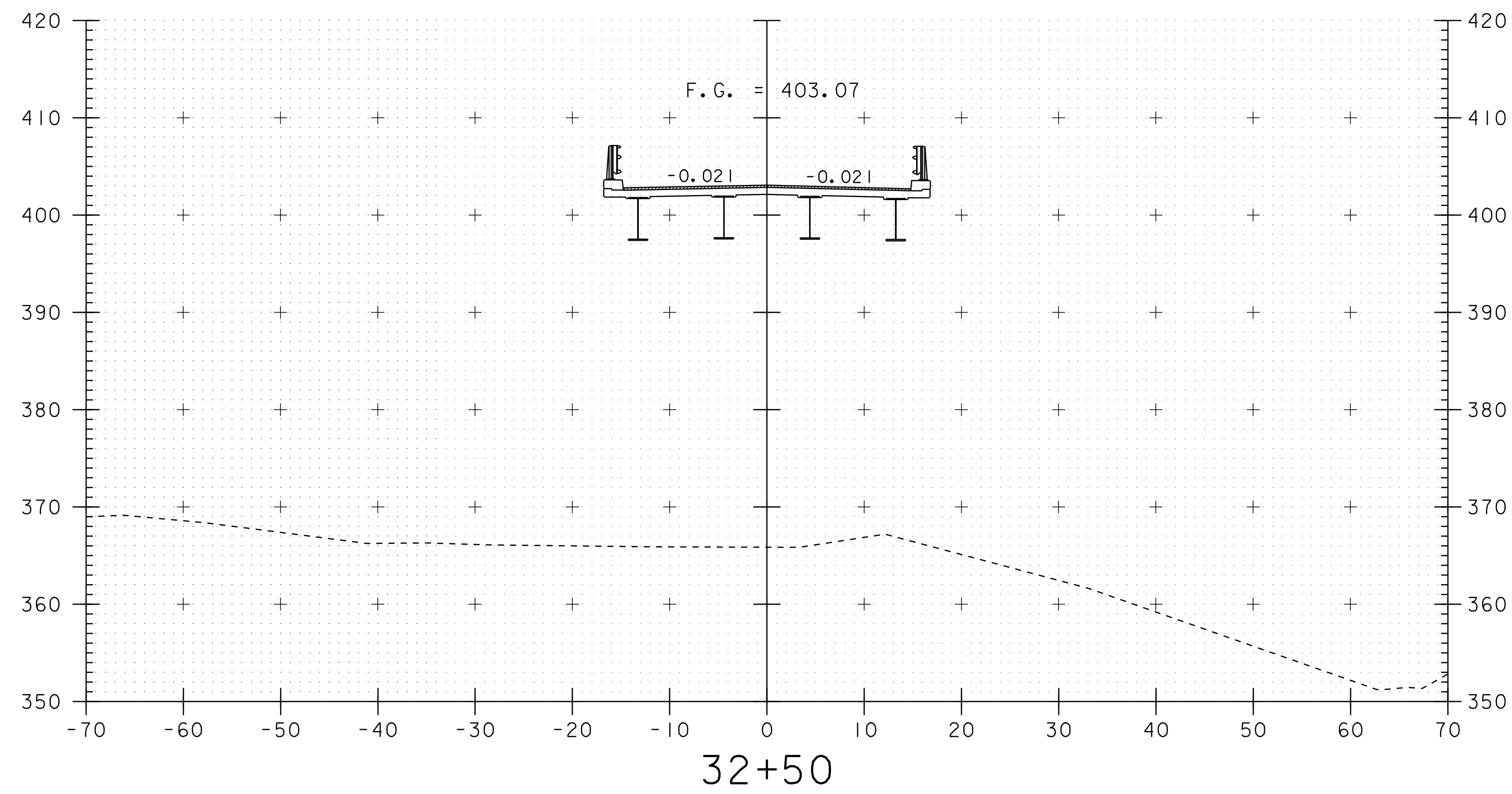
SCALE 1" = 10' - 0
10 0 10

PROJECT: BRIDGE 1	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lm3.l	
TH 4 CROSS SECTIONS	
SECTION 29+00 THROUGH 30+50	SHEET: 67 OF 97



SCALE 1" = 10' - 0
10 0 10

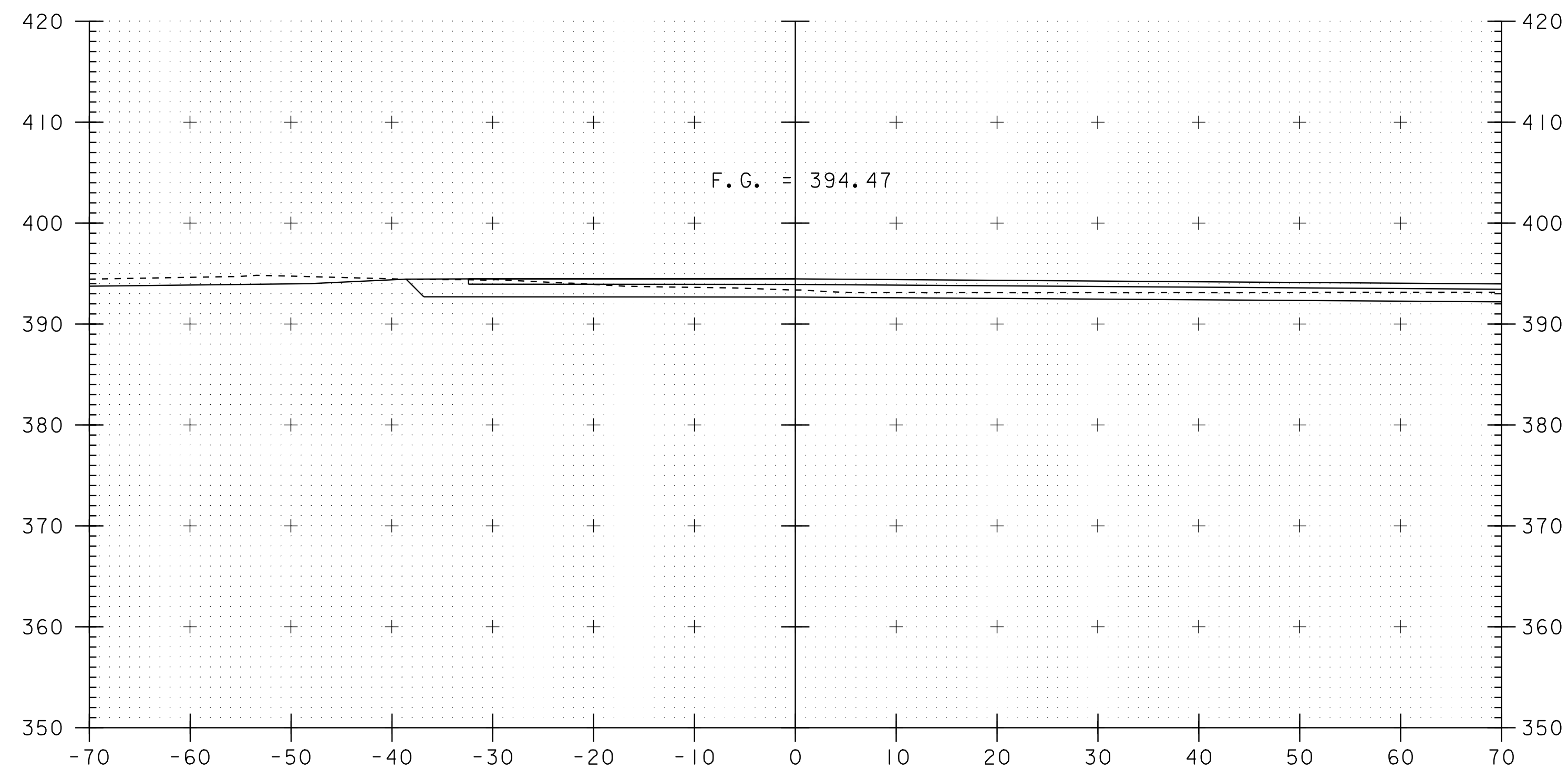
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DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lm4.l	
TH 4 CROSS SECTIONS	
SECTION 31+00 THROUGH 31+50	SHEET: 68 OF 97



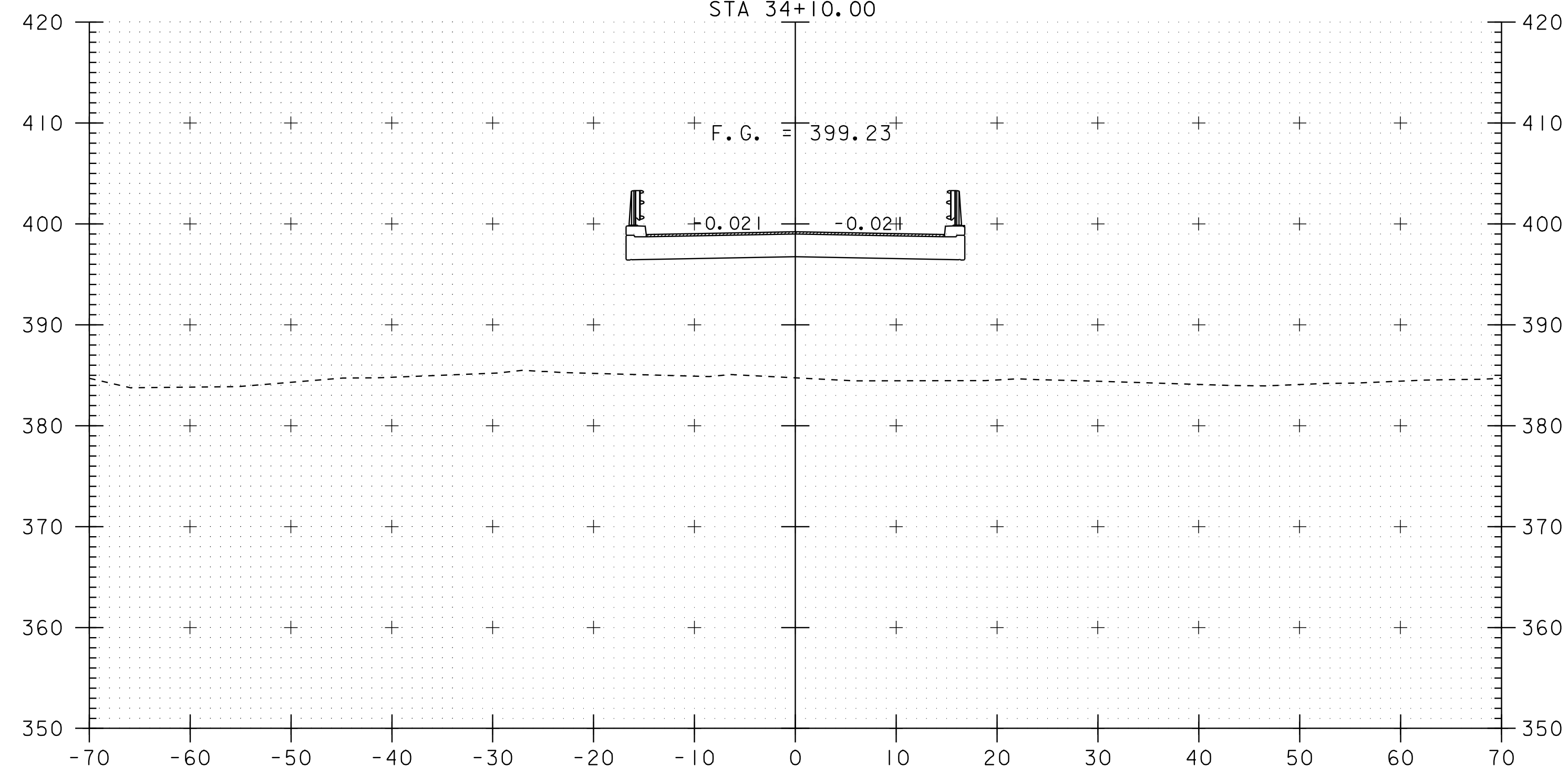
SCALE 1" = 10'-0"

10 0 10

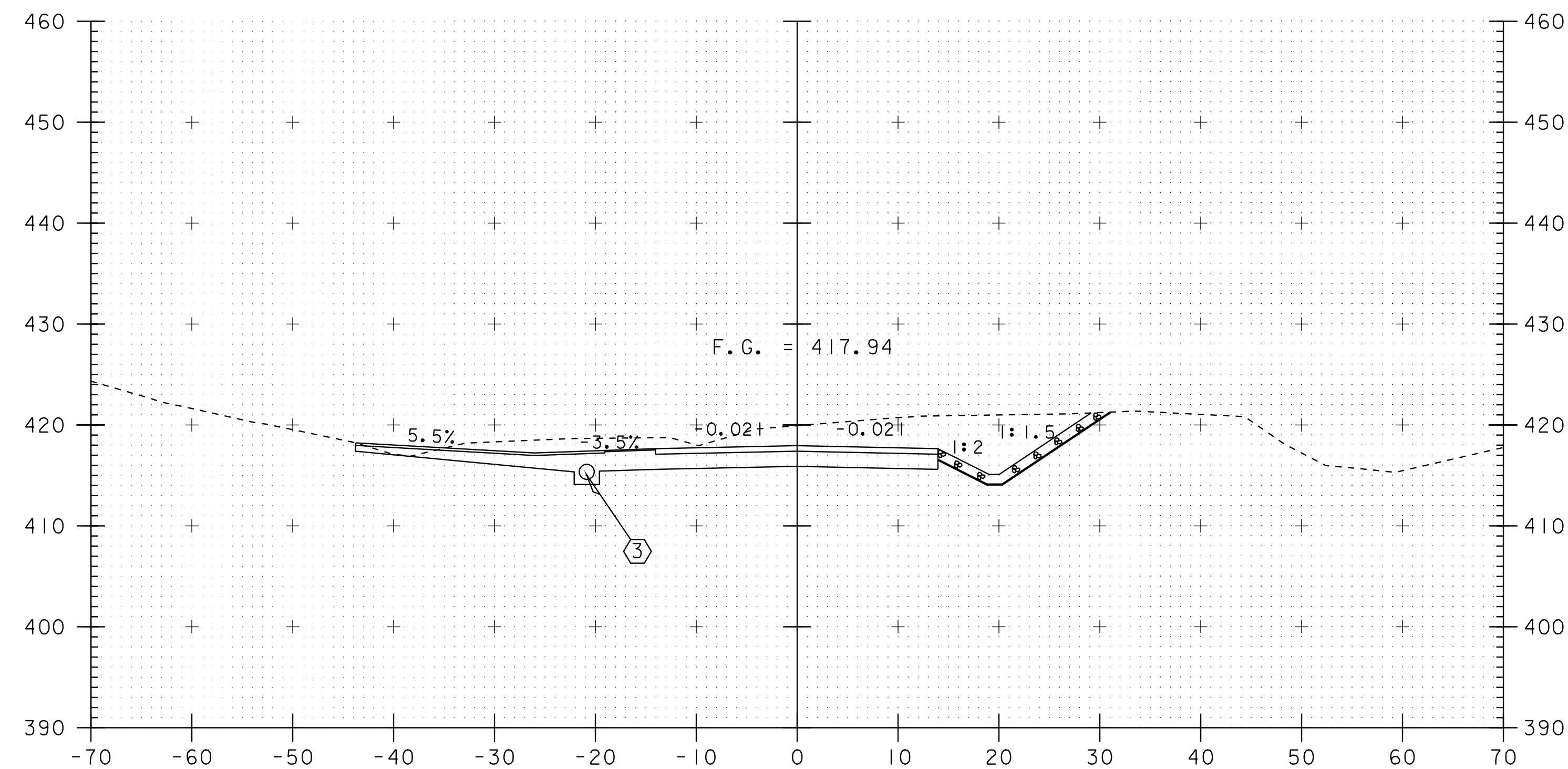
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DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lm5.l	
TH 4 CROSS SECTIONS	
SECTION 32+00 THROUGH 33+50	SHEET: 69 OF 97



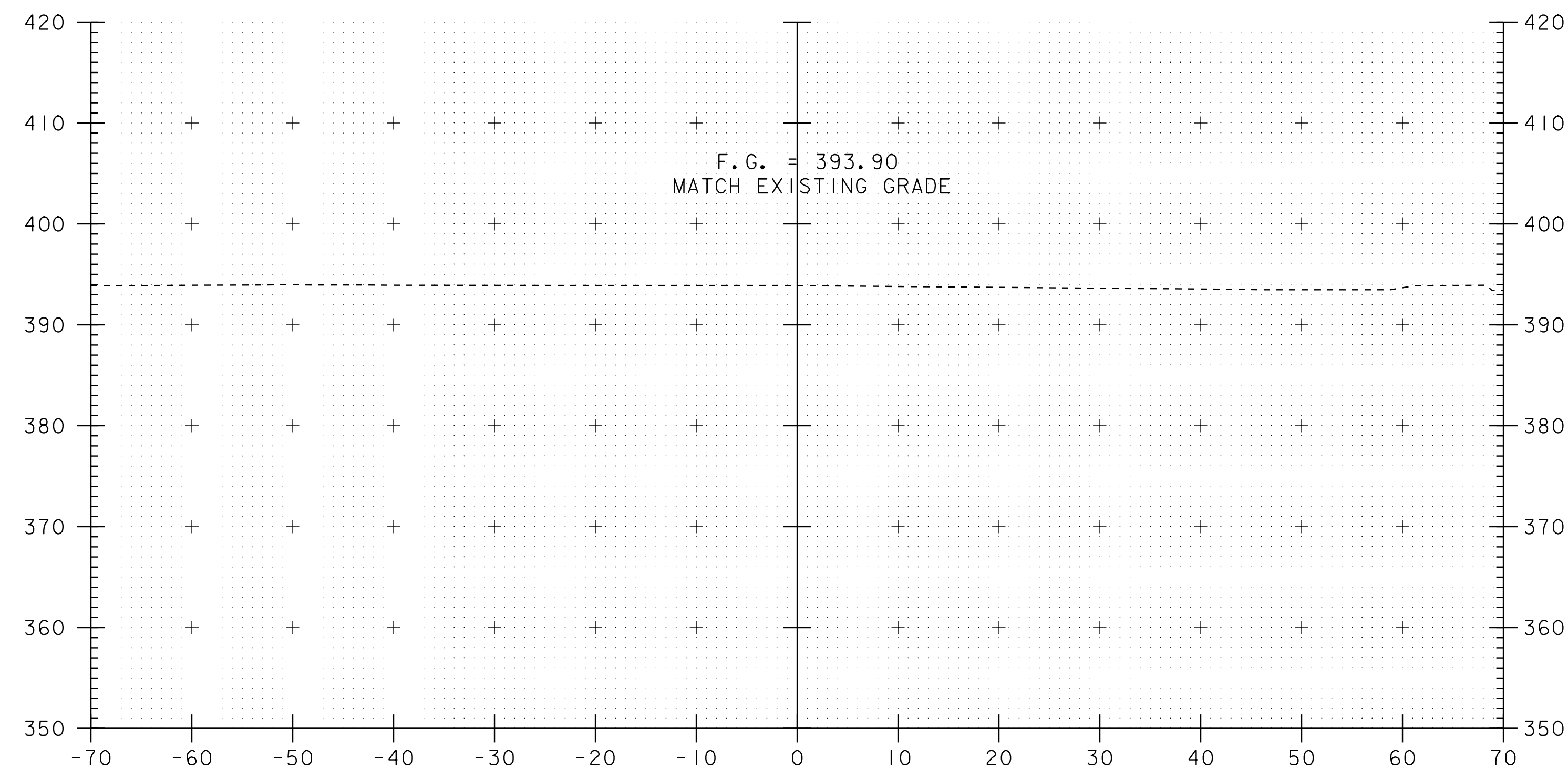
34+50
END PROJECT
STA 34+50.00
END BRIDGE
STA 34+10.00



34+00



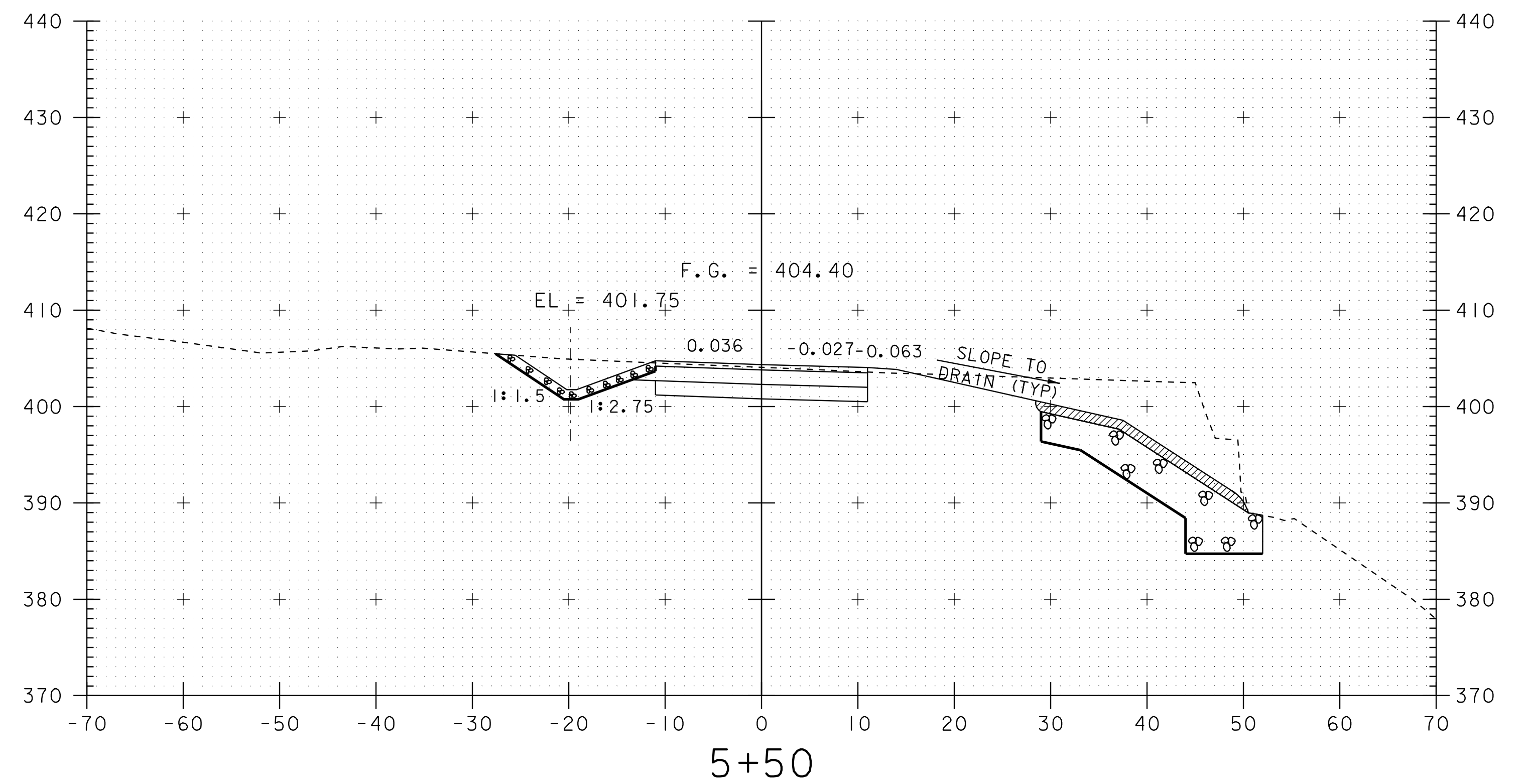
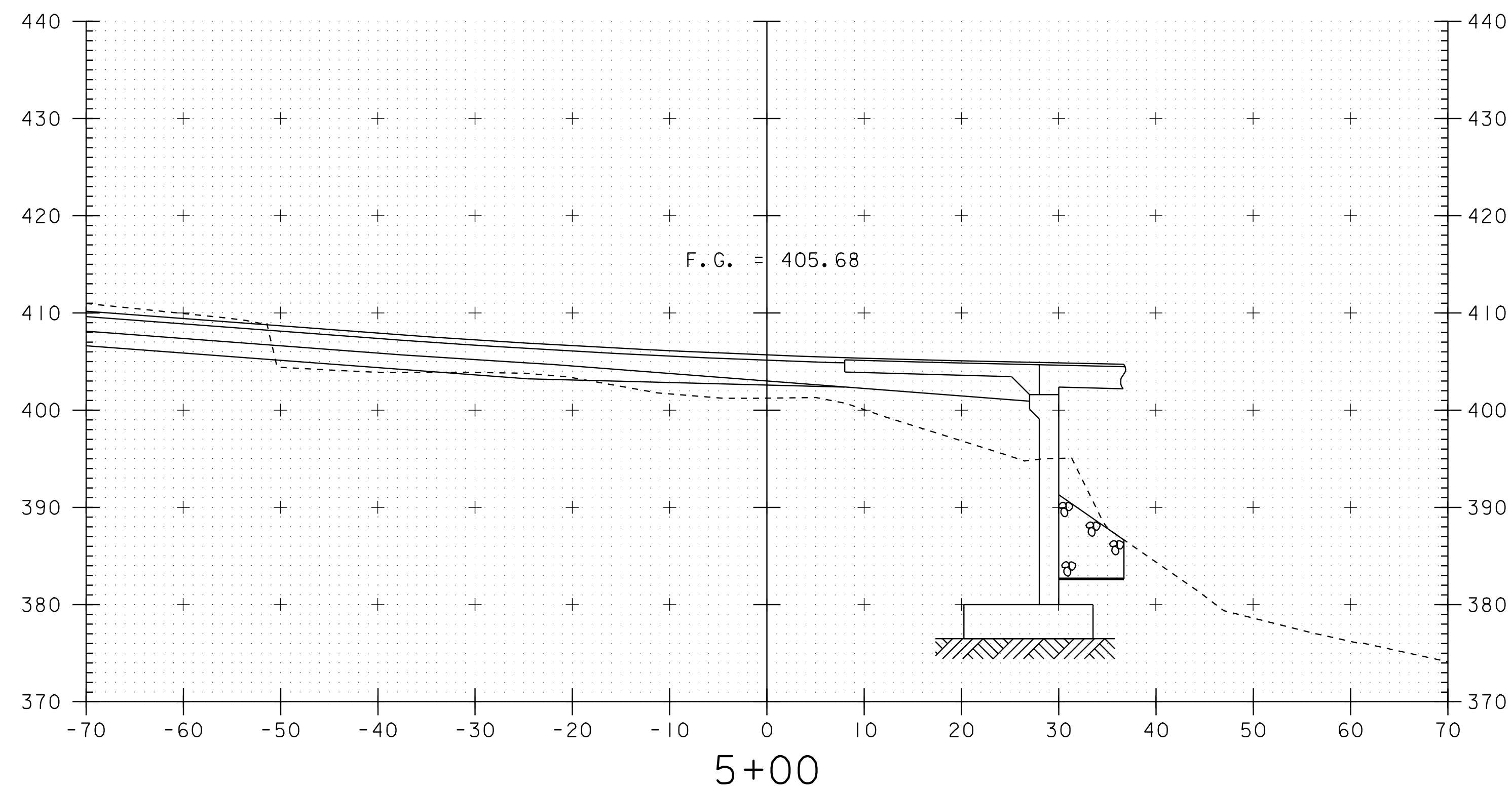
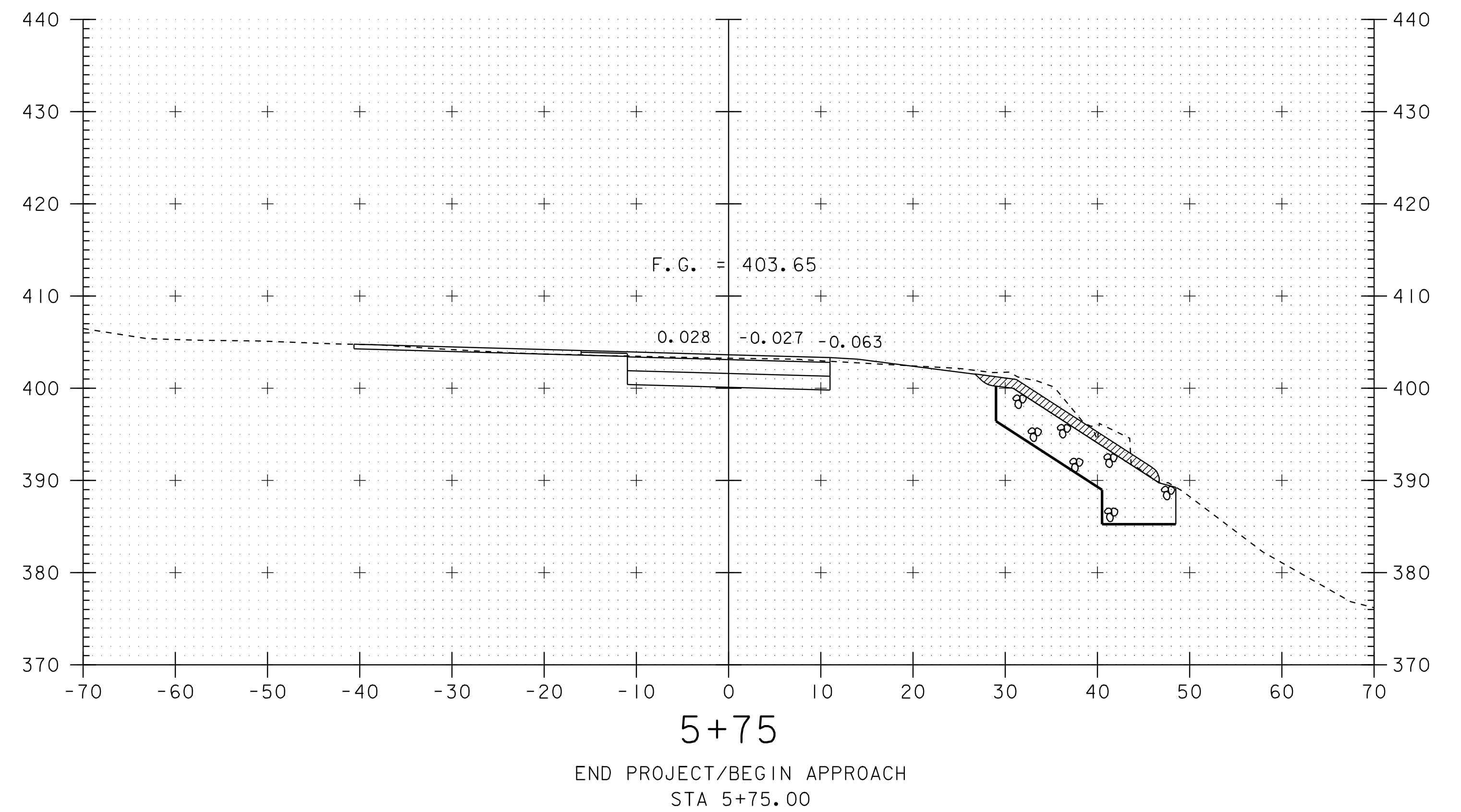
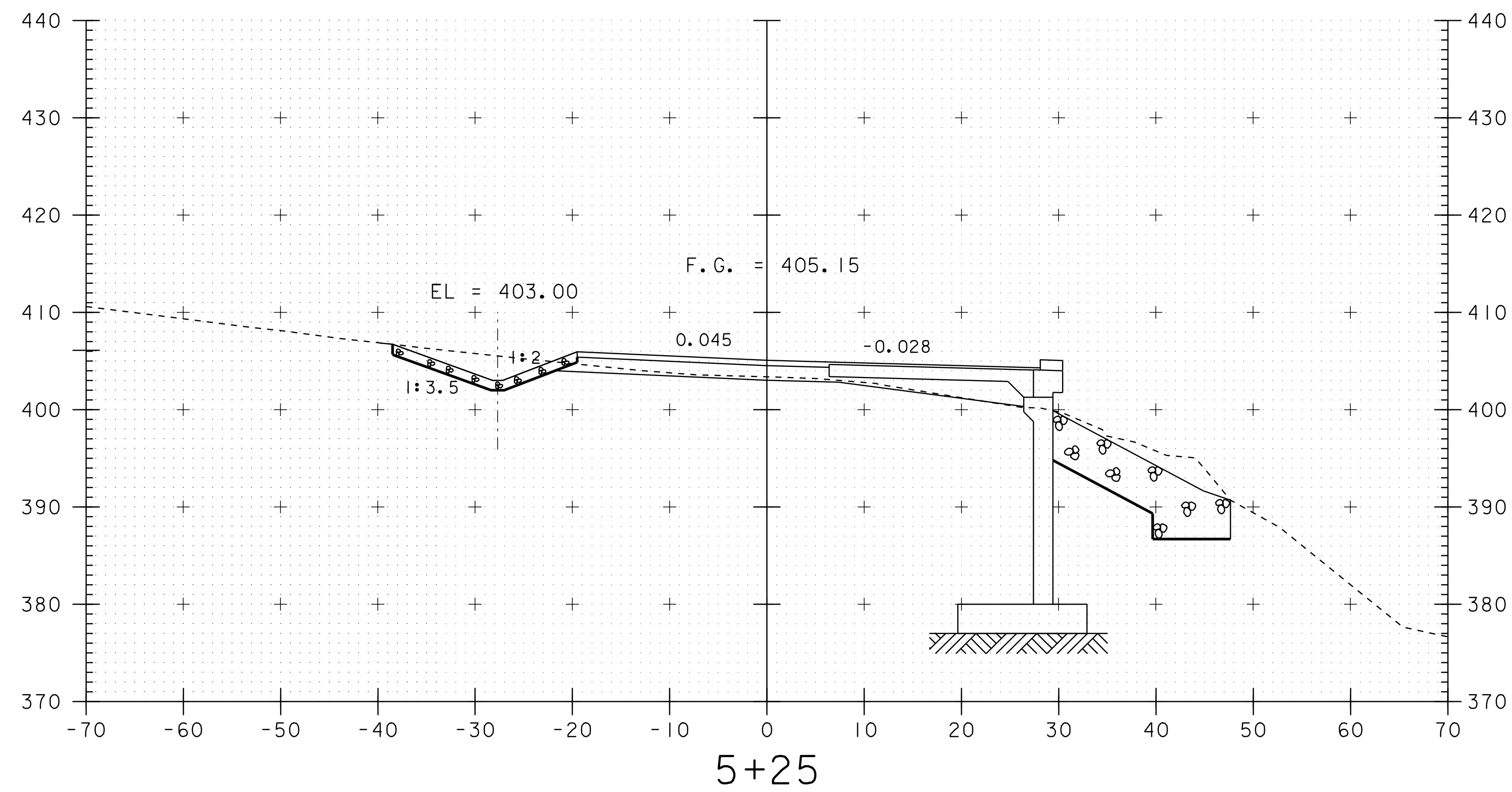
DRIVE SECTION @ 30+09



34+67

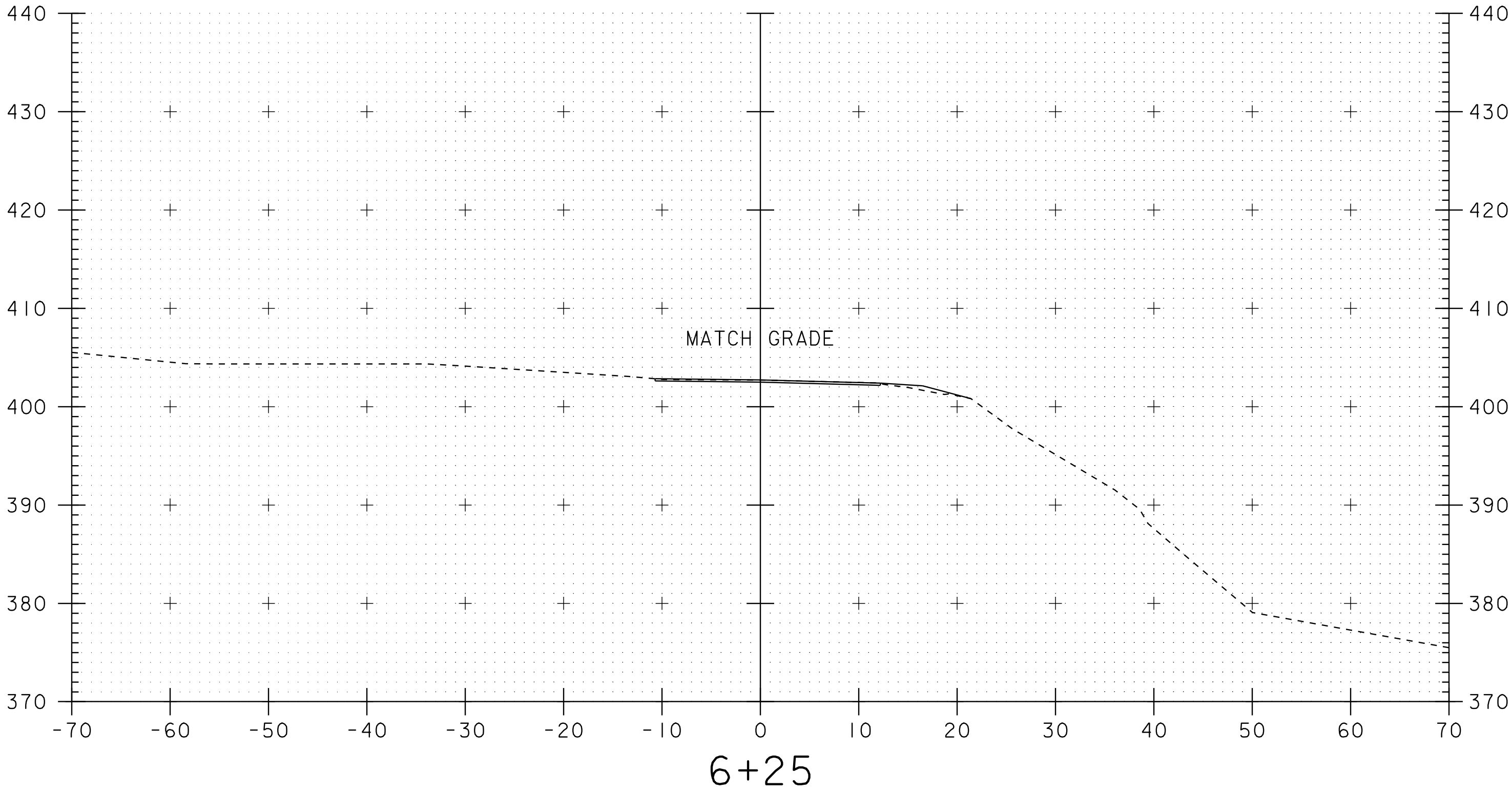
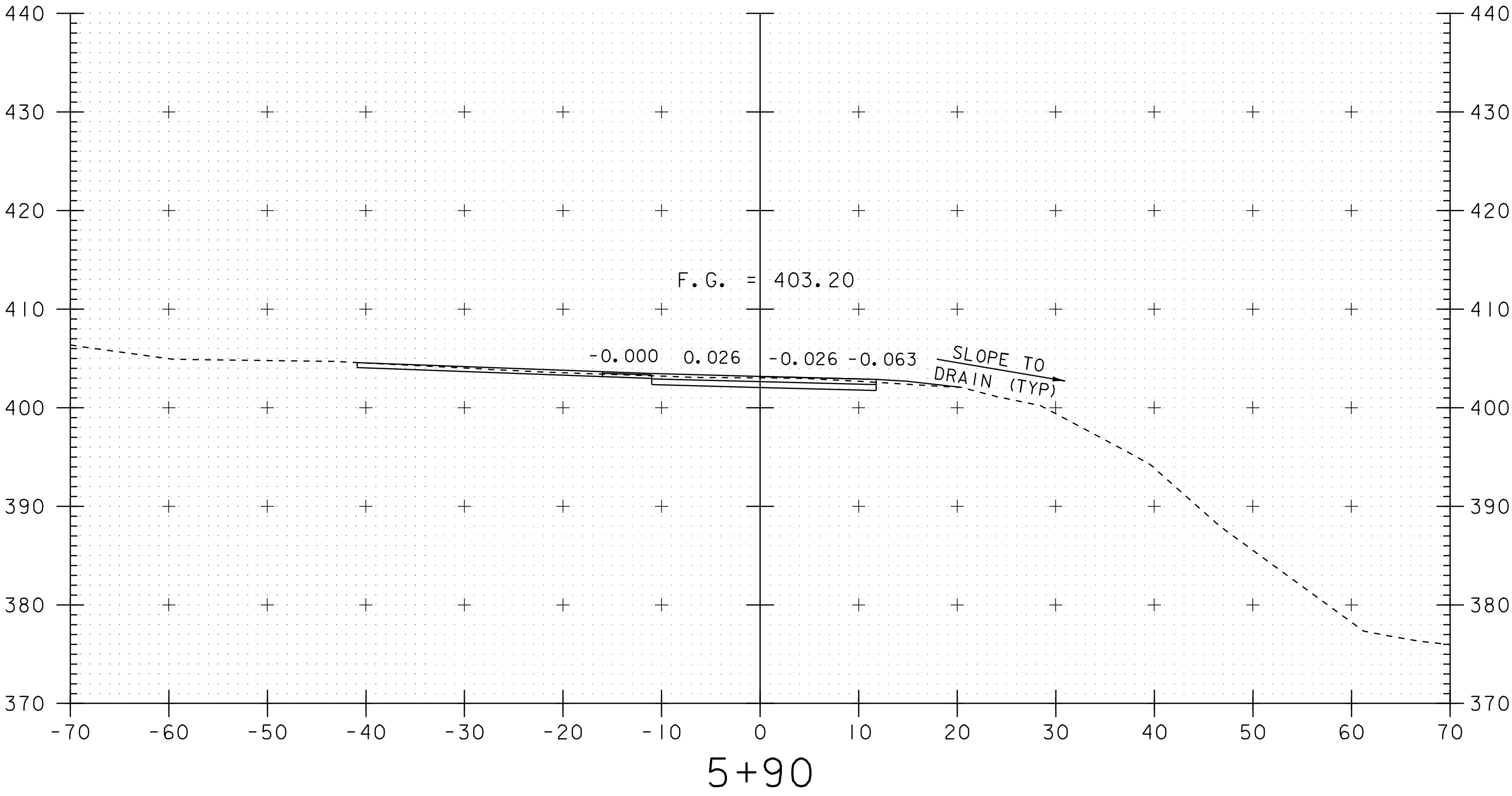
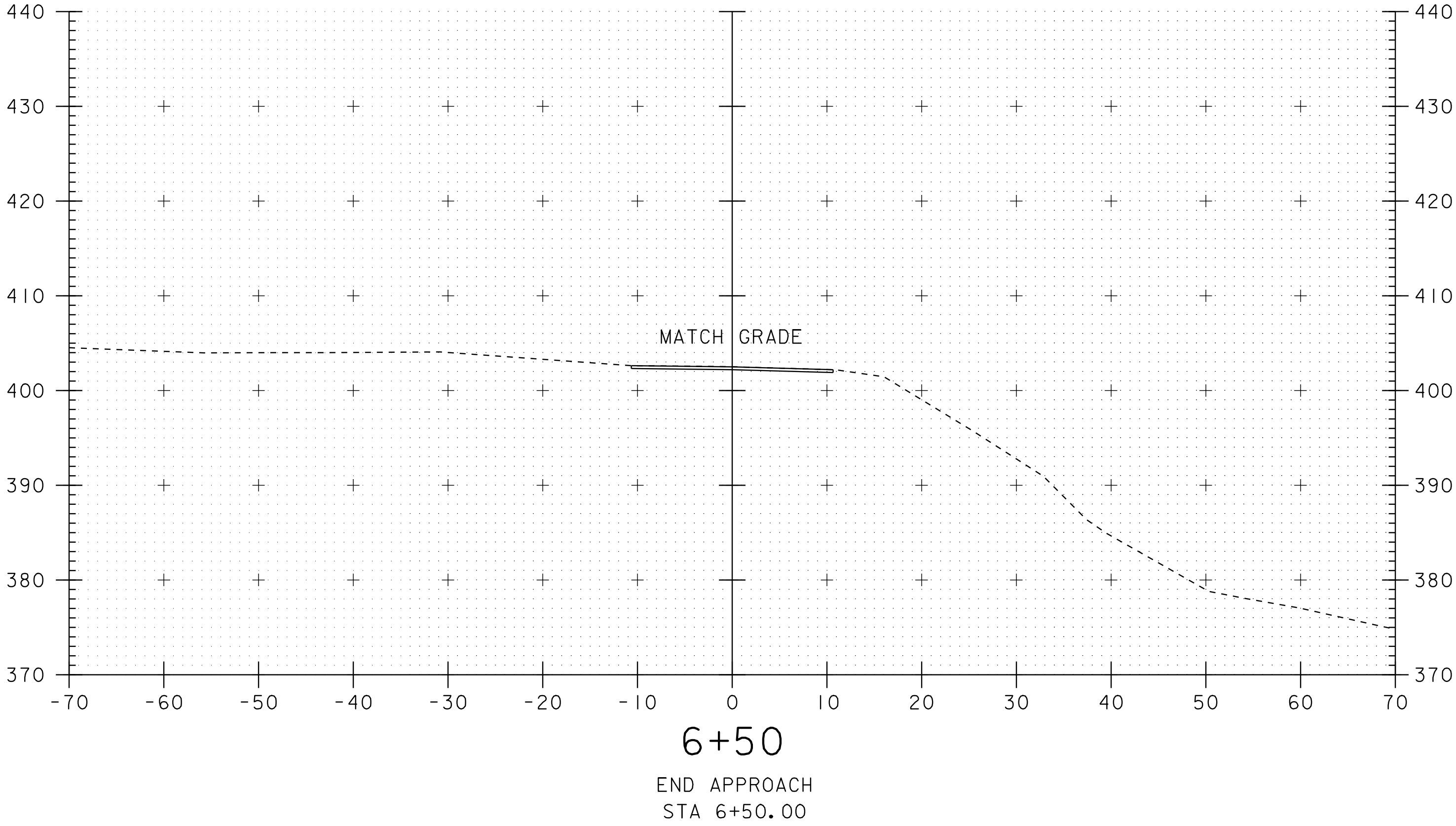
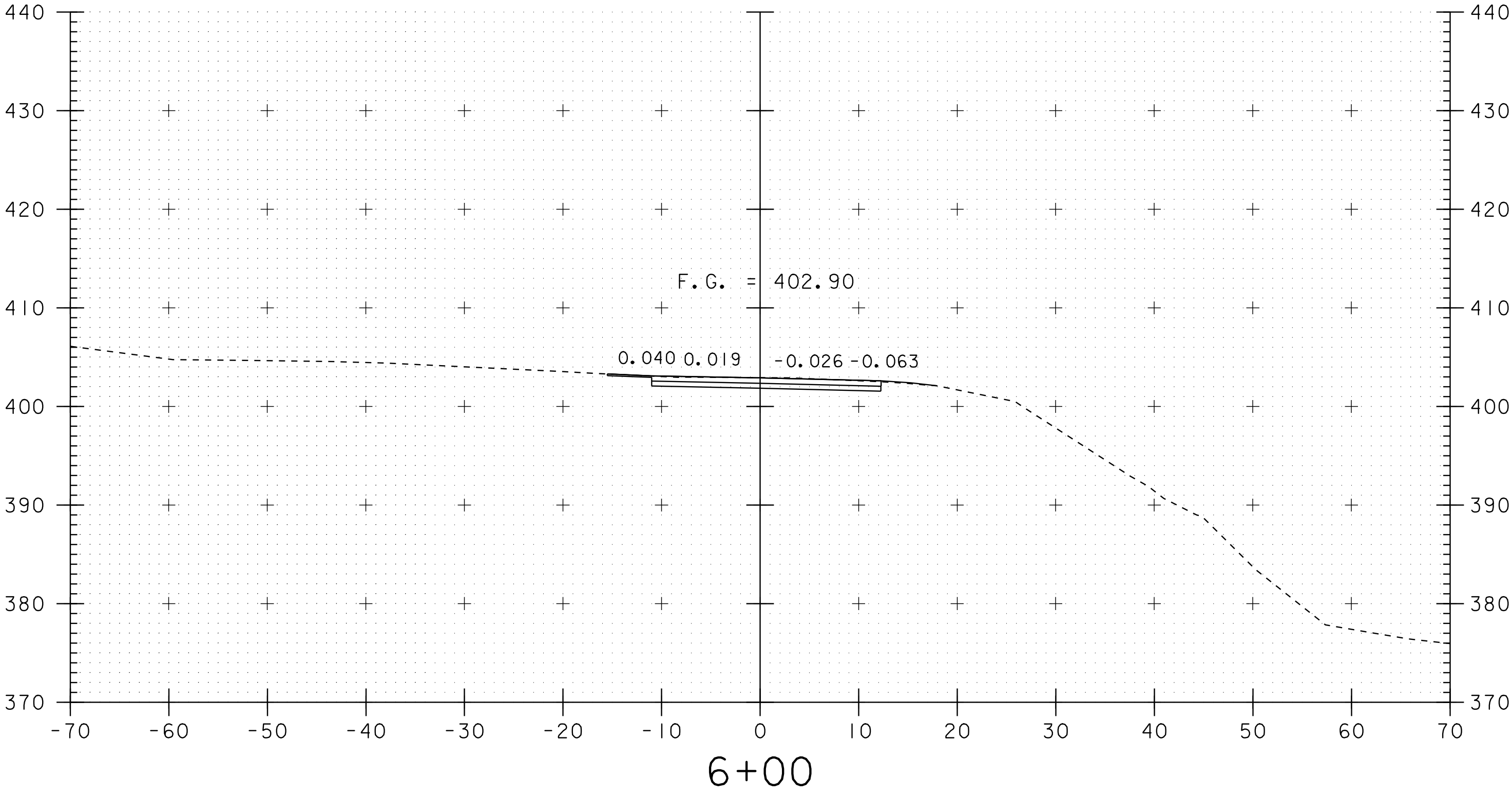
SCALE 1" = 10'-0"
10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
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IPARM FILE NAME: sj00lm6.l	
TH 4 CROSS SECTIONS	
SECTION 34+00 THROUGH 34+67	SHEET: 70 OF 97



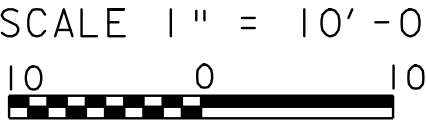
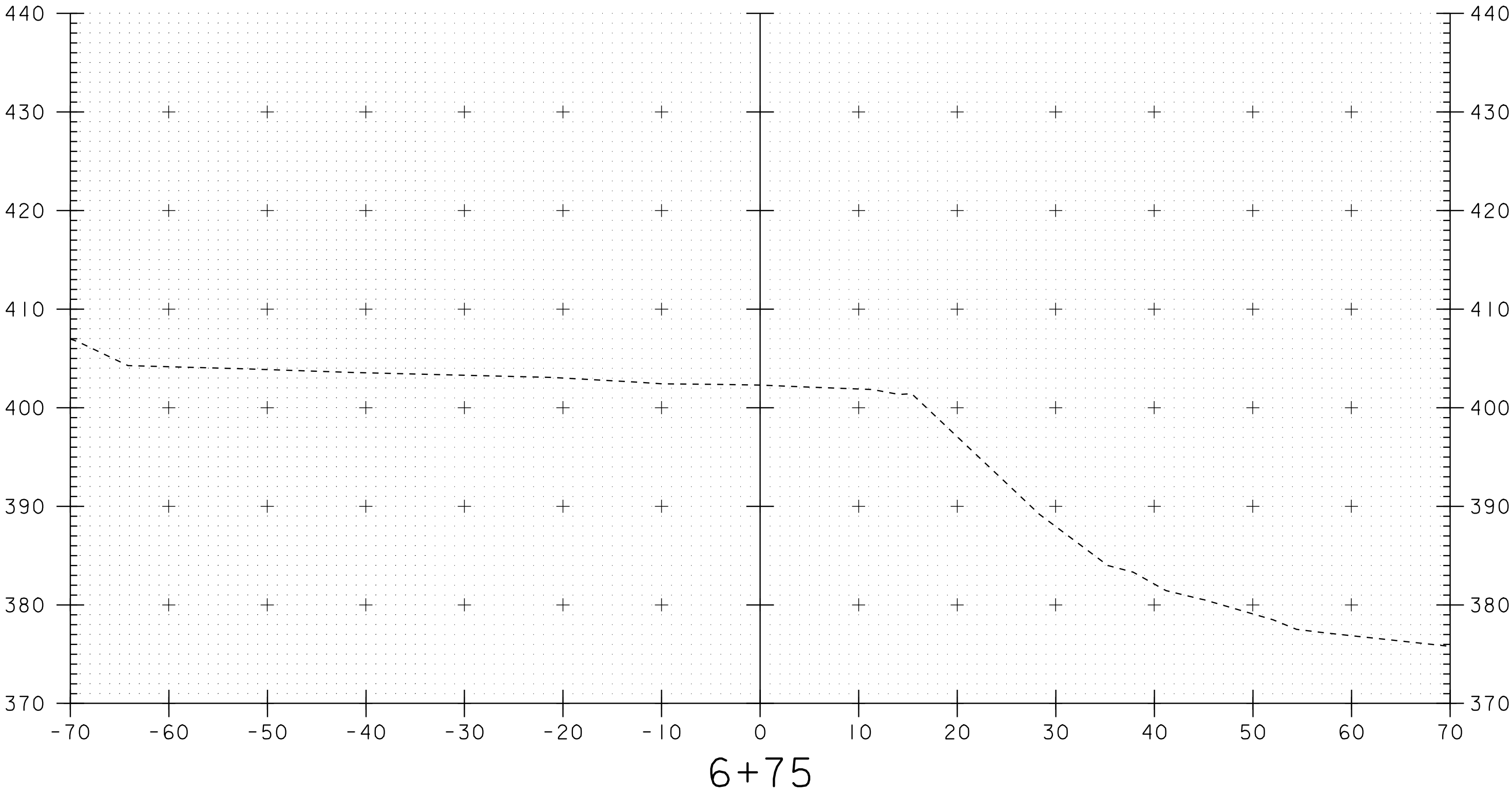
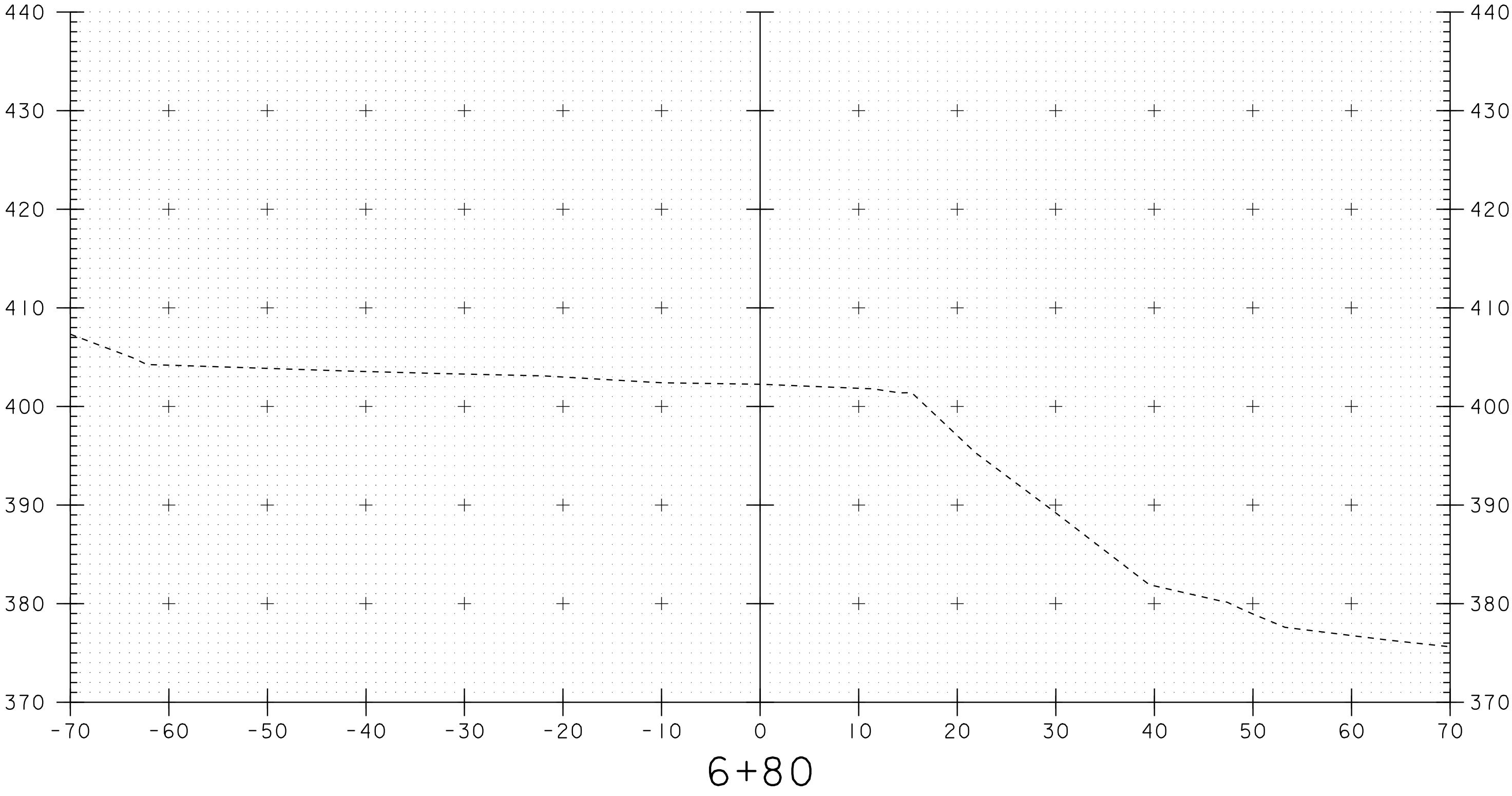
SCALE 1" = 10' - 0
10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
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IPARM FILE NAME: sj00lth5l.l	
TH 5 CROSS SECTIONS	
SECTION 5+00 THROUGH 5+75	SHEET: 71 OF 97

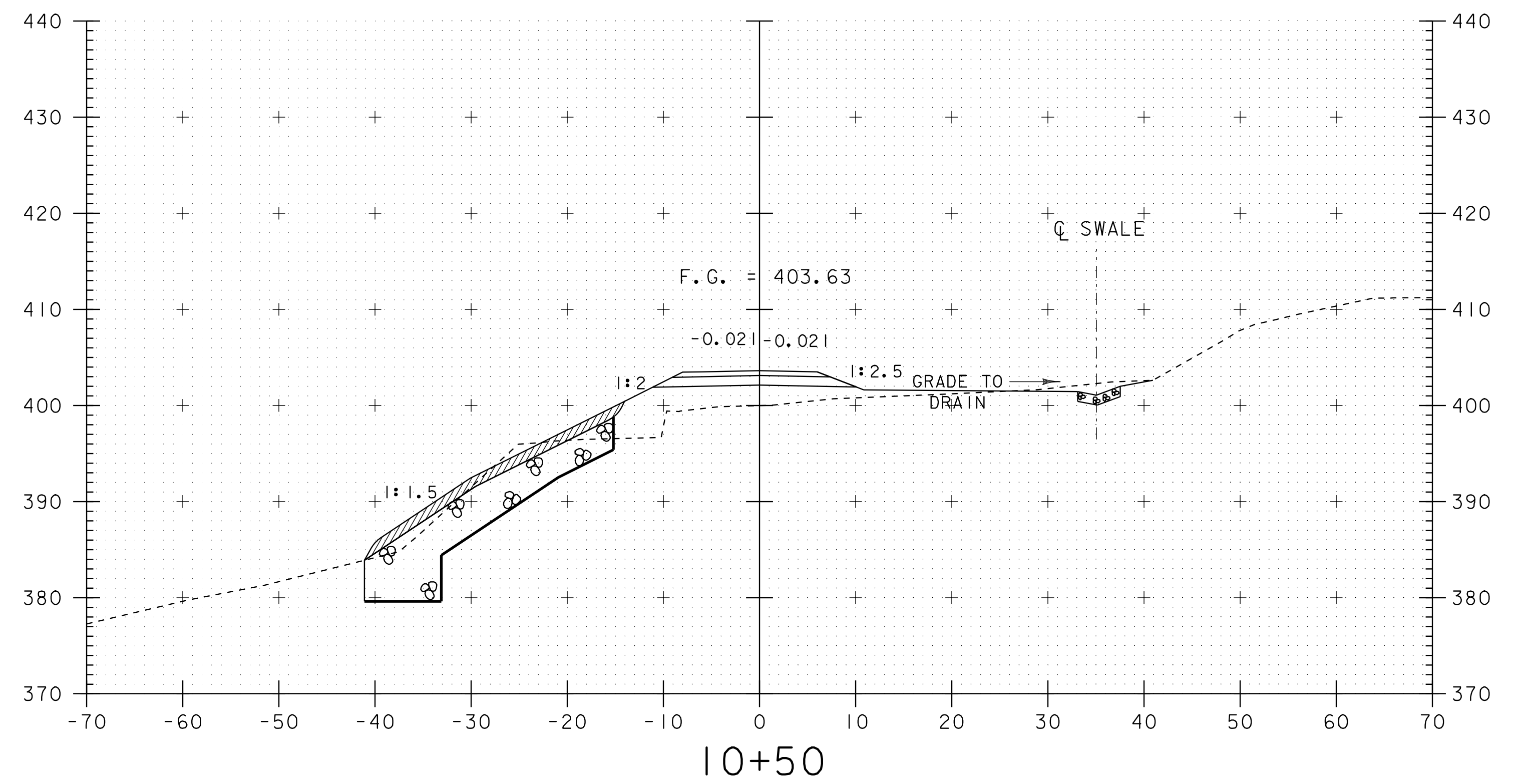
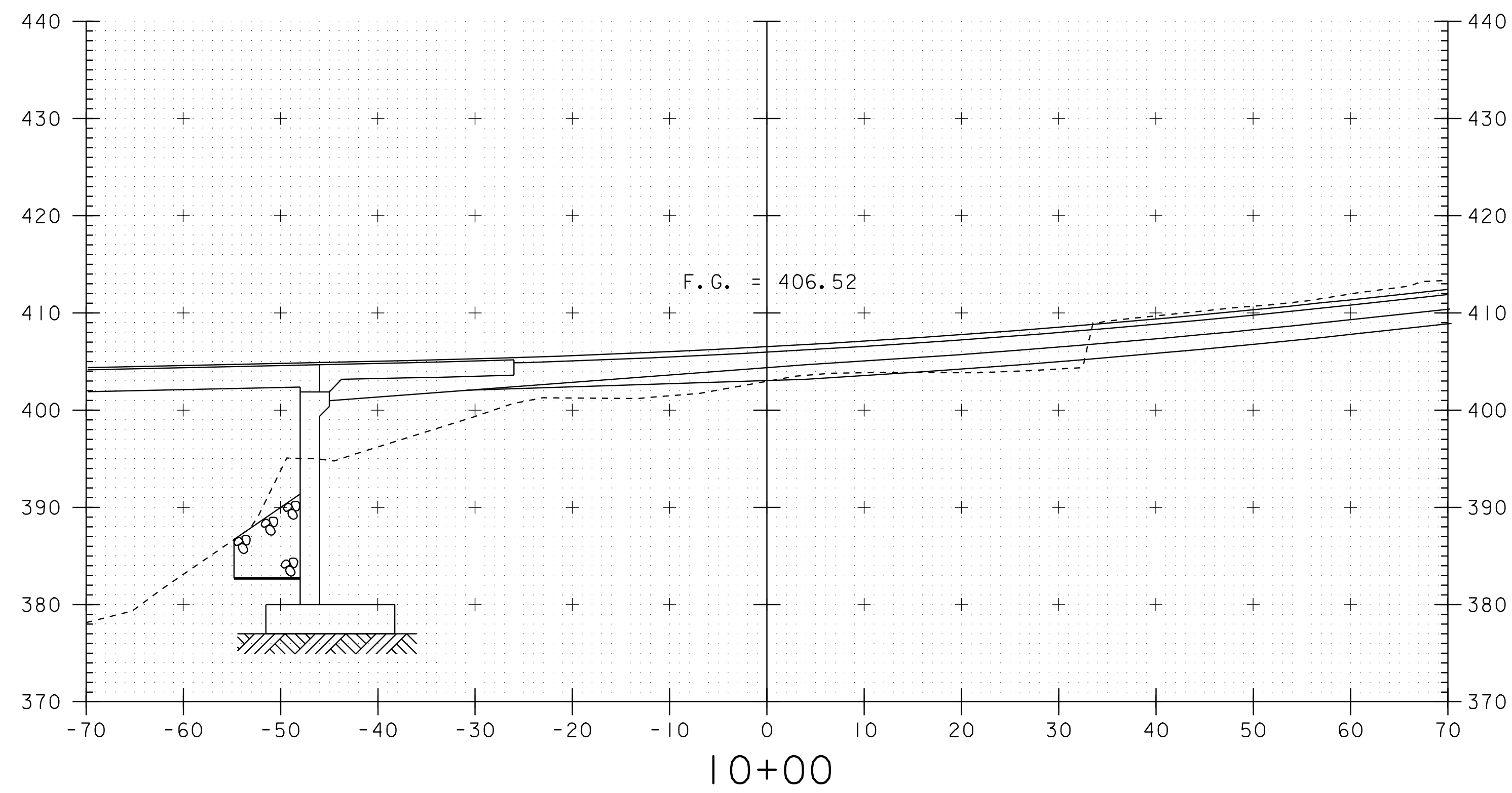
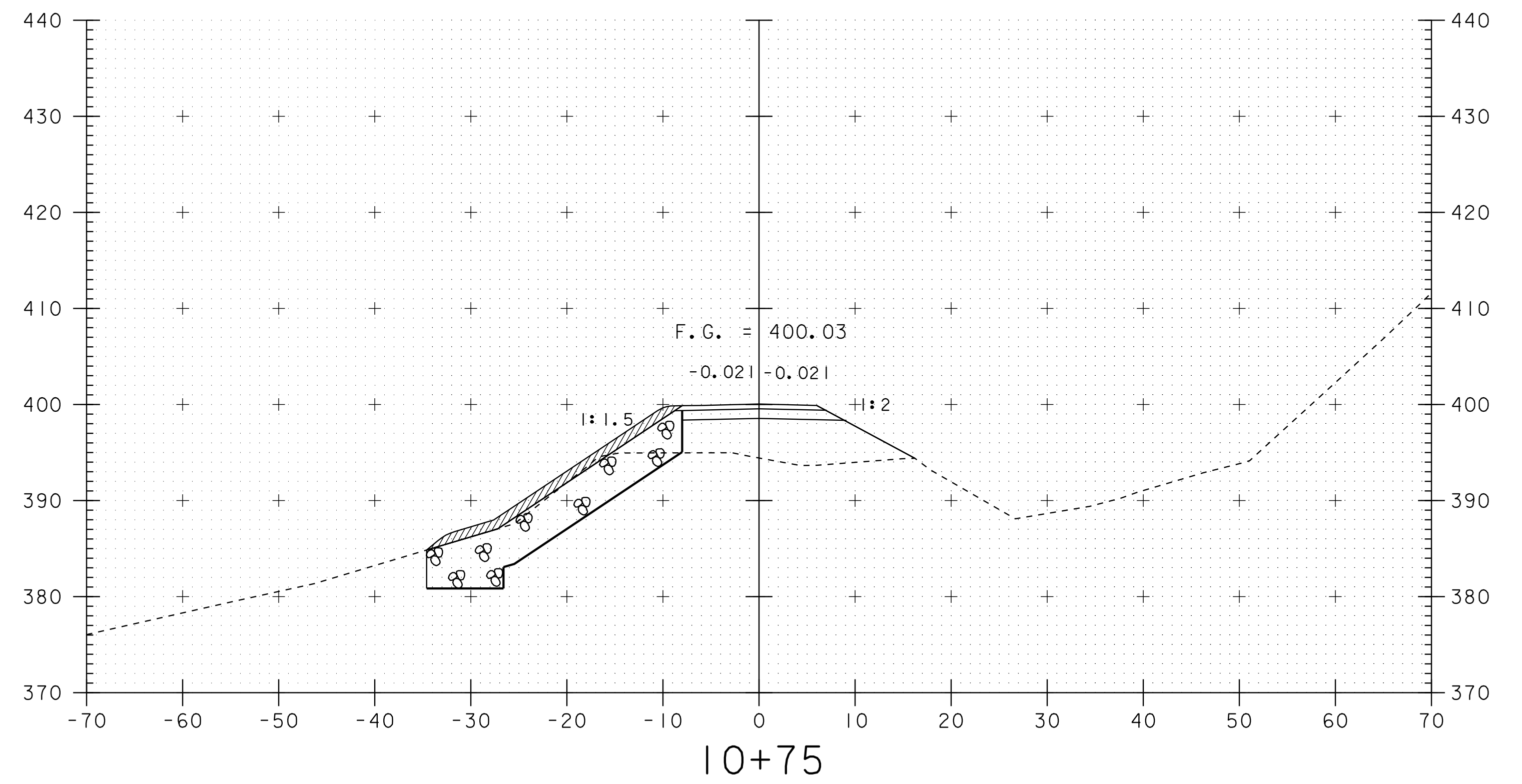
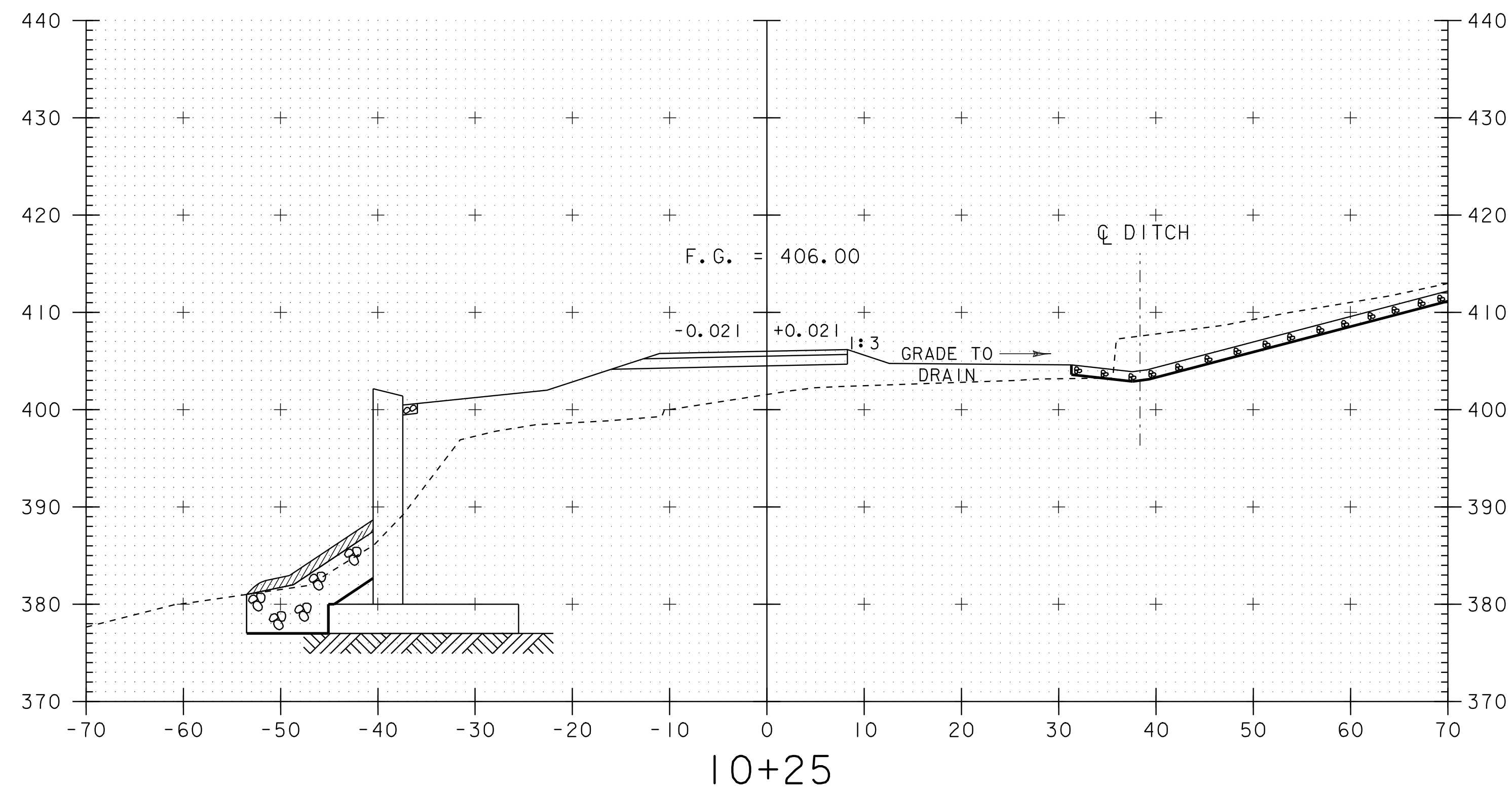


SCALE 1" = 10' -0

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lth52.l	
TH 5 CROSS SECTIONS	
SECTION 5+90 THROUGH 6+50	SHEET: 72 OF 97



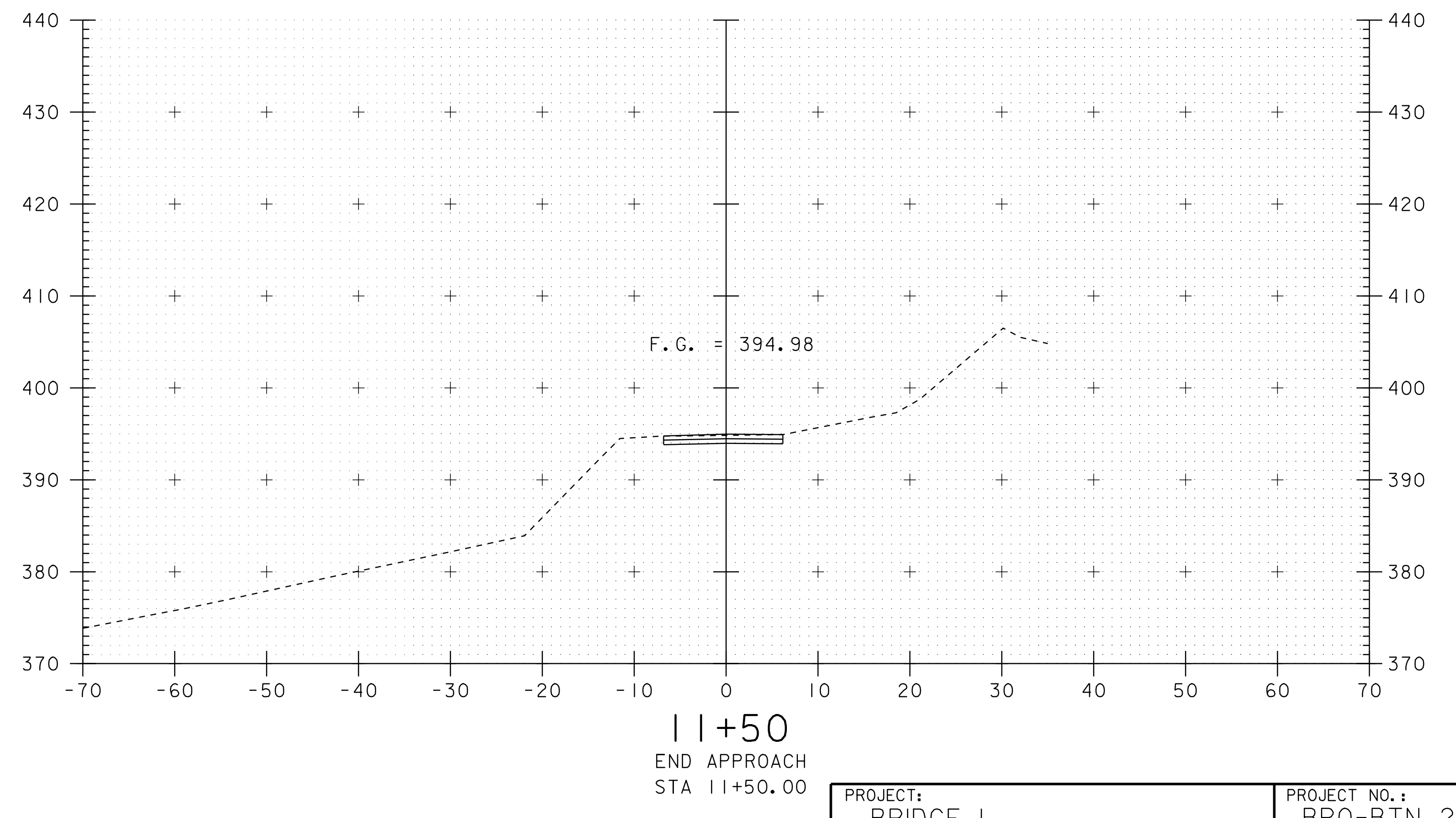
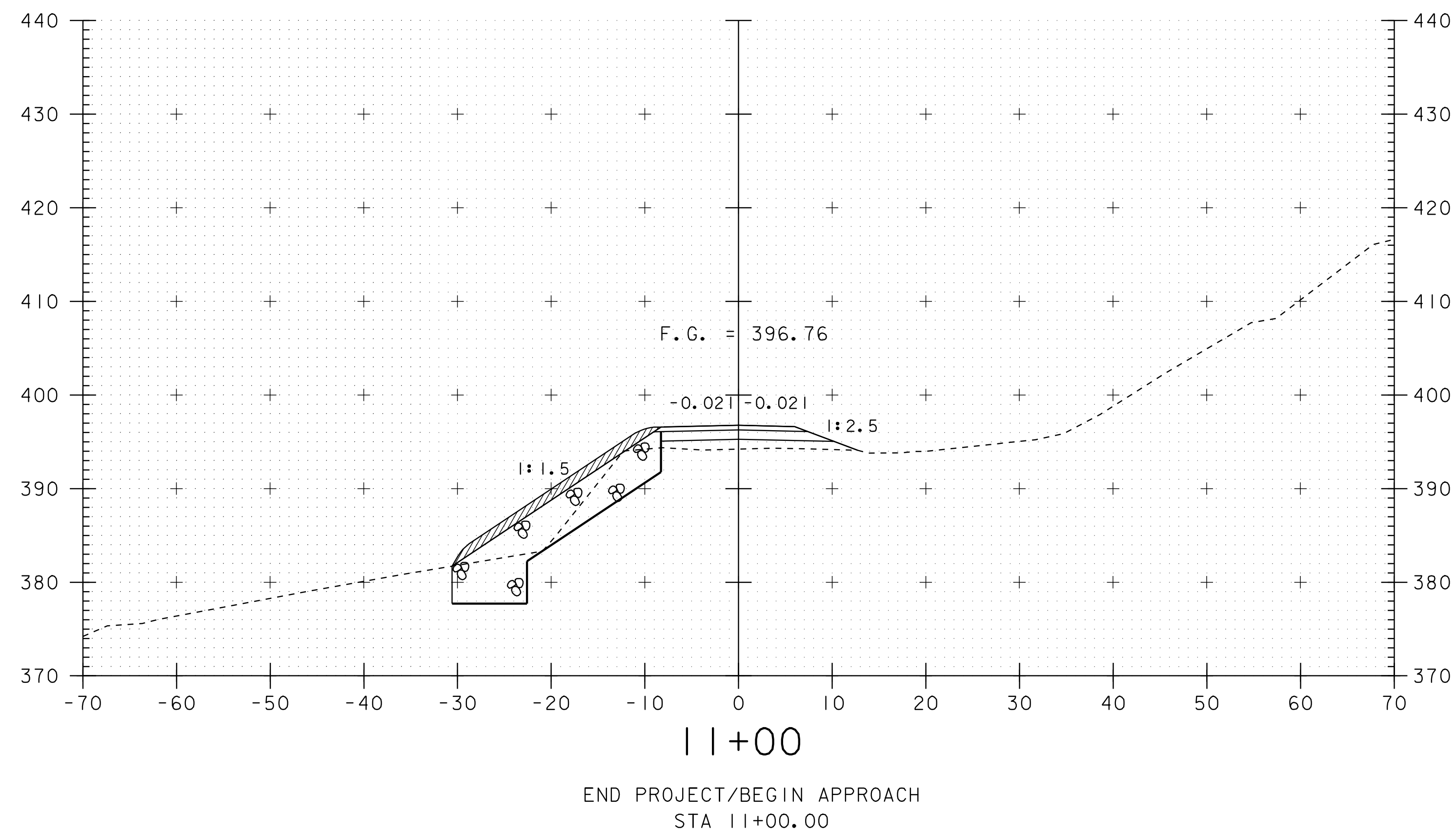
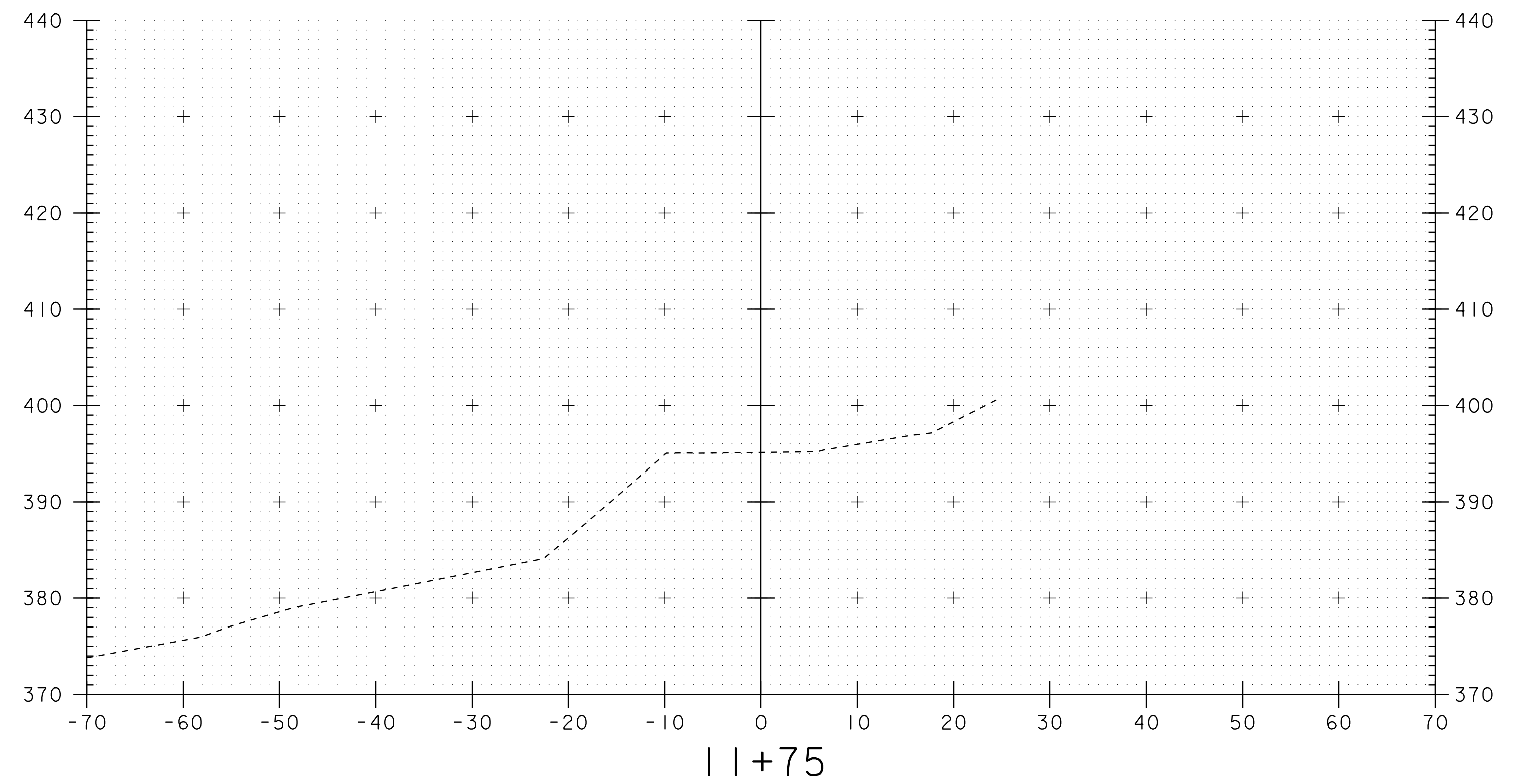
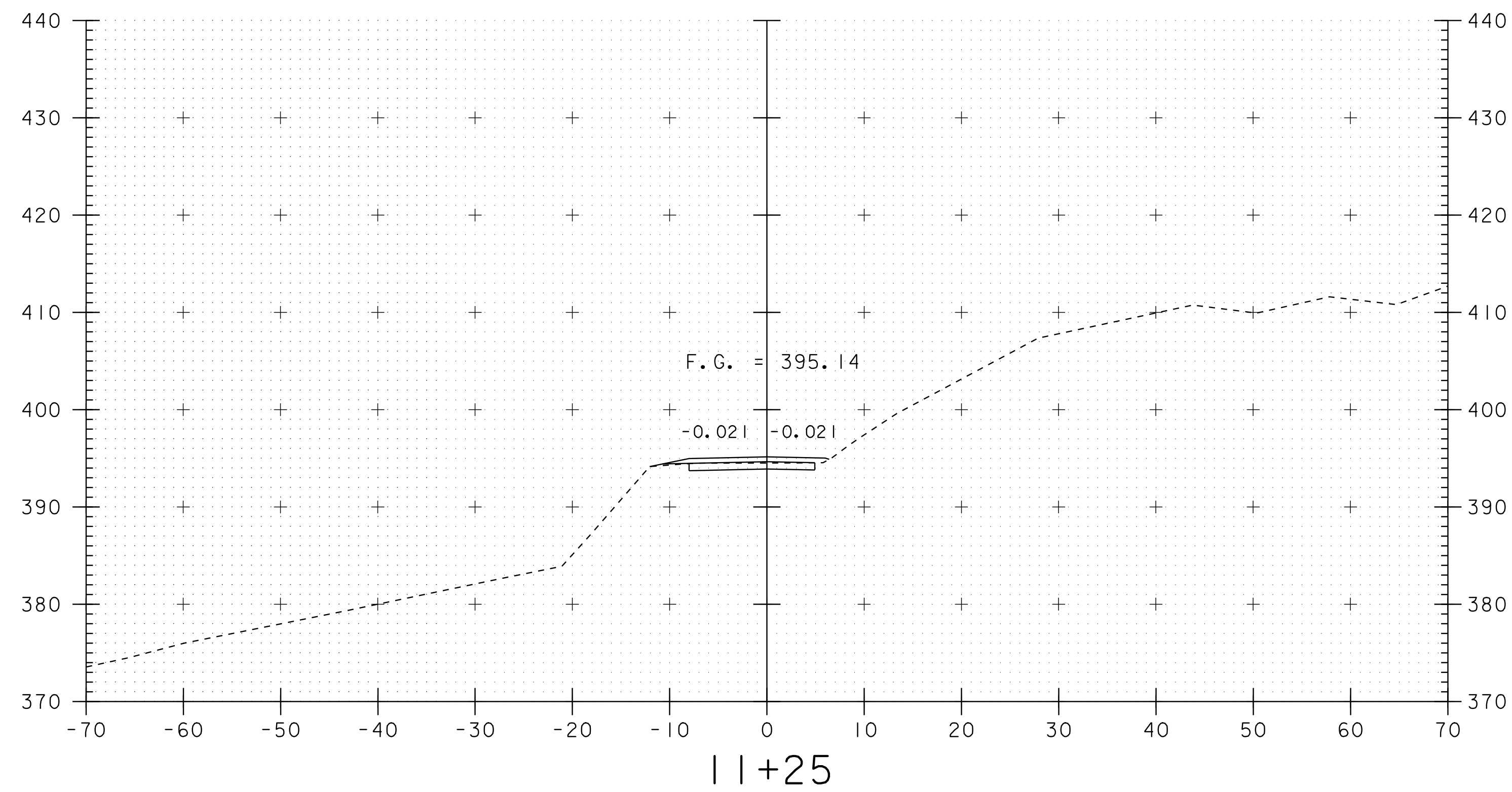
PROJECT: BRIDGE 1	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lth53.l	
TH 5 CROSS SECTIONS	
SECTION 6+75 THROUGH 6+80	SHEET: 73 OF 97



SCALE 1" = 10'-0"

10 0 10

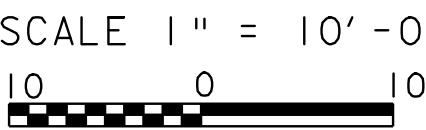
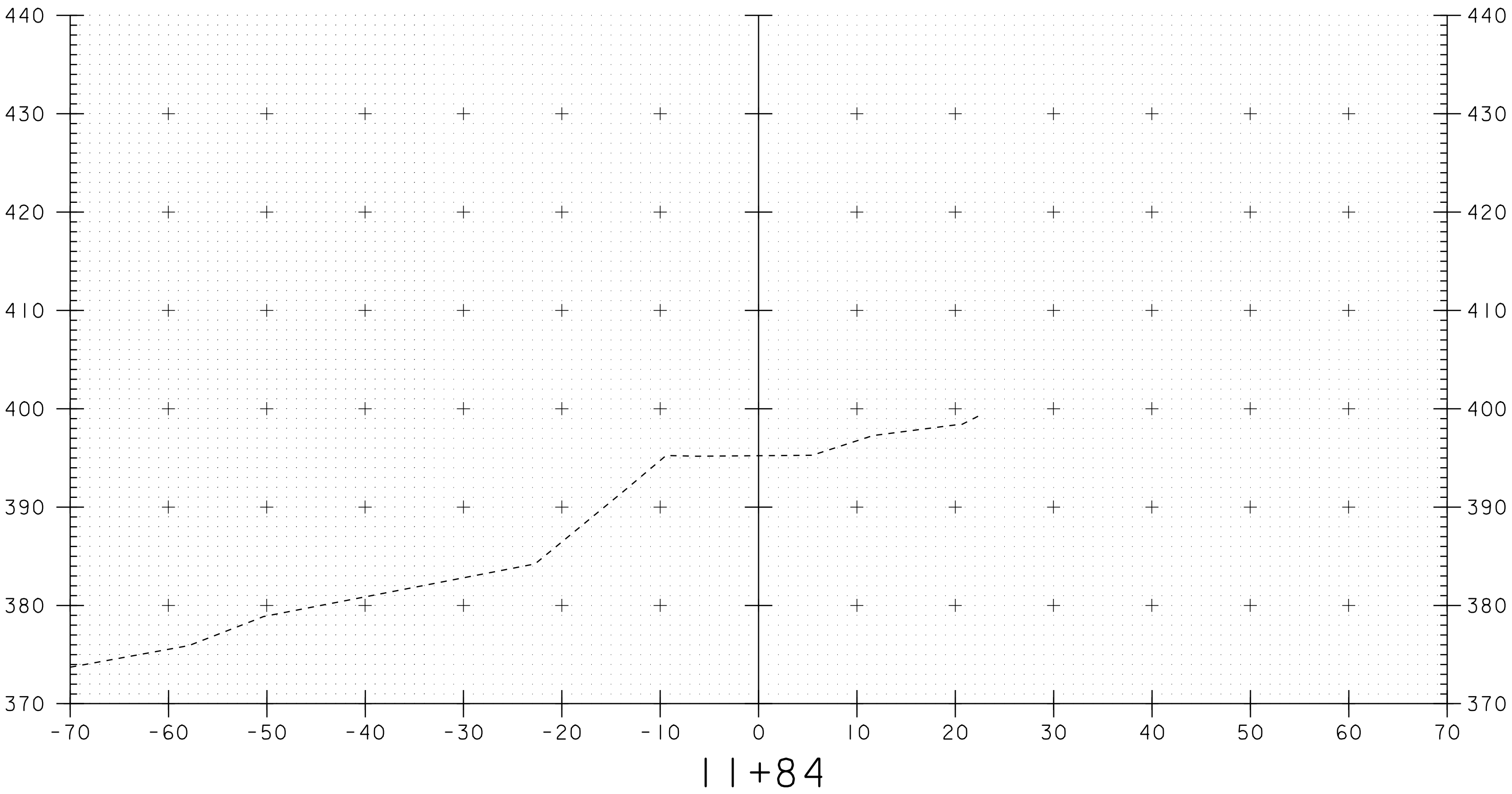
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DESIGN FILE NAME:	89J045/structures/sj045xsl.dgn	PLOT DATE:	07-SEP-2005
IPARM FILE NAME:	sj00ldr1.l		
DRIVE CROSS SECTIONS			
SECTION 10+00 THROUGH 10+75		SHEET:	74 OF 97



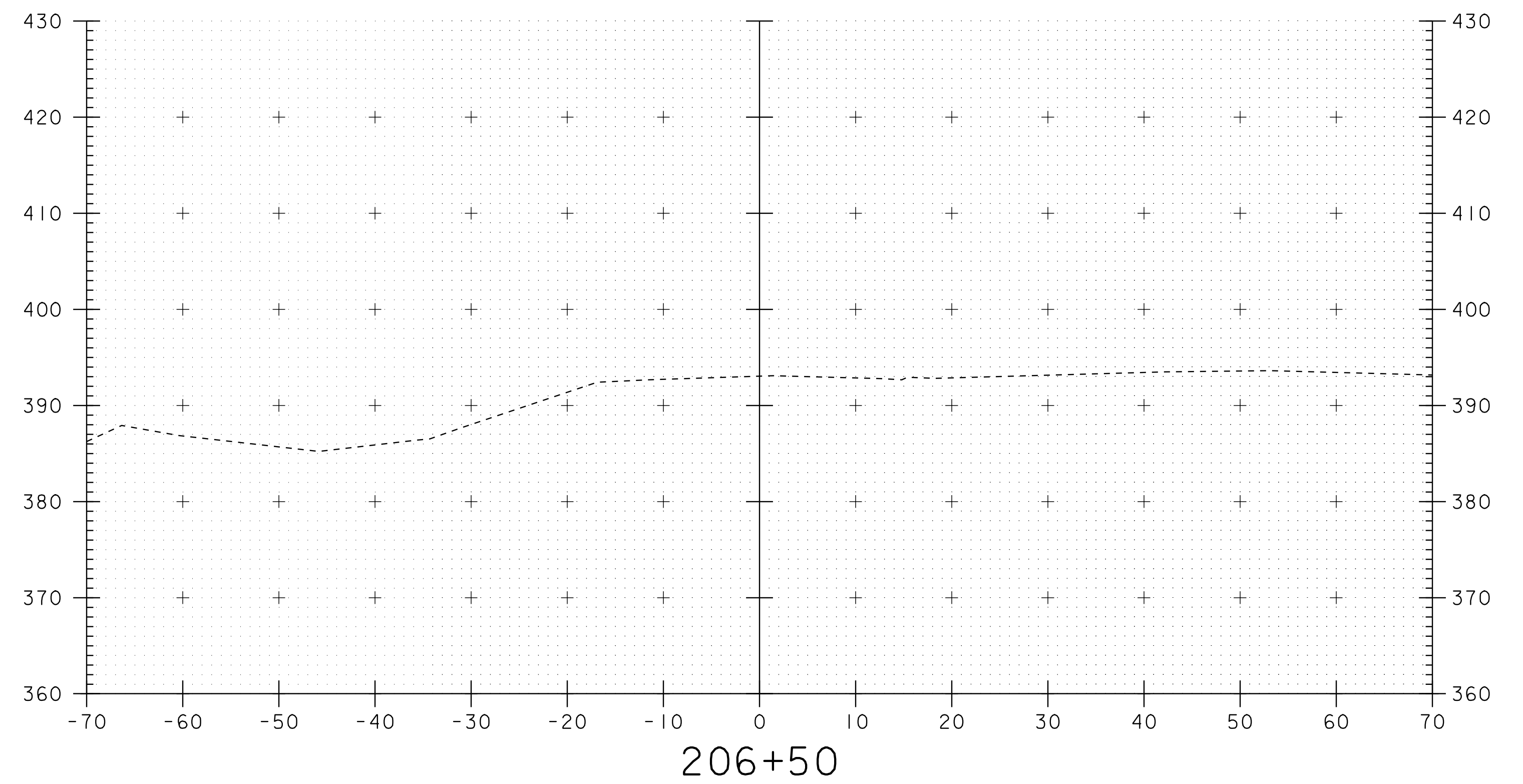
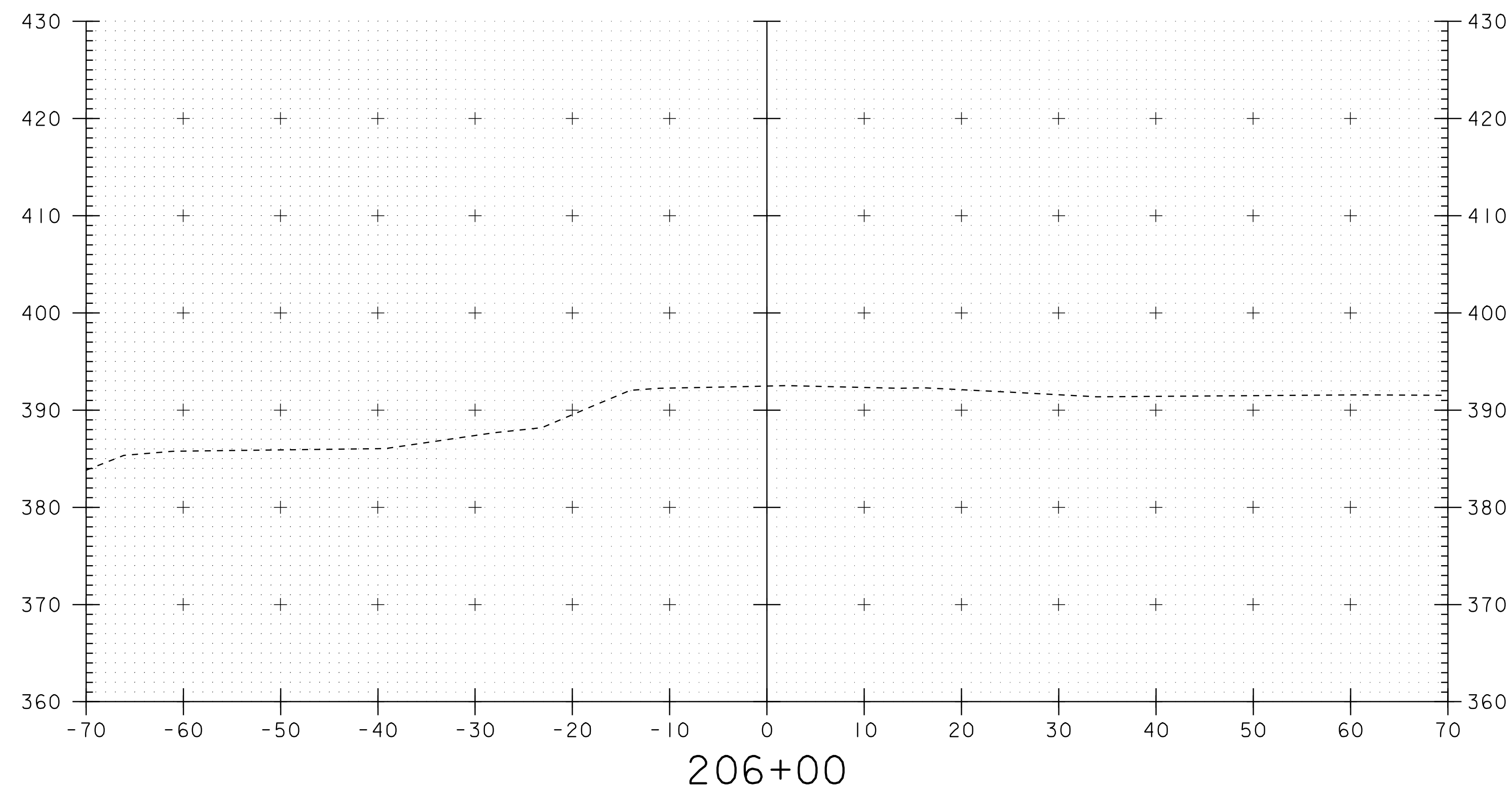
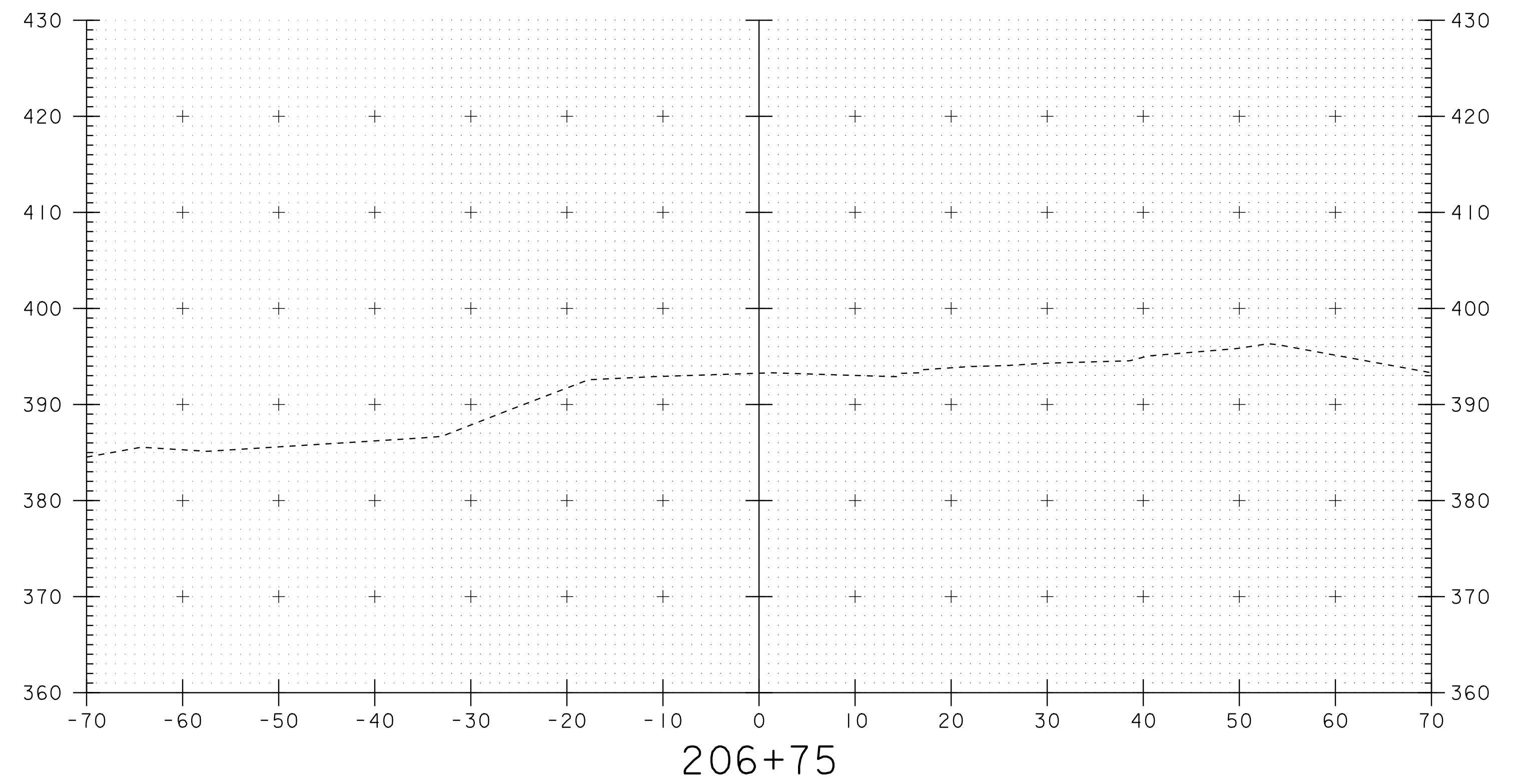
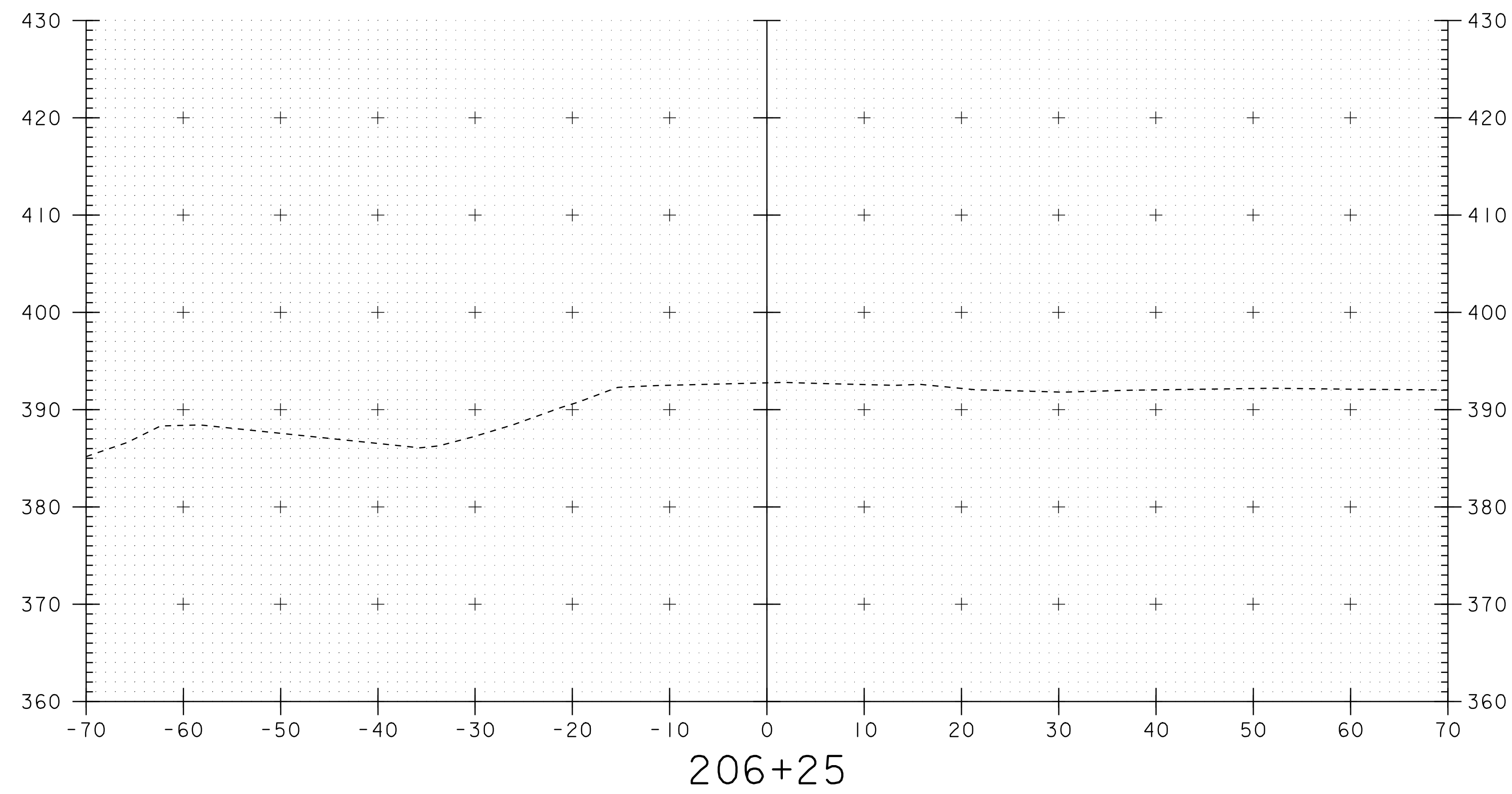
SCALE 1" = 10' -0

10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
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IPARM FILE NAME: sj00ldr2.i	
DRIVE CROSS SECTIONS	
SECTION 11+00 THROUGH 11+75	SHEET: 75 OF 97

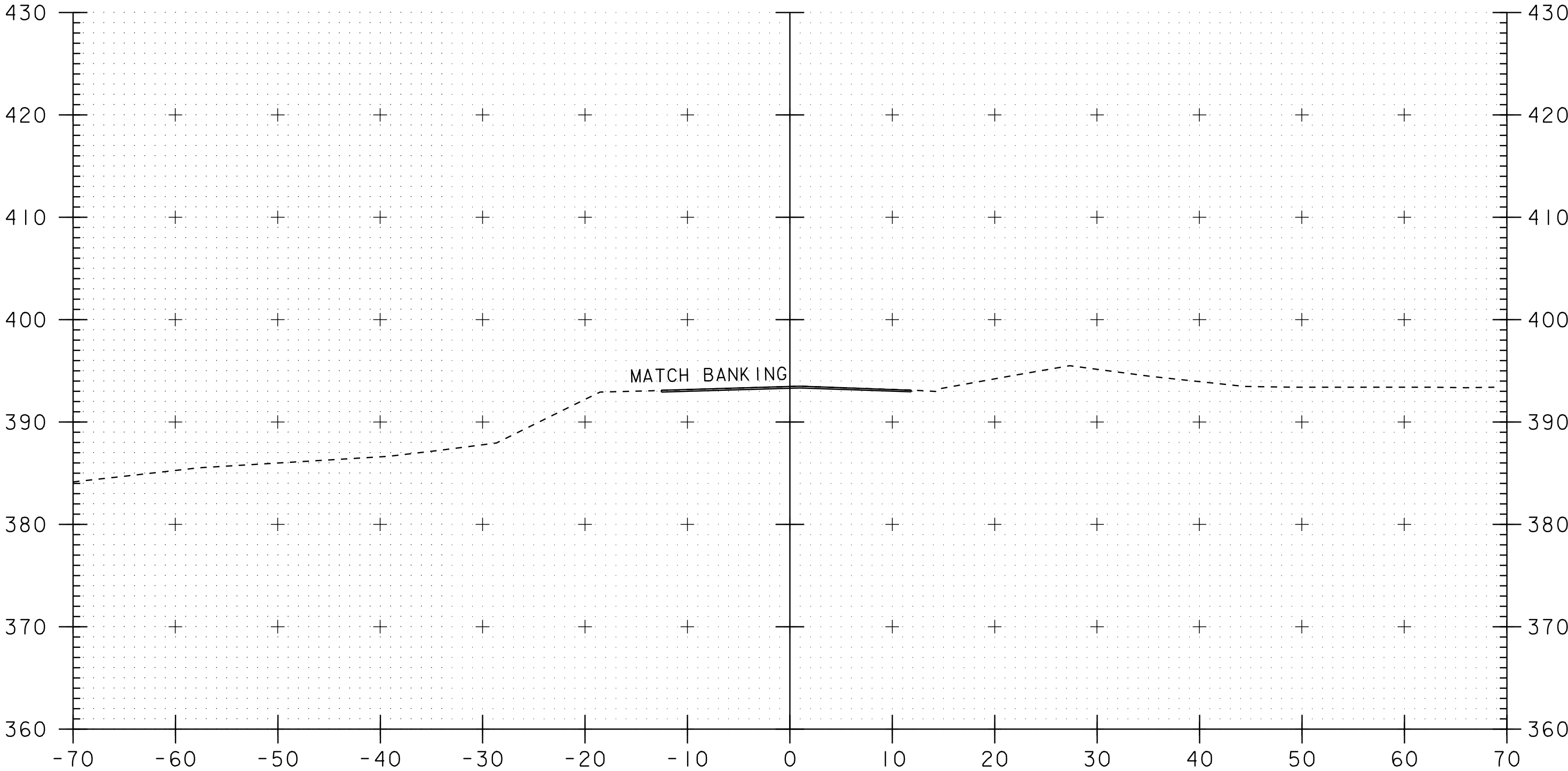


PROJECT: BRIDGE 1	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00ldr3.i	
DRIVE CROSS SECTIONS	
SECTION I2+00	SHEET: 76 OF 97



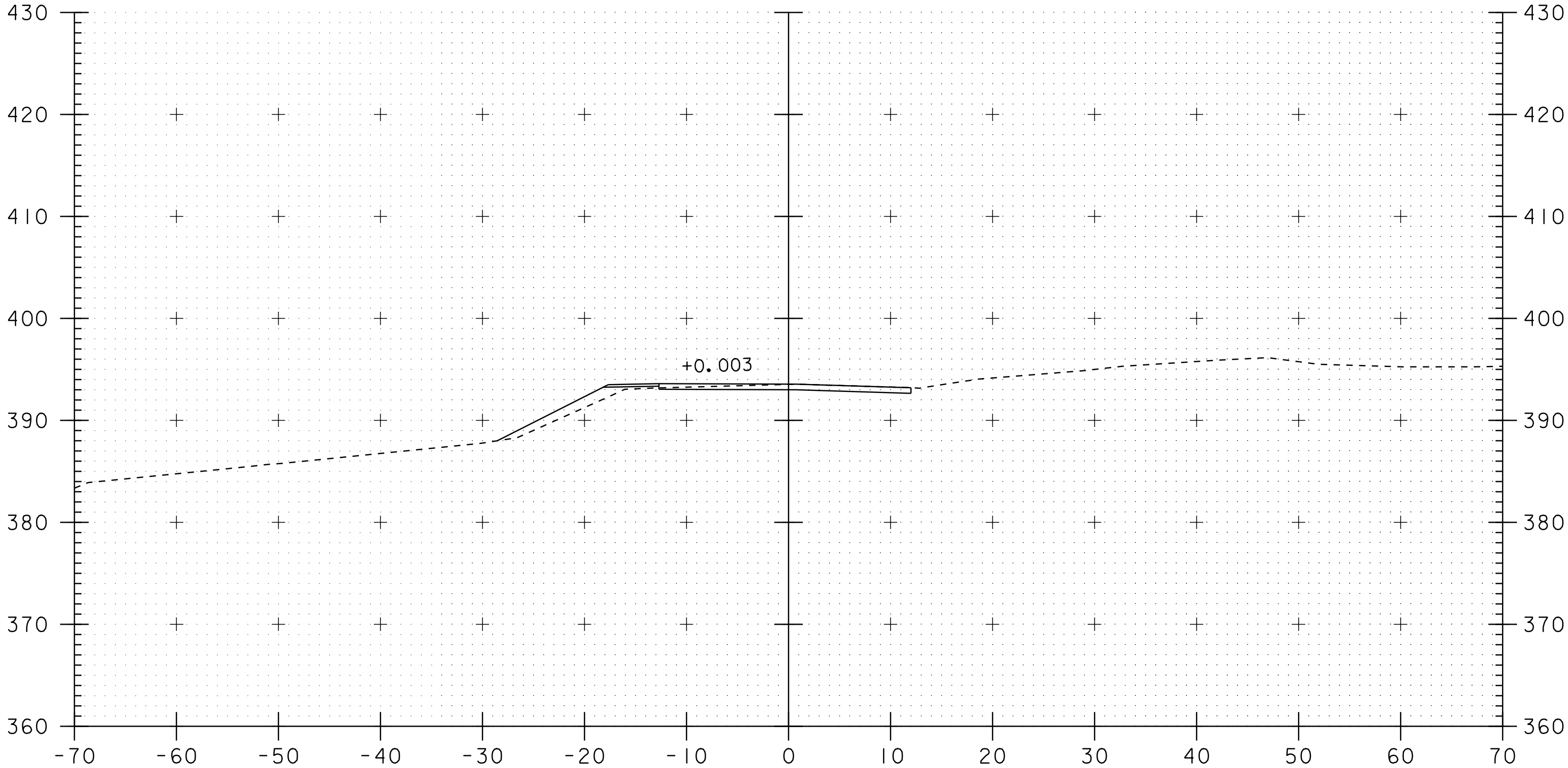
SCALE 1" = 10' - 0
10 0 10

PROJECT: BRIDGE 1	PROJECT NO.: BRO-BTN 2004(I)
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IPARM FILE NAME: sj00ivt.l	
VT RT 14 CROSS SECTIONS	
SECTION 206+00 THROUGH 206+75	SHEET: 77 OF 97

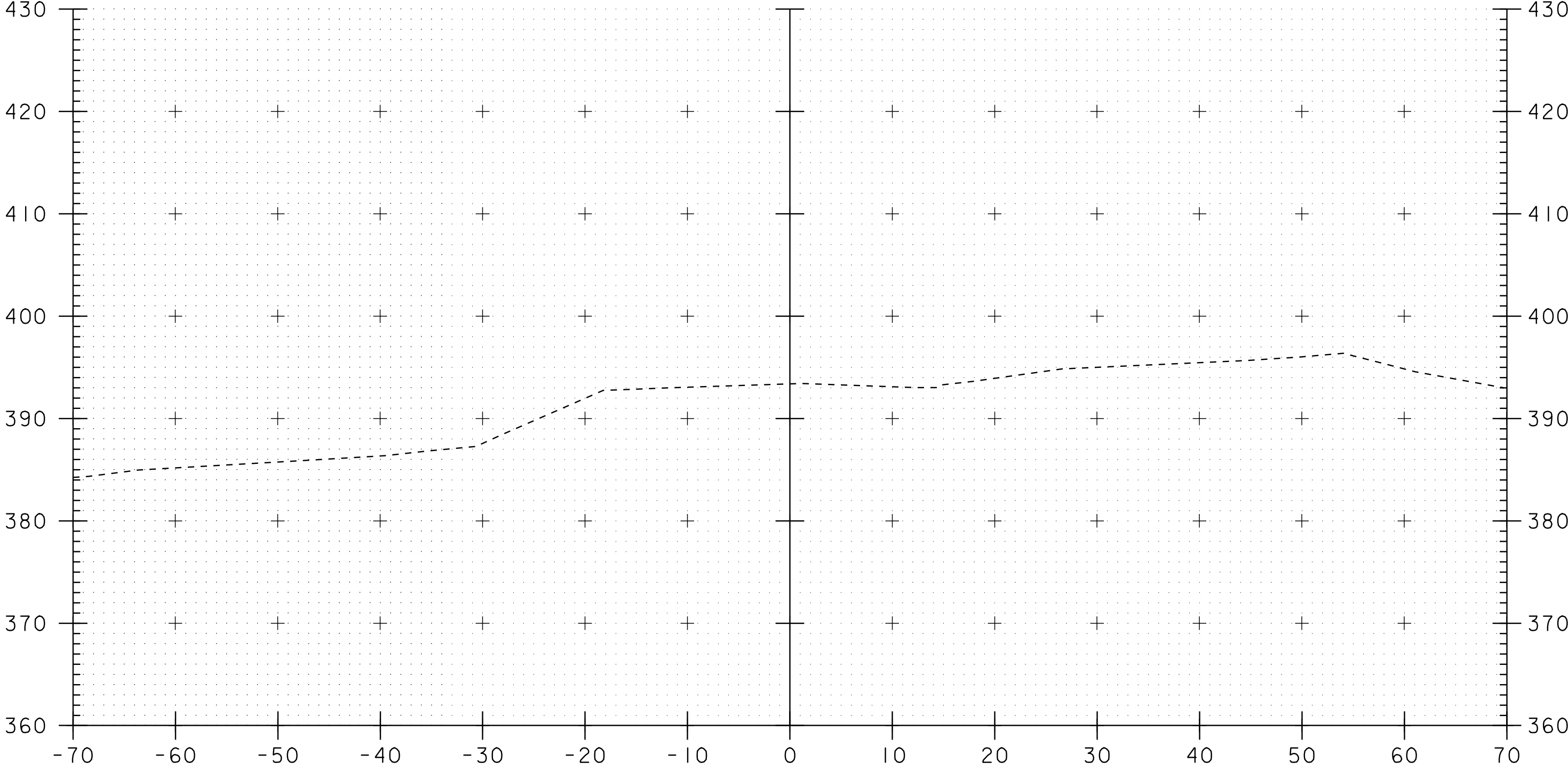


207+25

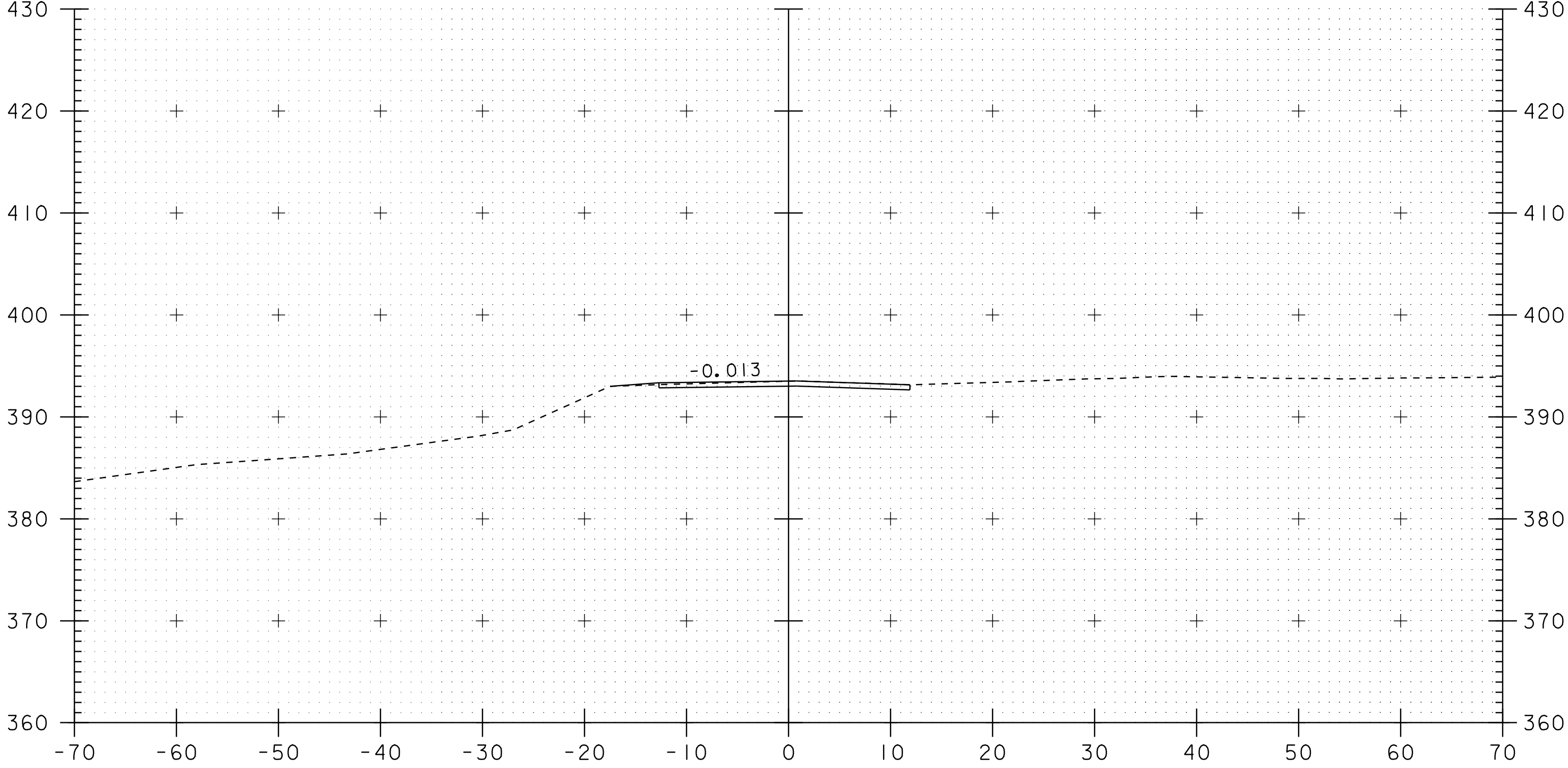
BEGIN APPROACH
BEGIN COLDPLANING
STA 207+25.00



207+75



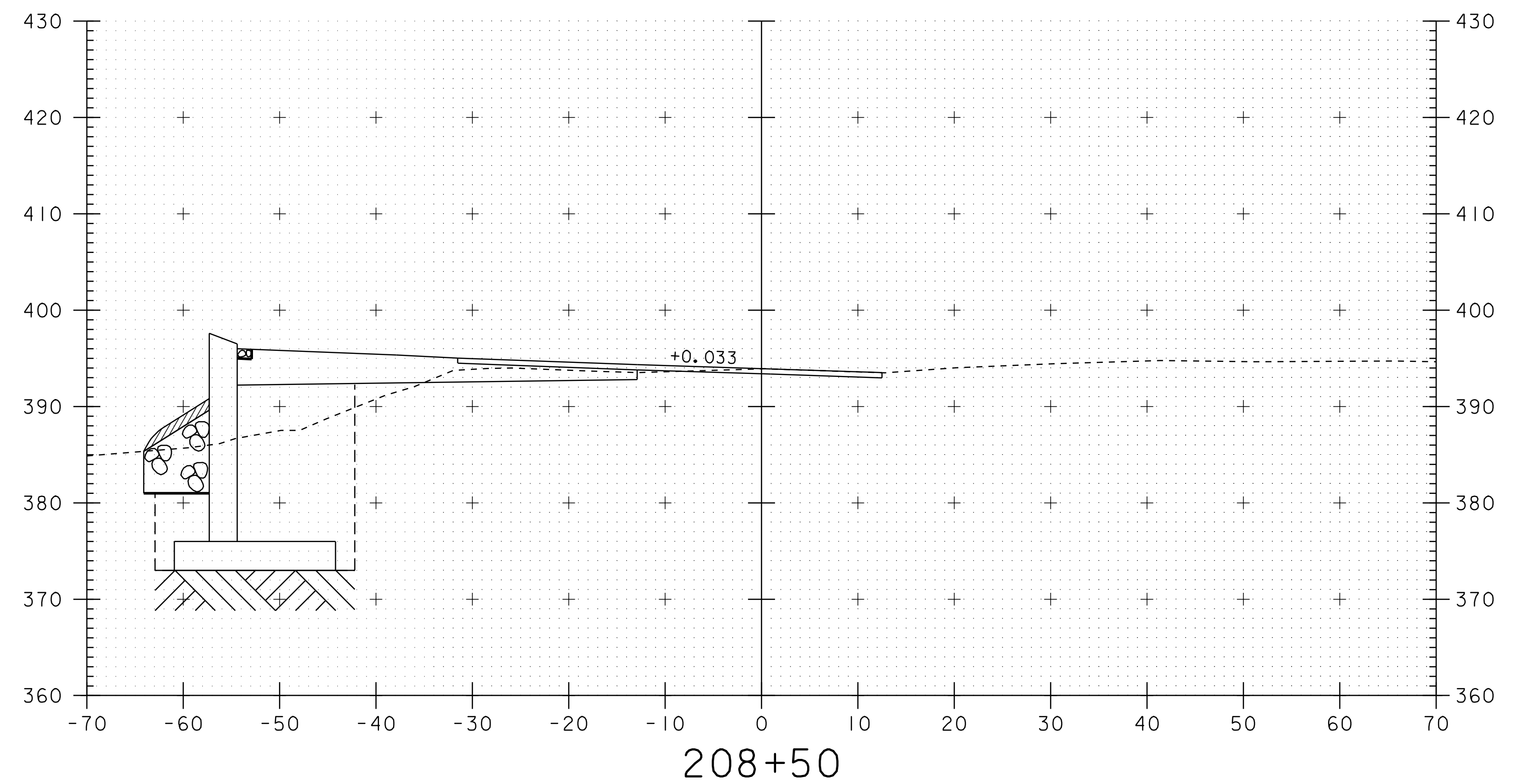
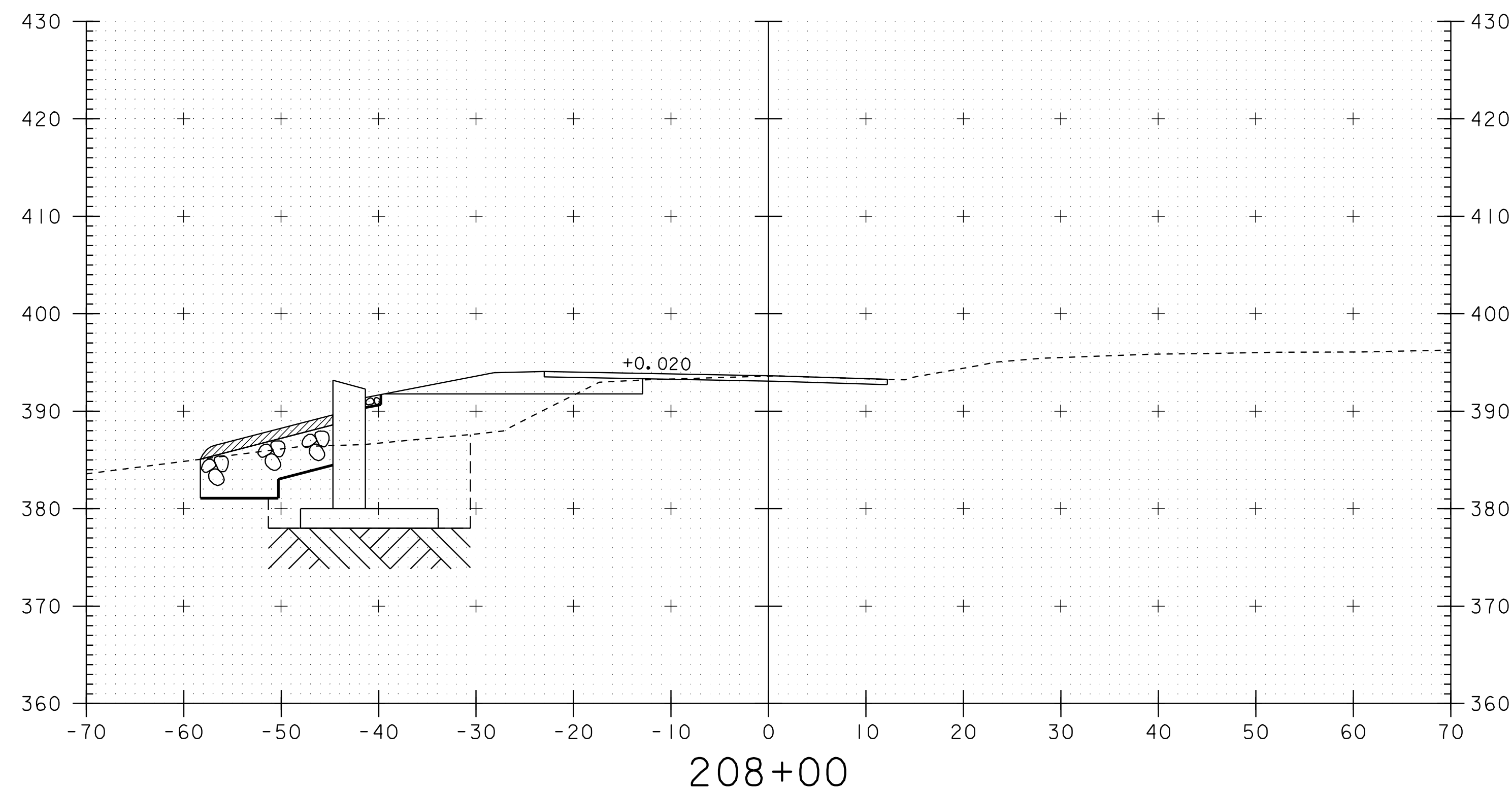
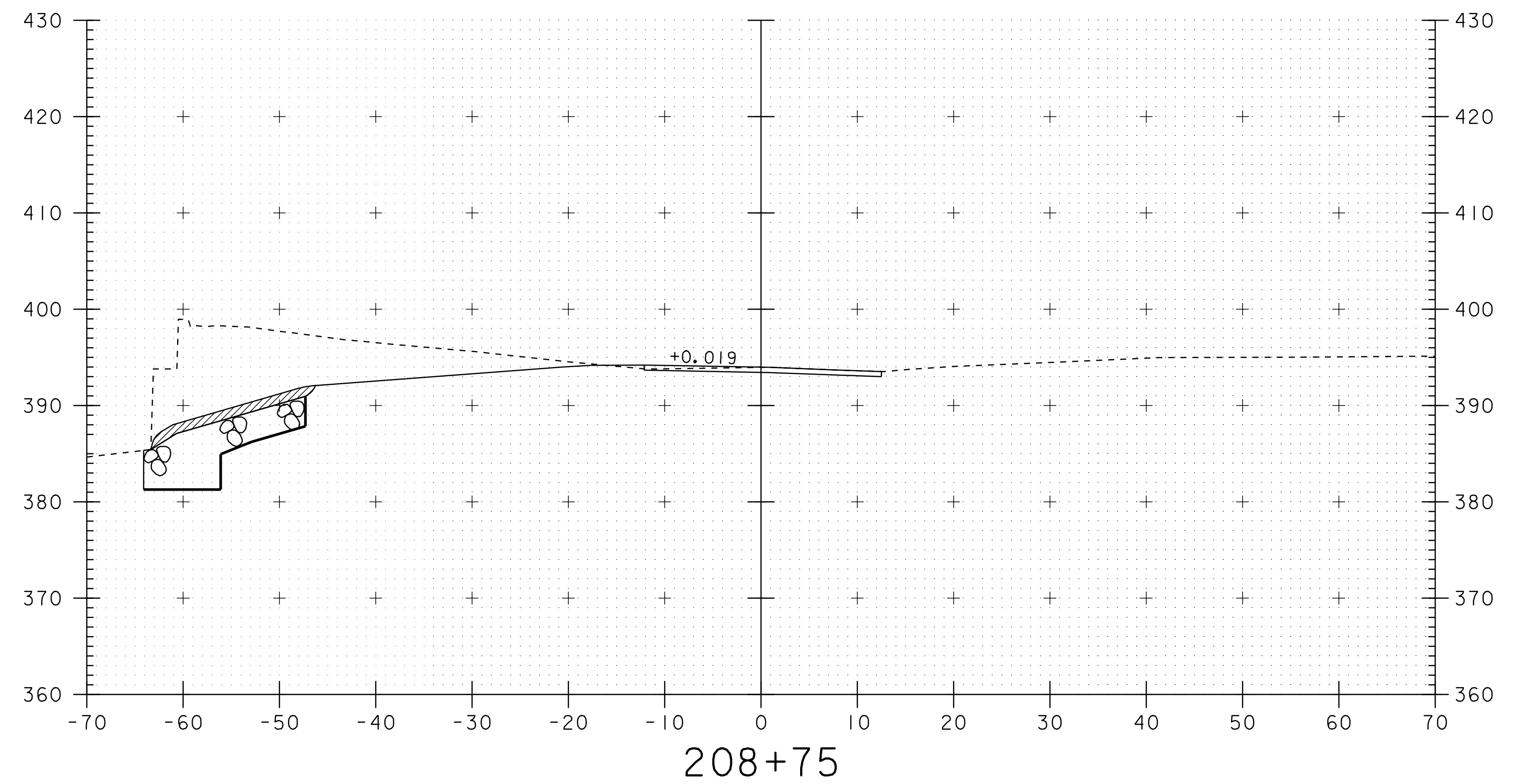
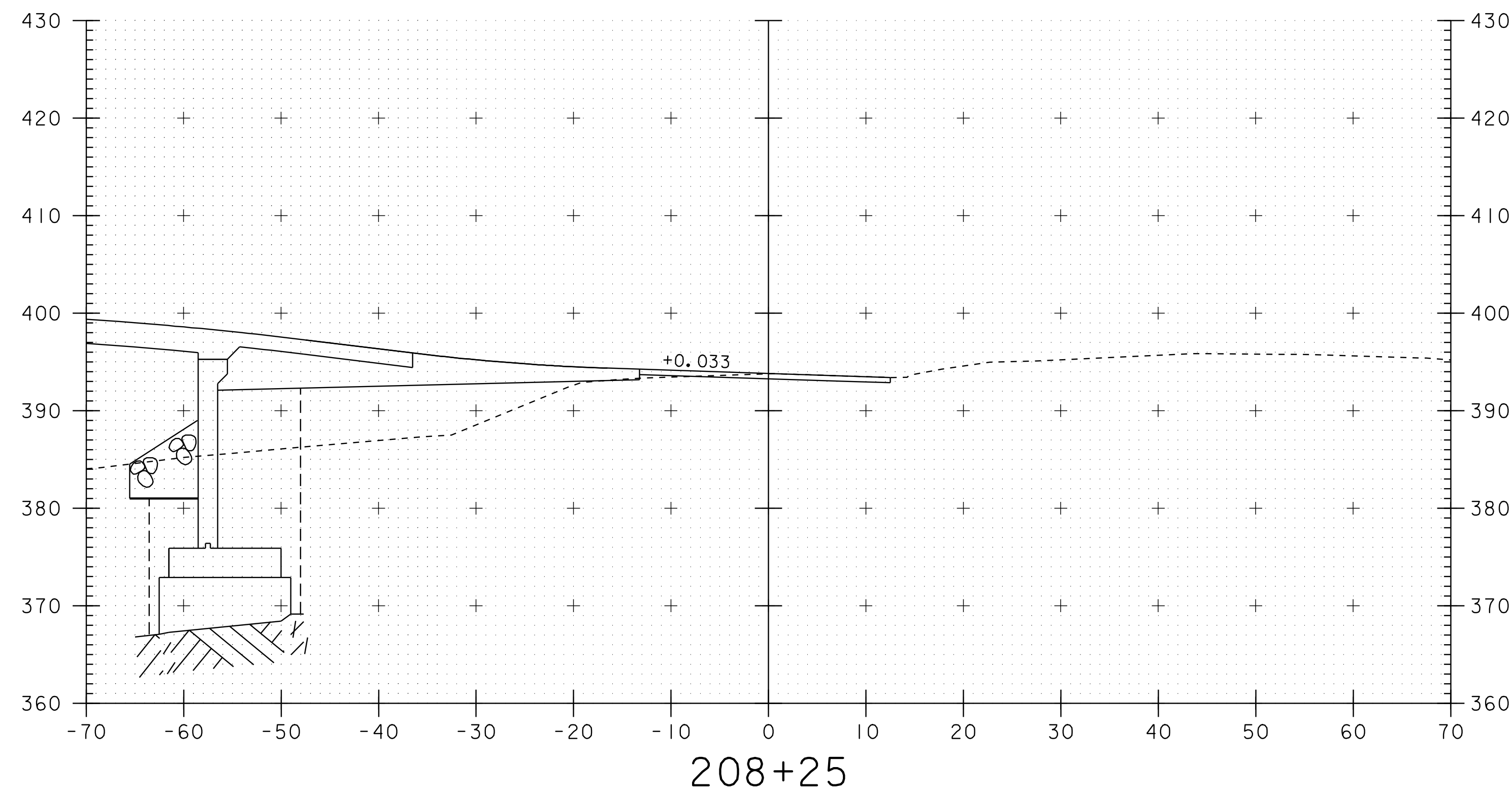
207+00



207+50

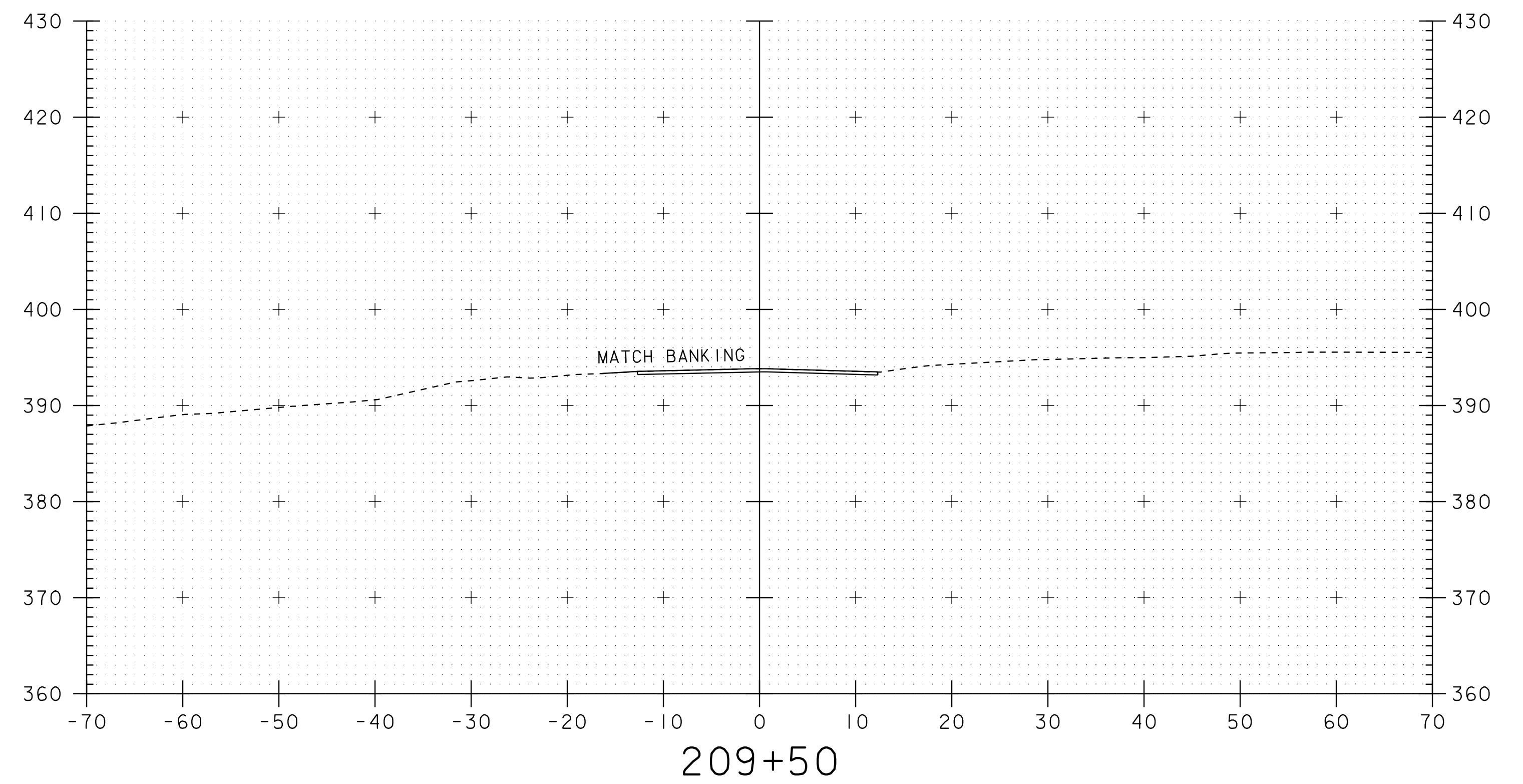
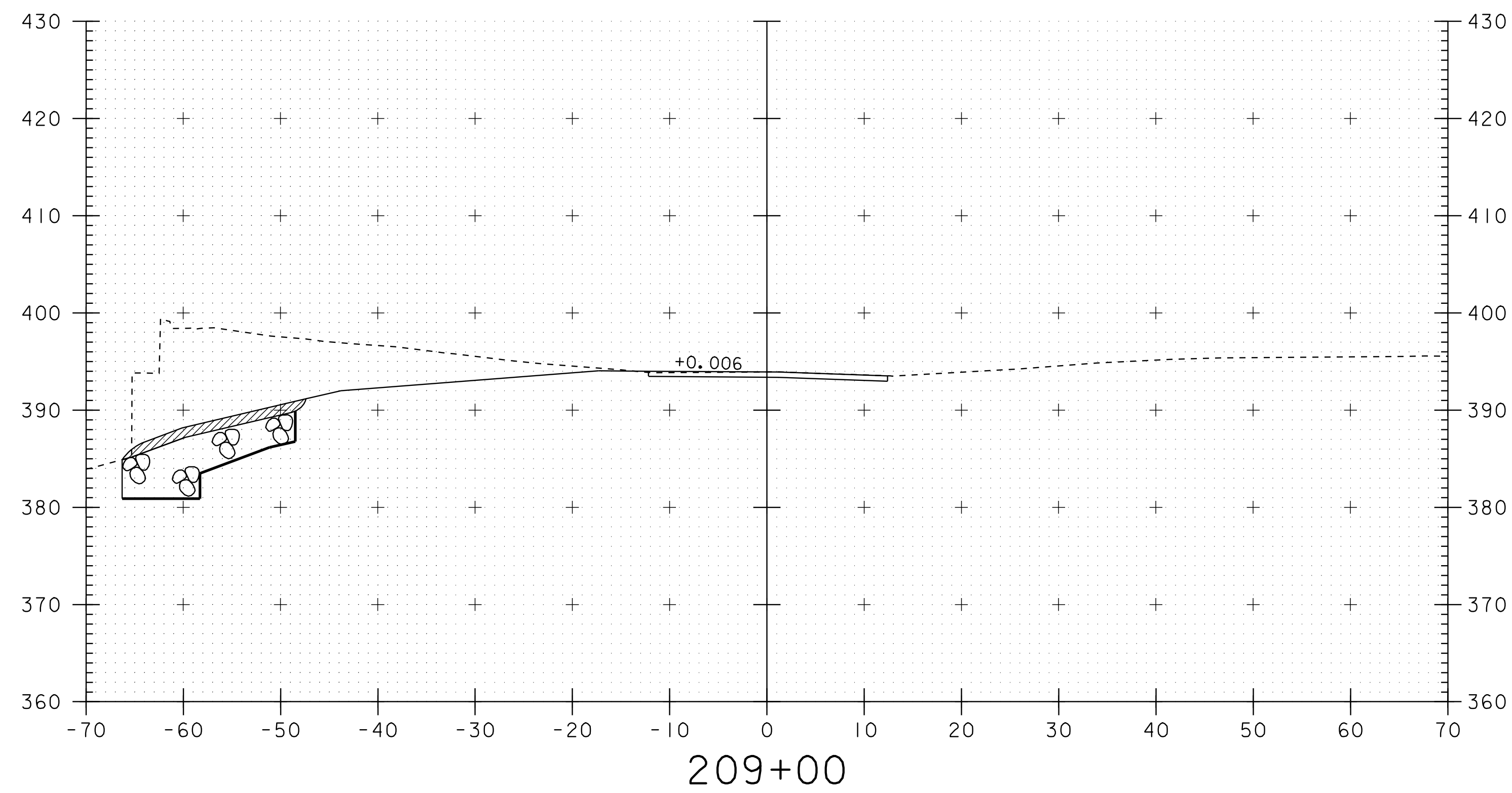
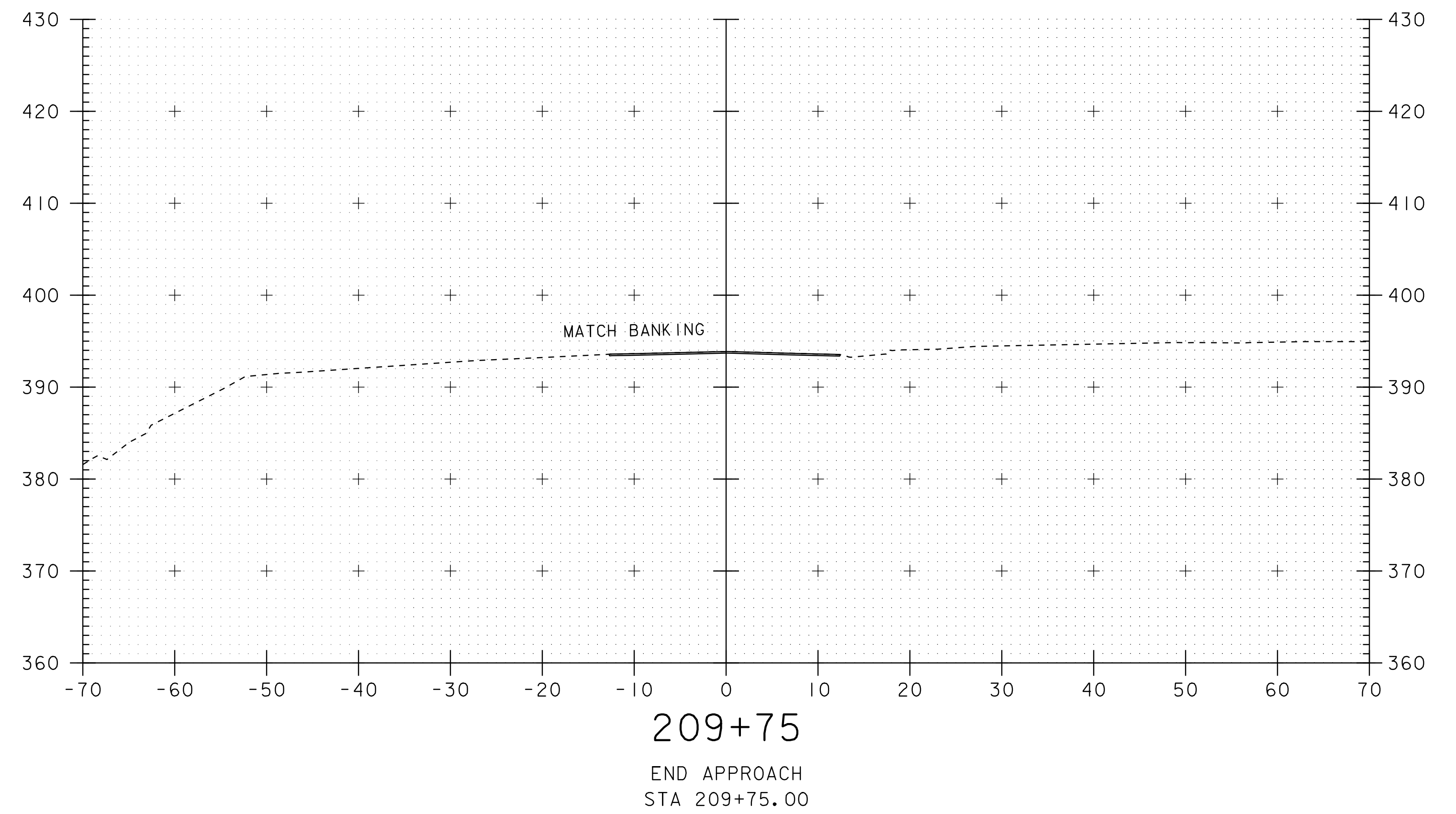
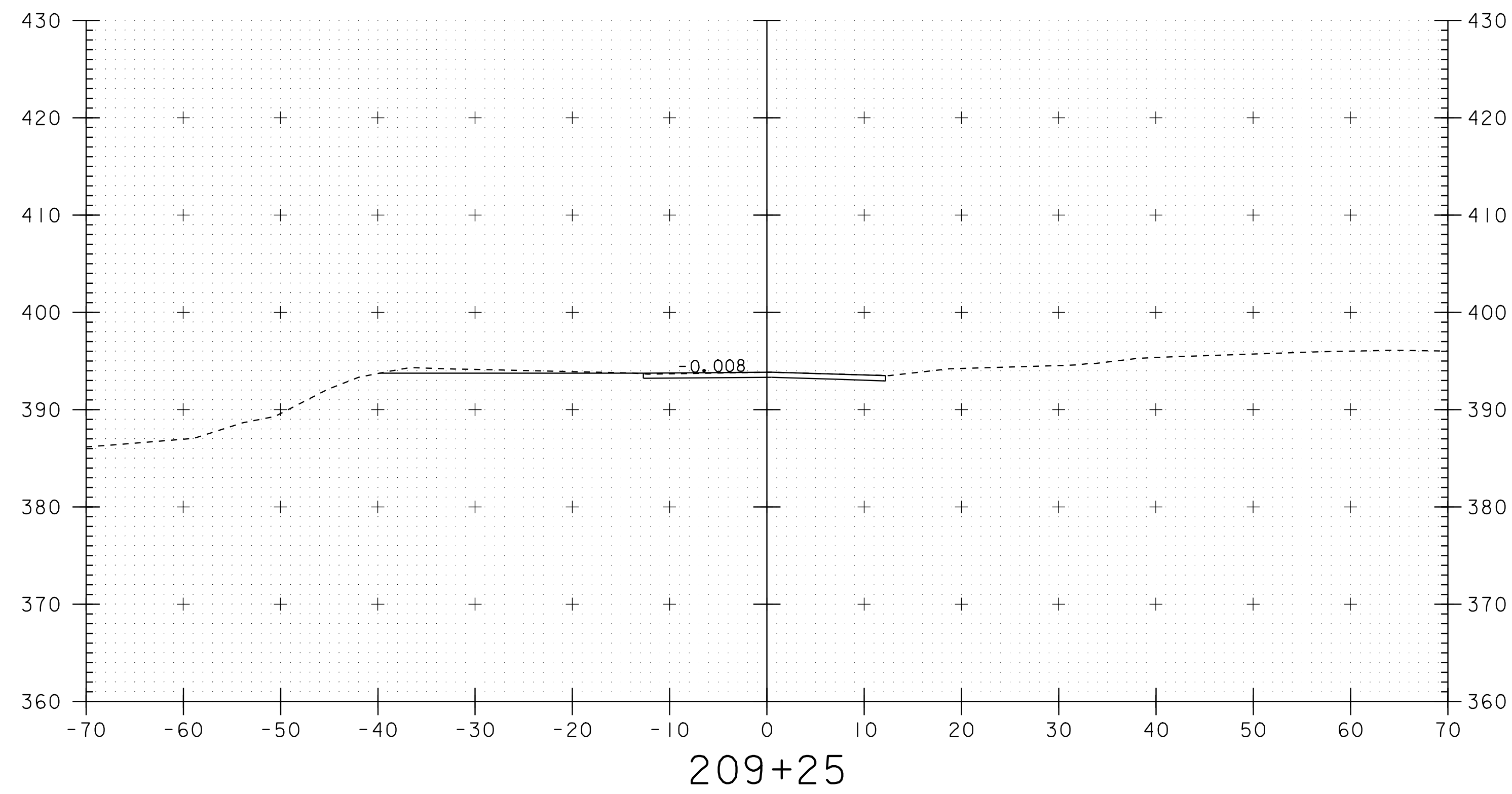


PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lv2.i	
VT RT 14 CROSS SECTIONS	
SECTION 207+00 THROUGH 207+75	SHEET: 78 OF 97



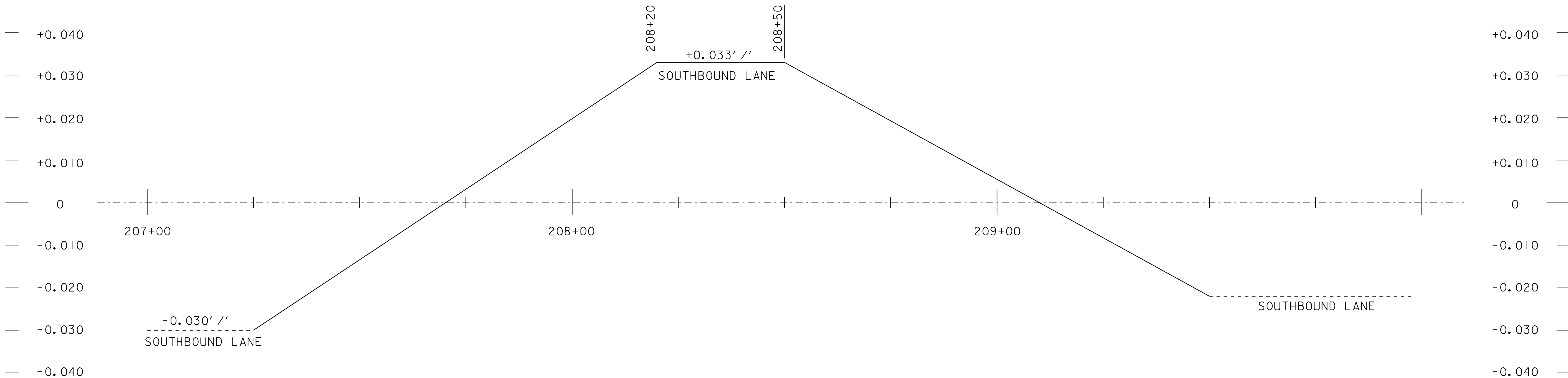
SCALE 1" = 10' - 0
10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lv+3.i	
VT RT I4 CROSS SECTIONS	
SECTION 208+00 THROUGH 208+75	SHEET: 79 OF 97

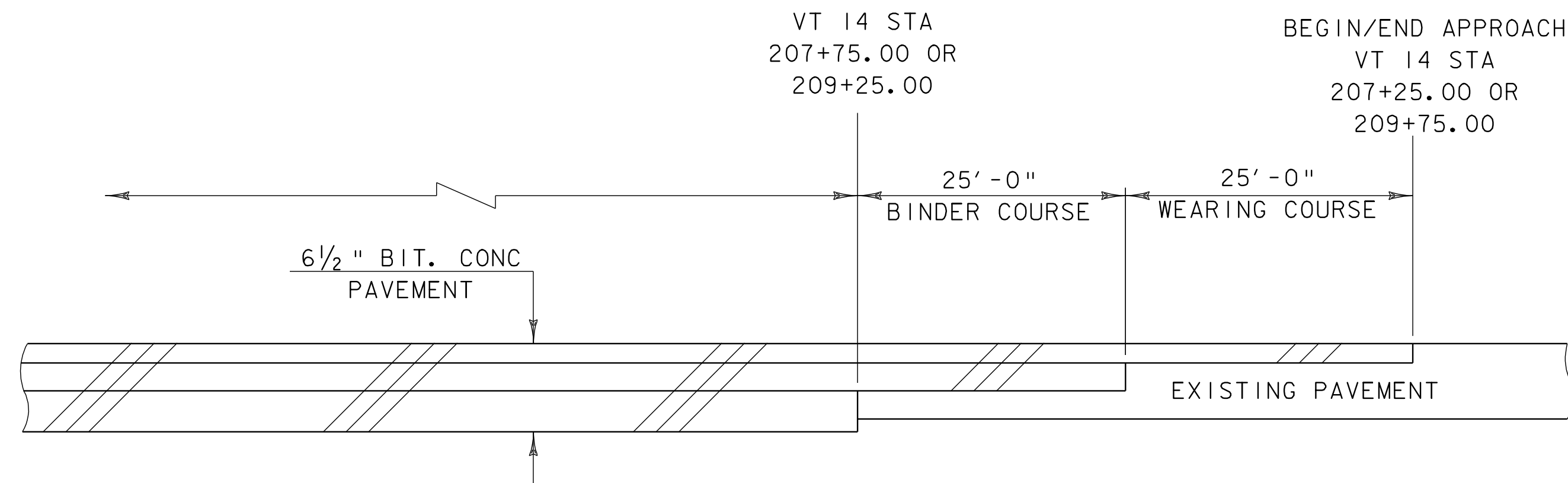
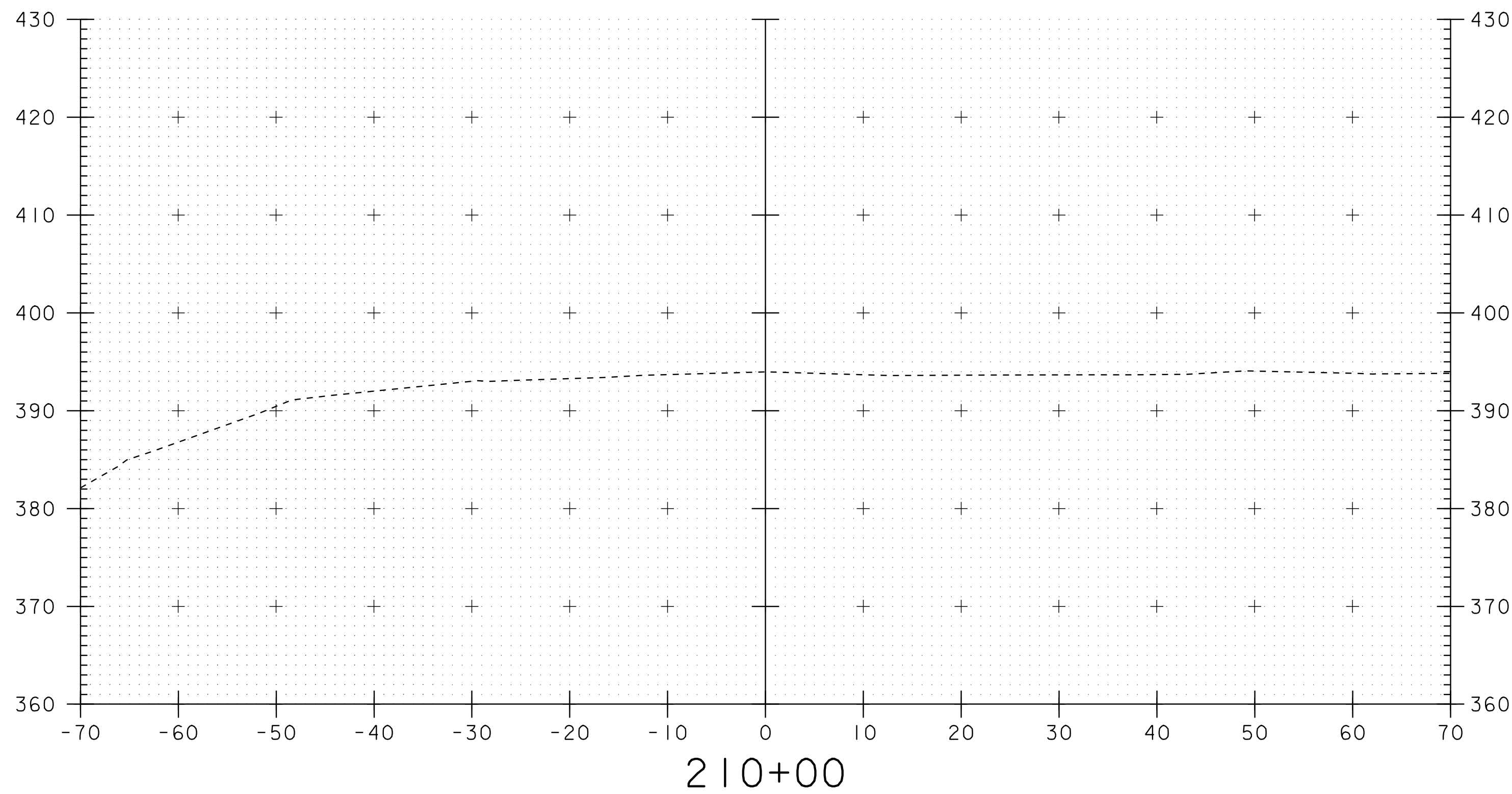


SCALE 1" = 10' - 0
10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lv4.i	
VT RT 14 CROSS SECTIONS	
SECTION 209+00 THROUGH 209+75	SHEET: 80 OF 97



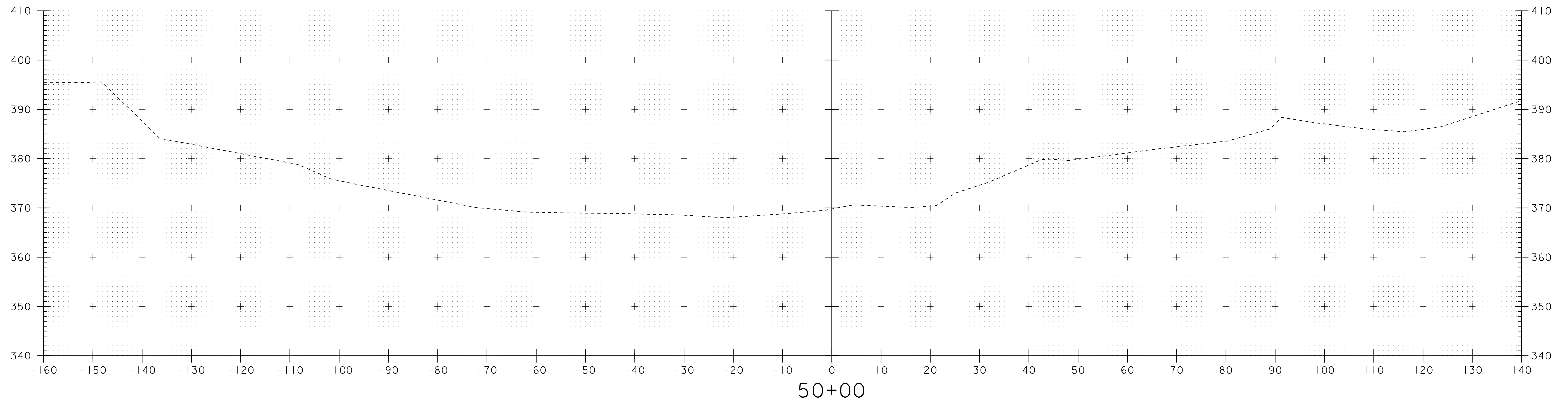
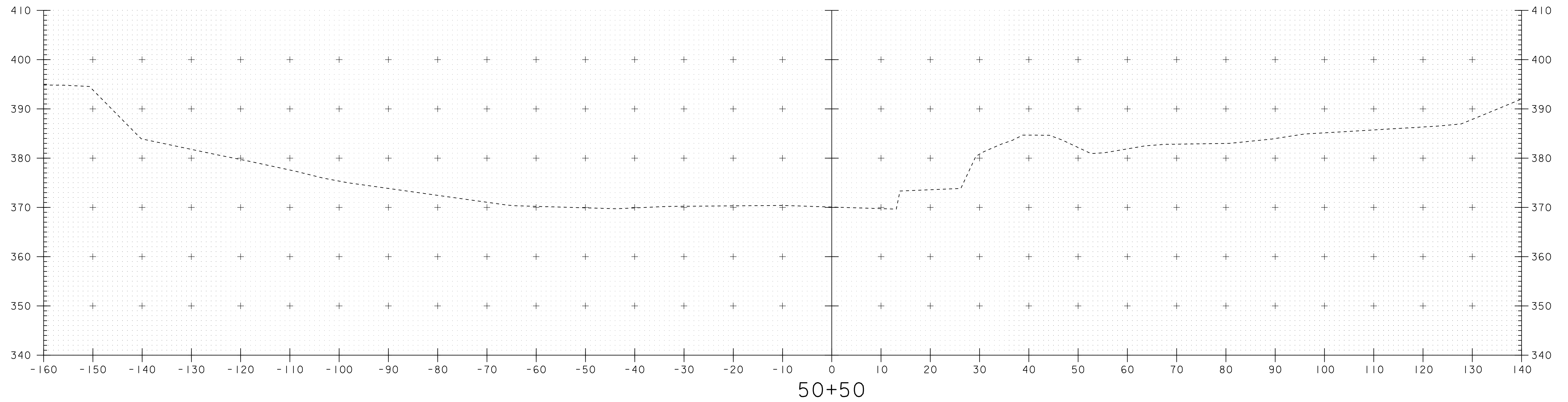
BANKING DIAGRAM FOR VT RTE 14
(STA. 207+25 THROUGH 209+50 LEFT LANE ONLY)
NTS



BEGIN/END APPROACH FOR VT RTE 14
NTS

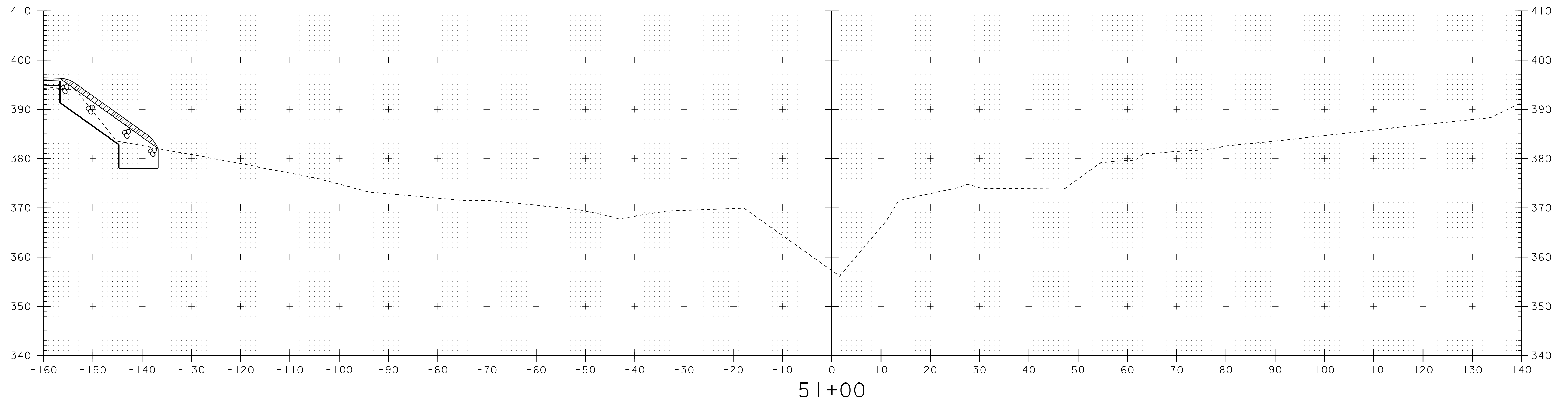
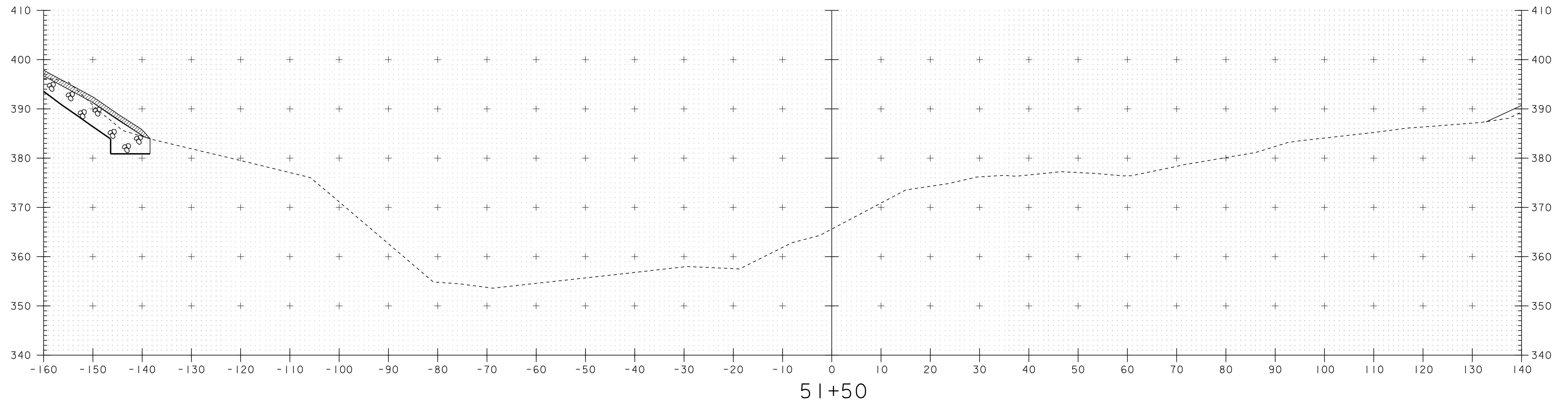
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PROJECT: BRIDGE 1	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lv+5.i	
VT RT 14 CROSS SECTIONS	
SECTION 210+00	SHEET: 81 OF 97



SCALE 1" = 10'-0"
10 0 10

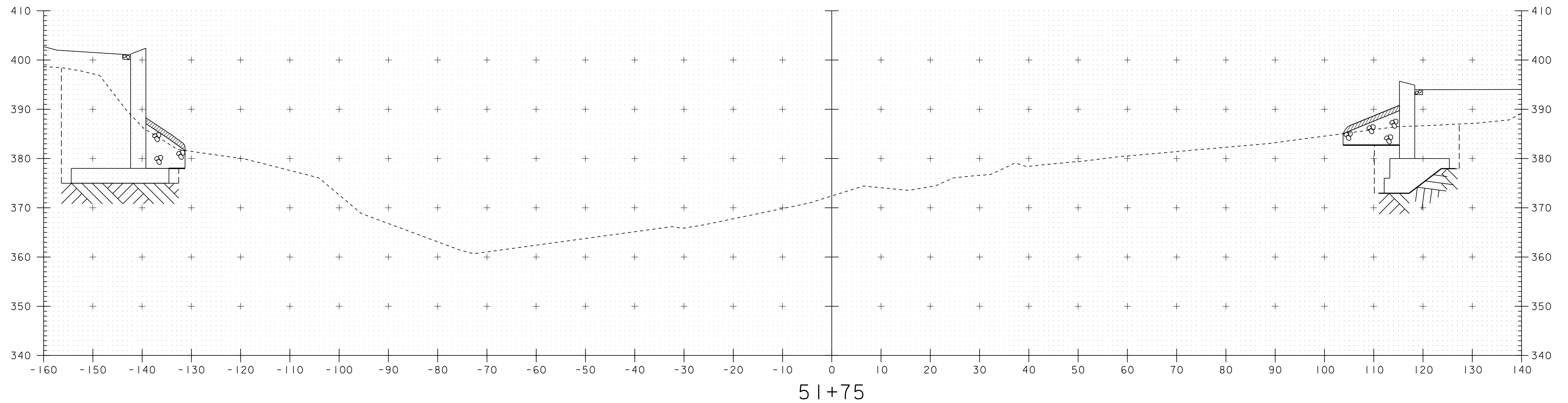
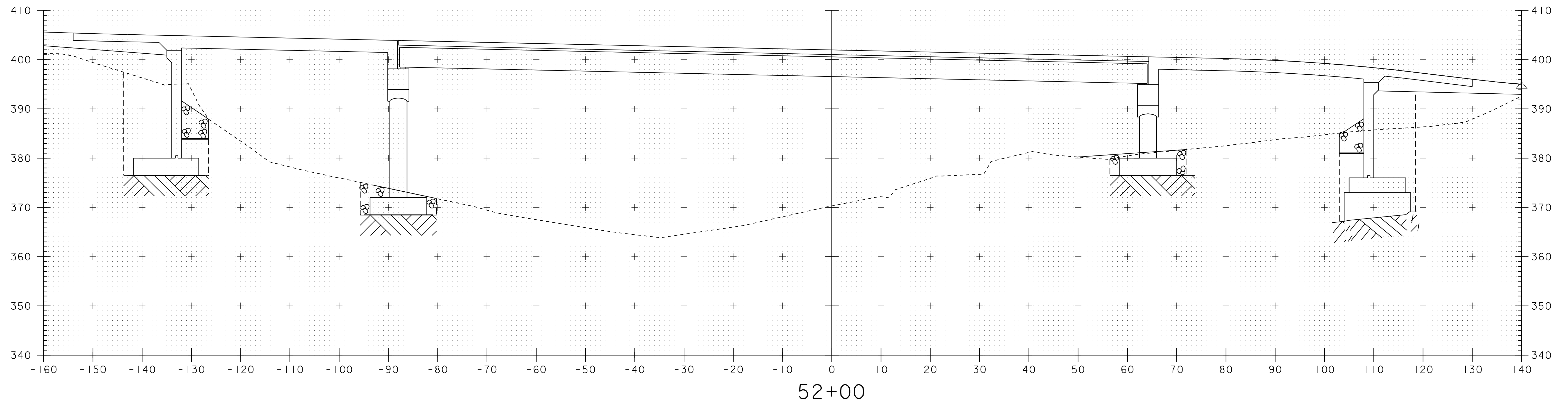
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DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lchl.i	
CHANNEL CROSS SECTIONS	
SECTION 50+00 THROUGH 50+50	SHEET: 82 OF 97



STA 50+85.00 LT
BEGIN STONE FILL TYPE IV
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

SCALE 1" = 10' - 0
10 0 10

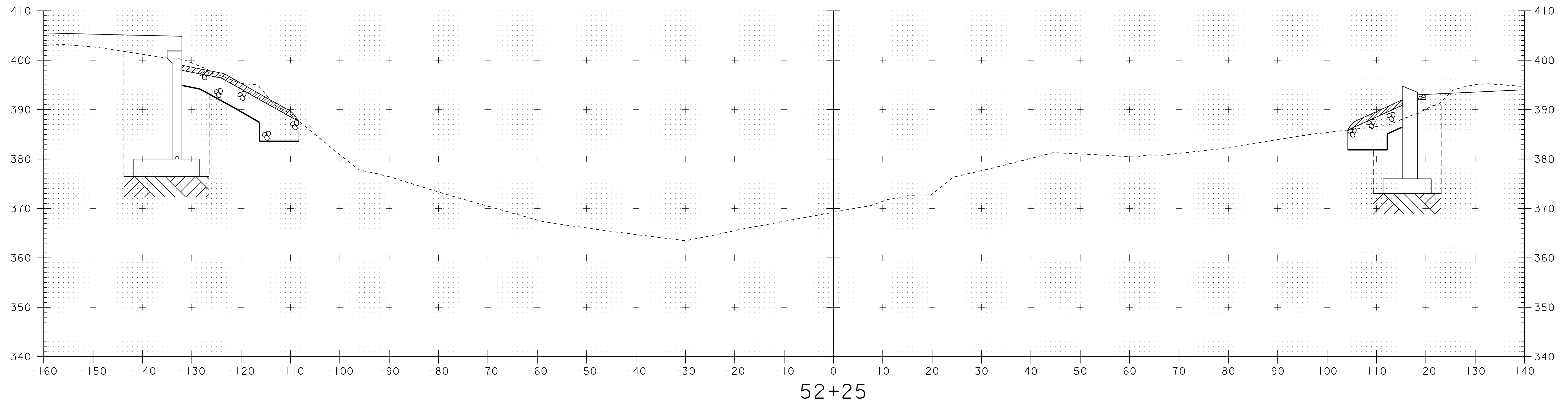
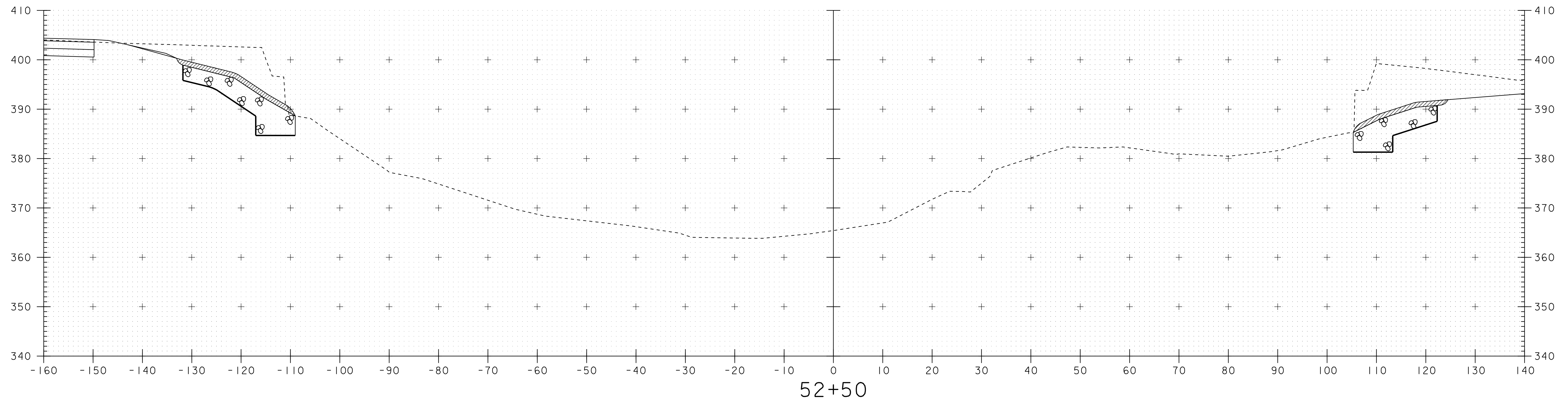
PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lch2.i	
CHANNEL CROSS SECTIONS	
SECTION 51+00 THROUGH 51+50	SHEET: 83 OF 97



STA 51+58.00 RT
BEGIN STONE FILL TYPE IV
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN GRUBBING MATERIAL

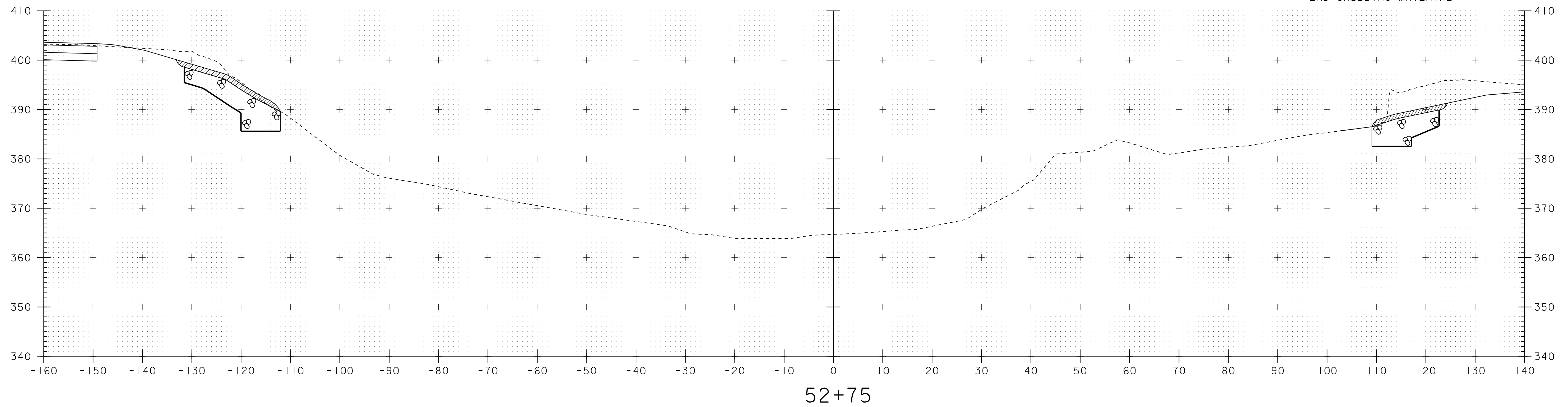
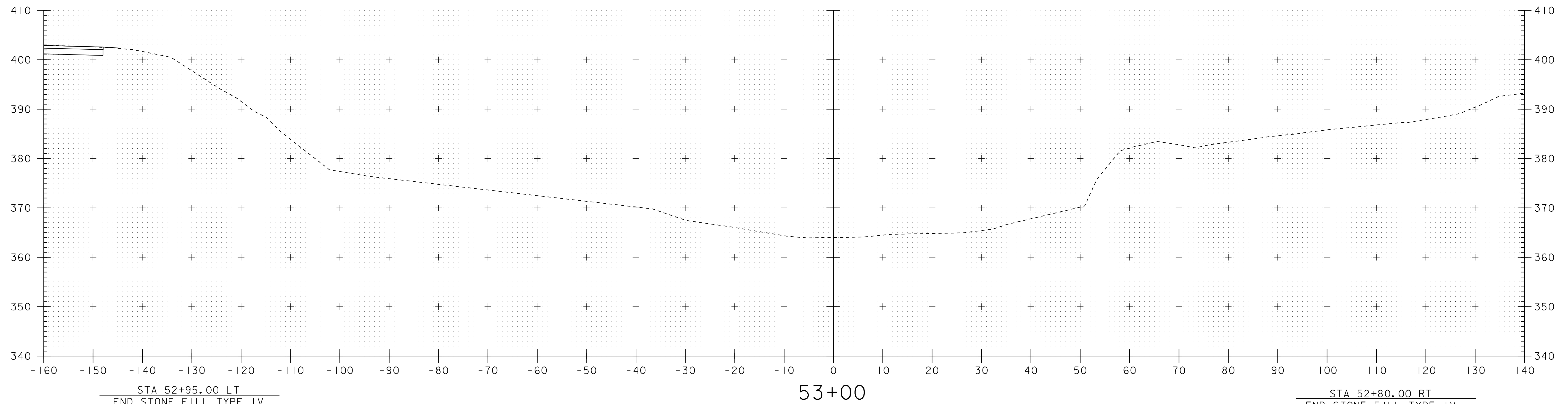
SCALE 1" = 10' - 0
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PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
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IPARM FILE NAME: sj00lch3.i	
CHANNEL CROSS SECTIONS	
SECTION 51+75 THROUGH 52+00	SHEET: 84 OF 97



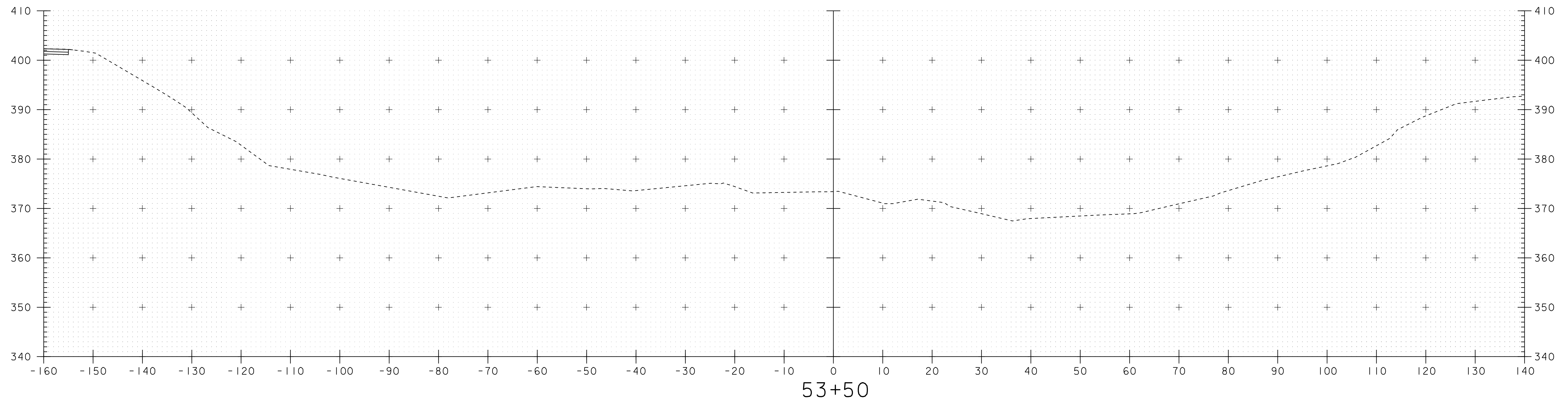
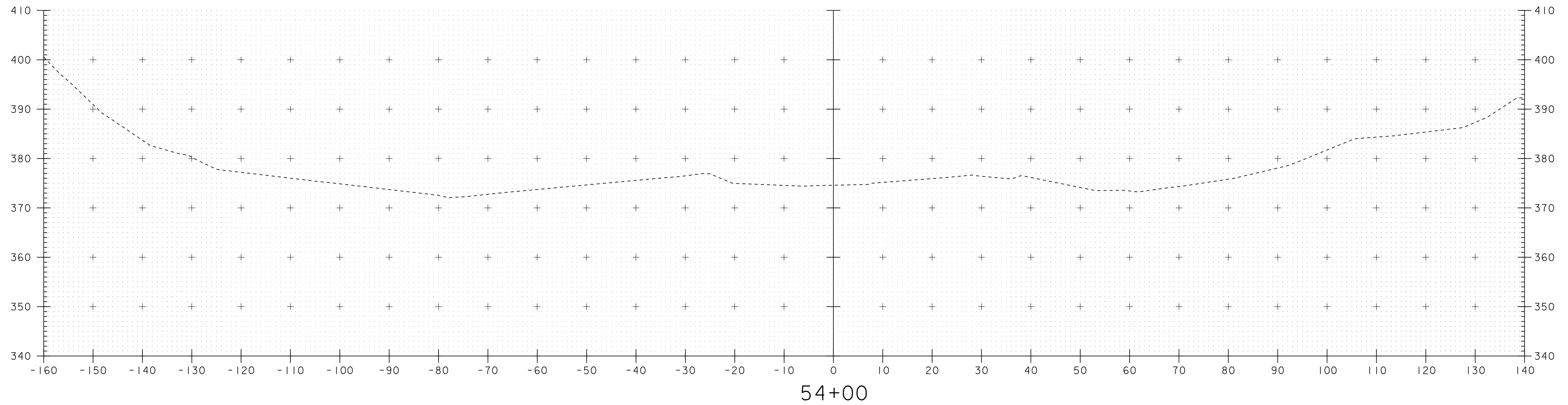
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PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lch4.i	
CHANNEL CROSS SECTIONS	
SECTION 52+25 THROUGH 52+50	SHEET: 85 OF 97



SCALE 1" = 10'-0"
10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89j045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lch5.i	
CHANNEL CROSS SECTIONS	
SECTION 52+75 THROUGH 53+00	SHEET: 86 OF 97



SCALE 1" = 10'-0
10 0 10

PROJECT: BRIDGE I	PROJECT NO.: BRO-BTN 2004(I)
DESIGN FILE NAME: 89J045/structures/sj045xsl.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00lch6.i	
CHANNEL CROSS SECTIONS	
SECTION 53+50 THROUGH 54+00	SHEET: 87 OF 97

EROSION CONTROL NARRATIVE

DESCRIPTION OF PROJECT

This project involves the reconstruction of a bridge #8 over the White River. The project is on TH4 (FAS 166) which is paved and in the village of West Hartford. A new two lane, three span bridge, plate girder main span with concrete Slab approach spans will be constructed downstream of the existing bridge. Traffic is to be maintained on the existing truss bridge during construction. Following completion of the new bridge, the existing truss bridge and abutments will be removed. The length of the project including approach work on VT route 14, TH5 and a field drive is approximately 1,160 feet. The project is in close proximity to a house and involves the relocation of a historic barn to the recreational park. approximately 1 mile from the project site.

The site is located, based upon NAD 83/92 at 41767.5900 N, 61947.5463 E (point 3 - see Tie sheets)

It is anticipated that this project will last two construction seasons.

Total disturbed area (including waste, borrow and staging areas):
1.30 acre

SITE INVENTORY & ANALYSIS

OFF SITE DRAINAGE CHARACTERISTICS:

The property surrounding the project site consists of well established vegetation, moderate to steeply sloping, mixed softwood and hardwood trees with well defined drainageways. Runoff water entering the project site will be primarily limited to that which is conveyed along roadway ditches, and that follows TH4 (15.3%) The current roadway ditches are fairly well defined and consist of gravel and grass but are not not lined with stone.

DRAINAGE, WATERWAYS, BODIES OF WATER:

The White River is located in the project area. There are no other waterbodies or wetlands within the project area. The White River is classified as hilly to mountainous, containing a straight streambed of mostly ledge with some gravel, cobbles and boulders. The contributing drainage area at the bridge crossing is 692 square miles.

TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES:

The topography of the project site is hilly with wooded areas along with residential lawns. Vermont Route 14 runs parallel along the east side of the river while TH 5 and a field drive runs parallel along the west side. The west bank the river, along TH 5 and the field drive is steep. There is an existing house and a historic barn within close proximity to the bridge There are utility lines and poles which are to remain in place. Except those being temporarily located during the barn relocation.

VEGETATION:

The land on and adjacent to the site is rural and consists of woods, farmland and residential property. The vegetative cover on the project varies greatly as it ranges from grass lawns to wooded areas. The majority of the wooded areas on the project site can be found on the western side of the White River. There is a great deal of ledge along the river banks.

SOILS:

According to a soil survey copmleted by the United States Department of Aggriculture Soil Conservation, there are three soil types present on this project site. Hichcock Silt Loam (k=0.49) is located between stations 27+00 and 29+25. Due to the relative steepness of the land, this region has potential for being highly erodible. Windsor Loamy Fine Sand (k=0.32) is found from approximate station 29+25 to the west river bank. This area is moderate to highly erodible as slopes reach as much as 60%. Ninegret Fine Sandy Loam (k=0.17)is found on the east side of the river and is considered potentially low for erodibility. Slopes in this region range from 0-8%.

SENSITIVE RESOURCE AREAS:

Carex Garberi, an endangered plant species, is located on the east bank of the river. Approximate locations have been outlined on the plans. see the project general notes for required treatment of affected areas. The moving of a historic barn located on the west side of the river will be necessary prior to constructing the new bridge.

PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES:

Disturbance of soils near natural or made-made waterways consists of that which is necessary to construct two new concrete bridge abutments, two piers, applicable roadway approaches as well as the removal of the existing bridge. Stabilization of disturbances to stream banks will be accomplished with Stone Fill, Type IV.

TEMPORARY EROSION PREVENTION & SEDIMENT CONTROL

Temporary erosion prevention measures to be utilized include:

"Project Demarcation Fencing," denoted -PDF- on the plans, to delineate the limits the contractor can access with construction equipment. This measure limits the area that can be disturbed and exposed to erosion. Payment for this fensing is under the item 620.70 "Snow Fence (Mod-PDF)

Seeding, mulching and biodegradable erosion control matting, or an equivalent product, will be ulitized on all slopes steeper than 3:1 that are not lined with stone fill. See the road way and channel sections for sideslope grades. These slopes shall be stabilized with in 48 hours of reaching final grade or during intermitant phases of the construction activity.

Tracking of all exposed slopes, combined with temporary mulching, will also be utilized on a regular basis. Any slopes to be exposed for several days prior to final grading shall be tracked and mulched. The forecast of rainfall events shall also trigger protection of exposed slopes.

Temporary stone check dams will be placed in ditches to reduce flow velocities and thus reduce the potential for erosion. Check dams will be placed along the ditches such that the elevation of the top of each check dam corresponds with the elevation of the toe of the preceding upslope check dam. See 'Erosion Controls Details' sheet. The check dams may be removed once the stone lining of the ditches is complete and the surrounding area stabilized.

Temporary measures to control sediment transport include:

Silt fence will be installed a distance of 5'-10' (1500 - 3000) from the toe of slopes to prevent sediment transport to down gradient areas. Each line of silt fence will be placed along the contour with ends turned slightly uphill to create a ponding effect should water try to run along the fencing and around the ends. The maximum slope length between separate runs of silt fence is 100' (30 000). Silt fence shall be installed prior to any upslope earthwork.

Sand bags filled with clean, small diameter stone, or an equivalent barrier, will be utilized around the drop inlet to create a temporary ponding area for particles to settle out as water drains through the barrier. Inlet protection shall be installed as soon as there is the possibility of water flowing to the structure. The height of the barrier shall be limited such that the ponding area does not present a hazard to the traveling public. Alternative inlet control measures shall be approved by the Engineer prior to implementation.

Measures such as temporary stone check dams, silt fence, and sand bags shall be checked regularly for accumulation of sediment. Sediment build-up shall be removed when the level of sediment reaches one-half the height of the control measure. Sediments shall be disposed of in an approved area such that they will not be subject to erosion.

Stabilized construction entrances to the project site, staging areas, as well as to waste and borrow areas shall be established. The minimum size of a stabilized construction entrance is 12' x 50' (3700 x 15 000). All surface water flowing to or diverted towards a construction entrance shall be piped under the stone. Pipes shall be appropriately sized for the contributing area, however, no pipes smaller than 150mm diameter shall be used. See typical detail on 'Erosion & Sediment Control Plan' sheet for materials and construction method to be utilized when constructing a stabilized entrance.

Temporary sediment settling basins may or may not be utilized on this project. If a sediment settling basin is to be used for dewatering a cofferdam, it should be sized based upon the following criteria:
(See Sediment Settling Basin Sizing Criteria.)

PERMANENT EROSION CONTROL MEASURES

Several permanent erosion control measures will be utilized:

Stone lining of roadway ditches with clean, angular Stone Fill, Type I will be used to prevent erosion during storm events. See 'Erosion Control Details' sheet for typical ditch section.

Stone lining of the stream banks with Stone Fill, Type IV as specified by VTrans Hydraulics personnel is specified. This stone will protect from stream bank erosion during design storm events.

Stone Fill, Type I will be utilized at culvert outlets to dissipate water velocities and reduce erosion potential.

Grass, or other suitable ground cover will be established outside of the roadway limits where stone lining has not been specified. Top soil shall be used to established residential lawn at approximate station 30+25 to 31+25 LT. Seeding, mulching and biodegradable erosion control matting or an equivalent product, will be ulitized on all slopes steeper than 3:1 that are not lined with stone fill. See the road way and channel sections for sideslope grades. These slopes shall be stabilized with in 48 hours of reaching final grade.

GENERAL EROSION & 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, stormwater controls and other pollution prevention controls.

Coordinate the installation, use, and removal of erosion and sediment control measures with contruction activities to ensure economical, effective and continuous erosion and sediment control. Employ temporary stabilization practices in incremental stages as construction proceeds. The contractor will use additional erosion control measures as necessitated by the sequence of construction and as directed by the Engineer. See section 105.23 of the Vermont AOT Standard Specifications for Construction, dated 2001.

Install all erosion and sediment control measures as shown in the Erosion Control Plan or as directed by the Engineer. Do not modify the type, size or location of any control or practice without approval of the 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 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. Temporary vegetation shall be established if the area is to be without construction activity for a period of 14 days. 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.

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 downslope side of perimeter control measures.

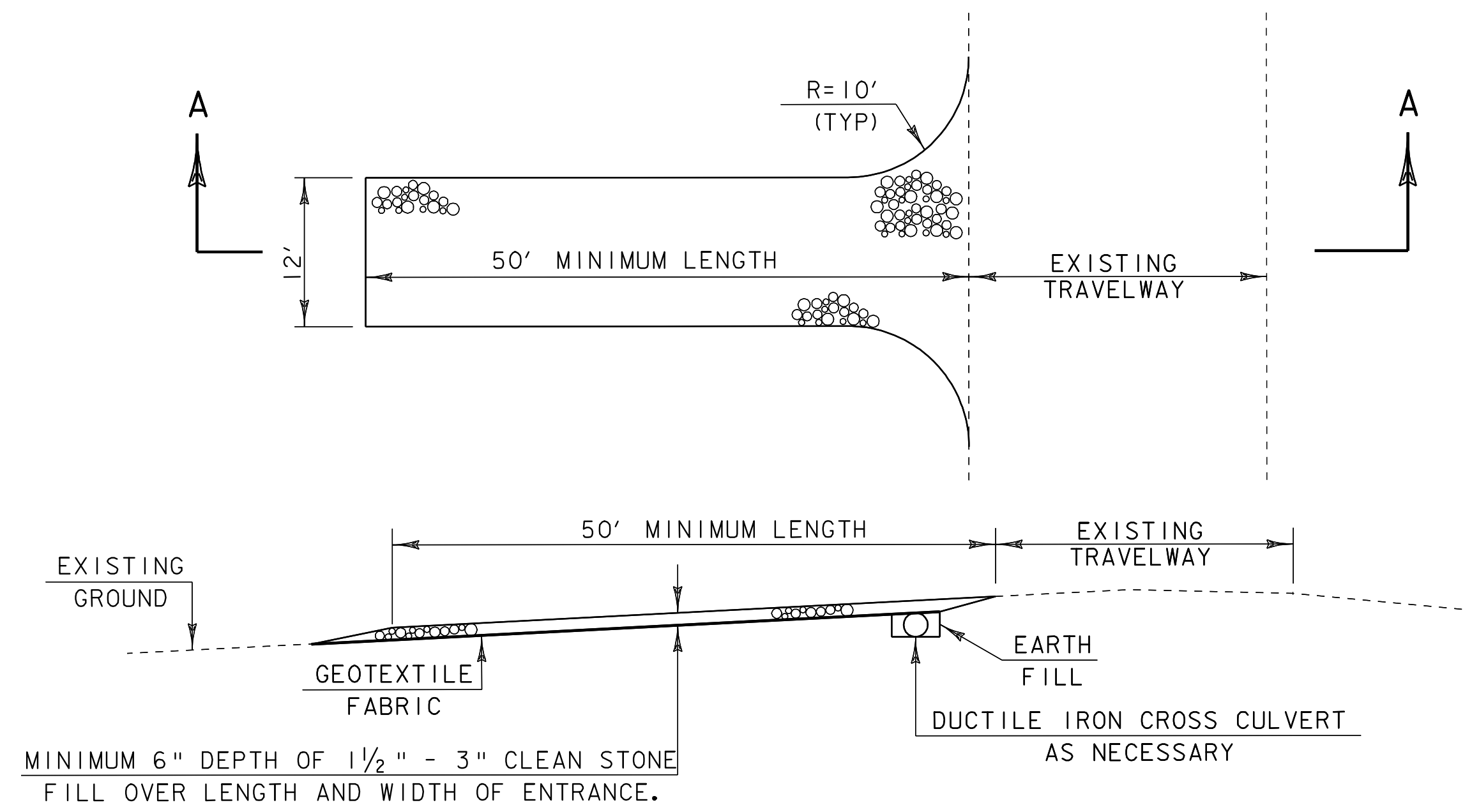
SEDIMENT SETTLING BASIN SIZING CRITERIA

PUMP FLOW RATE		REQUIRED SURFACE AREA		$\frac{\text{LENGTH}}{\text{WIDTH}} = 2:1$			
Q (gpm)	Q (m ³ /s)	(ft ²)	(m ²)	$\frac{L}{ft}$	$\frac{W}{ft}$	$\frac{L}{m}$	$\frac{W}{m}$
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

PROJECT NAME: **HARTFORD**
PROJECT NUMBER: **BRO-BTN 2004(1)**

FILE NAME: **erosionnotes.xls**
PROJECT LEADER: **C.P. Williams**
DESIGNED BY: **J.L. Schultz**
EROSION CONTROL NARRATIVE

PLOT DATE: **4/1/2004**
DRAWN BY: **K.M. Higgins**
CHECKED BY: **K.M. Higgins**
SHEET **88** OF **97**



SECTION A-A

STABILIZED CONSTRUCTION ENTRANCE

NOTES:

SILT FENCE INSTALLATION MAY REQUIRE PHASING TO MAXIMIZE EFFECTIVENESS. INSTALL AND/OR MOVE SILT FENCE AS CONSTRUCTION PROGRESSES TO OBTAIN THE GREATEST PREVENTION OF SEDIMENT TRANSPORT. ALL SILT FENCE INSTALLATION SHALL BE PROPERLY KEYED INTO THE GROUND AND SUPPORTED AS DETAILED ON THE 'EROSION CONTROL DETAILS' SHEET. SILT FENCE SHOULD BE INSTALLED ALONG THE CONTOURS TO PREVENT CONCENTRATION OF RUNOFF. THE ENDS OF EACH RUN OF SILT FENCE SHOULD BE TURNED UPHILL TO PROVIDE A SMALL POOL FOR SILT SHOULD WATER TRY TO RUN AROUND THE END OF THE SILT FENCE.

TEMPORARY STONE CHECK DAMS SHALL BE KEYED INTO THE GROUND AND CONSTRUCTED AS PER THE 'EROSION CONTROL DETAILS' SHEET. THE PURPOSE OF TEMPORARY CHECK DAMS IS TO REDUCE RUNOFF VELOCITIES THUS PREVENTING EROSION.

SURFACE ROUGHENING HELPS REDUCE RUNOFF VELOCITIES AND INCREASES INFILTRATION RATES. ROUGHENING MAY BE ACCOMPLISHED BY A NUMBER OF METHODS SUCH AS TRACKING UP AND DOWN THE SLOPE WITH A BULLDOZER, TRACKING ACROSS THE SLOPE WITH A WHEELED VEHICLE OR ANY METHOD OF SCARIFYING THE SLOPE SUCH THAT THE GROOVES CREATED RUN PERPENDICULAR TO THE DIRECTION OF WATER RUNOFF.

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.

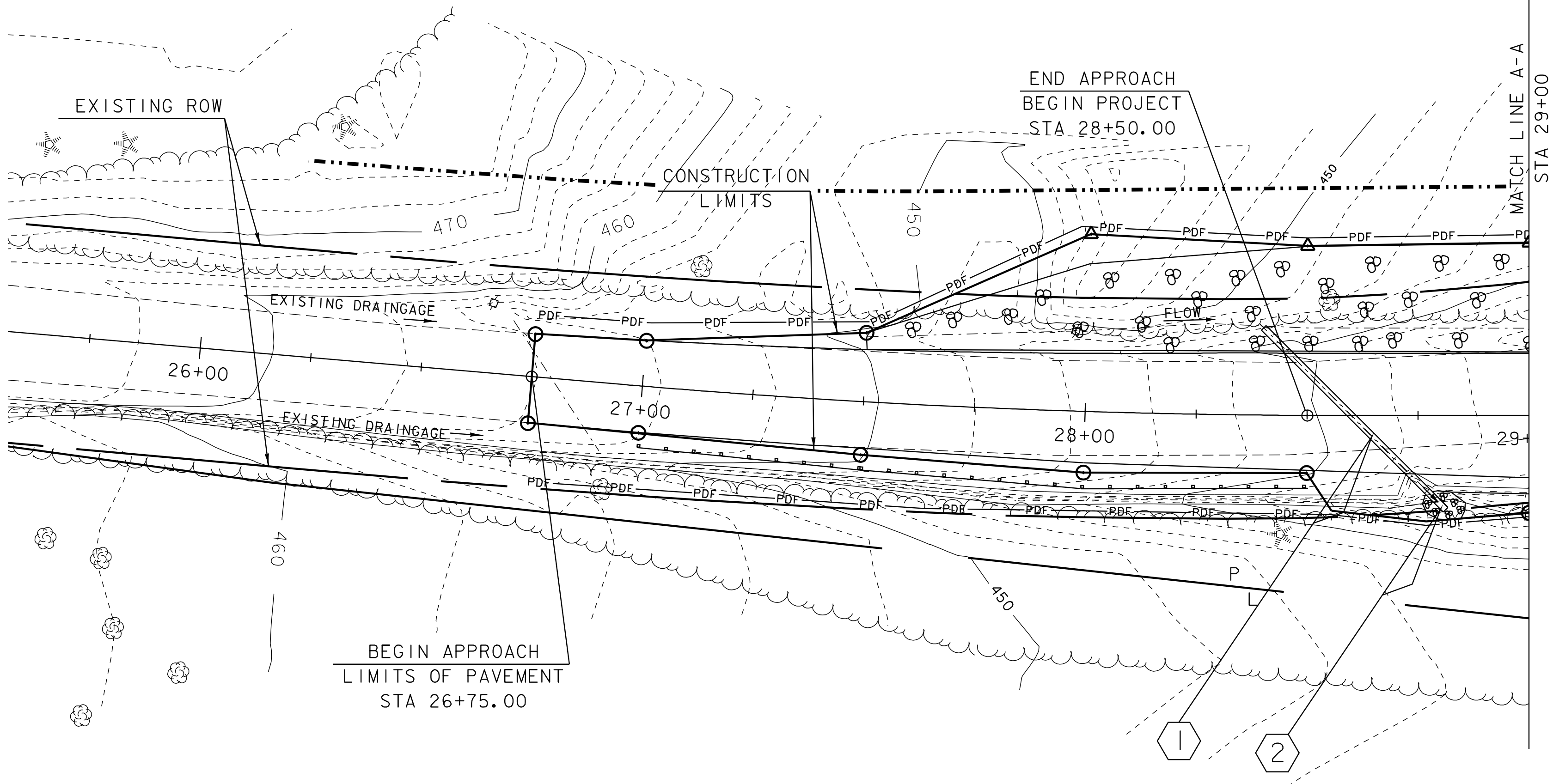
TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

DATUM

VERTICAL NAVD88

HORIZONTAL NAD 1983/92

SOIL INFORMATION
HITCHCOCK SILT LOAM
3 - 8% SLOPES
HYDROLOGIC SOIL GROUP: B
DEPTH TO BED ROCK: UNKNOWN
DEPTH TO WATER TABLE: UNKNOWN
POTENTIALLY HIGHLY ERODIBLE LAND



SEE SHEET 22-23 FOR DRAINAGE INFORMATION

LEGEND
--- FILTER CURTAIN
--- SILT FENCE
o-o-o-o-o-o-o-o-o-o SAND BAGS
▶▶▶ STONE CHECK DAMS
--- SOIL BOUNDARY
P --- PROPERTY LINE
L --- PROJECT DEMARCATION FENCE

TEMPORARY EROSION CONTROL LAYOUT SHEET I

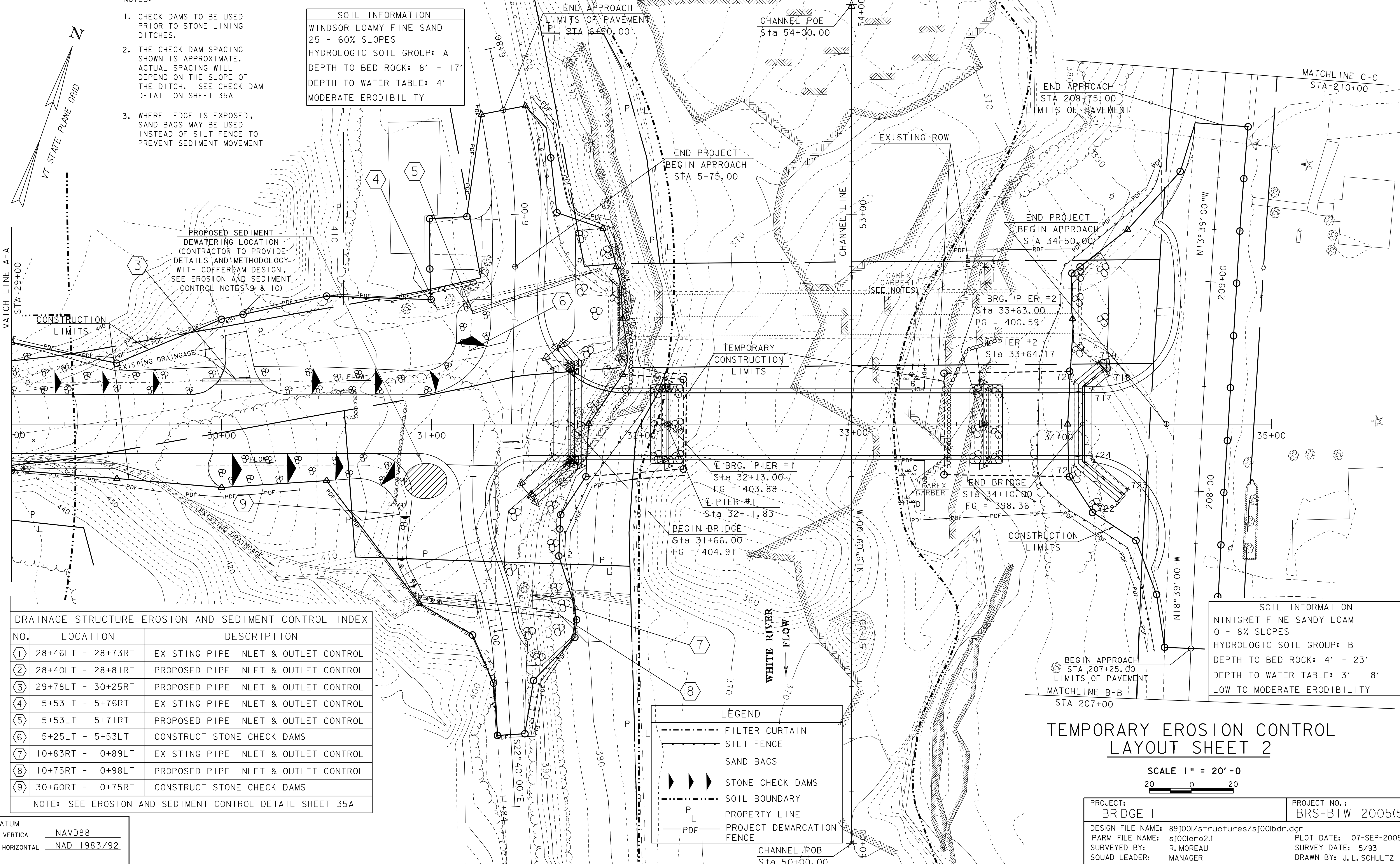
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20 0 20

PROJECT: BRIDGE I	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001erol.i	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: J. L. SCHULTZ
SQUAD LEADER: MANAGER	SHEET: 89 OF 97
TEMPORARY EROSION CONTROL LAYOUT SHEET I	

- NOTES:
1. CHECK DAMS TO BE USED PRIOR TO STONE LINING DITCHES.
 2. THE CHECK DAM SPACING SHOWN IS APPROXIMATE. ACTUAL SPACING WILL DEPEND ON THE SLOPE OF THE DITCH. SEE CHECK DAM DETAIL ON SHEET 35A
 3. WHERE LEDGE IS EXPOSED, SAND BAGS MAY BE USED INSTEAD OF SILT FENCE TO PREVENT SEDIMENT MOVEMENT

SOIL INFORMATION
WINDSOR LOAMY FINE SAND
25 - 60% SLOPES
HYDROLOGIC SOIL GROUP: A
DEPTH TO BED ROCK: 8' - 17'
DEPTH TO WATER TABLE: 4'
MODERATE ERODIBILITY



DRAINAGE STRUCTURE EROSION AND SEDIMENT CONTROL INDEX		
NO.	LOCATION	DESCRIPTION
①	28+46LT - 28+73RT	EXISTING PIPE INLET & OUTLET CONTROL
②	28+40LT - 28+81RT	PROPOSED PIPE INLET & OUTLET CONTROL
③	29+78LT - 30+25RT	PROPOSED PIPE INLET & OUTLET CONTROL
④	5+53LT - 5+76RT	EXISTING PIPE INLET & OUTLET CONTROL
⑤	5+53LT - 5+71RT	PROPOSED PIPE INLET & OUTLET CONTROL
⑥	5+25LT - 5+53LT	CONSTRUCT STONE CHECK DAMS
⑦	10+83RT - 10+89LT	EXISTING PIPE INLET & OUTLET CONTROL
⑧	10+75RT - 10+98LT	PROPOSED PIPE INLET & OUTLET CONTROL
⑨	30+60RT - 10+75RT	CONSTRUCT STONE CHECK DAMS

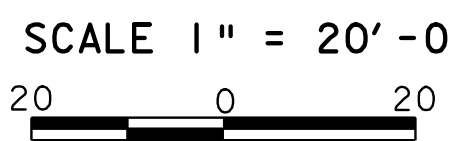
NOTE: SEE EROSION AND SEDIMENT CONTROL DETAIL SHEET 35A

DATUM
VERTICAL NAVD88
HORIZONTAL NAD 1983/92

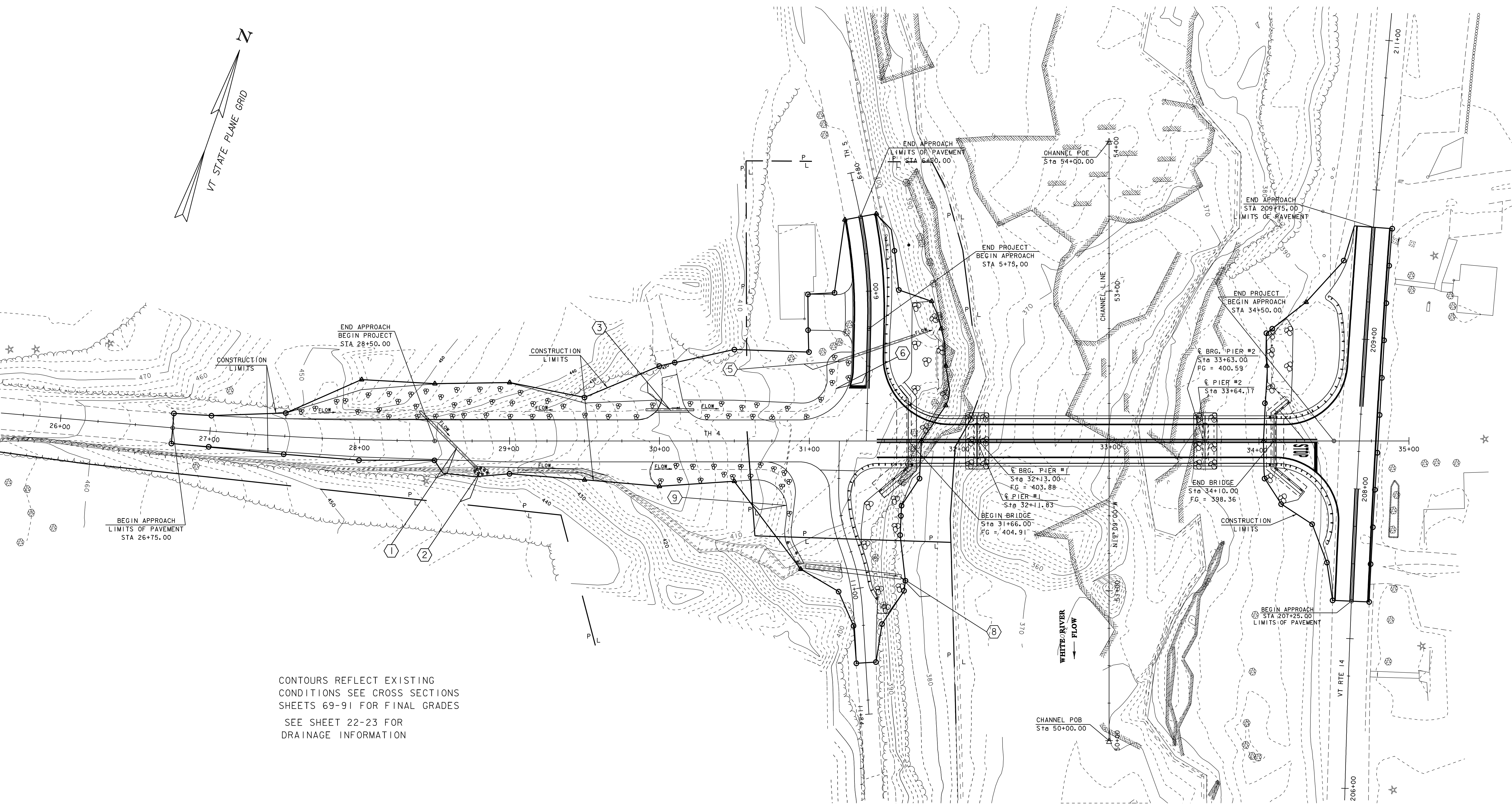
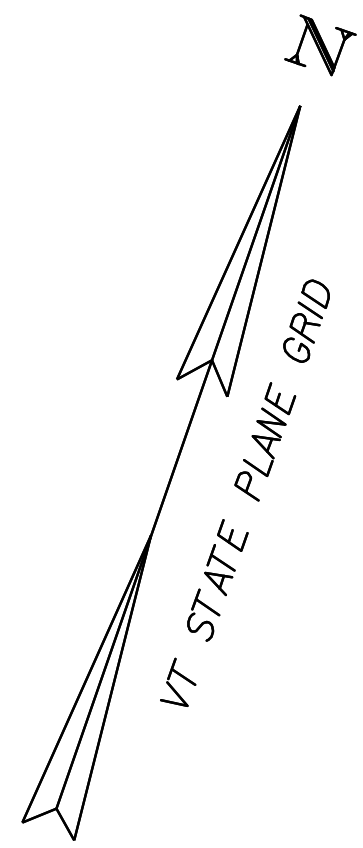
LEGEND

- FILTER CURTAIN
- SILT FENCE
- SAND BAGS
- ▶▶▶ STONE CHECK DAMS
- SOIL BOUNDARY
- P --- PROPERTY LINE
- PDF --- PROJECT DEMARCATION FENCE

TEMPORARY EROSION CONTROL LAYOUT SHEET 2



PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89j001/structures/sj001bdr.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj001ero2.i	SURVEY DATE: 5/93
SURVEYED BY: R. MOREAU	DRAWN BY: J. L. SCHULTZ
SQUAD LEADER: MANAGER	SHEET: 90 OF 97
TEMPORARY EROSION CONTROL LAYOUT SHEET 2	



CONTOURS REFLECT EXISTING
CONDITIONS SEE CROSS SECTIONS
SHEETS 69-91 FOR FINAL GRADES
SEE SHEET 22-23 FOR
DRAINAGE INFORMATION

FINAL CONDITIONS PLAN

SCALE 1" = 30'-0"
30 0 30

DATUM	
VERTICAL	NAVD88
HORIZONTAL	NAD 1983/92

PROJECT: BRIDGE 1	PROJECT NO.: BRS-BTW 2005(5)
DESIGN FILE NAME: 89J00I/structures/sj00Iero.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: sj00Ifinal.i	SURVEYED BY: R. MOREAU
SQUAD LEADER: MANAGER	DRAWN BY: K. M. HIGGINS
FINAL CONDITIONS PLAN	SHEET: 91 OF 97

APPLICATION NOTES:

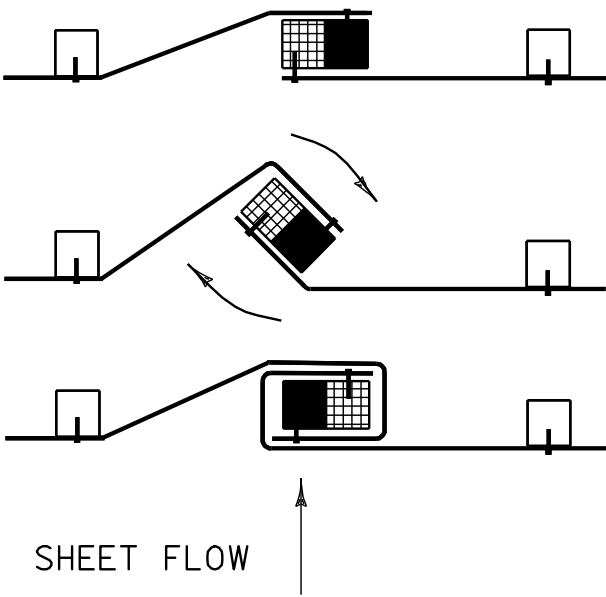
- A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.
- B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS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

GENERAL NOTES:

- 1. 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.
- 2. ALL ENDS SHALL BE "J" HOOKED TO TRAP SEDIMENT.
- 3. IN AREAS WITH TWO SLOPES, SILT FENCE SHALL BE USED TO ERECT A DAM AND TRAP SEDIMENT AT THE BASE OF THE STEEPER SLOPE.
- 4. THE BOTTOM EDGE OF SILT FENCE SHALL BE BURIED A MINIMUM OF 6 INCHES BELOW GROUND, AND KEYED IN 4 INCHES. THE FENCE SHALL BE INSTALLED WITH THE POSTS ON THE DOWNSTREAM SIDE OF THE FABRIC.
- 5. MAXIMUM DRAINAGE AREA TRIBUTARY TO 100 FEET OF SILT FENCE SHALL BE 0.25 ACRES.
- 6. THE FOLLOWING ARE MAXIMUM SLOPE LENGTHS FOR THESE MEASURES:

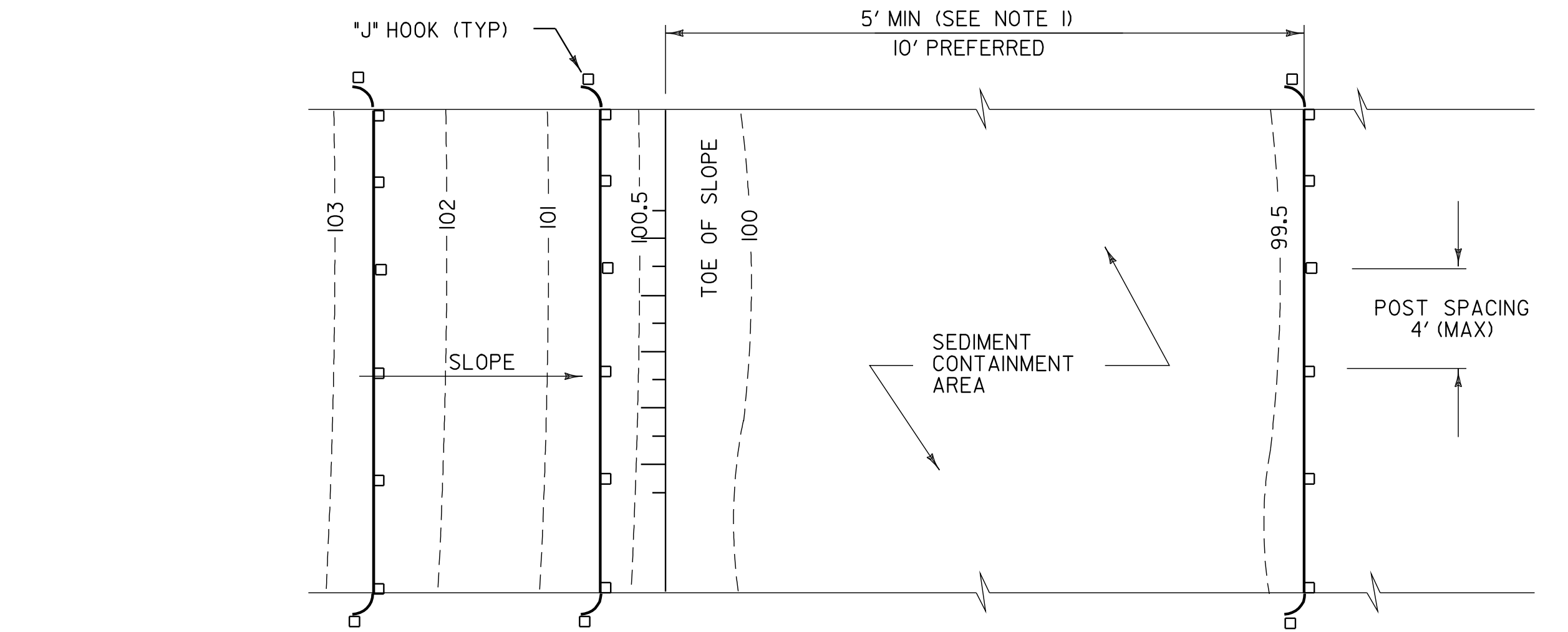
CONSTRUCTED SLOPE	SLOPE LENGTH (LS) FT	HORIZONTAL LENGTH (LH) FT
3 : 1	80	75
4 : 1	130	125
5 : 1	200	200
> 5 : 1	250	250

- 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 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.
- 9. 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.
- 10. PAYMENT FOR INSTALLATION AND REMOVAL OF SILT FENCE SHALL BE MADE UNDER THE GEOTEXTILE FOR SILT FENCE ITEM.
- 11. PAYMENT FOR MONITORING SILT FENCE SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
- 12. 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.

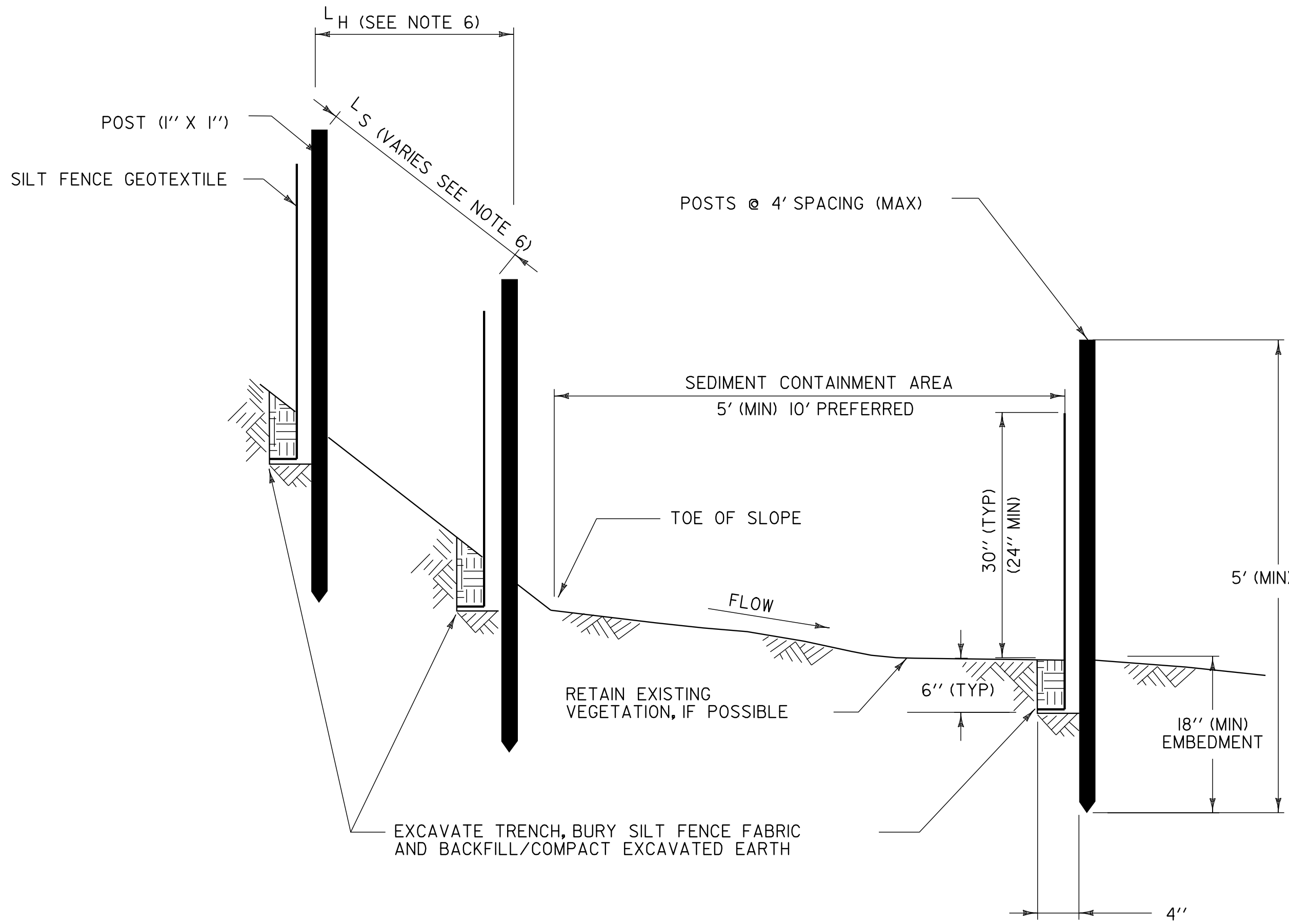


- 1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
- 2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
- 3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPlicing DETAIL



PLAN



SECTION
SILT FENCE - TEMPORARY

EROSION PREVENTION &
SEDIMENT CONTROL DETAILS
SILT FENCE

EPSC1

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: s96j286/Structures/s96j286ecnotes.dgn IPARM FILE NAME: s96j286epscl.i DESIGNED BY: M.FESSEL SQUAD LEADER: C.P. WILLIAMS SILT FENCE	PLOT DATE: 07-SEP-2005 DRAWN BY: M.FESSEL CHECKED BY: SHEET: 92 OF 97

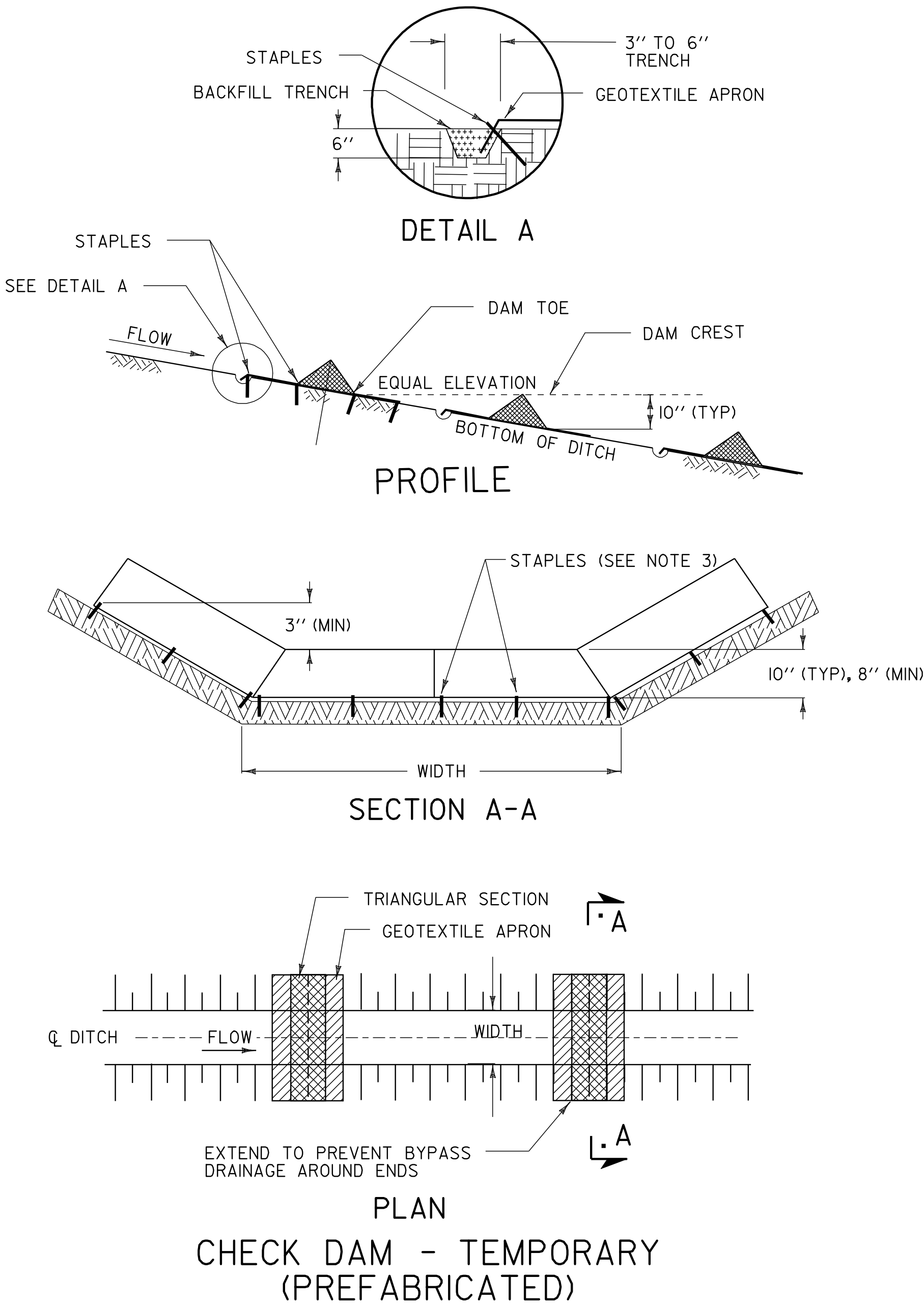
CHECK DAMS

APPLICATION NOTES:

- A. THE PRIMARY PURPOSE OF A CHECK DAM IS TO REDUCE EROSION IN A CHANNEL BY REDUCING FLOW VELOCITY.
- B. CHECK DAMS WILL CAPTURE SEDIMENT THAT FALLS OUT OF SUSPENSION BEHIND THE CHECK DAM DUE TO DECREASED VELOCITY.
- C. CHECK DAMS ARE NOT INTENDED TO FILTER SEDIMENT FROM TURBID WATER.
- D. DETAILS SHOWN SHALL BE USED FOR TEMPORARY INSTALLATION ONLY.
- E. PREFABRICATED DAMS ARE NOT TO BE USED ON SLOPES GREATER THAN 5% OR PER MANUFACTURER'S SPECIFICATIONS.
- F. PREFABRICATED DAM SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

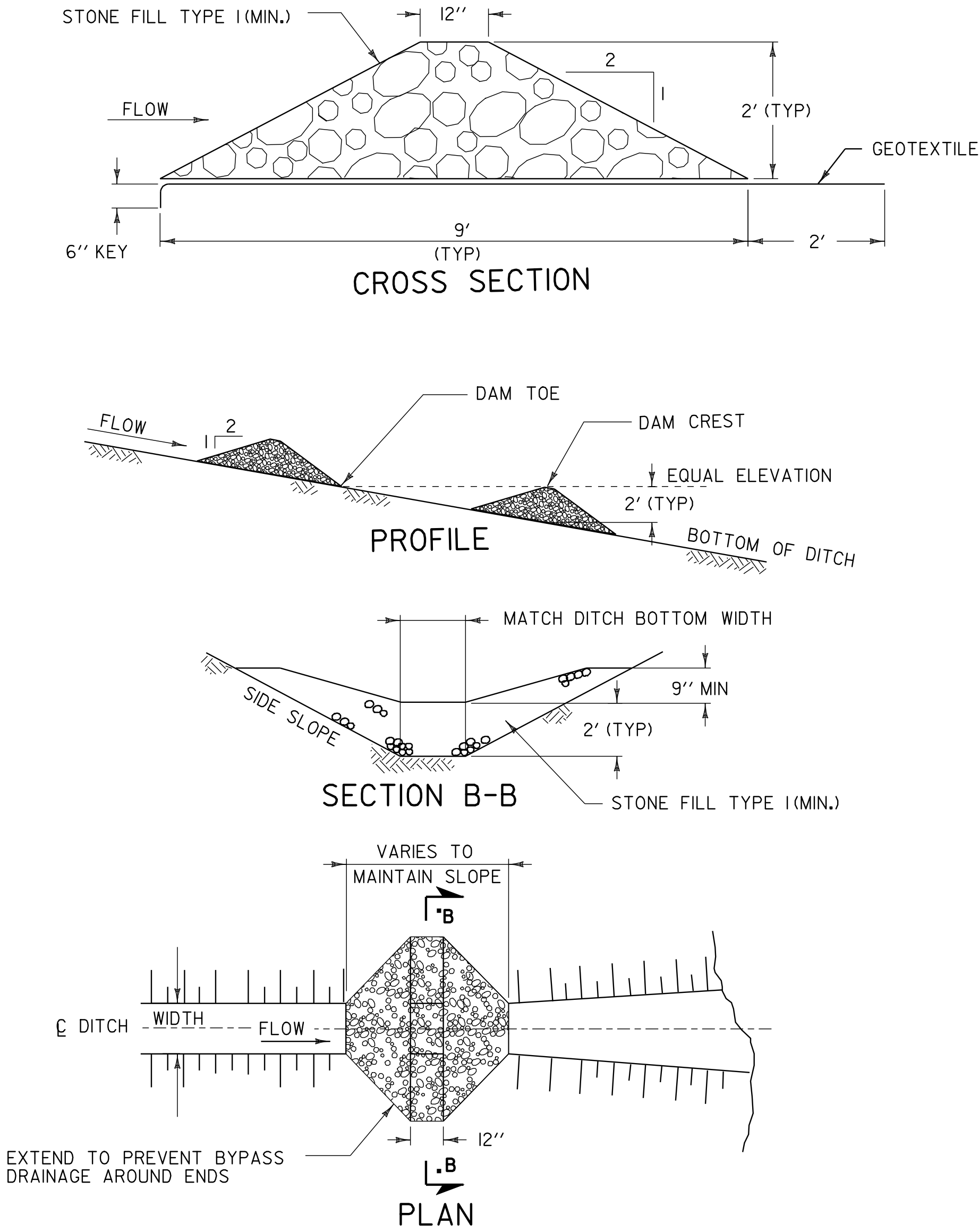
GENERAL NOTES:

- 1. GEOTEXTILE SHALL BE INSTALLED UNDER STONE FILL. IT SHALL BE KEYED IN ON THE UP HILL END AND SHALL EXTEND 2 FEET BEYOND THE STONE ON THE DOWN HILL END.
- 2. CORE MATERIAL FOR THE STONE CHECK DAM SHALL MEET THE GRADATION REQUIREMENTS OF STONE FILL TYPE I (MIN.). STONE SIZE SHOULD BE INCREASED WITH INCREASED SLOPE AND VELOCITY.
- 3. THE UPHILL END OF THE APRON FOR THE PREFABRICATED CHECK DAM SHALL BE STAPLED AND BURIED AS SHOWN IN DETAIL 'A' OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
- 4. 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.
- 5. 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.
- 6. AT TIME OF REMOVAL OF THE CHECK DAMS, THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
- 7. PAYMENT FOR INSTALLATION AND REMOVAL OF CHECK DAMS SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
- 8. PAYMENT FOR MONITORING CHECK DAMS SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
- 9. PAYMENT FOR MAINTAINING CHECK DAMS SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



PREFABRICATED CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1 %	50 FT
2 %	40 FT
3 %	25 FT
4 %	20 FT
5 %	15 FT

** BASED ON 10" TYPICAL HEIGHT



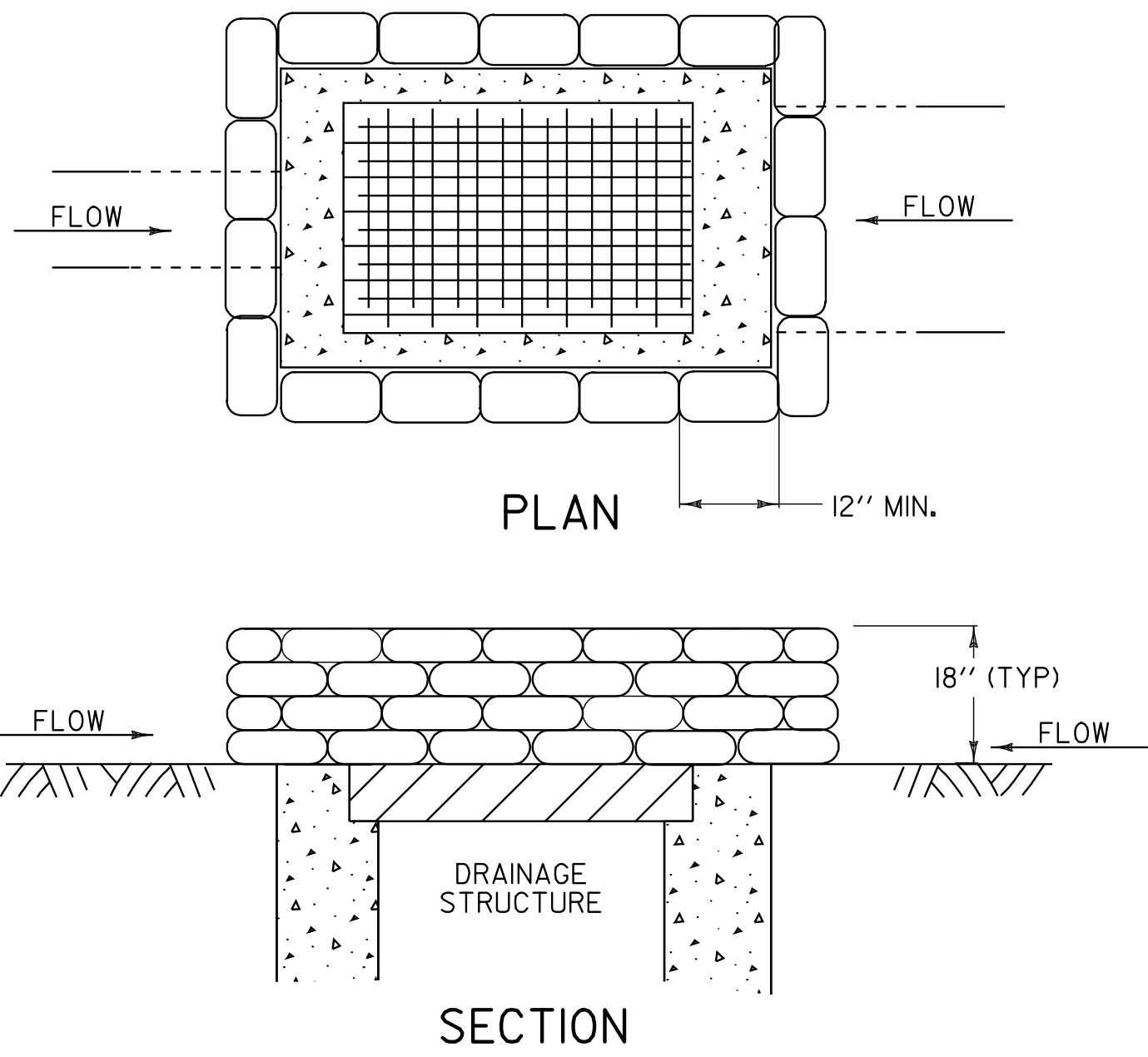
STONE CHECK DAM PLACEMENT INTERVAL	
DITCH SLOPE	PLACEMENT INTERVAL **
1 %	200 FT
2 %	100 FT
3 %	65 FT
4 %	50 FT
5 %	40 FT
6 %	30 FT
8 %	25 FT
10 %	20 FT

** BASED ON 2' TYPICAL HEIGHT

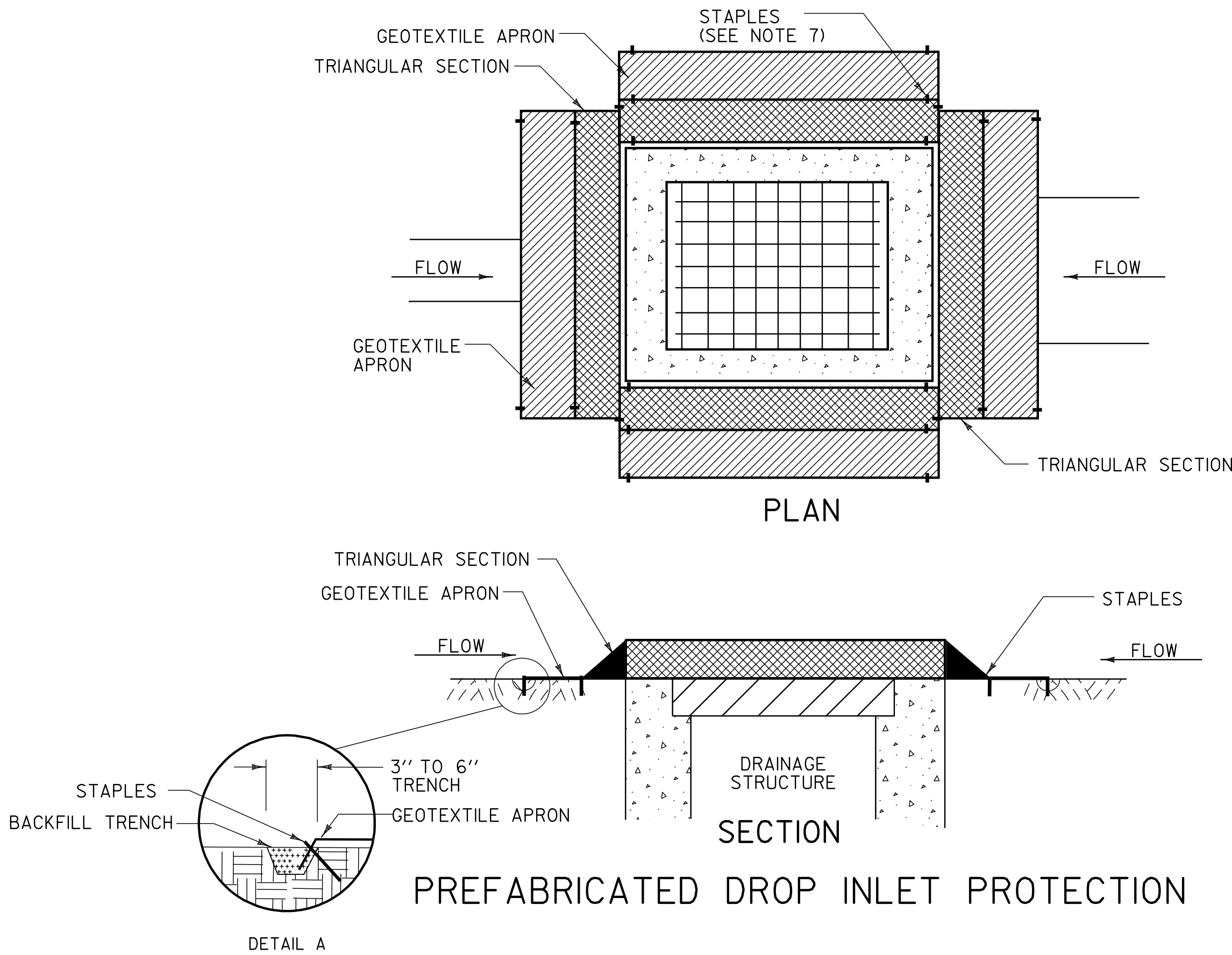
EROSION PREVENTION &
SEDIMENT CONTROL DETAILS
CHECK DAMS

EPSC2

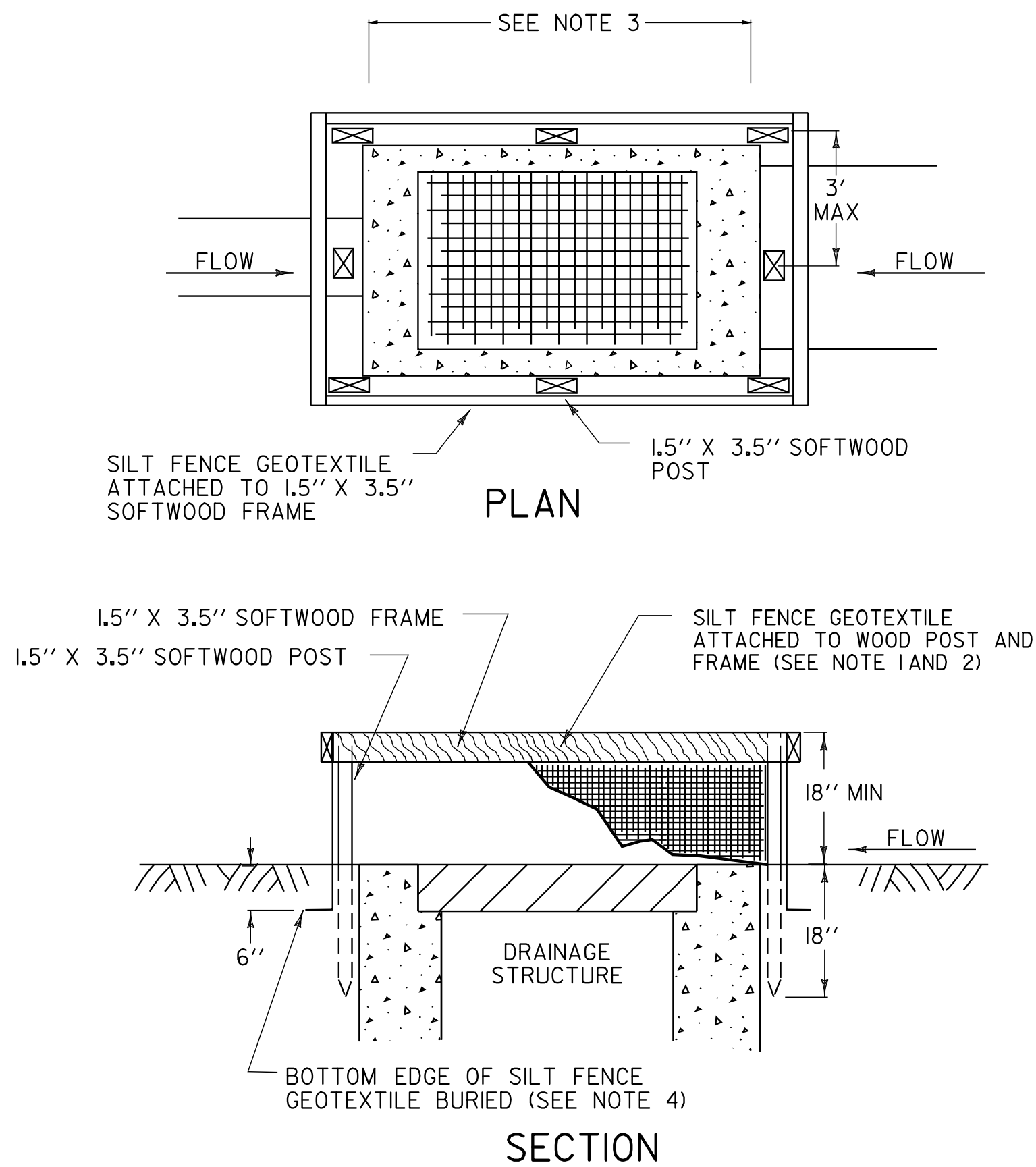
PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn IPARM FILE NAME: s96j286epsc2.i DESIGNED BY: M.FESSEL SQUAD LEADER: C.P. WILLIAMS CHECK DAMS	
PLOT DATE: 07-SEP-2005 DRAWN BY: M.FESSEL CHECKED BY: SHEET: 93 OF 97	



GRAVEL BAG DROP INLET PROTECTION



PREFABRICATED DROP INLET PROTECTION



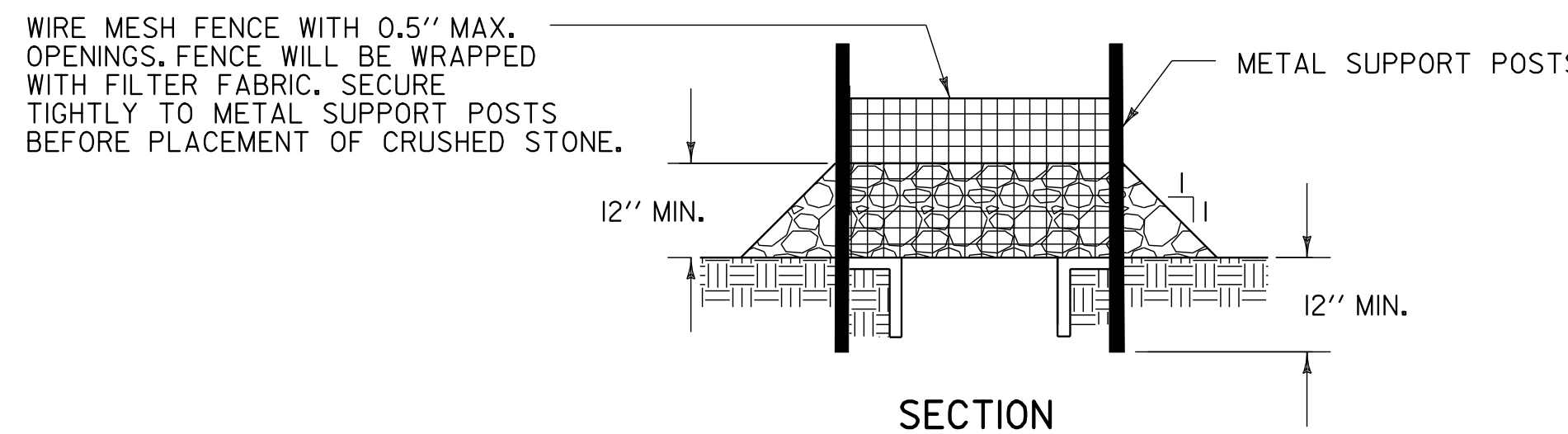
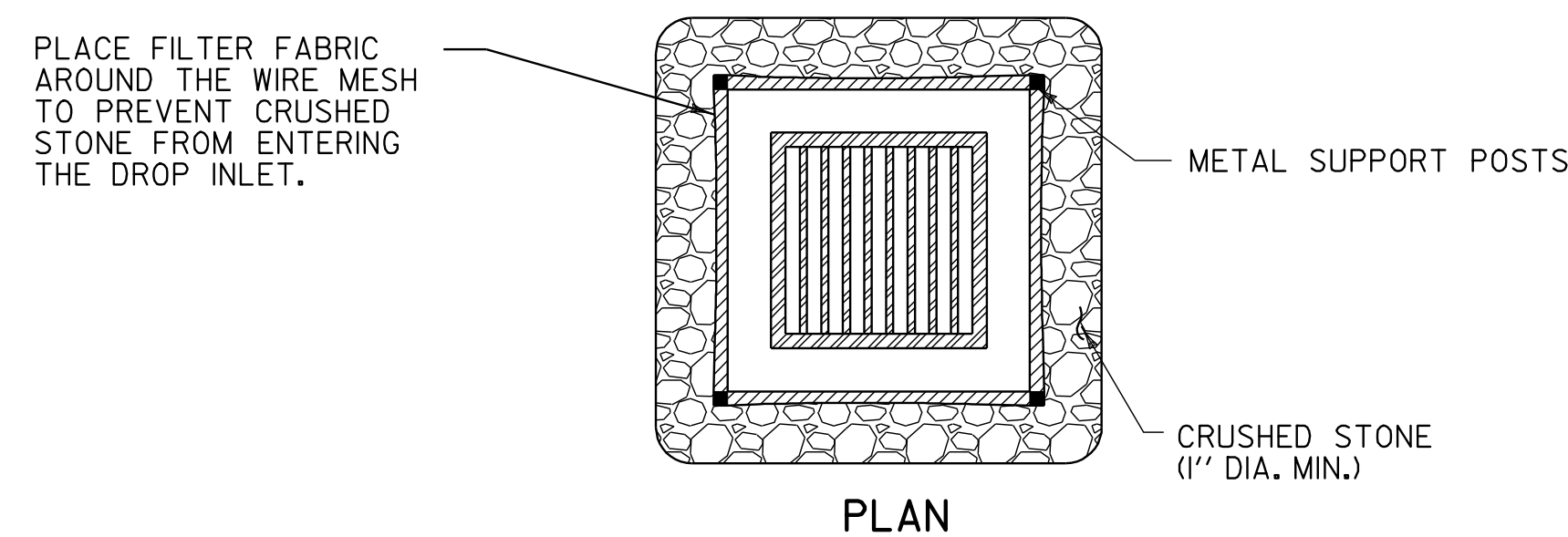
SILT FENCE DROP INLET PROTECTION

APPLICATION NOTES:

- THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.
- THESE EXAMPLES OF DROP INLET PROTECTION ARE NOT INTENDED FOR USE ON GRADES. ON GRADE THEY MAY CAUSE WATER TO BYPASS THE STRUCTURE, CREATING ADDITIONAL EROSION OR FLOODING.
- POSSIBLE MODIFICATIONS FOR USE ON GRADE INCLUDE ADDING A BERM DOWNSTREAM OF THE INLET TO CREATE PONDING. CHECK DAMS MAY ALSO BE USED UPSTREAM OF THE INLET TO SLOW VELOCITIES.
- PREFABRICATED DROP INLET PROTECTION SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

- THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.
- SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.
- SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.
- SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.
- GRAVEL BAGS SHALL BE FILLED WITH CLEAN STONE, RATHER THAN SAND, TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM IF BAGS ARE DAMAGED DURING USE.
- GRAVEL BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED. GRAVEL BAGS SHALL LAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.
- SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.
- 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.
- PAYMENT OF INLET PROTECTION SHALL BE MADE UNDER APPLICABLE ITEMS INCLUDED IN THE CONTRACT PLANS OR UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM.
- PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
- PAYMENT FOR MAINTAINING INLET PROTECTION SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



ROCK BARRIER INLET PROTECTION
TEMPORARY UNPAVED AREAS

ROCK BARRIER DROP INLET PROTECTION
TEMPORARY PAVED AREAS

EROSION PREVENTION & SEDIMENT CONTROL DETAILS DROP INLET PROTECTION

EPSC3

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn	PLOT DATE: 07-SEP-2005
IPARM FILE NAME: s96j286epsc3.i	DRAWN BY: M.FESSEL
DESIGNED BY: M.FESSEL	CHECKED BY:
SQUAD LEADER: C.P. WILLIAMS	SHEET: 94 OF 97
DROP INLET PROTECTION	

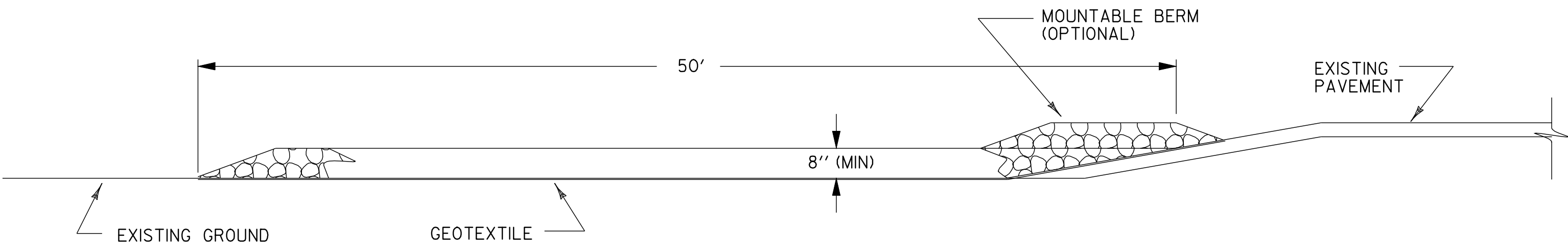
STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

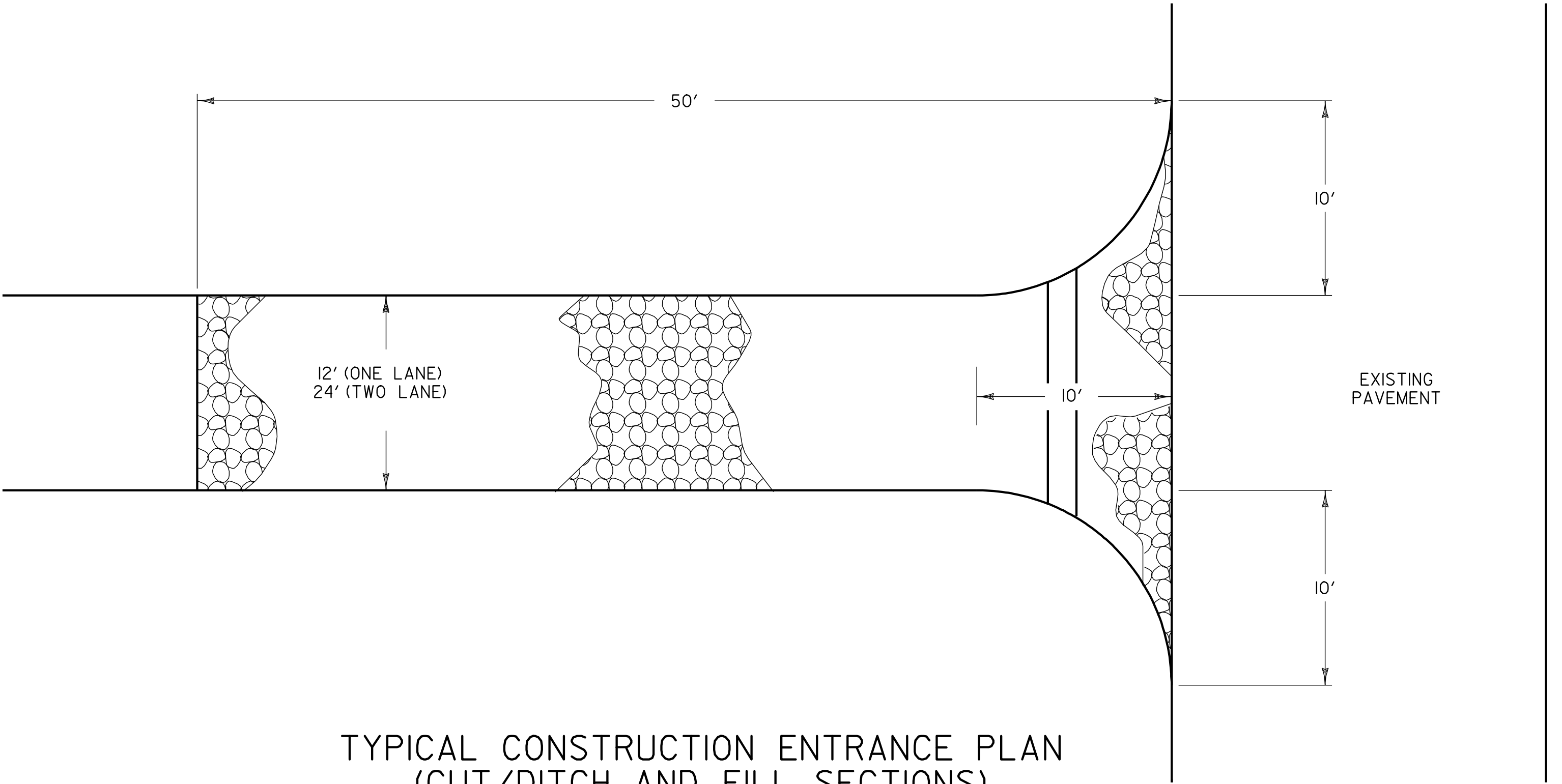
A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

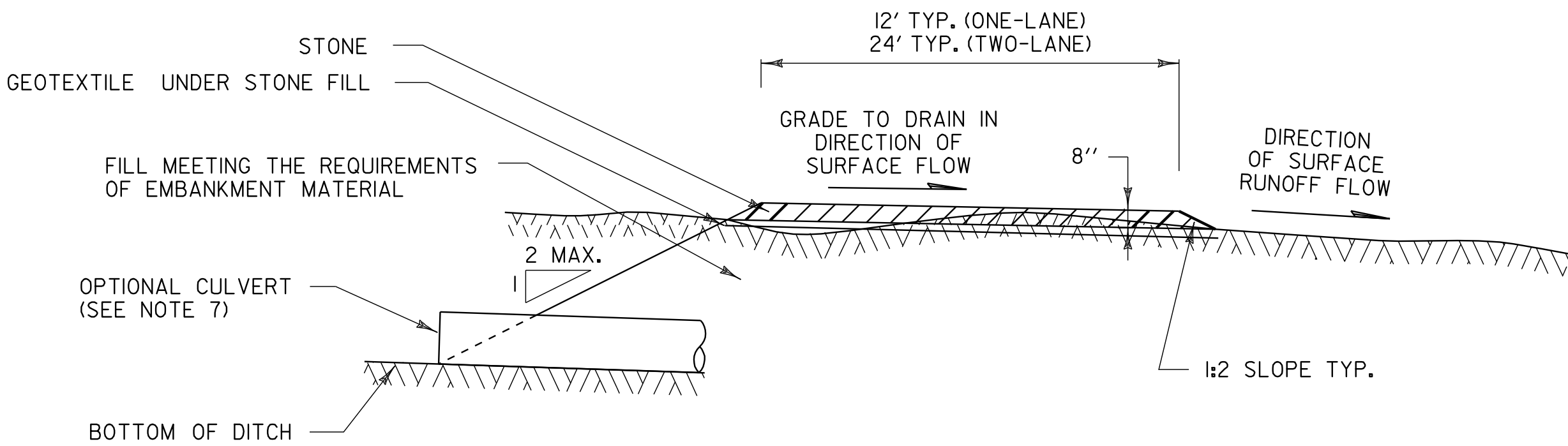
1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES .
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 18 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED 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 PROFILE
(CUT AND DITCH SECTIONS)



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

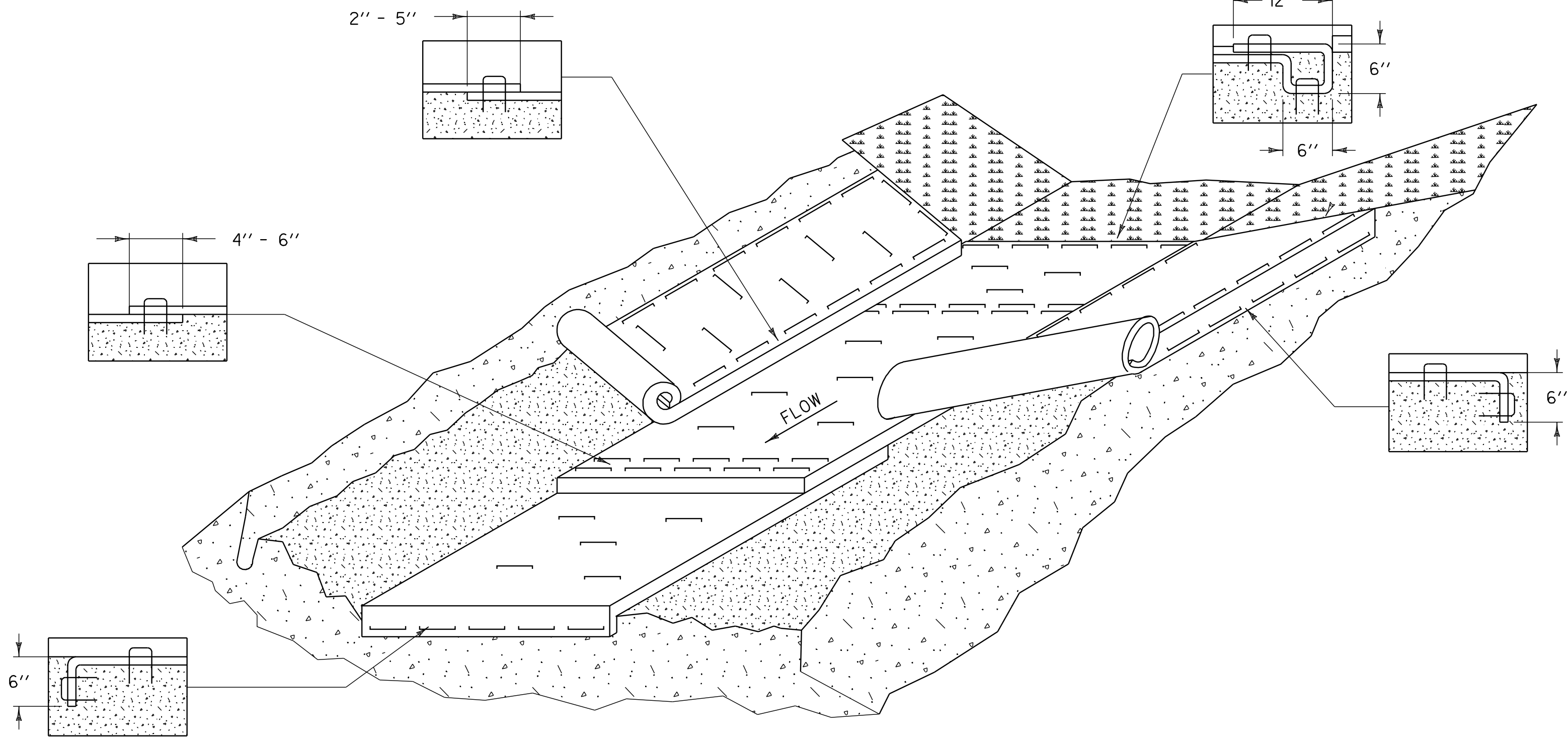


TYPICAL CONSTRUCTION ENTRANCE SECTION

EROSION PREVENTION &
SEDIMENT CONTROL DETAILS
CONSTRUCTION ENTRANCE

EPSC4

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn IPARM FILE NAME: s96j286epsc4.i DESIGNED BY: M.FESSEL SQUAD LEADER: C.P. WILLIAMS CONSTRUCTION ENTRANCE	PLOT DATE: 07-SEP-2005 DRAWN BY: M.FESSEL CHECKED BY: SHEET: 95 OF 97



EROSION PROTECTION FOR DITCHES

APPLICATION NOTES:

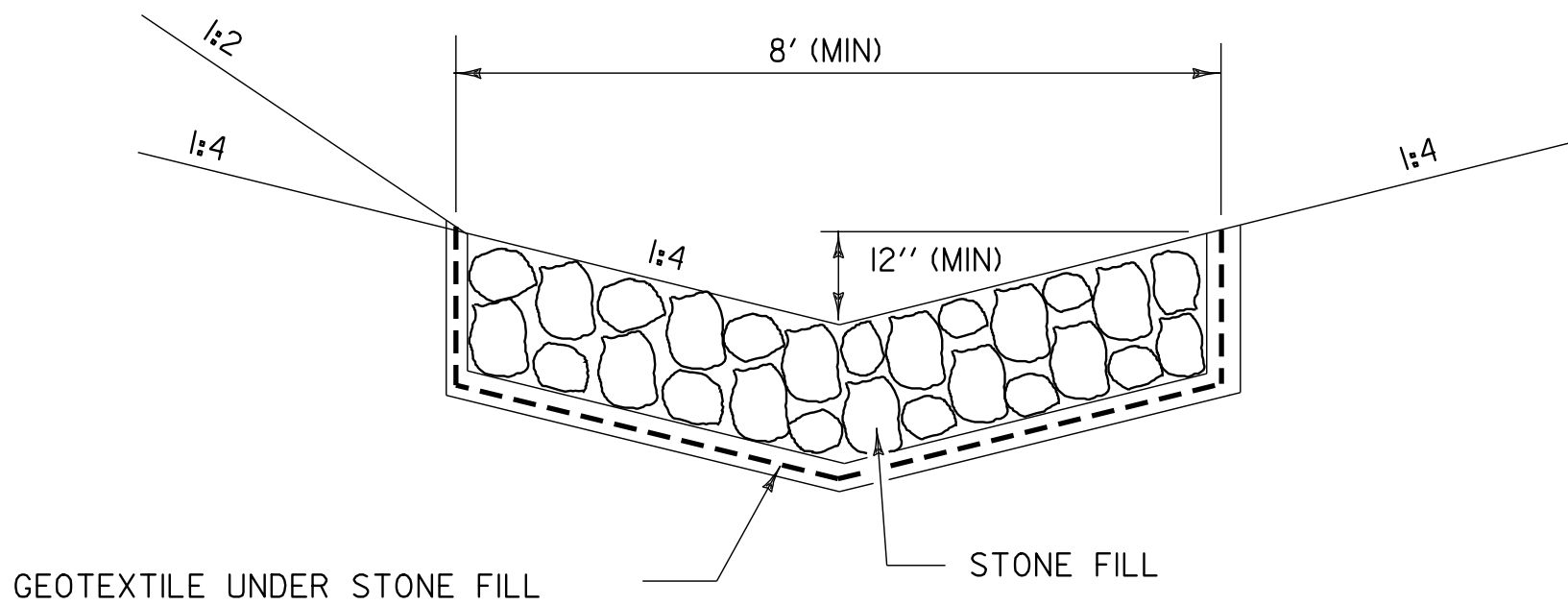
- A. THE PURPOSE OF LINING THE DITCH WITH EROSION MATTING IS TO REDUCE EROSION AND AID THE ESTABLISHMENT OF VEGETATION AT LOW VELOCITIES.
- B. THE FOLLOWING CHARTS SHALL BE USED TO DETERMINE THE APPROPRIATE EROSION CONTROL MEASURE:

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

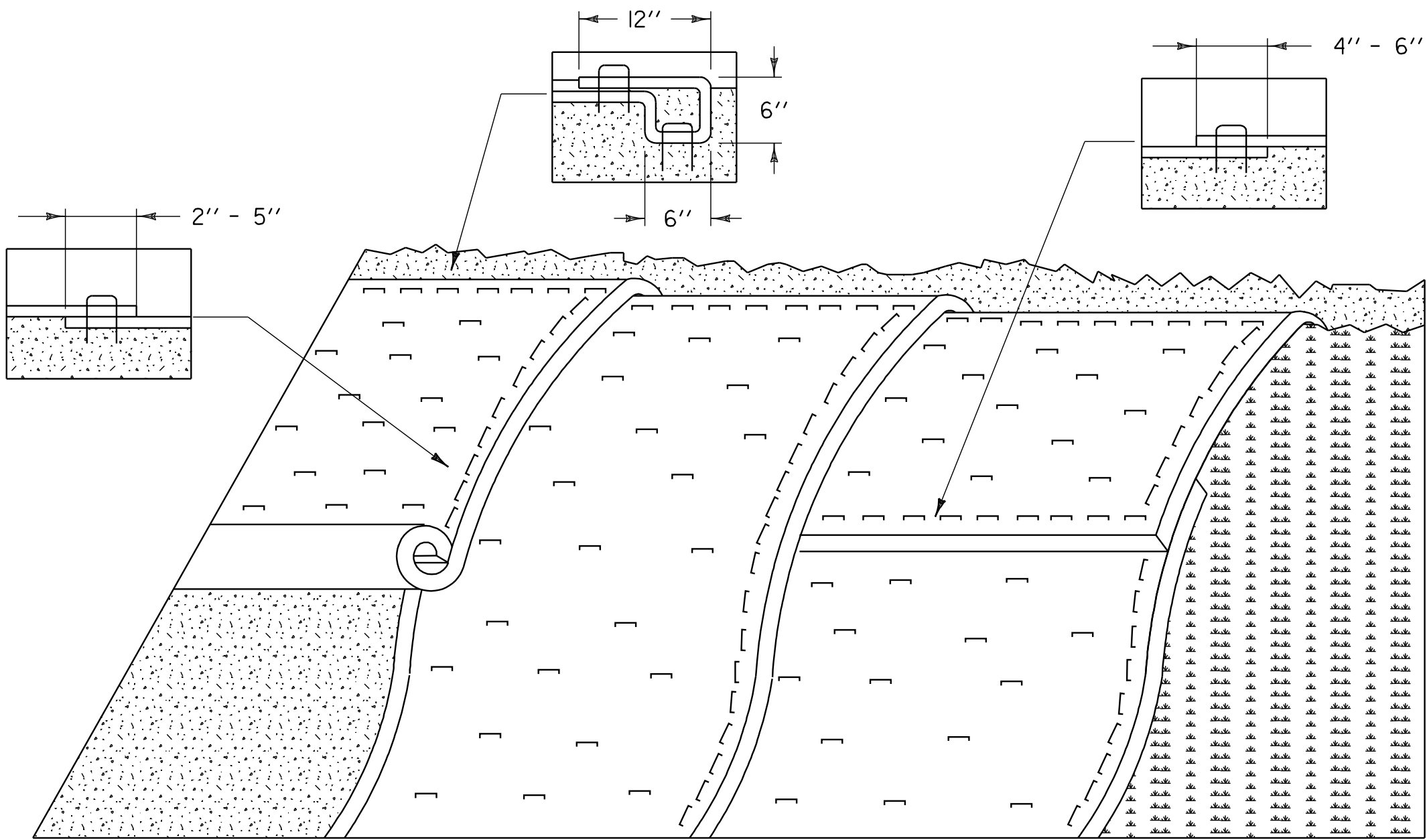
STONE FILL THICKNESS	
STONE FILL TYPE	THICKNESS
TYPE I	1 FT
TYPE II	2 FT

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 INTALLATION 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.



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 STABLISHMENT 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.

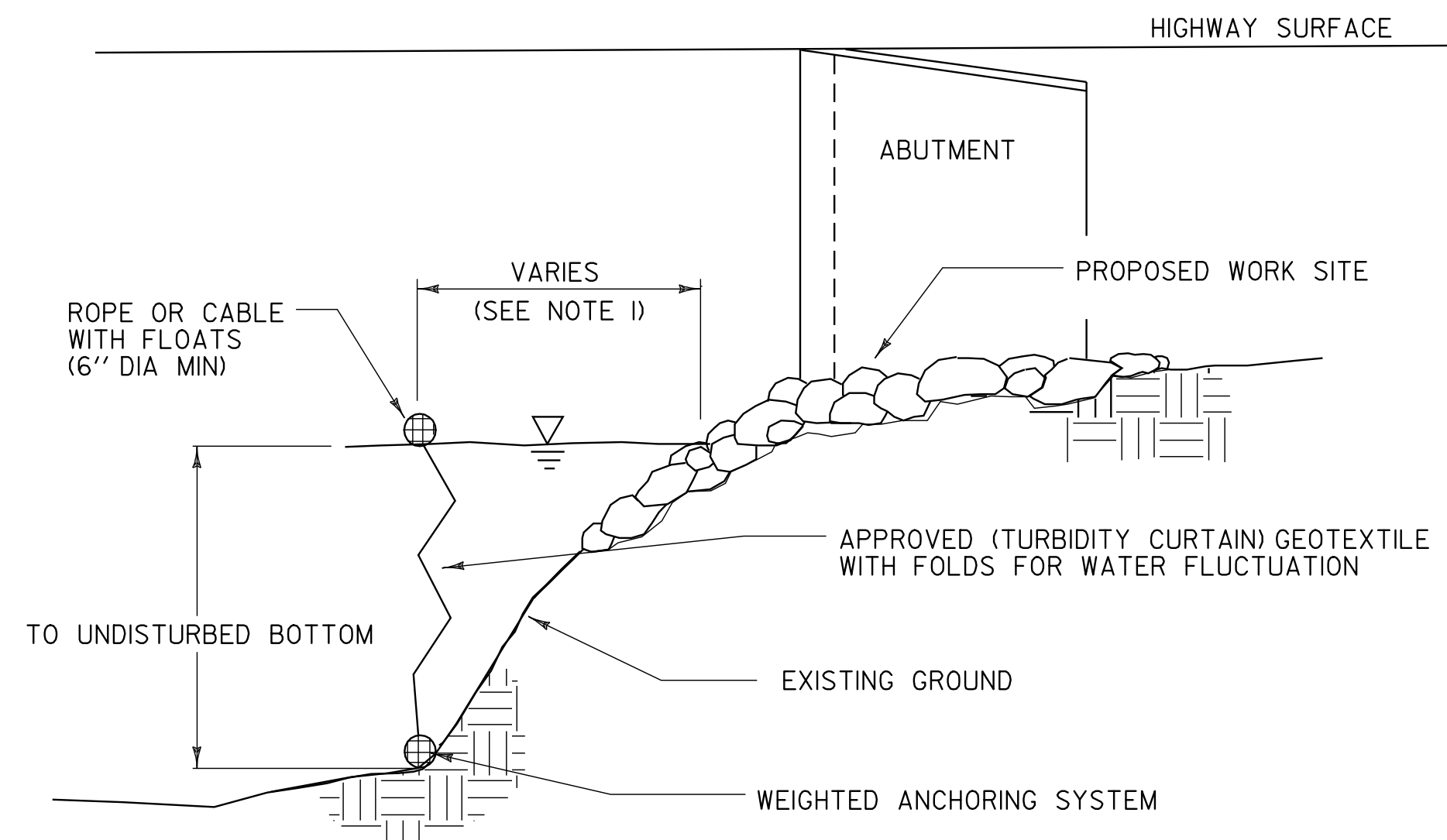
GENERAL NOTES:

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 INTALLATION 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.

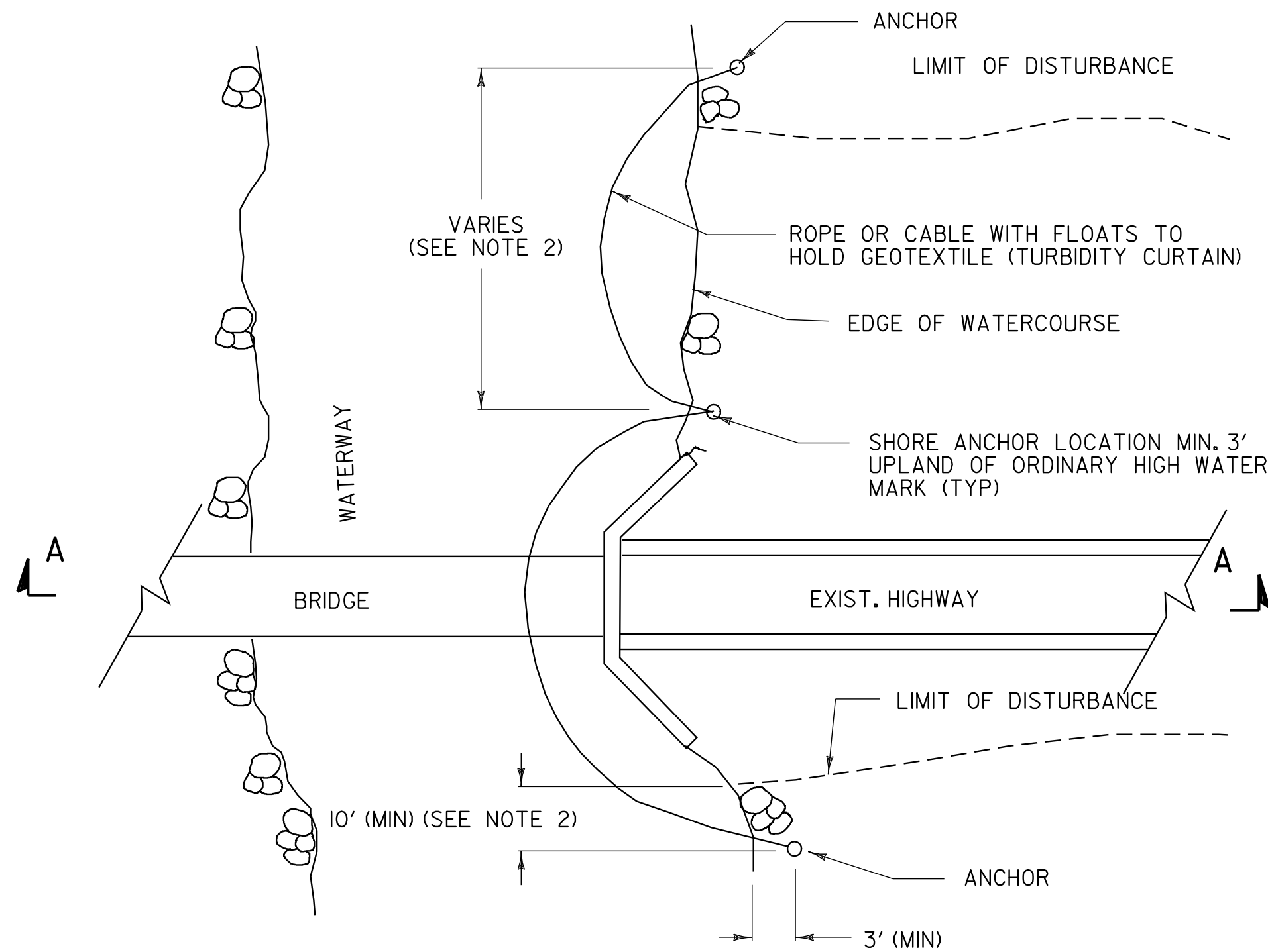
EROSION PREVENTION & SEDIMENT CONTROL DETAILS DITCH & SLOPE PROTECTION

EPSC5

PROJECT: BRADFORD	PROJECT NO.: TH3-9641
DESIGN FILE NAME: 96j286/Structures/s96j286ecnotes.dgn IPARM FILE NAME: s96j286epsc5.i DESIGNED BY: M.FESSEL SQUAD LEADER: C.P. WILLIAMS DITCH AND SLOPE PROTECTION	DESIGNED BY: M.FESSEL PLOT DATE: 07-SEP-2005 DRAWN BY: M.FESSEL CHECKED BY: SHEET: 96 OF 97



SECTION A-A



PLAN

TURBIDITY CURTAIN - TEMPORARY

TURBIDITY CURTAIN

APPLICATION NOTES:

- THE PURPOSE OF A TURBIDITY CURTAIN IS TO SEPARATE WORK AREAS IN OR ADJACENT TO WATERS, TO PREVENT SEDIMENT FROM ENTERING THE WATERS.
- TURBIDITY CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FT/SEC.
- TURBIDITY CURTAIN SHALL NOT BE PLACED AT THE OUTLET OF A CULVERT OR DITCH UNLESS THE VELOCITY DOES NOT EXCEED 1.5 FT/SEC.
- THE DETAIL DEPICTS WORK AT A BRIDGE LOCATION, BUT TURBIDITY CURTAIN MAY BE APPLIED AT OTHER LOCATIONS.

GENERAL NOTES:

- THE TURBIDITY CURTAIN SHALL BE PLACED AS CLOSE TO THE WORK AS POSSIBLE WITHOUT INTERFERING WITH CONSTRUCTION OPERATIONS.
- THE TURBIDITY CURTAIN SHALL BE A MAXIMUM OF 100 FEET LONG BETWEEN ANCHORS. LAST SECTION SHALL TERMINATE A MINIMUM OF 10 FEET BEYOND THE LIMIT OF DISTURBANCE.
- THE CONTRACTOR SHALL MONITOR THE TURBIDITY CURTAIN, TAKING INTO ACCOUNT WEATHER PATTERNS AND PREVAILING WIND DIRECTIONS THAT MAY AFFECT WATER LEVELS, VELOCITY AND MOVEMENT OF THE TURBIDITY CURTAIN.
- THE TURBIDITY CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE TO MINIMIZE ESCAPE OF SEDIMENTS INTO THE WATERWAY.
- THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE THAT ALLOWS THE CURTAIN TO CONFORM TO THE CONTOUR ON THE BOTTOM OF THE WATERWAY.
- PAYMENT FOR INSTALLATION AND REMOVAL OF THE TURBIDITY CURTAIN SHALL BE MADE UNDER THE GEOTEXTILE FOR FILTER CURTAIN ITEM.
- PAYMENT FOR MONITORING TURBIDITY CURTAIN SHALL BE MADE UNDER THE MONITORING EROSION & SEDIMENT CONTROL PLAN ITEM.
- PAYMENT FOR MAINTAINING TURBIDITY CURTAIN SHALL BE MADE UNDER THE FIELD MAINTENANCE OF EROSION & SEDIMENT CONTROL PLAN ITEM, UNLESS MINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.

EROSION PREVENTION & SEDIMENT CONTROL DETAILS TURBIDITY CURTAIN

EPSC6

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TURBIDITY CURTAIN	