

**STANDARD SHEETS**

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/94
B-71	RESIDENTIAL AND COMMERCIAL DRIVES	11/16/00
E-100	CONSTRUCTION APPROACH SIGNS	1/6/97
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/6/97
E-102	CONSTRUCTION SIGN DETAILS	8/8/95
E-102A	CONSTRUCTION SIGN DETAILS	8/8/95
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	8/8/95
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	8/8/95
E-107A	BREAKAWAY BARRICADE DETAILS	8/8/95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/95
E-160	FLANGED CHANNEL STEEL SIGN POST	5/20/99
E-193	PAVEMENT MARKING DETAILS	8/18/95
G-1	STEEL BEAM GUARD RAIL (50MPH & OVER) HEAVY DUTY STEEL BEAM GUARD RAIL TWISTED END TERMINAL ANCHOR FOR STEEL BEAM RAIL	1/3/00
G-1D	STEEL BEAM GUARD RAIL (40MPH & LESS) HEAVY DUTY STEEL BEAM GUARD RAIL STEEL BEAM MEDIAN BARRIER ANCHOR FOR STEEL BEAM RAIL	1/3/00
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	6/1/94
SB-R6-82	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	1/6/95
SB-R7-90	BRIDGE RAILING - HEAVY DUTY STEEL BEAM	1/11/95
T-1	TEMPORARY EROSION CONTROL DETAILS	6/1/94
T-2	TEMPORARY EROSION CONTROL DETAILS	6/1/94

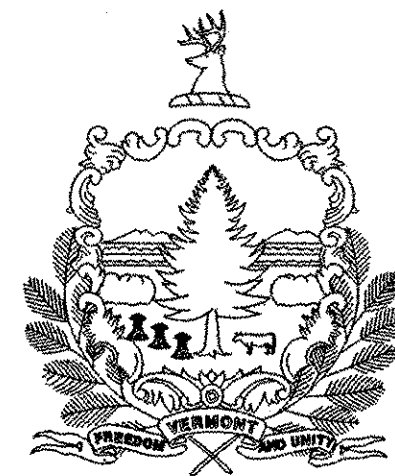
**RECORD PLANS**

CONTRACTOR: R.C. CONTRACTORS, INC. - GLOVER, VT.  
 RESIDENT ENGINEER: J. COIA  
 CONSTRUCTION BEGAN: JUNE 22, 2004  
 CONSTRUCTION COMPLETE: \_\_\_\_\_  
 RECORD PLANS BY: J. COIA

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.  
 BY: *[Signature]* RESIDENT ENGINEER  
 DATE: 5/12/05

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

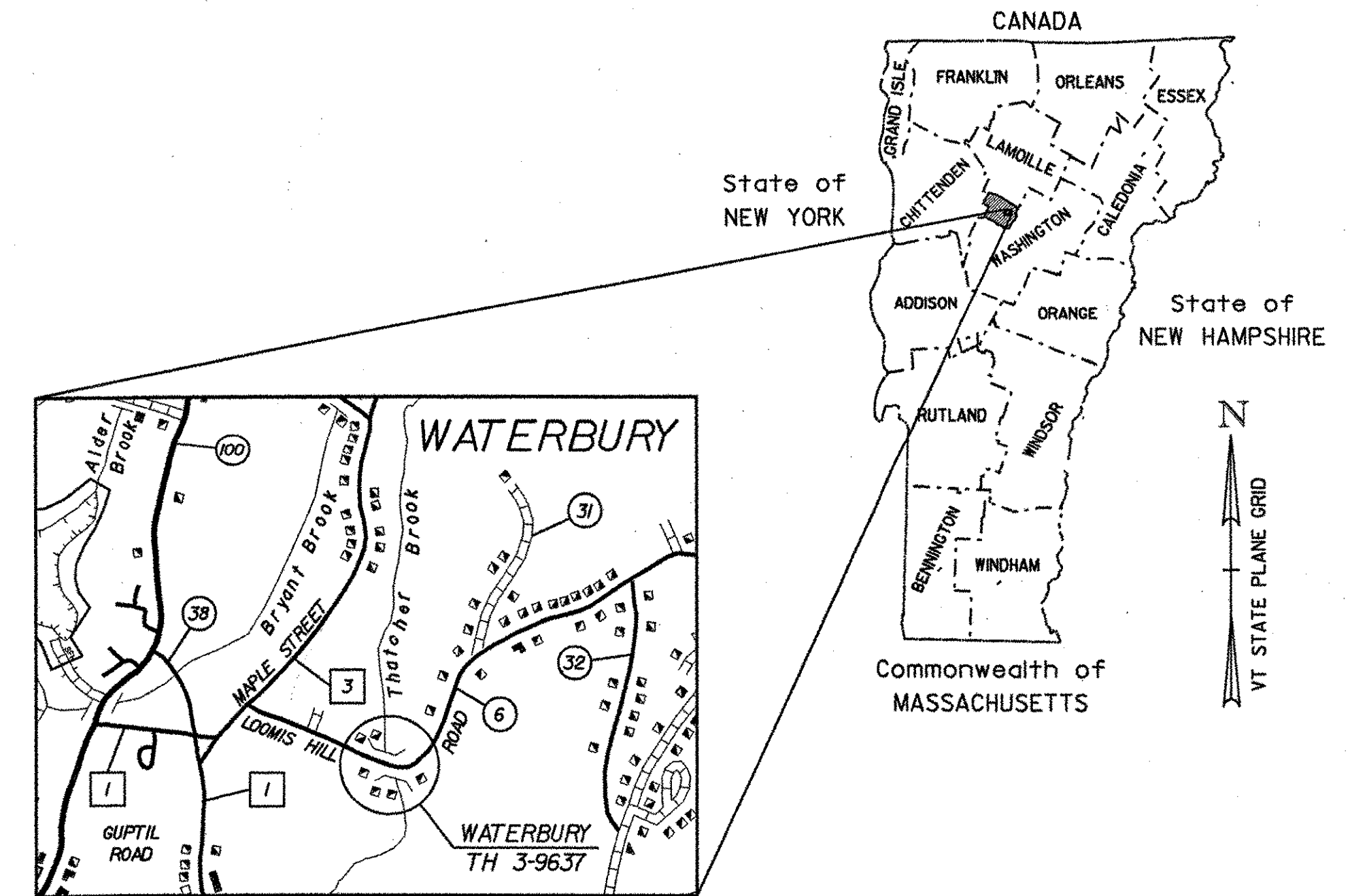
**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**



**PROPOSED IMPROVEMENT  
 BRIDGE PROJECT**

**TOWN OF WATERBURY  
 COUNTY OF WASHINGTON**

**LOOMIS HILL ROAD (T.H. 6, CLASS 3) BRIDGE NO. 14**



**PROJECT LOCATION:** BEGINNING APPROXIMATELY 0.40 MILES EAST OF THE INTERSECTION OF T.H. 3 (MAPLE STREET) AND T.H. 6 (LOOMIS HILL ROAD) AND PROCEEDING EASTERLY 0.034 MILES.

**PROJECT DESCRIPTION:** REMOVAL OF EXISTING SUPERSTRUCTURE, CONSTRUCTION OF NEW PRECAST VOIDED SLAB SUPERSTRUCTURE, REHABILITATION OF SUBSTRUCTURE AND RELATED ROADWAY WORK.

**LENGTH OF STRUCTURE:** 39.00 FEET - 0.007 MILES  
**LENGTH OF ROADWAY:** 139.00 FEET - 0.027 MILES  
**LENGTH OF PROJECT:** 178.00 FEET - 0.034 MILES

**INDEX OF SHEETS**

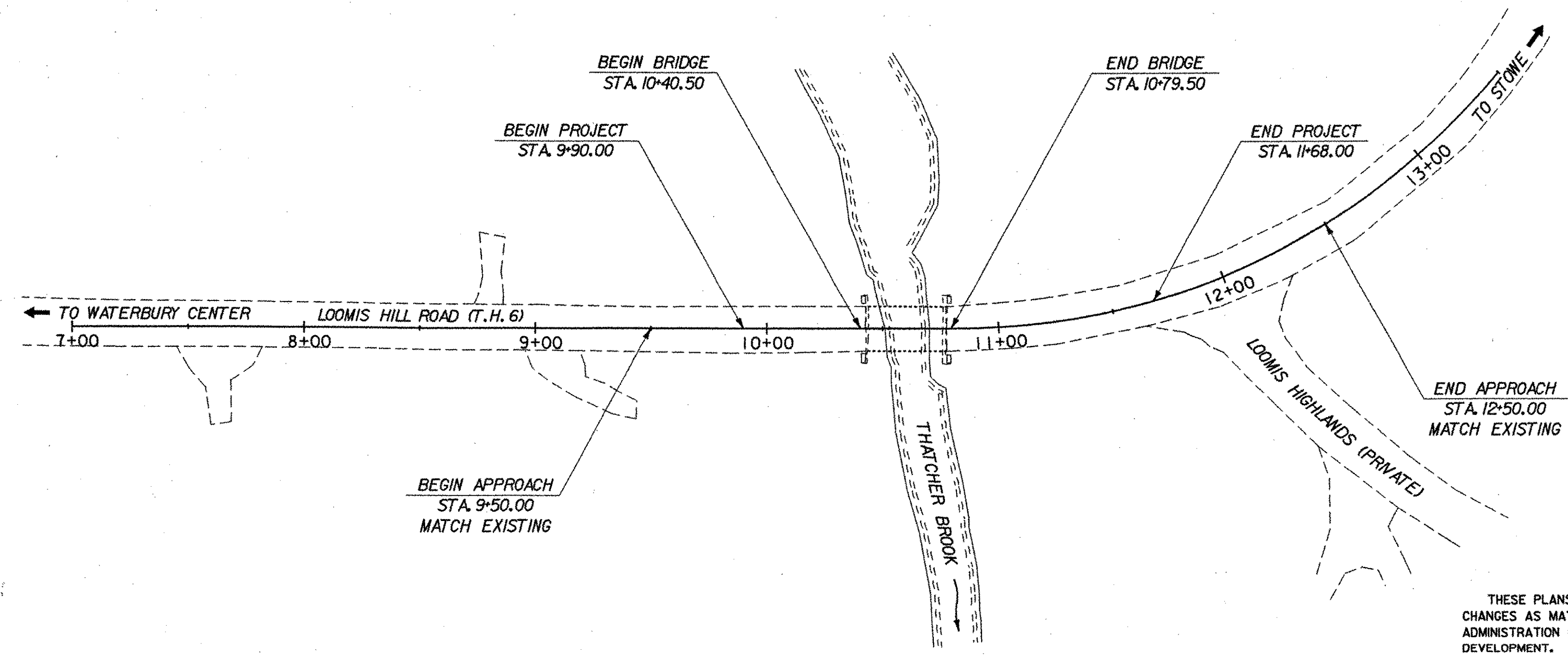
- 1 TITLE SHEET
- 2 PRELIMINARY INFORMATION SHEET
- 3 QUANTITY SHEET
- 4 TIE SHEET
- 5 PLAN SHEET
- 6 PROFILE AND BANKING DIAGRAM
- 7 TRAFFIC CONTROL SHEET
- 8 PLAN AND ELEVATION
- 9 EROSION CONTROL SHEET
- 10 CONSTRUCTION NOTES AND GUARD RAIL LAYOUT
- 11 SUPERSTRUCTURE DETAILS
- 12 ABUTMENT NO. 1
- 13 ABUTMENT NO. 2
- 14 ABUTMENT DETAILS
- 15 GABION WALL DETAILS
- 16-17 ROADWAY CROSS SECTIONS
- 18 CHANNEL CROSS SECTIONS

**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 : VTRANS  
 SURVEYED DATE : NOVEMBER 2000

DATUM  
 VERTICAL NAVD 88  
 HORIZONTAL NAD 83 (96)



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2000, 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.

STATE OF VERMONT  
 EDWARD J. WEINGARTEN  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 7059  
 5/5/03



DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATOR	
APPROVED _____	DATE _____
DIRECTOR OF PROJECT DEVELOPMENT	
APPROVED <i>[Signature]</i>	DATE 5/6/03
PROJECT MANAGER :	
PROJECT NAME :	WATERBURY
PROJECT NUMBER :	TH 3-9637
SHEET 1 OF 18 SHEETS	



# QUANTITIES

# REINFORCING

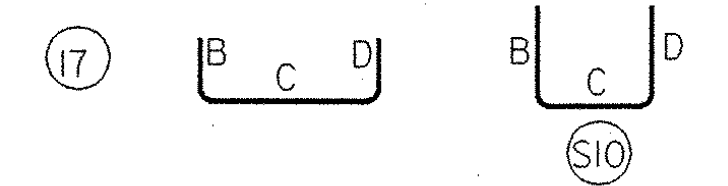
NO.	ITEM	UNIT	QUANTITY BREAKDOWN					TOTAL
			SUPER - STRUCTURE	ABUT. NO. 1	ABUT. NO. 2	ROADWAY	EROSION CONTROL	
201.10	CLEARING & GRUBBING (INCLUDING INDIVIDUAL TREES AND STUMPS)	LS				1		1
203.15	COMMON EXCAVATION	CY				650		650
203.31	SAND BORROW	CY				100		100
204.20	TRENCH EXCAVATION OF EARTH	CY					10	10
204.25	STRUCTURE EXCAVATION	CY		40	40			80
204.30	GRANULAR BACKFILL FOR STRUCTURES	CY		14	16			30
210.10	COLD PLANING - BITUMINOUS PAVEMENT	SY				100		100
301.15	SUBBASE OF GRAVEL	CY				470	30	500
406.27	MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (PG 58-34)	TON	25			200		225
501.34	CONCRETE, HIGH PERFORMANCE CLASS B	CY		4	5			9
507.15	REINFORCING STEEL	LB		490	520			1010
507.16	DRILLING AND GROUTING DOWELS	LF		48	48			96
510.20	PRESTRESSED CONCRETE MEMBER (INTERIOR UNITS)	EACH	4					4
510.20	PRESTRESSED CONCRETE MEMBER (EXTERIOR UNITS)	EACH	2					2
514.10	WATER REPELLENT	GAL	3.5	1.5	1			6
519.20	SHEET MEMBRANE WATERPROOFING (TORCH APPLIED)	SY	95					95
525.43	BRIDGE RAILING - HDSB/FASCIA MOUNTED/HAND RAIL	LF	88					88
527.10	MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS	LS				1		1
529.10	REMOVAL OF BRIDGE PAVEMENT	SY	87					87
529.20	PARTIAL REMOVAL OF STRUCTURE	EACH	1					1
531.10	BEARING DEVICE ASSEMBLY	EACH	24					24
580.13	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	SY		1.5	1.5			3
580.14	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	SY		1.0	1.0			2
580.15	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III	CY		0.2	0.3			0.5
608.25	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	HR				1		1
609.15	DUST AND ICE CONTROL WITH CALCIUM CHLORIDE	TON				1		1
612.10	GABION RETAINING WALL	CY		25	26			51
613.11	STONE FILL, TYPE II	CY				90	10	100
620.70	SNOW FENCE (MOD.)	LF				250		250
621.21	HEAVY DUTY STEEL BEAM GUARD RAIL (MOD.)	LF				392		392
621.60	ANCHOR FOR STEEL BEAM RAIL	EACH				4		4
621.80	REMOVAL AND DISPOSAL OF GUARD RAIL	LF				100		100
621.90	TEMPORARY TRAFFIC BARRIER	LF				60		60
630.10	UNIFORMED TRAFFIC OFFICERS	HR				40		40
630.15	FLAGGERS	HR				160		160
631.10	FIELD OFFICE - ENGINEERS	LS					1	1
631.16	TESTING EQUIPMENT - CONCRETE	LS					1	1
631.17	TESTING EQUIPMENT - BITUMINOUS	LS					1	1
631.25	FIELD OFFICE - TELEPHONE (N.A.B.I.)	LU					1	1
635.10	MOBILIZATION	LS				1		1
646.21	#4 YELLOW LINE	LF				520		520
649.31	GEOTEXTILE UNDER STONE FILL	SY				200		200
649.51	GEOTEXTILE FOR SILT FENCE	SY					280	280
651.15	SEED	LB				20		20
651.18	FERTILIZER	LB				50		50
651.20	AGRICULTURAL LIMESTONE	TON				1		1
651.25	HAY MULCH	TON				1		1
651.26	HAY BALES FOR EROSION CONTROL	EACH				30		30
651.35	TOPSOIL	CY				40		40
651.40	GRUBBING MATERIAL	SY				20		20
654.10	EROSION MATTING	SY					340	340
675.20	TRAFFIC SIGNS, TYPE A (MOD.)	SF				173		173
675.301	FLANGED CHANNEL SIGN POSTS (MOD.)	LF				385		385
675.50	REMOVING SIGNS	EACH				2		2
675.60	ERECTING SALVAGED SIGNS	EACH				2		2
675.61	SETTING SALVAGED POSTS	EACH				2		2

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO. 1																	
4	5	29 - 1		1A501	STR												
24	5	3 - 3		1A502	SIO		0 - 10	1 - 7	0 - 10								
48	5	3 - 2		1A503	IF		1 - 11	1 - 3	0 - 0								
12	5	3 - 9		1A504	STR												
32	5	2 - 4		1A505	STR												
6	5	3 - 3		1A506	SIO		0 - 10	1 - 7	0 - 10								
ABUTMENT NO. 2																	
4	5	29 - 1		2A501	STR												
24	5	3 - 9		2A502	SIO		1 - 1	1 - 7	1 - 1								
48	5	3 - 5		2A503	IF		2 - 2	1 - 3	0 - 0								
12	5	4 - 0		2A504	STR												
32	5	2 - 4		2A505	STR												
6	5	3 - 3		2A506	SIO		0 - 10	1 - 7	0 - 10								

### ~ NOTES ~

- 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.
- 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".
- BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
- ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
- "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE, STANDARD HOOKS ARE TO BE USED.
- "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
- WHERE SLOPE DIFFERS FROM 45 DEGREES, 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.
- "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.

ASTM STANDARD REINFORCING BARS	BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
			DIAMETER INCHES	CROSS SECTIONAL 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	



### NOTES

- EROSION CONTROL INCLUDES PERMANENT AND TEMPORARY EROSION CONTROL ITEMS.
- TRAFFIC SIGN AND SIGN POST QUANTITIES INCLUDE SIGNS AND POSTS DETAILED FOR TEMPORARY DETOUR SIGNING PLAN.
- EMULSIFIED ASPHALT SHALL BE SUBSIDIARY TO ITEM 406.27.

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>				
Town Of	WATERBURY		Bridge No.	14
Highway No.	6		Log Sta.	
			Surv. Sta.	
<b>LOOMIS HILL ROAD OVER THATCHER BROOK QUANTITY SHEET</b>				
Designed By	L. WIXSON		Drawn By	P. DUSTIN
Checked By	Date		Bridge Design Supervisor	
R. JOY	03/03		M. ZYDEL	Date 03/03
PROJECT	WATERBURY		PROJECT NO.	TH 3-9637
I.C.C. Info. m\549108-Waterbury\BRIDGE\600ftx127Bqshdgn				
Bridge Sheet No.			Sheet	3 of 18



15-MAY-2003 PLOTTED

GPS CONTROL POINTS

## HVCTRL # 1

STANDARD DISK STAMPED  
Grafton Smith  
\* N = 682944.8184  
\* E = 1586387.2170  
ELEV. = 755.3790

GENERAL LOCATION, WATERBURY, VT., IN WATERBURY CENTER. OWNERSHIP, GRAFTON SMITH, 68 LOOMIS HIGHLANDS, WATERBURY CENTER, VT 05677. TO REACH FROM THE VT ROUTE 100 BRIDGE OVER I-89 AT EXIT 10 IN WATERBURY GO NORTH ALONG VT ROUTE 100 FOR 1.3 MI (2.1 KM) TO THE INTERSECTION OF GUPTIL ROAD RIGHT. TURN RIGHT AND GO EAST AND NORTH ALONG GUPTIL ROAD FOR 0.9 MI (1.4 KM) TO THE INTERSECTION OF KNEELAND FLATS ROAD RIGHT. CONTINUE STRAIGHT AHEAD AND GO NORTH ALONG GUPTIL ROAD FOR 1.1 MI (1.8 KM) TO THE Y-INTERSECTION OF MAPLE STREET RIGHT AND GUPTIL ROAD LEFT, AT THE TRIANGULAR COMMON IN WATERBURY CENTER. BEAR RIGHT AND GO NORTHEAST ALONG MAPLE STREET FOR 0.2 MI (0.3 KM) TO THE INTERSECTION OF LOOMIS HILL ROAD RIGHT. TURN RIGHT AND GO EAST ALONG LOOMIS HILL ROAD FOR 0.4 MI (0.6 KM) TO THE INTERSECTION OF LOOMIS HIGHLANDS RIGHT. TURN RIGHT AND GO SOUTHEAST ALONG LOOMIS HIGHLANDS FOR 0.05 MI (0.08 KM) TO THE Y-INTERSECTION OF LOOMIS HIGHLANDS LEFT AND A GRAVEL DRIVE RIGHT LEADING TO THE SMITHS HOUSE NO 68. BEAR RIGHT AND GO SOUTH ALONG THE GRAVEL DRIVE FOR 0.1 MI (0.2 KM) TO THE SMITHS HOUSE AND ATTACHED GARAGE AND THE SITE OF THE MARK ON THE RIGHT. THE MARK IS SET IN THE TOP OF A MASSIVE LEDGE OUTCROP. IT IS 27.0 M (88.6 FT) NORTH OF THE NORTHWEST PORCH CORNER OF THE HOUSE, 28.0 M (91.9 FT) NORTHWEST OF THE NORTH CORNER OF THE ATTACHED GARAGE, 25.2 M (82.7 FT) WEST NORTHWEST OF A 30 CM CLUMP MAPLE, AND 16.5 M (54.1 FT) SOUTHWEST OF AN 8 CM SPRUCE.

## HVCTRL # 2

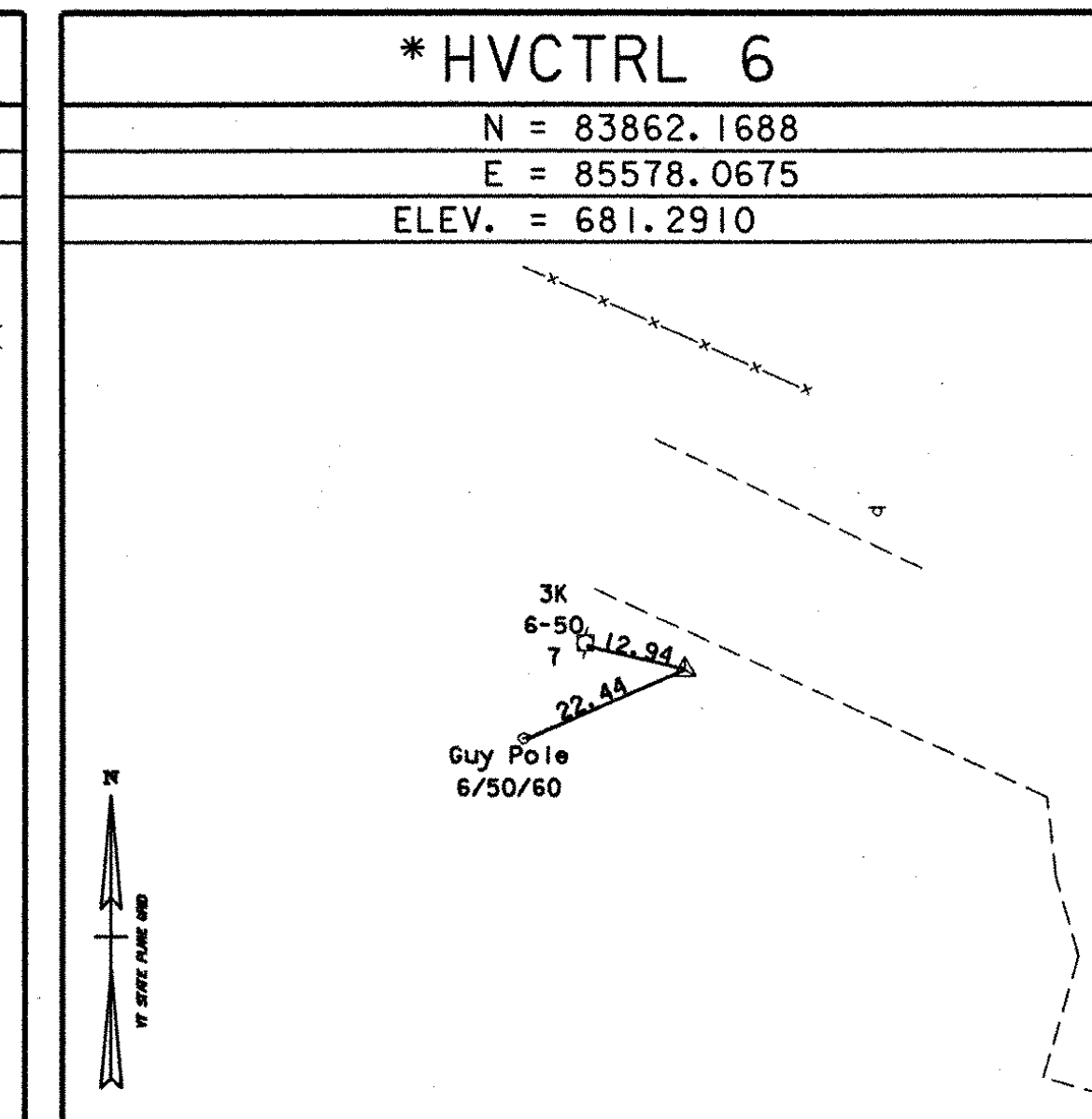
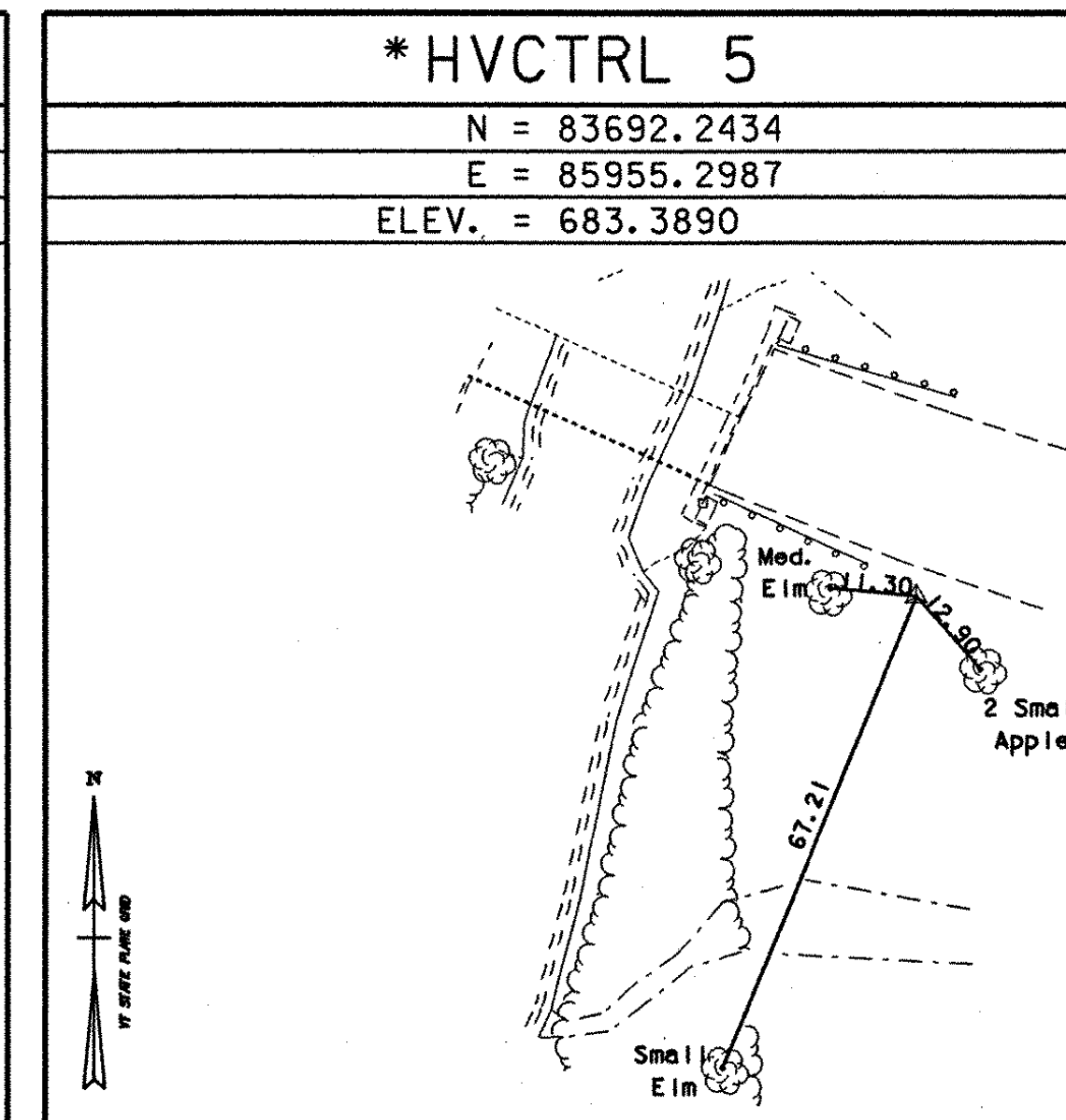
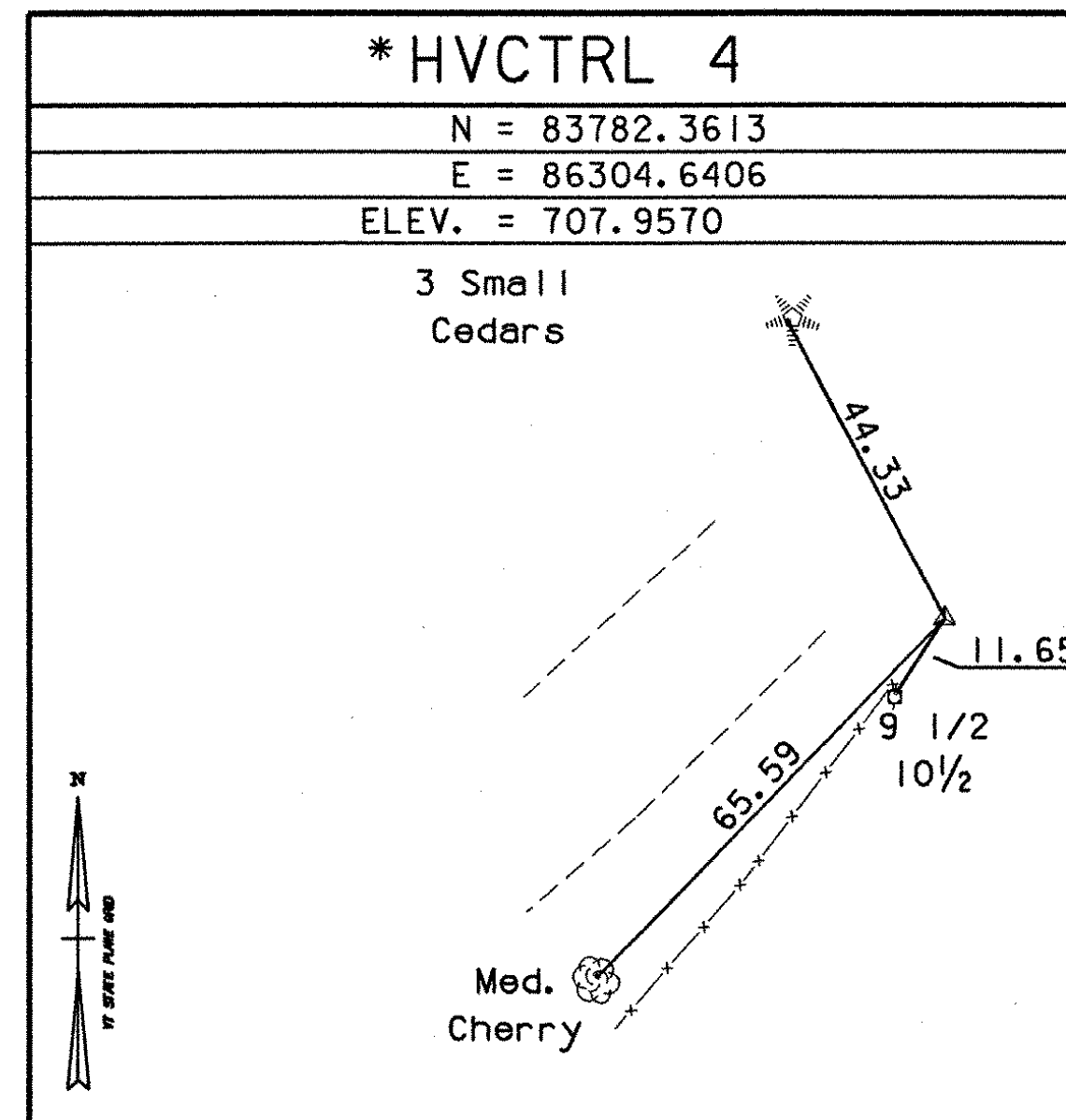
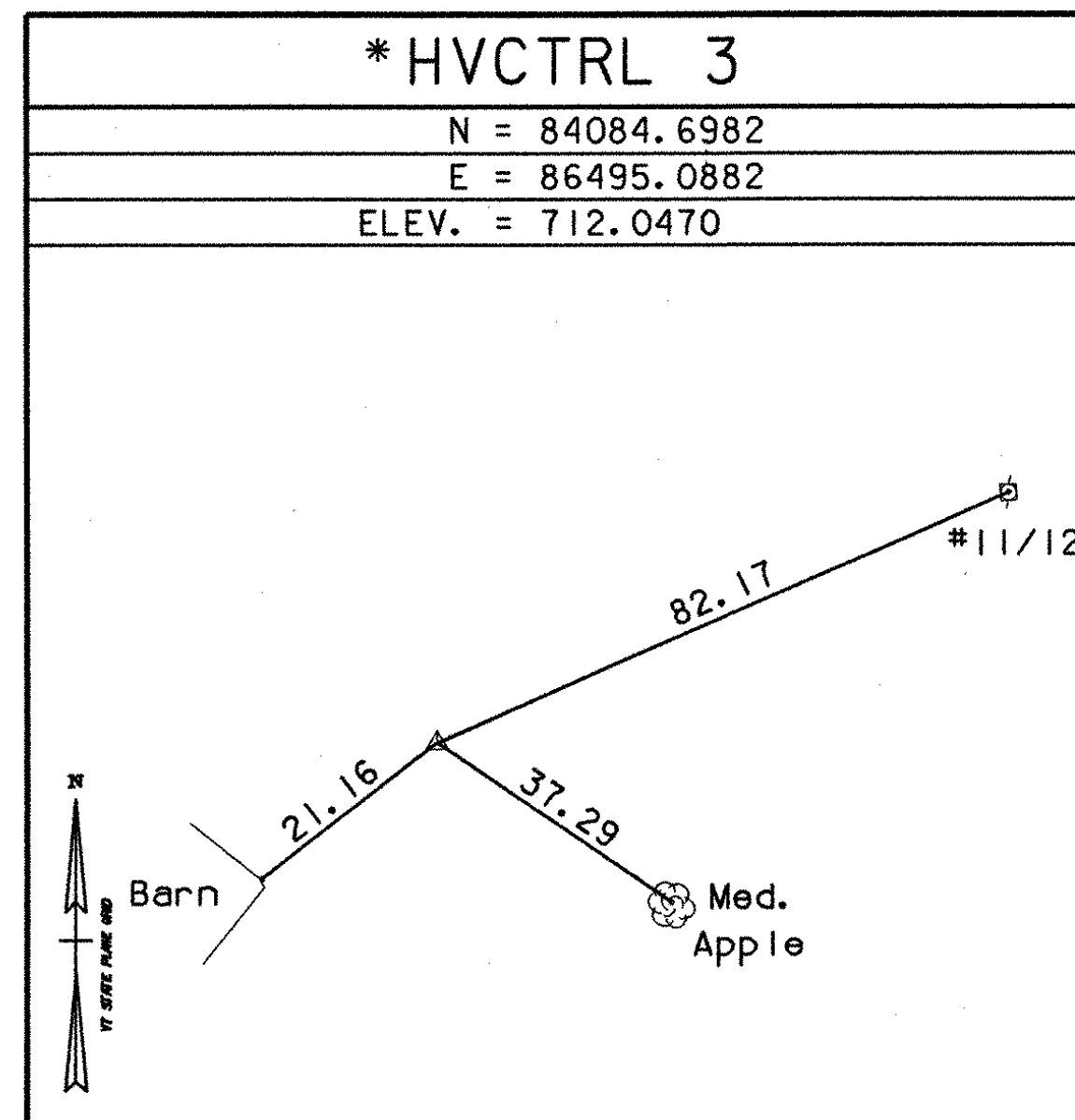
STANDARD DISK STAMPED  
Foregger  
\* N = 684960.0342  
\* E = 1586720.4550  
ELEV. = 736.547

GENERAL LOCATION, WATERBURY, VT., IN WATERBURY CENTER. OWNERSHIP, RUSS FOREGGER, P.O. BOX 119, HUBBARD FARM ROAD, WATERBURY CENTER, VT 05677. TO REACH FROM THE VT ROUTE 100 BRIDGE OVER I-89 AT EXIT 10 IN WATERBURY GO NORTH ALONG VT ROUTE 100 FOR 1.3 MI (2.1 KM) TO THE INTERSECTION OF GUPTIL ROAD RIGHT. TURN RIGHT AND GO EAST AND NORTH ALONG GUPTIL ROAD FOR 0.9 MI (1.4 KM) TO THE INTERSECTION OF KNEELAND FLATS ROAD RIGHT. CONTINUE STRAIGHT AHEAD AND GO NORTH ALONG GUPTIL ROAD FOR 1.1 MI (1.8 KM) TO THE Y-INTERSECTION OF MAPLE STREET RIGHT AND GUPTIL ROAD LEFT, AT THE TRIANGULAR COMMON IN WATERBURY CENTER. BEAR RIGHT AND GO NORTHEAST ALONG MAPLE STREET FOR 0.2 MI (0.3 KM) TO THE INTERSECTION OF LOOMIS HILL ROAD RIGHT. TURN RIGHT AND GO EAST AND NORTH ALONG LOOMIS HILL ROAD FOR 0.7 MI (1.1 KM) TO THE SITE OF THE MARK ON THE LEFT IN THE NORTHEAST CORNER OF A LARGE FIELD. THE MARK IS SET IN THE TOP OF A 0.5 M (1.6 FT) X 0.3 M (1.0 FT) ROCK OUTCROP WHICH PROJECTS ABOUT 0.1 M (0.3 FT) ABOVE GROUND SURFACE. IT IS 38.7 M (127.0 FT) WEST OF AND ABOUT 15 M (49.2 FT) LOWER THAN THE CENTERLINE OF LOOMIS HILL ROAD, 51.9 M (170.3 FT) NORTHWEST OF POLE NO 14/19/15, 45.4 M (148.9 FT) NORTH NORTHWEST OF THE WEST (OUTLET) END OF A 38 CM DIAMETER METAL CULVERT, AND 32.6 M (107.0 FT) WEST OF A FIBERGLASS WITNESS POST.

VERT FEET

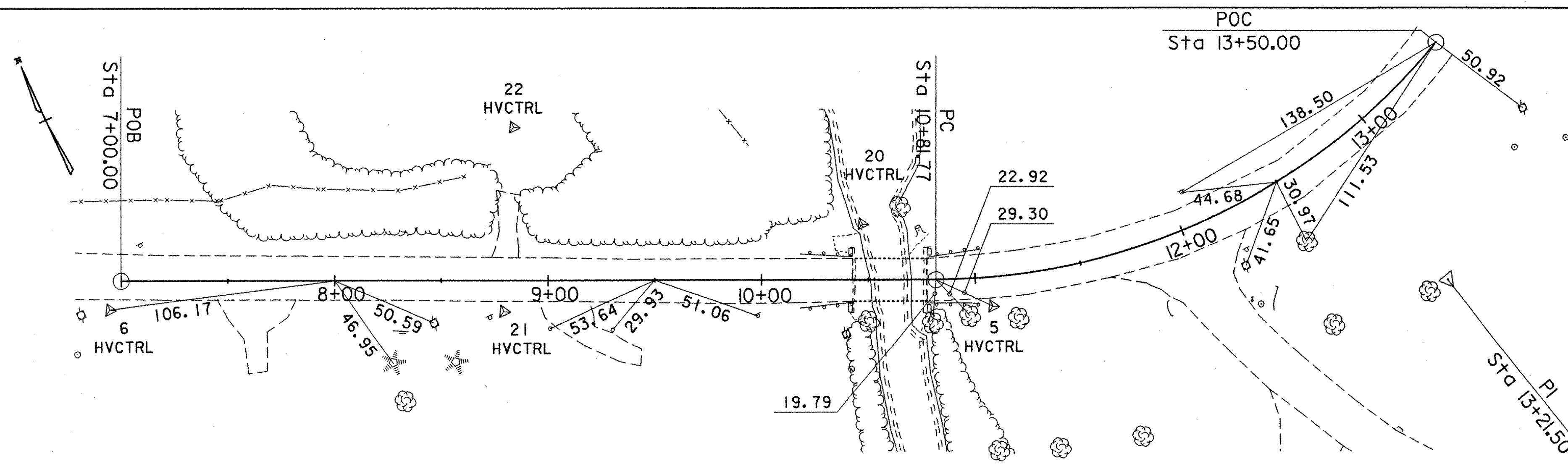
\* TO ALLOW THE STATE PLANE COORDINATES TO FIT THE AGENCY DESIGN PLANE, SUBTRACT 600,000 FROM THE NORTHING AND SUBTRACT 1,500,000 FROM THE EASTING.  
\* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT

TRAVERSE TIES



\* MAIN TRAVERSE COMPLETED November 28, 2000 by L. Orvis P.C. and J. Hulett

ALIGNMENT TIES

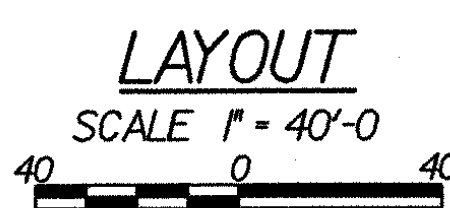


### COORDINATE TABLE

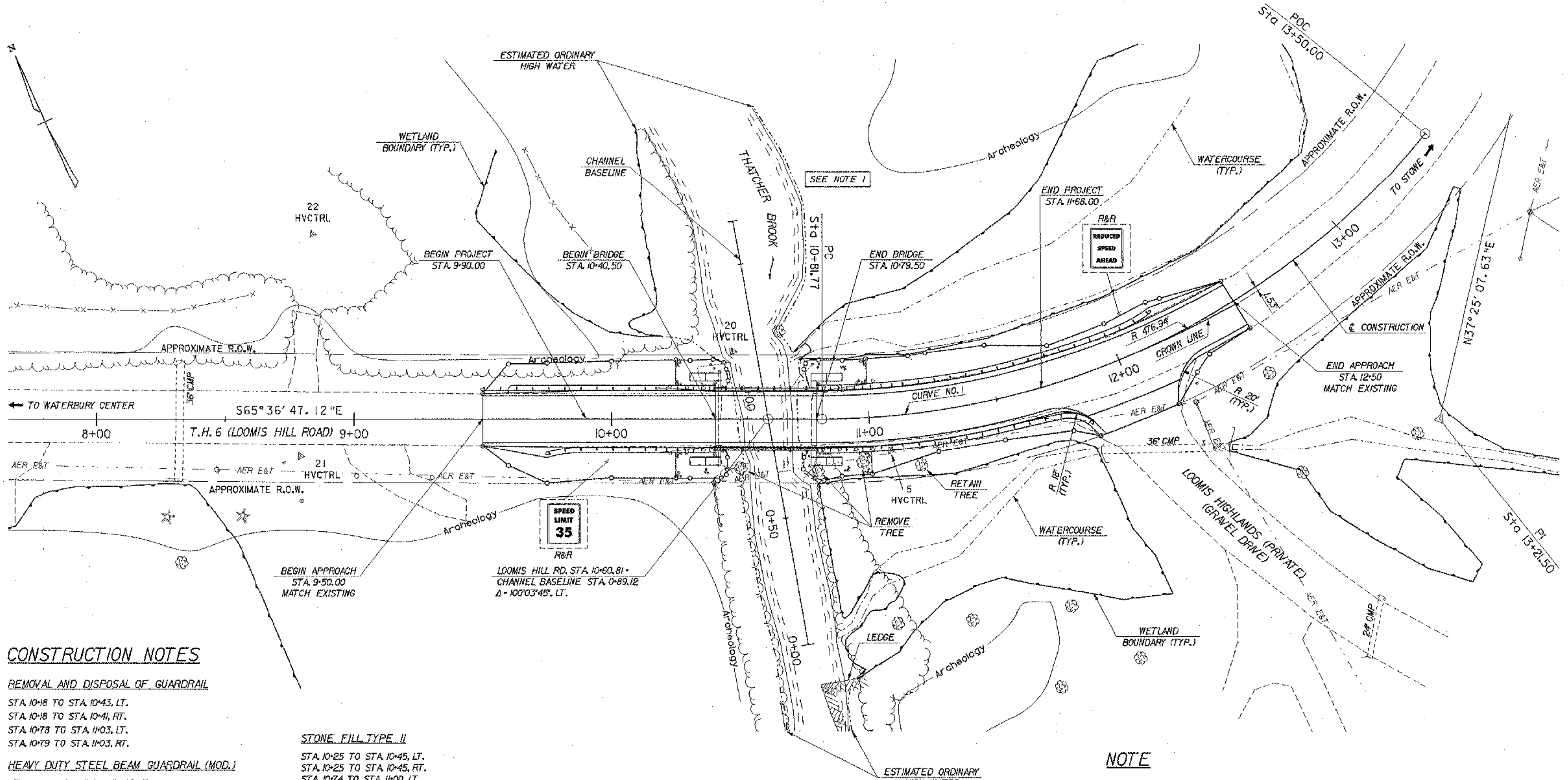
POINT	STATION	NORTHING	EASTING
POT	8+00.00	83830.7284	85679.4761
BEGIN APPROACH	9+50.00	83768.7940	85816.0928
PC	10+81.77	83714.3885	85936.1019
END APPROACH	12+50.00	83690.1161	86100.3798
POC	13+50.00	83719.3478	86195.5334

**DATUM**

VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (96)
ADJUSTMENT	NONE



<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>	
Town Of <b>WATERBURY</b>	Bridge No. <b>14</b>
Highway No. <b>6</b>	Log Sta.
	Surv. Sta.
<b>LOOMIS HILL ROAD OVER THATCHER BROOK TIE SHEET</b>	
Designed By <b>VTRANS/LKW</b>	Drawn By <b>P.DUSTIN</b>
Checked By <b>R.JOY</b>	Bridge Design Supervisor
Date <b>03/03</b>	Date <b>03/03</b>
PROJECT <b>WATERBURY</b>	PROJECT NO. <b>TH 3-9637</b>
I.G.C. Info. <i>m:\549108-Waterbury\BRIDGE\6cont\127811e.dgn</i>	
Bridge Sheet No.	Sheet <b>4</b> of <b>18</b>



**CONSTRUCTION NOTES**

**REMOVAL AND DISPOSAL OF GUARDRAIL**

STA. 10+18 TO STA. 10+43, LT.  
 STA. 10+18 TO STA. 10+41, RT.  
 STA. 10+78 TO STA. 11+03, LT.  
 STA. 10+79 TO STA. 11+03, RT.

**HEAVY DUTY STEEL BEAM GUARDRAIL (MOD.)**

53 STA. 9+49.19 TO STA. 10+38.13, LT. 40.5  
 53 STA. 9+74.48 TO STA. 10+38.13, RT. 40.5  
 84 STA. 10+81.88 TO STA. 12+19.37, LT. 09  
 84 STA. 10+81.86 TO STA. 11+82.94, RT. 84

**ANCHOR FOR STEEL BEAM RAIL**

STA. 9+52.88, LT. 53  
 STA. 9+84.12, RT. 53  
 STA. 12+09.24, LT. 09  
 STA. 11+76.10, RT. 84

**BRIDGE RAILING - HDSB/FASCIA MOUNTED/  
HANDRAIL**

40.5 STA. 10+38.13 TO STA. 10+81.88, LT. 84.5  
 40.5 STA. 10+38.13 TO STA. 10+81.86, RT. 84.5

**GABION RETAINING WALL**

STA. 10+30.50 TO STA. 10+42.50, LT.  
 STA. 10+30.50 TO STA. 10+42.50, RT.  
 STA. 10+77.50 TO STA. 10+89.50, LT.  
 STA. 10+77.50 TO STA. 10+89.50, RT.

**STONE FILL TYPE II**

STA. 10+25 TO STA. 10+45, LT.  
 STA. 10+25 TO STA. 10+45, RT.  
 STA. 10+74 TO STA. 11+00, LT.  
 STA. 10+74 TO STA. 11+00, RT.

**GRUBBING MATERIAL**

STA. 10+25 TO STA. 10+45, LT.  
 STA. 10+25 TO STA. 10+45, RT.  
 STA. 10+74 TO STA. 11+00, LT.  
 STA. 10+74 TO STA. 11+00, RT.

**CONSTRUCT (PAVED APRON & GRAVEL DRIVE)**

STA. 12+00.00, RT.

**COLD PLANING BITUMINOUS PAVEMENT**

STA. 9+50.00 TO STA. 9+70.00  
 STA. 12+30.00 TO STA. 12+50.00

**4\"/>**

SOLID DOUBLE CENTERLINE  
 STA. 9+50.00 TO STA. 11+80.00  
 STA. 12+20.00 TO STA. 12+90.00 35

**EXISTING STRUCTURE DATA**

SINGLE-SPAN STEEL BEAM WITH CONCRETE DECK  
 OVERALL LENGTH = 39 FEET  
 CONCRETE GRAVITY WALL ABUTMENTS  
 BRIDGE WIDTH (CURB-TO-CURB) = 20.0 FEET  
 BUILT IN 1954

**CURVE NO. 1 DATA**

Δ = 76°58'05.25\"/>

**NOTE**

1. CHANNEL GRADING WORK ALONG THE UPSTREAM EASTERLY BANK AND AT THE NORTHEAST CORNER OF THE BRIDGE WAS PERFORMED IN 2002 AFTER PROJECT SURVEY.

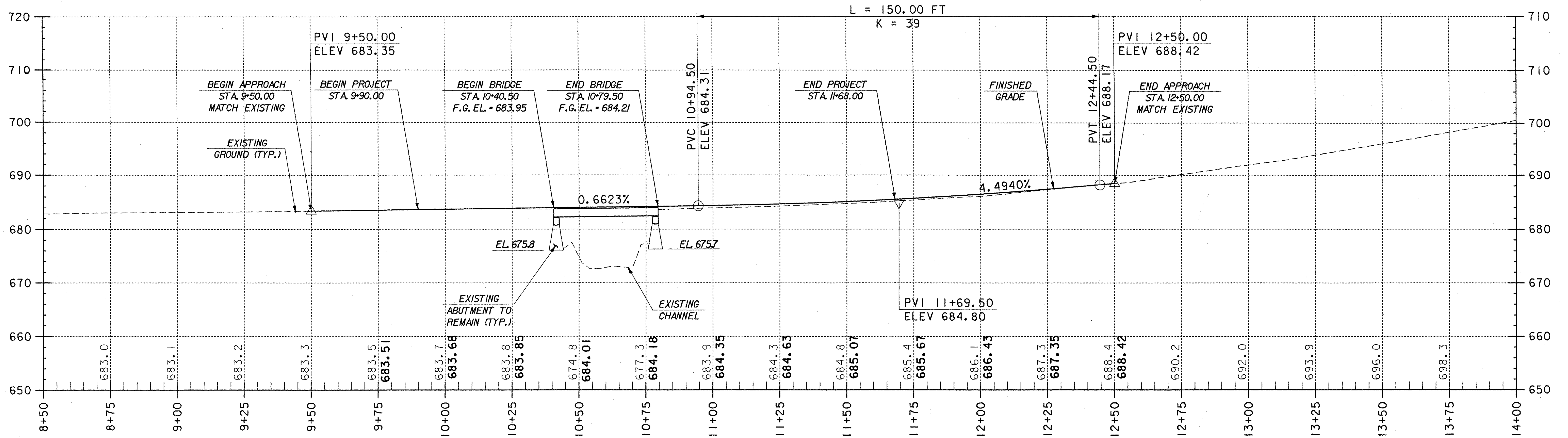


<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	<b>WATERBURY</b>	Bridge No.	14
Highway No.	6	Log Sta.	
		Surv. Sta.	
<b>LOOMIS HILL ROAD OVER THATCHER BROOK PLAN SHEET</b>			
Designed By	L. WIXSON	Drawn By	P. DUSTIN
Checked By	Date	Bridge Design Supervisor	
R. JOY	03/03	M. ZYDEL	Date 03/03
PROJECT	<b>WATERBURY</b>	PROJECT NO.	<b>TH 3-9637</b>
i.g.c. info. m:\1549108\Waterbury\BRIDGE\6conf\1278pln.dgn			
Bridge Sheet No.		Sheet	5 of 18

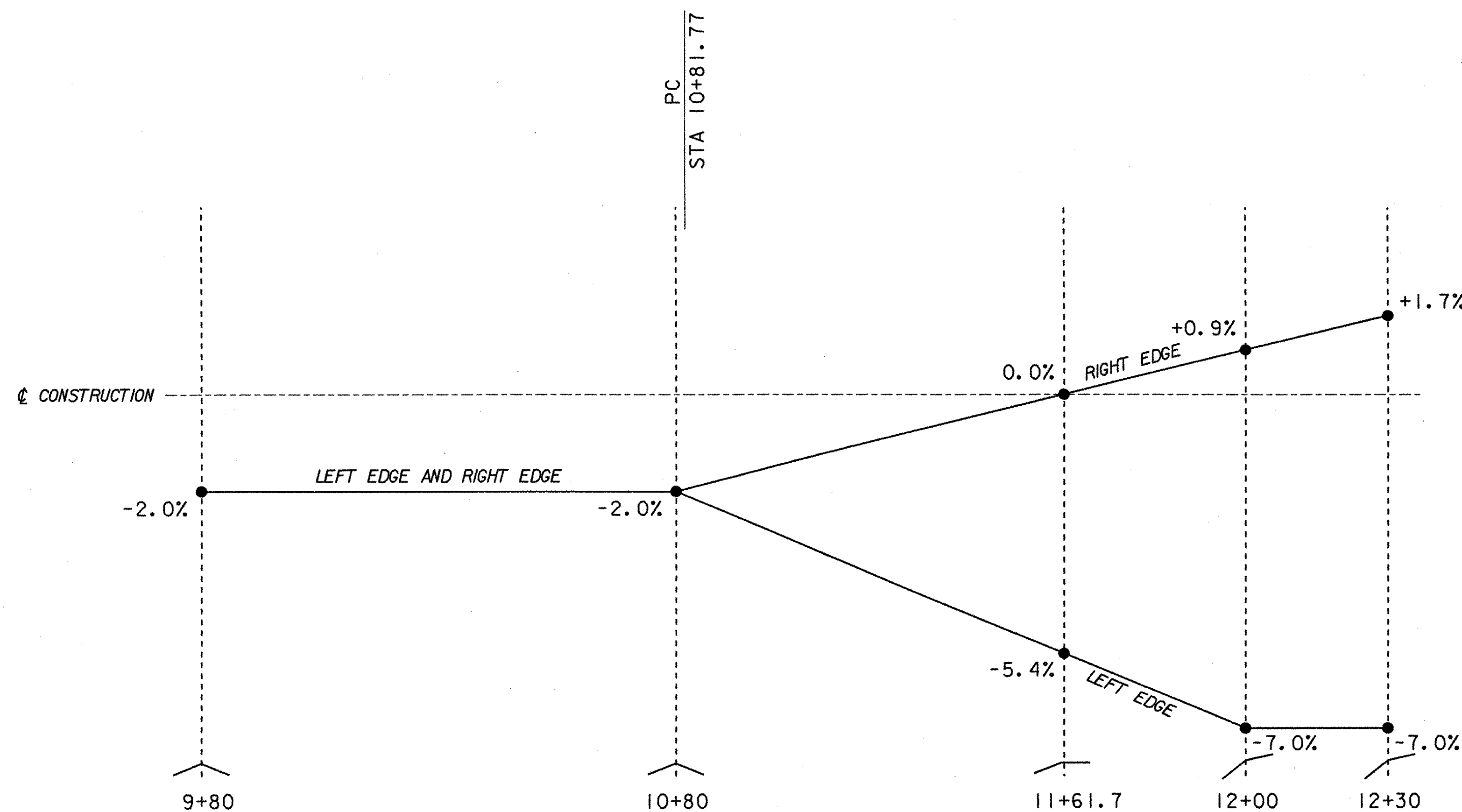
**SIGN LEGEND**

R&R REMOVE AND RESET  
 SALVAGED SIGN

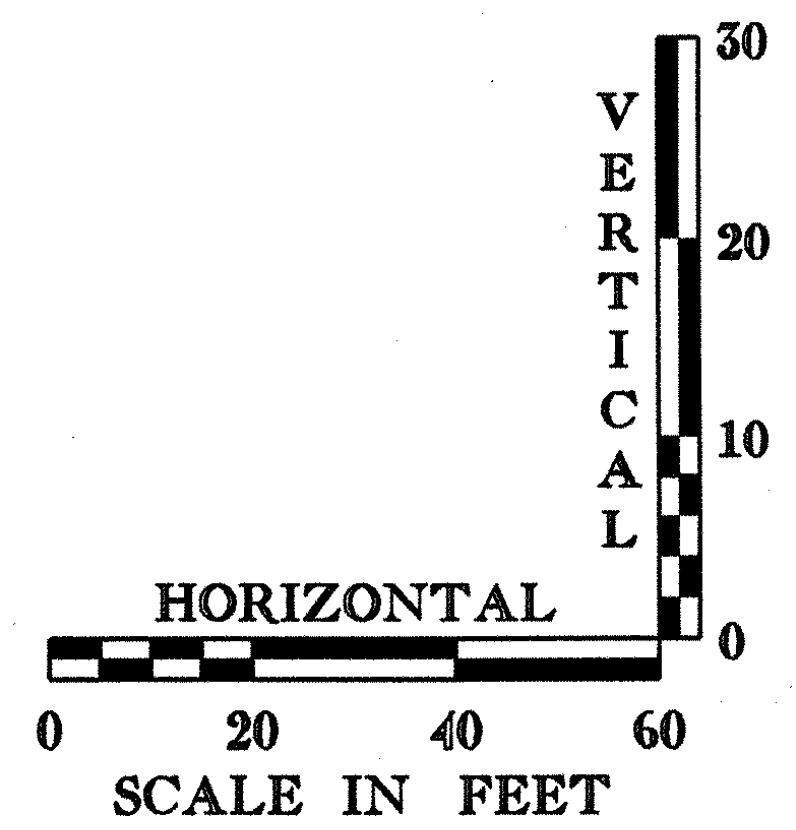




PROFILE - LOOMIS HILL ROAD



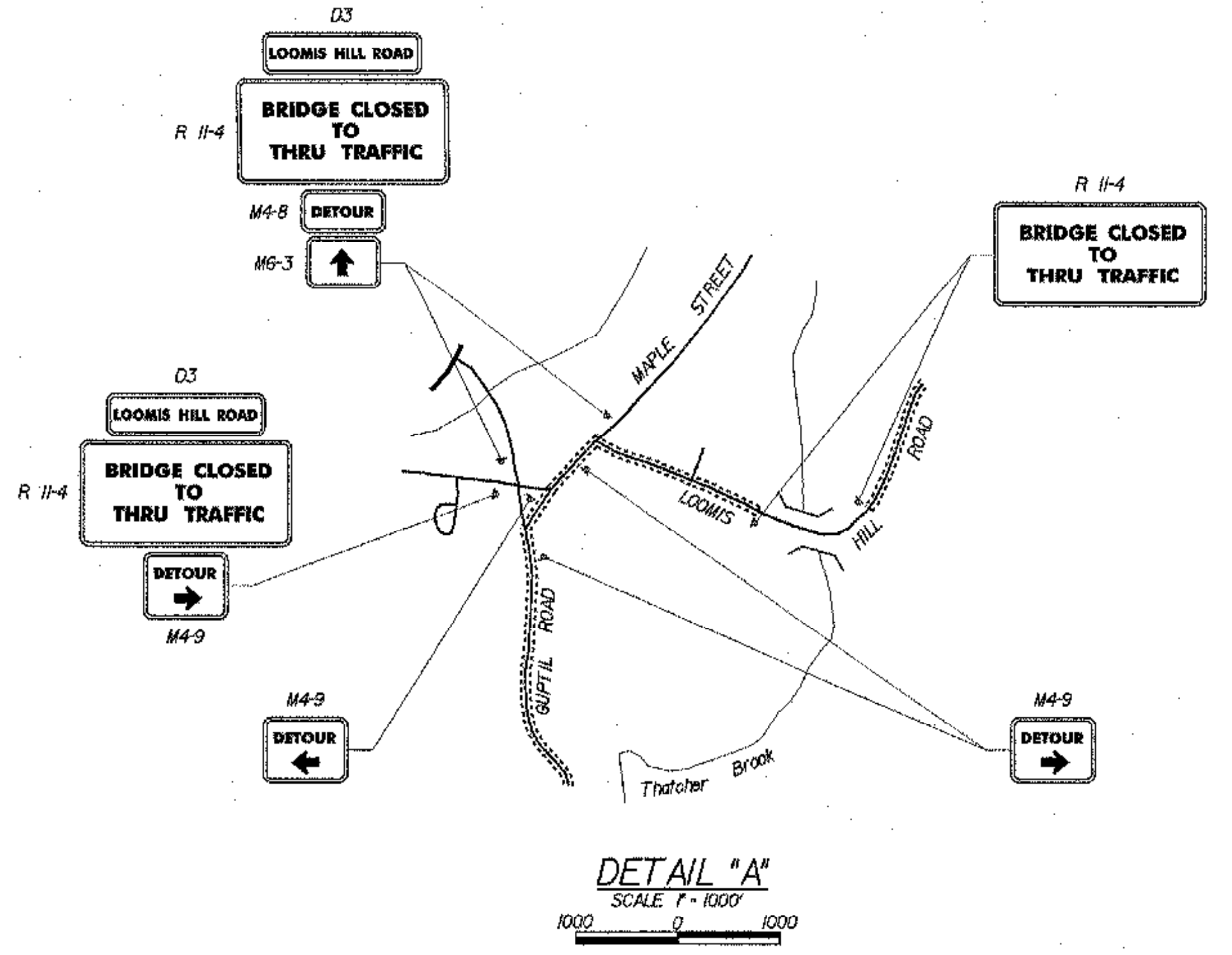
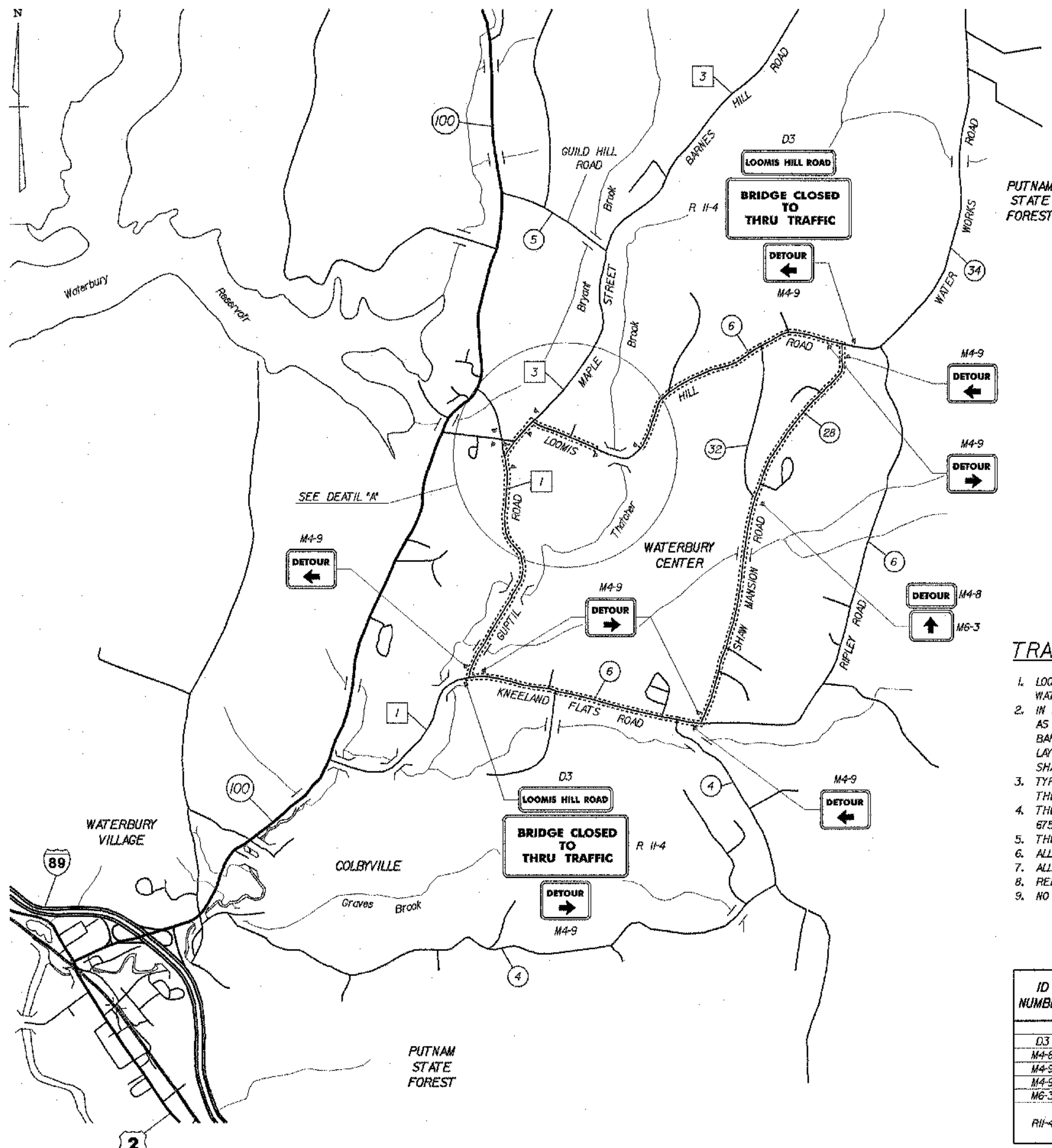
BANKING DIAGRAM



<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	<b>WATERBURY</b>	Bridge No.	<b>14</b>
Highway No.	<b>6</b>	Log Sta.	
		Surv. Sta.	
<b>LOOMIS HILL ROAD OVER THATCHER BROOK PROFILE AND BANKING DIAGRAM</b>			
Designed By	<b>L. WIXSON</b>	Drawn By	<b>P. DUSTIN</b>
Checked By	<b>R. JOY</b>	Bridge Design Supervisor	<b>M. ZYDEL</b>
Date	<b>03/03</b>	Date	<b>03/03</b>
PROJECT	<b>WATERBURY</b>	PROJECT NO.	<b>TH 3-9637</b>
I.G.C. Info. <b>ms\549108-Waterbury\BRIDGE\6cont\X\278prodgn</b>			
Bridge Sheet No.	Sheet <b>6</b> of <b>18</b>		



PLOTTED 05-MAY-2003



**TRAFFIC CONTROL NOTES**

1. LOOMIS HILL ROAD (T.H.6) WILL BE CLOSED TO THROUGH TRAFFIC DURING CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE TOWN OF WATERBURY AT LEAST TWO (2) WEEKS PRIOR TO CLOSING THE ROAD.
2. IN ADDITION TO THE TEMPORARY DETOUR SIGNS DETAILED ON THIS SHEET, THE CONTRACTOR SHALL LAYOUT, ERECT AND MAINTAIN (AND REMOVE AND/OR RESET AS REQUIRED) ADDITIONAL ON-PROJECT TEMPORARY TRAFFIC CONTROL ZONE DEVICES, INCLUDING BUT NOT LIMITED TO, CONSTRUCTION SIGNS, SIGN SUPPORTS, BARRICADES, CONCRETE TRAFFIC BARRIERS AND OTHER DEVICES USED TO REGULATE, WARN AND GUIDE TRAFFIC DURING CONSTRUCTION. TRAFFIC CONTROL DEVICE LAYOUT SHALL CONSIDER THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND PERTINENT E-SERIES STANDARDS, AND SHALL BE SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.
3. TYPE III CONSTRUCTION BARRICADES AND PRECAST CONCRETE BARRIERS SHALL BE PLACED ON THE LOOMIS HILL ROAD APPROACHES TO LIMITS APPROVED BY THE RESIDENT ENGINEER TO PREVENT TRAFFIC FROM ENTERING THE BRIDGE WORK AREA.
4. THE COST OF ALL TEMPORARY DETOUR SIGNS AND ASSOCIATED SIGN POSTS DETAILED ON THIS SHEET SHALL BE INCLUDED IN ITEM 675.20 (MOD.) AND ITEM 675.30 (MOD.) RESPECTIVELY.
5. THE COST OF ALL ON-PROJECT TEMPORARY TRAFFIC CONTROL ZONE DEVICES (EXCEPT TEMPORARY TRAFFIC BARRIERS) SHALL BE INCLUDED IN ITEM 527.10.
6. ALL SIGNS SHALL BE FLUORESCENT ORANGE REFLECTIVE SHEETING, WITH BLACK LETTERING AND BLACK BORDERS UNLESS OTHERWISE NOTED.
7. ALL "BRIDGE CLOSED TO THRU TRAFFIC" (R 11-4) SIGNS SHALL BE WHITE REFLECTIVE SHEETING, WITH BLACK LETTERING AND BLACK BORDERS.
8. REFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956, TYPE VII OR TYPE VIII.
9. NO CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS TO INTERFERE WITH OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES.

ID NUMBER	SIGN TEXT	SIZE OF SIGN		SIGN AREA (SQ. FT.)	NUMBER REQ'D	
		WIDTH	HEIGHT			
D3	LOOMIS HILL ROAD	30"	12"	2.5	5	12.5
M4-8	DETOUR	24"	12"	2.0	3	6.0
M4-9	DETOUR ←	30"	24"	5.0	5	25.0
M4-9	DETOUR →	30"	24"	5.0	7	35.0
M6-3	↑	21"	15"	2.19	3	6.57
R11-4	BRIDGE CLOSED TO THRU TRAFFIC	60"	30"	12.5	7	87.5

TABLE PROVIDED FOR ESTIMATING PURPOSES ONLY 172.57 SQ FT

**TEMPORARY DETOUR SIGNING PLAN**  
SCALE 1" = 1500'  
1500 0 1500

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of **WATERBURY** Bridge No. **14**

Highway No. **6** Log Sta. \_\_\_\_\_  
Surv. Sta. \_\_\_\_\_

**LOOMIS HILL ROAD OVER THATCHER BROOK  
TRAFFIC CONTROL SHEET**

Designed By **L. WIXSON** Drawn By **P. DUSTIN**

Checked By \_\_\_\_\_ Date \_\_\_\_\_ Bridge Design Supervisor \_\_\_\_\_

R. JOY 03/03 M. ZYDEL Date 03/03

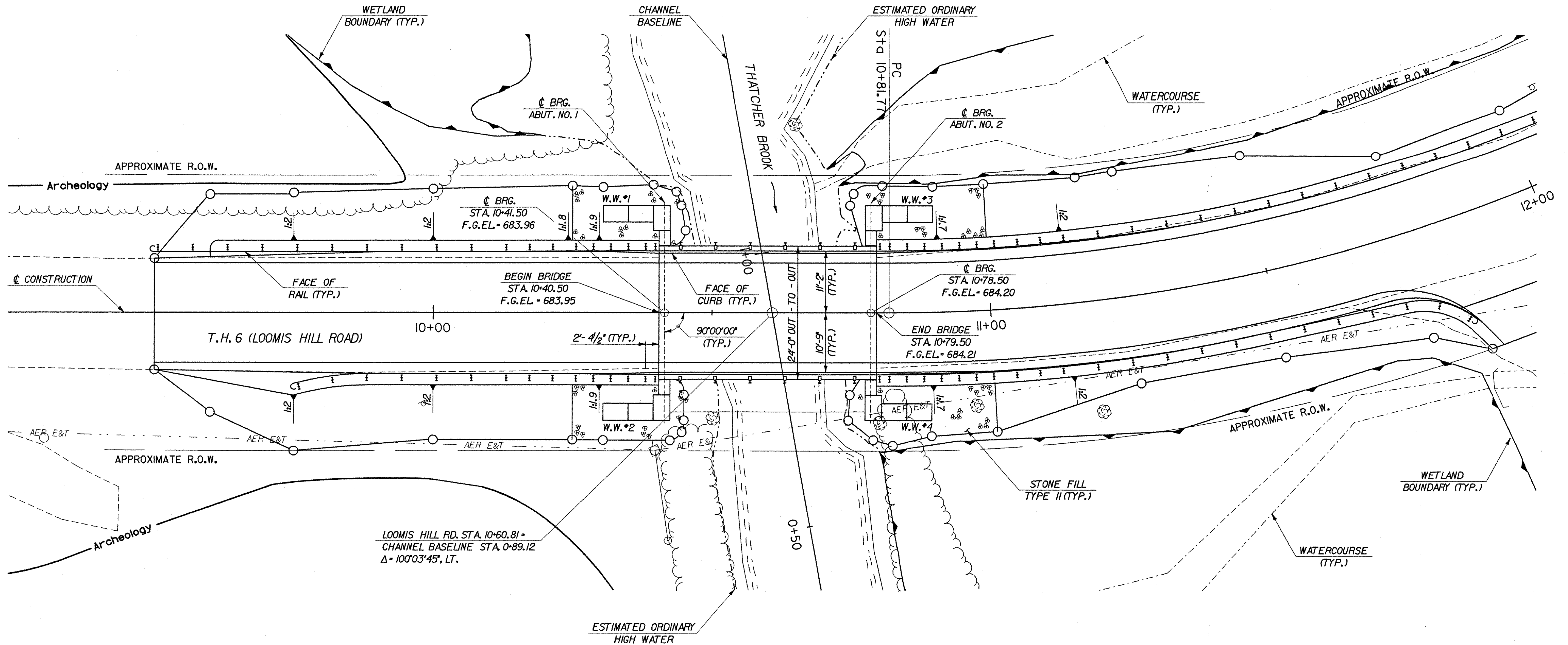
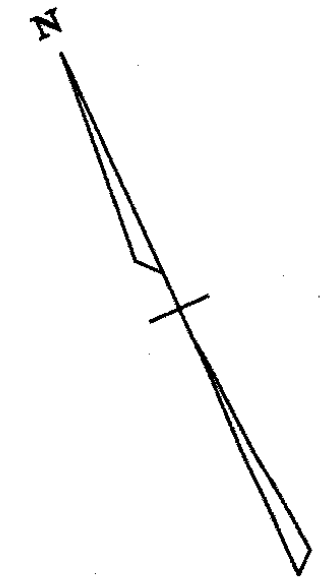
PROJECT **WATERBURY** PROJECT NO. **TH 3-9637**

I.G.C. Info. **m:\549108\Waterbury\BRIDGE\Scan\FX\J278top.dgn**

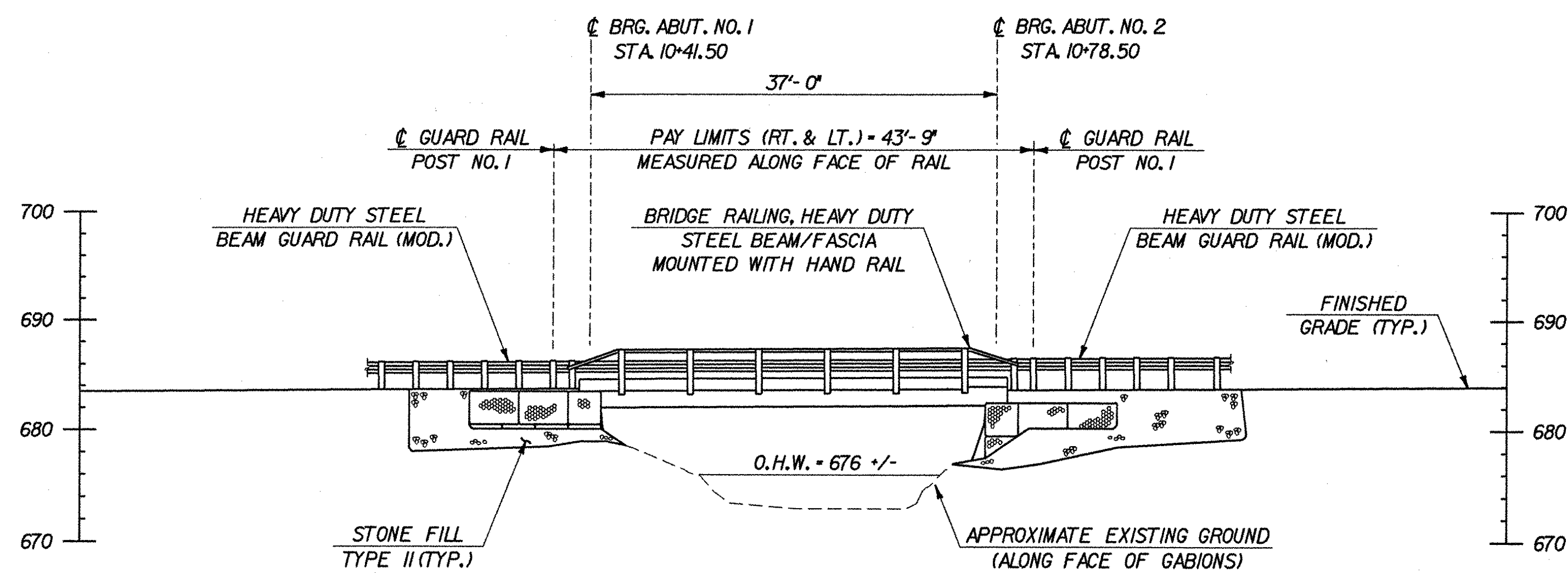
Bridge Sheet No. \_\_\_\_\_ Sheet **7** of **18**



05-MAR-2003 PLOTTED

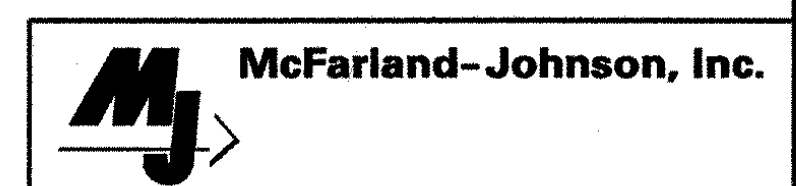


**PLAN**  
SCALE 1" = 10'-0"

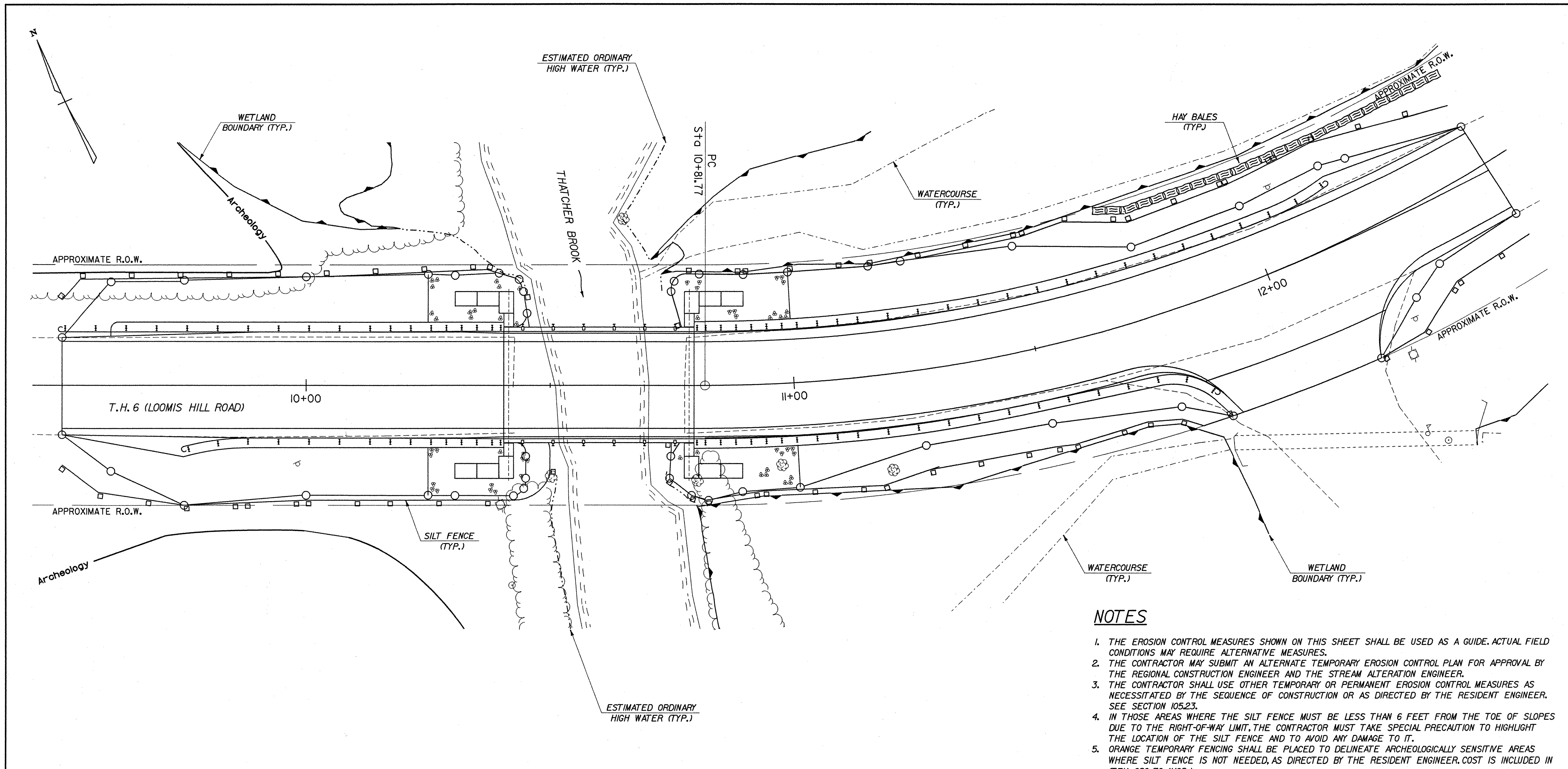


**ELEVATION**  
SCALE 1" = 10'-0"

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>	
Town Of <b>WATERBURY</b>	Bridge No. <b>14</b>
Highway No. <b>6</b>	Log Sta. Surv. Sta.
<b>LOOMIS HILL ROAD OVER THATCHER BROOK</b>	
<b>PLAN AND ELEVATION</b>	
Designed By <b>L.WIXSON</b>	Drawn By <b>P.DUSTIN</b>
Checked By <b>R.JOY</b>	Date <b>03/03</b>
<b>M.ZYDEL</b>	Date <b>03/03</b>
PROJECT <b>WATERBURY</b>	PROJECT NO. <b>TH 3-9637</b>
I.G.C. Info. <b>m:\549108-Waterbury\BRIDGE\6cont\1\278gpe.dgn</b>	
Bridge Sheet No.	Sheet <b>8</b> of <b>18</b>



PLOTTED 05-MAY-2003



**NOTES**

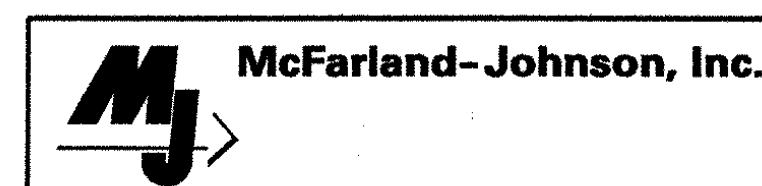
1. THE EROSION CONTROL MEASURES SHOWN ON THIS SHEET SHALL BE USED AS A GUIDE. ACTUAL FIELD CONDITIONS MAY REQUIRE ALTERNATIVE MEASURES.
2. THE CONTRACTOR MAY SUBMIT AN ALTERNATE TEMPORARY EROSION CONTROL PLAN FOR APPROVAL BY THE REGIONAL CONSTRUCTION ENGINEER AND THE STREAM ALTERATION ENGINEER.
3. THE CONTRACTOR SHALL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER. SEE SECTION 105.23.
4. IN THOSE AREAS WHERE THE SILT FENCE MUST BE LESS THAN 6 FEET FROM THE TOE OF SLOPES DUE TO THE RIGHT-OF-WAY LIMIT, THE CONTRACTOR MUST TAKE SPECIAL PRECAUTION TO HIGHLIGHT THE LOCATION OF THE SILT FENCE AND TO AVOID ANY DAMAGE TO IT.
5. ORANGE TEMPORARY FENCING SHALL BE PLACED TO DELINEATE ARCHEOLOGICALLY SENSITIVE AREAS WHERE SILT FENCE IS NOT NEEDED, AS DIRECTED BY THE RESIDENT ENGINEER. COST IS INCLUDED IN ITEM 620.70 (MOD.).

**EROSION CONTROL LAYOUT**

SCALE 1" = 10'-0"

**STATE OF VERMONT  
 AGENCY OF TRANSPORTATION**

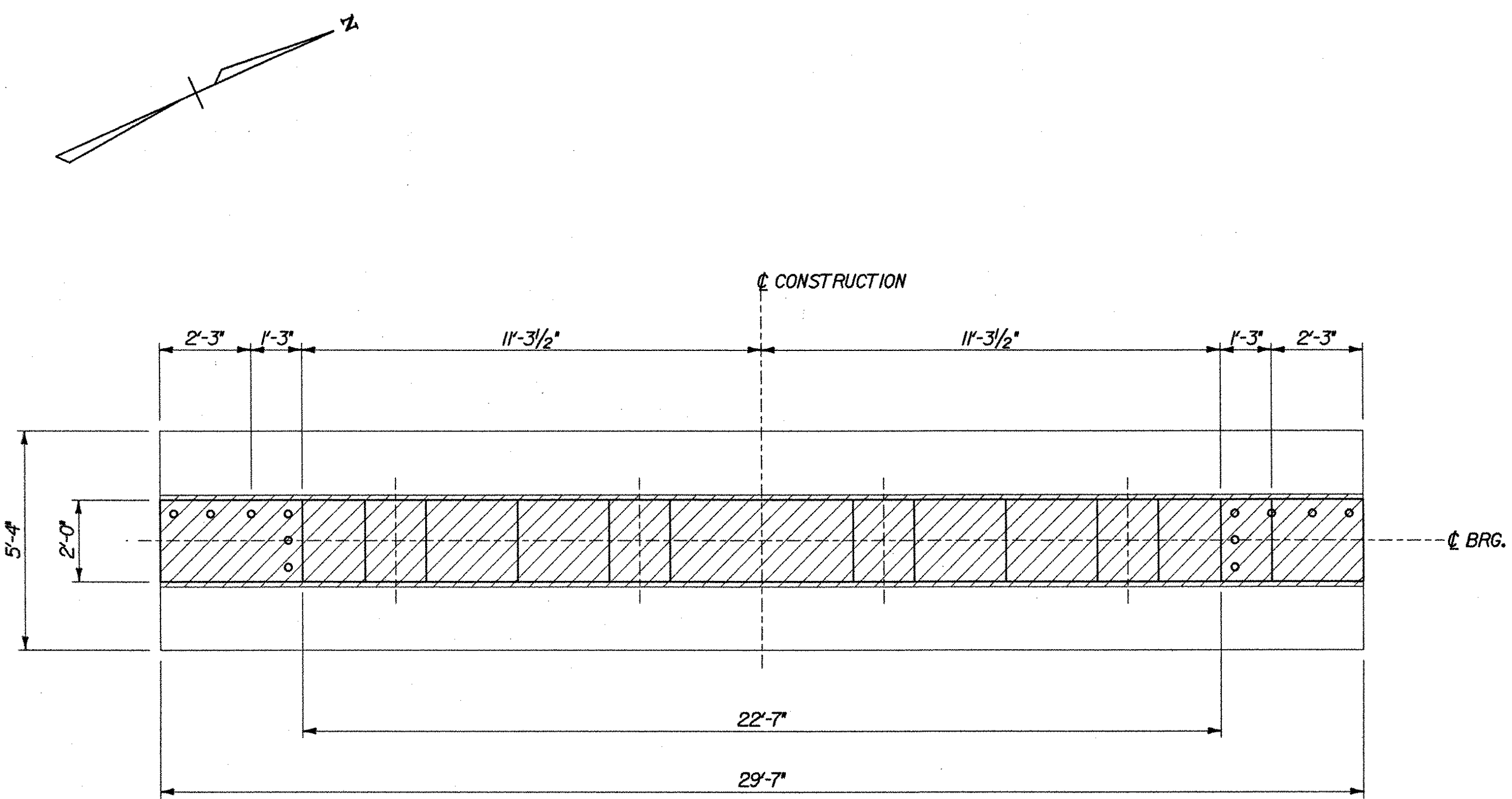
Town Of	<b>WATERBURY</b>	Bridge No.	<b>14</b>
Highway No.	<b>6</b>	Log Sta.	
		Surv. Sta.	
<b>LOOMIS HILL ROAD OVER THATCHER BROOK</b>			
<b>EROSION CONTROL SHEET</b>			
Designed By	<b>L. WIXSON</b>	Drawn By	<b>P. DUSTIN</b>
Checked By	<b>R. JOY</b>	Date	<b>03/03</b>
		Bridge Design Supervisor	<b>M. ZYDEL</b>
		Date	<b>03/03</b>
PROJECT	<b>WATERBURY</b>	PROJECT NO.	<b>TH 3-9637</b>
I.G.C. Info. <b>m\549108-Waterbury\BRIDGE\6cont\1\278rodgn</b>			
Bridge Sheet No.		Sheet	<b>9 of 18</b>



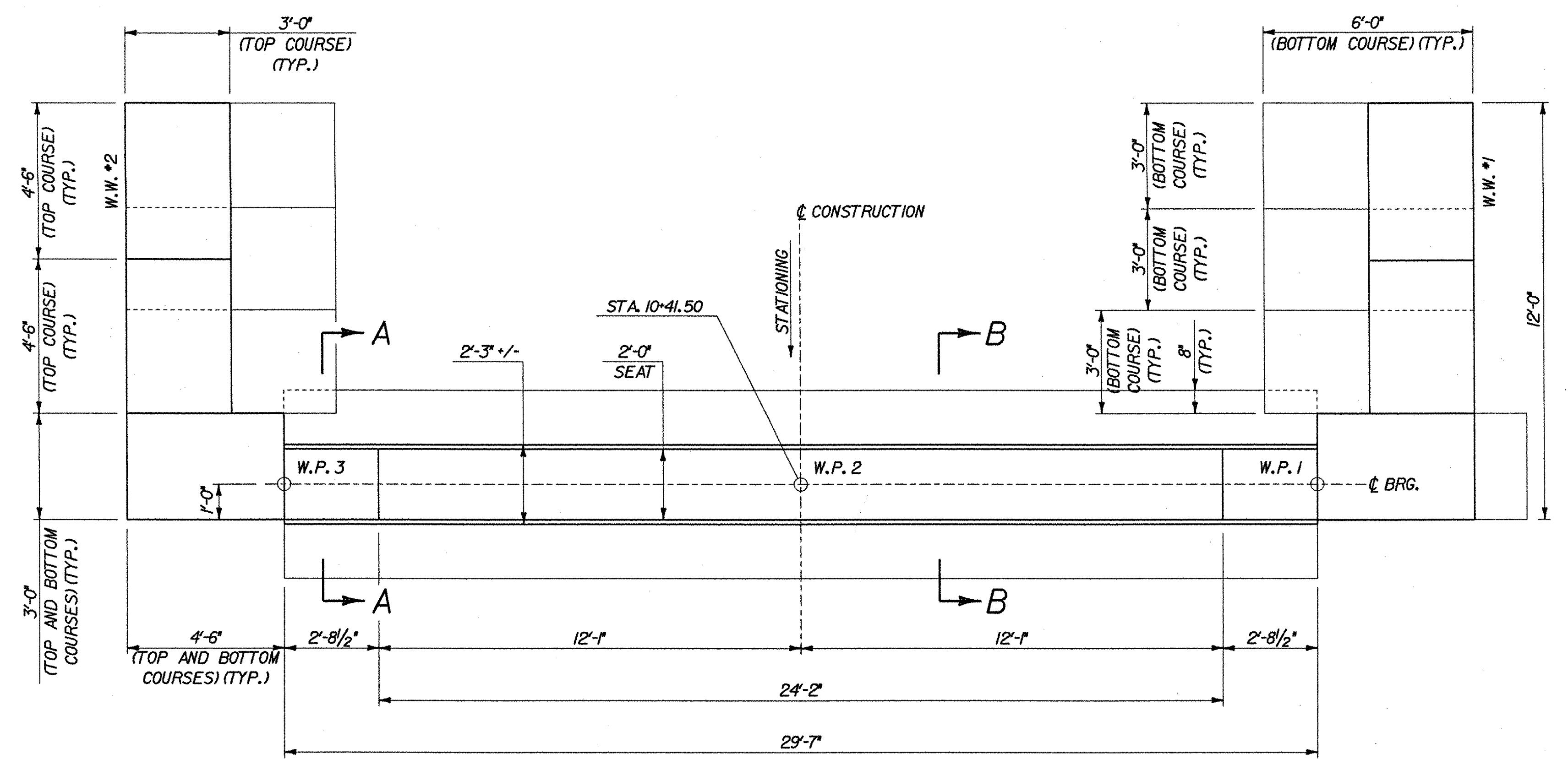
PLOTTED 05-MAY-2003



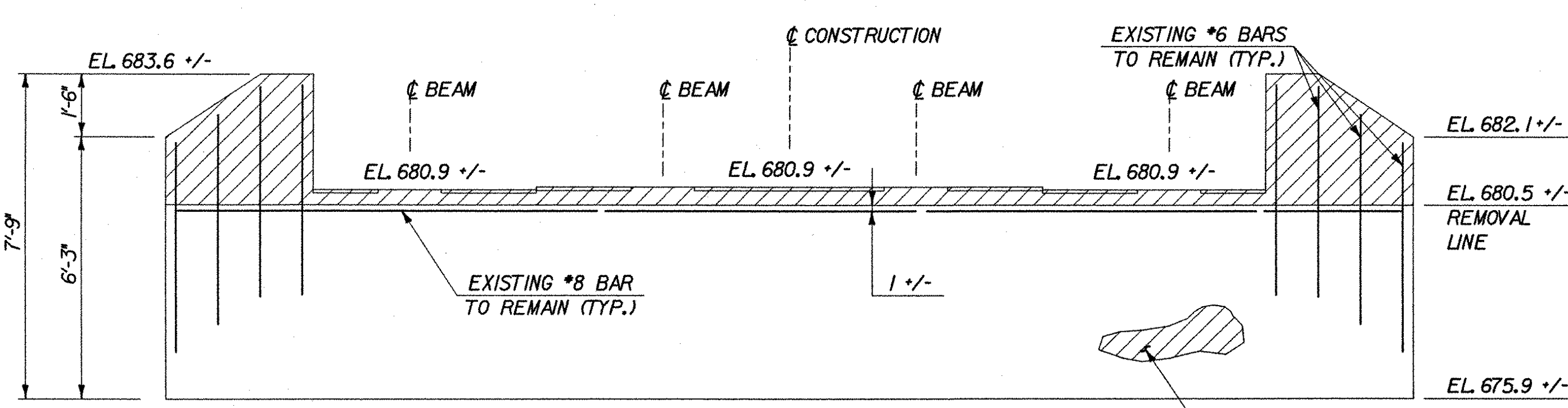




PLAN



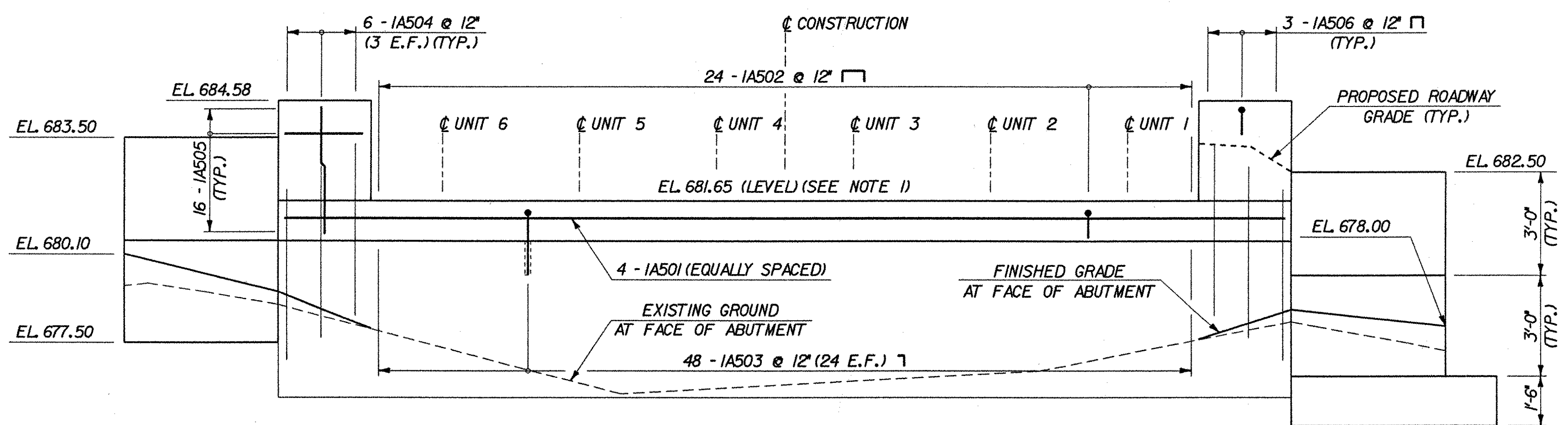
PLAN



ELEVATION

ABUTMENT REMOVAL

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



ELEVATION

ABUTMENT MODIFICATIONS

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

WORKING POINTS		
LOCATION	NORTHING	EASTING
W.P. 1	83744.4859	85905.5364
W.P. 2	83731.0139	85899.4290
W.P. 3	83717.5420	85893.3216

NOTES

1. BEAM SEAT ELEVATION HAS BEEN ADJUSTED FOR MAXIMUM CAMBER AT MIDSPAN. FINAL BEAM SEAT ELEVATION TO BE CONFIRMED.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 14.
3. E.F. DESIGNATES EACH FACE.
4. ONE-INCH THICK PREFORMED JOINT FILLER SHALL BE PLACED BETWEEN VOIDED SLABS AND CONCRETE WINGWALLS. COST SHALL BE SUBSIDIARY TO ITEM 501.34.

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of **WATERBURY** Bridge No. **14**  
 Highway No. **6** Log Sta.   
 Surv. Sta.

**LOOMIS HILL ROAD OVER THATCHER BROOK  
ABUTMENT NO. 1**

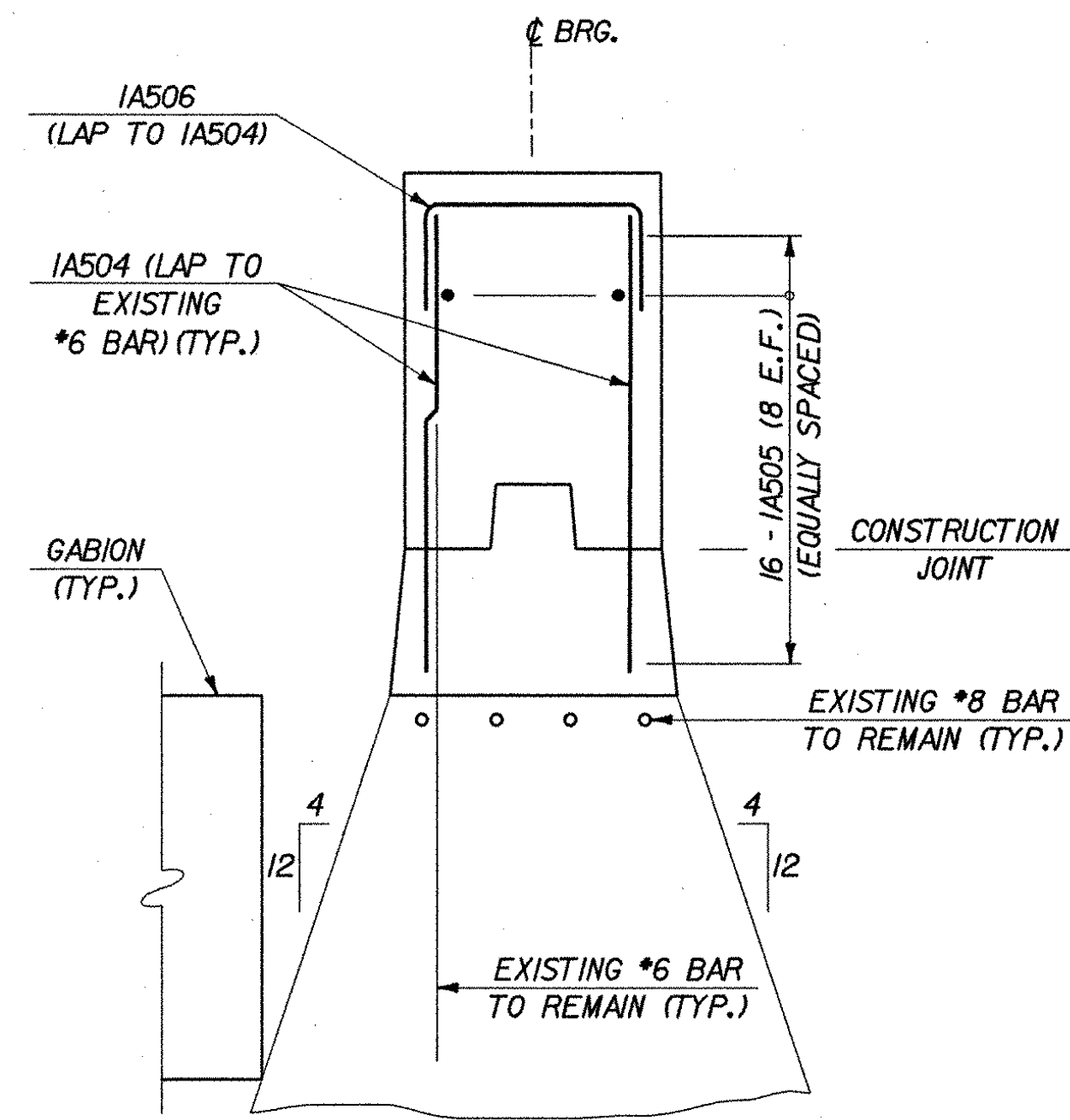
Designed By **L. WIXSON** Drawn By **P. DUSTIN**  
 Checked By **R. JOY** Date **03/03** Bridge Design Supervisor **M. ZYDEL** Date **03/03**

PROJECT **WATERBURY** PROJECT NO. **TH 3-9637**  
 I.G.C. Info. **ms\549108-Waterbury\BRIDGE\cont\X\J278ad1.dgn**  
 Bridge Sheet No.  Sheet **12** of **18**

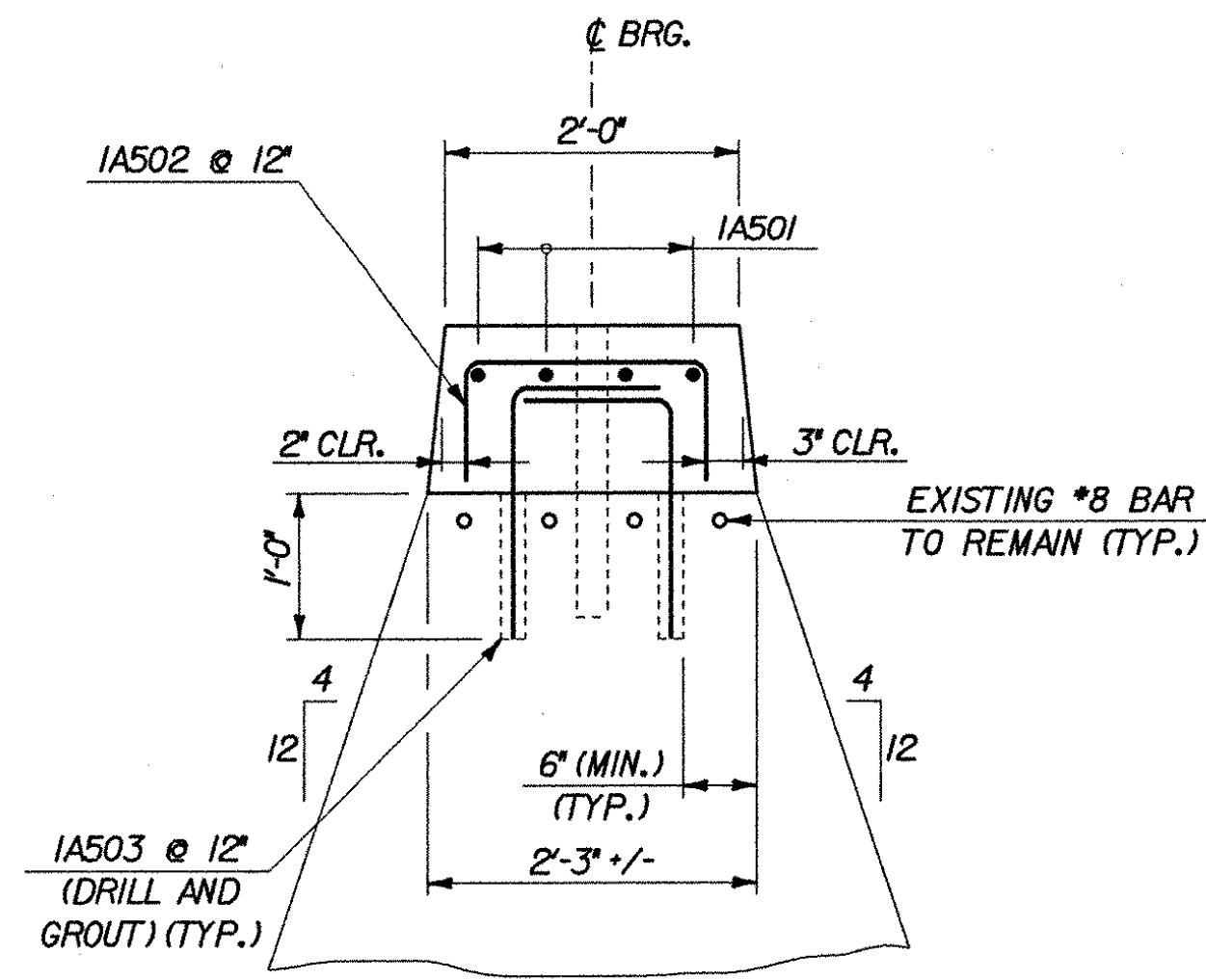


PLOTTED 05-MAY-2003

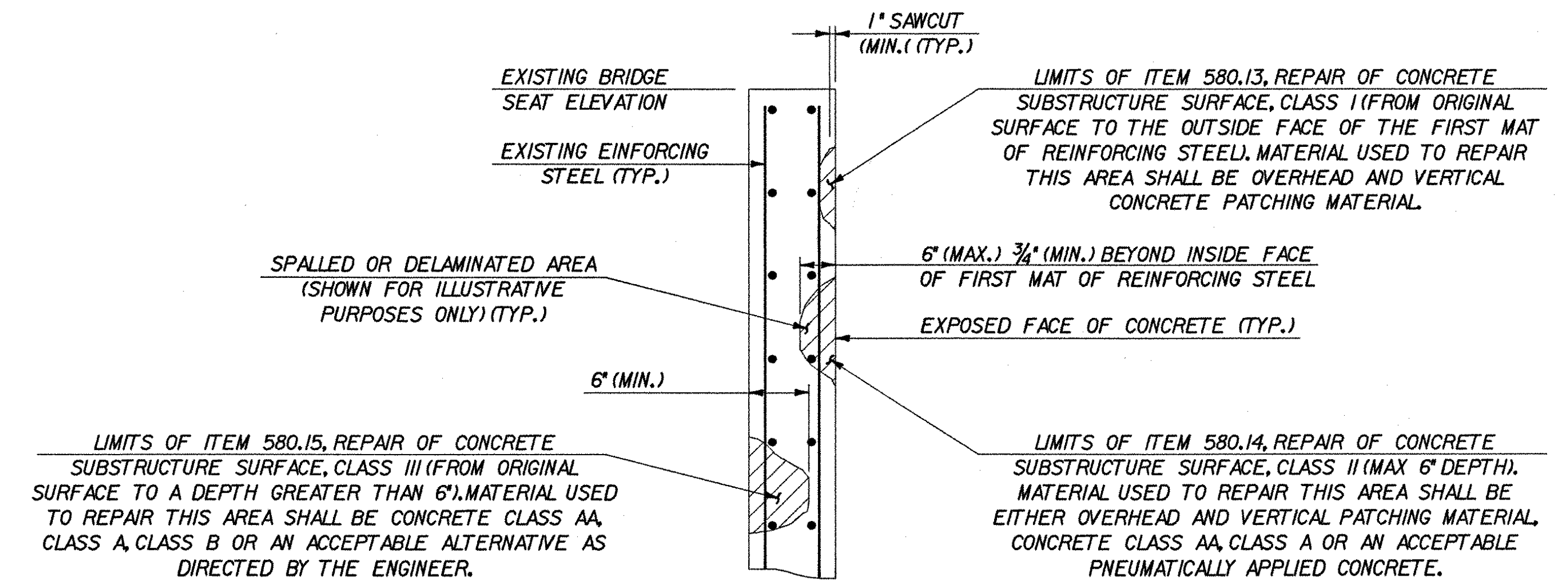




**SECTION A-A**  
SCALE: 3/4" = 1'-0"

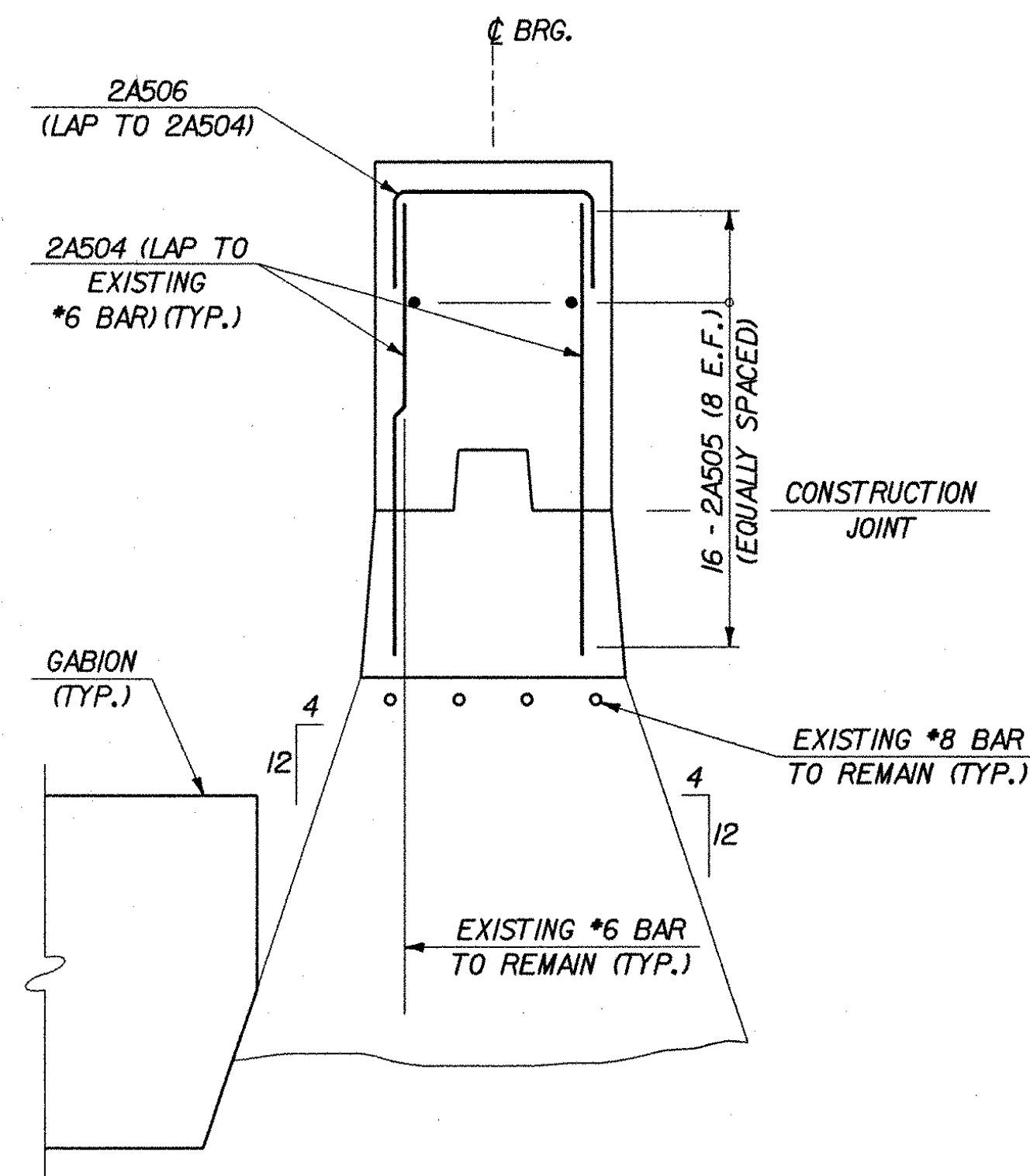


**SECTION B-B**  
SCALE: 3/4" = 1'-0"

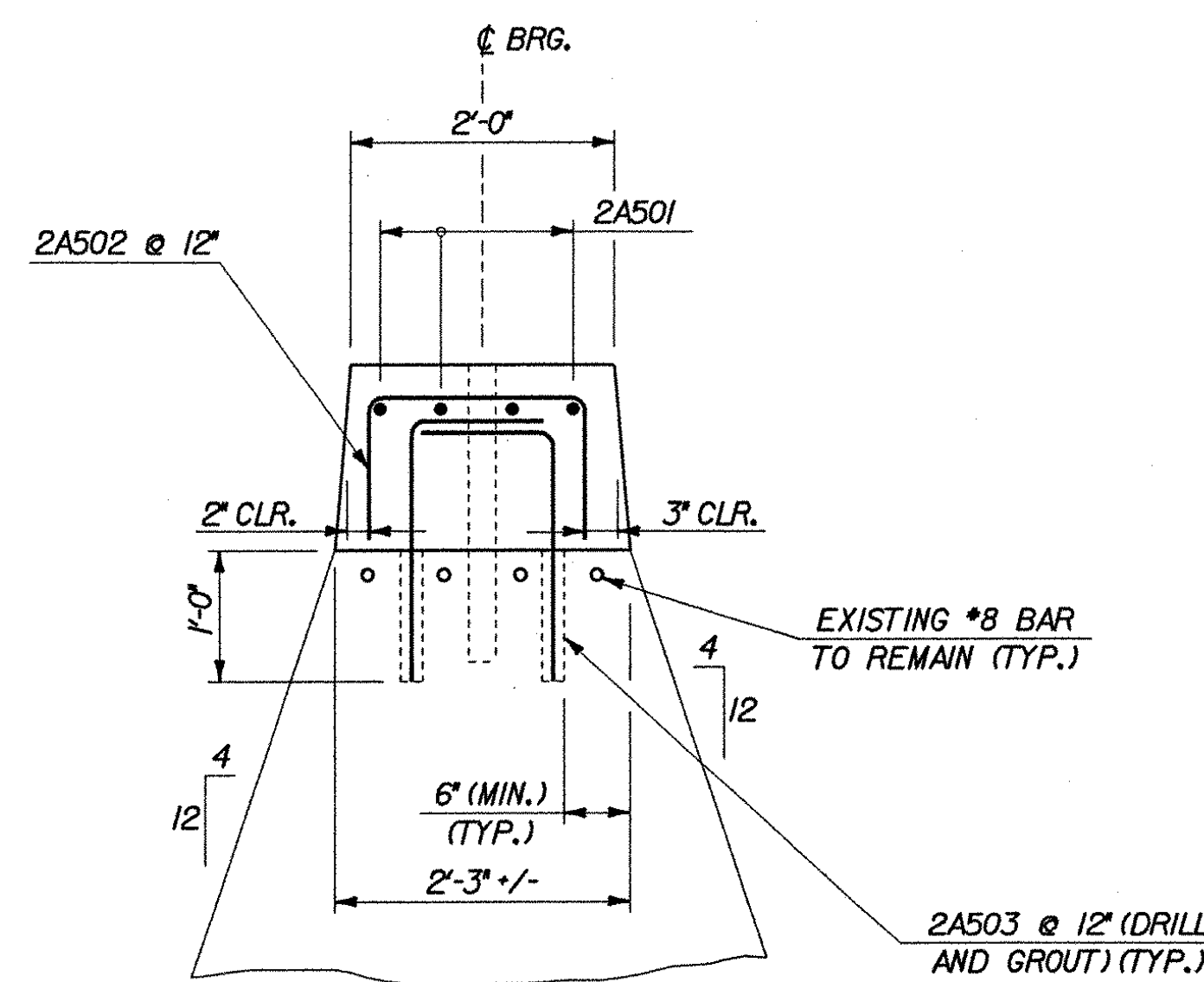


**CONCRETE SUBSTRUCTURE REPAIR DETAIL**  
NOT TO SCALE

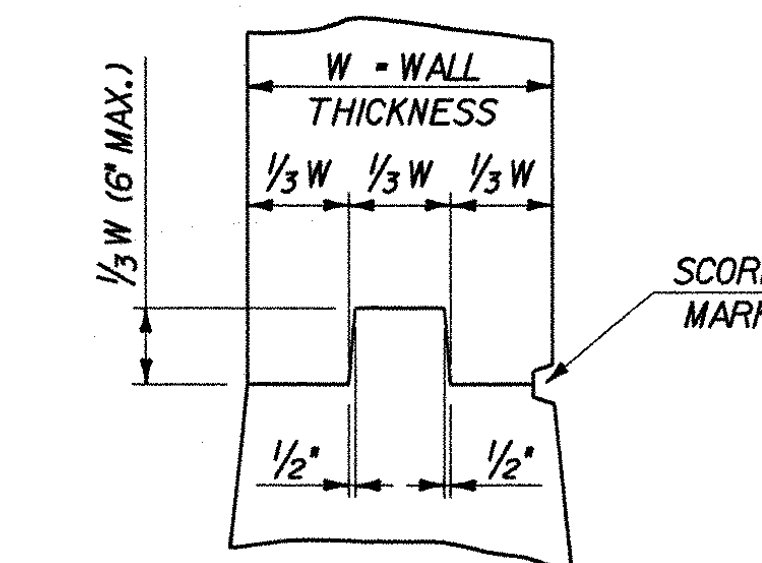
LIMITS OF REMOVAL



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



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



**TYPICAL CONCRETE CONSTRUCTION JOINT**  
SCALE: 3/4" = 1'-0"

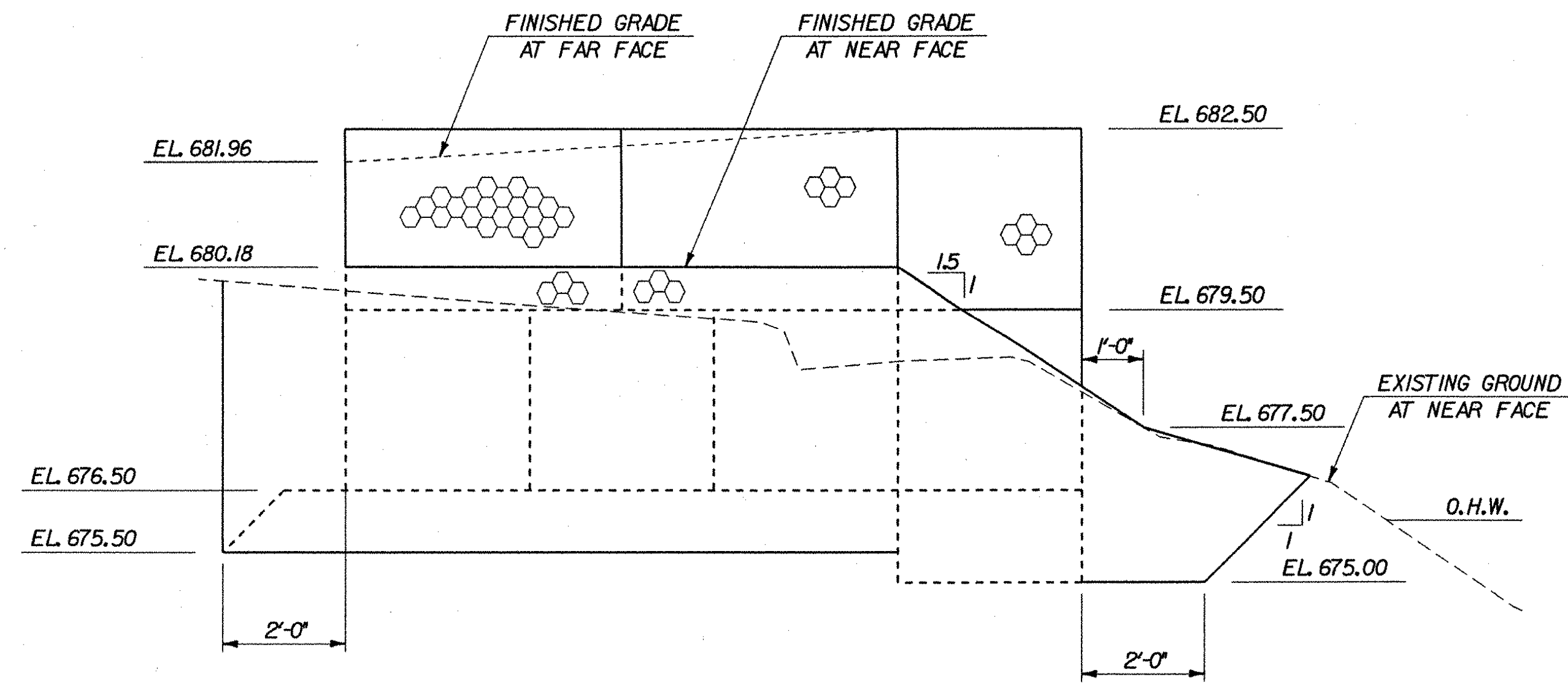
**NOTE**

- REMOVAL OF EXISTING CONCRETE TO A DEPTH GREATER THAN SPECIFIED FOR ITEM 580.14 SHALL BE PAID UNDER THE ITEM 580.15, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III.

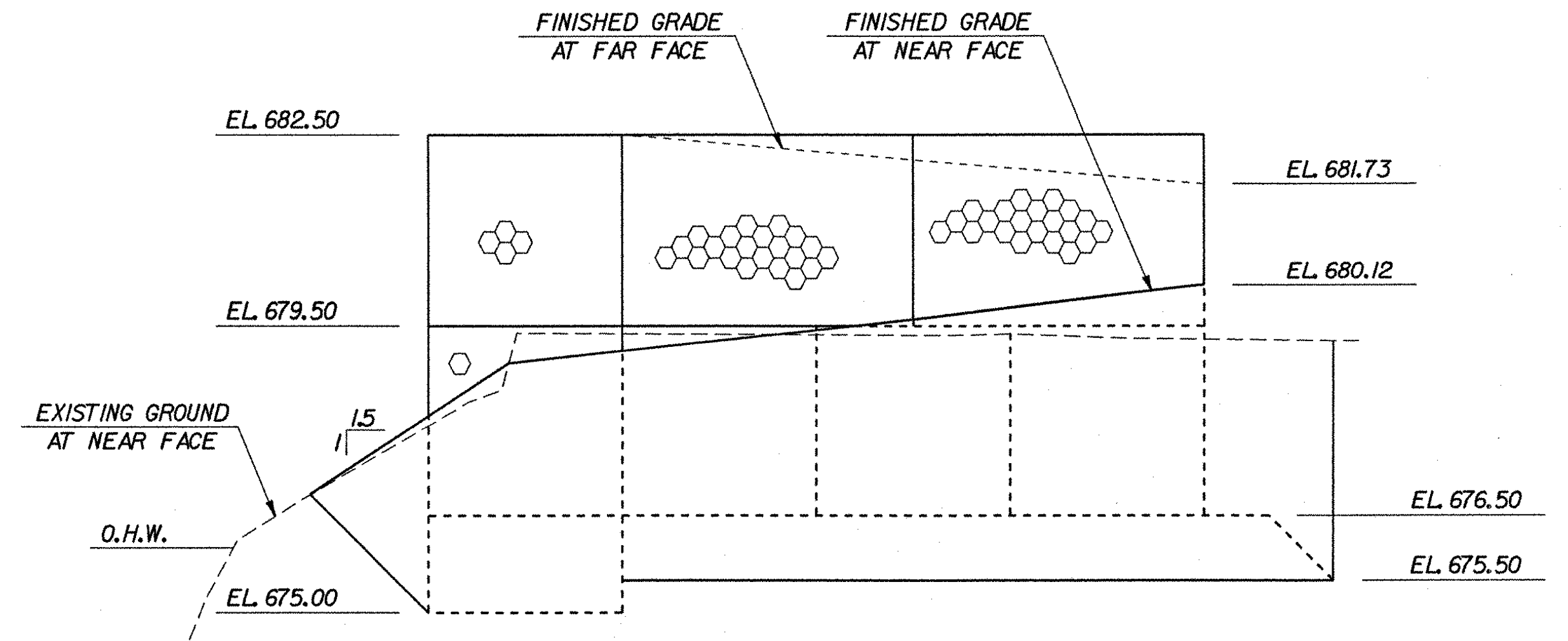
**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	<b>WATERBURY</b>	Bridge No.	14
Highway No.	6	Log Sta.	
		Surv. Sta.	
<b>LOOMIS HILL ROAD OVER THATCHER BROOK ABUTMENT DETAILS</b>			
Designed By	L. WIXSON	Drawn By	P. DUSTIN
Checked By	R. JOY	Bridge Design Supervisor	M. ZYDEL
Date	03/03	Date	03/03
PROJECT	<b>WATERBURY</b>	PROJECT NO.	<b>TH 3-9637</b>
I.G.C. Info. m:\549108-Waterbury\BRIDGE\6001\X\1278ad3.dgn			
Bridge Sheet No.		Sheet	14 of 18



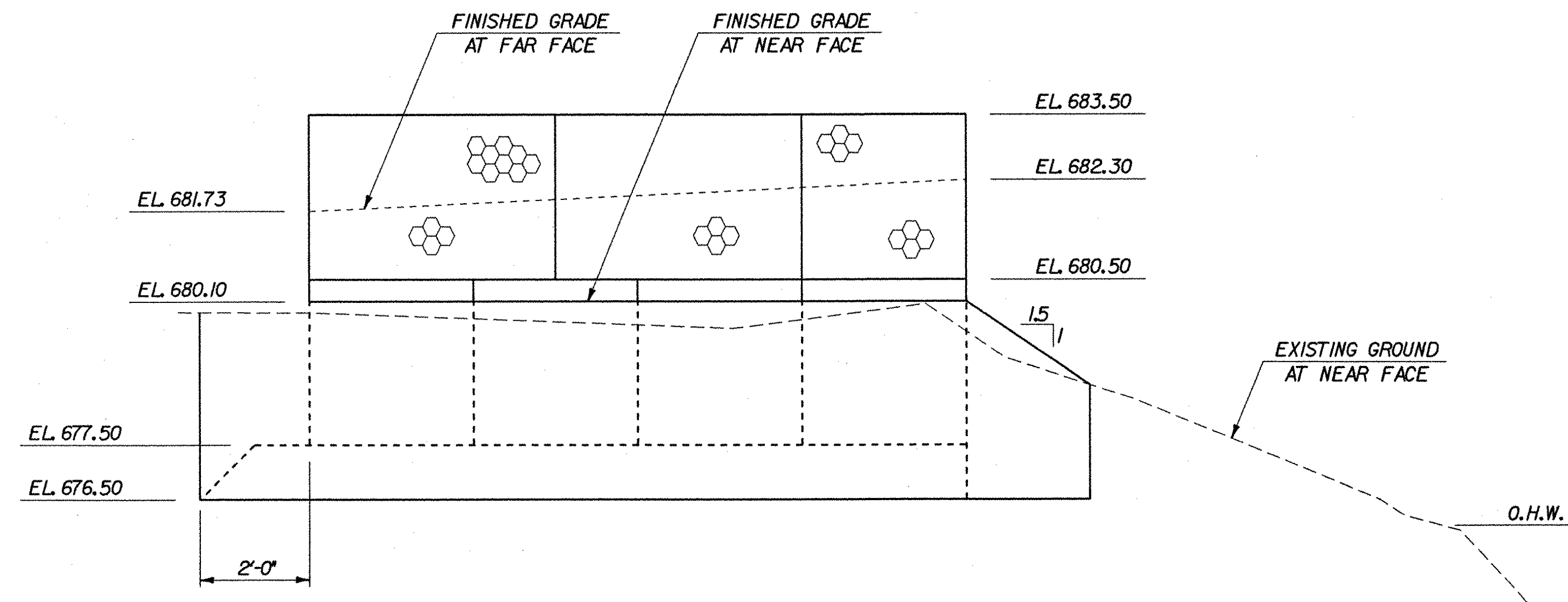


WW #3

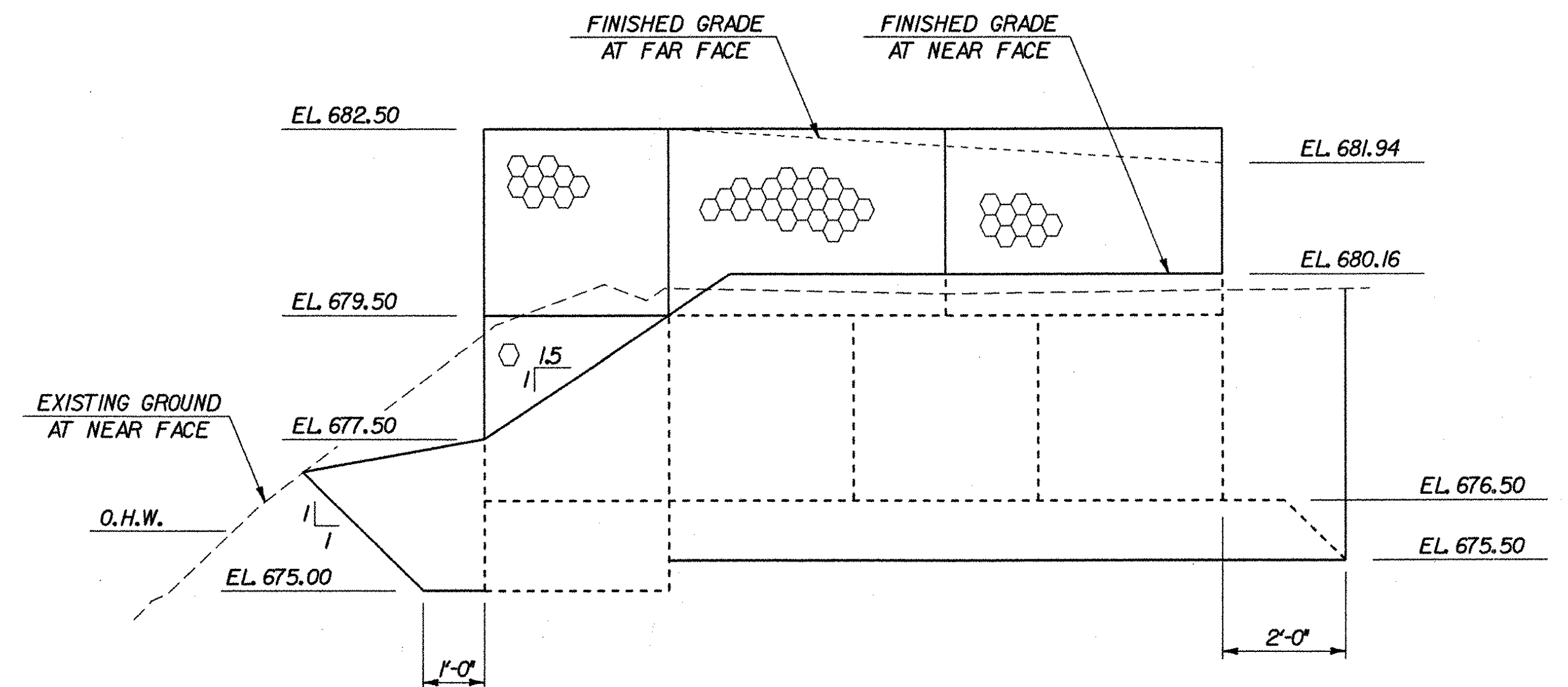


WW #1

NORTH GABION WALL ELEVATIONS  
SCALE: 1/2" = 1'-0"



WW #2



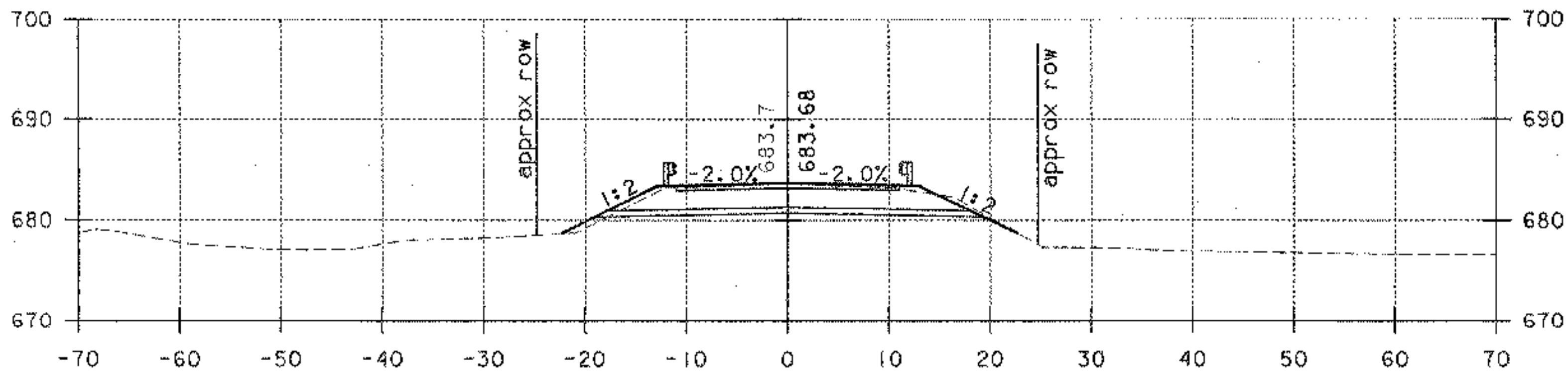
WW #4

SOUTH GABION WALL ELEVATIONS  
SCALE: 1/2" = 1'-0"

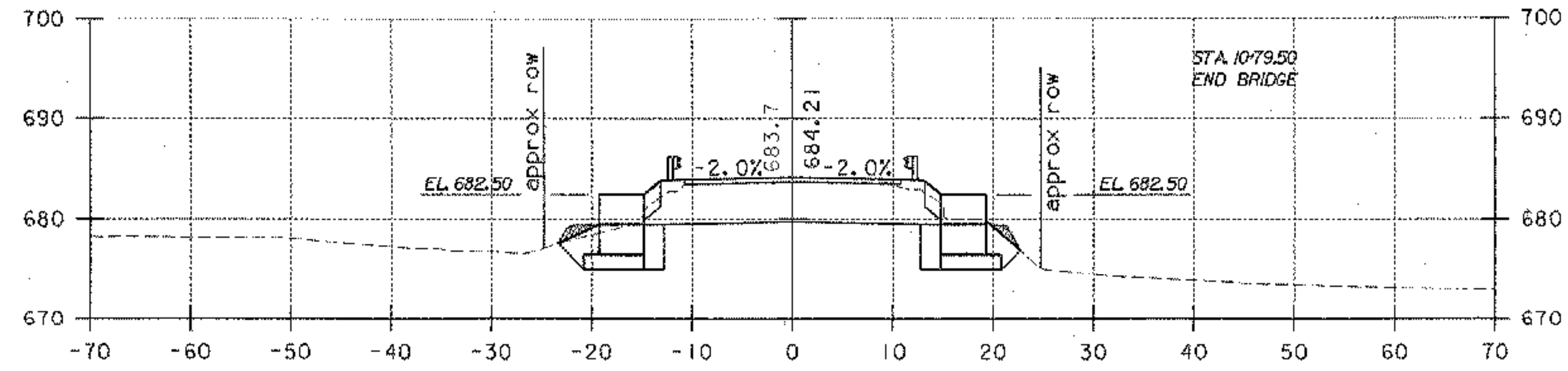
STATE OF VERMONT  
AGENCY OF TRANSPORTATION

Town Of	WATERBURY		Bridge No.	14
Highway No.	6		Log Sta.	
			Surv. Sta.	
LOOMIS HILL ROAD OVER THATCHER BROOK				
GABION WALL DETAILS				
Designed By	L. WIXSON		Drawn By	P. DUSTIN
Checked By	Date		Bridge Design Supervisor	
R. JOY	03/03		M. ZYDEL	Date 03/03
PROJECT	WATERBURY		PROJECT NO.	TH 3-9637
I.G.C. Info.	m:\549108-Waterbury\BRIDGE\6cont\1\278gwd.dgn			
Bridge Sheet No.			Sheet	15 of 18

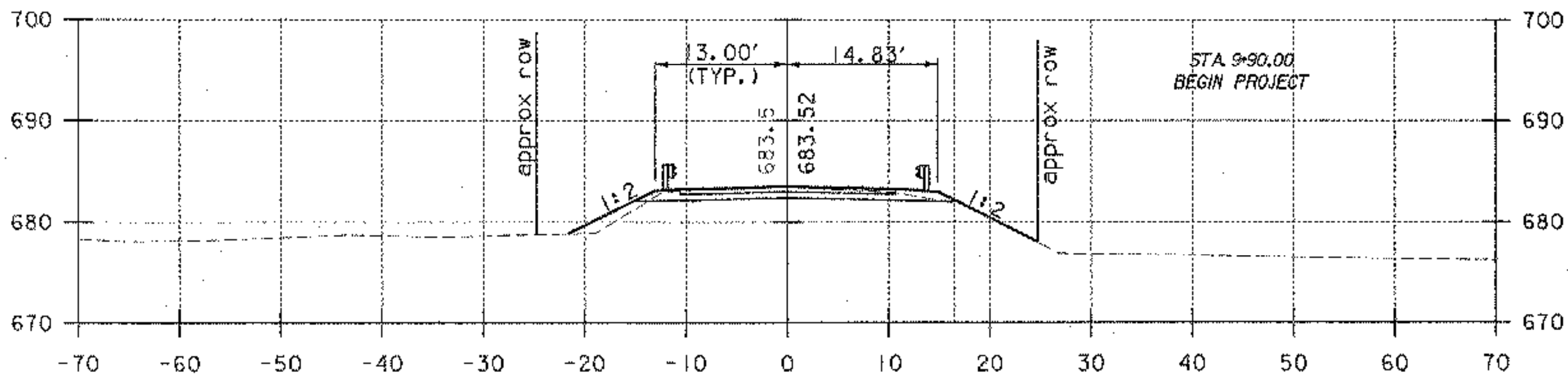




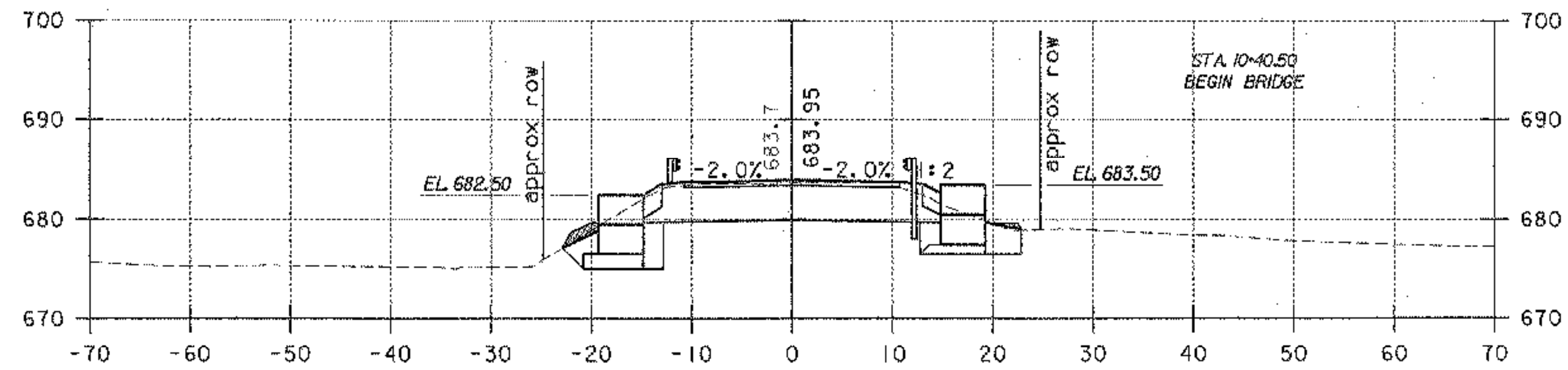
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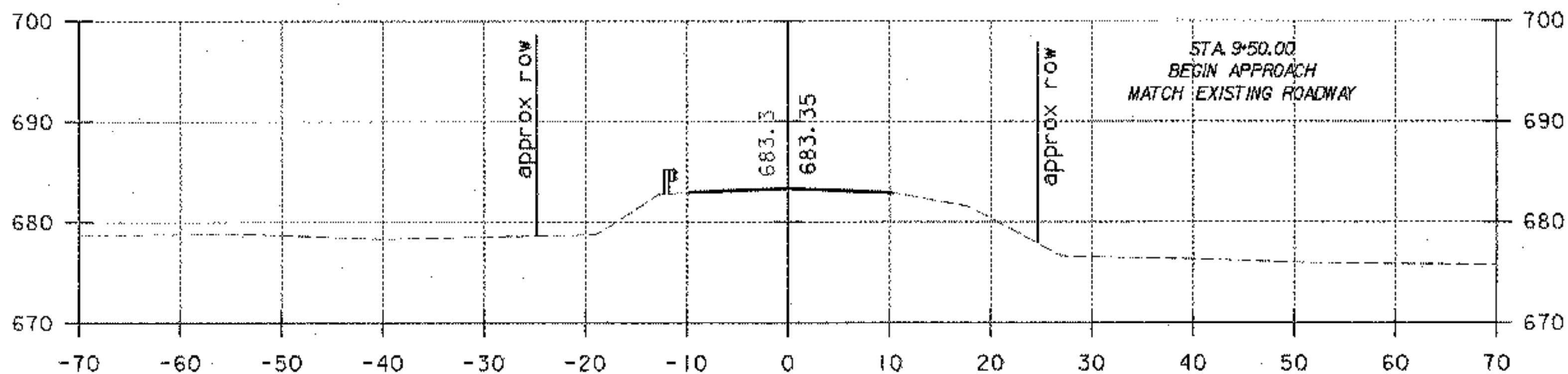
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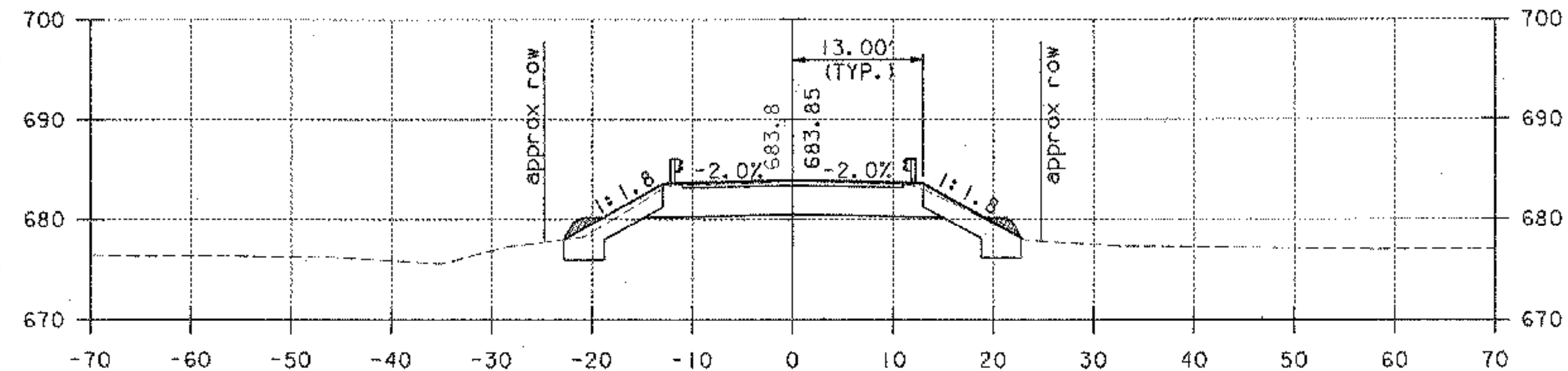
9+75



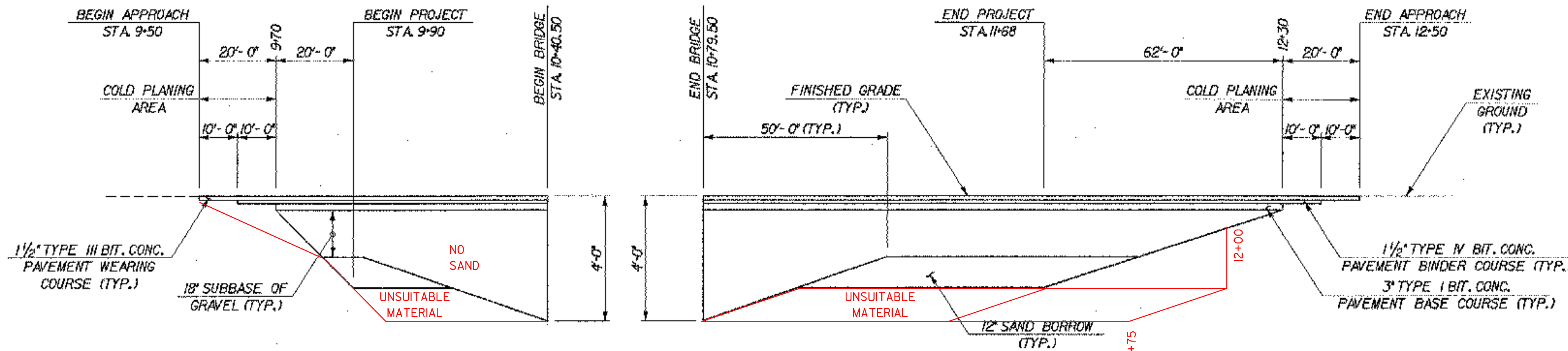
10+40.50



9+50



10+25

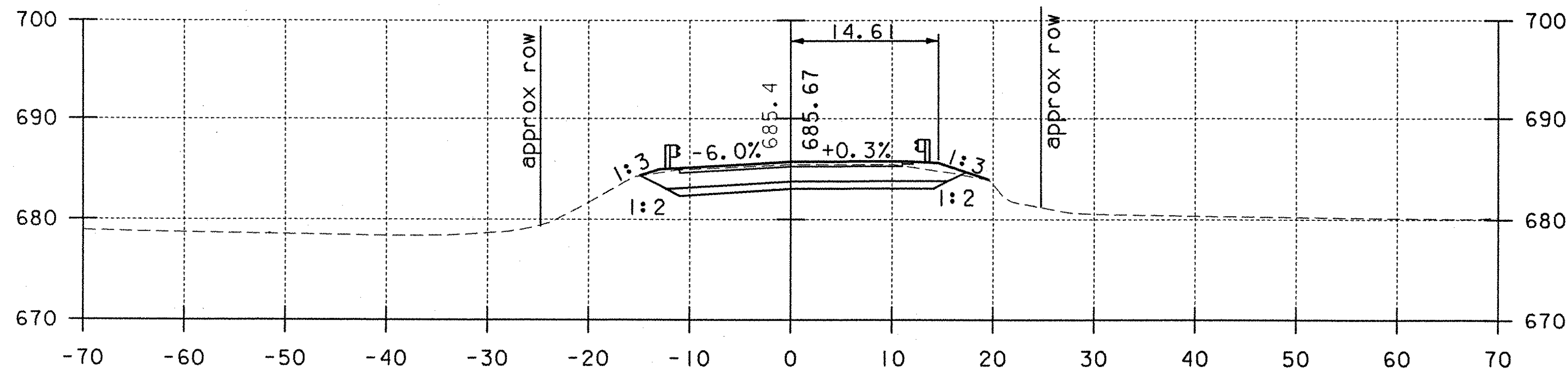


**SUBBASE TRANSITION DETAIL**  
NOT TO SCALE

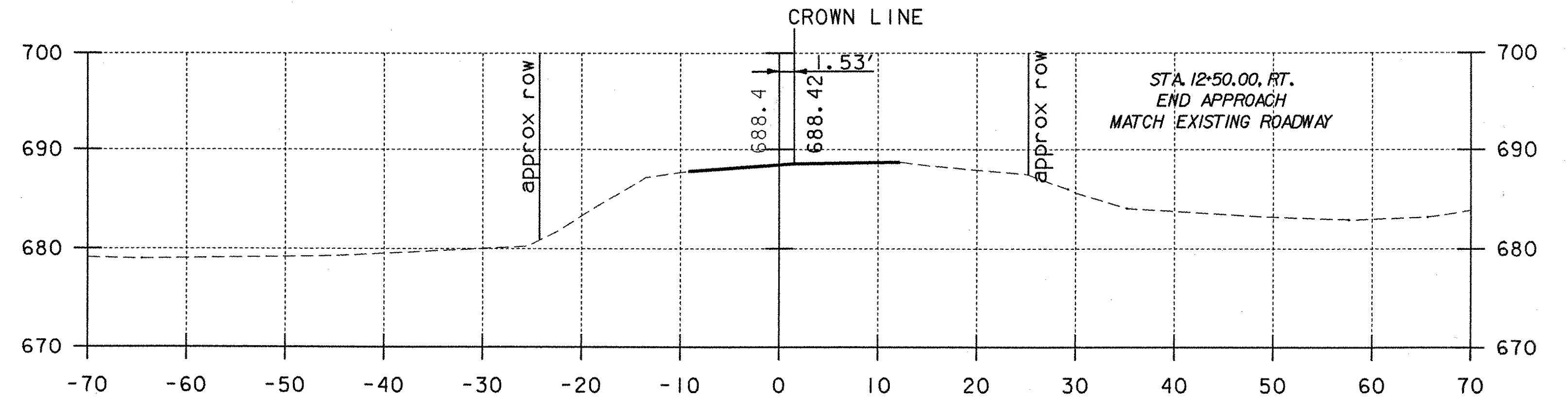
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>	
Town Of <b>WATERBURY</b>	Bridge No. <b>14</b>
Highway No. <b>6</b>	Log Sta. Surv. Sta.
<b>LOOMIS HILL ROAD OVER THATCHER BROOK ROADWAY CROSS SECTIONS</b>	
Designed By <b>L. WIXSON</b>	Drawn By <b>P. DUSTIN</b>
Checked By <b>R. JOY</b>	Date <b>03/03</b>
PROJECT <b>WATERBURY</b>	Bridge Design Supervisor <b>M. ZIDEL</b>
PROJECT NO. <b>TH 3-9637</b>	Date <b>03/03</b>
I.G.C. Info. <b>m:\549138-Waterbury\BRIDGE\600n\1278xsl.dgn</b>	
Bridge Sheet No.	Sheet <b>16</b> of <b>18</b>



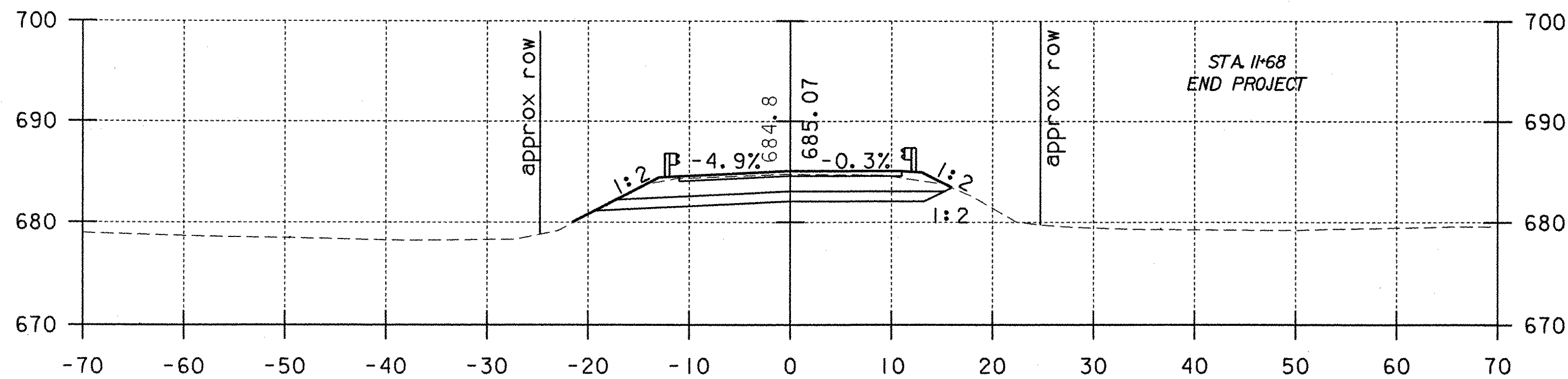
PLOTTED 05-MAY-2003



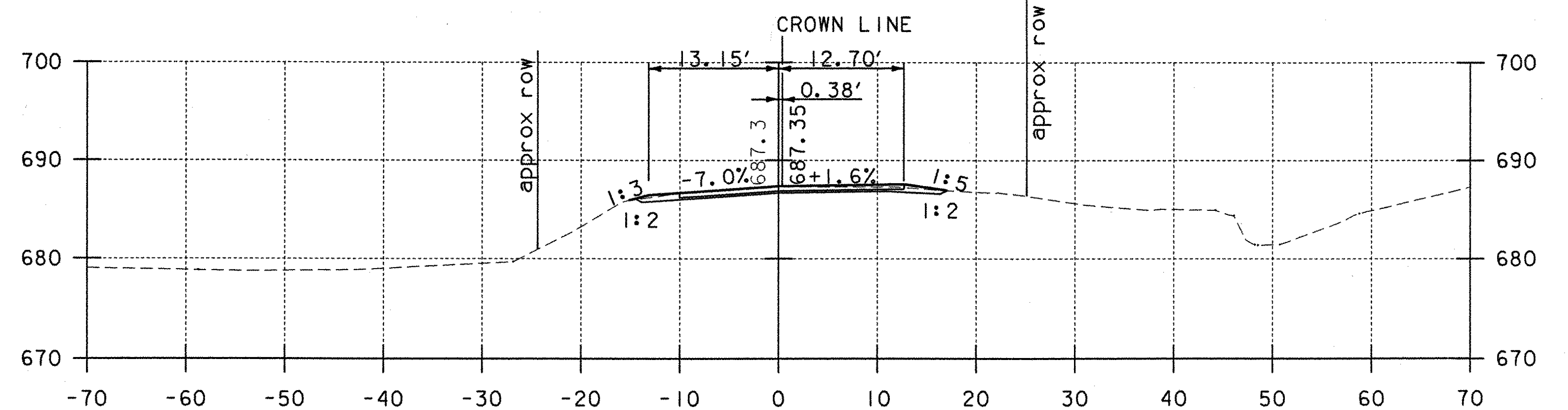
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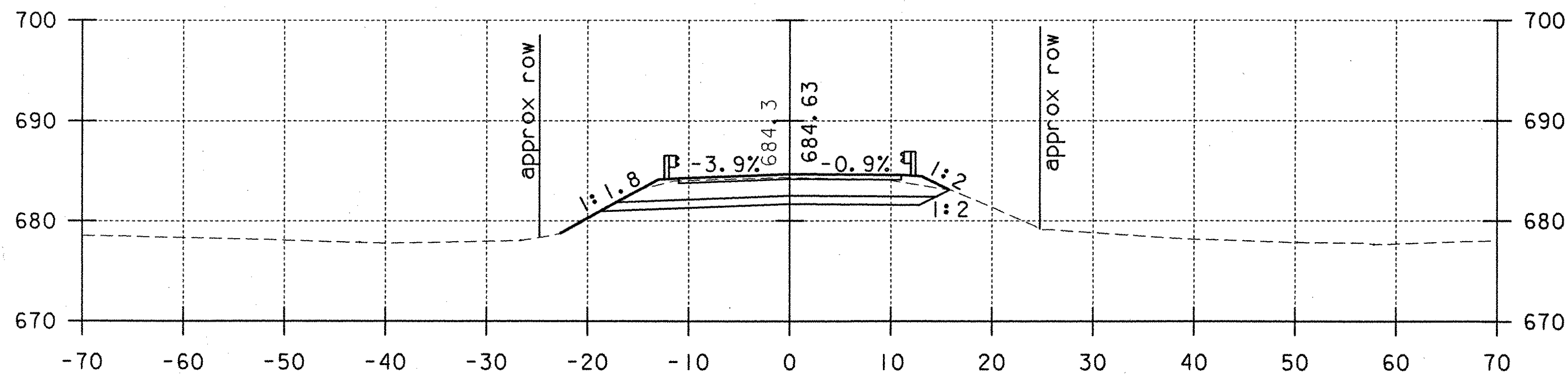
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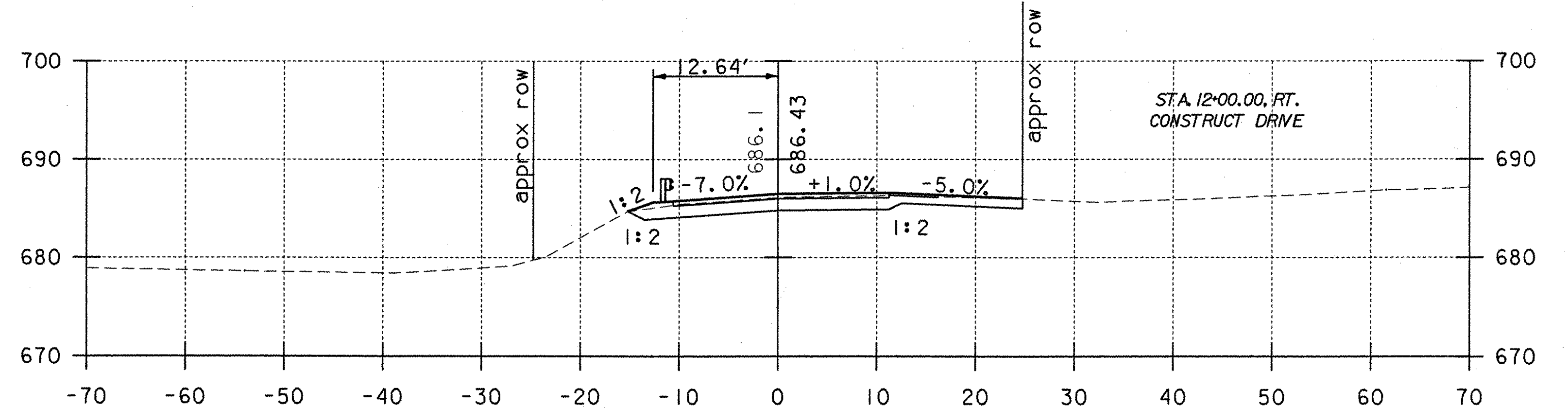
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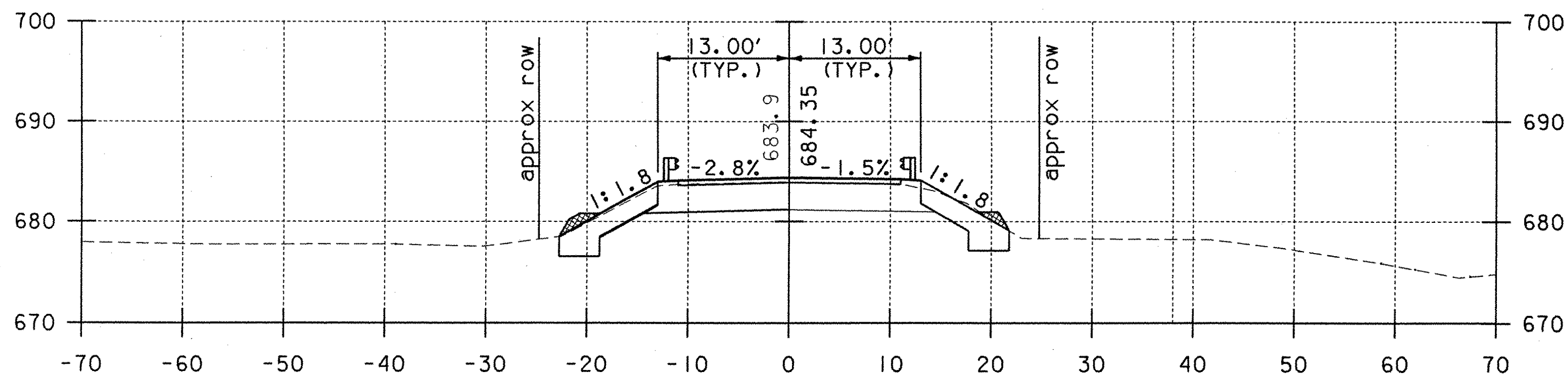
12+25



11+25

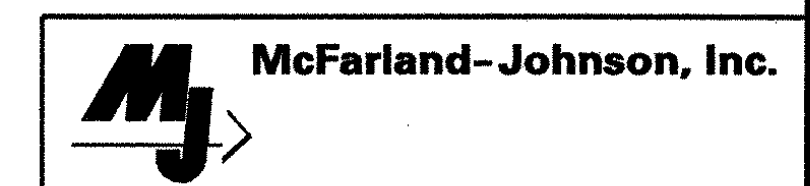


12+00

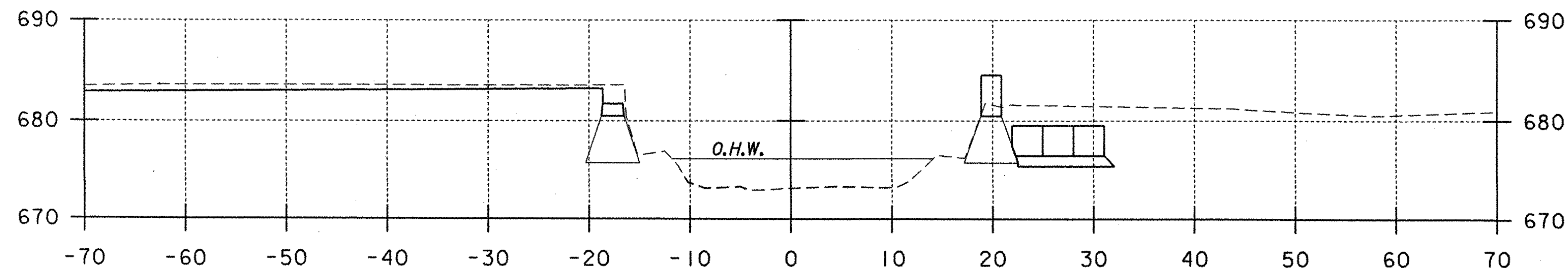


11+00

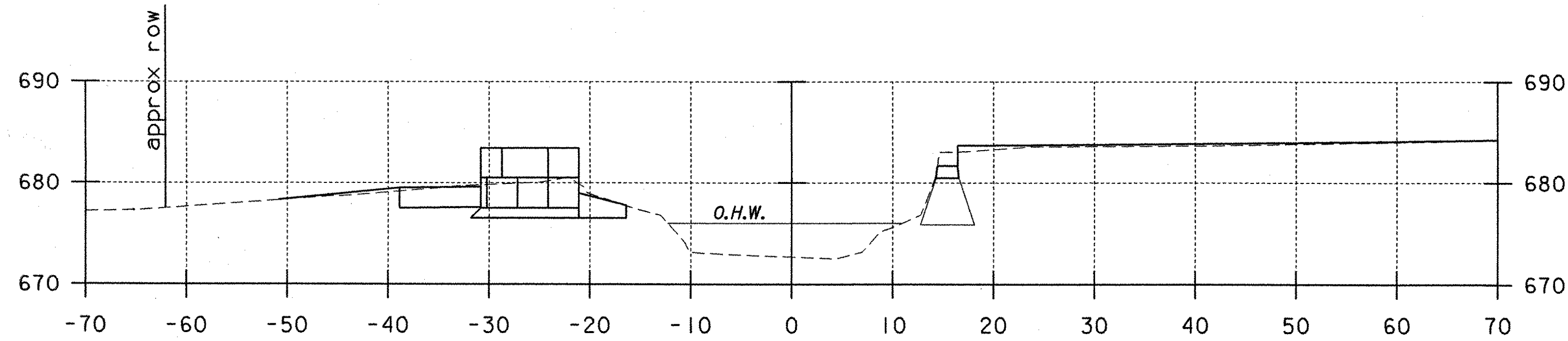
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	<b>WATERBURY</b>	Bridge No.	<b>14</b>
Highway No.	<b>6</b>	Log Sta.	
		Surv. Sta.	
<b>LOOMIS HILL ROAD OVER THATCHER BROOK</b>			
<b>ROADWAY CROSS SECTIONS</b>			
Designed By	<b>L. WIXSON</b>	Drawn By	<b>P. DUSTIN</b>
Checked By	<b>R. JOY</b>	Date	<b>03/03</b>
		Bridge Design Supervisor	<b>M. ZYDEL</b>
		Date	<b>03/03</b>
PROJECT	<b>WATERBURY</b>	PROJECT NO.	<b>TH 3-9637</b>
I.G.C. Info. <b>m:\549108-Waterbury\BRIDGE\6cont\1\J278xs2.dgn</b>			
Bridge Sheet No.		Sheet	<b>17 of 18</b>



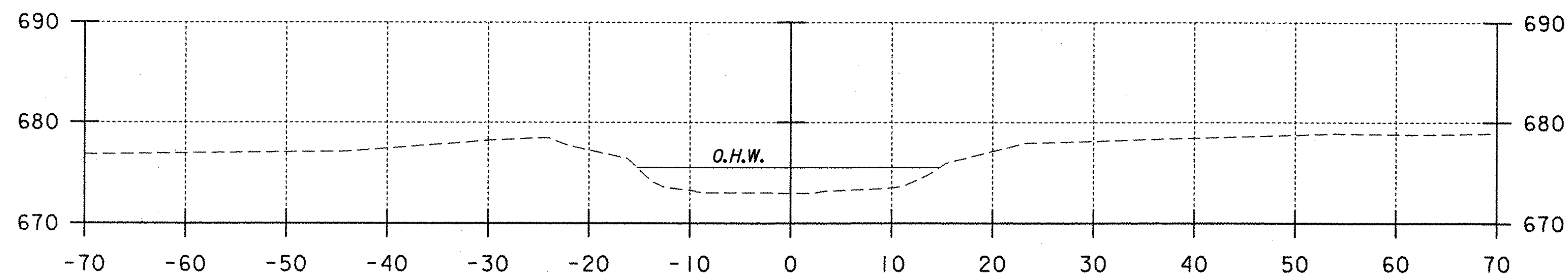
PLOTTED 05-MAY-2003



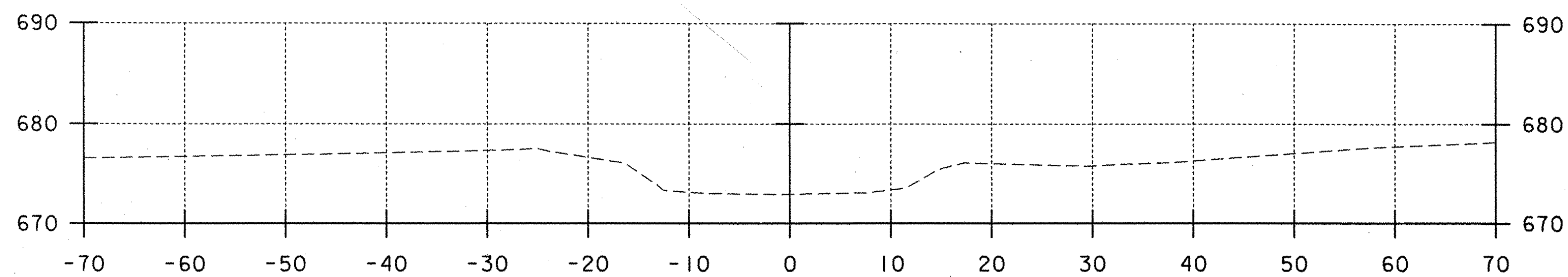
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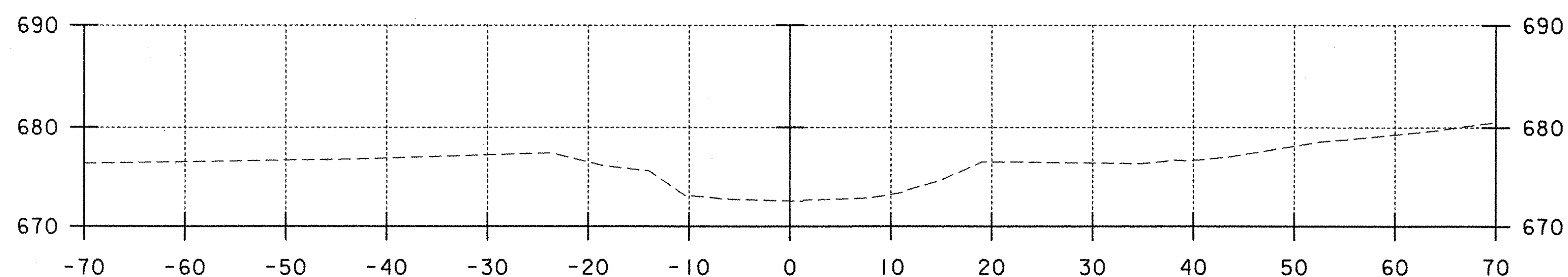
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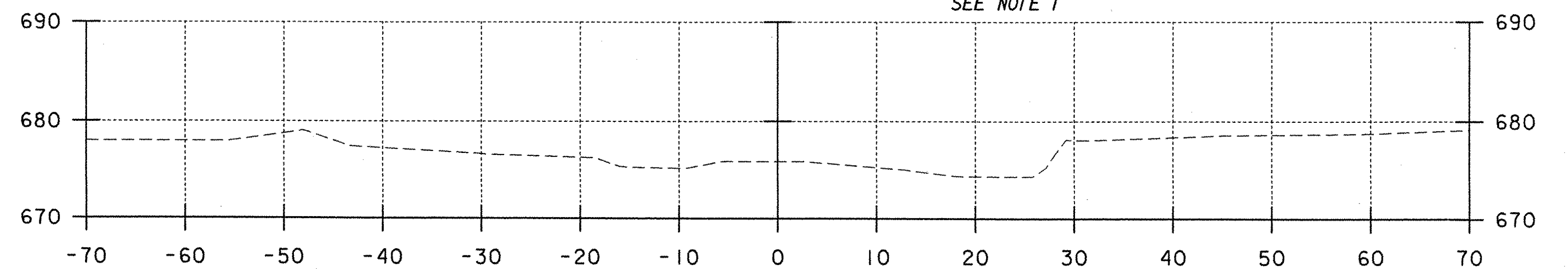
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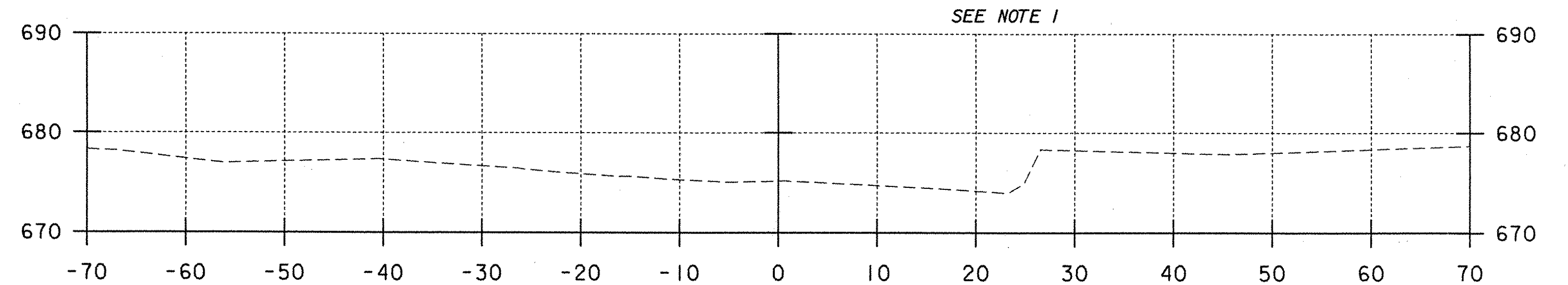
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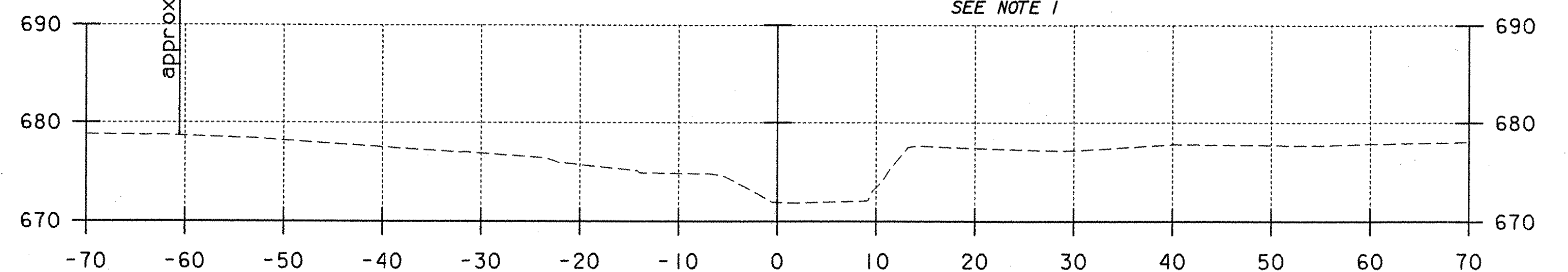
0+00



1+67



1+50



1+25

**NOTES**

1. CHANNEL STABILIZATION WORK WAS PERFORMED IN 2002 ALONG THE UPSTREAM EASTERN CHANNEL BANK AFTER PROJECT SURVEY.

**LEGEND**

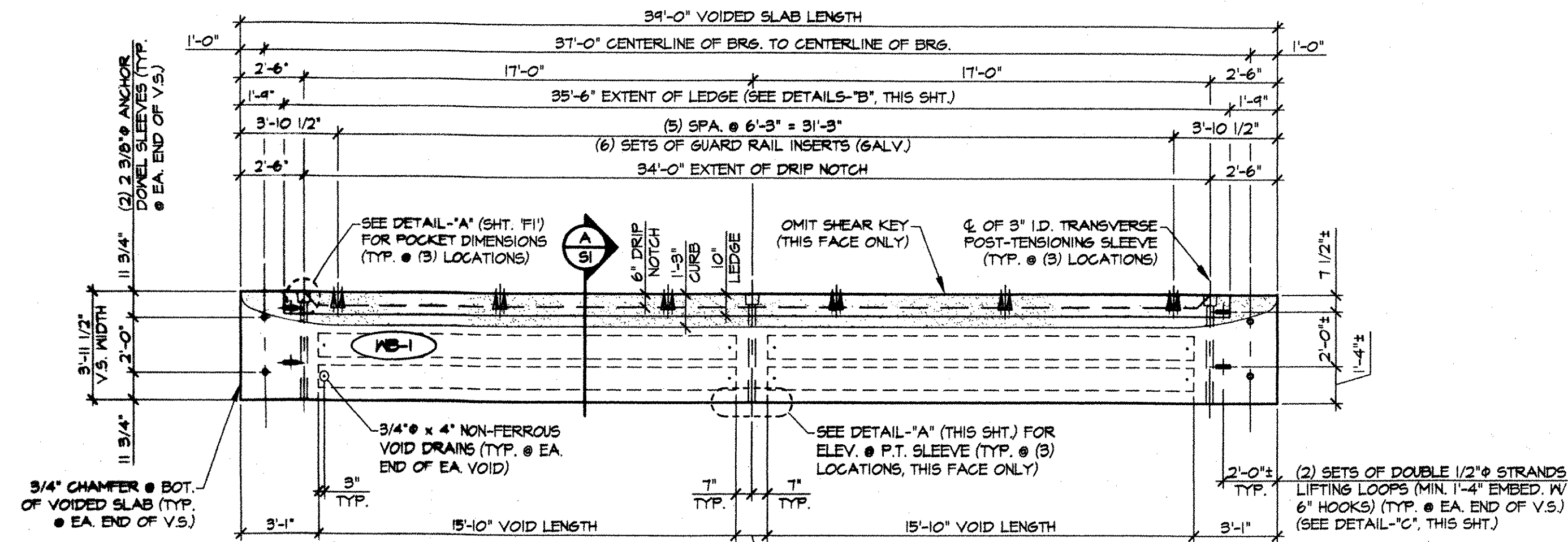
O.H.W. ORDINARY HIGH WATER

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

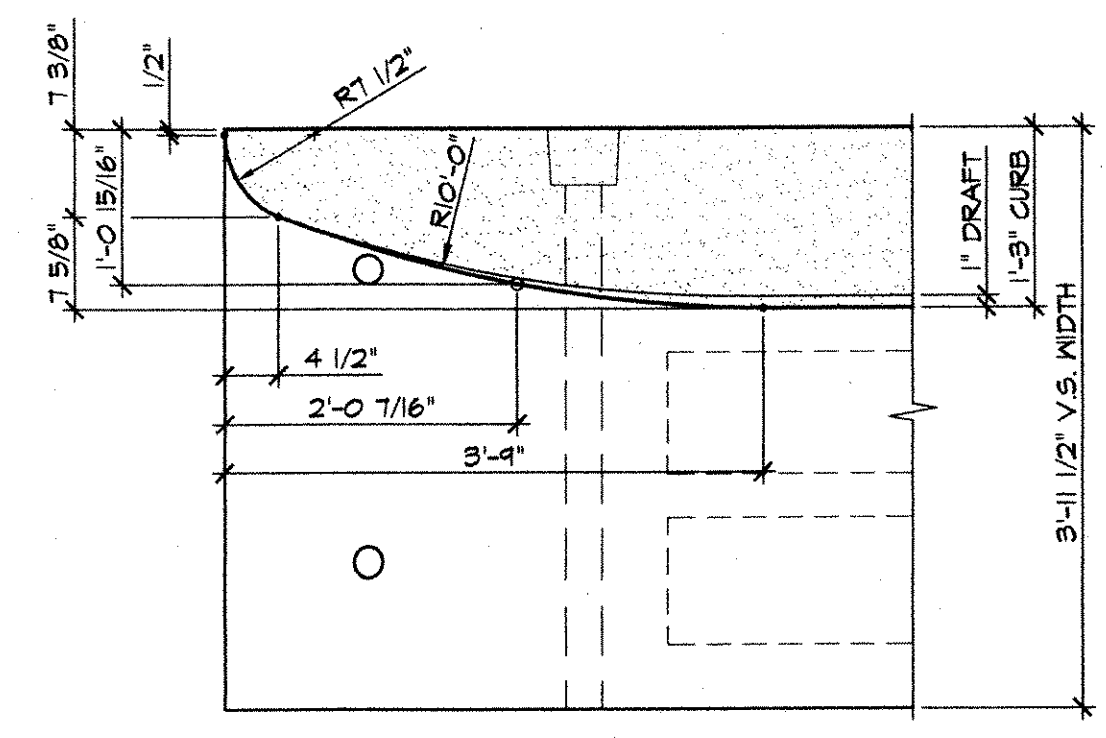
Town Of	WATERBURY	Bridge No.	14
Highway No.	6	Log Sta.	
LOOMIS HILL ROAD OVER THATCHER BROOK		Surv. Sta.	
CHANNEL CROSS SECTIONS			
Designed By	L.WIXSON	Drawn By	P.DUSTIN
Checked By	R.JOY	Bridge Design Supervisor	M.ZYDEL
Date	03/03	Date	03/03
PROJECT	WATERBURY	PROJECT NO.	TH 3-9637
I.G.C. Info.	m:\549108-Waterbury\BRIDGE\6cont\1\J278xsc.dgn	Bridge Sheet No.	Sheet 18 of 18



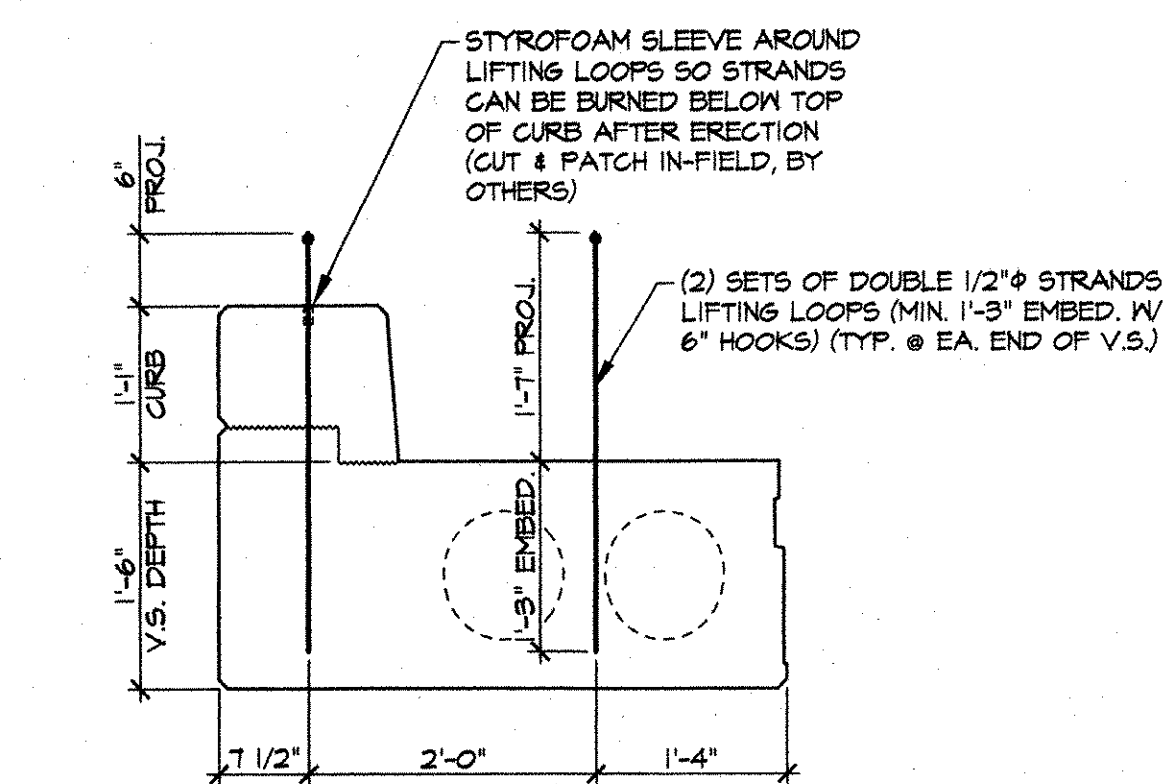




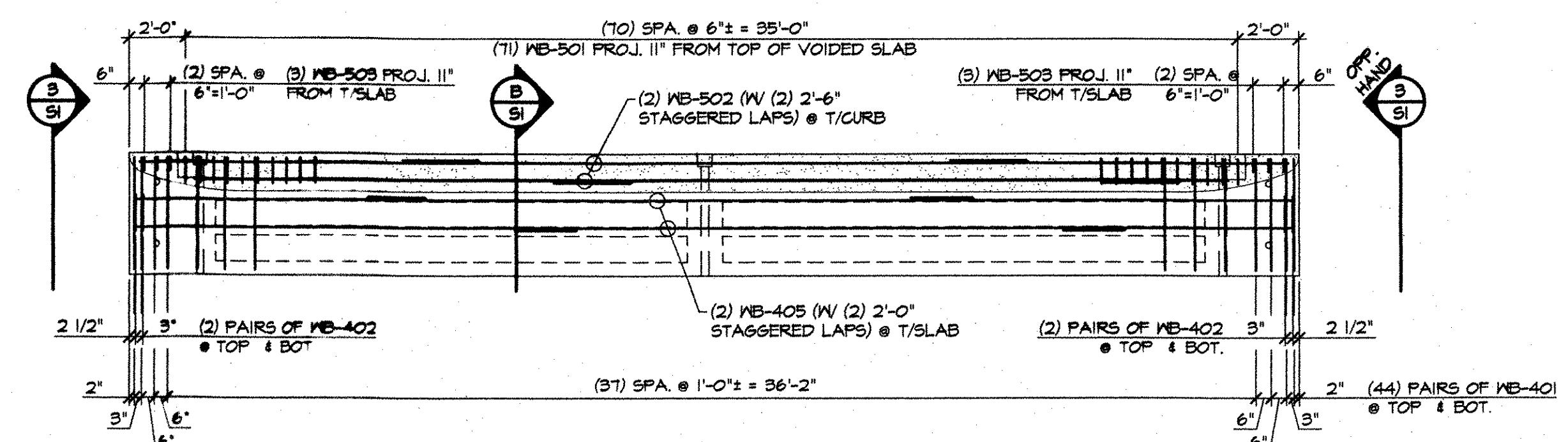
1 DIMENSIONAL PLAN VIEW IN FORM  
1/4" = 1'-0"



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

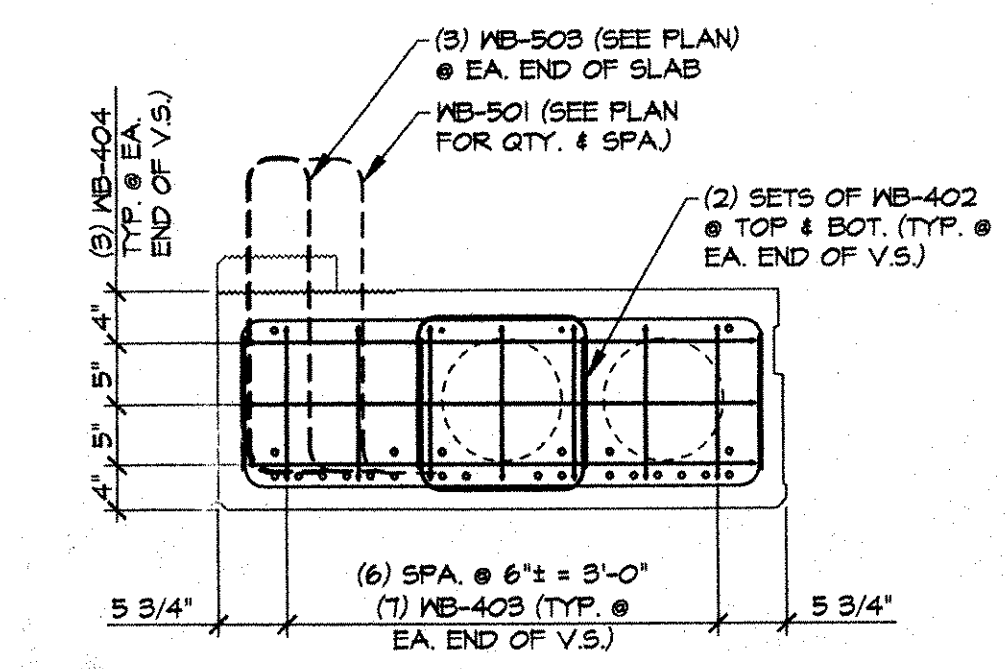


DETAIL - "C"  
3/4" = 1'-0"

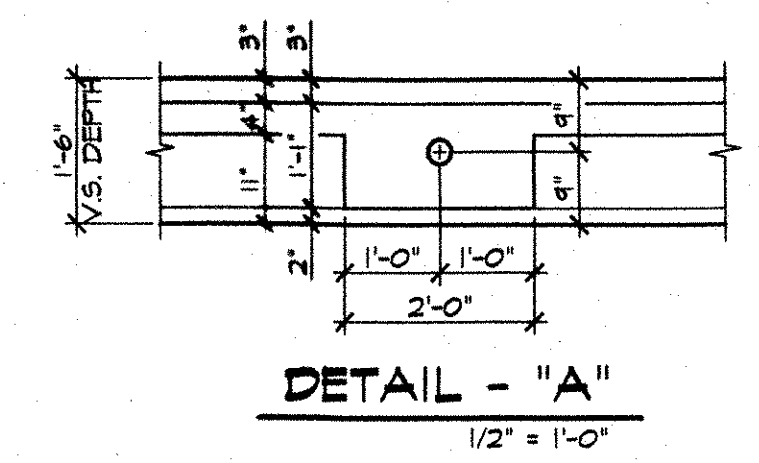


2 REINFORCING PLAN VIEW IN FORM  
1/4" = 1'-0"

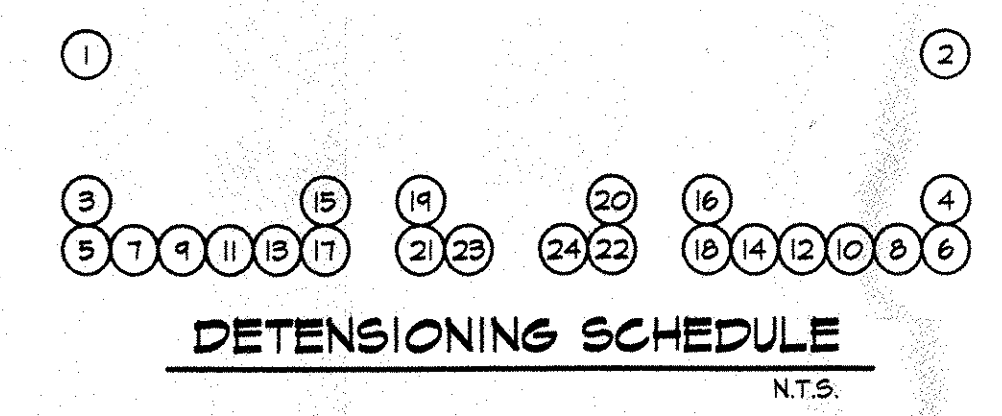
SHOP NOTE:  
ADJUST REINFORCING AS REQUIRED  
TO CLEAR P.T. DUCTS, SLEEVES, ETC.



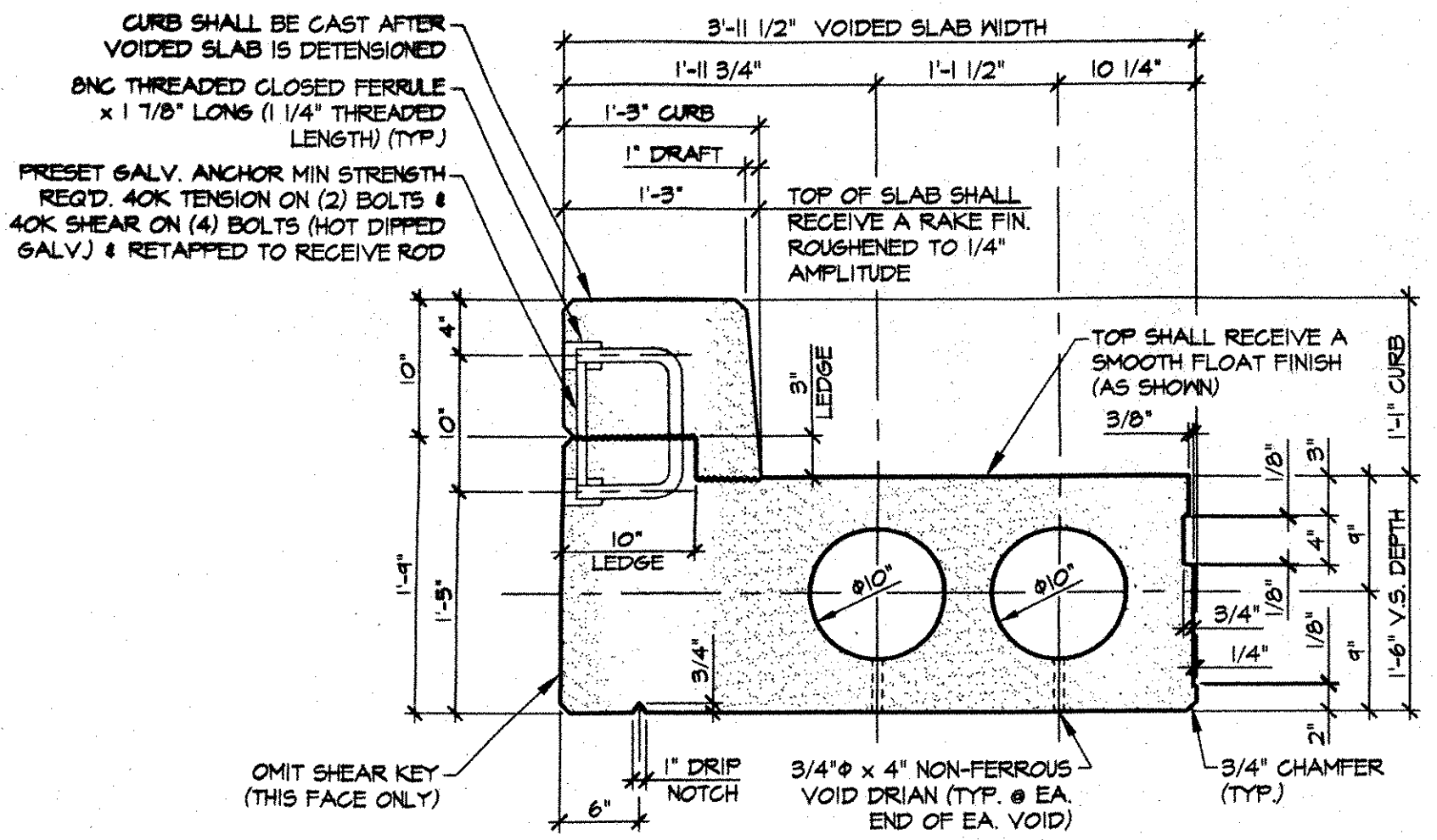
3 END BLOCK REINF. SECTION  
3/4" = 1'-0"



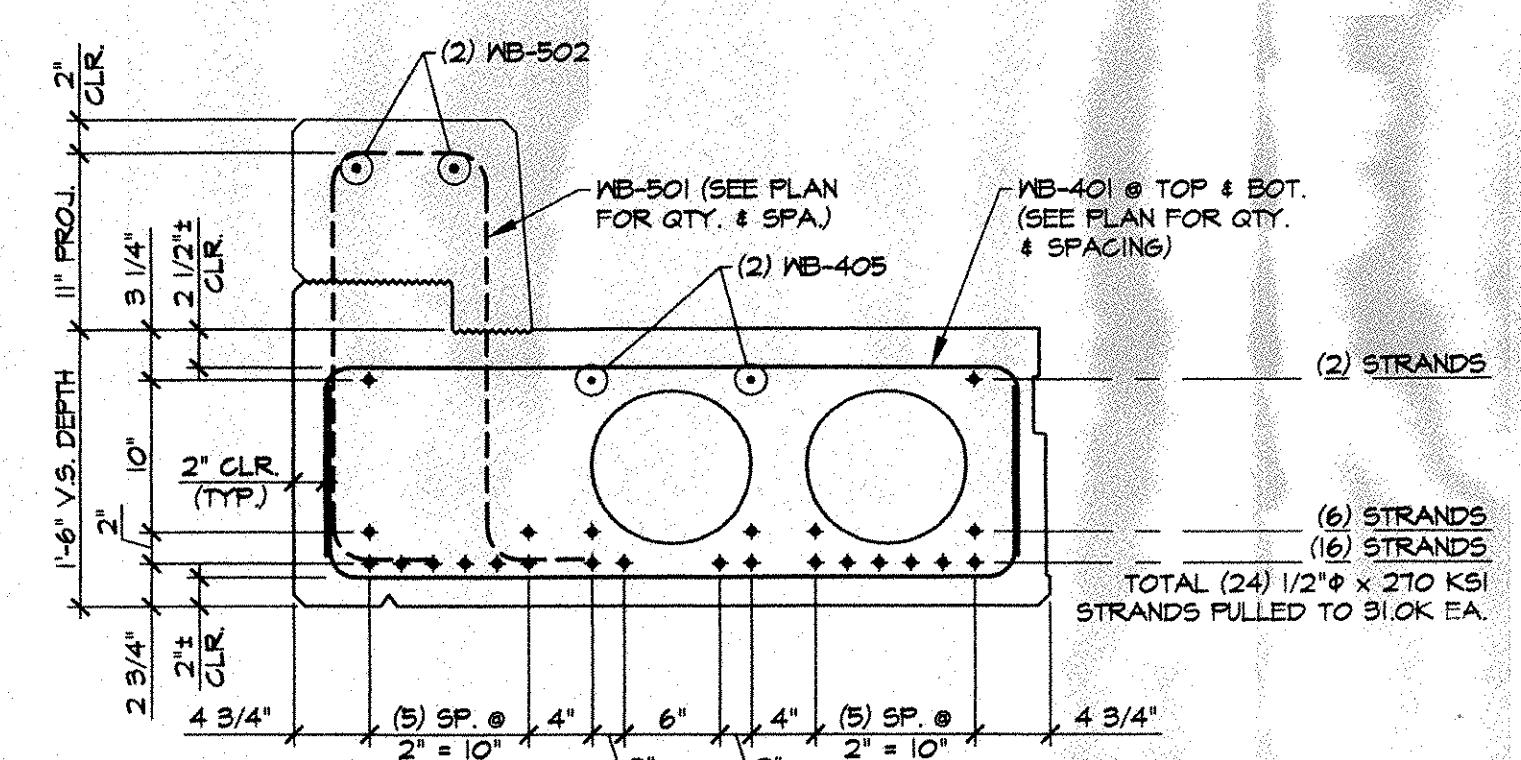
DETAIL - "A"  
1/2" = 1'-0"



DETENSIONING SCHEDULE  
N.T.S.



A DIMENSIONAL SECTION  
1" = 1'-0"



B REINFORCING SECTION  
1" = 1'-0"

MARK: MB-1	QTY.: 2	WT.: SLAB: 15.20 T CURB: 3.24 T TOTAL: 18.44 T	VOL.: SLAB: 7.50 cy CURB: 1.60 cy TOTAL: 9.10 cy
------------	---------	--	--

MATERIAL LIST / SLAB			
ITEM	MARK	DESCRIPTION	QTY.
1	401	#4 BENT BAR	88
2	402	#4 BENT BAR	8
3	403	#4 BENT BAR	14
4	404	#4 BENT BAR	6
5	405	#4 CONTINUOUS BAR (W/ (2) 2'-0" STAGGERED LAP)	2
6			
7	501	#5 BENT BAR	71
8	502	#5 CONTINUOUS BAR (W/ (2) 2'-6" STAGGERED LAP)	2
9	503	#5 BENT BAR	6
10			
11			
12			
13			
14			
15			
16		GUARD RAIL INSERT (PRESET GALV. ANCHOR)	6
17		10" x 15'-10" VOID	2
18		3/4" x 4" NON-FERROUS VOID DRAIN	8
19		DOUBLE 1/2" STRAND LIFTING LOOPS	4
20			

J.P. CARRARA & SONS, INC.  
NOV 12 2003  
ISSUED FOR PRODUCTION

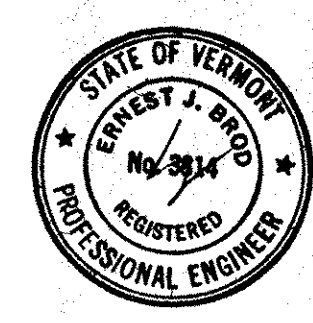
APPROVAL STAMP:

Reviewed  
 Revised and Resubmit  
 Submit Specified Item

Furnish as Corrected  
 Revise and Resubmit  
 Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and controlled at the jobsite. Information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner.

McFarland-Johnson, Inc.  
Date: 11/25/03  
By: [Signature]



J.P. CARRARA & SONS INC.  
Precast & Prestress Manufacturer  
2464 CASE ST., WATERBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

R.C. CONTRACTORS  
CONTRACTOR  
GLOVER, VERMONT

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

TOWN OF WATERBURY  
TH B-4687 LOOMIS HILL ROAD (T.H. 6, CLASS B) BRIDGE NO. 14

P/S VOIDED SLAB DETAILS

DATE: JULY 18, 2003  
SCALE: NOTED  
CHKD: -- DFTM: B.L.  
JOB NO: 23185-03  
DWG. NO: S1

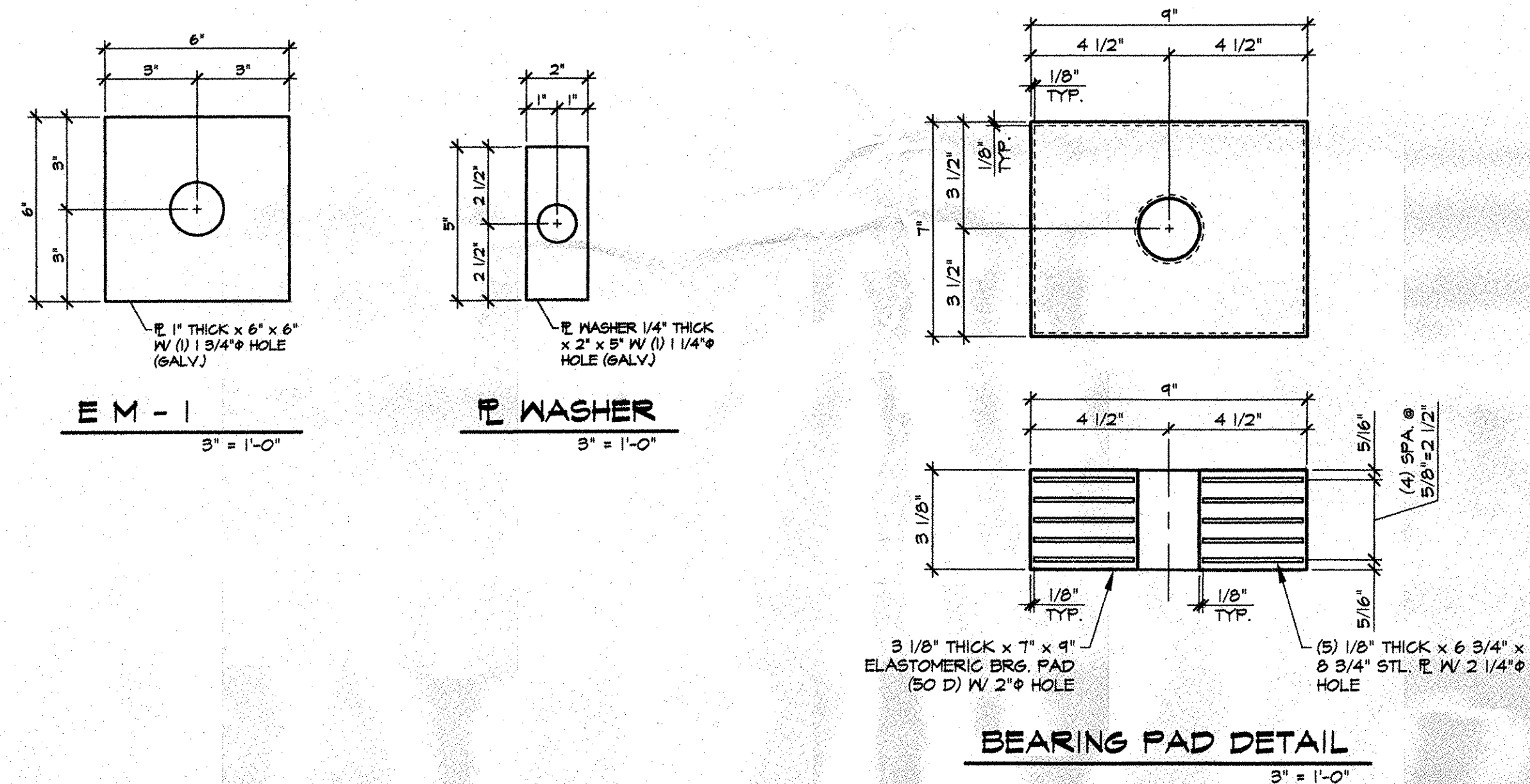
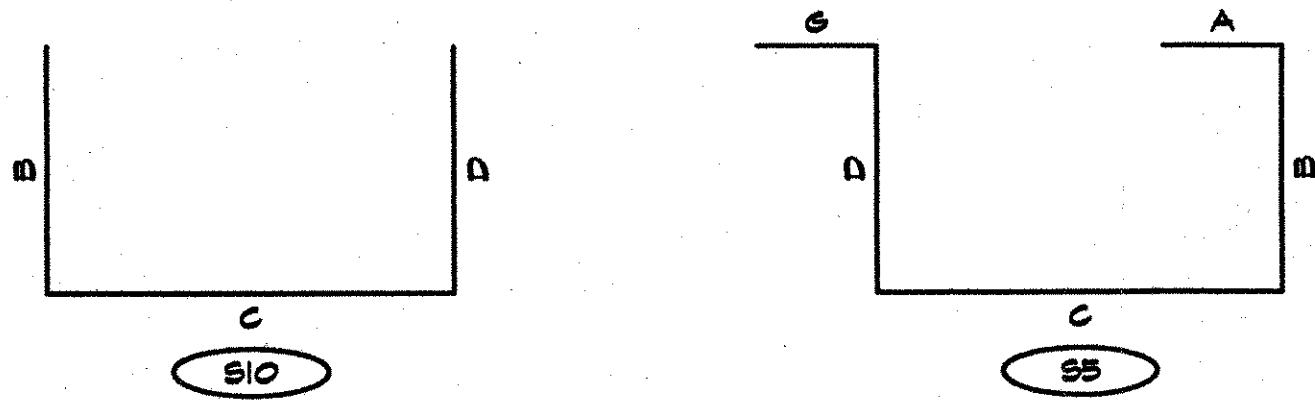


**BENT BARS, TIES, & STIRRUPS**

ITEM	MARK	QTY.	SIZE	LENGTH	TYPE	A	B	C	D	E	F/R	G	H	J	K	O	GRADE	REMARKS
1	401	528	#4	5'-6 1/2"	S/O		1'-0 1/2"	3'-7 1/2"	1'-0 1/2"								60	
2	402	48	#4	3'-1"	S/O		1'-0 1/2"	1'-2"	1'-0 1/2"								60	
3	403	84	#4	6'-10 1/2"	S/O		3'-0"	1'-0 1/2"	3'-0"								60	
4	404	36	#4	4'-4 1/4"	S/O		3'-0"	3'-6 1/4"	3'-0"								60	
5	405	12	#4	38'-8"	STR.												60	(2) 2'-0" STAG. LAP
6																		
7	501	142	#5	5'-4 1/2"	SS	6"	2'-2"	10"	2'-2"			6"					60	
8	502	4	#5	38'-8"	STR.												60	(2) 2'-6" STAG. LAP
9	503	12	#5	5'-4 1/2"	SS	6"	2'-2"	5"	2'-2"			6"					60	
10																		
11																		
12																		
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**MISCELLANEOUS MATERIALS**

ITEM	MARK	QTY.	DESCRIPTION	REMARKS
1	EM-1	6	1/2" x 5" x 5" W/ (1) 2" HOLE (GALV)	FOR ERECTION, SEE DETAIL THIS SHEET
2		6	SINGLE USE STRESSING CHUCK	FOR ERECTION
3		3	1/2" x 26'-4" POLYSTRAND	FOR ERECTION
4		24	3 1/8" THICK x 7" x 9" ELASTOMERIC BRG. PAD (SO D) W/ (1) 2" HOLE	FOR ERECTION, SEE DETAIL THIS SHEET
5		24	#8 x 3'-1" ANCHOR DOWEL (EPOXY COATED)	FOR ERECTION
6				
7		48	1/4" x 2" x 5" W/ (1) 1/4" HOLE (GALV)	FOR ERECTION, SEE DETAIL THIS SHEET
8		48	1" x 5" A325 THEADED ROD (HOT DIPPED GALV)	FOR ERECTION
9		48	STANDARD WASHER (GALV)	FOR ERECTION
10		46	1" NUTS (GALV)	FOR ERECTION
11				
12		12	GUARD RAIL INSERT (MEADOW BURKE)	PRESET GALV. ANCHOR
13		32	10" x 15'-10" VOID	
14		64	3/4" x 4" NON-FERROUS VOID DRAIN	
15		24	DOUBLE 1/2" STRAND LIFTING LOOPS	
16				
17				
18				
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26				
27				
28				
29				
30				



J.P. CARRARA & SONS, INC.  
 NOV 12 2003  
 ISSUED FOR PRODUCTION

11-12-03 ISSUED FOR PRODUCTION

**APPROVAL STAMP:**  
 Reviewed  
 Rejected  
 Furnish as Corrected  
 Revise and Resubmit  
 Submit Specified Item

This review is only for general conformance with the design concept, and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and controlled at the job site. Information that pertains solely to the fabrication process or to the means, methods, techniques, sequence and procedures of construction, coordination of the Work with that of all other trades and performing at work in a safe and satisfactory manner.

McFarland-Johnson, Inc.  
 Date: 11/25/03  
 By: [Signature]

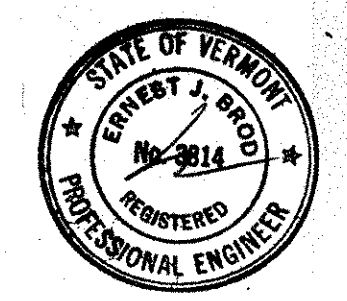
**J.P. CARRARA & SONS, INC.**  
 Precast & Prestress Manufacturer  
 244 OISE ST., WOODBURY, VERMONT 05753 Phone: (802)388-6361 Fax: (802)388-9010

**R.C. CONTRACTORS**  
 CONTRACTOR  
 GLOVER, VERMONT

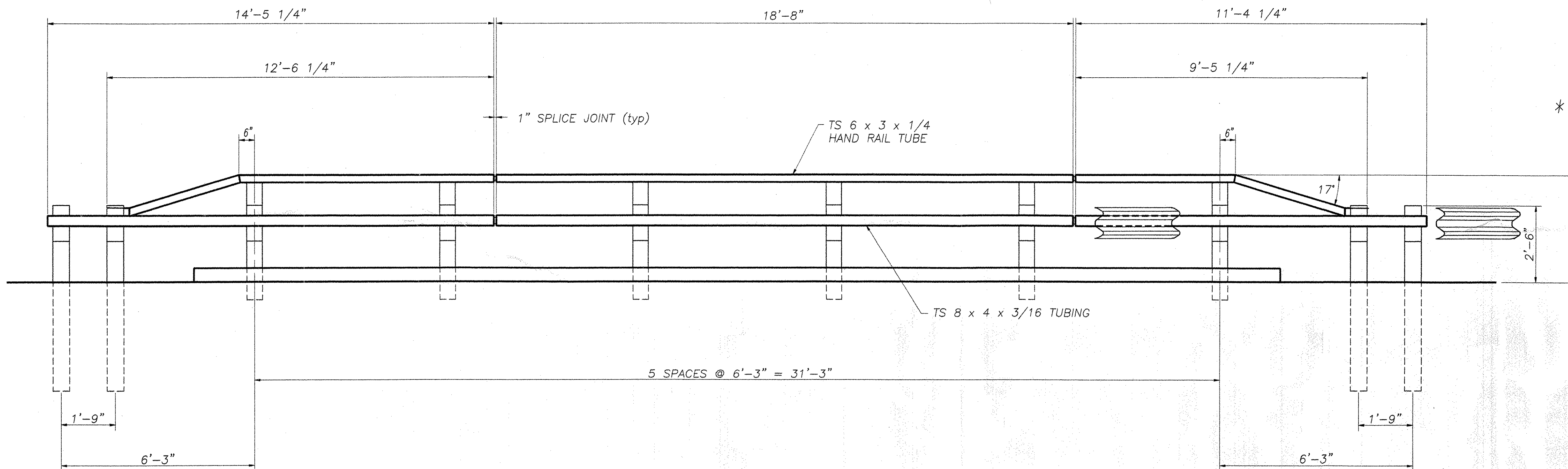
**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

**TOWN OF WATERBURY**  
 TH 3-4637 LOOMIS HILL ROAD (T.H. 6, CLASS 3) BRIDGE NO. 14

DATE: JULY 18, 2003  
 SCALE: NOTED  
 CHKD: -- DFTM: BL.  
 JOB NO: 23125-03  
 DWG. NO: M1



BILL OF MATERIAL		
Qty.	Description	Material
12	FASCIA MOUNTED POST W8x24 x 4'-1"	A572 GR 50
8	TRANSITION POST W8x24 x 6'-0"	A572 GR 50
4	SPLICE CHANNEL C7x12.25 x 2'-7"	A572 GR 50
56	TUBE BLOCKOUTS TS 8x4x3/16 x 6" LG	A500 GR B
2	RAIL TUBE TS 8x4x3/16 x 18'-8" OAL	A500 GR B
2	RAIL TUBE TS 8x4x3/16 x 14'-5 1/4" OAL	A500 GR B
2	RAIL TUBE TS 8x4x3/16 x 11'-4 1/4" OAL	A500 GR B
8	10 GA. HDSB RAIL 12'-6" / 6'-3"	M180 B2
2	HAND RAIL TUBE TS 6x3x1/4 x 18'-8" OAL	A500 GR B
2	HAND RAIL TUBE (DROP END) TS 6x3x1/4 x 12'-6 1/4"	A500 GR B
2	HAND RAIL TUBE (DROP END) TS 6x3x1/4 x 9'-5 1/4"	A500 GR B
8	SPLICE PLATE - HAND RAIL TUBE 3/4"x5"x2'-7"	A572 GR 50
12	SHELF ANGLE L5x3 1/2x3/8 6 1/2" LG.	A36
20	5/8" x 13" HEX BOLT	A325
4	5/8" x 12" HEX BOLT	A325
20	5/8" x 10" HEX BOLT	A325
80	5/8" x 2" HEX BOLT	A325
12	5/8" x 4 1/2" HEX BOLT	A325
16	3/4" x 4 1/2" HEX BOLT	A325
20	RECTANGULAR WASHER 3/16" x 1-3/4" x 3"	A572 GR 50
104	5/8" HEX NUT	A194 GR 2H
12	5/8" HEX NUT	A563
16	3/4" HEX NUT	A563
16	3/4" ROUND WASHER (LARGE)	F844
204	5/8" ROUND WASHER	F436
64	5/8" x 1 1/4" PANEL SPLICE BOLT	A307
64	5/8" DBL RECESSED NUT	A563A
24	1" U-SHAPED ANCHOR RODS	A449
48	1" HEX NUT	A194 GR 2H
24	1/4" x 2" x 5" PLATE WASHER	A572 GR 50
24	1" PLAIN WASHER	F436



ELEVATION - RIGHT BRIDGE RAILING  
LEFT BRIDGE RAILING - SIMILAR

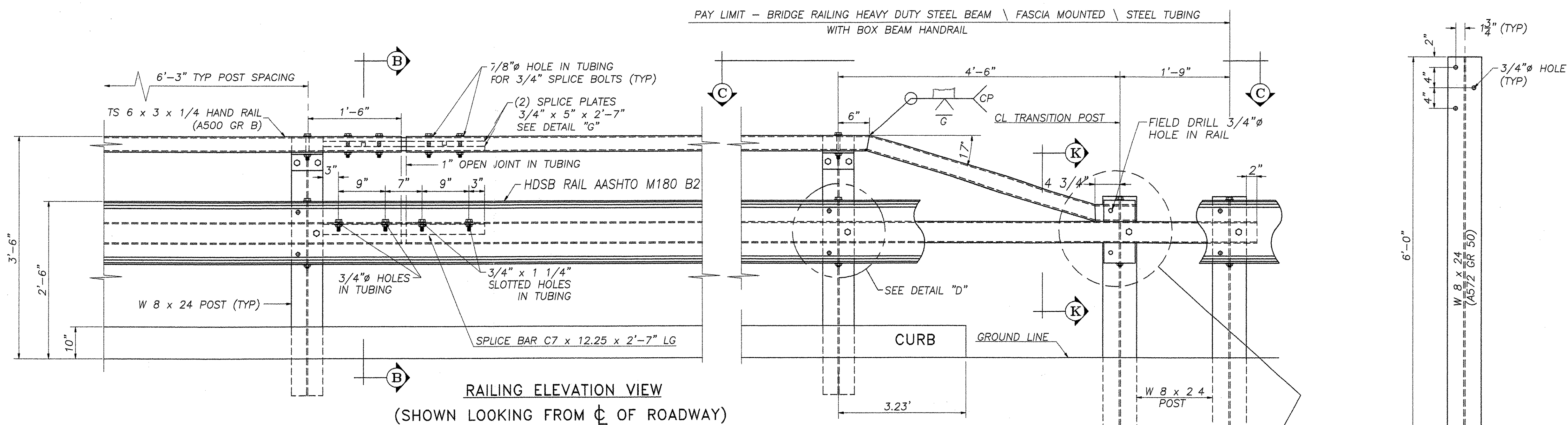
TOTAL PAY LIMIT ITEM 525.43 (STEEL BRIDGE RAILING HDSB WITH HANDRAIL) = 88 L.F.

\* PROVIDED BY OTHERS, NOT SUPPLIED BY HIGHWAY SAFETY CORPORATION. SHOWN FOR REFERENCE ONLY.



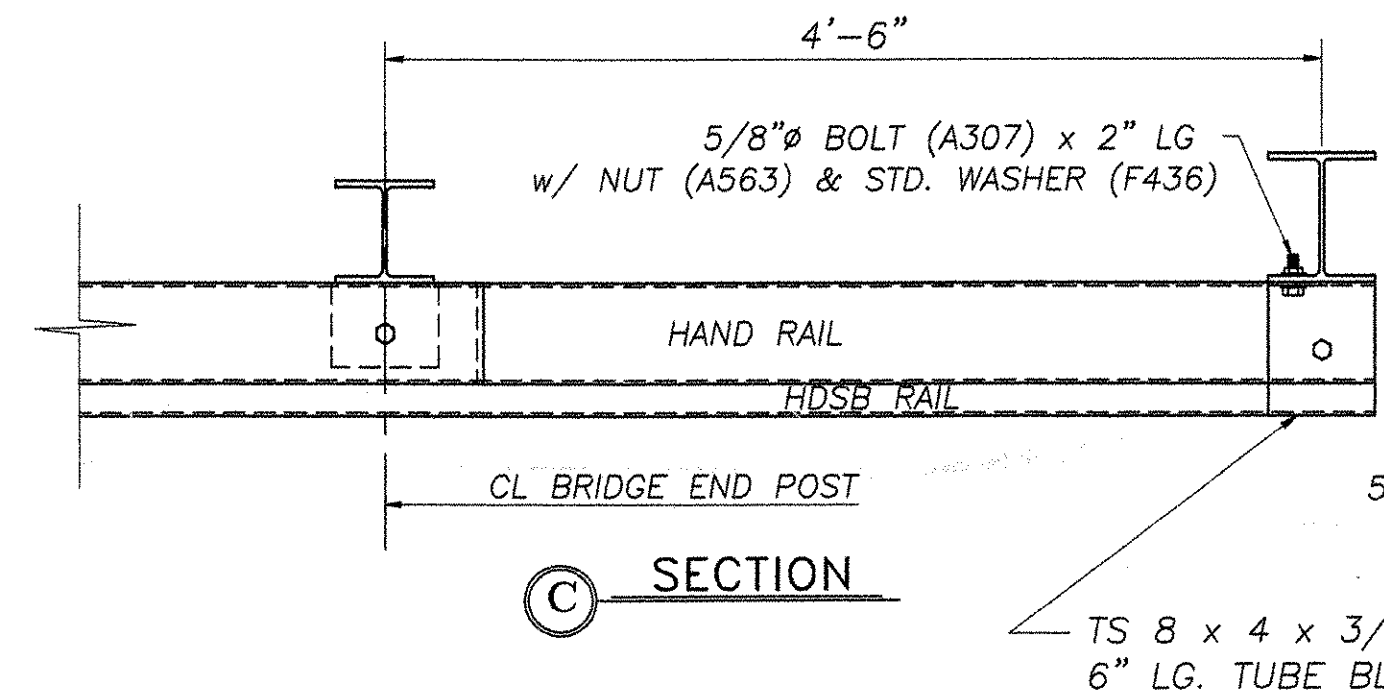
REVISIONS		
No.	Remarks	Date
0	Initial submittal	11-11-03

<input checked="" type="checkbox"/> Reviewed <input type="checkbox"/> Rejected	<input checked="" type="checkbox"/> Furnish as Corrected <input type="checkbox"/> Revise and Resubmit <input type="checkbox"/> Submit Specified Item	<b>HIGHWAY SAFETY CORP.</b> GLASTONBURY, CT ITEM 525.43 BRIDGE RAILING HDSB WITH HANDRAIL BRIDGE NO. 14 HIGHWAY NO. 6 TOWN OF WATERBURY, VERMONT LOOMIS HILL ROAD OVER THATCHER BROOK PROJECT NO. TH 3-9637 GENERAL CONTRACTOR SUB CONTRACTOR <b>F.R. LAFAYETTE INC.</b>	DRAWN: <b>MHM</b> CHECKED: <i>[Signature]</i> DATE: <b>10/15/03</b> SCALE: <b>N.T.S.</b> HSC REFERENCE NO.: <b>1400</b> SIZE: <b>D</b> REVISION: <b>0</b> SHEET NO. <b>023 RAIL</b> <b>1 of 2</b>
This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and coordinated at the job site. Information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner. McFarland-Johnson, Inc. Date: <b>2/16/04</b> By: <b>SLM</b>			

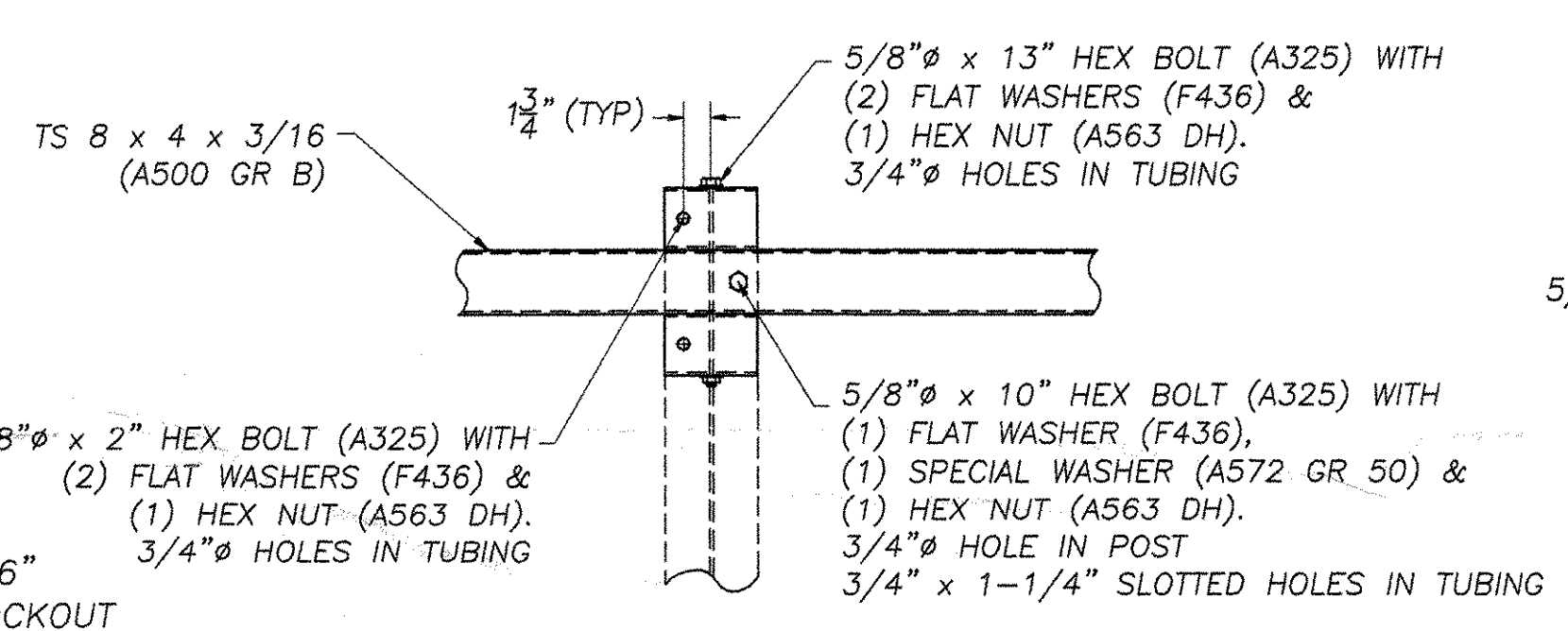


**RAILING ELEVATION VIEW**  
(SHOWN LOOKING FROM C OF ROADWAY)

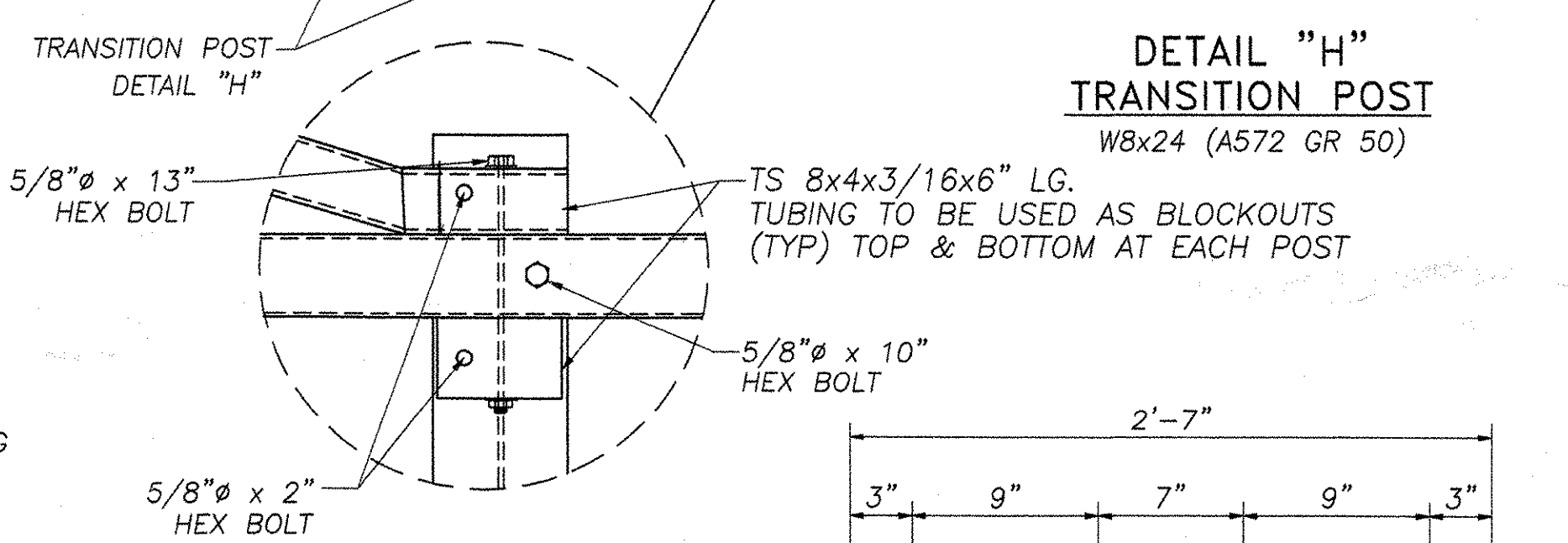
- GENERAL ERECTION NOTES**
1. Heavy duty steel beam guard rail shall conform to VT. specification 732. AASHTO M180 B2
  2. Structural steel tubing shall conform to VT. specification 732. ASTM A500 gr B
  3. Anchor bolts, nuts and washers shall be galvanized in accordance with AASHTO M 232 and shall conform to VT. specification 714 unless otherwise noted.
  4. Bridge rail posts, special washers, splice bars and plate washers shall conform to AASHTO M 223 / M 223M and shall be galvanized after fabrication in accordance with AASHTO M 111. Prior to galvanizing all corners and edges of steel plates, shapes, etc., shall be ground to a 1/16" radius.
  5. See standard drawing G-1 and G-1d for additional details concerning guard rail.
  6. See standard drawing SB-R6-B2 for approach rail details and for information relative to schedule I and schedule II. All approach rail shall be heavy duty steel beam guard rail. Also see Std. Dwg. SB-R6-B2 for handrail details (except end details) if hand rail is required.
  7. All posts shall be set normal to grade.
  8. Splices for the steel beam guard rail shall lap in the direction of traffic.
  9. See Standard drawing G-1 for details of delineators. A delineator shall be located at every fifth post. Payment shall be subsidiary to other items.
  10. A railing joint splice shall be provided at each superstructure expansion joint.
  11. All field cut or drilled areas shall be coated with zinc rich paint.
  12. For radii less than 950 feet, the steel tubing shall be shop bent to fit the applicable curve.
  13. The drop-weight tear test in section 732 shall not apply to the structural tubing on this standard.
  14. All bolts and related hardware shall conform to AASHTO M164 type 1 bolts, hot dipped or mechanically galvanized per specification.



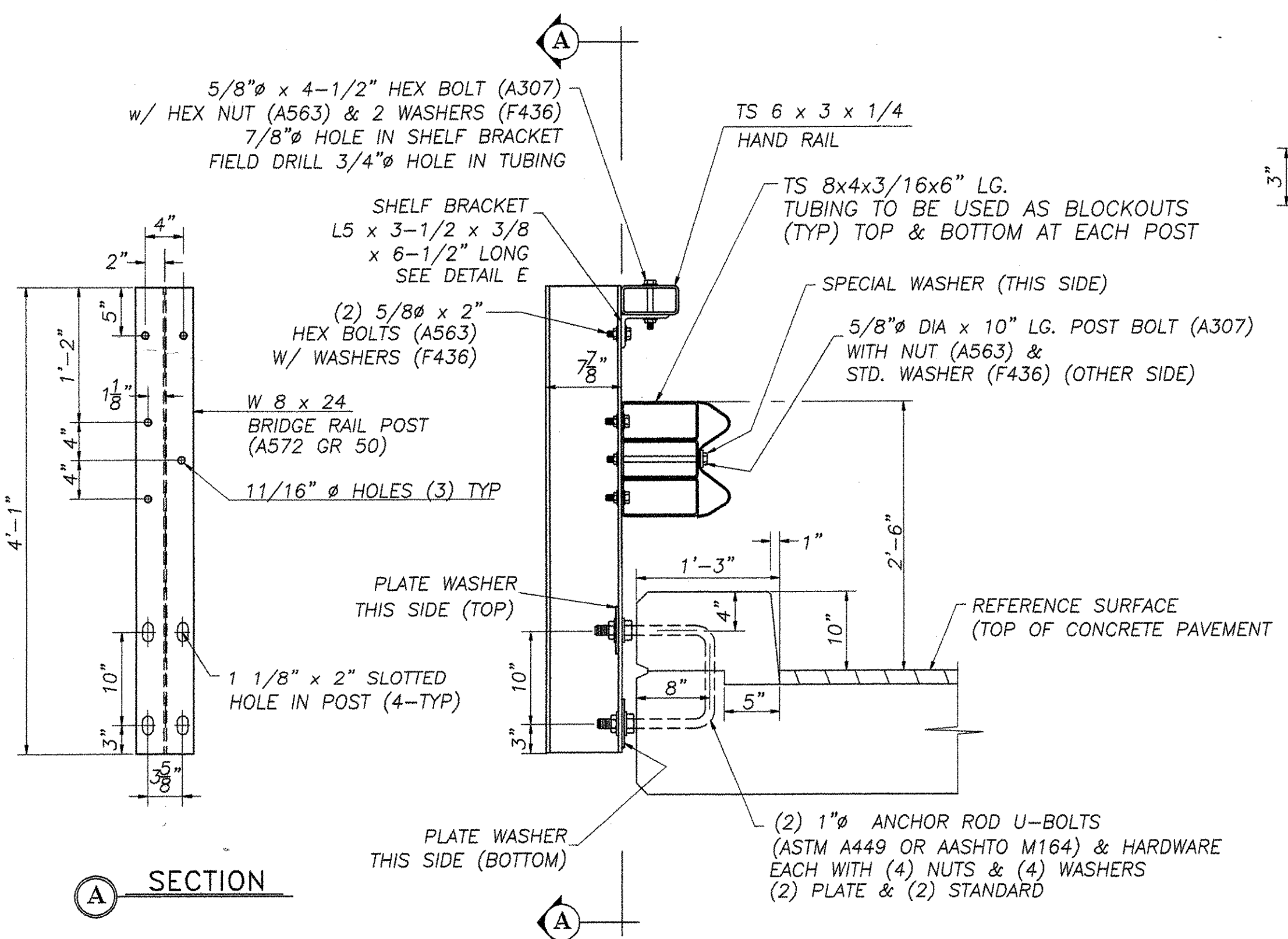
**SECTION C**



**DETAIL "D"**  
STEEL BEAM GUARD RAIL NOT SHOWN

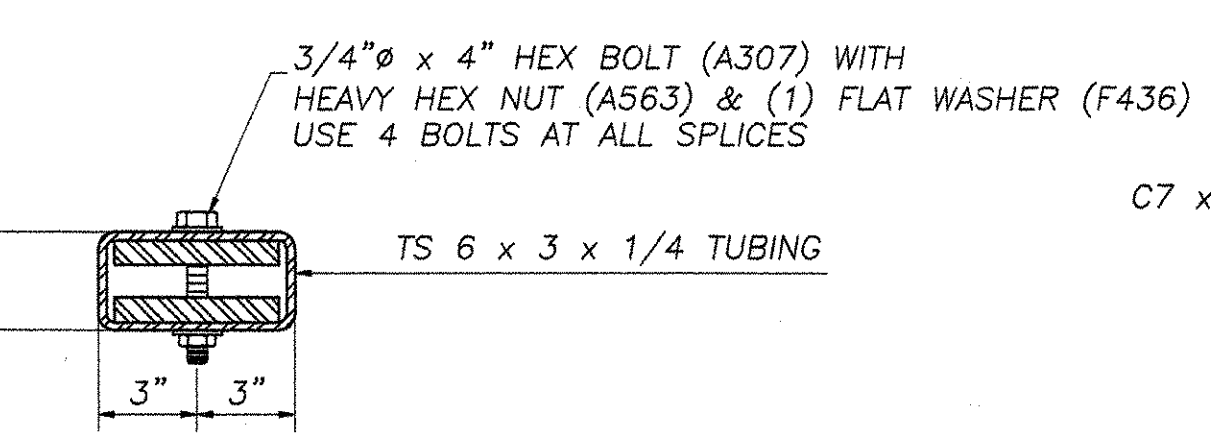


**DETAIL "H"**  
TRANSITION POST  
W8x24 (A572 GR 50)

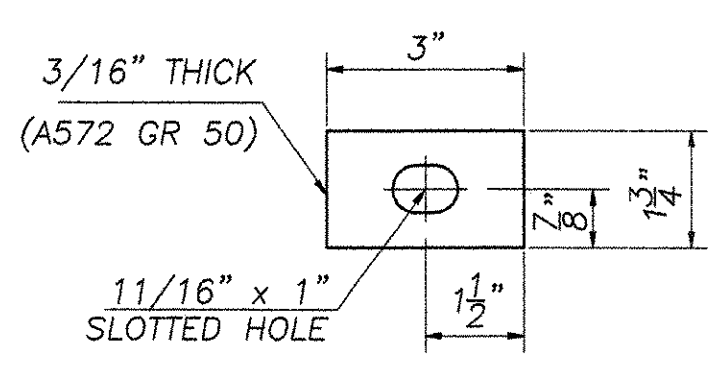


**SECTION A**

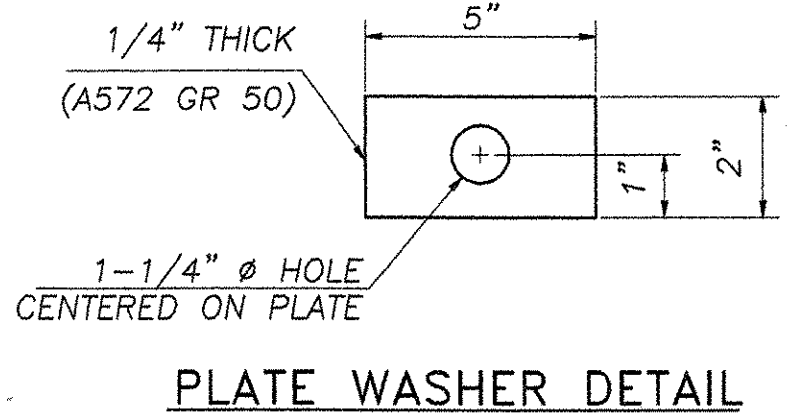
**FASCIA MOUNTED POST WITH CURB**  
W 8 x 24 (A572 GR 50)



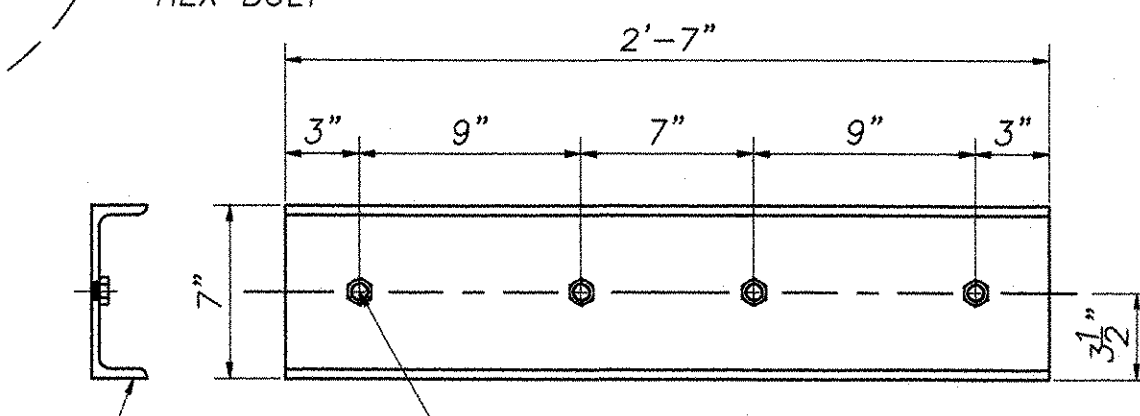
**PARTIAL SECTION B**  
SHOWING HAND RAIL TUBE, BRIDGE RAIL TUBE & SPLICE BARS



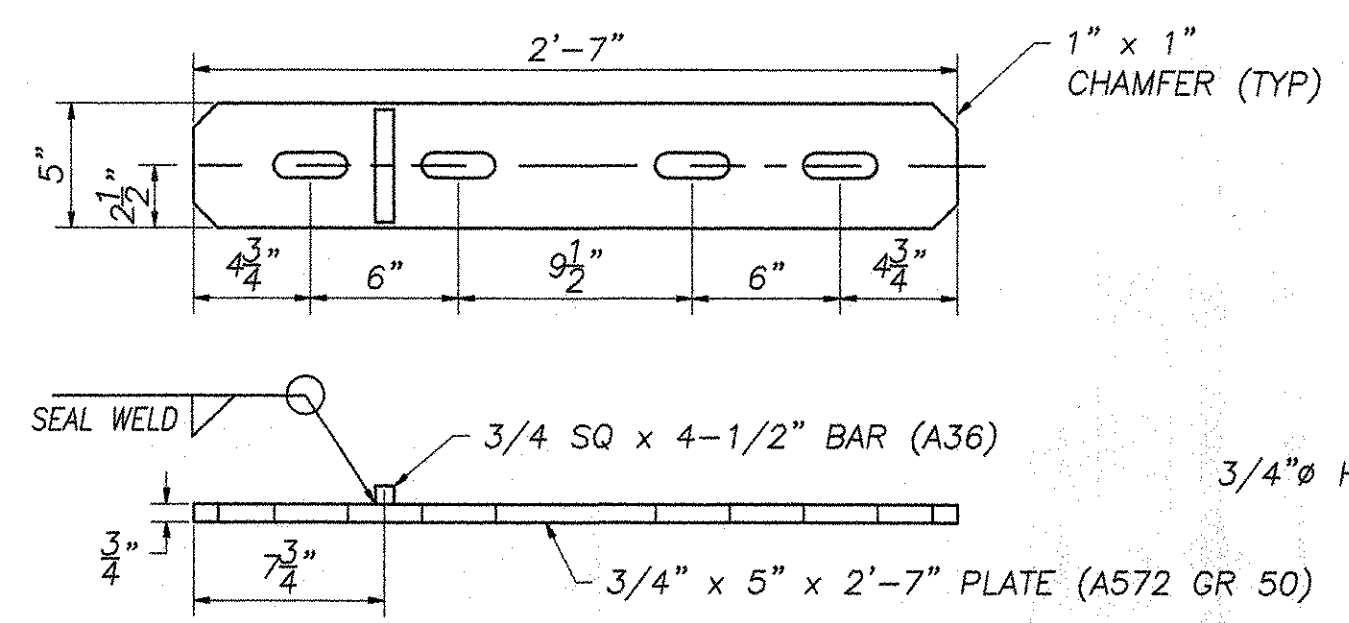
**SPECIAL WASHER DETAIL**



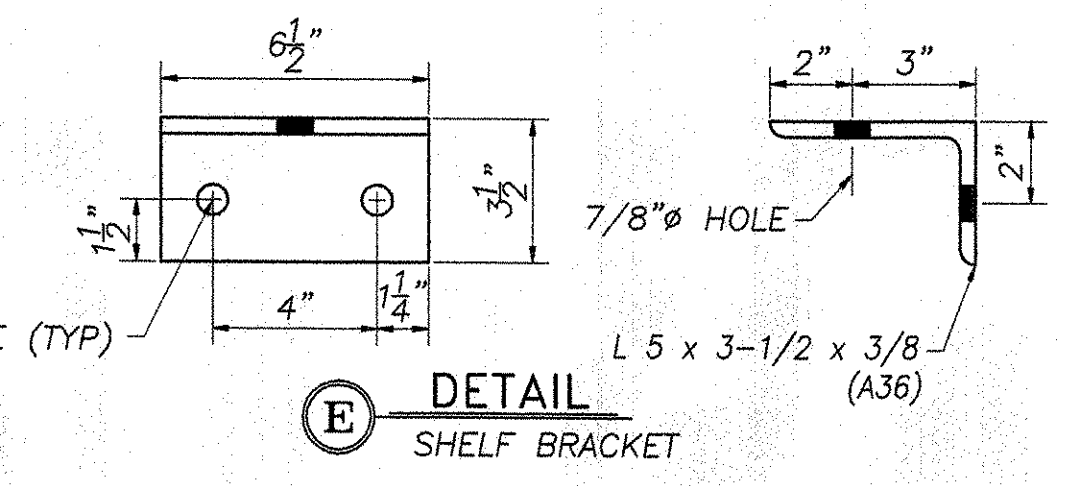
**PLATE WASHER DETAIL**



**SPLICE BAR DETAIL**



**HAND RAIL SPLICE BAR DETAIL "G"**



**DETAIL E**  
SHELF BRACKET

REVISIONS		
No.	Remarks	Date
0	Initial submittal	11/2/04

Reviewed  
 Rejected  
 Furnish as Corrected  
 Revise and Resubmit  
 Submit Specified Item

Date: 2/16/04  
 By: SCM

**HIGHWAY SAFETY CORP.**  
GLASTONBURY, CT

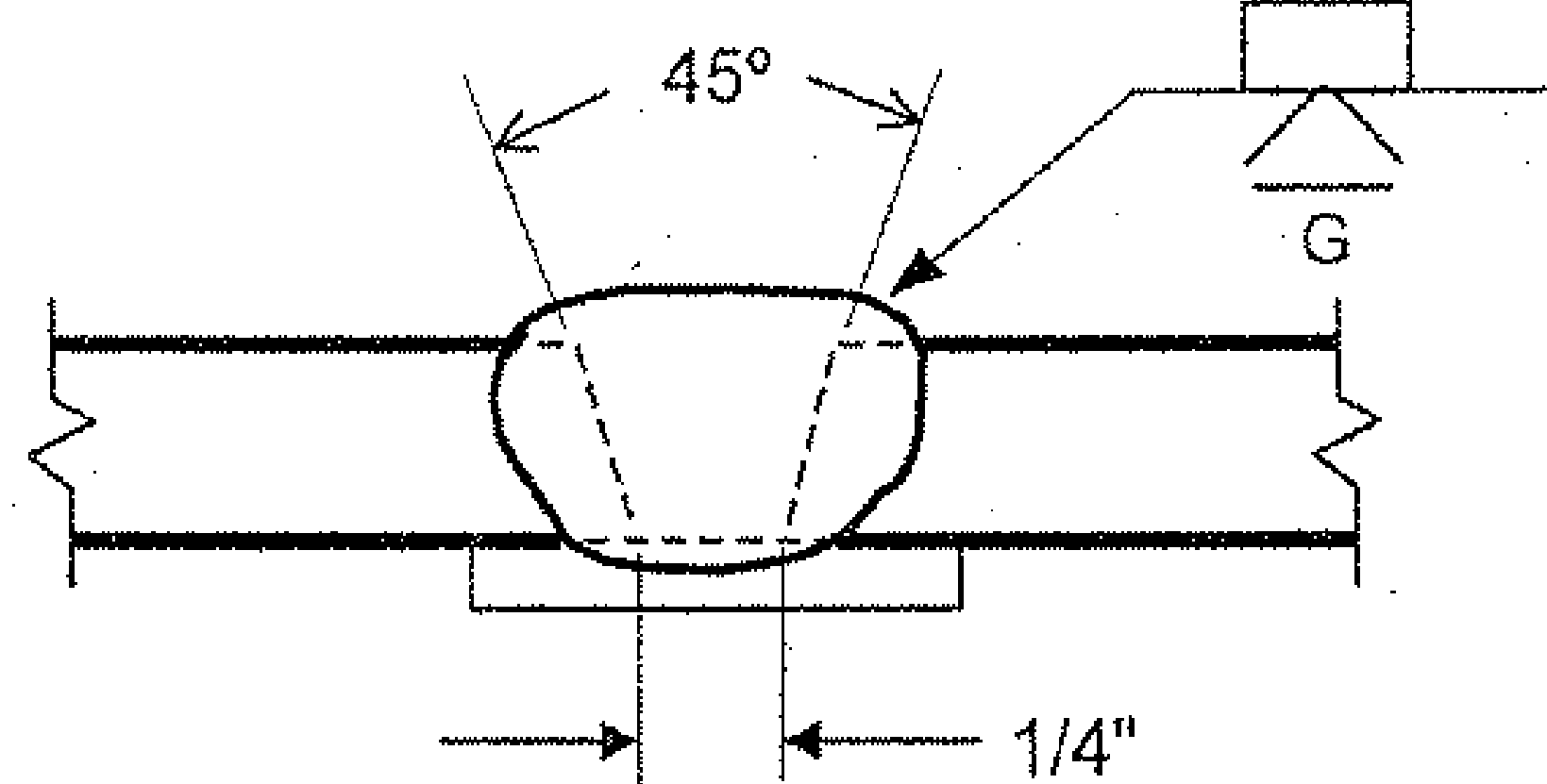
ITEM 525.43 STEEL BRIDGE RAIL - HDSB W/HANDRAIL  
 BRIDGE NO. 14 HIGHWAY NO. 6  
 TOWN OF WATERBURY, VERMONT  
 LOMMIS HILL ROAD OVER THATCHER BROOK  
 PROJECT NO. TH 3-9637

DRAWN: MHM  
 CHECKED: [Signature]  
 DATE: 10/15/03  
 SCALE: N.T.S.  
 HSC REFERENCE NO.: 1400  
 GENERAL CONTRACTOR: [Blank]  
 SUB CONTRACTOR: F.R. LAFAYETTE, INC.  
 SIZE: D  
 REVISION: 0  
 SHEET NO.: 024 RAIL  
 2 of 2

Single or multiple pass Multiple  
 Single or multiple arc Single  
 Welding current AC  
 Polarity N/A  
 Welding progression Stringers  
 Root treatment None  
 Preheat and interpass temperature 50°F (min)  
 Postheat treatment None  
 Electrode extension N/A

**V.A.O.T. RECEIVED**  
 OK'D BY \_\_\_\_\_ OK'D BY JWC  
**JAN 29 2004**  
 RESUBMIT \_\_\_\_\_ APPROVED ✓  
 BY \_\_\_\_\_ DATE 02-03-04

### WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters		Travel speed	Joint detail
			Amperes	Volts		
	ALL	5/32"	150 A to 220 A		VARIES	B-U2a 

This procedure may vary due to fabrication sequence, fit-up, pass size, etc. within the limitation of variables given in section 5 of latest edition AWS D1.1

WPS no. W-1400-A  
 Revision no. 0  
 Supporting PQR no. Pre-Qualified  
 Project Name Waterbury, Vermont

Fabricator Highway Safety Corporation  
 Authorized by Paul Radice  
 Date 1/19/03  
 Project Number TH-3-9637

025  
RAIL