

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

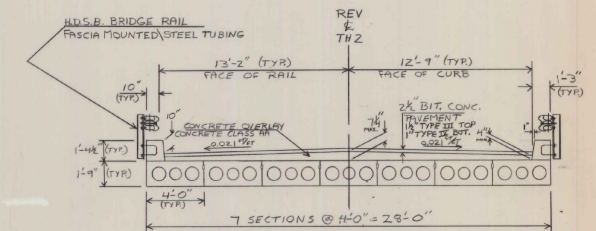
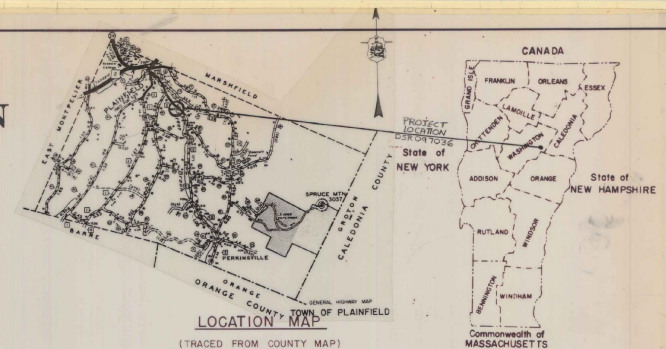
TOWN OF PLAINFIELD
COUNTY OF WASHINGTON

ROUTE NO: TH 2 BRIDGE NO: 23

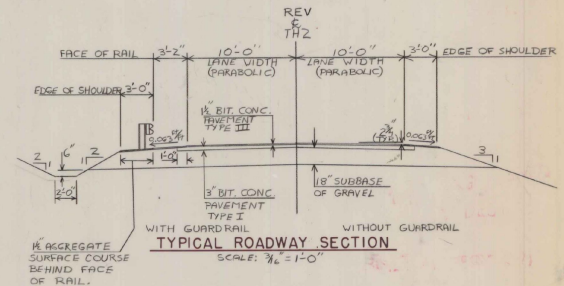
PROJECT LOCATION: BEGINNING AT A POINT ON TH 2 IN THE TOWN OF PLAINFIELD 1.14 MILES SOUTHEAST OF THE INTERSECTION WITH U.S. ROUTE 2, AND CONTINUING NORTH WEST FOR 0.076 MILES.
PROJECT DESCRIPTION: REPLACEMENT OF EXISTING CONCRETE T-BEAM BRIDGE WITH NEW PRESTRESSED CONCRETE VOIDED SLAB BRIDGE. THE NEW STRUCTURE WILL BE LOCATED ON THE SITE OF THE EXISTING BRIDGE AND WILL INCLUDE RELATED APPROACH & CHANNEL WORK.

LENGTH OF STRUCTURE: 51.00 FEET
LENGTH OF PARTICIPATION ROADWAY: 349.00 FEET
LENGTH OF NON-PARTICIPATION ROADWAY: 0.00 FEET
LENGTH OF PROJECT: 400.00 FEET

BUILT AS DESIGNED



TYPICAL BRIDGE SECTION
SCALE: 1/4" = 1'-0"



TYPICAL ROADWAY SECTION
SCALE: 3/8" = 1'-0"

BUILT AS DESIGNED

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD	
APPROVED	DATE
DIRECTOR OF PLANNING & PRECONSTRUCTION	
BRIDGE 23 ON TH 2	
OVER	
GREAT BROOK	
PROJECT	PROJECT NO.
PLAINFIELD	DSR097036
C41 OF C93 SHEET 1 OF 43	

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE CHIEF ENGINEER. CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 1986, FOR USE ON THESE PROJECTS, INCLUDING ALL SUBSEQUENT PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

INDEX OF SHEETS

1. TITLE SHEET
2. SITE PLAN
3. PROFILE
4. QUANTITY SHEET
5. R.O.W. SHEET
6. BLANK
7. BRIDGE PLAN AND ELEVATION
8. GENERAL NOTES AND BRIDGE MARKER
9. APPROACH SLAB DETAILS
10. TYPICAL SECTION AND END DETAILS
11. DECK PLAN AND REINFORCING DETAILS
12. BRIDGE RAILING DETAILS
- 13-15. ABUTMENT #1 DETAILS
- 16-18. ABUTMENT #2 DETAILS
- 19-20. REINFORCING SCHEDULES
- 21-33. ROADWAY SECTIONS
- 34-43. CHANNEL SECTIONS

SEE SHEET C3 OF 93 OF BRIDGE 12 PROJECT FOR LIST OF STANDARDS.

LOAD RATING (TONS)									
STRESS LEVELS	H	HS	SS	SA	STR.	AA	STR.	SA	SEM
INVENTORY	31	40							
POSTED	33	42	60			36	38	50	
DESIGN	46	65	66	39	40				

DESIGN IS FOR HS-20 LIVE LOADING.

CONVENTIONAL SIGNS

- 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
- CONTROL OF ACCESS
- PROPERTY LINE
- R.O.W. TAKING LINE
- SLOPE RIGHTS
- TOP OF CUT
- TOE OF SLOPE

TRAFFIC DATA

1990 ADT = 290
1990 DHV = 40
X T = 1
X D = 52
2010 ADT = 394
2010 DHV = 54

DATUM
VERTICAL
HORIZONTAL

HYDRAULIC DATA

DRAINAGE AREA = 13.6 SQ. MI. (35.2 SQ. KM.)

Q 2.33 = 600 cfs (17 cms)
Q 10 = 1300 " (37 ")
Q 25 = 1800 " (51 ")
Q 50 = 2200 " (62 ")
Q 100 = 2600 " (74 ")

HEADWATER ELEVATION = 859.2

" " = 860.1

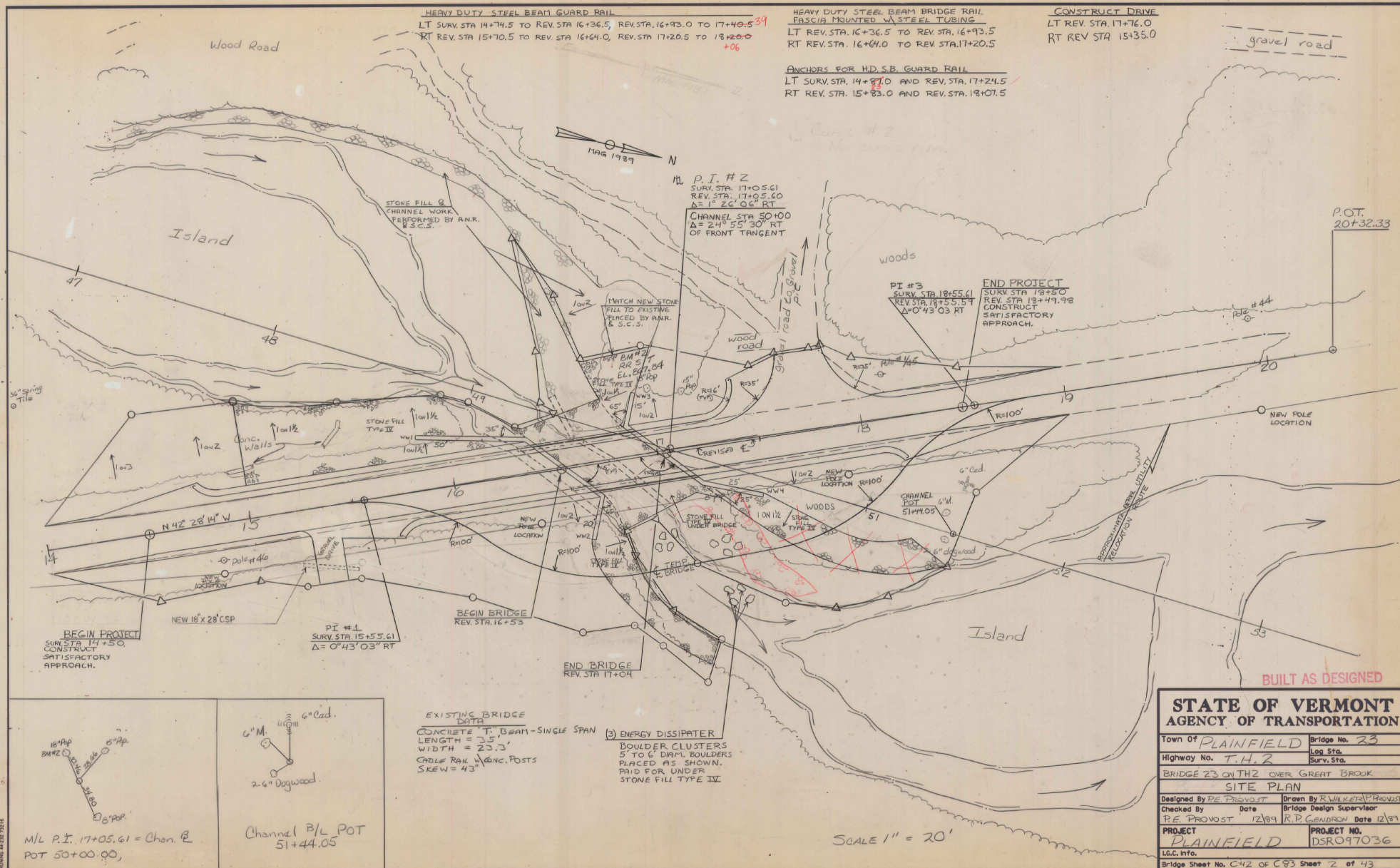
" " = 860.7

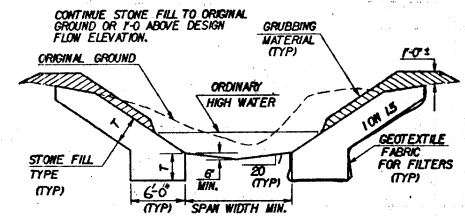
" " = 861.1

" " = 861.4

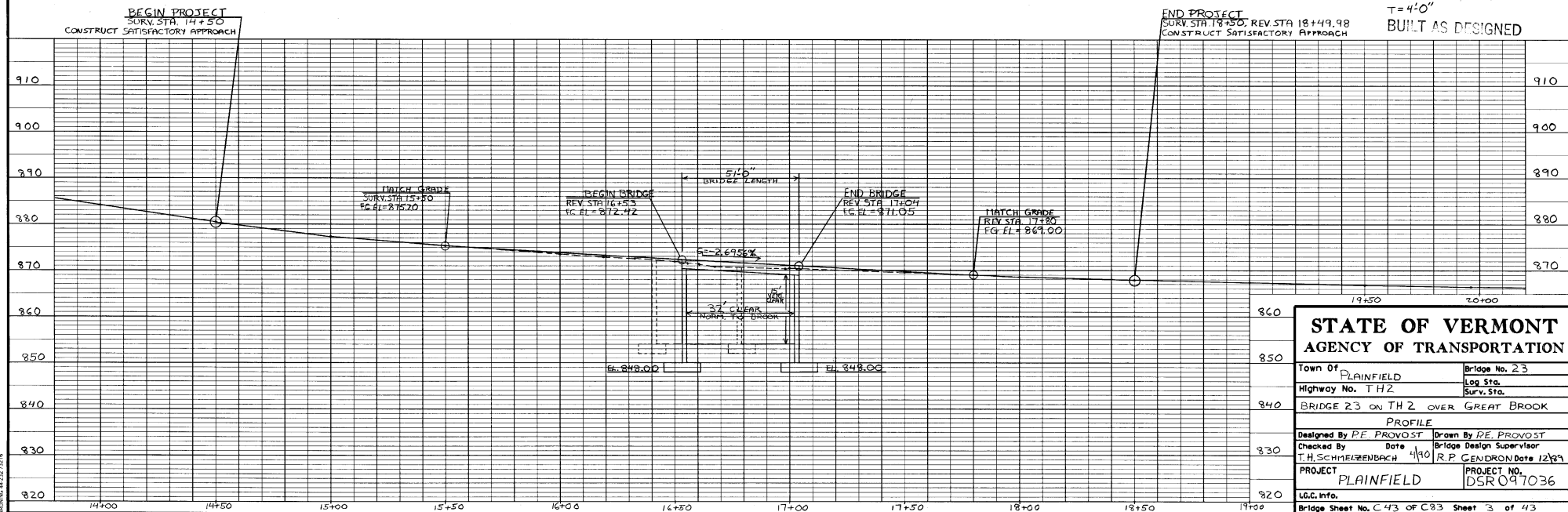
TAILWATER DEPTH @ Q 25 = 3.3' (1.0 m)

OUTLET VELOCITY @ Q 25 = 18.3 fps (5.6 mps)





TYPICAL CHANNEL SECTION



STATE OF VERMONT			
AGENCY OF TRANSPORTATION			
Town Of <u>PLAINFIELD</u>		Bridge No. <u>23</u>	
Highway No. <u>TH2</u>		Log Sta. <u> </u>	
BRIDGE 23 ON TH 2 OVER GREAT BROOK			
PROFILE			
Designed By <u>RE. PROVOST</u>	Drawn By <u>RE. PROVOST</u>		
Checked By <u>T.H. SCHMIDT</u>	Date <u>4/10</u>	Bridge Design Supervisor <u>R.P. GENDRON</u>	
PROJECT <u>PLAINFIELD</u>		PROJECT NO. <u>DSR 097036</u>	
L&C info. <u> </u>			
Bridge Sheet No. <u>C43</u> OF <u>C93</u> Sheet <u>3</u> of <u>43</u>			

EARTHWORK

V.C.	% GRD	STATION	GRADES		CORR. V.C.	DIST. FT.	COMMON EXCAVATION		EMBANKMENT		SUBBASE OF GRAVEL		AREA	CU. YDS.
			ON TAN.	ON V.C.			AREA	CU. YDS.	AREA	CU. YDS.	AREA	CU. YDS.		
		14+00					0	0	0	0				
		14+50	880.40			50	107	99	110	102	60	56		
		15+00	877.30			50	104	195	4	106	69	119		
		15+50	875.20	MATCH		50	67	158	18	20	70	129		
		16+00	873.85			50	60	118	20	33	60	120		
		16+39				39	50	60	87	58	60	87		
		16+50	872.50			11	50	50	43			29		
		16+53	872.42	BEGIN BRIDGE		26	15	14						
		16+65				18	0		14	0				
		16+68						0						
		17+00					53	0		70				
		17+04	871.05	END BRIDGE		50		130	11		157			
		17+50	869.81				87	12		100				
		17+80	869.00	MATCH		30	50	111		23		156		
		17+00	868.60			20	100	78	13	69				
		18+50	867.90			50	73	160	37	46	60	119		
		19+00	867.30			50	0	68	0	34	0	56		
							TOTAL	1240	449	1028				
							ROUNDING		1	2				
								1240	450	1030				
							EMBANKMENTS	450 X 115 = 518 CY						
							MATERIAL AVAILABLE FOR FILL							
							COMMON EXCAVATION 100% = 1240 CY							
							STRUCTURE EXCAVATION = 1470 X 0.3 = 441 CY							
							UNCLASS. CHAN. EXCAV. = 2970 X 0.3 = 891 CY							
								2572 CY						
							WASTE = 2054 CY							
							EARTH BORROW REQUIRED = 0 CY							

BRIDGE QUANTITY SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION
STRUCTURES DIVISION

QUANTITY BREAKDOWN											
NO.	ITEM	UNIT	ABUT #1	ABUT #2	SUPER- STRUCTURE	ROADWAY	CHANNEL	APPROACH SLABS	TOTAL	FINAL	
203.15	COMMON EXCAVATION	CY				1240			1240		
203.27	UNCLASSIFIED CHANNEL EXCAVATION	CY					2970		2970		
203.30	EARTH BORROW (EST.)	CY				10			10		
203.40	FINE GRADING SUBGRADE	SY				1600			1600		
204.25	STRUCTURE EXCAVATION	CY	760	710					1470		
204.30	GRANULAR BACKFILL FOR STRUCTURES	CY	675	465					1140		
301.15	SUBBASE OF GRAVEL	CY				1030			1030		
401.10	AGGREGATE SURFACE COURSE	CY				6			6		
406.25	BITUMINOUS CONCRETE PAVEMENT	TON			20	230			250		
501.21	CONCRETE CLASS "AA"	CY			30				30		
501.25	CONCRETE CLASS "B"	CY	343	242				52	637		
501.58	MORTAR, TYPE IV	CY	0.2	0.3	0.5				1		
507.15	REINFORCING STEEL	LBS.	52,450	36,610				10,480	99,540		
507.17	EPOXY COATED REINFORCING STEEL	LBS.			1750				1750		
510.20	PRESTRESSED CONCRETE MEMBER (VOIDED SLAB 48" W X 21" D X 55' LONG)	EACH			7				7		
514.10	WATER REPELLENT	GAL.	17	13	5				35		
519.20	SHEET MEMBRANE WATERPROOFING	SY			165				165		
524.10	JOINT SEALER -HOT POURED	GAL.	4	1					5		
525.44	BRIDGE RAIL-H.D. STEEL BEAM/ FASCIA MOUNTED STEEL TUBING	LF			113				113		
528.10	ONE WAY TEMPORARY BRIDGE	LS				1			1		
529.15	REMOVAL OF STRUCTURE	EACH				1			1		
608.25	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	HR				1			1		
609.10	DUST CONTROL w/WATER	FGAL				1			1		
613.13	STONE FILL, TYPE IV	CY					2020		2020		
621.21	H.D. STEEL BEAM GUARD RAIL	LF				448			448		
621.60	ANCHOR FOR STEEL BEAM RAIL	EACH				4			4		
631.12	FIELD OFFICE -ENGINEERS (MODIFIED)	LS							0.6		
631.16	TESTING EQUIPMENT- CONCRETE	LS							0.6		
631.17	TESTING EQUIPMENT-BITUMINOUS	LS				1			1		
635.10	MOBILIZATION	LS							0.6		
646.51	TEMPORARY 4" YELLOW LINE	LF				1000			1000		
649.10	GEOTEXTILE FABRIC FOR FILTERS	SY					1900		1900		
651.40	GRUBBING MATERIAL	SY					1050		1050		

BRIDGE (S) AT STATION (S) 16 + 78.5
LOCATION (S)

Prepared by: P.E. PROVOST, J.L. DONALD
SUPERVISOR: R.P. GENDRON

BR 44 OF C 93

PROJECT NO. DSR097036
SHEET NO. 4 OF 43

HEAVY DUTY STEEL BEAM GUARD RAIL
 LT SURV. STA 14+74.5 TO REV. STA 16+36.5, REV. STA 16+93.0 TO 17+40.5
 RT REV. STA 15+70.5 TO REV. STA 16+4.0, REV. STA 17+20.5 TO 18+20.0

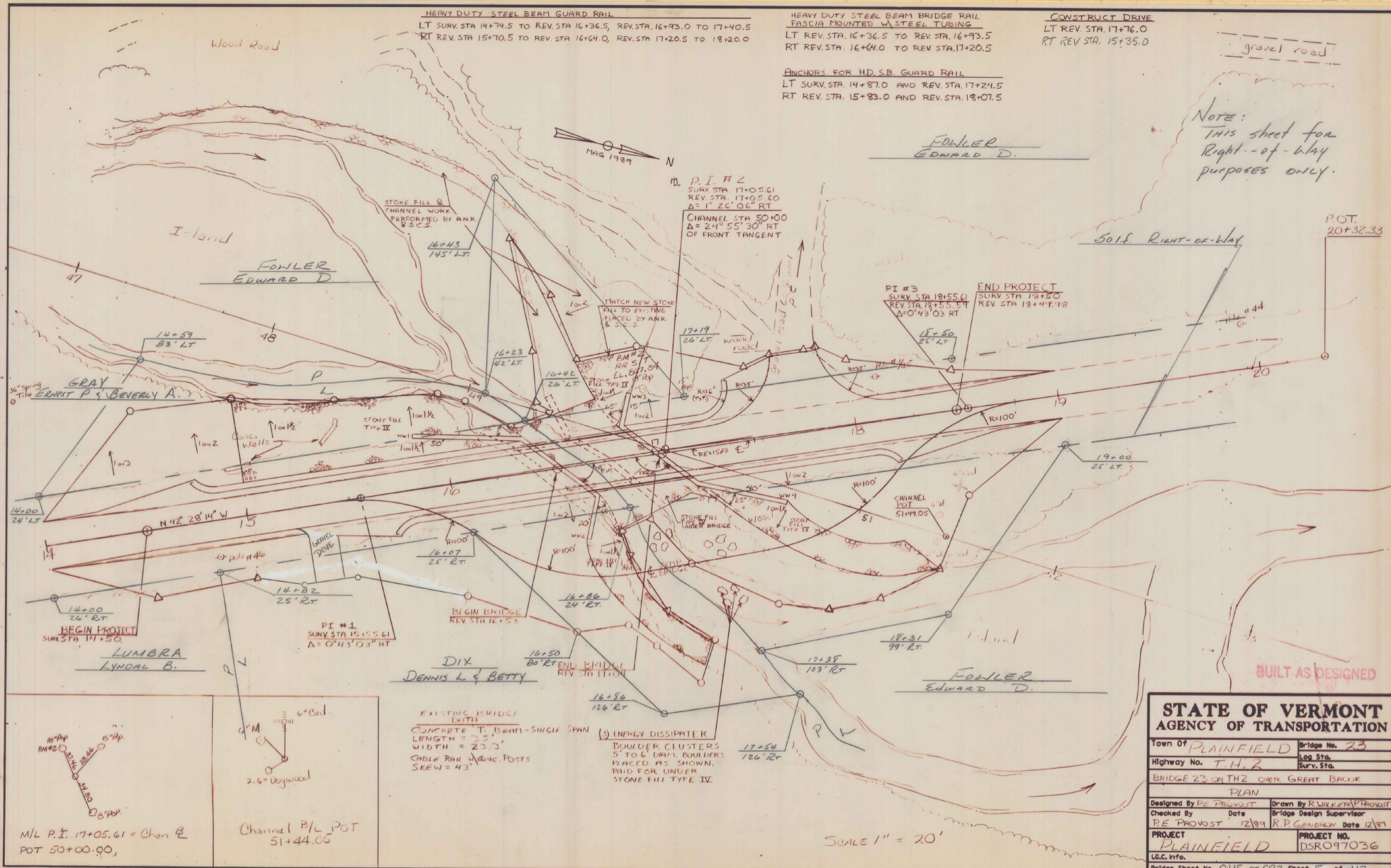
HEAVY DUTY STEEL BEAM BRIDGE RAIL
 FASCIA MOUNTED W/ STEEL TUBING
 LT REV. STA. 16+36.5 TO REV. STA. 16+93.5
 RT REV. STA. 16+4.0 TO REV. STA. 17+20.5

CONSTRUCT DRIVE
 LT REV. STA. 17+76.0
 RT REV. STA. 15+35.0

ANCHORS FOR HD S.B. GUARD RAIL
 LT SURV. STA. 14+87.0 AND REV. STA. 17+24.5
 RT REV. STA. 15+83.0 AND REV. STA. 18+07.5

FOWLER
 EDWARD D.

NOTE:
 THIS SHEET FOR
 Right-of-Way
 purposes only.

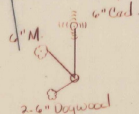
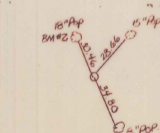


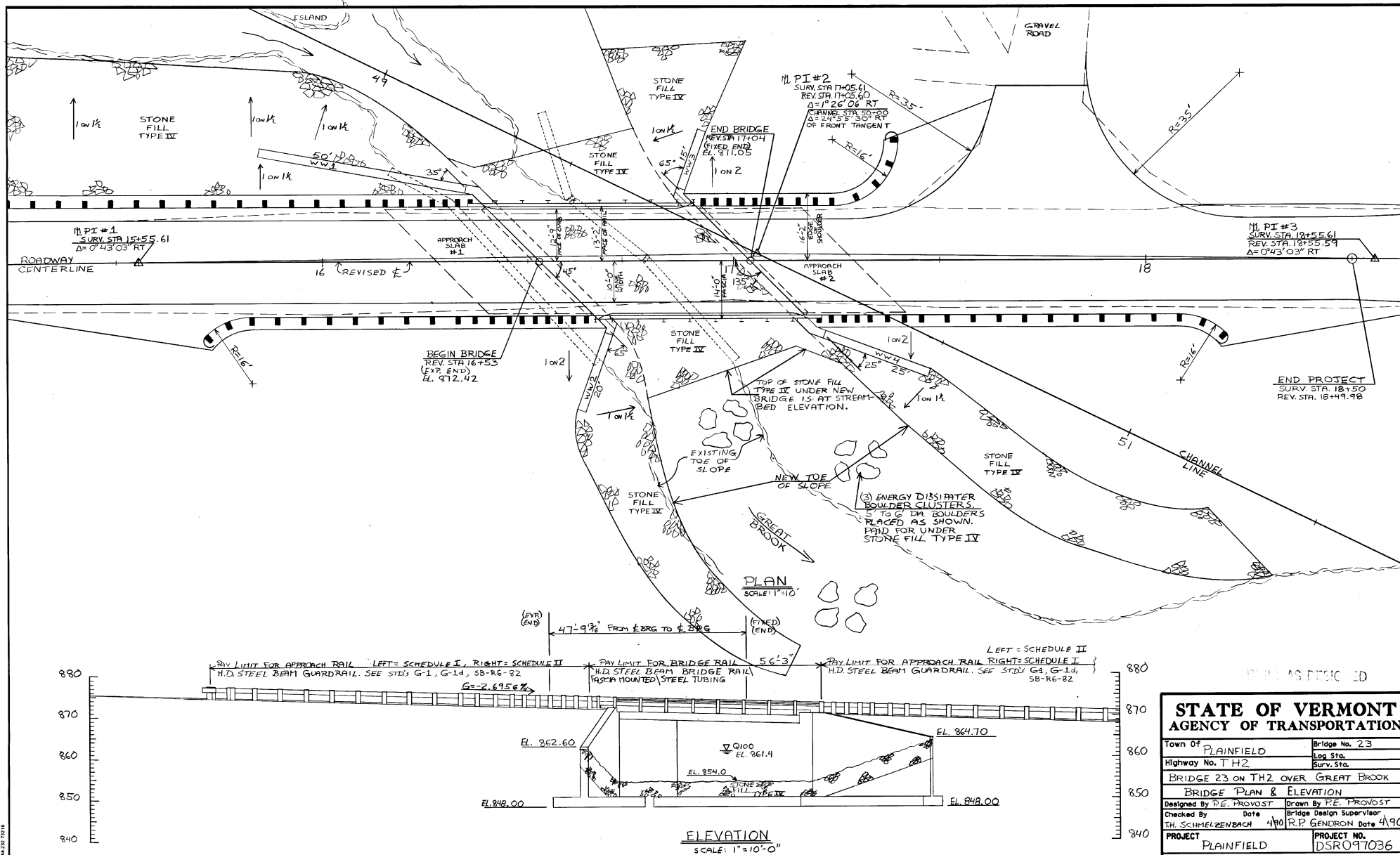
M/L P.I. 17+05.61 = Chan. R
 POT 50+00.00,

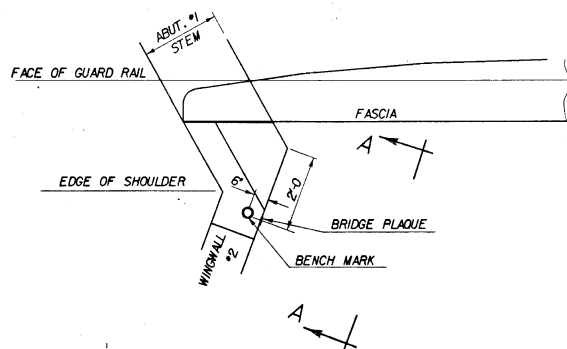
Channel B/L POT
 51+44.05

EXISTING BRIDGE DATA
 CONCRETE T-BEAM-SINGLE SPAN
 LENGTH = 35'
 WIDTH = 23.3'
 CABLE RAIL W/ ANCH. POSTS
 SKEW = 43°

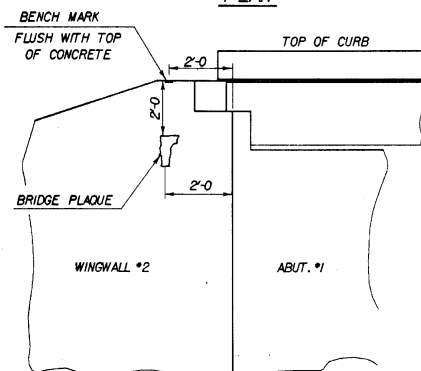
(1) ENERGY DISSIPATER
 BOUNDER CLUSTERS
 5' TO 6' DIA. BOULDERS
 PLACED AS SHOWN.
 PAID FOR UNDER
 STONE FILL TYPE IV.







PLAN



VIEW "A - A"

LOCATE BENCH MARK AND BRIDGE PLAQUE

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

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 1986 AND ITS LATEST REVISIONS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED, 1989 AND ITS LATEST REVISIONS.

2. PRESTRESSED, PRECAST MEMBERS SHALL:

- CONFORM WITH SECTION 510 "PRESTRESSED CONCRETE".
- BE (5) INTERMEDIATE UNITS 21' X 48" X 55'-0" (SKEWED ENDS) (5'-0" ALONG CENTERLINE OF UNIT) AND (2) FASCIA UNITS (LT & RT) 21' X 48" X 55'-0" (SKEWED ENDS) (5'-0" ALONG CENTERLINE OF UNIT)
- BE DESIGNED FOR AASHTO HS-20 LIVE LOAD.
- HAVE ENDS OF STRANDS RECESSED AND GROUTED AS PER STANDARD PRACTICE.
- HAVE VOIDS BE CONTINUOUS AND TERMINATE 2'-0" FROM ENDS OF UNITS.
- HAVE (4) STRANDS DEBOND SYMMETRICALLY 5'-0" FROM END OF BEAM.
- AT STRESS TRANSFER $F' = 4000$ PSI
 $F = 2400$ PSI
- MEET THE FOLLOWING ALLOWABLE DESIGN CRITERIA (SERVICE LOAD MOMENTS)

INTERIOR UNITS

MEMBER MOMENT	219.8 K-FT
DEAD LOAD ON MEMBER MOMENT	106.9 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	37.5 K-FT
LIVE LOAD + IMPACT MOMENT	263.0 K-FT
DEAD LOAD REACTION	29.7 K
LIVE LOAD + IMPACT REACTION	25.5 K
TOTAL REACTION	55.2 K
CAMBER (FINAL CONDITION) OF MEMBER ONLY	7/16" UPWARD
CAMBER WITH DEAD LOADS	1/4" UPWARD
CAMBER WITH SUPERIMPOSED DEAD LOADS	7/16" DOWNWARD
CONTAIN A TOTAL OF (4) 1/2" DIAMETER, 270 K. STRANDS	
CENTROID OF ALL STRANDS 2.82 INCHES UP FROM THE BOTTOM OF MEMBER.	

FASCIA UNITS (LT & RT)

MEMBER MOMENT	219.8 K-FT
DEAD LOAD ON MEMBER MOMENT	123.9 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	43.8 K-FT
LIVE LOAD + IMPACT MOMENT	263.0 K-FT
DEAD LOAD REACTION	31.6 K
LIVE LOAD + IMPACT REACTION	25.5 K
TOTAL REACTION	57.1 K
CAMBER (FINAL CONDITION) OF MEMBER ONLY	13/16" UPWARD
CAMBER WITH DEAD LOADS	1/8" DOWNWARD
CAMBER WITH SUPERIMPOSED DEAD LOADS	3/8" DOWNWARD
CONTAIN A TOTAL OF (8) 1/2" DIAMETER, 270 K. STRANDS	
CENTROID OF ALL STRANDS 3.58 INCHES UP FROM THE BOTTOM OF MEMBER.	

3. THE PRICE PER UNIT SHALL INCLUDE ALL MATERIALS CAST INTO THE UNITS INCLUDING CURB AND BRIDGE RAIL ANCHOR BOLTS WITH NUTS AND WASHERS PLUS THE 11/2" TRANSVERSE TIE RODS WITH NUTS AND WASHERS PLUS BEARING PADS AND EXPANSION MATERIAL UNDER UNITS

4. WITH THE APPROVAL OF THE STRUCTURES ENGINEER, THE FABRICATOR MAY ALTER THE DESIGN AS DETAILED TO MEET HIS PRESTRESSING OPERATION AND MATERIAL REQUIREMENTS.

5. THE CURBS SHALL BE CAST AFTER THE VOIDED SLAB STRANDS HAVE BEEN RELEASED. CONCRETE CLASS AA SHALL BE USED IN ACCORDANCE WITH SECTION 501 AND CONSTRUCTION JOINTS SHALL BE PROVIDED IN THE CURB.

6. THE TRANSVERSE TIE RODS WITH NUTS AND WASHERS SHALL MEET AASHTO M270 GRADE 36, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M232.

7. THE 11/4" X 6" NEOPRENE PADS SHALL CONTINUE FOR THE FULL LENGTH OF THE BRIDGE SEATS AND BE SUBSIDIARY TO CONCRETE, CLASS B.

8. THE JOINTS BETWEEN VOIDED SLAB UNITS SHALL BE FILLED WITH MORTAR, TYPE IV IN ACCORDANCE WITH SECTION 501.

9. MATERIALS, LABOR AND EQUIPMENT FOR GROUTING DOWELS AT ABUTMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.58 "MORTAR, TYPE IV."

10. THE FINISH TOP SURFACE ON EACH UNIT SHALL BE RAKED TO A UNIFORM ROUGHNESS.

11. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".

12. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SLAB.

13. THE FOLLOWING TABLE OF STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

REINFORCING STEEL	$F_y = 24,000$ PSI GRADE 60.
CAST IN PLACE CONCRETE	$f'_c = 3500$ PSI $f_c = 4000$ PSI
PRECAST CONCRETE	$f'_c = 5000$ PSI $f_c = 2000$ PSI
SOIL WEIGHT	140 PCF

14. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F.

15. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND THE DESIGN CONCRETE STRENGTH HAS BEEN ATTAINED.

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

17. THE "KEY" IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

18. EXCAVATION REQUIRED FOR THE NEW STRUCTURE OUTSIDE THE LIMITS OF "REMOVAL OF STRUCTURE" SHALL BE PAID FOR AS "STRUCTURE EXCAVATION".

19. IN STREAM CONSTRUCTION SHALL BE CONDUCTED ONLY DURING THE PERIOD JUNE 1, THROUGH OCTOBER 1, ANY DEVIATION FROM THIS PERIOD MUST BE APPROVED IN WRITING BY THE AGENCY OF NATURAL RESOURCES.

20. BLANK

21. MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH AND THREE (3) INCHES ELSEWHERE EXCEPT AS SHOWN OTHERWISE ON THE PLANS.

22. REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING $\pm 1"$
CLEARANCE $\pm 1/4"$

23. DECK CONCRETE SHALL BE "CONCRETE, CLASS AA". ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.

24. SURFACES OF BRIDGE SEATS UNDER BEARING PADS AND EXPANSION MATERIAL SHALL BE LEVEL. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.

25. THE EXISTING BRIDGE SHALL BE CLOSED TO TRAFFIC DURING CONSTRUCTION. TRAFFIC SHALL BE MAINTAINED ON A ONE WAY TEMPORARY BRIDGE.

26. ALL SIGNING, BARRICADES, DELINEATING, CONTROLLING OF EROSION, CLEARING AND GRUBBING AND TURF ESTABLISHMENT SHALL BE CONSIDERED SUBSIDIARY TO OTHER PAY ITEMS IN THE CONTRACT.

27. NEITHER BORINGS NOR ANY OTHER TYPE OF SUBSURFACE INVESTIGATION WAS DONE FOR THIS PROJECT. LEDGE AND/OR Boulders MAY BE ENCOUNTERED DURING CONSTRUCTION.

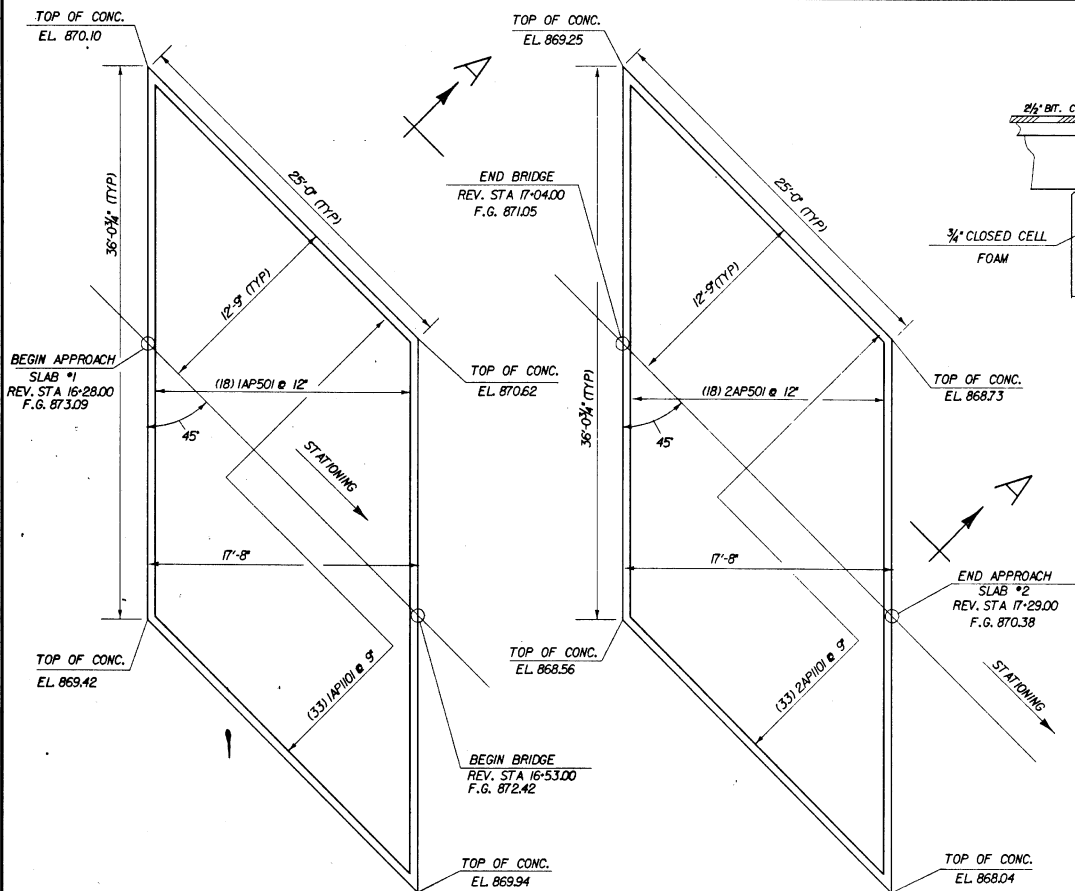
28. THE CONTRACTOR SHALL TAKE MEASURES TO TREAT TRAVELED AREAS TO CONTROL DUST USING WATER. ALL SUCH WORK SHALL BE PAID FOR UNDER ITEM 609.10 "DUST CONTROL WITH WATER."

29. PRIOR TO PLACING NEW CONCRETE, CLASS AA AGAINST PRECAST CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE PREPARED AS PER SUBSECTION 501.3 (b).

30. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
TH 2 OVER GREAT BROOK			
GENERAL NOTES AND BRIDGE MARKER			
Designed By	P. PROVOST	Drawn By	CEBUTTI
Checked By	Date	Bridge Design Supervisor	
P. PROVOST	4/30	R. P. GENDRON	Date 4/30
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
I.G.E. Info. 74163024100648 SUP/DGN		PLANSUP3.PPP	
Bridge Sheet No. C413		of C83 Sheet 8 of 43	

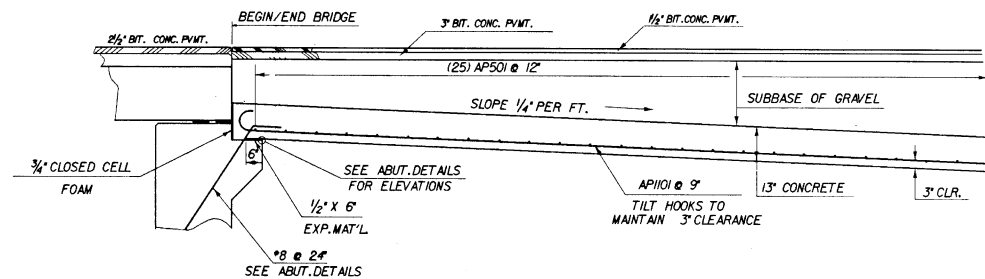


PLAN APPROACH SLAB #1

SCALE 1/4" = 1'-0"

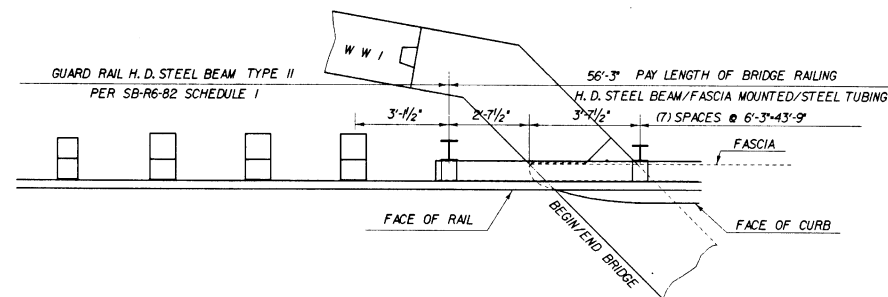
PLAN APPROACH SLAB #2

SCALE 1/4" = 1'-0"



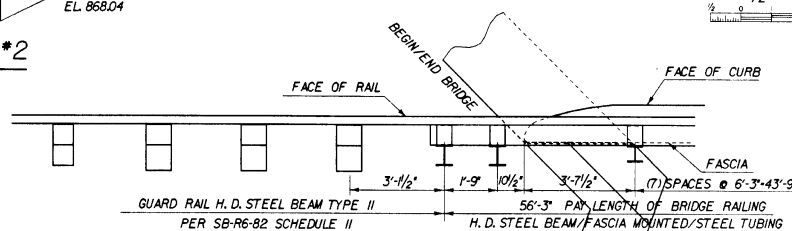
SECTION A - A

SECTION AT ABUT. 1 SAME EXCEPT OPPOSITE HAND
SCALE 1/2" = 1'-0"



PLAN AT WINGWALL #1

PLAN AT WINGWALL #4 SAME EXCEPT REVERSED IMAGE
SCALE 1/2" = 1'-0"



PLAN AT WINGWALL #2

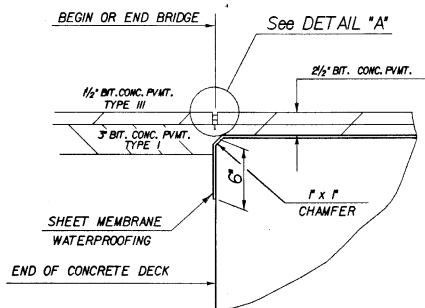
PLAN AT WINGWALL #3 SAME EXCEPT REVERSED IMAGE

SCALE 1/2" = 1'-0"

STATE OF VERMONT AGENCY OF TRANSPORTATION

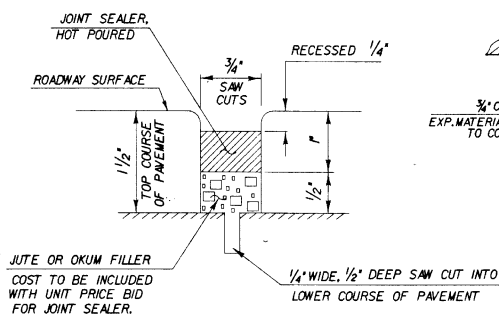
Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
TH 2 OVER GREAT BROOK			
APPROACH SLABS & GUARD RAIL AT APPROACHES			
Designed By	P. PROVOST	Drawn By	CERUTI
Checked By	Date	Bridge Design Supervisor	
P. PROVOST	4/90	R. GENDRON	Date 4/90
PROJECT	PLAINFIELD	PROJECT NO.	DSR027036
I.G.C. Info. ZH43024300603APP.DGN		PLAINFIELD	
Bridge Sheet No. C49 of C63		Sheet 9 of 43	



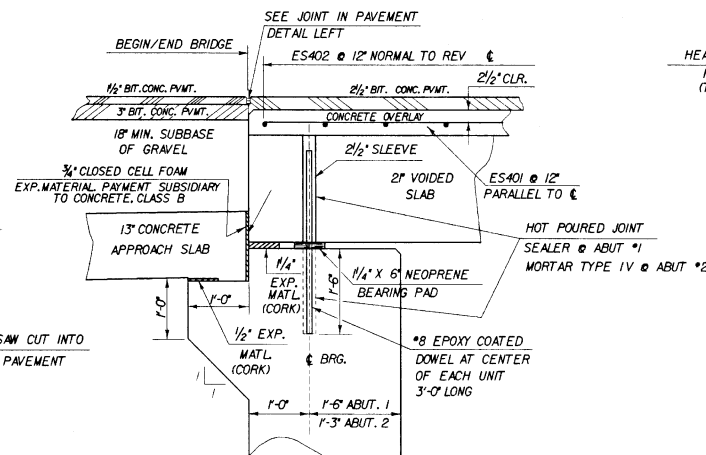


DETAIL FOR JOINT IN PAVEMENT AND
SHEET MEMBRANE AT END OF BRIDGE

JOINT IS TO BE LOCATED ACCURATELY BY
STRING LINING, OR OTHER MEANS, PRIOR TO
PAVING, SO THAT THE SAW CUTS WILL BE MADE
DIRECTLY OVER THE END OF CONCRETE DECK.

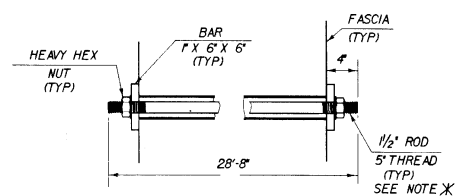


DETAIL "A"



END OF BRIDGE DETAIL
NORMAL TO ABUTMENT

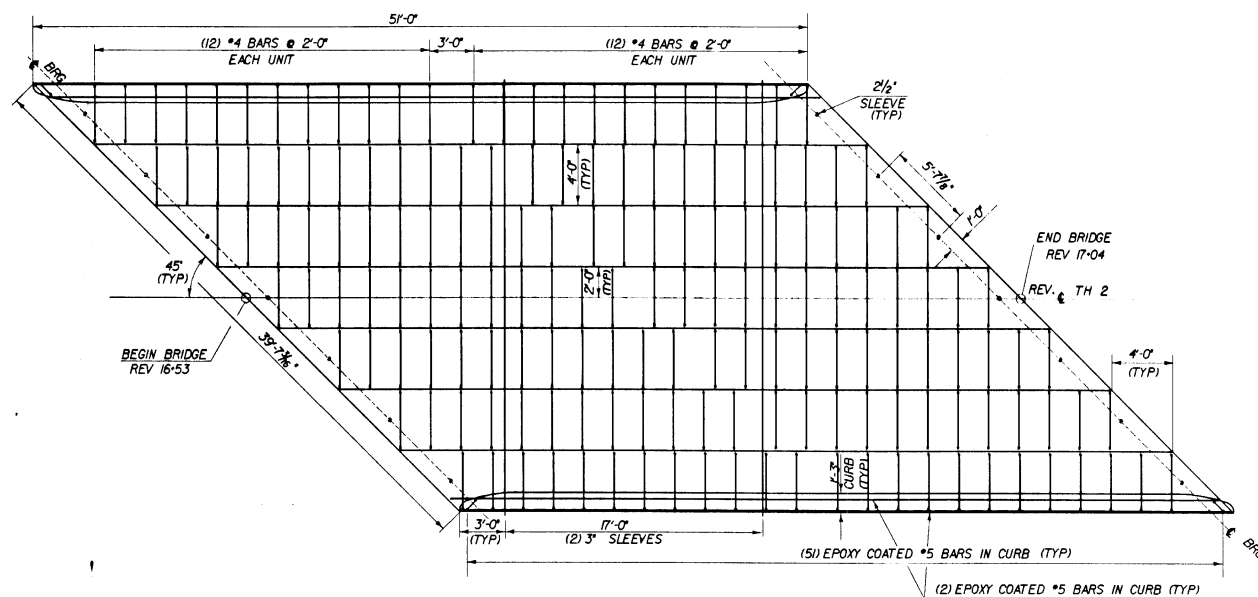
SCALE 1" = 1'-0"



TRANSVERSE TIE ROD

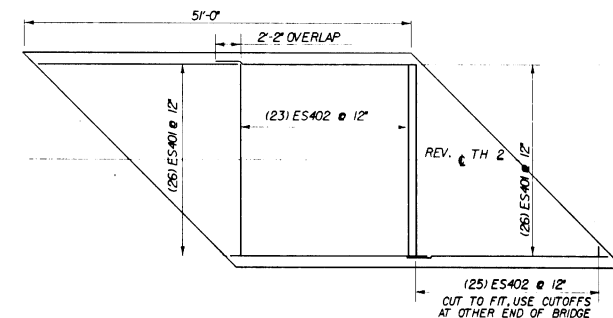
SCALE 1/2" = 1'-0"

* TIGHTEN NUT TO 1000 FT-LBS TORQUE
BEFORE GROUTING KEYWAYS WITH MORTAR TYPE IV.



PLAN PRESTRESSED VOIDED SLAB UNITS

SCALE 1/4" = 1'-0"



CUT ENDS OF EPOXY COATED REINFORCING
WILL BE REPAIRED AS PER SECTION 507.04.

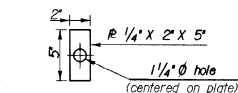
PLAN DECK OVERLAY REINFORCING

SCALE 1/8" = 1'-0"

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
TH 2 OVER GREAT BROOK			
DECK PLAN AND DECK REINFORCING			
Designed By	P. PROVOST	Drawn By	CEBUTTI
Checked By	P. PROVOST	Bridge Design Supervisor	
P. PROVOST	4/30	R.P. GENDROW	Date 4/30
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
I.G.C. Info. ZH430241006483 SUP.DGN		PLAINS/PURF	
Bridge Sheet No. C51 of C83		Sheet	11 of 43

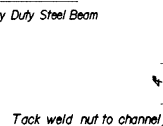
PLATE WASHER DETAIL



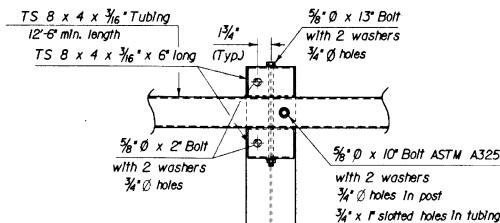
TS 8 x 4 x 3/16\"/>

VIEW C - C

Bridge Railing,
Heavy Duty Steel Beam

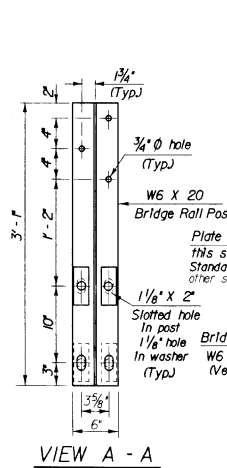


SPLICE BAR DETAILS



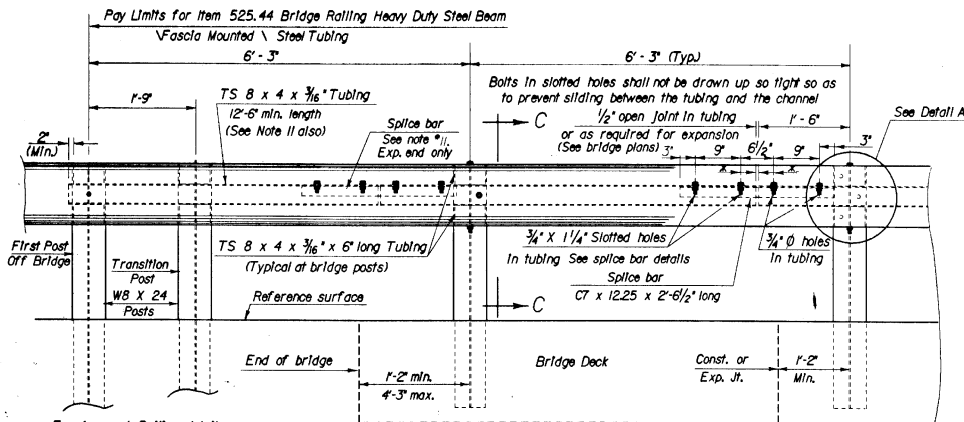
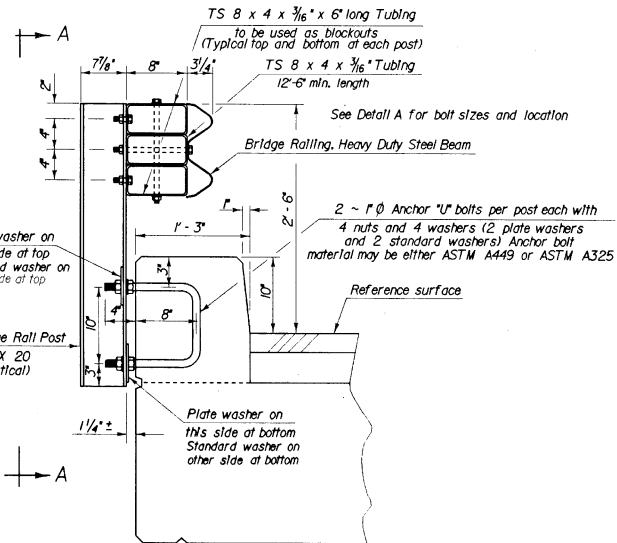
DETAIL A

Steel Beam Guard Rail Not Shown



VIEW A - A

FASCIA MOUNTED WITH CURB



RAILING ELEVATION VIEW (SHOWN LOOKING FROM ∇ WITHOUT CURB)

* 3/4\"/>

NOTES

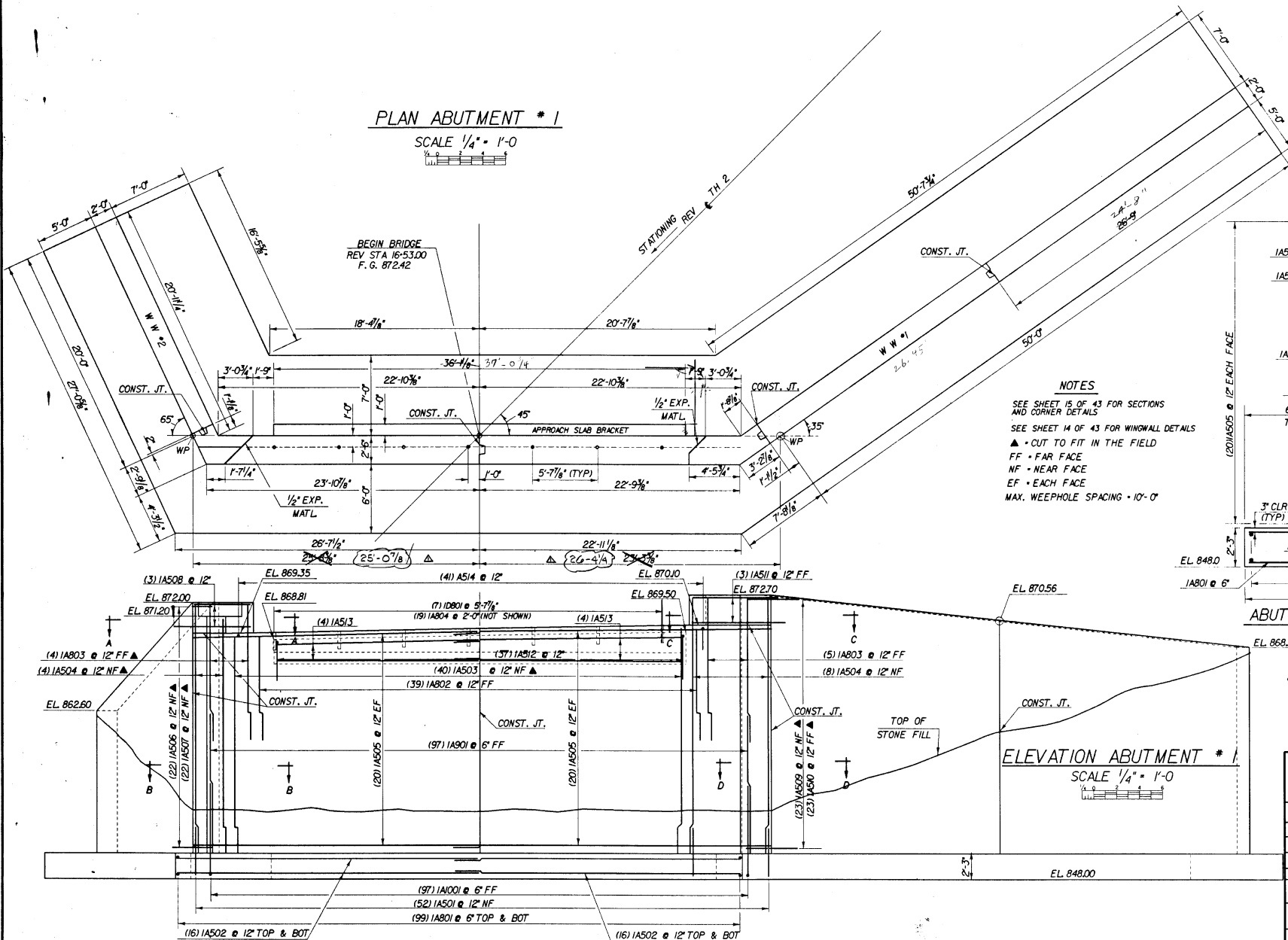
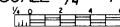
1. HEAVY DUTY STEEL BEAM GUARD RAIL SHALL CONFORM TO AASHTO M80, CLASS B, TYPE 2.
2. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500, COLD FORMED, GRADE B GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (AASHTO M11).
3. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM I53, (AASHTO M232) AND SHALL CONFORM TO VT, SPECIFICATION T4,07.
4. BRIDGE RAIL POSTS, PLATE WASHERS AND SPLICE BARS SHALL BE AASHTO M270, GR36, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (AASHTO M11).
5. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A307, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 (AASHTO M232) UNLESS OTHERWISE NOTED.
6. SEE STANDARD DRAWING G-141 FOR ADDITIONAL DETAILS CONCERNING GUARD RAIL.
7. SEE STANDARD DRAWING SB-R6-82 FOR APPROACH RAIL DETAILS.
8. ALL POSTS SHALL BE SET NORMAL TO GRADE.
9. SPLICES FOR THE STEEL BEAM GUARD RAIL SHALL LAP IN THE DIRECTION OF TRAFFIC.
10. SEE STANDARD DRAWING G-101 FOR DETAILS OF DELINEATORS. A DELINEATORS SHALL BE LOCATED AT EVERY FIFTH POSTS. PAYMENT SHALL BE SUBSIDIARY TO OTHER ITEMS.
11. A RAILING JOINT SPLICE SHALL BE PROVIDED AT EACH SUPERSTRUCTURE EXPANSION JOINT.
12. ALL FIELD CUT OR DRILLED AREAS SHALL BE COATED WITH ZINC RICH PAINT.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	REV 17-0
TH 2 OVER GREAT BROOK			
BRIDGE RAILING DETAILS			
Designed By	P. PROUST	Drawn By	REBUTTL
Checked By	Date	Bridge Design Supervisor	Date
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
LOG. Info.	TH 2 OVER GREAT BROOK	PLANNING	
Bridge Sheet No.	52 of 83	Sheet	12 of 43

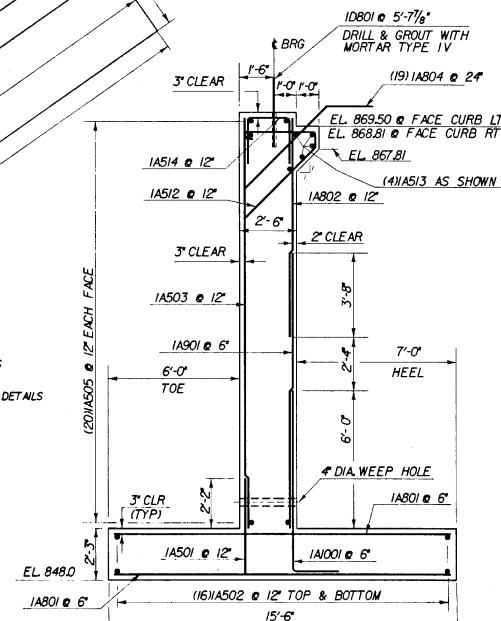
PLAN ABUTMENT # 1

SCALE 1/4" = 1'-0"



NOTES

SEE SHEET 15 OF 43 FOR SECTIONS AND CORNER DETAILS
SEE SHEET 14 OF 43 FOR WINGWALL DETAILS
▲ - CUT TO FIT IN THE FIELD
FF - FAR FACE
NF - NEAR FACE
EF - EACH FACE
MAX. WEEPHOLE SPACING - 10'-0"



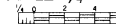
ABUTMENT #1 TYPICAL SECTION

SCALE 3/8" = 1'-0"

Δ REVISION MADE 4/28/91 MEM

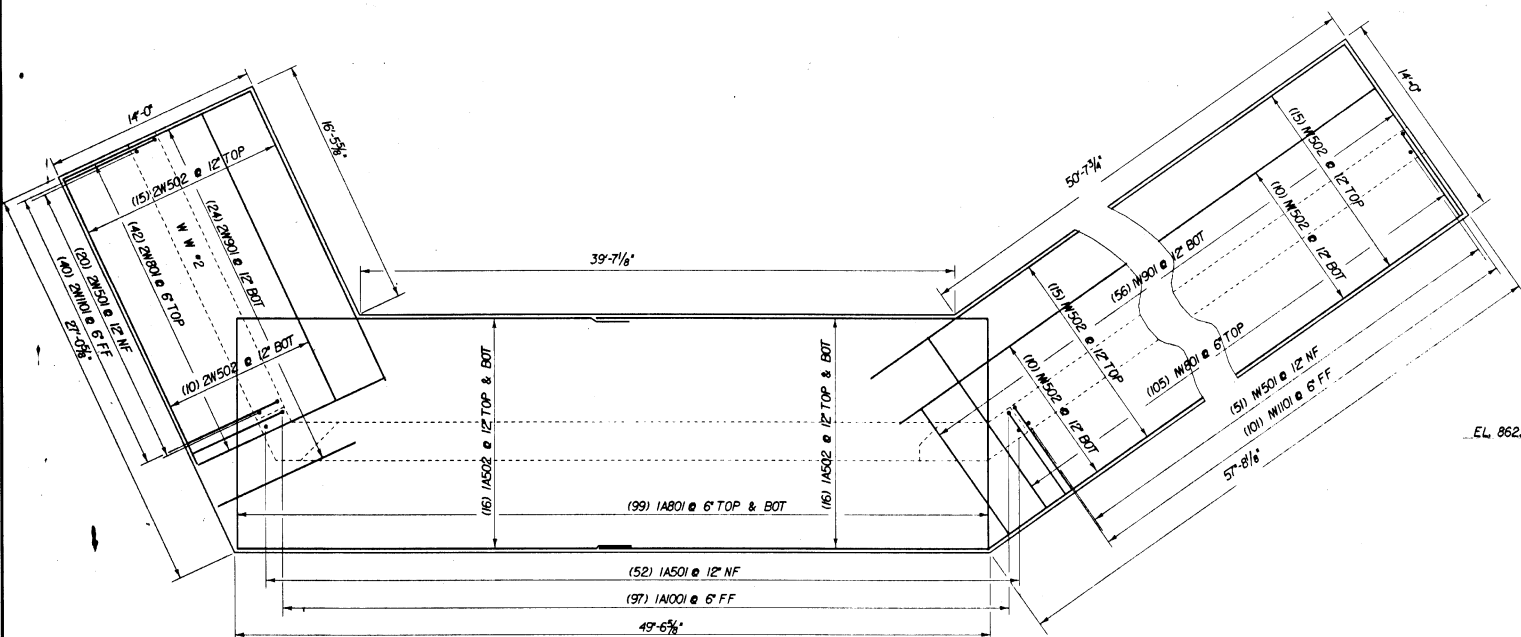
ELEVATION ABUTMENT # 1

SCALE 1/4" = 1'-0"



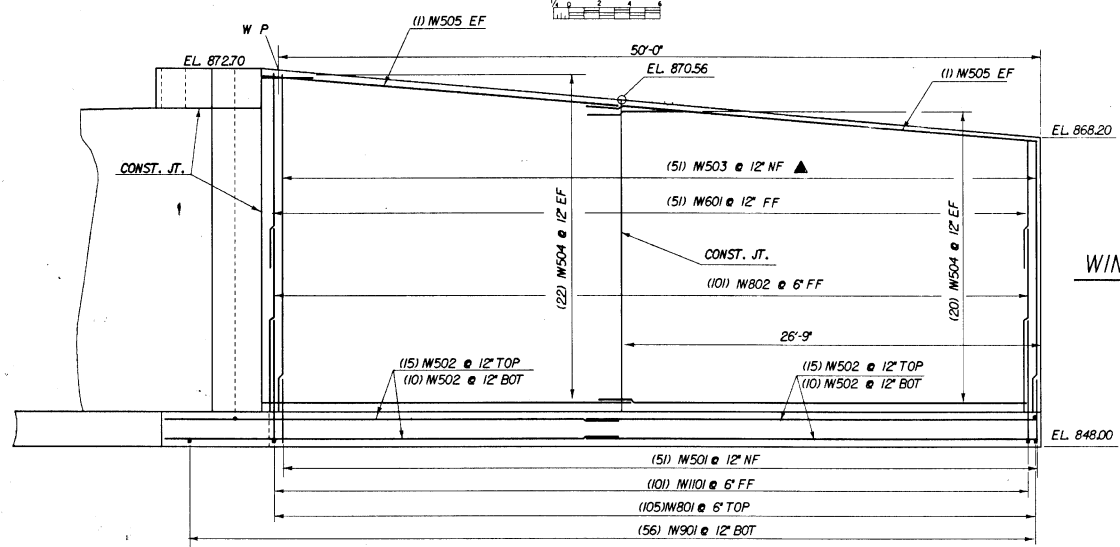
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
BRIDGE 23 ON TH 2 OVER GREAT BROOK			
ABUTMENT #1 DETAILS			
Designed By	P.E. PROVOST	Drawn By	CERUTTI
Checked By	P. PROVOST	Bridge Design Supervisor	R. GENDRON
Date	4/90	Date	4/90
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
L.C. Info.	ZH130241006483A1DGN	PLAINFIELD	
Bridge Sheet No. C53 OF C83 Sheet 13 of 43			



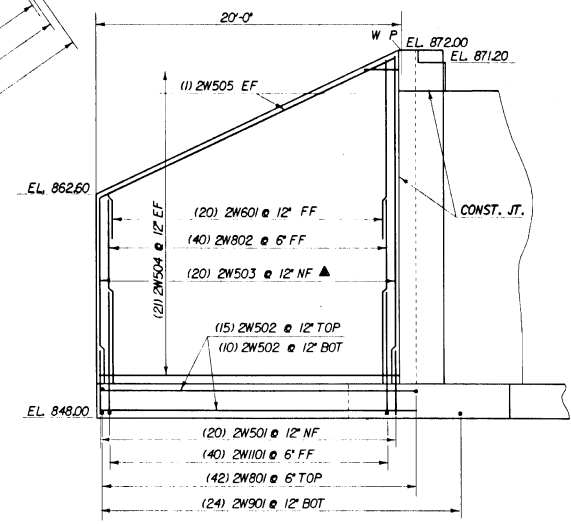
FOOTING REINFORCING PLAN

SCALE 1/4" = 1'-0"



WINGWALL # 1 ELEVATION

SCALE 1/4" = 1'-0"



WINGWALL # 2 ELEVATION

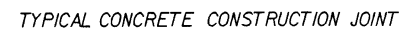
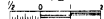
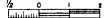
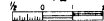
SCALE 1/4" = 1'-0"

SEE SHEET 15 OF 43 FOR TYPICAL WINGWALL SECTION.
SEE SHEET 15 OF 43 FOR CORNER DETAILS.

DESIGNED BY

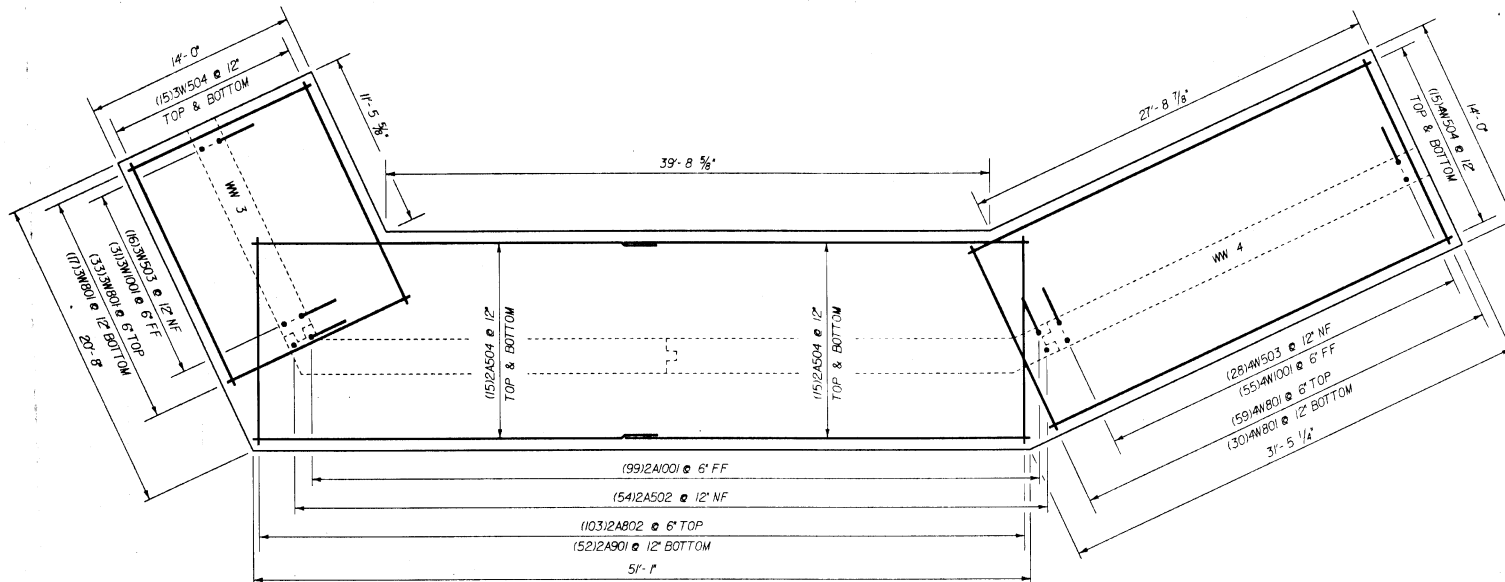
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
BRIDGE 23 ON TH 2 OVER GREAT BROOK			
ABUTMENT #1 DETAILS			
Designed By	P.E. PROVOST	Drawn By	GERUTTI
Checked By	Date	Bridge Design Supervisor	
P. PROVOST	4/90	R. GENDRON	Date 4/90
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
I.G.C. Info.	Z:\H430\241006483\ALDGN	PLAINA2.PRF	
Bridge Sheet No. C54 of C83 Sheet 14 of 43			

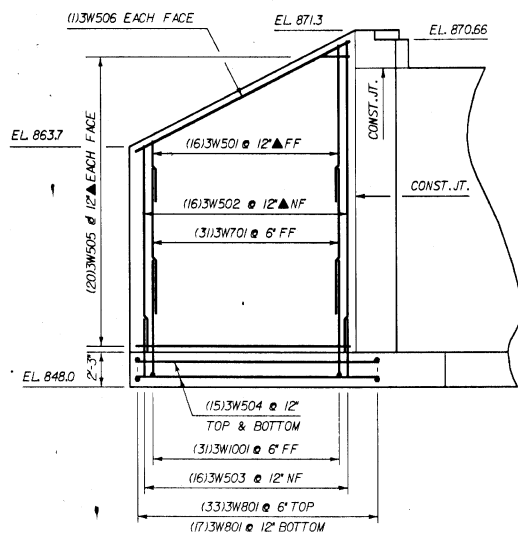


BUILT BY: 0000000000

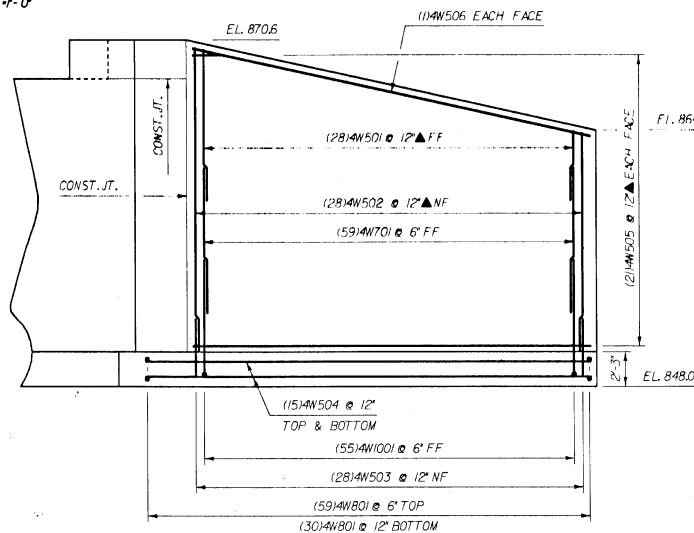
Town Of	PLAINFIELD	Bridge No.	23
Highway No.	TH 2	Loc. S.	
		Surf. Str.	
BRIDGE 23 ON TH 2 OVER GREAT BROOK			
ABUTMENT * DETAILS			
Designed By	P.E. PROVEST	Drawn By	SCOTT
Checked by	Date	Bridge Design Supervisor	
P. PROVEST	4/30	R. SENDROW	Date 4/30/90
PROJECT	PLAINFIELD	PROJECT NO.	
I.d.C. Info.	ZHHU2020T02-00A2ADEN	DSR	097026
Bridge Sheet No.	C35	of C83	Sheet 15 of 43



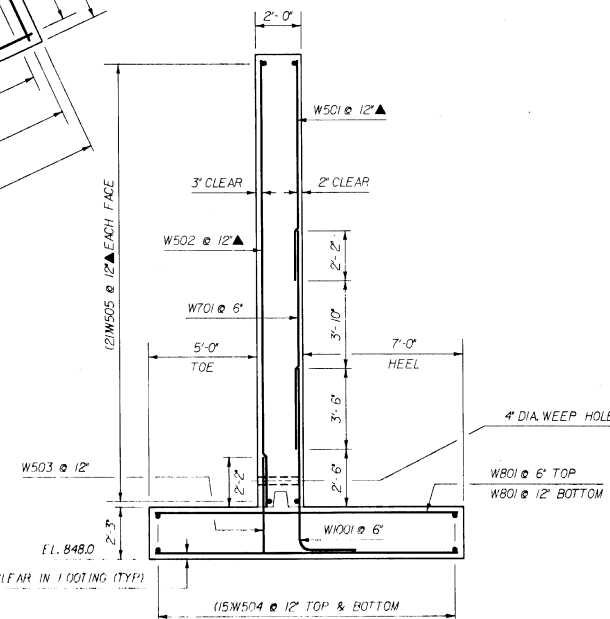
ABUTMENT #2 FOOTING PLAN
SCALE: 1/4" = 1'-0"



WINGWALL #3 FRONT ELEVATION
SCALE: 1/4" = 1'-0"



WINGWALL #4 FRONT ELEVATION
SCALE: 1/4" = 1'-0"



WINGWALL 3 & 4 TYPICAL DETAIL
SCALE: 3/8" = 1'-0"

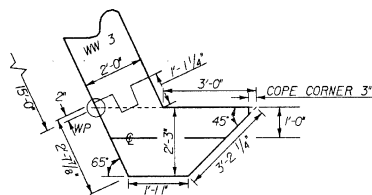
- NOTES
- ▲ - CUT TO FIT IN THE FIELD
 - FF - FAR FACE
 - NF - NEAR FACE
 - EF - EACH FACE
 - MAX. WEEPHOLE SPACING - 10'-0"
 - SEE SHEET 18 OF 43 FOR CORNER DETAILS.

BUILT AS SHOWN

STATE OF VERMONT
AGENCY OF TRANSPORTATION

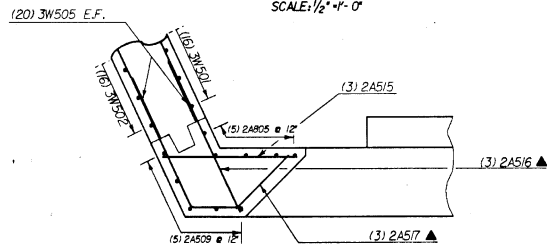
Town Of	PLAINFIELD	Bridge No.	23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
BRIDGE 23 ON TH 2 OVER GREAT BROOK			
ABUTMENT #2 FOOTING PLAN			
Designed By	P.E. PROVOST	Drawn By	CLARK
Checked By	P.E. PROVOST	Bridge Design Supervisor	R.P. GENDRON
Date	4/90	Date	4/90
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
L&C. Info.	ZHA30573006PLAIN.DGN	8006FT.PRF	
Bridge Sheet No. C 57 of C 83 Sheet 17 of 43			

WINGWALL #3 CORNER DETAILS



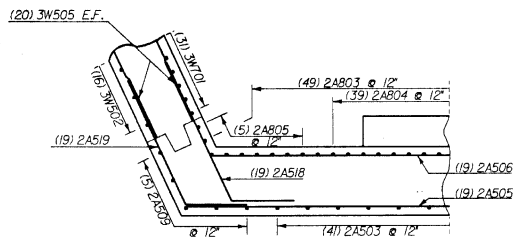
TOP OF CONCRETE

SCALE: $\frac{1}{2}'' = 1' - 0''$



SECTION E-E

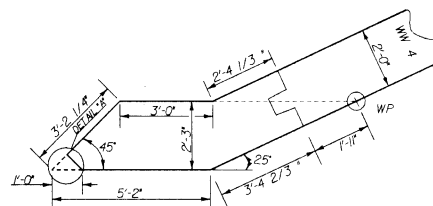
SCALE: 1/2" = 1' - 0"



SECTION G-G

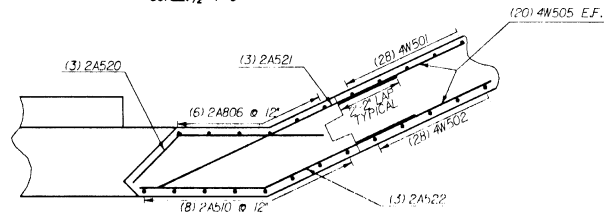
SCALE: 1/2" = 1' - 0"

WINGWALL #4 CORNER DETAILS



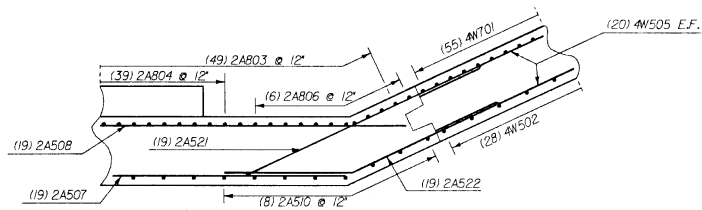
TOP OF CONCRETE

SCALE: $\frac{1}{2}'' = 1' - 0''$



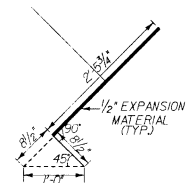
SECTION F-F

SCALE: $\frac{1}{2}'' = 1' - 0''$



SECTION H-H

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



DETAIL "A"

SCALE: 1" = 1' - 0"

NOTES

- ▲ - CUT TO FIT IN THE FIELD
FF - FAR FACE
NF - NEAR FACE
EF - EACH FACE
MAX. WEEPHOLE SPACING = 10'-0"

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
BRIDGE 23 ON TH 2 OVER GREAT BROOK			
ABUTMENT #2 BARRIER DETAILS			
Designed By	P.C.PRONOST	Drawn By	MORTON
Checked By	Date	Revised Design	Revised Draw
P.PRONOST	4/90	P.R.GENDRON	Date 4/90
PROJECT		PROJECT NO.	
PLAINFIELD		DSR 097036	
I.G.C. Info. 7TH130.65, 8006F, 10DGN		8006G09RPF	
Bridge Sheet No. C58 of C83		Sheet 18 of 43	

ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIG- NATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	CROSS SEC- TIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.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

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 615-51). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED MIN. 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 "M" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° 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° DIMENSIONS "H" AND "K" MUST BE SHOWN.

- | REV NO. | MADE BY | DATE | DESCRIPTION |
|---------|---------|------|-------------|
| | | | |

TOWN OF	PLAINFIELD	BRIDGE NO.	23
		LOG STA.	
HIGHWAY NO.	TH 2	SURV. STA.	
TH 2 OVER GREAT BROOK			
REINFORCING STEEL SCHEDULE #			
DESIGNED BY	P. PROVOST	DRAWN BY	B. L. DONALD
CHECKED BY		BRIDGE DESIGN SUPERVISOR	
P.E. PROVOST	DATE 4/70	R. P. GENDRON	DATE 4/72
PROJECT		PROJECT NO.	
PLAINFIELD		DSR097036	
BRIDGE SHEET NO. C59 OF C83 SHEET		19 OF 43	

[illegible]

ASTM STANDARD REINFORCING BARS				
BAR SIZE DESIG- NATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SEC- TIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.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

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 615-81). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED MIN 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 "W" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° 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° DIMENSIONS "H" AND "K" MUST BE SHOWN

- ▲ DENOTES BARS TO BE CUT IN FIELD.
* DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
△ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

REV NO.	MADE BY	DATE	DESCRIPTION

STATE OF VERMONT

AGENCY OF TRANSPORTATION

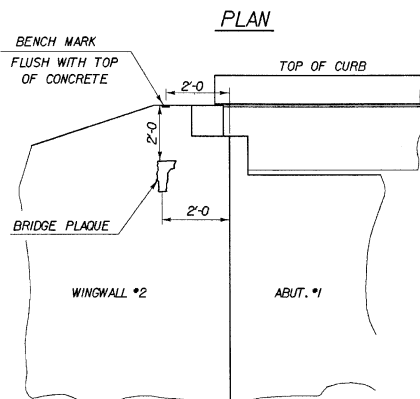
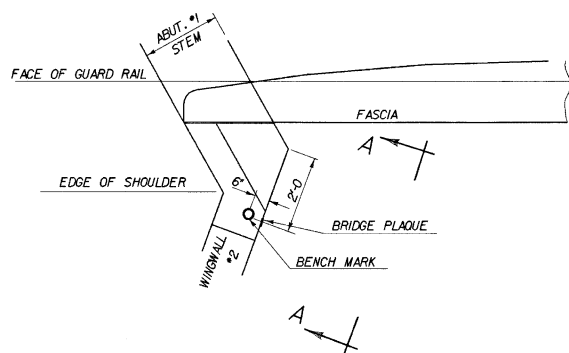
TOWN OF PLAINFIELD	BRIDGE NO. 23
HIGHWAY NO. TH 2	LOG STA.
	SURV. STA.

BRIDGE 23 ON TH2 OVER GREAT BROOK

REINFORCING STEEL SCHEDULE A

DESIGNED BY P.E. PROVOST	DRAWN BY P.E. PROVOST
CHECKED BY	BRIDGE DESIGN SUPERVISOR
B. DONALD DATE 4/90	R. R. GENDRON DATE 4/90
PROJECT	PROJECT NO. DSR 097036
PLAINFIELD	20 OF 43

BRIDGE SHEET NO. C60 OF C83 SHEET



LOCATE BENCH MARK AND BRIDGE PLAQUE

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

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 1986 AND ITS LATEST REVISIONS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DATED, 1989 AND ITS LATEST REVISIONS.

2. PRESTRESSED, PRECAST MEMBERS SHALL:

- CONFORM WITH SECTION 510 "PRESTRESSED CONCRETE".
- BE (5) INTERMEDIATE UNITS 21' X 48" X 55'-0" (SKEWED ENDS) (5'-0" ALONG CENTERLINE OF UNIT) AND (2) FASCIA UNITS (LT & RT) 21' X 48" X 55'-0" (SKEWED ENDS) (5'-0" ALONG CENTERLINE OF UNIT)
- BE DESIGNED FOR AASHTO HS-20 LIVE LOAD
- HAVE ENDS OF STRANDS RECESSED AND GROUTED AS PER STANDARD PRACTICE.
- HAVE JOINTS BE CONTINUOUS AND TERMINATE 2'-0" FROM ENDS OF UNITS.
- HAVE (6) STRANDS IN BOTTOM LAYER DEBONDED SYMMETRICALLY 5'-0" FROM END OF BEAM.
- AT STRESS TRANSFER $F' = 4000$ PSI
 $F = 2400$ PSI

h. MEET THE FOLLOWING ALLOWABLE DESIGN CRITERIA:
(SERVICE LOAD MOMENTS)

INTERIOR UNITS

MEMBER MOMENT	219.8 K-FT
DEAD LOAD ON MEMBER MOMENT	106.9 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	37.5 K-FT
LIVE LOAD + IMPACT MOMENT	263.0 K-FT
DEAD LOAD REACTION	29.7 K
LIVE LOAD + IMPACT REACTION	25.5 K
TOTAL REACTION	55.2 K

CAMBER AT RELEASE $\frac{3}{8}$ " UPWARD
CAMBER AT ERECTION WITH ALL DEAD LOADS $\frac{3}{4}$ " UPWARD
LONG TERM CAMBER $\frac{1}{8}$ " UPWARD

FASCIA UNITS (LT & RT)

MEMBER MOMENT	219.8 K-FT
DEAD LOAD ON MEMBER MOMENT	123.9 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	43.8 K-FT
LIVE LOAD + IMPACT MOMENT	263.0 K-FT
DEAD LOAD REACTION	31.6 K
LIVE LOAD + IMPACT REACTION	25.5 K
TOTAL REACTION	57.1 K

CAMBER AT RELEASE $\frac{3}{8}$ " UPWARD
CAMBER AT ERECTION WITH ALL DEAD LOADS $\frac{3}{4}$ " UPWARD
LONG TERM CAMBER $\frac{1}{8}$ " UPWARD

3. THE PRICE PER UNIT SHALL INCLUDE ALL MATERIALS CAST INTO THE UNITS INCLUDING CURB AND BRIDGE RAIL ANCHOR BOLTS WITH NUTS AND WASHERS PLUS THE 11/2" TRANSVERSE TIE RODS WITH NUTS AND WASHERS PLUS BEARING PADS AND EXPANSION MATERIAL UNDER UNITS

4. WITH THE APPROVAL OF THE STRUCTURES ENGINEER, THE FABRICATOR MAY ALTER THE DESIGN AS DETAILED TO MEET HIS PRESTRESSING OPERATION AND MATERIAL REQUIREMENTS.

5. THE CURBS SHALL BE CAST AFTER THE VOIDED SLAB STRANDS HAVE BEEN RELEASED. CONCRETE CLASS AA SHALL BE USED IN ACCORDANCE WITH SECTION 501 AND CONSTRUCTION JOINTS SHALL BE PROVIDED IN THE CURB.

6. THE TRANSVERSE TIE RODS WITH NUTS AND WASHERS SHALL MEET AASHTO M270 GRADE 36, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M232.

7. THE 11/4" X 6" NEOPRENE PADS SHALL CONTINUE FOR THE FULL LENGTH OF THE BRIDGE SEATS AND BE SUBSIDIARY TO CONCRETE, CLASS B.

8. THE JOINTS BETWEEN VOIDED SLAB UNITS SHALL BE FILLED WITH MORTAR, TYPE IV IN ACCORDANCE WITH SECTION 501.

9. MATERIALS, LABOR AND EQUIPMENT FOR GROUTING DOWELS AT ABUTMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 501.58 "MORTAR, TYPE IV."

10. THE FINISH TOP SURFACE ON EACH UNIT SHALL BE RAKED TO A UNIFORM ROUGHNESS.

11. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".

12. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF THE SLAB.

13. THE FOLLOWING TABLE OF STRESSES AND WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

REINFORCING STEEL:	$F_t = 24,000$ PSI GRADE 60.
CAST IN PLACE CONCRETE:	$f'_c = 3500$ PSI $f_c = 1400$ PSI
PRECAST CONCRETE	$f'_c = 5000$ PSI $f_c = 2000$ PSI
SOIL WEIGHT	140 PCF

14. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F.

15. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND THE DESIGN CONCRETE STRENGTH HAS BEEN ATTAINED.

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

17. THE "KEY" IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.

18. EXCAVATION REQUIRED FOR THE NEW STRUCTURE OUTSIDE THE LIMITS OF "REMOVAL OF STRUCTURE" SHALL BE PAID FOR AS "STRUCTURE EXCAVATION".

19. IN STREAM CONSTRUCTION SHALL BE CONDUCTED ONLY DURING THE PERIOD JUNE 1, THROUGH OCTOBER 1. ANY DEVIATION FROM THIS PERIOD MUST BE APPROVED IN WRITING BY THE AGENCY OF NATURAL RESOURCES.

20. CONSTRUCTION IS SUBJECT TO OTHER STIPULATIONS TO BE FOUND IN STREAM ALTERATION PERMIT WITH THE VERMONT AGENCY OF NATURAL RESOURCES DATED JUNE 26, 1989.

21. MINIMUM COVER FOR REINFORCING STEEL SHALL BE TWO (2) INCHES ALONG BACK FACES OF WALLS AGAINST EARTH AND THREE (3) INCHES ELSEWHERE EXCEPT AS SHOWN OTHERWISE ON THE PLANS.

22. REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING $\pm 1"$
CLEARANCE $\pm 1/4"$

23. DECK CONCRETE SHALL BE "CONCRETE, CLASS AA". ALL OTHER CONCRETE SHALL BE "CONCRETE, CLASS B" UNLESS OTHERWISE DESIGNATED ON THE PLANS.

24. SURFACES OF BRIDGE SEATS UNDER BEARING PADS AND EXPANSION MATERIAL SHALL BE LEVEL. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.

25. THE EXISTING BRIDGE SHALL BE CLOSED TO TRAFFIC DURING CONSTRUCTION. TRAFFIC SHALL BE MAINTAINED ON A ONE WAY TEMPORARY BRIDGE.

26. ALL SIGNING, BARRICADES, DELINEATING, CONTROLLING OF EROSION, CLEARING AND GRUBBING AND TURF ESTABLISHMENT SHALL BE CONSIDERED SUBSIDIARY TO OTHER PAY ITEMS IN THE CONTRACT.

27. NEITHER BORINGS NOR ANY OTHER TYPE OF SUBSURFACE INVESTIGATION WAS DONE FOR THIS PROJECT. LEDGE AND/OR BOULDERS MAY BE ENCOUNTERED DURING CONSTRUCTION.

28. THE CONTRACTOR SHALL TAKE MEASURES TO TREAT TRAVELED AREAS TO CONTROL DUST USING WATER. ALL SUCH WORK SHALL BE PAID FOR UNDER ITEM 609.10 "DUST CONTROL WITH WATER."

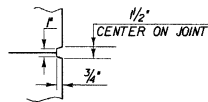
29. PRIOR TO PLACING NEW CONCRETE, CLASS AA AGAINST PRECAST CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE PREPARED AS PER SUBSECTION 501.3 (b).

30. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" X 1".

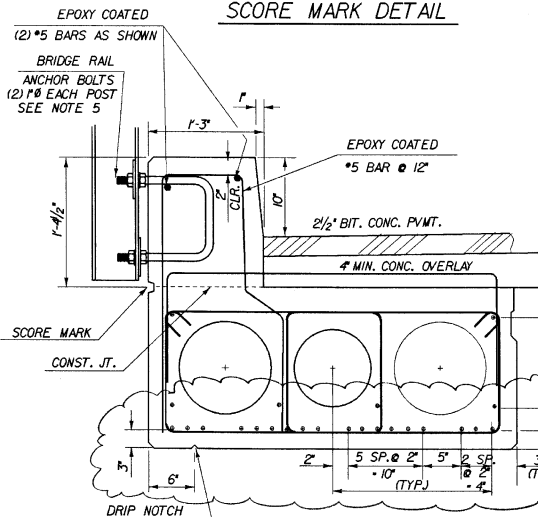
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
TH 2 OVER GREAT BROOK			
GENERAL NOTES AND BRIDGE MARKER			
Designed By	P. PROVOST	Drawn By	GERUTTI
Checked By	Date	Bridge Design Supervisor	
P. PROVOST	4/90	R. P. GENDRON	Date 4/90
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
I.G.C. Info.	ZH1630243D06483SUP.DGN	PLANSUP3.PRF	
Bridge Sheet No.		Sheet	of

2/19/91 Rev. To Strand Pattern



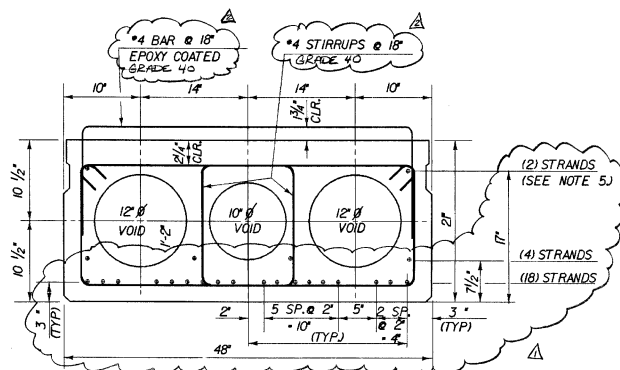
SCORE MARK DETAIL



TYPICAL SECTION

FASCIA UNIT VOIDED SLAB

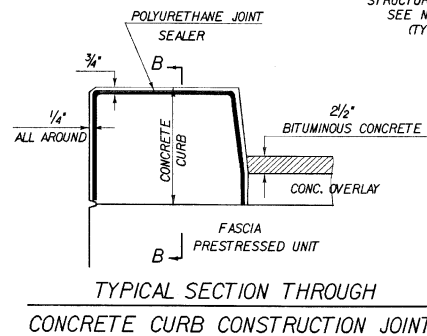
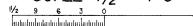
RIGHT SIDE SHOWN, LEFT SIDE SAME EXCEPT OPPOSITE HAND



TYPICAL SECTION

INTERMEDIATE UNIT VOIDED SLAB

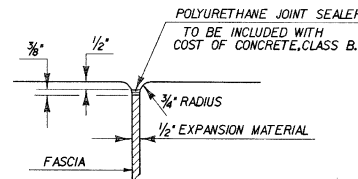
SCALE 1/2" = 1'-0"



TYPICAL SECTION THROUGH

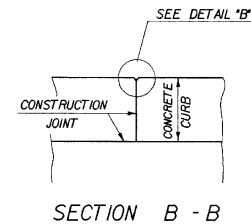
CONCRETE CURB CONSTRUCTION JOINT

BRIDGE RAILING - H.D. STEEL
BEAM, FASCIA MOUNTED/
STRUCTURAL TUBING
SEE NOTE 5
(TYP)



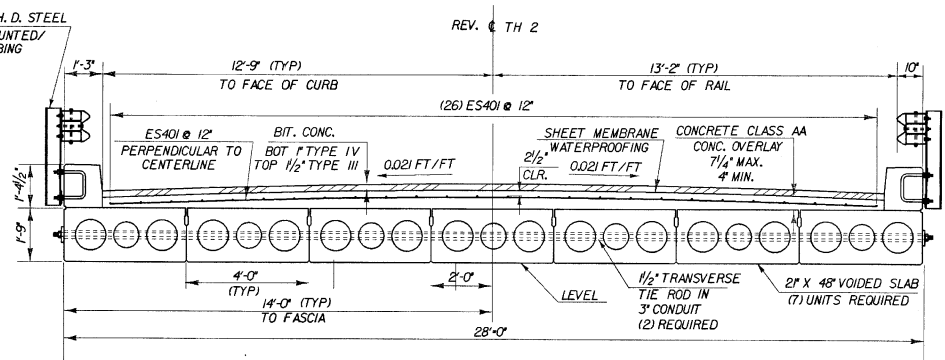
JOINT BETWEEN FASCIA
AND ABUTMENT

SCALE: 1" = 1'



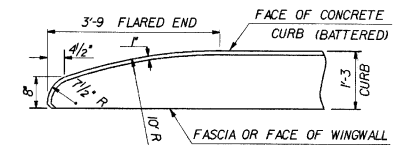
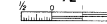
NOTES:

- CONSTRUCTION JOINTS IN THE CURBS SHALL BE PROVIDED AS SHOWN ABOVE, SPACED MAXIMUM 20'-0" CENTER TO CENTER AND SHALL BE 1'-2" 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.
- LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CONSTRUCTION JOINTS.
- CURB AND OVERLAY CONCRETE SHALL BE CONCRETE CLASS AA.
- SEE SHEET 12 OF 43 FOR RAIL DETAILS.
- THESE TWO STRANDS AT 17" ARE TO BE STRESSED TO ONLY 3.0 KIPS AND ARE NOT INCLUDED IN STRENGTH CALCULATIONS.



TYPICAL SECTION

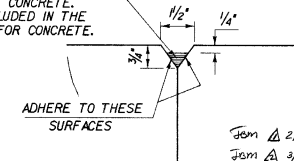
SCALE 1/2" = 1'-0"



FLARED END DETAIL FOR 1'-3" CURB

CURB REINFORCING STIRRUP BARS SHALL BE TURNED OR CUT AS REQUIRED TO FIT FLARED ENDS.

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



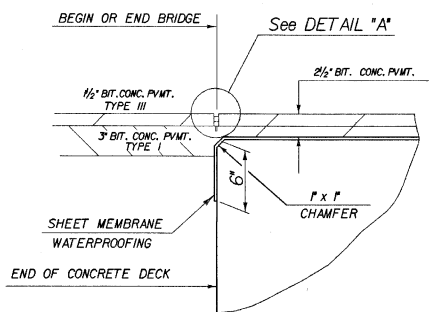
DETAIL "B"

Join 2/19/91 Rev to Strand Pattern
Join 3/6/91 Rev to Stirrup Spacing

STATE OF VERMONT AGENCY OF TRANSPORTATION

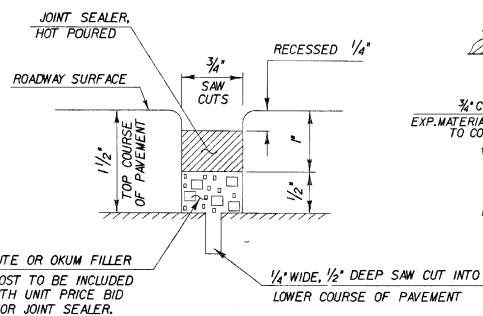
Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
TH 2 OVER GREAT BROOK			
TYPICAL SECTION			
Designed By	P. PROVOST	Drawn By	CERUTTI
Checked By	P. PROVOST	Bridge Design Supervisor	R.P. GENDRON
		Date	4/90
PROJECT	PLAINFIELD	PROJECT NO.	DSR 097036
		PLANSUP2.PRF	
I.G.C. Info. ZH#3024006483SUP.DGN		PLANSUP2.PRF	
Bridge Sheet No.		Sheet of	

PLUTED 7-MAR-98

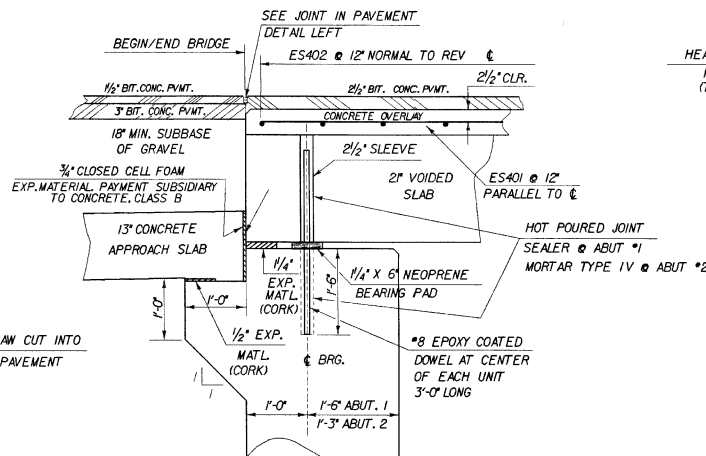


DETAIL FOR JOINT IN PAVEMENT AND SHEET MEMBRANE AT END OF BRIDGE

JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK.

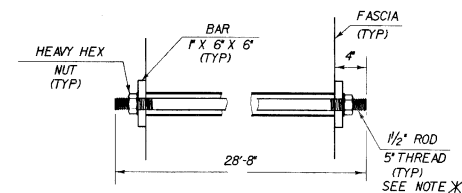


DETAIL "A"



END OF BRIDGE DETAIL
NORMAL TO ABUTMENT

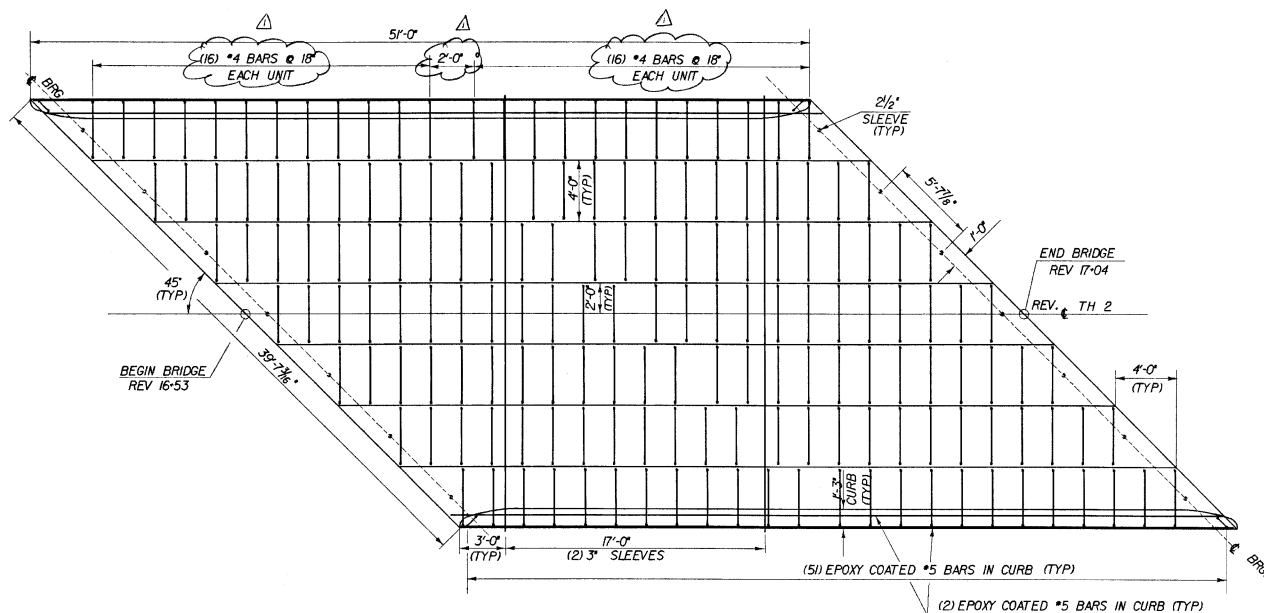
SCALE 1" = 1'-0"



TRANSVERSE TIE ROD

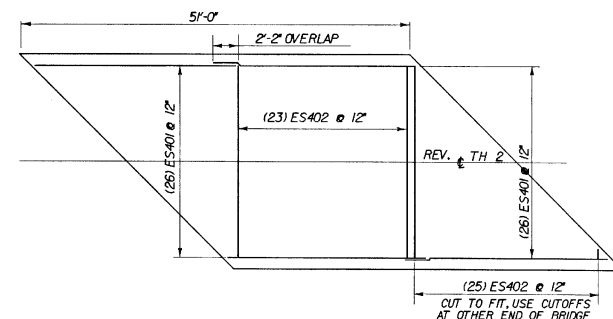
SCALE 1 1/2" = 1'-0"

* TIGHTEN NUT TO 1000 FT.-LBS TORQUE BEFORE GROUTING KEYWAYS WITH MORTAR TYPE IV.



PLAN PRESTRESSED VOIDED SLAB UNITS

SCALE 1/4" = 1'-0"



CUT ENDS OF EPOXY COATED REINFORCING WILL BE REPAIRED AS PER SECTION 507.04.

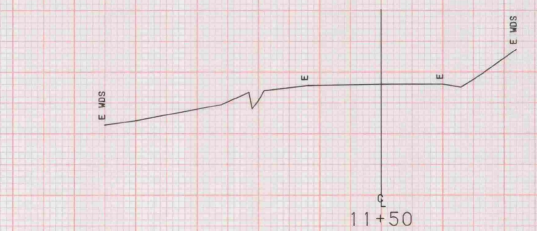
PLAN DECK OVERLAY REINFORCING

SCALE 1/8" = 1'-0"

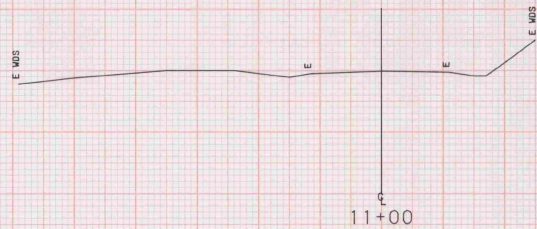
STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	PLAINFIELD	Bridge No.	B23
Highway No.	TH 2	Log Sta.	
		Surv. Sta.	
TH 2 OVER GREAT BROOK			
DECK PLAN AND DECK REINFORCING			
Designed By	P. PROVOST	Drawn By	CERUTTI
Checked By	Date	Bridge Design Supervisor	
P. PROVOST	4/30	R. P. GENDRON	Date 4/30
PROJECT	PLAINFIELD	PROJECT NO.	DSR 087036
LOG. Info. ZH16 30.241006483SUP.DGN		PLANSUP.PRF	
Bridge Sheet No.		Sheet of	

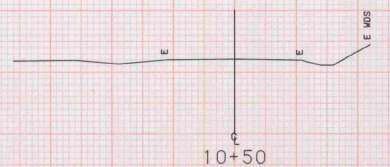
JSm Δ 3/8/91 Modify Slurrup Spacing



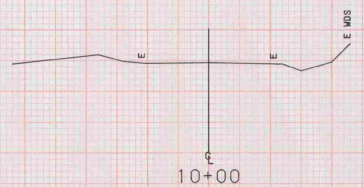
890



890



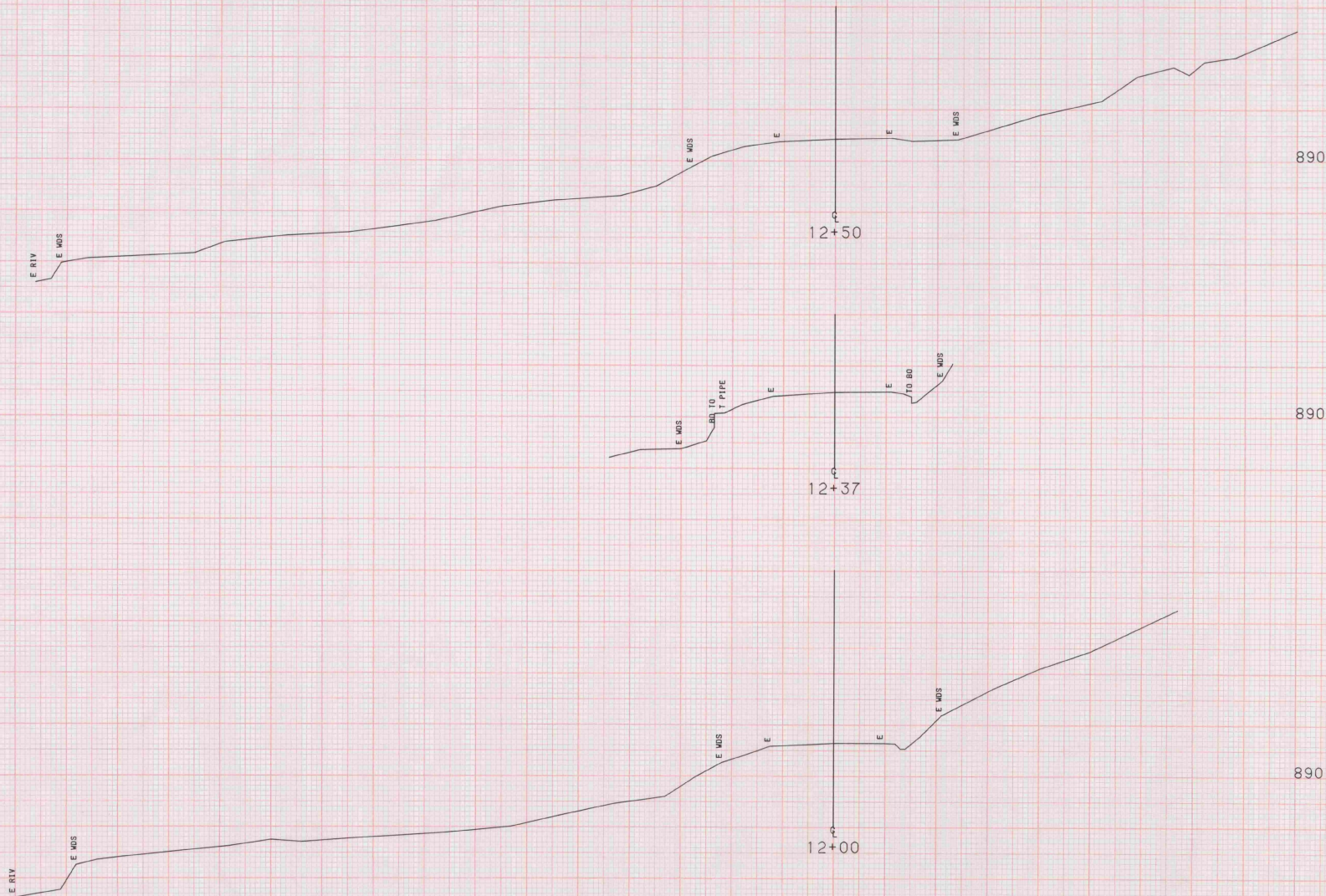
900



900

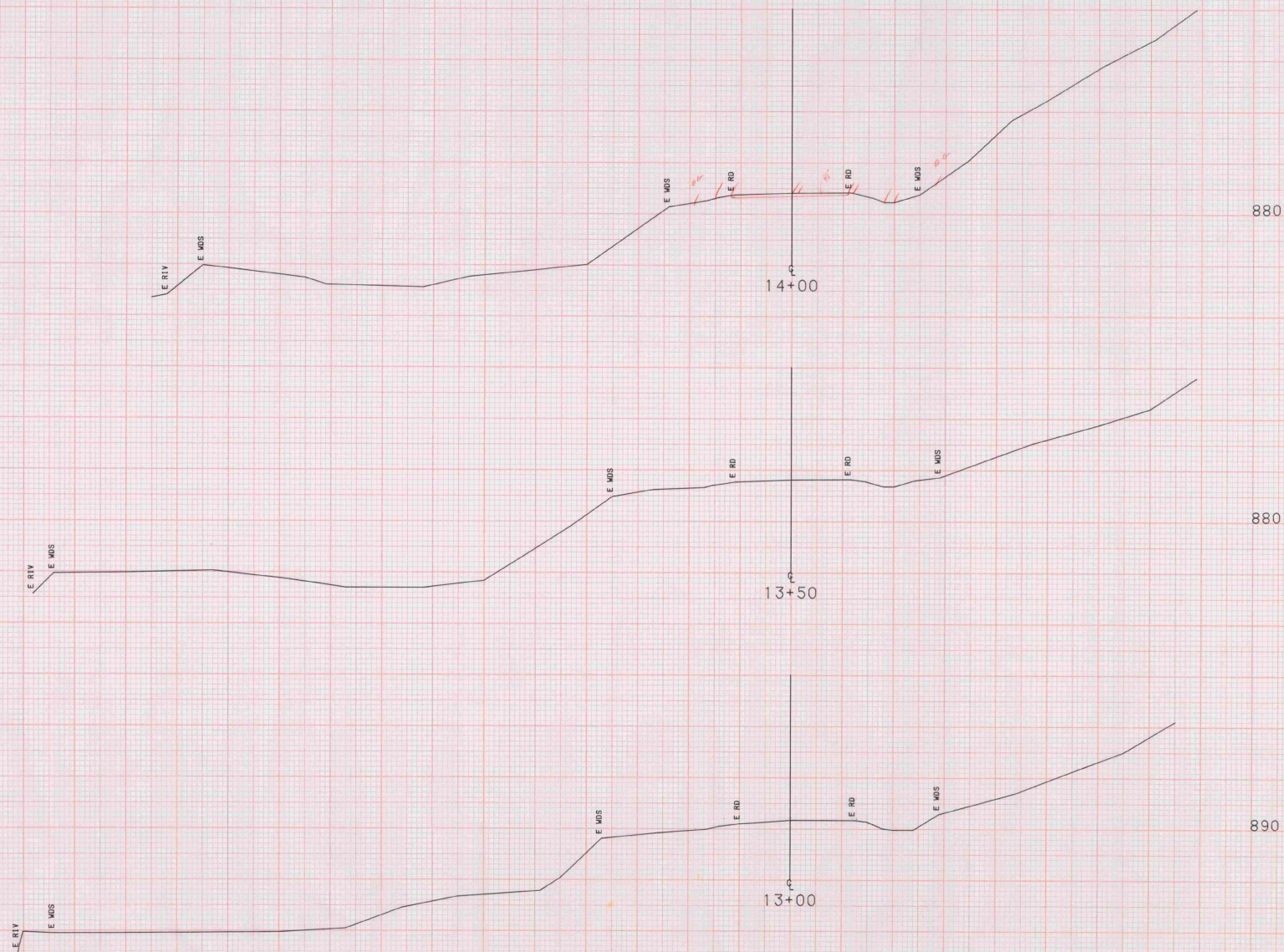
SCALE 10 FEET

FROM STA.	10+00	TO STA.	11+50
PROJECT NAME	PLAINFIELD MI		
NO.	R-GILMAN		
SURVEYED BY	08/89 0247		
SHEET 21 OF 43 SHEETS	C61 OF C83		



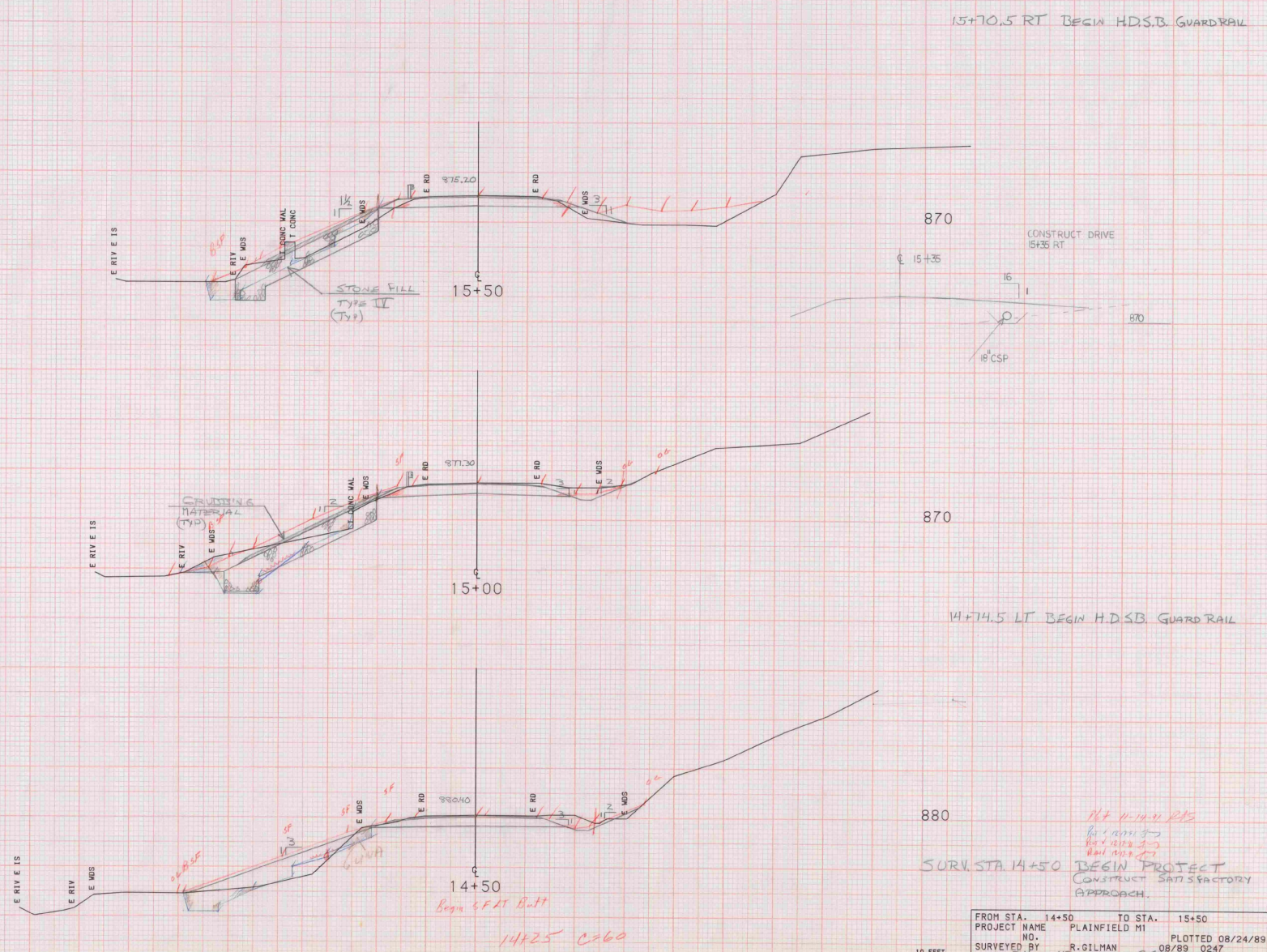
SCALE 10 FEET

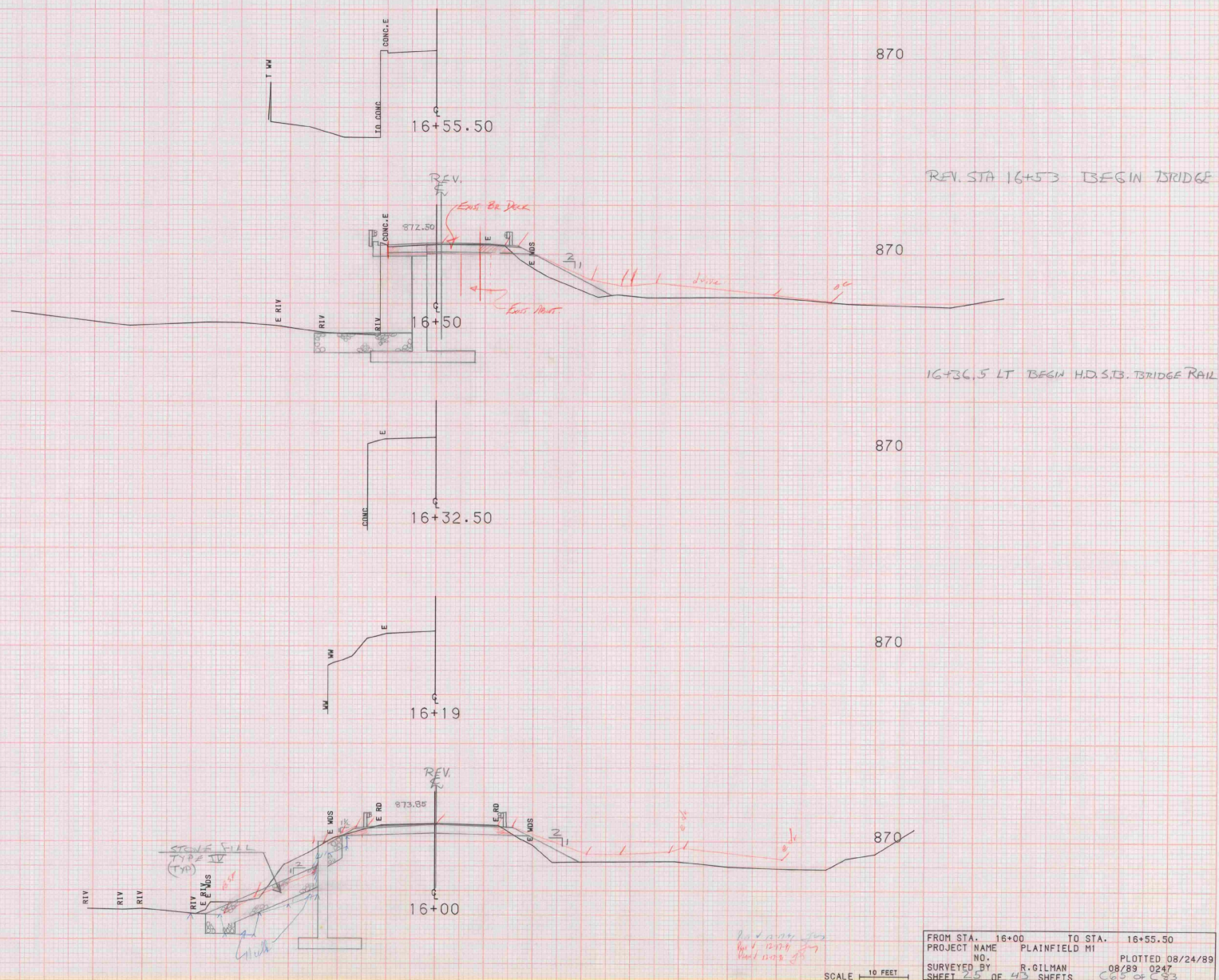
FROM STA. 12+00	TO STA. 12+50
PROJECT NAME PLAINFIELD HI	
NO.	
SURVEYED BY R. GILMAN	PLOTTED 08/24/89
SHEET 22 OF 43 SHEETS	CG2 OF CG3



FROM STA. 13+00 TO STA. 14+00
 PROJECT NAME PLAINFIELD MI
 NO. 08/89 .0247
 SURVEYED BY R. GILMAN
 SHEET 23 OF 43 SHEETS C63 OF C83

SCALE 10 FEET





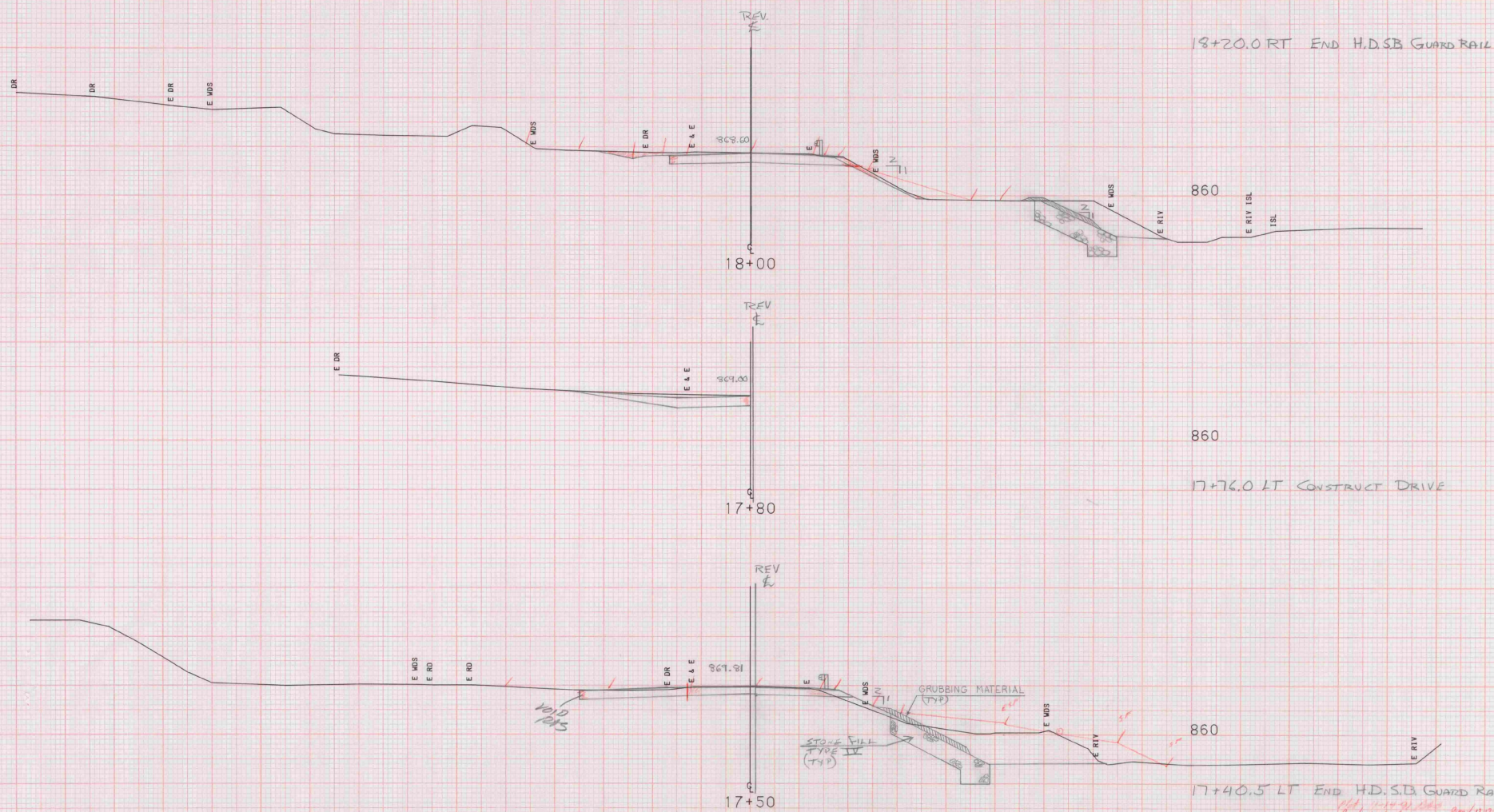
REV. STA. 17+04 END TSBIDGE

16+93.0 LT BEGIN HD SB GUARD RAIL

870

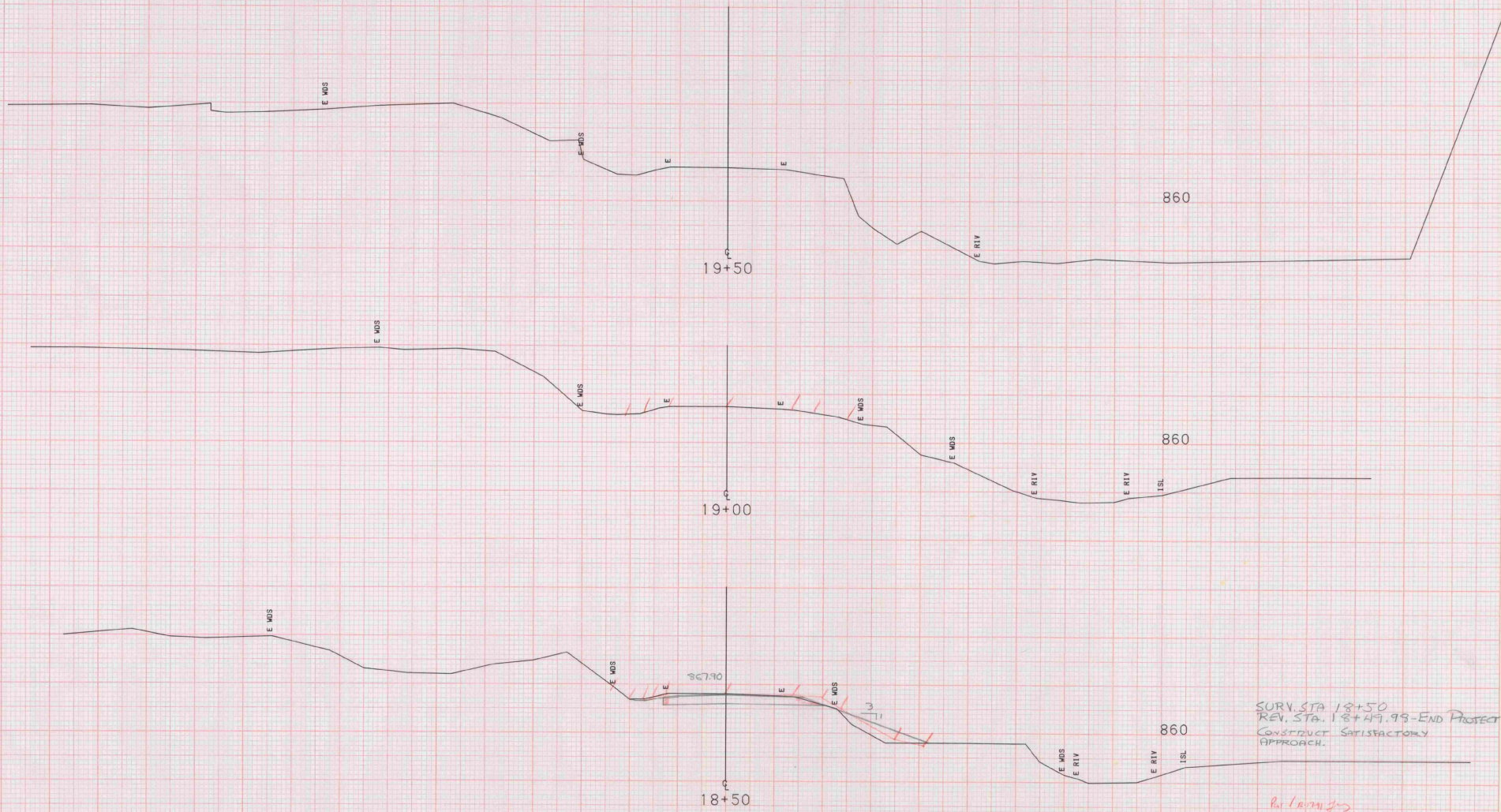
870

SCALE 10 FEET



FROM STA. 17+50	TO STA. 18+00
PROJECT NAME PLAINFIELD MI	
NO.	
SURVEYED BY R. GILMAN	PLOTTED 08/24/89
SHEET 21 OF 43 SHEETS	

SCALE 1" = 10 FEET

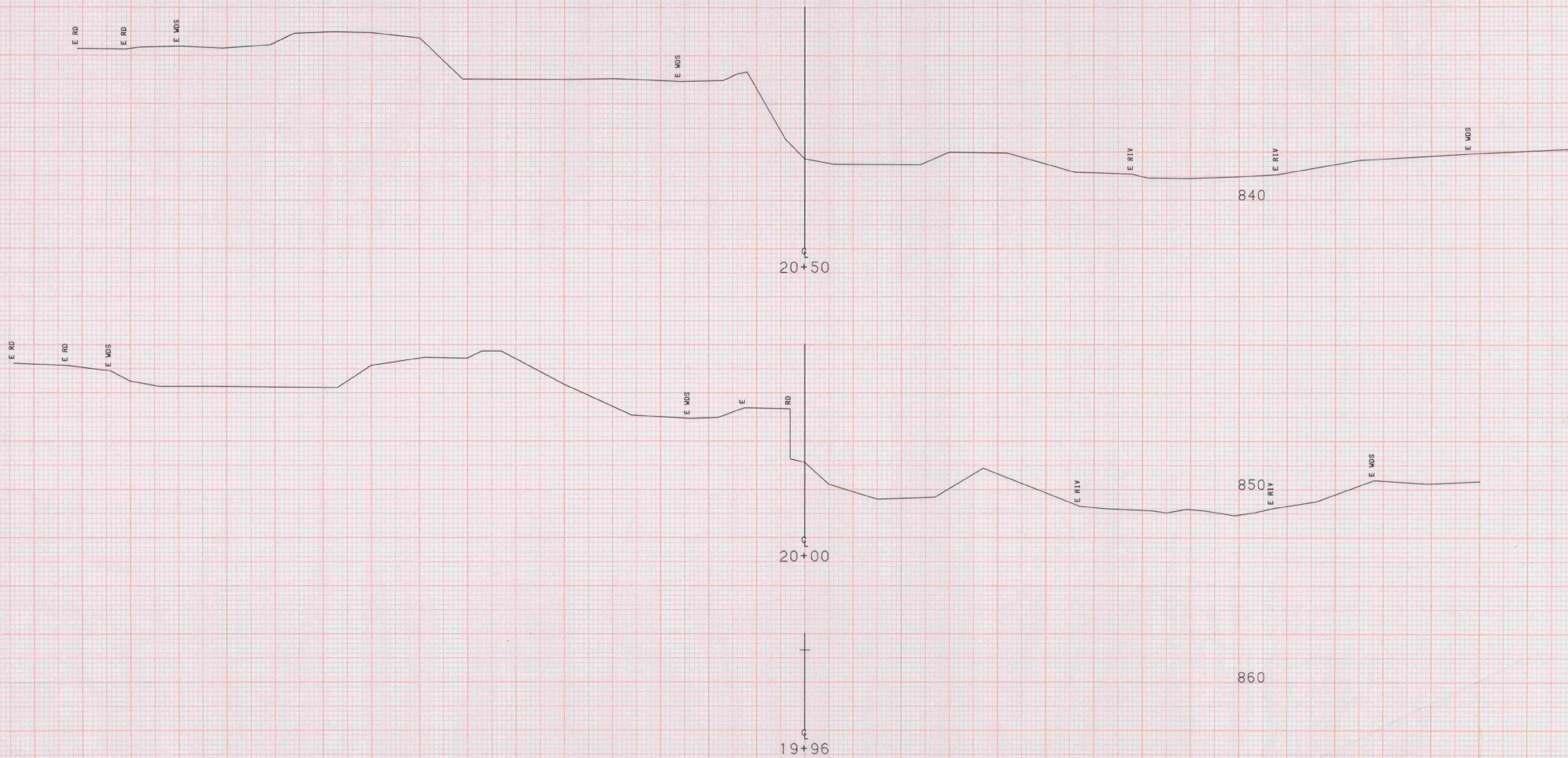


SURV. STA. 18+50
 REV. STA. 18+49.99-END PROJECT
 CONSTRUCT SATISFACTORY
 APPROACH.

See 18+49.99

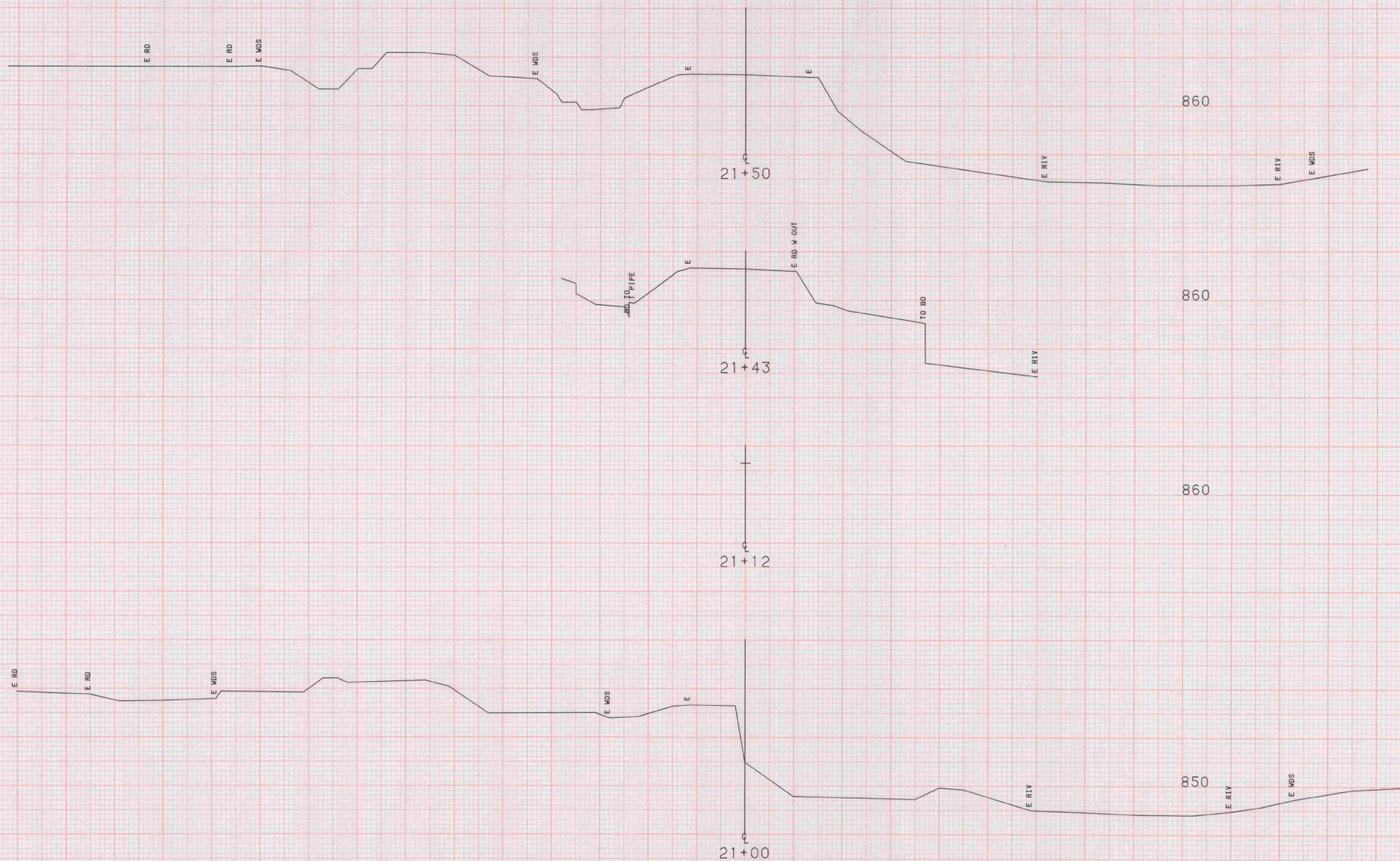
FROM STA. 18+50	TO STA. 19+50
PROJECT NAME PLAINFIELD MI	NO.
SURVEYED BY R. GILMAN	08/89 0247
SHEET 23 OF 43 SHEETS	65 OF 63

SCALE 10 FEET



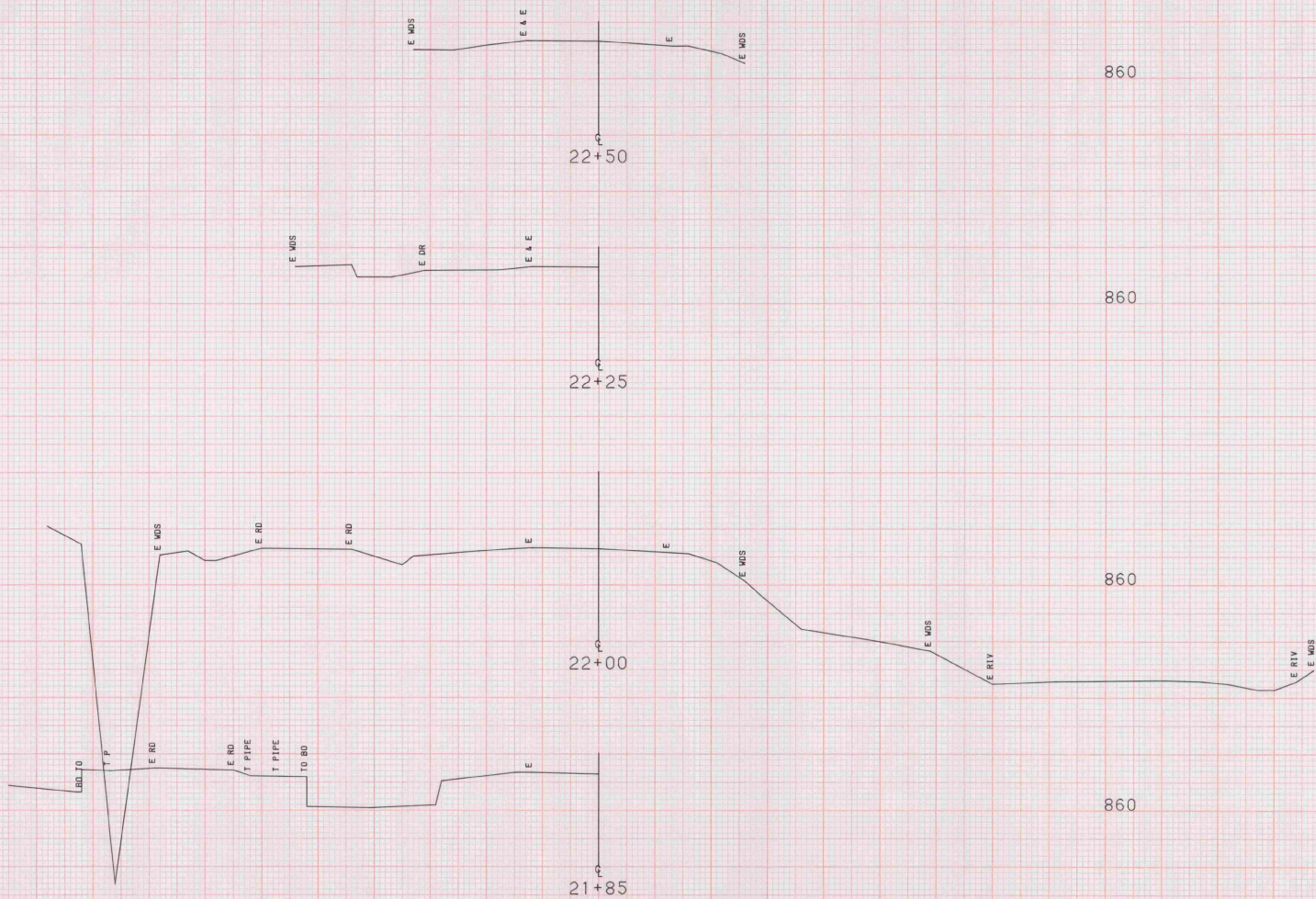
FROM STA. 19+96	TO STA. 20+50
PROJECT NAME PLAINFIELD MI	
NO.	PLOTTED 08/24/89
SURVEYED BY R. GILMAN	08/89 0247
SHEET 23 OF 43 SHEETS	C61 of C63

SCALE 1" = 10 FEET



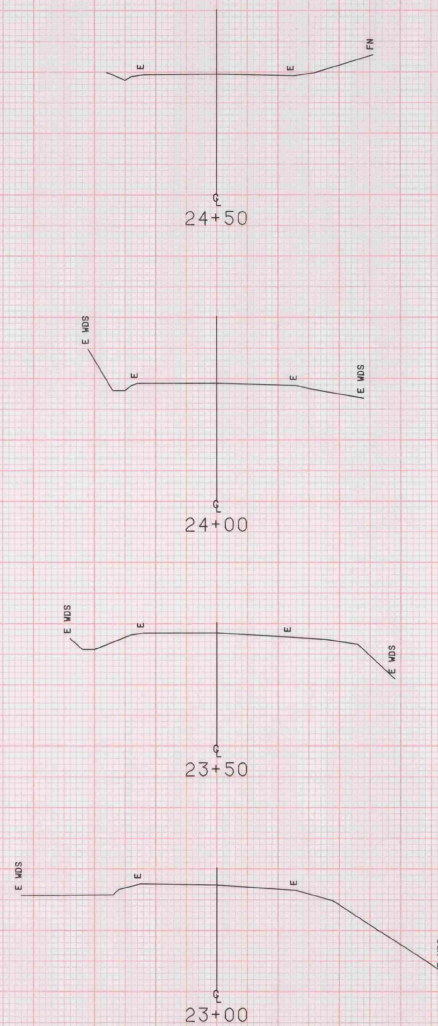
FROM STA. 21+00 TO STA. 21+50
PROJECT NAME PLAINFIELD MI
NO. 08/89 0247
SURVEYED BY R. GILMAN
SHEET 30 OF 43 SHEETS C 10 of 283

SCALE 10 FEET



SCALE 10 FEET

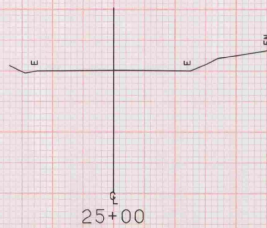
FROM STA.	21+85	TO STA.	22+50
PROJECT NAME	PLAINFIELD MI		
NO.			
SURVEYED BY	R. GILMAN	PLOTTED	08/24/89
SHEET	3	OF	43 SHEETS



FROM STA. 23+00 TO STA. 24+50
PROJECT NAME PLAINFIELD MI
NO. 08/89 0247
SURVEYED BY R. GILMAN
SHEET 32 OF 43 SHEETS

SCALE 10 FEET

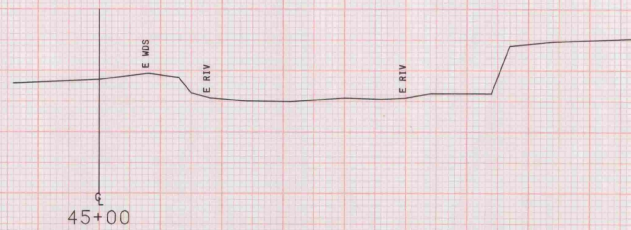
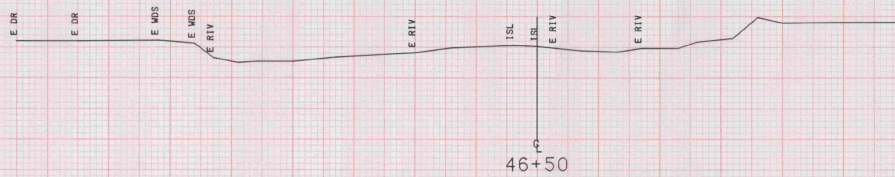
25+00



860

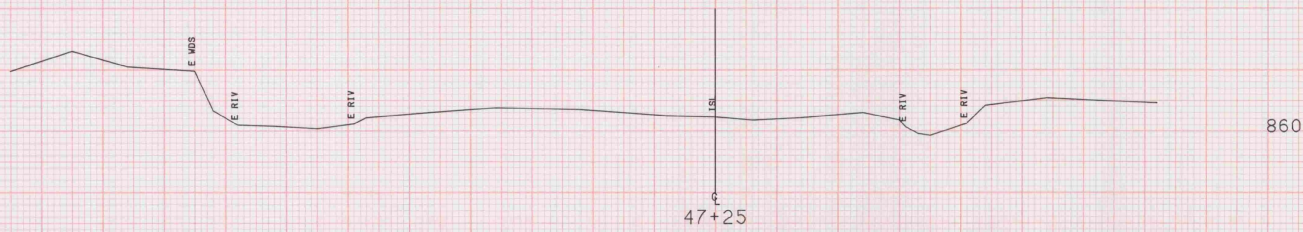
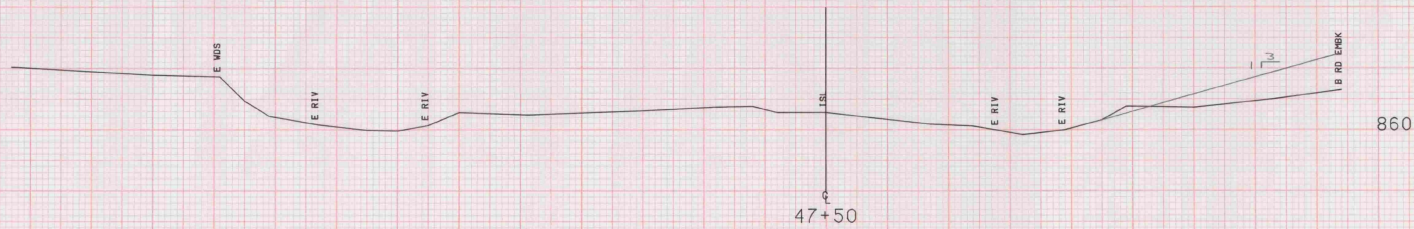
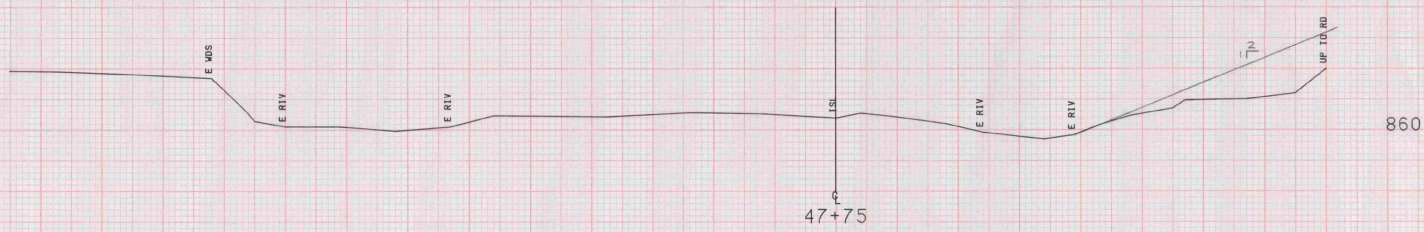
FROM STA. 25+00 TO STA. 25+00
PROJECT NAME PLAINFIELD M1
NO. PLOTTED 08/24/89
SURVEYED BY R. GILMAN 08/89 0247
SHEET 33 OF 43 SHEETS C-18-25-89

SCALE 1" = 10 FEET



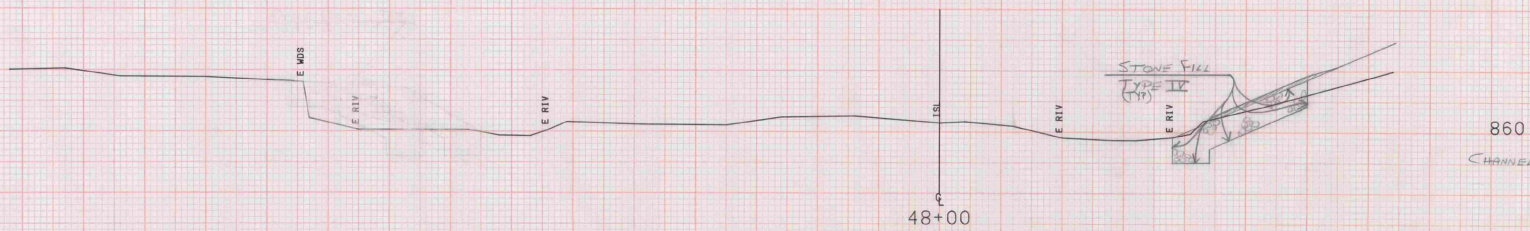
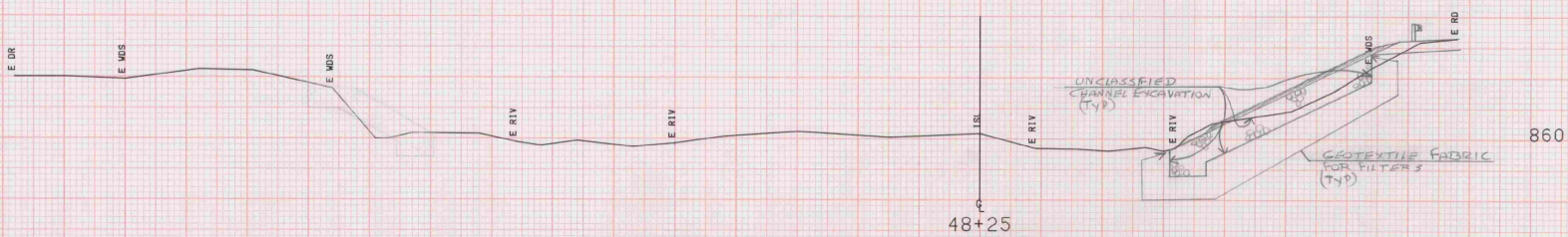
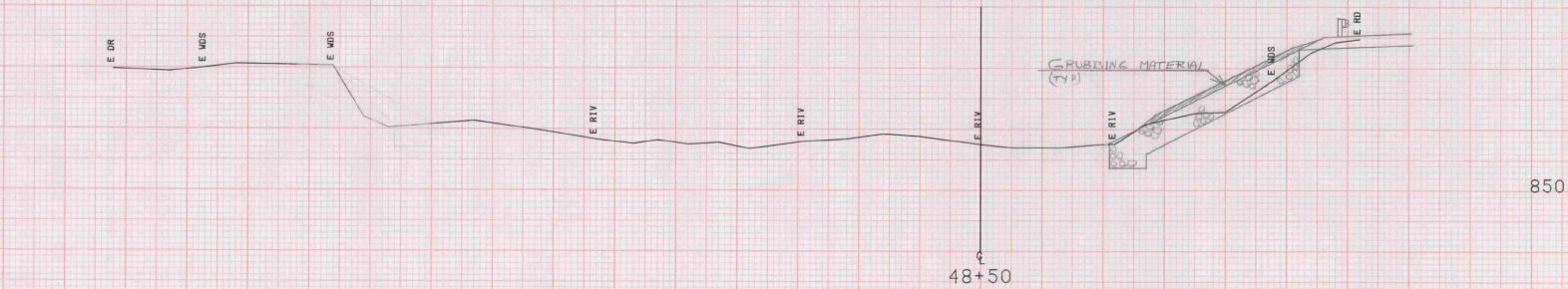
FROM STA. 45+00	TO STA. 46+50
PROJECT NAME PLAINFIELD CHAN	
NO.	PLOTTED 08/24/89
SURVEYED BY R. GILMAN	08/89 0247
SHEET 34 OF 43 SHEETS	C 14 of 283

SCALE 1" = 10 FEET



FROM STA. 47+00 TO STA. 47+75
 PROJECT NAME PLAINFIELD CHAN
 NO. 08/89 0247
 SURVEYED BY R. GILMAN
 SHEET 55 OF 43 SHEETS

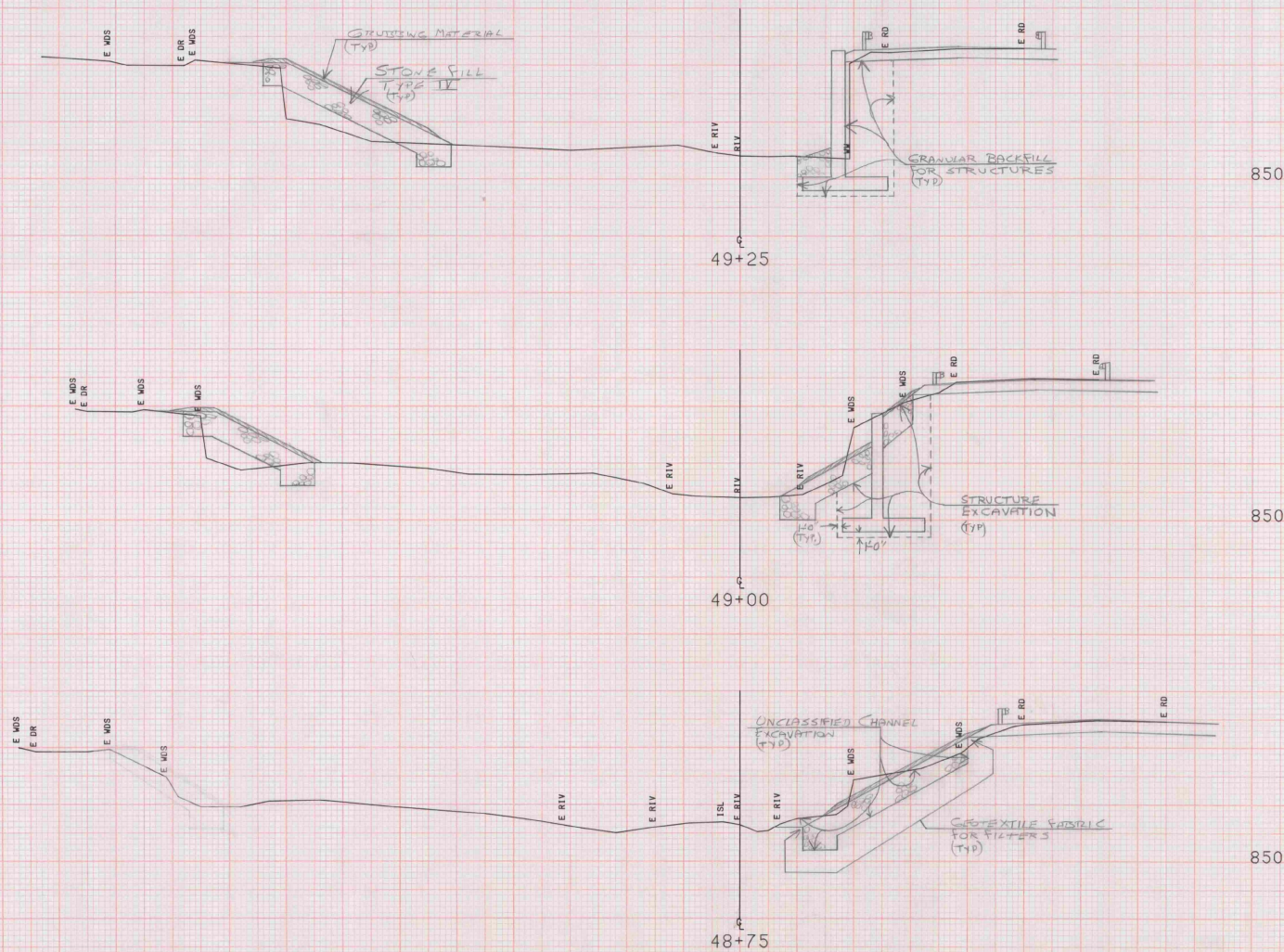
SCALE 10 FEET



CHANNEL STA. 47+90 BEGIN - UNCLASSIFIED CHANNEL EXCAVATION
 - STONE FILL TYPE IV
 - GRASSING MATERIAL
 - GEOTEXTILE FABRIC FOR FILTERS

FROM STA. 48+00	TO STA. 48+50
PROJECT NAME PLAINFIELD CHAN	NO. 08/89 0247
SURVEYED BY R. GILMAN	PLOTTED 08/24/89
SHEET 36 OF 43 SHEETS	CTB 08/24/89

SCALE 1" = 10 FEET



51+94

840

51+82

840

51+76

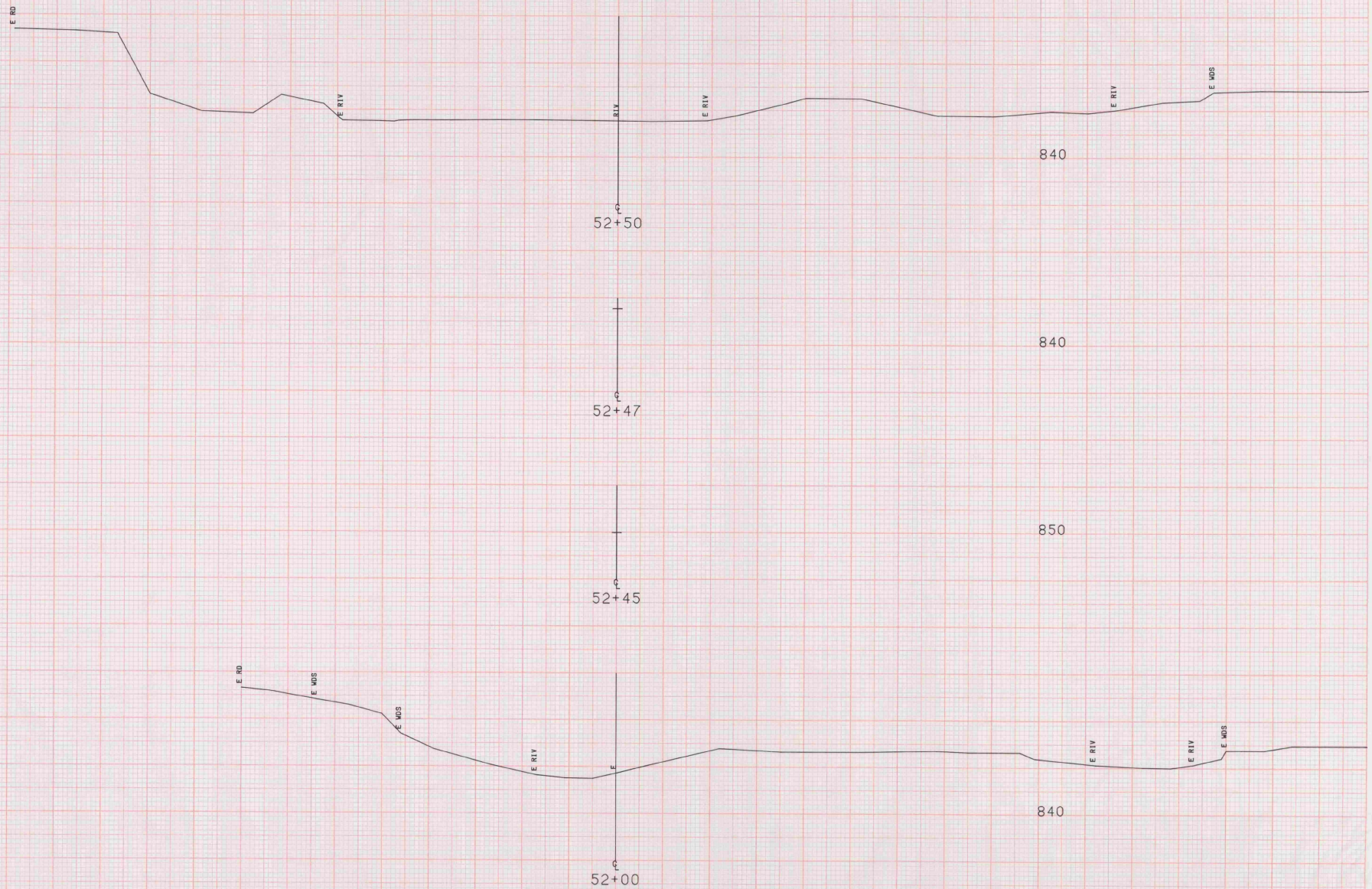
840

51+50

850

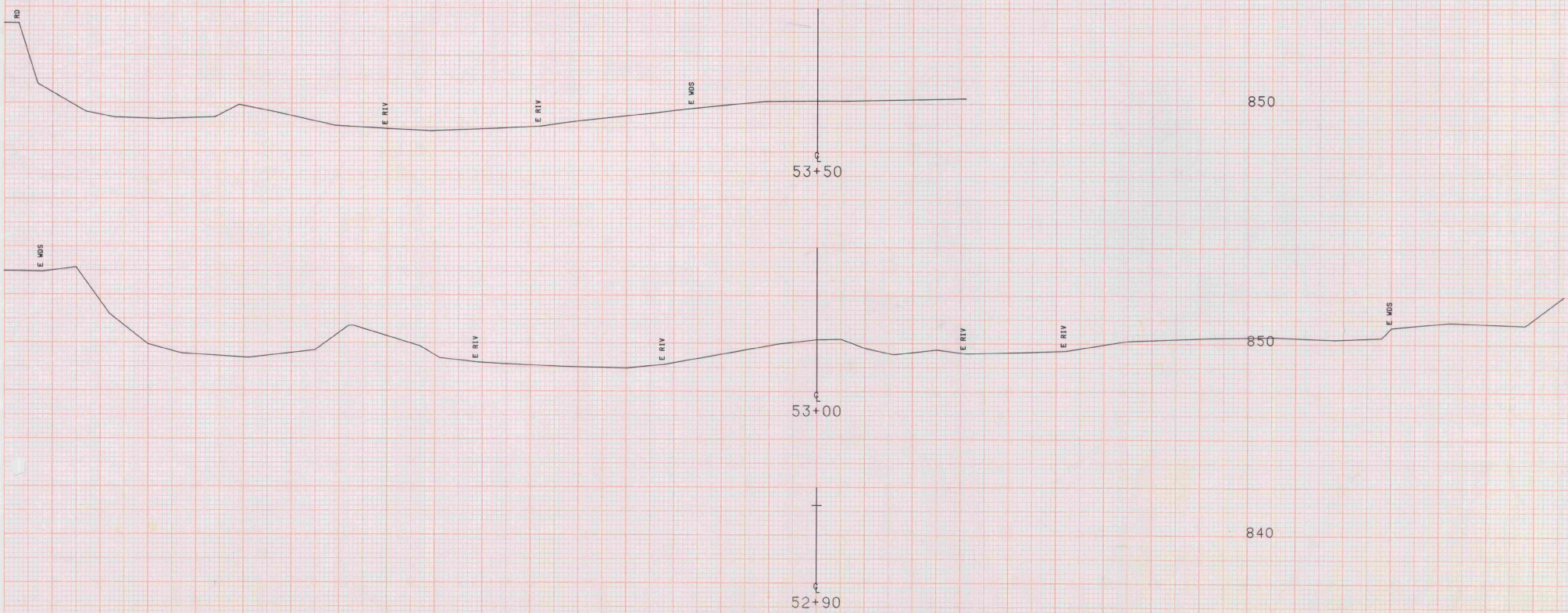
FROM STA. 51+50 TO STA. 51+94
PROJECT NAME PLAINFIELD CHAN
NO. 08/89 0247
SURVEYED BY R. GILMAN
SHEET 41 OF 43 SHEETS

10 FEET



FROM STA.	52+00	TO STA.	52+50
PROJECT NAME	PLAINFIELD CHAN		
NO.	R. GILMAN		
SURVEYED BY	08/89 0247		
SHEET	42 OF 43	SHEETS	132 OF 133

SCALE 1" = 10 FEET

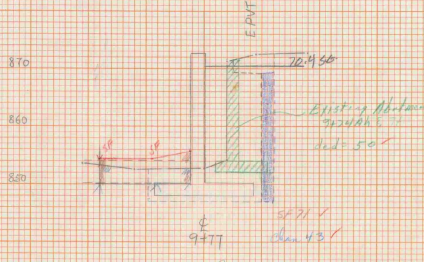
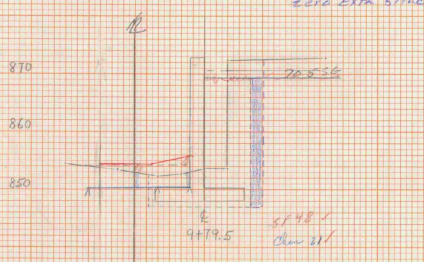
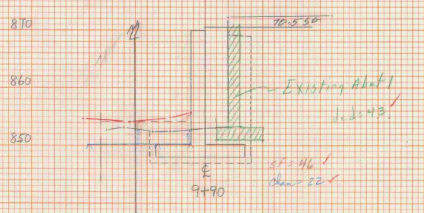
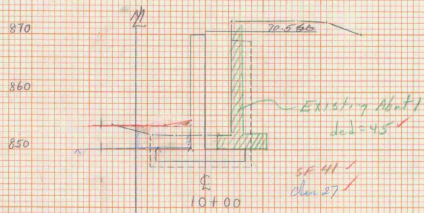
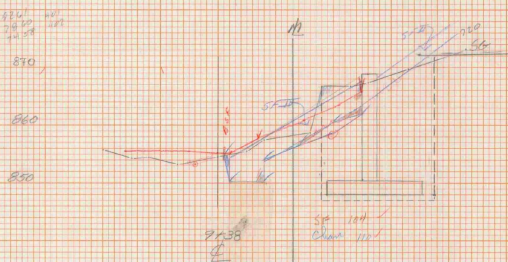
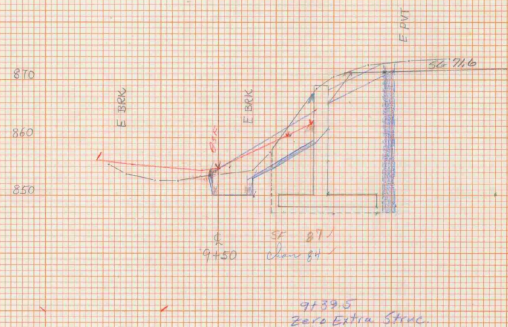
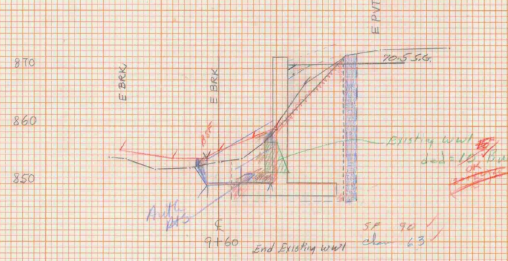
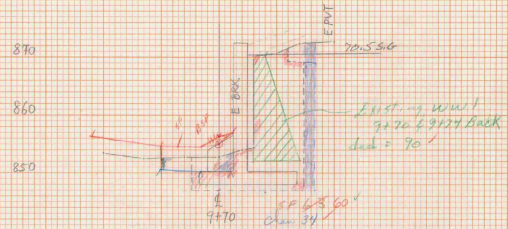
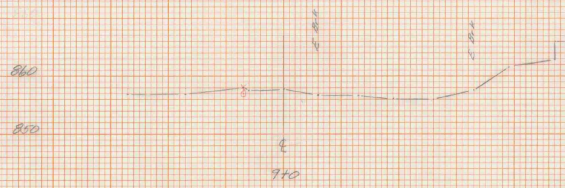
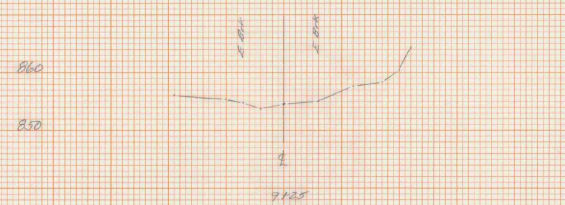
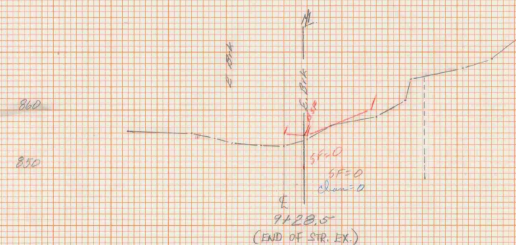
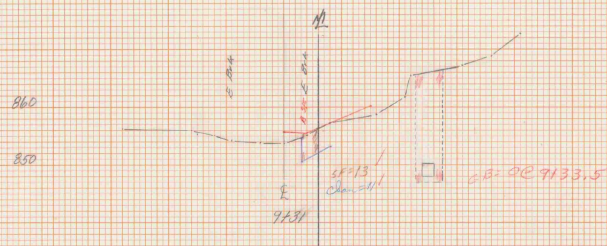


FROM STA. 52+90 TO STA. 53+50
PROJECT NAME PLAINFIELD CHAN
NO. 08/89 0247
SURVEYED BY R. GILMAN
SHEET 43 OF 43 SHEETS C 83 00 C 83

SCALE 10 FEET

DATE	BY
REVISION	BY
NOTE BOOK	DATE

DATE	BY
REVISION	BY
NOTE BOOK	DATE



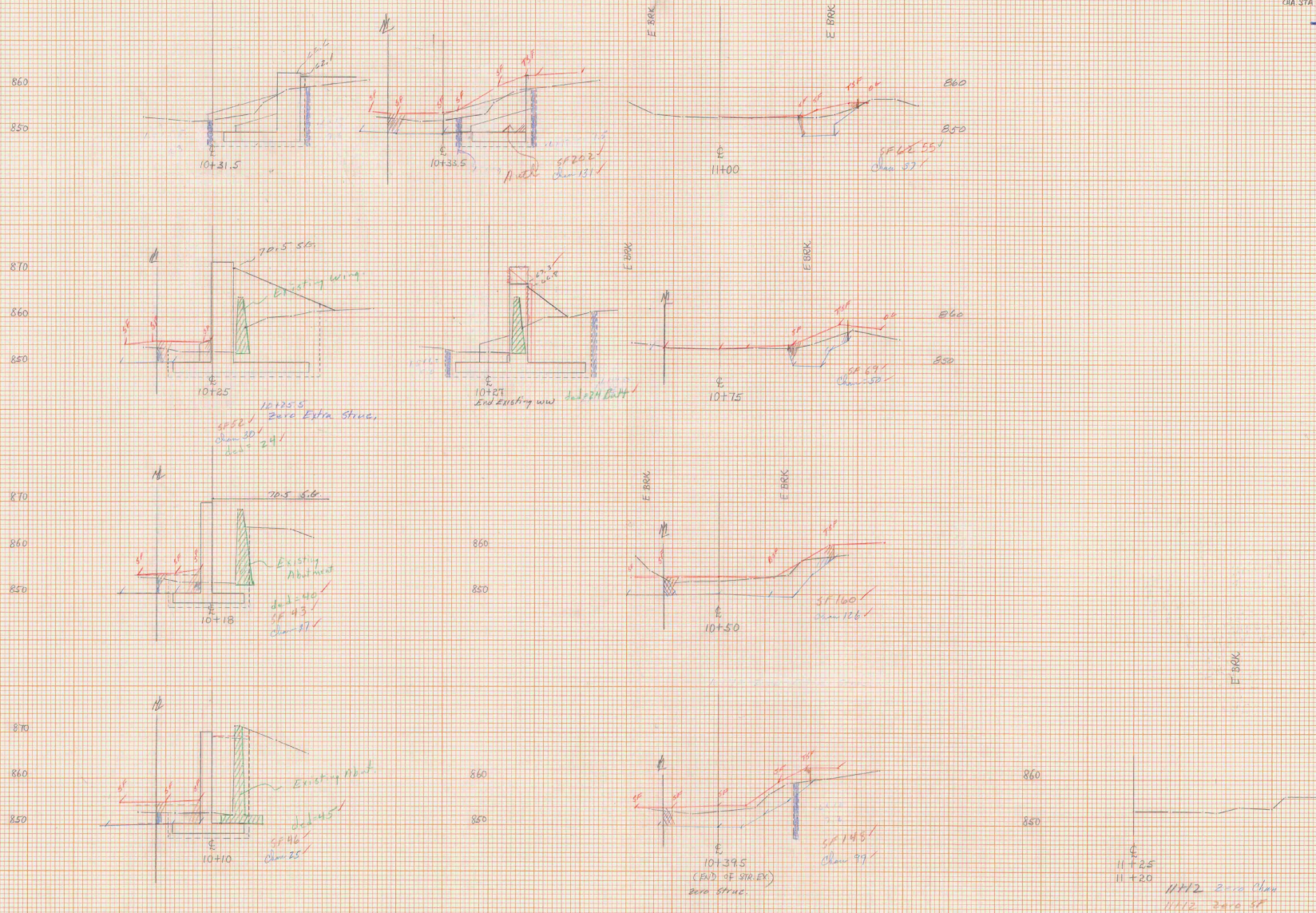
OVERBRIDGE LINES

PLAINFIELD
DSR 097036
Revised Channel Sections
"A" Line (Abutment 1)
April 1991
CHAN. STA 9+00 ~ 10+00
Elev. 11.14 - 11.15

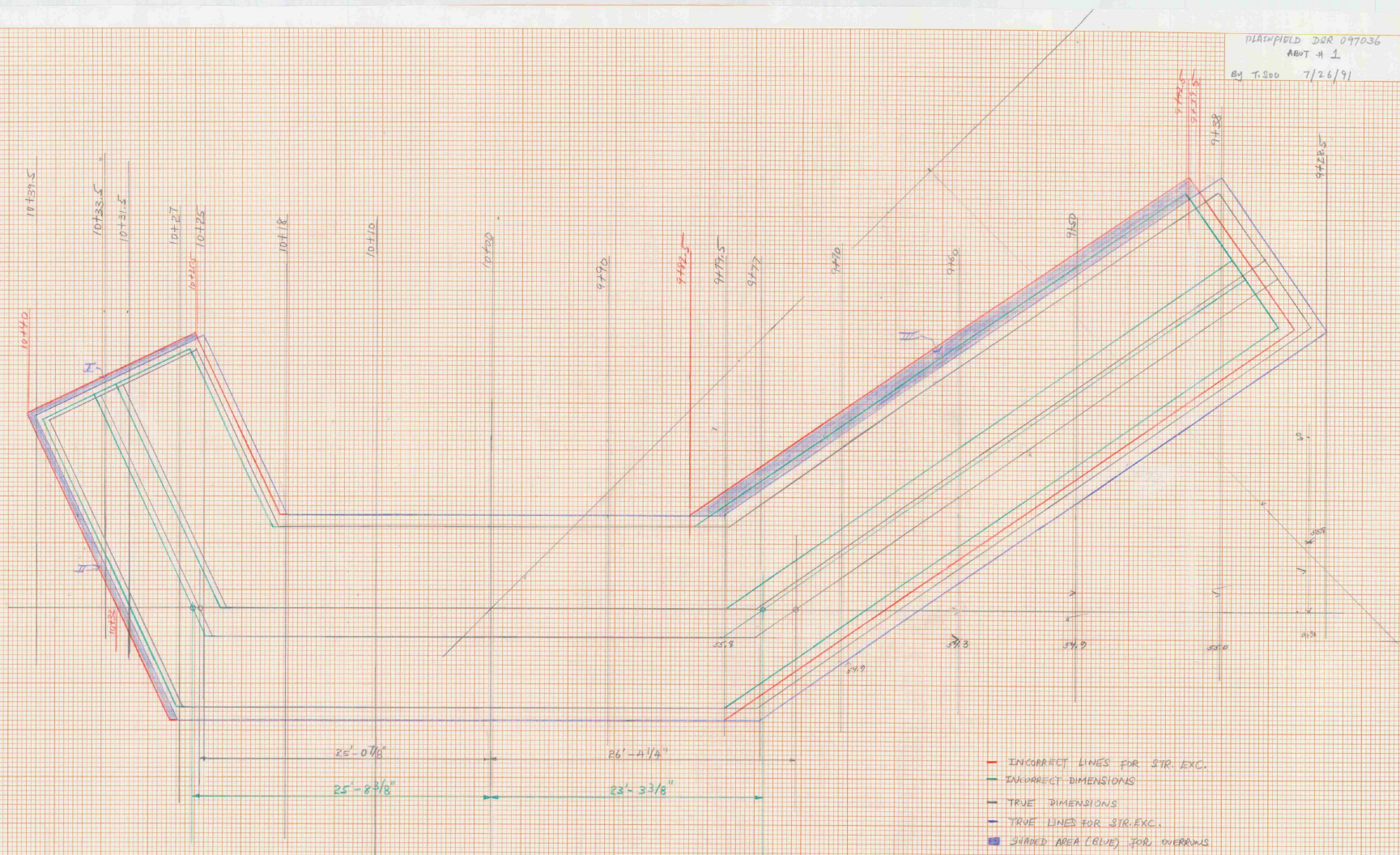
DATE	2/1/12
BY	T. D. D.
REVISION	
ROUTE BOOK	10410
NO.	10410

DATE	
BY	
REVISION	
ROUTE BOOK	10410
NO.	10410

REVISED CHANNEL SECTION
LINE "A"
PLAINFIELD DSR 097036
"ASUT # 1"
STA 10+10 - 11+25
OVERBOW LINES



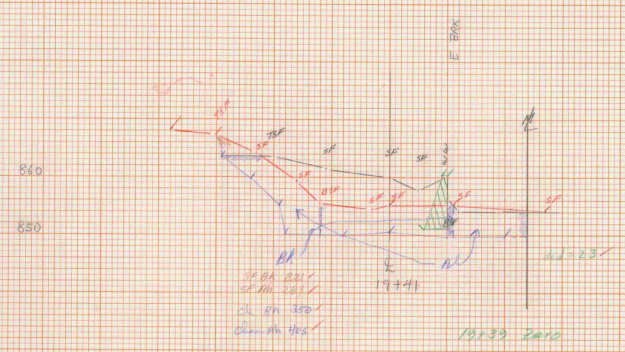
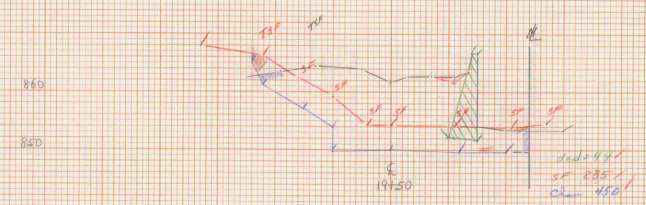
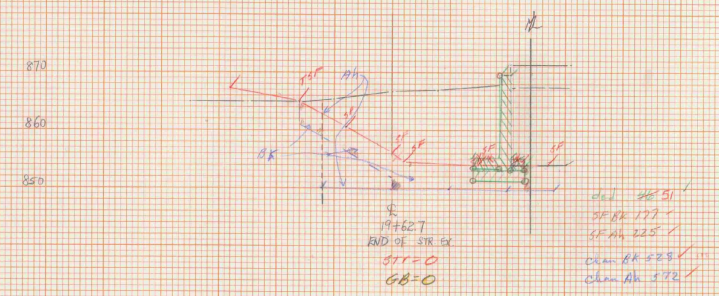
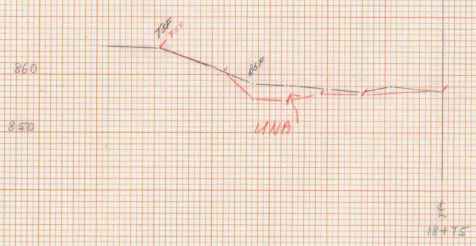
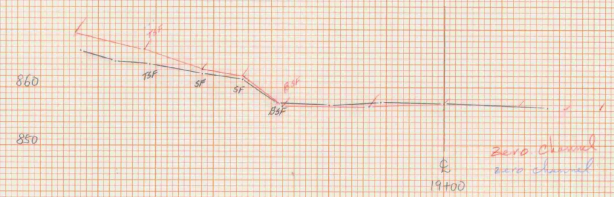
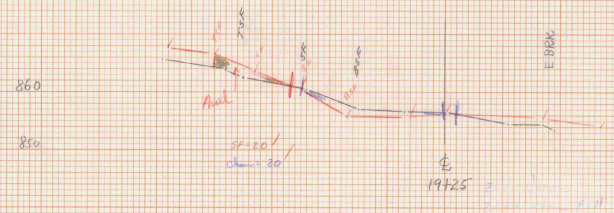
PLAINFIELD DSR 097036
 ABUT # 1
 By T. Soo 7/26/91



FINAL SURVEY	DATE	BY
	11-20-91	379
ROUTE BOOK	PROJECT	NO.
	107036	107036
NO.	DATE	BY
	11-20-91	379

FINAL SURVEY	DATE	BY
	11-20-91	379
ROUTE BOOK	PROJECT	NO.
	107036	107036
NO.	DATE	BY
	11-20-91	379

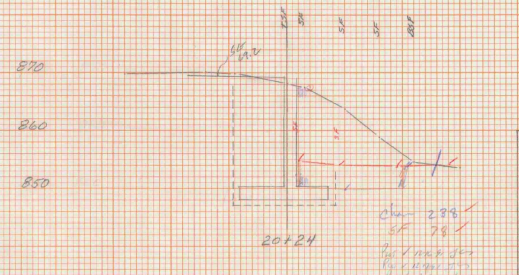
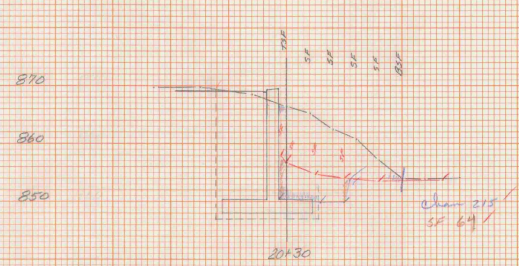
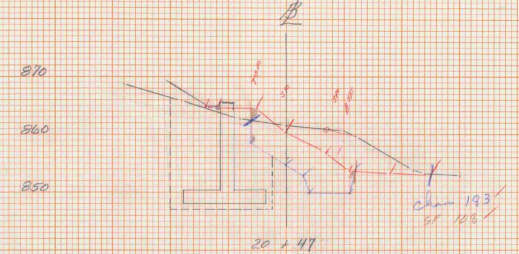
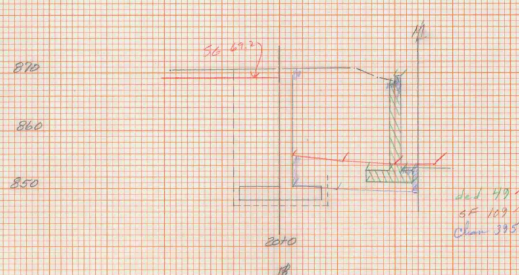
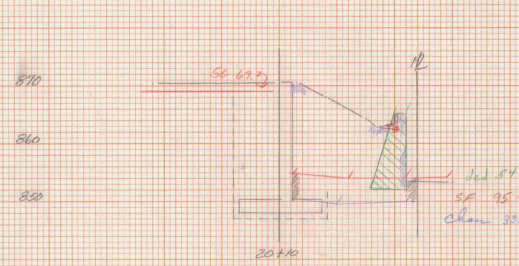
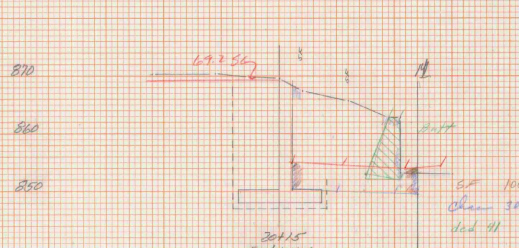
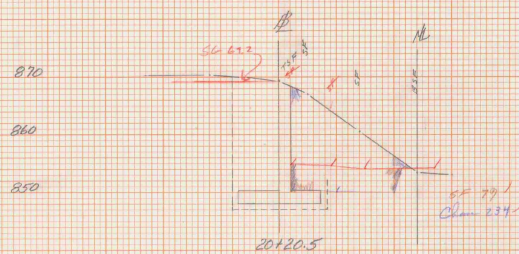
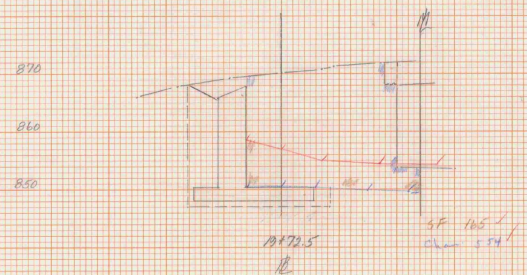
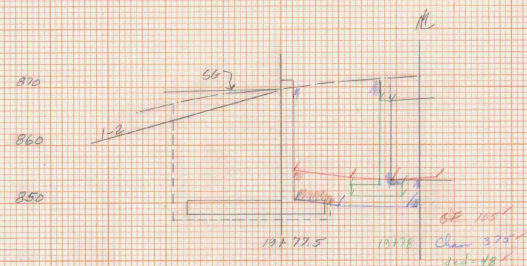
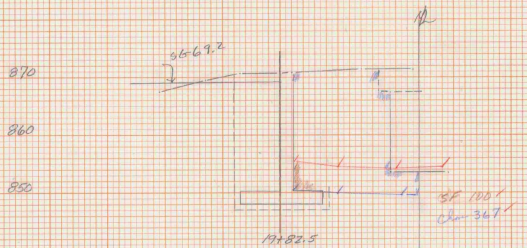
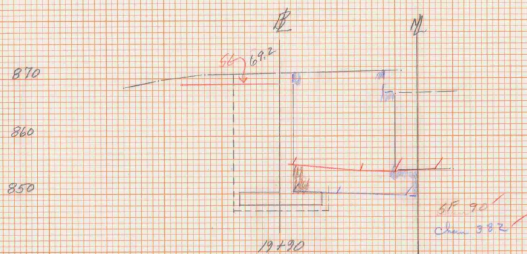
REVISED CHANNEL SECTION
LINE "B"
PLANFIELD DSR 097036
"ABUT. # 2"
CH. STA. 1875 - 1942.7



11-18-91 RAS
REVISED CHANNEL SECTION
LINE "B"
PLANFIELD DSR 097036
"ABUT. # 2"
CH. STA. 1875 - 1942.7

DATE	
BY	
REVISION	
NO.	
FINAL SURVEY	
NOTE BOOK	
NO.	

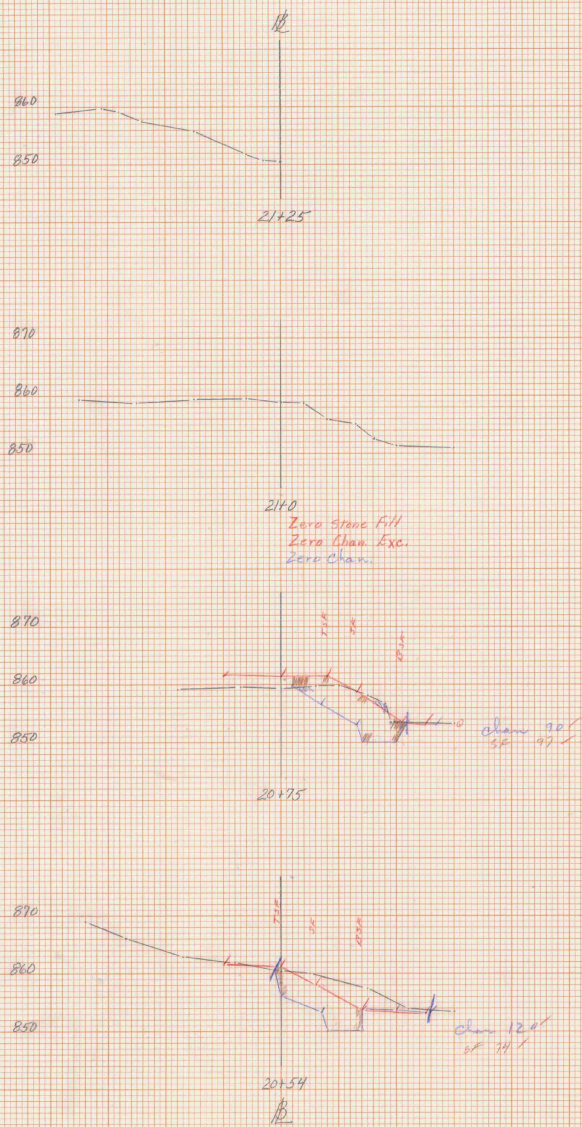
DATE	
BY	
REVISION	
NO.	
FINAL SURVEY	
NOTE BOOK	
NO.	



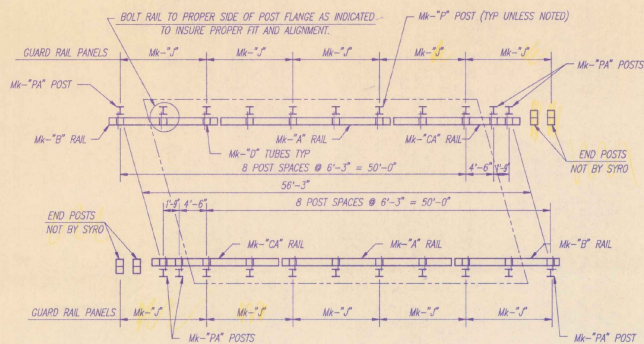
Plainfield DSR 097036
 Revised Channel Sections
 Abutment 2
 78" Line
 Sheet 2 of 2
 April 91
 Stevens

DATE	
BY	
REVISIONS	
NO. DATE	
1	

DATE	
BY	
REVISIONS	
NO. DATE	
1	



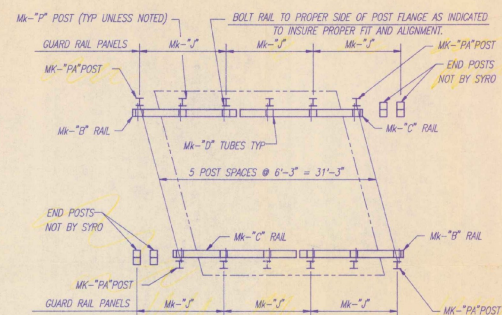
PLAINFIELD DSR097036
 Revised Channel Sections
 Abutment 2
 "B" Line
 Sheet 3 of 3
 April 91
 Stevens



RAILING LAYOUT PLAN VIEW

T.H. 2 OVER GREAT BROOK, BRIDGE No B23

NOTE: FOR ADDITIONAL ERECTION INFORMATION SEE SHTS 10 & 12 OF 43 OF CONTRACT PLANS.



RAILING LAYOUT PLAN VIEW

T.H. 2 OVER GREAT BROOK, BRIDGE No B12

NOTE: FOR ADDITIONAL ERECTION INFORMATION SEE SHTS 9 & 10 OF 38 OF CONTRACT PLANS.

OFFICE COPY

ISSUED JUN 12 1991

RECEIVED 6/18/91

CK'D BY AMC OK'D BY AMC

RESUBMIT NO APPROVED X

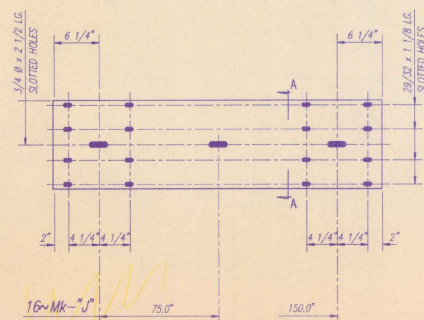
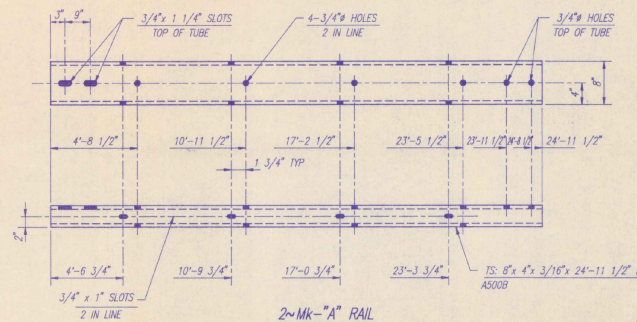
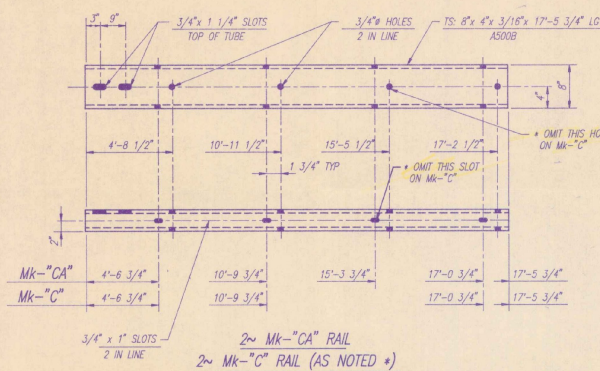
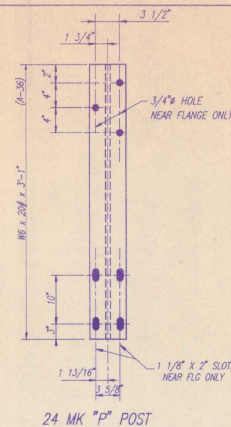
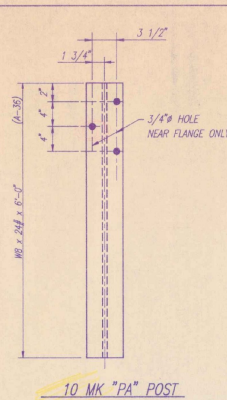
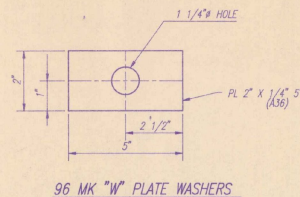
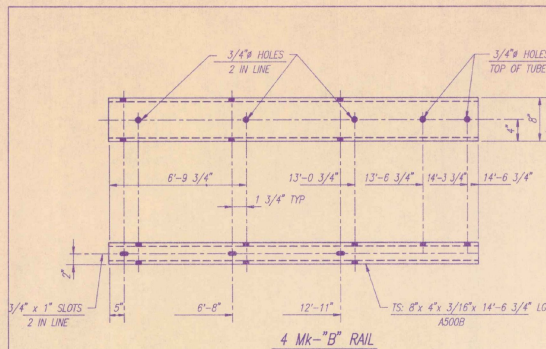
BY KST DATE 6/19/91

APPROVAL DRAWINGS

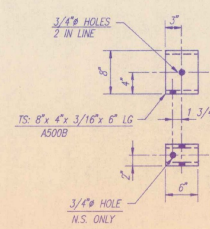
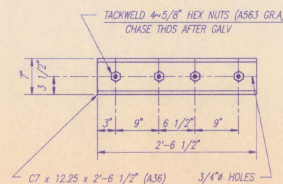
SEE DRAWING No 22-5675 SHIT 1 OF 1 FOR SHOP DETAILS.

NO.	REVISIONS	DATE	BY

CUSTOMER	SYRO REF NO
F. R. LAFAYETTE INC.	22-15675
STATE OF VERMONT	DRWN T.L.C.
AGENCY OF TRANSPORTATION	DESIGN <u>20</u>
TH2 BRIDGES No. B12 & B23	APPROVED
OVER GREAT BROOK	DATE 5-3-91
PROJECT NO D38-D37036 & 097120	SCALE NONE
ITEM NO 325.44 BRIDGE RAILING- HEAVY DUTY STEEL BEAM	DRAWN BY
SYRO STEEL COMPANY	22-5675
GIRARD, OHIO	E1 OF 1
CENTERTVILLE, UTAH	



SECTION A-A

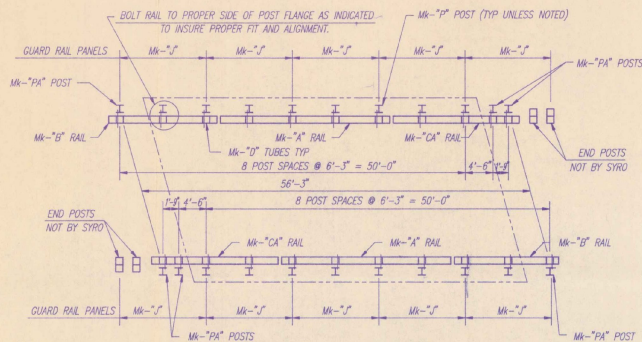


BILL OF MATERIAL						
ITEM NO.	MK	QTY	DESCRIPTION	WT	SK	REMARKS
J2256750P3	P	24	POST W8 X 20 1/2 X 3'-1"	65#		
J2256750PA3	PA	10	POST W8 X 24 1/2 X 6'-0"	144#		
J2256750A3	A	2	TS 8 x 4 x 3/16 x 24'-11 1/2"	378#		
J2256750B3	B	4	TS 8 x 4 x 3/16 x 14'-6 3/4"	220#		
J2256750C3	C	2	TS 8 x 4 x 3/16 x 17'-5 3/4"	264#		
J2256750CA3	CA	2	TS 8 x 4 x 3/16 x 17'-5 3/4"	264#		
J2256750D3	D	68	TS 8 x 4 x 3/16 x 6"	8#		
J2256750G3	AG	6	SPLICE CHANNEL	31#		
S010123	J	16	GUARD RAIL (10 GA) x 13'-6 1/2"	123#	1012	
J2256750W3	W	96	WASHER PL 2" X 1/4" X 5"	1#		

* HARDWARE NOTE: VERMONT AGENCY OF TRANSPORTATION CARBON A307 RECEIVED 6/18/91		CRD BY: <u>SWAN</u>		OK'D BY: <u>SWAN</u>																															
MANUFACTURERS CERTIFICATE OF COMPLIANCE.		APPROVING		DATE																															
68 # WASHPRA		FINISH: GALV A123		ISSUED																															
(2 WASHES PER INCH)				JUL 12 1991																															
✓ INSPECT →		3A HI-STR NOTS		ISSUED																															
		68 " " WASHPRA																																	
APPROVAL DRAWINGS																																			
<table border="1"><thead><tr><th colspan="2">CUSTOMER</th><th>SYRO REF.</th></tr></thead><tbody><tr><td colspan="2">F. R. LAFAYETTE INC.</td><td>22-15675</td></tr><tr><td colspan="2">STATE OF VERMONT</td><td>ATTN: T.J.</td></tr><tr><td colspan="2">AGENCY OF TRANSPORTATION</td><td>PROJECT: F</td></tr><tr><td colspan="2">TH2 BRIDGES 1A, B12 & B23</td><td>APPROVED: <u>SWAN</u></td></tr><tr><td colspan="2">OVER GREAT BROOK</td><td>DATE: 5-3</td></tr><tr><td colspan="2">PROJECT NO. DSR-097036 & 097120</td><td>ENCL: <u>NEW</u></td></tr><tr><td colspan="2">ITEM NO. 525-44 BRIDGE RAILING</td><td>ISSUED BY: <u>SWAN</u></td></tr><tr><td colspan="2">HEAVY DUTY STEEL BEAM</td><td>22-56-</td></tr><tr><td colspan="2"></td><td>1 OF</td></tr></tbody></table>						CUSTOMER		SYRO REF.	F. R. LAFAYETTE INC.		22-15675	STATE OF VERMONT		ATTN: T.J.	AGENCY OF TRANSPORTATION		PROJECT: F	TH2 BRIDGES 1A, B12 & B23		APPROVED: <u>SWAN</u>	OVER GREAT BROOK		DATE: 5-3	PROJECT NO. DSR-097036 & 097120		ENCL: <u>NEW</u>	ITEM NO. 525-44 BRIDGE RAILING		ISSUED BY: <u>SWAN</u>	HEAVY DUTY STEEL BEAM		22-56-			1 OF
CUSTOMER		SYRO REF.																																	
F. R. LAFAYETTE INC.		22-15675																																	
STATE OF VERMONT		ATTN: T.J.																																	
AGENCY OF TRANSPORTATION		PROJECT: F																																	
TH2 BRIDGES 1A, B12 & B23		APPROVED: <u>SWAN</u>																																	
OVER GREAT BROOK		DATE: 5-3																																	
PROJECT NO. DSR-097036 & 097120		ENCL: <u>NEW</u>																																	
ITEM NO. 525-44 BRIDGE RAILING		ISSUED BY: <u>SWAN</u>																																	
HEAVY DUTY STEEL BEAM		22-56-																																	
		1 OF																																	
DRAWNS		DATE	BY	SYRO																															
REVISIONS		SYRO GIRARD, OHIO UTAH																																	

SEE DRAWING No 22-5675 SHT E1 OF 1 FOR RAILING LAYOUTS.			
NO	REVISIONS	DATE	BY

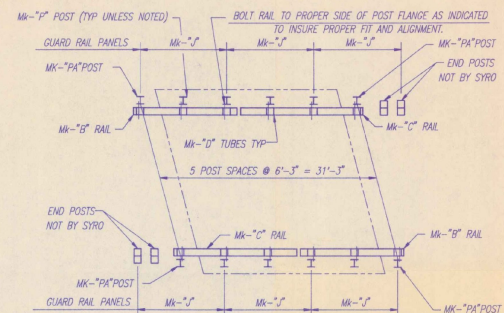
CUSTOMER		SYRO REF NO
F. R. LAFAYETTE INC.		22-15675
STATE OF VERMONT AGENCY OF TRANSPORTATION 112 BRIDGES NO. 812 & 823 OVER GREAT BROOK		DATE 5-3-91
PROJECT NO DSR-097036 & 097120 ITEM NO 525.44 BRIDGE RAILING- HEAVY DUTY STEEL BEAM		DATE HOME
SYRO STEEL COMPANY GIRARD, OHIO CENTERTVILLE, UTAH		22-5675 1 OF 1



RAILING LAYOUT PLAN VIEW

T.H. 2 OVER GREAT BROOK, BRIDGE No B23

NOTE: FOR ADDITIONAL ERECTION INFORMATION SEE SHTS 10 & 12 OF 43 OF CONTRACT PLANS.



RAILING LAYOUT PLAN VIEW

T.H. 2 OVER GREAT BROOK, BRIDGE No B12

NOTE: FOR ADDITIONAL ERECTION INFORMATION SEE SHTS 9 & 10 OF 38 OF CONTRACT PLANS.

RECEIVED 6/18/91
 CR'D BY SHS OK'D BY SHS
 RESUBMIT SHS APPROVED SHS
 BY Ref DATE 6/19/91

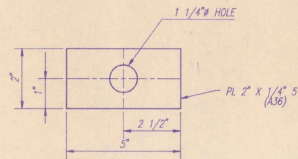
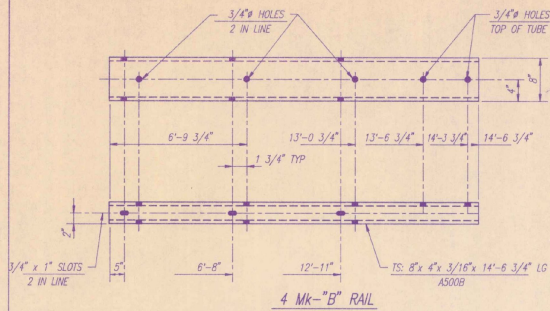
ISSUED
 JUN 22 1991
 ISSUED

APPROVAL DRAWINGS

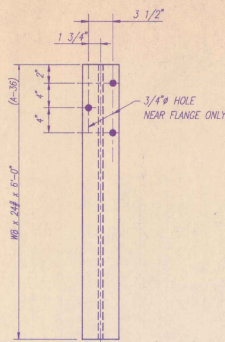
SEE DRAWING No 22-5675 SHIT 1 OF 1 FOR SHOP DETAILS.

NO.	REVISIONS	DATE	BY

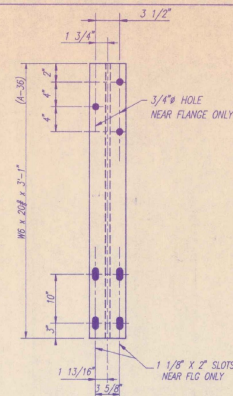
CUSTOMER		SYRO REF. NO.
F. R. LAFAYETTE INC.		22-15675
STATE OF VERMONT		DRWG. T.L.C.
AGENCY OF TRANSPORTATION		CHECKED <u>SHS</u>
TH2 BRIDGES No. B12 & B23		APPROVED <u>SHS</u>
OVER GREAT BROOK		DATE 5-3-91
PROJECT NO. 128-097036 & 097120		SCALE NONE
ITEM NO. S25.44 BRIDGE RAILING--		SYRO REF. NO. 22-5675
HEAVY DUTY STEEL BEAM		E1 OF 1
SYRO STEEL COMPANY		
GURARD, OHIO		
CENTERVILLE, UTAH		



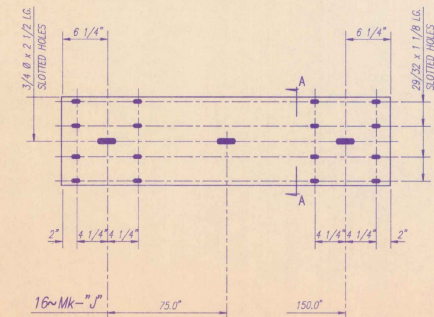
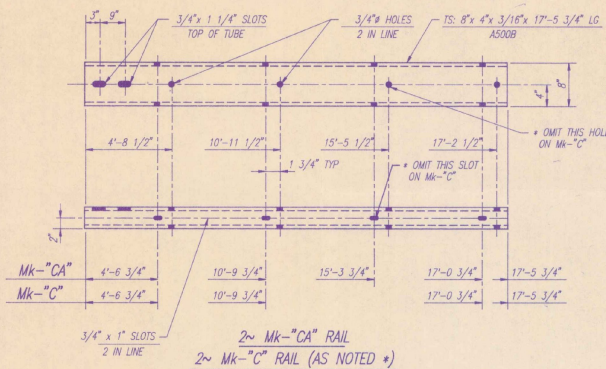
96 MK "W" PLATE WASHERS



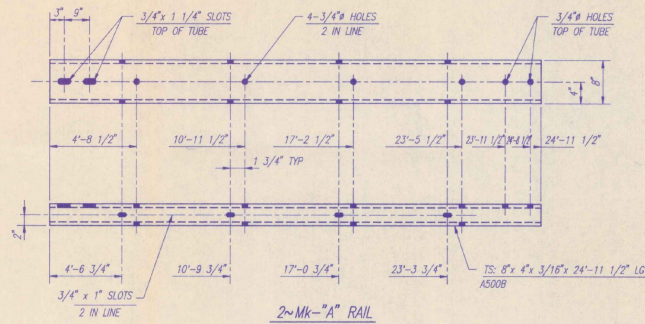
10 MK "PA" POST



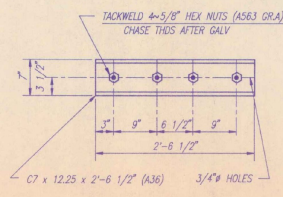
24 MK "P" POST



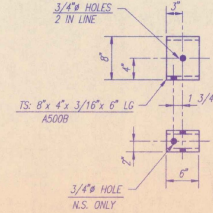
GUARD RAIL (10 GA)
M180



2~MK-"A" RAIL



6~MK-"AG" SPLICE CHANNEL



68~MK-"D" TUBE

BILL OF MATERIAL

ITEM NO.	MK	QTY	DESCRIPTION	WT	SK	REMARKS
J2256750P3	P	24	POST W6 X 20 X 3'-1"	65#		
J2256750P3	PA	10	POST W6 X 24 X 6'-0"	144#		
J2256750A3	A	2	TS 8 x 4 x 3/16 x 24'-11 1/2"	378#		
J2256750B3	B	4	TS 8 x 4 x 3/16 x 14'-6 3/4"	220#		
J2256750C3	C	2	TS 8 x 4 x 3/16 x 17'-5 3/4"	264#		
J2256750CA3	CA	2	TS 8 x 4 x 3/16 x 17'-5 3/4"	264#		
J2256750D3	D	68	TS 8 x 4 x 3/16 x 6"	8#		
J2256750G3	G	6	SPLICE CHANNEL	31#		
S010123	J	16	GUARD RAIL (10 GA) x 13'-6 1/2"	123#	1012	
J2256750W3	W	96	WASHER PL 2" X 1/4" X 5"	1#		

HARDWARE #

B062020013	94	5/8" x 2" HEX HD BOLT	MK-D TO POSTS MK-AG TO RAILS	A307 OR A GALV A153
B062100043	36	5/8" x 10" HGR BOLT	RAILS & HGR TO POSTS	A307 OR A GALV A153
B062012043	162	5/8" x 1 1/4" HGR SPLICE BOLT		A307 OR A GALV A153
B062135013	2	5/8" x 13 1/2" HEX HD BOLT	MK-D TO RAILS	A307 OR A GALV A153
B062180013	6	5/8" x 18" HEX HD BOLT		A307 OR A GALV A153
W062123	762	5/8" WASHER		F844 GALV A153
N06201321	174	5/8" HEX NUT		A563 OR A GALV A153
N062043	180	5/8" HGR NUT		A563 OR A GALV A153
S0284331	34	PLATE WASHER	USE W/ 5/8" x 10" HGR BOLTS	

PAY QUANTITY (THIS SHEET ONLY)

175'-0"	ITEM 525.44	BRIDGE RAILING- HEAVY DUTY STEEL BEAM
---------	-------------	--

* HARDWARE NOTE: VERMONT AGENCY OF TRANSPORTATION: CARBON A307 HDW. REQUIRES THE MANUFACTURERS CERTIFICATE OF COMPLIANCE.

FINISH: GALV A123
RECEIVED 6/18/01
OK'D BY G.H.S.
SUBMIT APPROVED AD ADDED
BY DATE 6/19/01

34 (MIN) HI-STRENGTH NUTS
68 (MIN) " " WASHERS

APPROVAL DRAWINGS

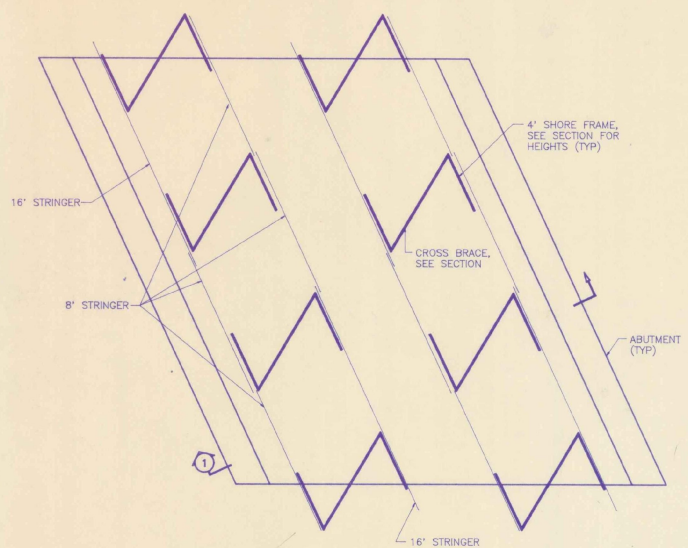
ISSUED
JUN 18 1991
ISSUED

SEE DRAWING No 22-5675 SHT E1 OF 1 FOR RAILING LAYOUTS.

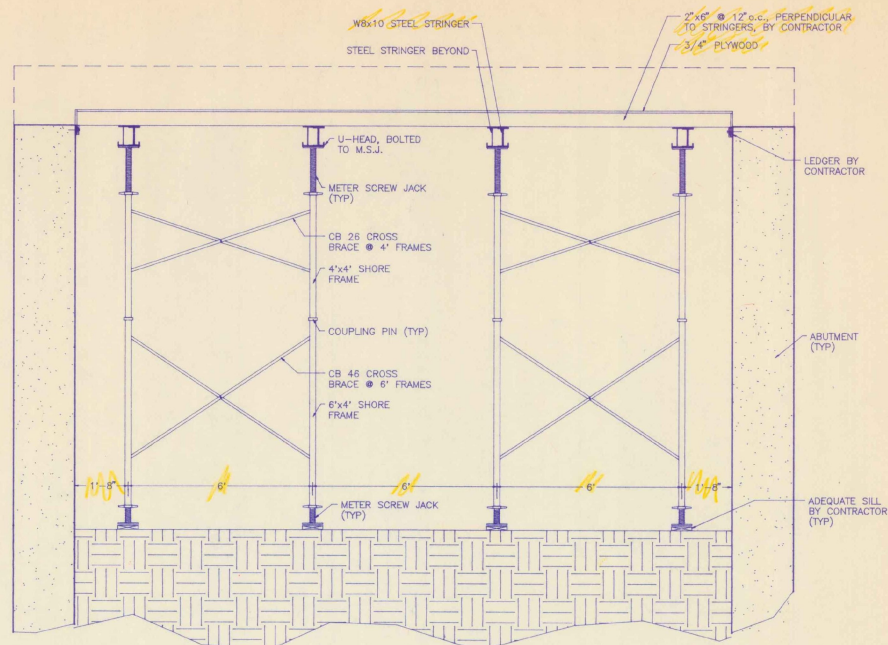
NO	REVISIONS	DATE	BY

CUSTOMER F. R. LAFAYETTE INC. STATE OF VERMONT AGENCY OF TRANSPORTATION TH2 BRIDGES No. B12 & B23 OVER GREAT BROOK PROJECT NO CSR-097036 & 097120 ITEM NO 525.44 BRIDGE RAILING- HEAVY DUTY STEEL BEAM	SYRO REF. NO 22-15875 T.L.C. F.D. 5-3-91 22-5675 SYRO STEEL COMPANY GIRARD, OHIO CENTERVILLE, UTAH
--	--

WINTERSET, INC.
P.O. BOX 968
LYNDENHILL, VT 05651



SLAB PLAN



SECTION 1

NOTE:
1. THE CONCRETE SUPPORTED BY THE SHORING SHOWN ON THIS LAYOUT IS ASSUMED TO WEIGH 150 LBS./CU. FT.
2. THE DESIGNED LAYOUT INCLUDES A LIVE LOAD (INCLUDING FORMS) OF 53 P.S.F. WHICH DOES NOT INCLUDE PROVISIONS FOR MOTORIZED CONCRETE EQUIPMENT.
3. THE FORMWORK DETAILS SHOWN ARE SUGGESTED SIZES AND ARE BASED ON THE FOLLOWING ALLOWABLE UNIT STRESSES:
EXTREME FIBER STRESS IN BENDING 1,800 PSI
HORIZONTAL SHEAR 150 PSI
MODULUS OF ELASTICITY 1,800,000 PSI
NOTE:
THE FINAL RESPONSIBILITY FOR THE FORMWORK DESIGN AND PLACEMENT REMAINS WITH THE USER.
4. PLYWOOD DESIGN IS BASED ON DOUGLAS FIR WITH THE FACE GRAIN OF THE PLYWOOD RUNNING AT RIGHT ANGLES TO ITS SUPPORT.
5. RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHOULD BE THOROUGHLY CHECKED BY THE ENGINEER.

- FILE COPY -
RECEIVED 7/1/91
OK'D BY *mmg*
RESUBMIT APPROVED *V*
DATE

GENERAL NOTES
1. THIS LAYOUT DRAWING IS FURNISHED BY A.H. HARRIS AS A SERVICE TO CONCEPTUALLY ILLUSTRATE THE ASSEMBLY OF A.H. HARRIS'S PRODUCTS ONLY. SUCH LAYOUT DRAWINGS ARE NOT INTENDED TO BE FULLY DIRECTION NOR COVER ENGINEERING DETAILS ON A.H. HARRIS'S PRODUCTS, OR EQUIPMENT OR MATERIALS NOT FURNISHED BY A.H. HARRIS AND THE INTERSECTION THEREWITH. INASMUCH AS A.H. HARRIS DOES NOT CONTROL, ASSEMBLY OR PRO-CEDES, GRADE OR QUALITY OF MATERIALS OR EQUIPMENT SUPPLIED BY OTHERS, IT IS THE RESPONSIBILITY OF LESSEE, CUSTOMER TO INTEGRATE A.H. HARRIS'S DRAWINGS INTO COMPOSITE DRAWINGS SUITABLE COMPLETE FOR CONSTRUCTION PURPOSES CONSISTENT WITH SAFE PRACTICE AND OVERALL PROJECT OBJECTIVES.
2. WALL AND COLUMN FORMS MUST BE ADEQUATELY BRACED TO SAFELY SUPPORT ALL FORESEEABLE LATERAL LOADS ASSOCIATED WITH WIND, ECCENTRIC LOADING, ETC. THE MATERIALS, QUANTITIES, LOCATIONS AND METHODS OF ATTACHMENT AND ANCHORAGE OF THE BRACING DESIGN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR BASED ON JOIST CONDITIONS AND APPLICABLE INDUSTRY STANDARDS.
3. THIS DRAWING IS BASED ON A MAXIMUM ALLOWABLE CONCRETE PRESSURE OF N.A. LBS./S.F. AS DETERMINED BY AMERICAN CONCRETE INSTITUTE FORMULAS AND PROCEDURES.
4. SAFE LOAD CAPACITY OF TIES IS N.A. LBS. SAFETY FACTOR UNLESS NOTED OTHERWISE.
5. ALLOWABLE LOAD ON SHEAR WALL BRACKET IS N.A. LBS. WHEN ANCHORED IN 2000 PSI CONCRETE WITH 3/4" DIA. BOLTS.
6. LIFT BRACKET CAPACITIES ARE GIVEN BELOW. ALL RIGGING IS BY OTHERS.

NO.	BY	CHECKED	DATE

DRAWING STATUS
☒ PRELIMINARY DETAILS ONLY — NOT FOR CONSTRUCTION PURPOSES.
☐ ISSUED FOR INFORMATION PURPOSES ONLY.
☐ ISSUED FOR ARCH/ENG APPROVAL.
☐ ISSUED FOR CONTRACTOR APPROVAL.
☐ ISSUED FOR CONSTRUCTION.
☐ DESTROY ALL PREVIOUS COPIES.

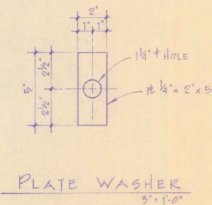
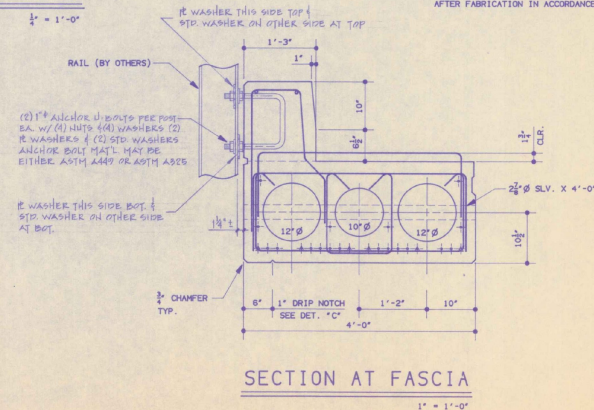
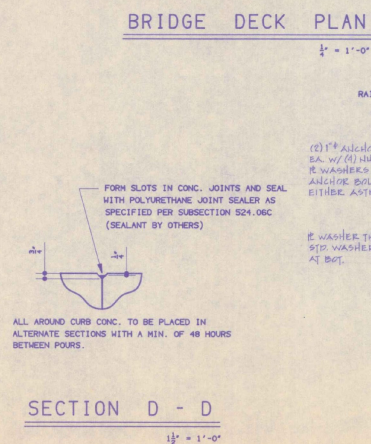
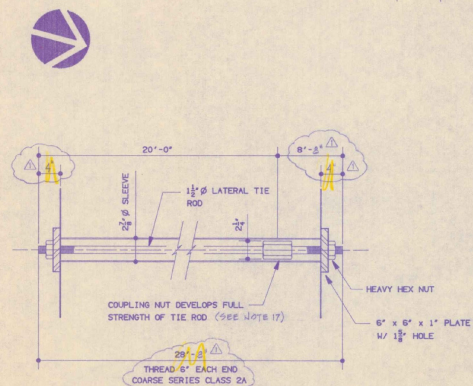
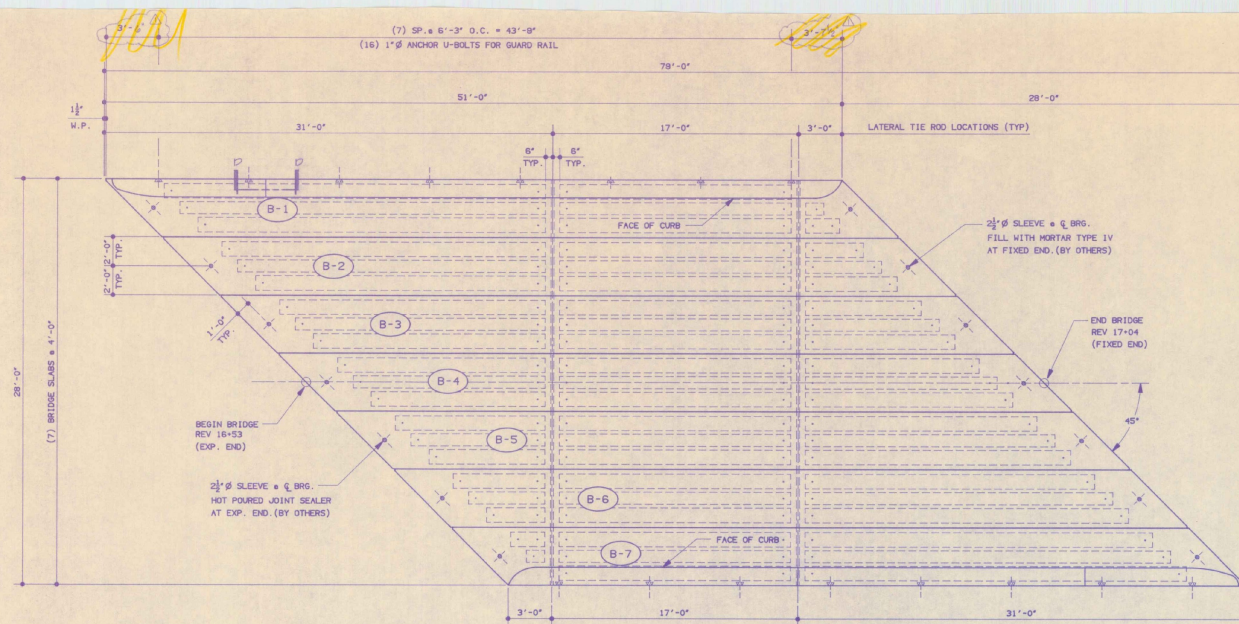
FACTORS AFFECTING CONCRETE PRESSURE
1. WEATHER - Cold weather will delay setting up of concrete, increasing liquid head, thus adding to the pressure. 2. A FAST POUR - The higher rate of pour, the greater the pressure. 3. VIBRATION - In addition to keeping the concrete liquid, high frequency vibration adds a pounding or impact pressure. Accordingly, vibration should be handled with great care. 4. DUMPING OF CONCRETE BY BUCKET OR OTHERWISE - If concrete is dumped at additional impact pressure is added to the concrete pressure. 5. RETARDING ADDITIVES - Cause greater than normal liquid head for a given rate of pour. NOTE: When any of the above conditions exist, extra care should be exercised in pouring and additional tie used.

A.H. HARRIS	A.H. HARRIS & SONS, INC.
New Britain, CT (203)255-7071	Medford, MA (508)359-7301
Portsmouth, NH (603)436-3633	Lanolt, NC (704)754-4413
	Greensboro, NC (919)294-6200
	West Service, NY (716)675-3355

VERBIFORM NOTES
1. SAFE LOAD OF WALKWAY BRACKET IS 750 LBS. BRACKET IS TO BE BOLTED TO FORMWORK AT BOTH UPPER AND LOWER ANGLE. 2. H.S. BOLTS HAVE 3 LINES EMBOSSED ON BOLT HEAD 3. ANCHOR BRACKET IS ATTACHED WITH 4 H.S. BOLTS 4. THE DOWN BRACKET IS ATTACHED WITH 4 H.S. BOLTS 5. SAFE LOAD ON GANG LIFT BRACKET IS 500 LBS. WHEN LIFT LINE IS VERTICAL, DOWN TO 40' ATTACH WITH 1/2" LIFTING HOLE 1" FROM FRAME CORNER WHEN LIFTING FROM CHANNEL CROSSMEMBER, OR 9" FROM FRAME CORNER WHEN LIFTING FROM FLAT BOX END RAIL

STEELY NOTES
1. DO NOT TRY TO FORCE POSITION OF FORMS OR TIES BY STRIKING OR HAMMERING ON ENDS OF WIRE TIES 2. LIFT HANDLES ARE TO BE USED TO ASSIST IN MANUALLY TRANSPORTING EACH MODULAR PANEL AND SHOULD NOT BE USED AS A MEANS OF SUPPORT OR FOR ANY OTHER PURPOSE 3. ALWAYS USE KEEPER BOLT WITH THREADED NUTS 4. TOSSELING ASSE TO BE WELDED ON BOTH SIDES OF TOSSEL WHEN ATTACHED TO STEEL 5. THE ALLOWABLE LOAD ON SCAFFOLD BRACKET IS 500 LBS. BRACKETS SHOULD NOT BE SPACED MORE THAN 8 FT. APART 6. SAFE VERTICAL LOAD ON GANG LIFT BRACKET IS <u>N.A.</u> LBS. LOAD DECREASES TO MAXIMUM OF 45' <u>N.A.</u> LBS WHEN SLING ANGLE DECREASES

FOR WINTERSET, INC.
JOINT, H. 2 OVER GREAT BROOK — SLAB SHORING DETAILS
LOCATION PLAINFIELD, VT
DRAWN <i>mmg</i> DATE 8-25-91 DESIGNED <i>mmg</i> SHEET NO. 1 of 1
CHECKED DATE REF

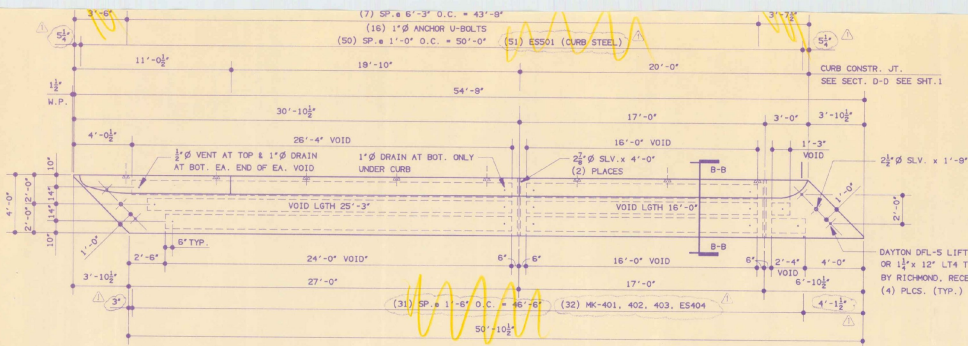


- GENERAL NOTES

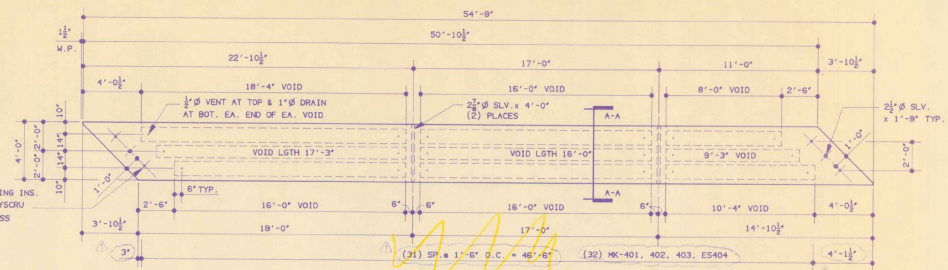
1. MIN. CONCRETE STRENGTH: $f'c = 5000$ PSI @ 28 DAYS
MIN. CONCRETE STRENGTH + STRESS TRANSFER: $f'c = 4000$ PSI
2. REINFORCING STEEL SHALL BE GR-60, ASTM A-615 FOR STRAIGHT BARS. BENT BARS AND STIRRUPS MAY BE EITHER GR-40 OR GR-60, ASTM A-615, AND STIRRUPS GR-40 OR GR-60 SHALL NOT BE MIXED WITHIN A BEAM.
3. ALL EXPOSED CORNERS SHALL BE CHAMFERED $3/4"$.
4. THE TOPS OF THE PRESTRESSED BEAMS SHALL HAVE A ROUGHENED SURFACE FOR BOND WITH TOPPING.
5. END OF PRESTRESSING STRANDS STRANDS SHALL BE RECESSED AND GROUTED.
6. PRESTRESSING STRANDS SHALL BE $1/2"$ Ø 270 KSI SEVEN WIRE LOW RELAXATION, CONFORMING TO ASTM A-203 SUPPLEMENT 1.
7. ALL BOTTOM CABLES SHALL BE PULLED TO HAVE A NET TENSION OF 31.0K AFTER ACCOUNTING FOR $1/4"$ CHUCK SLIPPAGE. ELONGATION SHALL BE CHECKED TO VERIFY TENSIONING FOLLOWING ALL:
 - A. PULL CABLES INITIALLY TO 3000 LB. & MARK CABLE.
 - B. THEN PULL CABLES TO A TOTAL TENSION OF 32,800 LB. AND MEASURE CABLE ELONGATION AFTER SEATING. IT MUST BE BETWEEN $4\frac{1}{2}"$ AND $4\frac{3}{4}"$.

(ABOVE ELONGATIONS ARE PRELIMINARY AND ARE BASED ON $E_{cable} = 28,300,000$ PSI. FINAL ELONGATIONS WILL BE DETERMINED WHEN THE SPECIFIC SPOOL OF CABLE IS DETERMINED JUST PRIOR TO BEAM MANUFACTURE. ALSO SEE ATTACHED CALCULATIONS FOR DETERMINING ELONGATIONS.)
8. THE TOP 10 CABLES SHALL BE PULLED TO A TENSION OF 3000 LBS. NOMINAL. NO ELONGATION MEASUREMENTS ARE REQUIRED FOR THESE CABLES.
9. DETENSIONING SEQUENCE TO BE 1,2,3,4 THEN BACKDROPS FROM 24 DOWN TO 5.
10. BEAMS SHALL BE HANDLED AND ERECTED USING THE LIFTING INSERTS ONLY. ANY ANGLE OR LIFTING CABLES SHALL NOT BE USED UNDER AN EQUIVALENT LOAD IN EXCESS OF 13,500 LBS. PER INSERT. BEAMS SHALL BE STORED AND TRANSPORTED WITH TIMBER SUPPORTS WITHIN 6" OF THE BEAM ENDS, UNLESS OTHERWISE NOTED BY J.P. CARRARA & SONS, INC.
11. ESTIMATED THEORETICAL CONCRETE VOLUME AND WEIGHT ARE AS NOTED FOR EACH BEAM.
12. MATERIAL SPECIFICATION & MIX DESIGN SHALL CONFORM TO VT. STATE SPECS. PS10.02 & PS10.05 RESPECTIVELY. SEE ATTACHED SHEET FOR MIX DESIGN.
13. ALL UNITS SHALL BE COVERED WITH PLASTIC FOR 24 HOURS AFTER STRIPPING & KEPT MET.
14. THE VERMONT AGENCY OF TRANSPORTATION WILL BE NOTIFIED IN A TIMELY MANNER SO THAT ALL PRECAST OPERATIONS MAY BE WITNESSED.
15. QUALITY CONTROL PROCEDURES ARE IN ACCORDANCE WITH PCI REQUIREMENTS. J.P. CARRARA & SONS, INC. IS A CERTIFIED PLANT.
16. THE CURB WILL BE POURED AFTER THE BEAM HAS "SET" & AFTER DETENSIONING.
17. BEARING PADS SHALL CONFORM TO VERMONT STATE SPECS. P731.02 & BE $14" \times 6"$ X LENGTH OF BRIDGE SEATS.
18. TRANSVERSE TIE RODS WITH NUTS AND WASHERS SHALL MEET ASTM A6270 GR.36, GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A6232.

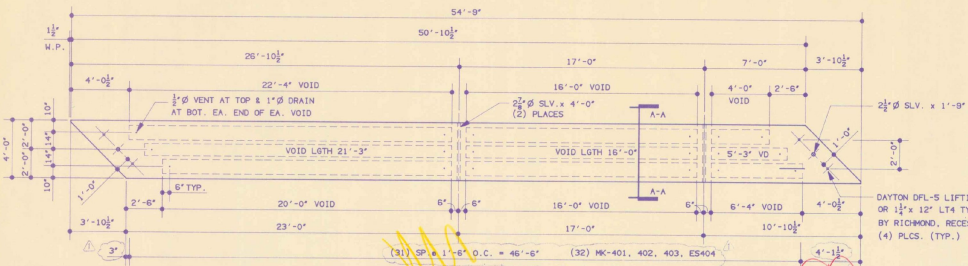
RECEIVED 3/26/91
CK'D BY MEM OK'D BY _____
RESUBMIT _____ APPROVED X
BY R.P. GENDRON DATE 4-1-91



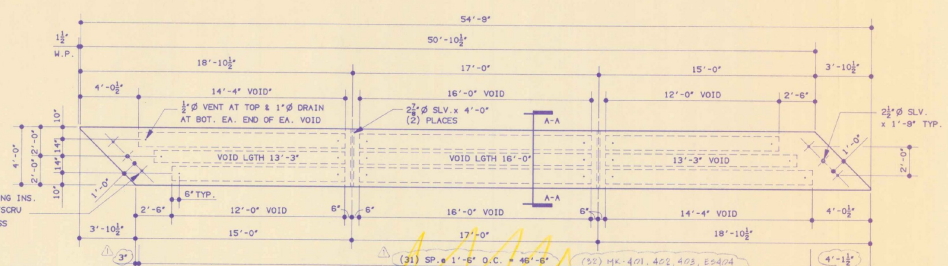
B-1 (1) REQ'D. 25.72 TONS TOTAL: 9.7 CU. YDS. FOR BM.
 3.2 CU. YDS. FOR CURB



B-3 (1) REQ'D. 25.72 TONS 9.7 CU. YDS.
 1' = 1'-0"

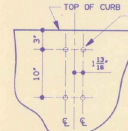


B-2 (1) REQ'D. 25.72 TONS 9.7 CU. YDS.
 1' = 1'-0"



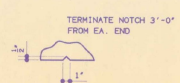
B-4 (1) REQ'D. 25.72 TONS 9.7 CU. YDS.
 1' = 1'-0"

*Make Straight
 Curved from each
 7/8" dia JBM*



GUARD RAIL BOLT PATTERN

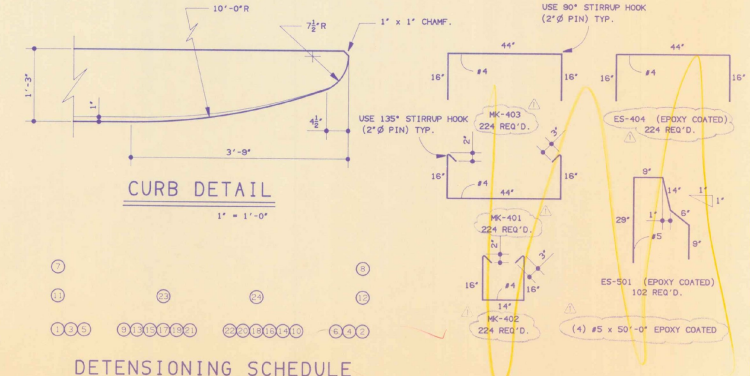
DETAIL "B"



DETAIL "C"

1' = 1'-0"

CURB DETAIL



DETENSIONING SCHEDULE

Drawing Title:
 STATE OF VERMONT
 102 OVER GREAT BROOK, PLAINFIELD
 DECK SLAB DETAILS

SCALE: NOTED
 JOB NO: P6-157
 DATE: 3-7-71
 DWS: CS

SECTION A-A

1' = 1'-0"

SECTION B-B

1' = 1'-0"

DRAWN: J.C. [Signature]
 DESIGNED: [Signature]
 CHECKED: [Signature]
 APPROVED: [Signature]

J.P. CARRARA & SONS INC.
 Precast & Prestressed Manufacturers
 100 W. Main Street
 Plainfield, N.J. 07054
 Phone: (201) 744-0201

RECEIVED 3/10/71
 CH'D BY: [Signature]
 RESUBMIT APPROVED X
 BY: [Signature] DATE: 4-1-71

REV. A: PER ENGR. CHG. 3/10/71 TP

Vermont Agency of
Transportation
PHASE 2-INTERSTATE
#122302-01



INITIALS

Box 3336



DONE

Bridge
1991

PLAINFIELD
DSR 097036

1991