

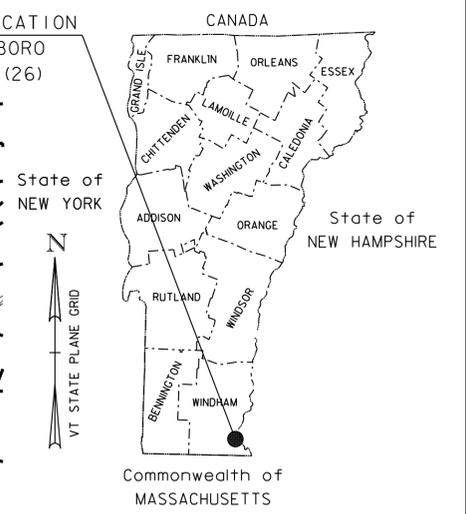
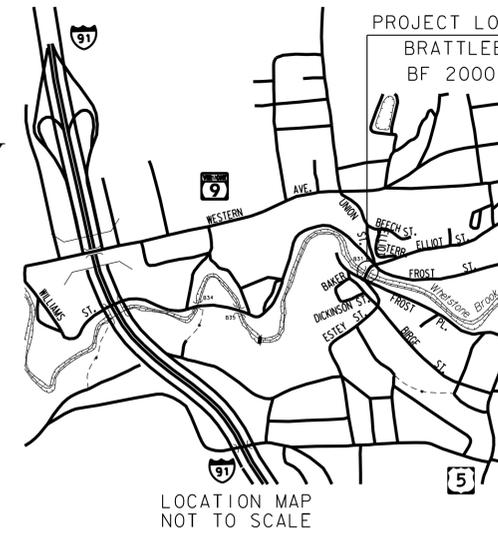
STATE OF VERMONT
 AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
 BRIDGE PROJECT

TOWN OF BRATTLEBORO
 COUNTY OF WINDHAM

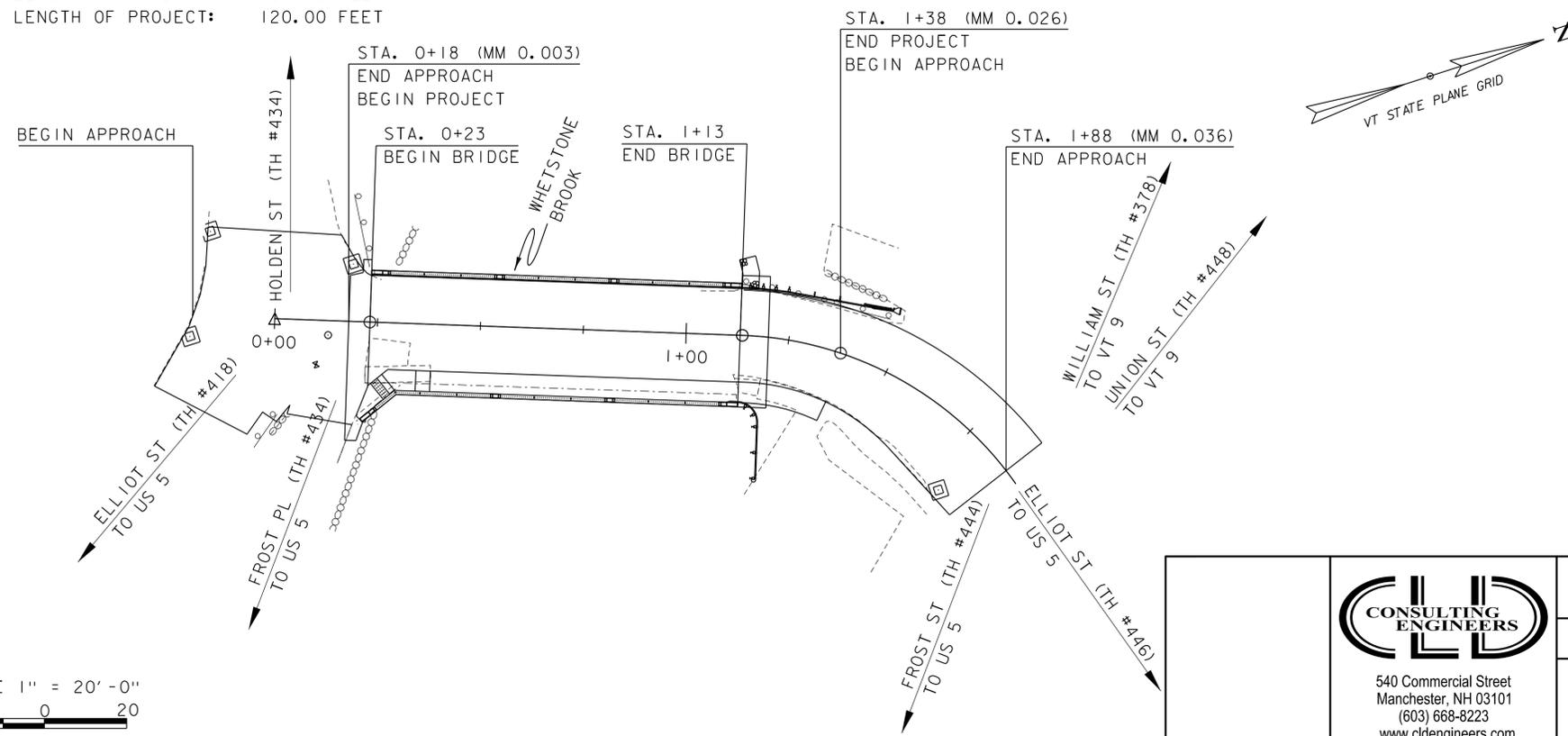
ELLIOT ST (TH #446) (URBAN COLLECTOR) BRIDGE NO. 31



PROJECT LOCATION: LOCATED IN THE TOWN OF BRATTLEBORO, ON ELLIOT ST (TH #446), APPROXIMATELY 0.010 MILES EASTERLY FROM THE INTERSECTION WITH FROST PL (TH #434).

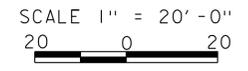
PROJECT DESCRIPTION: WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES THE REPLACEMENT OF THE EXISTING BRIDGE DECK INCLUDING RELATED APPROACH WORK.

LENGTH OF STRUCTURE: 90.00 FEET
 LENGTH OF ROADWAY: 30.00 FEET
 LENGTH OF PROJECT: 120.00 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2
SURVEYED BY : CLD
SURVEYED DATE : 09/21/2015
DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83



**BRATTLEBORO
 BF 2000(26)
 PRE-CONTRACT PLANS**

JANUARY 22, 2016



DIRECTOR OF PROJECT DELIVERY	APPROVED _____ DATE _____
PROJECT MANAGER : JENNIFER FITCH, P.E.	
PROJECT NAME : BRATTLEBORO	
PROJECT NUMBER : BF 2000 (26)	
SHEET 1 OF 26 SHEETS	

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- 9. LAYOUT SHEET
- 10. PROFILE SHEET
- 11. BRIDGE CLOSURE SIGNAGE SHEET
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- SD-501.00 02/09/2012 CONCRETE DETAILS AND NOTES
- SD-502.00 10/10/2012 CONCRETE DETAILS AND NOTES
- SD-516.10 08/29/2011 BRIDGE JOINT ASPHALTIC PLUG
- SD-601.00 06/04/2010 STRUCTURAL STEEL DETAILS & NOTES

VAOT STANDARD SHEETS

- B-5 06/1/1994 EMBANKMENT ON EARTH SLOPE, EMBANKMENT ON ROCK SLOPE, MUCK EXCAVATION, TYPICAL SLOPE ROUNDING
- B-71 07/08/2005 STANDARDS FOR RESIDENTIAL AND COMMERCIAL DRIVES
- C-3A 03/10/2008 SIDEWALK RAMPS
- D-3 06/01/1994 TREATED GUTTERS
- E-193 08/18/1995 PAVEMENT MARKING DETAILS
- G-1 11/10/2015 STEEL BEAM GUARDRAIL WITH STEEL POSTS, STEEL BEAM GUARDRAIL WITH WOOD POSTS
- G-1d 02/10/2014 STEEL BEAM GUARDRAIL APPROACH END TERMINAL, STEEL BEAM GUARDRAIL TRAILING END TERMINAL
- T-1 08/06/2012 TRAFFIC CONTROL GENERAL NOTES
- T-11 08/06/2012 CONSTRUCTION APPROACH SIGNING DIVIDED HIGHWAY ONE LANE CLOSED
- T-31 08/06/2012 CONSTRUCTION SIGN DETAILS
- T-42 04/09/2014 BRIDGE NUMBER PLAQUE
- T-44 04/09/2014 MILEMARKER DETAILS STATE AND TOWN HIGHWAYS

LRFR LOAD RATING FACTORS							
LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY	1.58	1.02					
POSTING							
OPERATING	2.04	1.32	2.69	1.75	2.47	2.21	2.34
COMMENTS:	H-20 CONTROLLED BY DECK, HL-93 AND OTHER TRUCKS CONTROLLED BY EXTERIOR BEAMS SERVICE II						

PROJECT NOTES

GENERAL

- 1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2014, AND ITS LATEST REVISIONS.
- 2. THE DESIGN LIVE LOAD SHALL BE HL-93.
- 3. ALL WORK AND ANY ASSOCIATED ACTIVITY ON THIS PROJECT SHALL BE PERFORMED WITHIN THE EXISTING RIGHT-OF-WAY LIMITS.
- 4. THE CONTRACTOR IS MADE AWARE THAT EXISTING UTILITIES ARE WITHIN THE CONSTRUCTION LIMITS OF BRIDGE NO. 31. THE LOCATION OF ANY UTILITY INFORMATION ON THE PLANS IS APPROXIMATE. NO CLAIMS ARE MADE TO THE ACCURACY OR COMPLETENESS OF THE UTILITIES SHOWN. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING AND PROTECTING FROM DAMAGE ALL UTILITIES ON SITE DURING ALL STAGES OF CONSTRUCTION. ANY DAMAGE TO UTILITIES DUE DIRECTLY TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- 5. FOLLOWING THE COMPLETION OF ALL OTHER CONSTRUCTION ACTIVITIES, ALL BEAM SEATS SHALL BE CLEANED OFF. THE COST FOR CLEANING BEAM SEATS WILL BE CONSIDERED INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.
- 6. ALL PG BINDER USED IN BITUMINOUS CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH SUBSECTION 490.03B.
- 7. EMULSIFIED ASPHALT SHALL BE APPLIED ON ALL COLD PLANED SURFACES AT THE RATE OF 0.08 GAL/SY AND BETWEEN ALL COURSE OF PAVEMENT AT THE RATE OF 0.040 GAL/SY OR AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".
- 8. ANY REQUIRED SAWCUT OF EXISTING PAVEMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 900.680, "SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)".
- 9. ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY DUE DIRECTLY TO THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE STATE.
- 10. LIMITS OF GROUND SURVEY ARE BETWEEN STA 0+00 AND STA 1+84. OUTSIDE THESE LIMITS ARE APPROXIMATE LOCATION TAKEN FROM AERIAL MAPPING.

ENVIRONMENTAL

- 11. THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL PERMITS AND ENSURE THAT ALL CONSTRUCTION CONDITIONS ARE MET.
- 12. EROSION CONTROL MEASURES SHALL BE UTILIZED AS REQUIRED AND SHALL CONFORM TO SECTION 105 OF THE STANDARD SPECIFICATIONS AND THE LOW RISK SITE HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL FROM THE AGENCY OF NATURAL RESOURCES. PAYMENT FOR EROSION CONTROL MEASURES, IF APPLICABLE, WILL BE PAID FOR UNDER EXTRA WORK IN ACCORDANCE WITH 104.03.
- 13. THE CONTRACTOR SHALL PREVENT ANY MATERIAL FROM ENTERING THE WATERWAY DURING EXCAVATION, PARTIAL REMOVAL OF STRUCTURE, OR CONSTRUCTING THE NEW DECK.
- 14. THE DESIGN INTENT IS TO ALLOW THE CONTRACTOR TO STAGE IN THE TRAVELED ROADWAY OF THE APPROACHES TO THE BRIDGE DURING THE CLOSURE PERIOD. ANY STAGING AREAS OUTSIDE OF THIS SHALL BE CLEARED FOR RESOURCES THROUGH THE VTRANS ENVIRONMENTAL UNIT.

TRAFFIC CONTROL

- 15. AS PART OF ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)", THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE PROJECT MANAGER FOR APPROVAL IN ACCORDANCE WITH SUBSECTION 105.03 AND SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN AN APPROPRIATE DISCIPLINE IN THE STATE OF VERMONT. THE PLAN SHALL INCLUDE A LAYOUT SHOWING ALL ON- AND OFF-PROJECT SIGNS AND BARRICADES AND ANY OTHER DETAILS ASSOCIATED WITH THE TRAFFIC CONTROL.
- 16. ALL ITEMS REQUIRED TO PREPARE, SUBMIT, AND IMPLEMENT THE CONTRACTOR'S PLAN, INCLUDING ANY NECESSARY REVISIONS TO THE PLAN, WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". THIS INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

 TRAFFIC CONTROL PLAN
 TEMPORARY TRAFFIC BARRIERS
 BARRICADES
 DRUMS/CONES
 ON PROJECT CONSTRUCTION SIGNING
 TEMPORARY PAVEMENT MARKINGS (IF REQUIRED)

 THE CONTRACTOR SHALL ALLOW TWO WEEKS FOR APPROVAL OF THE TRAFFIC CONTROL PLAN. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS AN APPROVED TRAFFIC CONTROL PLAN.
- 17. DURING CLOSURE PERIOD, TRAFFIC SHALL BE MAINTAINED BY AN OFF-SITE DETOUR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING CLOSURE SIGNAGE AS SHOWN ON SHEET 11 IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND VTRANS STANDARDS. PAYMENT FOR BRIDGE CLOSURE SIGNAGE WILL BE MADE UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)". SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS REGARDING THE CLOSURE PERIOD.

CLD 15-0223 MODEL: Sheet 01

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(26)
FILE NAME: z15j09notes-3l.dgn	PLOT DATE: 1/22/2016
PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
DESIGNED BY: S. BEAUMONT	CHECKED BY: J. FRENCH
INDEX OF SHEETS & PROJECT NOTES SHEET 1	SHEET 2 OF 26



DECK REMOVAL AND RELATED ITEMS

18. PAVEMENT REMOVAL SHOULD BE LIMITED AS SHOWN ON THE PLANS. THIS WORK SHALL BE IN ACCORDANCE WITH SECTION 529 OF THE STANDARD SPECIFICATIONS.
19. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" WILL INCLUDE REMOVAL OF ANY PORTIONS OF THE EXISTING STRUCTURE AS SHOWN ON THE PLANS, INCLUDING THE EXISTING BRIDGE DECK, CURTAIN WALLS, WINGWALLS, AND BRIDGE RAILING. THE EXISTING CONCRETE CURTAIN WALLS AND WINGWALLS SHALL BE REMOVED BY MECHANICAL MEANS AND THE REMAINING CONCRETE SHALL HAVE NEAT LINES AND BE SMOOTH. PROTECT ALL ELEMENTS INTENDED TO REMAIN.
20. DURING EXCAVATION OF BRIDGE CURTAIN WALL, ALL DRAINAGE STRUCTURES AND PIPES SHALL BE SUPPORTED AND SHALL REMAIN IN-PLACE. PAYMENT FOR SUPPORTING DRAINAGE STRUCTURES WILL BE CONSIDERED INCIDENTAL TO 203.15, "COMMON EXCAVATION".
21. AFTER REMOVAL OF THE EXISTING BRIDGE DECK AND CURTAIN WALL, ANY AREAS ON THE CONCRETE BEAM SEAT THAT ARE FOUND TO BE UNSOUND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE METHOD FOR DETERMINING AREAS OF UNSOUND CONCRETE SHALL BE APPROVED BY THE ENGINEER. THE ENGINEER SHALL MAKE A DETERMINATION AS TO HOW TO REPAIR THE DETERIORATED PORTION OF THE CONCRETE BEAM SEAT AND THE LIMITS OF THE REPAIR. THE REPAIRS WILL BE PAID FOR UNDER ITEM 580.13, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I" OR ITEM 580.14, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II, AS APPLICABLE. QUANTITIES FOR ITEMS 580.13 AND 580.14 AS SHOWN ON THE QUANTITY SUMMARY SHEETS ARE ESTIMATED.

STEEL

22. AFTER ALL PAVEMENT AND MEMBRANE ARE REMOVED BUT PRIOR TO THE REMOVAL OF THE EXISTING CONCRETE DECK, THE CONTRACTOR SHALL TAKE TOP OF DECK ELEVATIONS ALONG THE CENTERLINE OF EACH BEAM AT TENTH POINTS FROM CENTERLINE TO CENTERLINE OF BEARING. AFTER THE EXISTING CONCRETE DECK HAS BEEN REMOVED, THE CONTRACTOR SHALL TAKE ELEVATIONS ALONG THE TOP OF EACH BEAM AT TENTH POINTS FROM CENTERLINE TO CENTERLINE OF BEARING. THE TOP OF DECK AND TOP OF BEAM ELEVATIONS SHALL THEN BE SENT TO THE ENGINEER FOR USE IN DETERMINING THE FINAL PROFILE AND HAUNCH DEPTHS. THE CONTRACTOR SHALL EXPECT 3 WORKING DAYS FOR VTRANS TO PREPARE THE REVISED PROFILE AND HAUNCH DEPTH CALCULATIONS.
23. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH A MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. ANY REMOVED STRUCTURAL STEEL, IF APPLICABLE, IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE AND ITS OFFICERS AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
24. UPON REMOVING THE DECK, THE TOPS OF THE BEAMS IN THE AREA OF THE SHEAR STUDS SHALL BE CLEANED IN ACCORDANCE WITH SSPC-SP11 REQUIREMENTS AND ALL APPLICABLE PROVISIONS PRIOR TO THE WELDING OF THE SHEAR STUDS. THE CONTRACTOR IS NOT REQUIRED TO APPLY NEW PAINT. THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE", EXCEPT AS NOTED IN PROJECT NOTE 25.
25. THE CONTRACTOR SHALL TEST ALL AREAS WHERE EXISTING PAINT IS TO BE REMOVED FOR LEAD. PAYMENT FOR LEAD PAINT TESTING WILL BE CONSIDERED INCIDENTAL TO ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE". IF LEAD PAINT REMOVAL IS REQUIRED, PAINT REMOVAL, SURFACE PREPARATION, CONTAINMENT, AND DISPOSAL WILL BE PAID FOR AS EXTRA WORK IN ACCORDANCE WITH 104.03. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH ALL NECESSARY LEAD ABATEMENT PERMITS.
26. THE SHEAR CONNECTORS SHALL BE SPACED AS SHOWN ON THE PLANS AND WILL BE PAID FOR UNDER ITEM 508.15, "SHEAR CONNECTORS".

REINFORCED CONCRETE

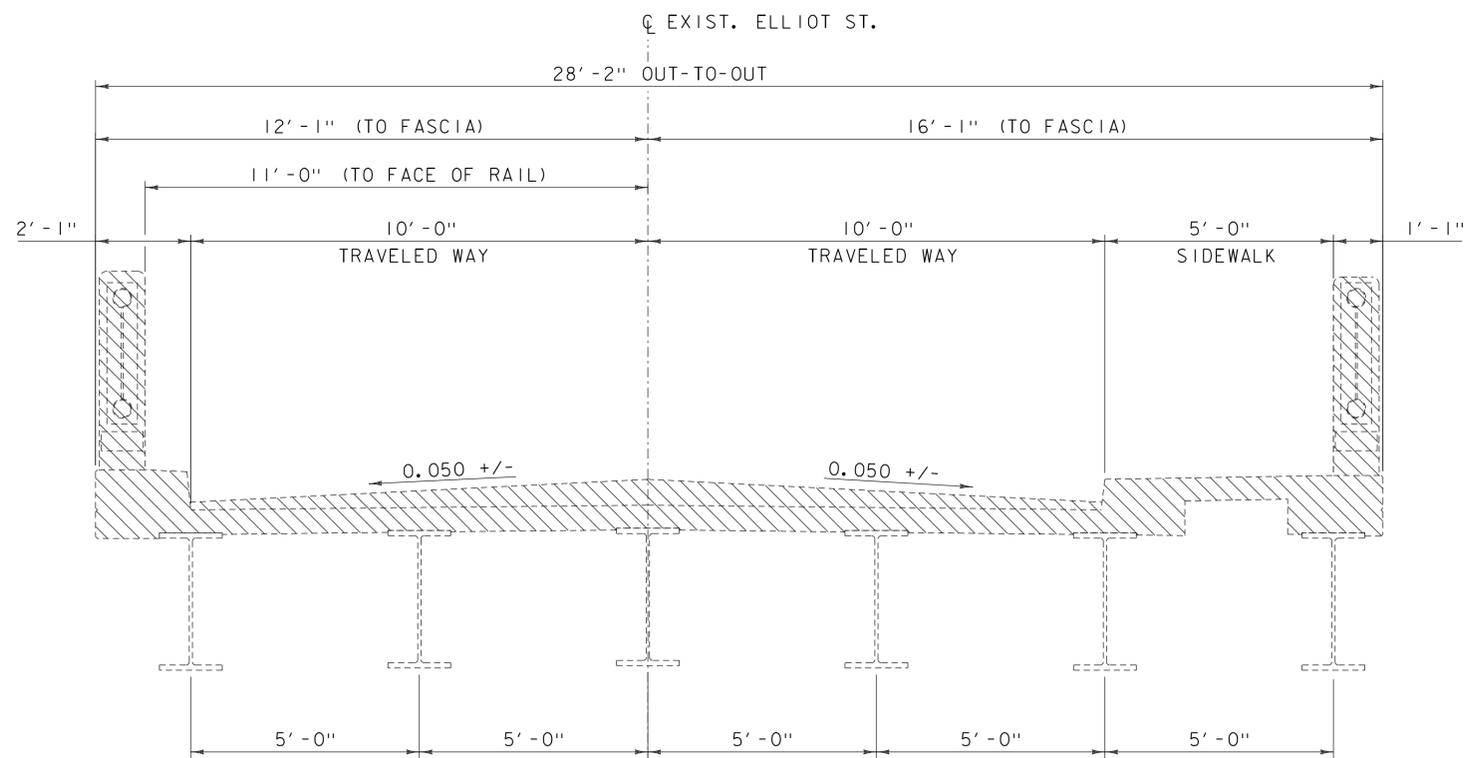
27. ALL CONCRETE SHALL CONFORM TO THE SPECIFICATIONS FOR CONCRETE, HIGH PERFORMANCE CLASS A. THE CONTRACTOR SHALL PROVIDE TESTING EQUIPMENT FOR CONCRETE IN ACCORDANCE WITH SUBSECTION 631.05.
28. ALL REINFORCING STEEL SHALL BE LEVEL 1 - EPOXY COATED AND MEET THE REQUIREMENTS OF SECTION 507. A REINFORCING STEEL SCHEDULE AND SHOP DRAWINGS MEETING THE REQUIREMENTS OF SUBSECTION 105.03 SHALL BE SUBMITTED. PAYMENT FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 507.11, "REINFORCING STEEL, LEVEL 1" OR TO ITEM 900.640 "SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)", AS APPLICABLE.
29. TEST BARS SHALL BE PROVIDED IN ACCORDANCE WITH THE "VERMONT AGENCY OF TRANSPORTATION MATERIAL SAMPLING MANUAL" AVAILABLE ON THE AGENCY WEBSITE. A MINIMUM OF TWO TEST SECTIONS ARE REQUIRED FOR EACH SIZE, BRAND, AND GRADE OR TYPE OF REINFORCING. SEE THE MANUAL FOR ACCEPTABLE DIMENSIONS OF TEST SECTIONS. EXTRA BARS FOR TESTING PURPOSES SHALL BE SPECIFIED IN THE WORKING DRAWING SUBMITTAL.
30. WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE BRIDGE RAIL AND BRIDGE DECK SURFACES EXCEPT THE UNDERSIDE OF THE DECK BETWEEN THE DRIP NOTCHES. THIS WORK WILL BE PAID FOR UNDER ITEM 514.10, "WATER REPELLENT, SILANE".
31. THE CORK JOINT BETWEEN THE EXISTING CHEEKWALLS AND CAST-IN-PLACE CONCRETE CURTAIN WALL WILL BE CONSIDERED INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".
32. THE PREFORMED JOINT SEALER, CLOSED CELL FOAM BETWEEN THE CAST-IN-PLACE CONCRETE CURTAIN WALL AND THE EXISTING BRIDGE SEAT SHALL MEET THE REQUIREMENTS OF SUBSECTION 707.09 AND WILL BE CONSIDERED INCIDENTAL TO ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A".
33. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING INSTITUTE".
34. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG BACKFACES OF WALL AGAINST EARTH:	2.0 INCH
ALONG TOP SURFACE OF DECK SLAB:	3.0 INCH
ALONG BOTTOM SURFACE OF DECK SLAB:	1.5 INCH
ELSEWHERE UNLESS OTHERWISE INDICATED:	3.0 INCH



PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(26)

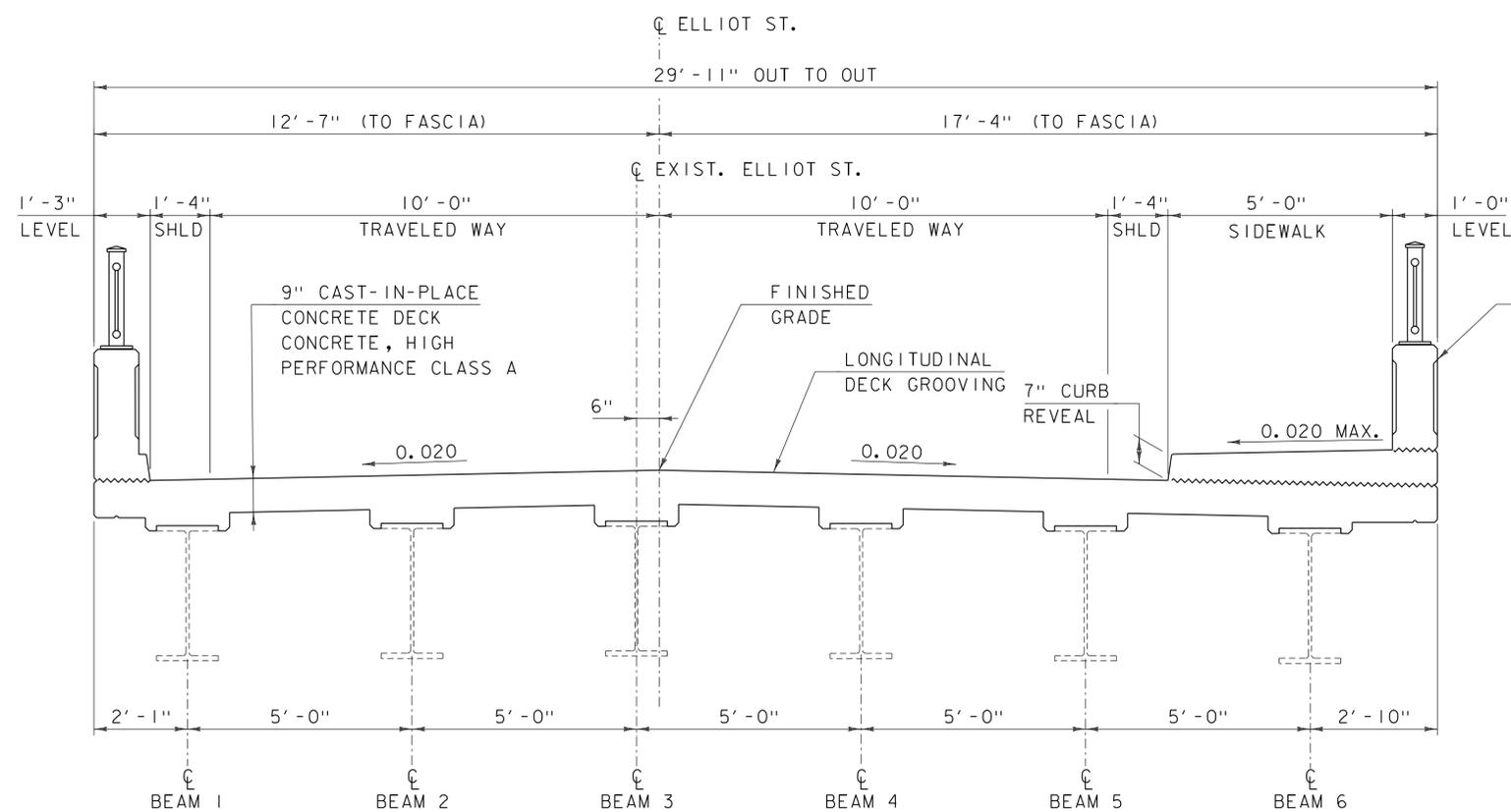
FILE NAME: z15j09notes-3l.dgn PLOT DATE: 1/22/2016
PROJECT LEADER: J. BYATT DRAWN BY: M. SMITH
DESIGNED BY: S. BEAUMONT CHECKED BY: J. FRENCH
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EXISTING TYPICAL BRIDGE SECTION

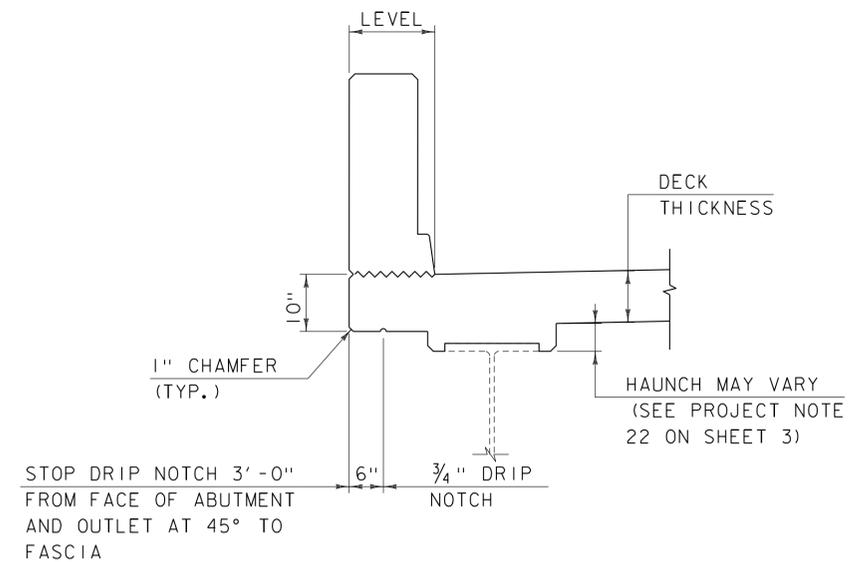
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PARTIAL REMOVAL OF STRUCTURE



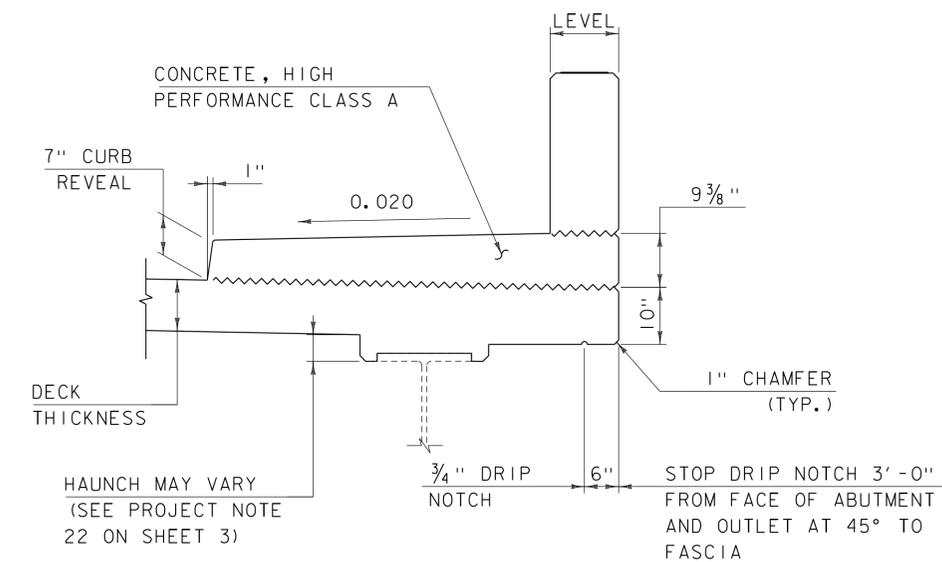
TYPICAL BRIDGE SECTION

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



CURB FASCIA AND DRIP NOTCH DETAIL

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



SIDEWALK FASCIA AND DRIP NOTCH DETAIL

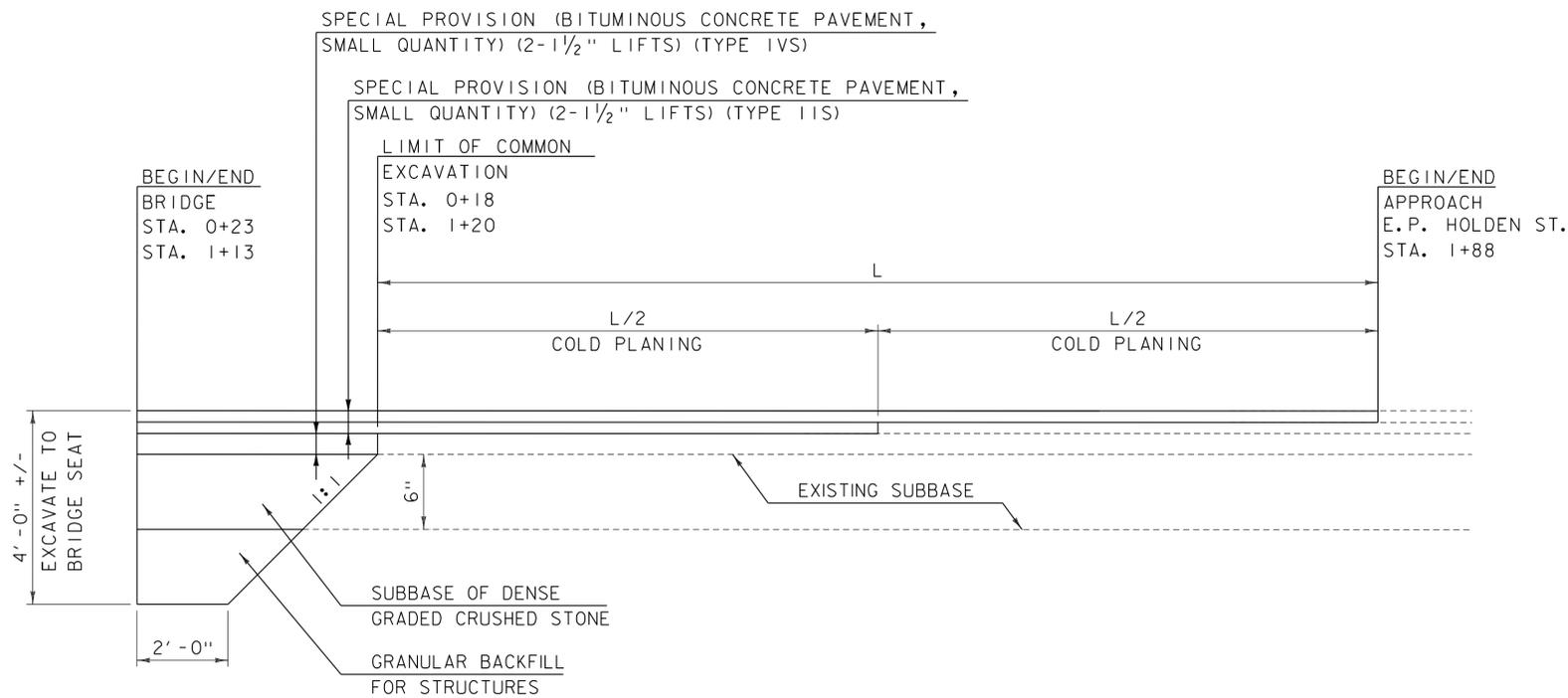
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PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j091typ-3l.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: N. CARON
TYPICALS BRIDGE SECTIONS SHEET

PLOT DATE: 1/22/2016
DRAWN BY: M. SMITH
CHECKED BY: S. BEAUMONT
SHEET 4 OF 26



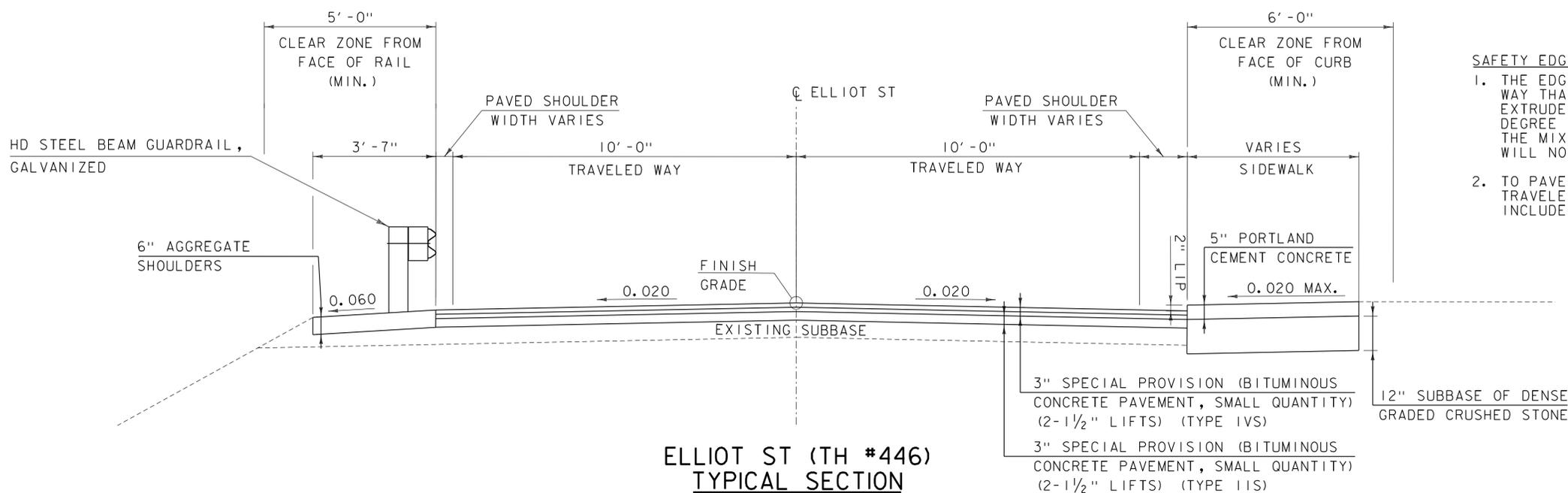


MATERIAL TRANSITION DIAGRAM

NOT TO SCALE

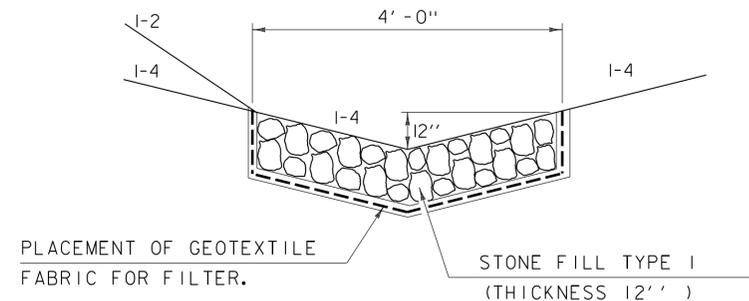
MATERIAL TOLERANCES	
SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- 1/4"
- AGGREGATE SURFACE COURSE	+/- 1/2"
SUBBASE	+/- 1"

3" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (2-1 1/2" LIFTS) (TYPE IVS)
 3" SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY) (2-1 1/2" LIFTS) (TYPE IIS)



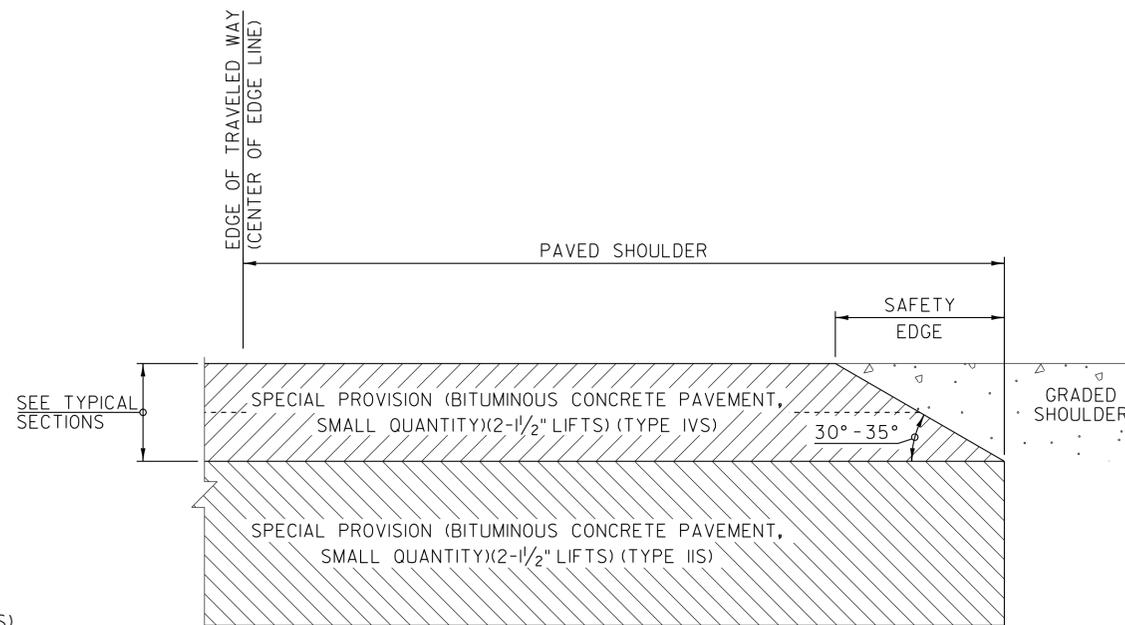
**ELLIOT ST (TH #446)
TYPICAL SECTION**

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



TYPICAL STONE FILL DITCH

NOT TO SCALE



SAFETY EDGE DETAIL

NOT TO SCALE

SAFETY EDGE NOTES

1. THE EDGE OF PAVEMENT SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE 30 TO 35 DEGREE ANGLE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
2. TO PAVED SHOULDER EXTENDS FROM THE EDGE OF TRAVELED WAY TO THE EDGE OF THE WEARING COURSE, INCLUDED THE "SAFETY EDGE".

PROJECT NAME: BRATTLEBORO
 PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j091typ-3l.dgn
 PROJECT LEADER: J. BYATT
 DESIGNED BY: L. GREER
 TYPICAL ROADWAY SECTIONS SHEET

PLOT DATE: 1/22/2016
 DRAWN BY: P. McKECHNE
 CHECKED BY: S. FORTIER
 SHEET 5 OF 26



QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES			
							ROADWAY	EROSION CONTROL	BRIDGE NO. 31	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
							1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			
							50				50		CY	COMMON EXCAVATION	203.15	3			
							1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	-			
							35				35		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	5			
							425				425		SY	COLD PLANING, BITUMINOUS PAVEMENT	210.10	8			
							15				15		CY	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	1.9			
							10				10		TON	AGGREGATE SHOULDERS	402.12	1			
							1				1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
									113		113		CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33	0.28			
									20973		20973		LB	REINFORCING STEEL, LEVEL I	507.11	0.56			
									1		1		LS	SHEAR CONNECTORS (1266 - 8" X 7/8")	508.15				
									228		228		SY	LONGITUDINAL DECK GROOVING	509.10	0.26			
									34		34		GAL	WATER REPELLENT, SILANE	514.10	0.86			
									35		35		LF	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	0.42			
									23		23		LF	JOINT SEALER, HOT POURED	524.11	0.33			
									1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	-			
									10		10		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I	580.13	EST.			
									10		10		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	EST.			
							4				4		EACH	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS I	604.412	-			
							1				1		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42	-			
							1				1		CY	STONE FILL, TYPE I	613.10	-			
							8				8		LF	CAST-IN-PLACE CONCRETE CURB, TYPE B	616.28	-			
							15				15		SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH	618.10	1			
									10		10		SF	DETECTABLE WARNING SURFACE	618.30	-			
							37.5				37.5		LF	HD STEEL BEAM GUARDRAIL, GALVANIZED	621.21	-			
							3				3		EACH	STEEL BEAM GUARDRAIL OFFSET BLOCK	621.219	-			
							1				1		EACH	MANUFACTURED TERMINAL SECTION, FLARED	621.50	-			
							2				2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
							40				40		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	3			
							3				3		EACH	GUIDE POSTS	621.85	-			
							1				1		EACH	ADJUST ELEVATION OF VALVE BOX	629.20	-			
							40				40		HR	UNIFORMED TRAFFIC OFFICERS	630.10	-			
							40				40		HR	FLAGGERS	630.15	-			
										1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
										1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
										1	1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17	-			
										3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
							1				1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
							2				2		EACH	PORTABLE CHANGEABLE MESSAGE SIGN	641.15	-			
							200				200		LF	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	646.402	20			

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j09lqss-3l.dgn
PROJECT LEADER: J. BYATT
DESIGNED BY: J. FRENCH
QUANTITY SHEET 1

PLOT DATE: 1/22/2016
DRAWN BY: M. SMITH
CHECKED BY: A. GIRALDI
SHEET 6 OF 26

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES

TOTALS

DESCRIPTIONS

DETAILED SUMMARY OF QUANTITIES

										ROADWAY	EROSION CONTROL	BRIDGE NO. 31	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
										350				350		LF	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	646.412	20
										10				10		EACH	LINE STRIPING TARGETS	646.76	1
										5				5		SY	GEOTEXTILE UNDER STONE FILL	649.31	-
										1				1		EACH	REMOVING SIGNS	675.50	-
										2				2		EACH	DELINEATOR WITH STEEL POST	676.10	-
										1				1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-
										6				6		EACH	SPECIAL PROVISION (CPM SCHEDULE)	900.620	-
												184.33		184.33		LF	SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)	900.640	
										1				1		LS	SPECIAL PROVISION (TRAFFIC CONTROL, ALL INCLUSIVE)	900.645	-
										1				1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I.)	900.650	-
										1				1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I.)	900.650	-
										15				15		SY	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	900.675	4
										65				65		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	4

QUANTITIES	UNIT	ITEMS
		SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)
61	TON	TYPE IV
61	TON	SUBTOTAL
4	TON	ROUNDING
65	TON	TOTAL

PROJECT NAME: BRATTLEBORO
 PROJECT NUMBER: BF 2000(26)
 FILE NAME: z15j09lqss-3l.dgn
 PROJECT LEADER: J. BYATT
 DESIGNED BY: S. BEAUMONT
 QUANTITY SHEET 2
 PLOT DATE: 1/22/2016
 DRAWN BY: M. SMITH
 CHECKED BY: A. GIRALDI
 SHEET 7 OF 26

GENERAL INFORMATION

SYMBOLOLOGY LEGEND NOTE

THE SYMBOLOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOLOGY. THE SYMBOLOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
HWY	HIGHWAY EASEMENT
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
▣	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊗	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
◊	BM BENCHMARK
▣	BND BOUND
▣	CB CATCH BASIN
⊕	COMB COMBINATION POLE
▣	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
◊	FPOLE FLAGPOLE
⊙	GASFIL GAS FILLER
⊙	GP GUIDE POST
⊗	GSO GAS SHUT OFF
◊	GUY GUY POLE
◊	GUYW GUY WIRE
⊗	GV GATE VALVE
⊗	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
△	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
⊕	IP IRON PIN
⊕	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
◊	MH MANHOLE (MH)
▣	MM MILE MARKER
⊕	PM PARKING METER
▣	PMK PROJECT MARKER
⊕	POST POST STONE/WOOD
⊕	RRSIG RAILROAD SIGNAL
⊕	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
⊕	TEL TELEPHONE POLE
⊕	TIE TIE
⊕	TSIGN SIGN W/DOUBLE POST
⊕	VCTRL CONTROL VERTICAL
⊕	WELL WELL
⊕	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLOLOGY

UNDERGROUND UTILITIES	
— UT —	UTILITY (GENERIC-UNKNOWN)
— UE —	TELEPHONE
— UC —	ELECTRIC
— UEC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)
ABOVE GROUND UTILITIES (AERIAL)	
— T —	UTILITY (GENERIC-UNKNOWN)
— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
— —	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOLOGY	
— — — CZ — — —	CLEAR ZONE
— — — — —	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

△ — △ — △ — △	TOP OF CUT SLOPE
○ — ○ — ○ — ○	TOE OF FILL SLOPE
⊗ ⊗ ⊗ ⊗ ⊗ ⊗	STONE FILL
— — — — —	BOTTOM OF DITCH
— — — — —	CULVERT PROPOSED
— — — — —	STRUCTURE SUBSURFACE
PDF — — — PDF — — —	PROJECT DEMARCATION FENCE
BF — — — BF — — —	BARRIER FENCE
XXXXXXXXXXXXXXXXXXXX	TREE PROTECTION ZONE (TPZ)
///	STRIPING LINE REMOVAL
~~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLOLOGY**

BOUNDARY LINES	
— TOWN LINE —	TOWN BOUNDARY LINE
— COUNTY LINE —	COUNTY BOUNDARY LINE
— STATE LINE —	STATE BOUNDARY LINE
— — — — —	PROPOSED STATE R.O.W. (LIMITED ACCESS)
— — — — —	PROPOSED STATE R.O.W.
— — — — —	STATE ROW (LIMITED ACCESS)
— — — — —	STATE ROW
— — — — —	TOWN ROW
— — — — —	PERMANENT EASEMENT LINE (P)
— — — — —	TEMPORARY EASEMENT LINE (T)
— — — — —	SURVEY LINE
— P — — — — — P —	PROPERTY LINE (P/L)
△ — SR — ○ — SR — △ — SR — ○	SLOPE RIGHTS
6f — — — — — 6f —	6F PROPERTY BOUNDARY
4f — — — — — 4f —	4F PROPERTY BOUNDARY
HAZ — — — — — HAZ —	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLOLOGY**

EPSC MEASURES	
○ — — — — — ○	FILTER CURTAIN
— — — — —	SILT FENCE
— — — — —	SILT FENCE WOVEN WIRE
— — — — —	CHECK DAM
▣	DISTURBED AREAS REQUIRING RE-VEGETATION
⊗	EROSION MATTING
ENVIRONMENTAL RESOURCES	
— — — — —	WETLAND BOUNDARY
— — — — —	RIPARIAN BUFFER ZONE
— — — — —	WETLAND BUFFER ZONE
— — — — —	SOIL TYPE BOUNDARY
— T&E — — — — —	THREATENED & ENDANGERED SPECIES
HAZ — — — — — HAZ	HAZARDOUS WASTE AREA
— AG — — — — —	AGRICULTURAL LAND
— HABITAT — — — — —	FISH & WILDLIFE HABITAT
— FLOOD PLAIN — — — — —	FLOOD PLAIN
— OHW — — — — —	ORDINARY HIGH WATER (OHW)
— — — — —	STORM WATER
— — — — —	USDA FOREST SERVICE LANDS
— — — — —	WILDLIFE HABITAT SUIT/CONN

**ARCHEOLOGICAL & HISTORIC**

— ARCH — — — — —	ARCHEOLOGICAL BOUNDARY
— HISTORIC DIST — — — — —	HISTORIC DISTRICT BOUNDARY
— HISTORIC — — — — —	HISTORIC AREA
⊕	HISTORIC STRUCTURE

**CONVENTIONAL TOPOGRAPHIC SYMBOLOLOGY**

EXISTING FEATURES	
— — — — —	ROAD EDGE PAVEMENT
— — — — —	ROAD EDGE GRAVEL
— — — — —	DRIVEWAY EDGE
— — — — —	DITCH
— — — — —	FOUNDATION
— — — — —	FENCE (EXISTING)
— — — — —	FENCE WOOD POST
— — — — —	FENCE STEEL POST
— — — — —	GARDEN
— — — — —	ROAD GUARDRAIL
— — — — —	RAILROAD TRACKS
— — — — —	CULVERT (EXISTING)
— — — — —	STONE WALL
— — — — —	WALL
— — — — —	WOOD LINE
— — — — —	BRUSH LINE
— — — — —	HEDGE
— — — — —	BODY OF WATER EDGE
— — — — —	LEDGE EXPOSED

PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j09legend-31.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: L. GREER  
CONVENTIONAL SYMBOLOLOGY LEGEND SHEET

PLOT DATE: 1/22/2016  
DRAWN BY: P. McKECHNE  
CHECKED BY: S. FORTIER  
SHEET 8 OF 26



**EXISTING BRIDGE DATA:**

ROLLED BEAMS, CONCRETE DECK  
 LENGTH = 88'-0"  
 WIDTH = 28'-2" RAIL TO RAIL  
 BUILT IN 1947

DURABLE 4 INCH WHITE LINE, THERMOPLASTIC  
 0+23 TO 1+13 SOLID LT & RT  
 DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC  
 0+23 TO 1+88 SOLID LT & RT  
 REMOVING SIGNS  
 0+24 LT

PORTLAND CEMENT  
 CONCRETE SIDEWALK, 5 INCH  
 1+13 TO 1+38 RT

STONE FILL, TYPE I  
 GEOTEXTILE UNDER STONE FILL  
 1+12 TO 1+17 LT

CAST-IN-PLACE CONCRETE CURB, TYPE B  
 (FOR SIDEWALK RAMP TIP DOWN)  
 1+13 TO 1+21 RT

DETECTABLE WARNING SURFACE  
 0+26 RT

REHAB. DROP INLETS, CATCH BASINS,  
 OR MANHOLES, CLASS 1  
 2 - as SHOWN AT EP  
 0+19 LT  
 1+80 RT

CHANGING ELEVATION  
 OF SEWER MANHOLES  
 0+13 RT

ADJUST  
 ELEVATION OF VALVE BOX  
 0+10 RT

REMOVAL AND DISPOSAL OF GUARDRAIL  
 1+13 TO 1+46 LT

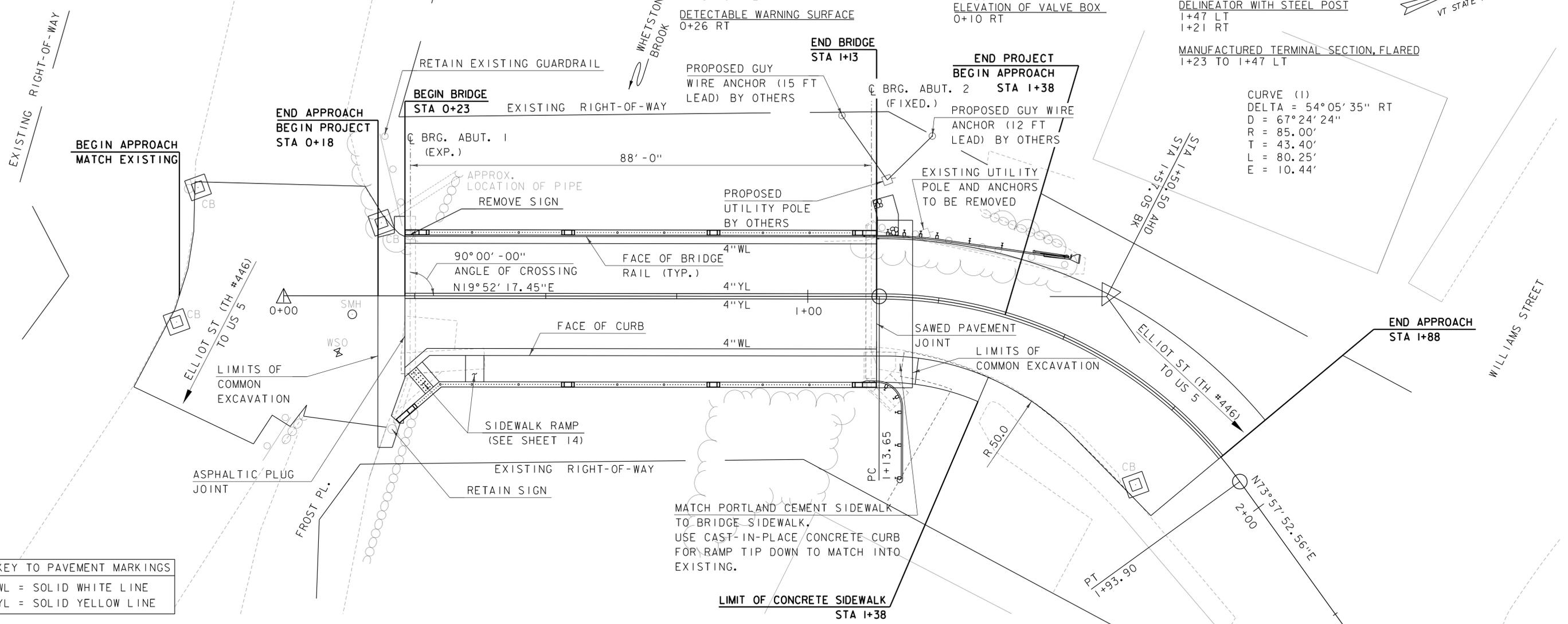
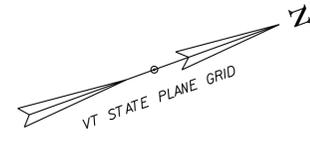
HD STEEL BEAM GUARDRAIL, GALVANIZED  
 1+13 TO 1+23 LT  
 1+13 TO 1+21 RT

ANCHOR FOR STEEL BEAM RAIL  
 1+15 RT  
 1+19 RT

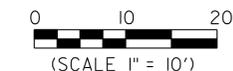
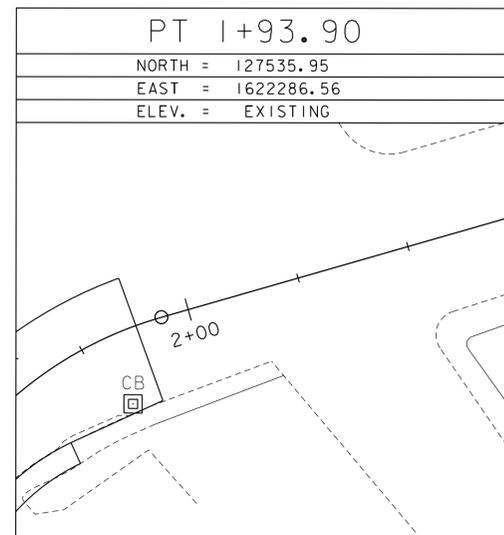
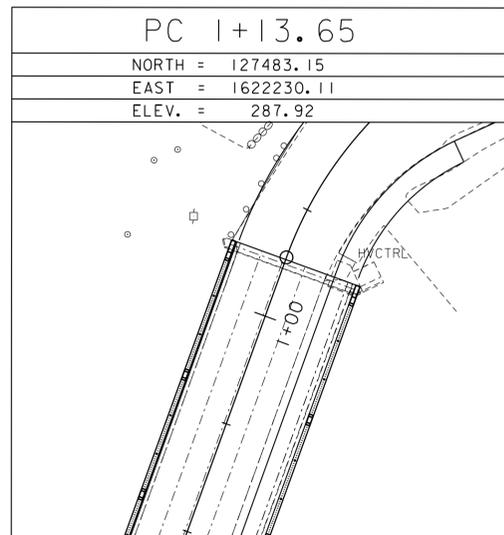
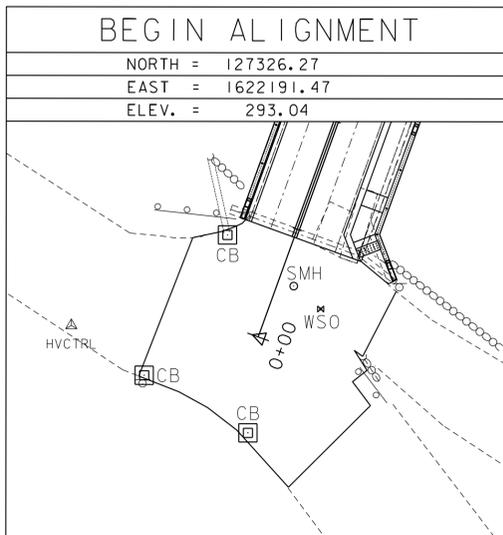
DELINEATOR WITH STEEL POST  
 1+47 LT  
 1+21 RT

MANUFACTURED TERMINAL SECTION, FLARED  
 1+23 TO 1+47 LT

CURVE (1)  
 DELTA = 54°05'35" RT  
 D = 67°24'24"  
 R = 85.00'  
 T = 43.40'  
 L = 80.25'  
 E = 10.44'



**KEY TO PAVEMENT MARKINGS**  
 WL = SOLID WHITE LINE  
 YL = SOLID YELLOW LINE



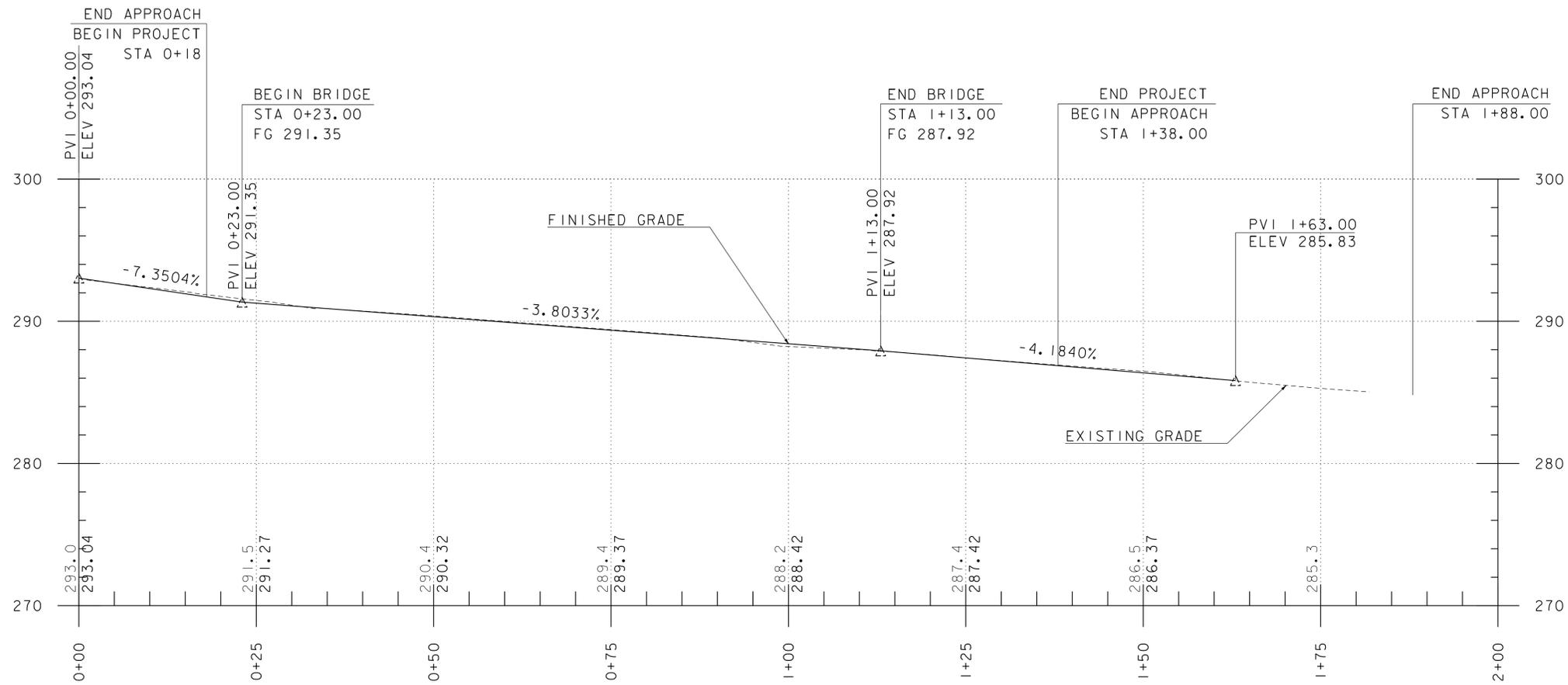
PROJECT NAME: BRATTLEBORO  
 PROJECT NUMBER: BF 2000(26)  
 FILE NAME: z15j091bdr-3l.dgn  
 PROJECT LEADER: J. BYATT  
 DESIGNED BY: L. GREER  
 LAYOUT SHEET

PLOT DATE: 1/22/2016  
 DRAWN BY: P. McKECHNE  
 CHECKED BY: S. FORTIER  
 SHEET 9 OF 26

CLD 15-0223 MODEL: Layout 01

NOTE: NO TREES SHALL BE REMOVED.

CLD 15-0223 MODEL: PROFILE 01



### ELLIOT STREET PROFILE

#### NOTES

1. STATIONS AND ELEVATIONS ARE IN FEET.
2. THE ELEVATIONS SHOWN TO THE NEAREST TENTH ARE THE EXISTING GROUND ALONG THE CENTERLINE.
3. THE ELEVATIONS SHOWN TO THE NEAREST HUNDRETH ARE THE FINISHED GRADE ALONG THE CENTERLINE.
4. PROPOSED PROFILE SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. FINAL FINISHED GRADE SHALL BE DETERMINED BY THE PROJECT MANAGER AFTER EXISTING TOP OF DECK AND TOP OF BEAM ELEVATIONS ARE SURVEYED. SEE PROJECT NOTE 22 ON SHEET 3.

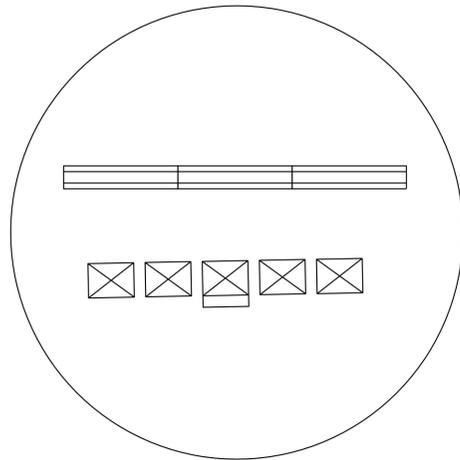
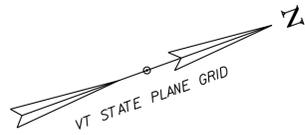
HOR. SCALE 1" = 20'-0"  
 VER. SCALE 1" = 10'-0"

PROJECT NAME: BRATTLEBORO  
 PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j09lpro-31.dgn  
 PROJECT LEADER: J. BYATT  
 DESIGNED BY: L. GREER  
 PROFILE SHEET

PLOT DATE: 1/22/2016  
 DRAWN BY: J. FOWLER  
 CHECKED BY: S. FORTIER  
 SHEET 10 OF 26





**LEGEND**

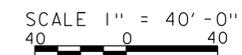
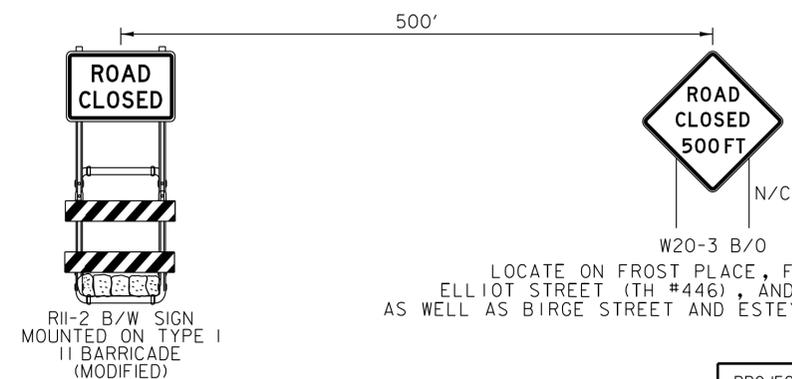
- N/C NEW SIGN/CONSTRUCTION ONLY
- B/O BLACK/ORANGE
- B/W BLACK/WHITE
- ☒ TYPE III BARRICADE
- ☒ TYPE III BARRICADE (MOD.)
- ▬ TEMPORARY TRAFFIC BARRIER



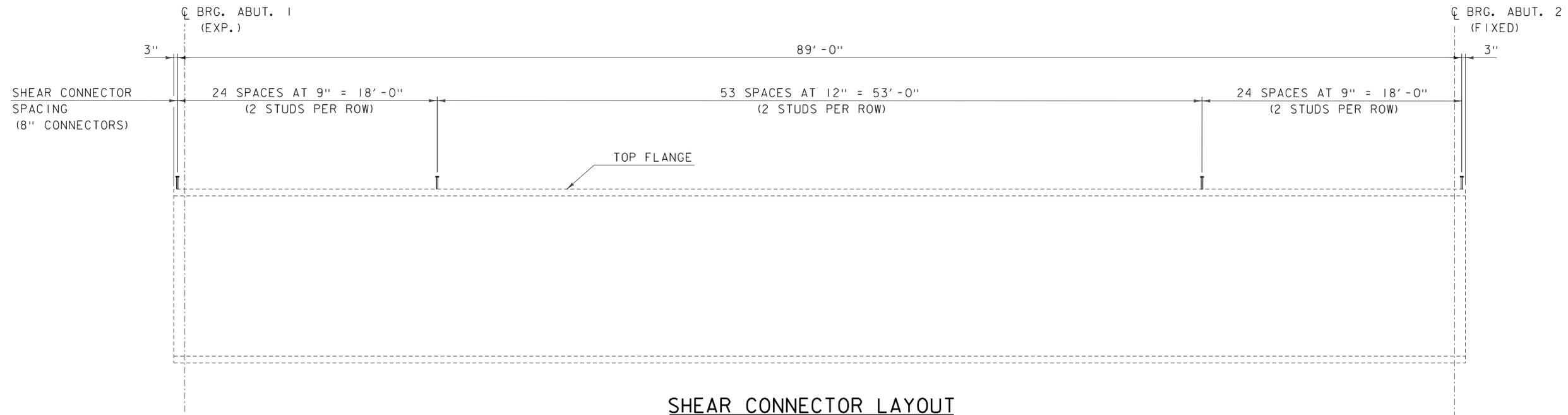
LOCATION	TRAFFIC DATA									
	AADT		DHV		%T		%D		ADTT	
	2015	2035	2015	2035	2015	2035	2015	2035	2015	2035
ELLIOT STREET	4800	4900	640	650	1.4	2.1	54	54	60	90

**NOTES**

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SIGNS AND BARRICADES SHOWN ON THIS SHEET. THEY WILL BE PAID FOR UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".
2. ANY TEMPORARY TRAFFIC BARRIER REQUIRED WILL BE CONSIDERED INCIDENTAL TO PAY ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)" AND FURNISHED IN ACCORDANCE WITH SECTION 621.
3. THE CONTRACTOR WILL PLACE ONE PORTABLE CHANGABLE MESSAGE SIGN ON EACH END OF PROJECT A MINIMUM OF TWO WEEKS PRIOR TO THE CLOSURE OF ELLIOT STREET (TH #446). THE MESSAGE SIGNS SHALL INDICATE THE ANTICIPATED BRIDGE CLOSURE PERIOD.

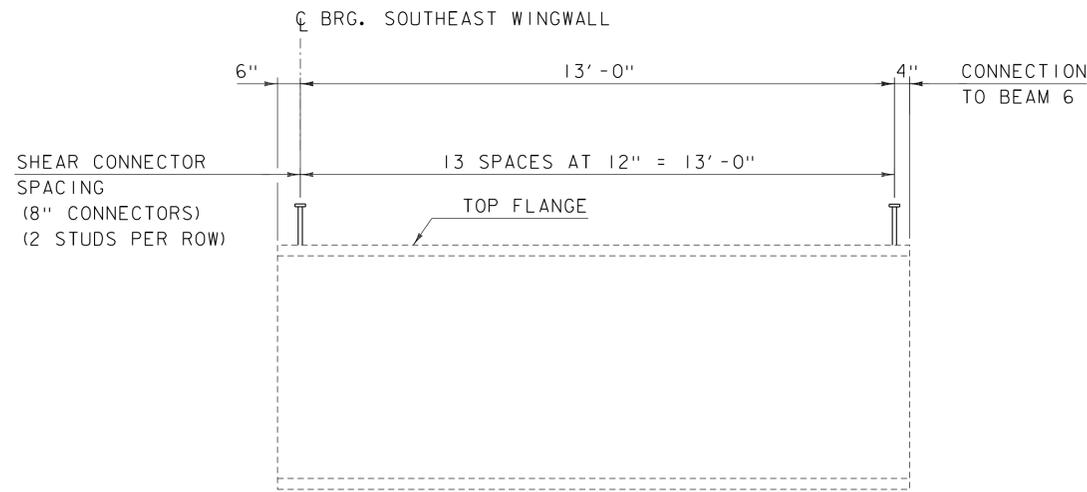


PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(26)
FILE NAME:	z15j091bdr+cp-31.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	L. GREER
BRIDGE CLOSURE SIGNAGE SHEET	
PLOT DATE:	1/22/2016
DRAWN BY:	J. FOWLER
CHECKED BY:	S. FORTIER
SHEET	11 OF 26



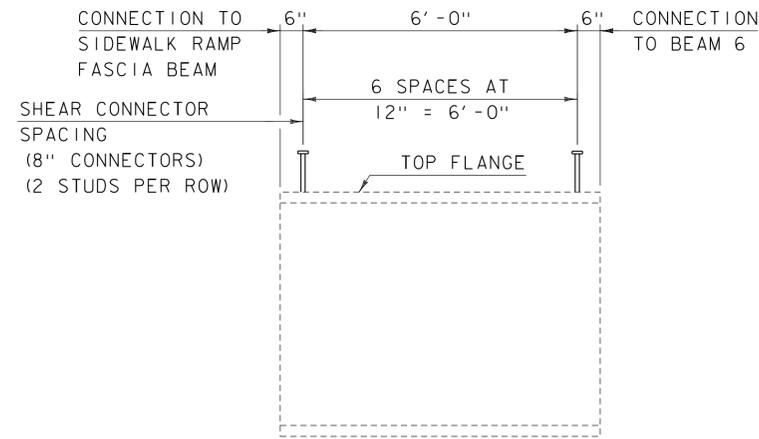
**SHEAR CONNECTOR LAYOUT**

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



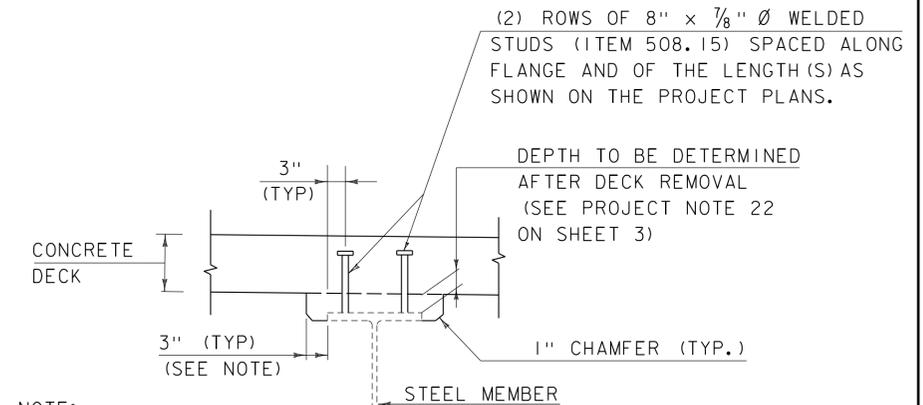
**SHEAR CONNECTOR LAYOUT FOR SIDEWALK RAMP FASCIA BEAM**

HORIZONTAL SCALE: 1/2" = 1'-0"  
 VERTICAL SCALE: 1/8" = 1'-0"



**SHEAR CONNECTOR LAYOUT FOR SIDEWALK RAMP INTERIOR BEAM**

HORIZONTAL SCALE: 1/2" = 1'-0"  
 VERTICAL SCALE: 1/8" = 1'-0"



NOTE:

THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE WILL BE CONSIDERED INCIDENTAL TO THE ADJACENT CONCRETE ITEM.

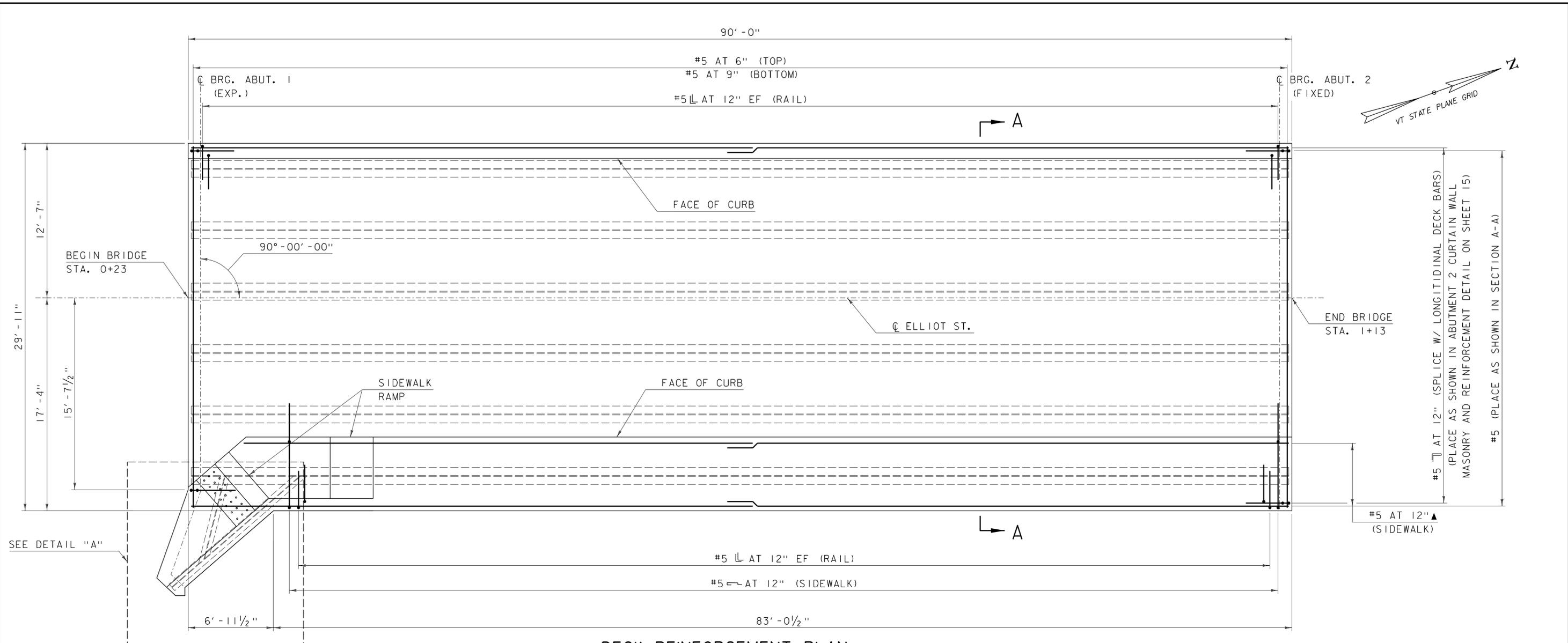
**HAUNCH AND SHEAR CONNECTOR DETAIL**

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

CLD 15-0223 MODEL: TYP03

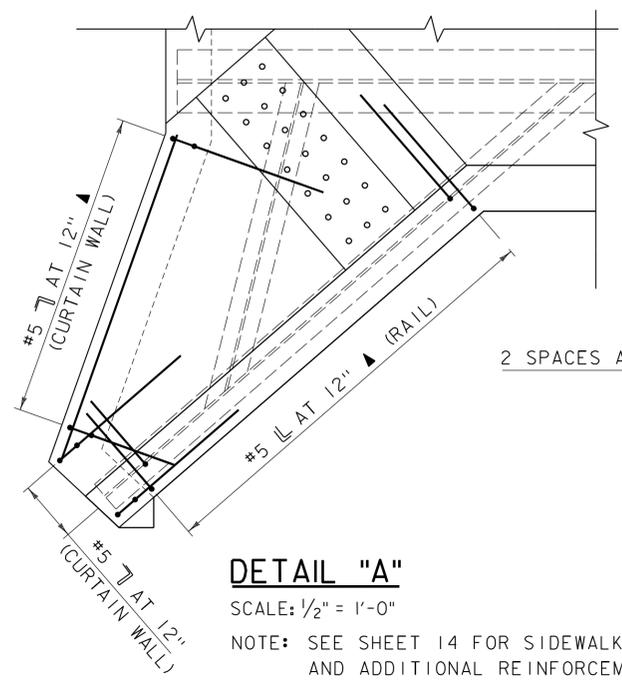
PROJECT NAME: BRATTLEBORO	FILE NAME: z15j091typ-3l.dgn	PLOT DATE: 1/22/2016
PROJECT NUMBER: BF 2000(26)	PROJECT LEADER: J. BYATT	DRAWN BY: M. SMITH
	DESIGNED BY: N. CARON	CHECKED BY: S. BEAUMONT
	SHEAR CONNECTOR DETAILS SHEET	SHEET 12 OF 26





**DECK REINFORCEMENT PLAN**

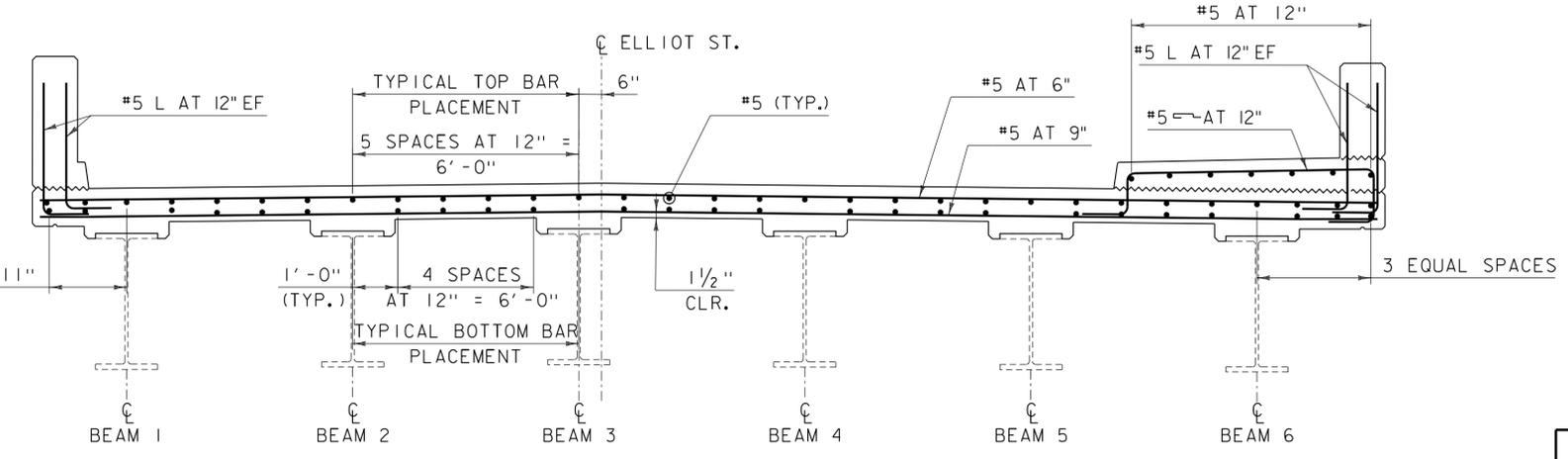
SCALE: 1/4" = 1'-0"



**DETAIL "A"**

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

NOTE: SEE SHEET 14 FOR SIDEWALK RAMP MASONRY AND ADDITIONAL REINFORCEMENT DETAILS.



**SECTION A-A**

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

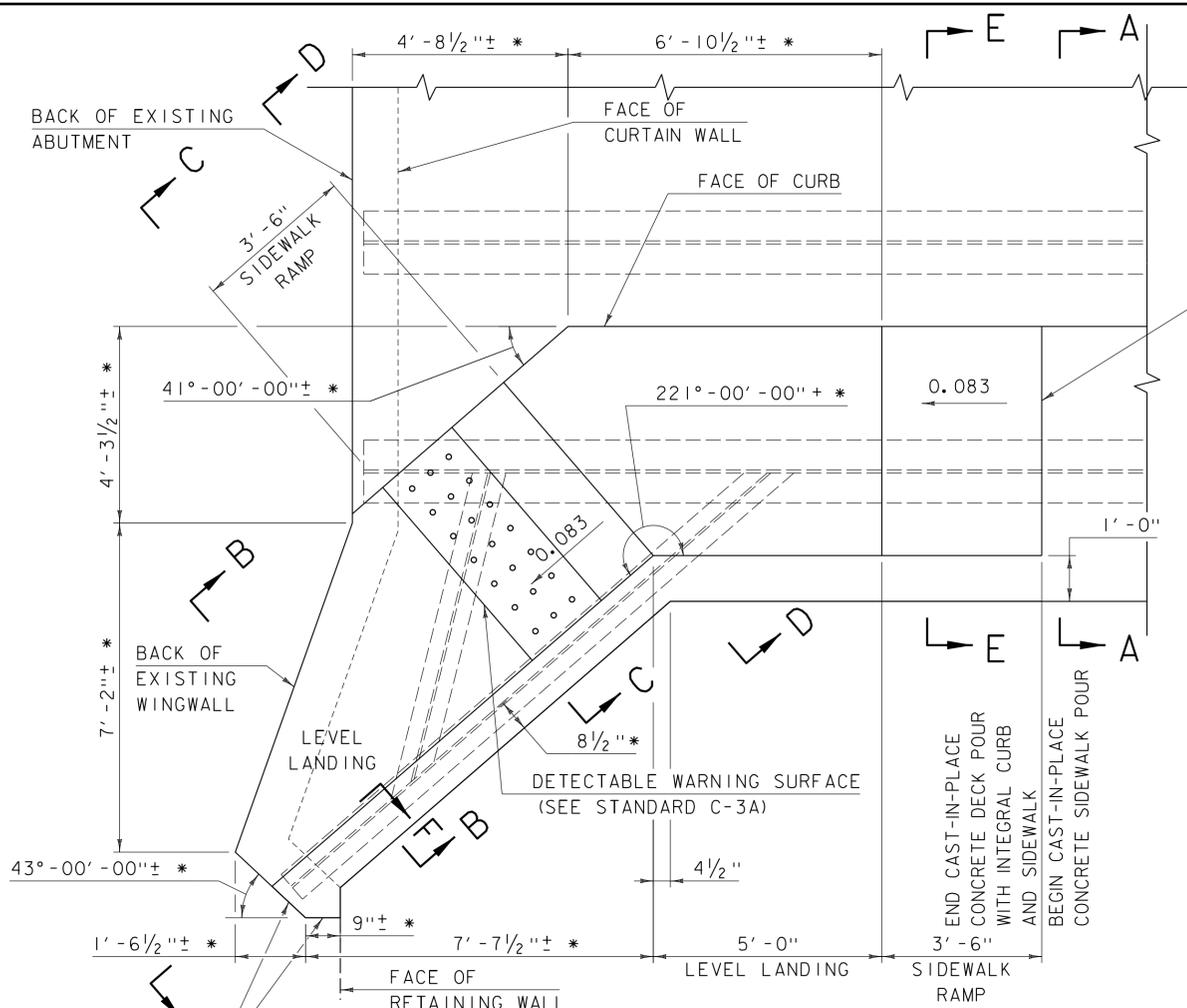
**NOTES:**

1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. 1'-0" HOOK UNLESS OTHERWISE SPECIFIED ON THE PLANS.
4. EF = EACH FACE
5. SEE SHEET 18 FOR RAIL LAYOUT SHEET.

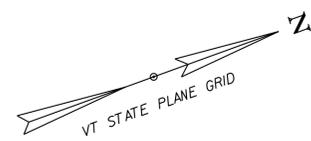
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(26)
FILE NAME:	z15j091typ-3l.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	S. BEAUMONT
DECK DETAILS SHEET 1	
PLOT DATE:	1/22/2016
DRAWN BY:	M. SMITH
CHECKED BY:	J. FRENCH
SHEET	13 OF 26



CLD 15-0223 MODEL: TYP04

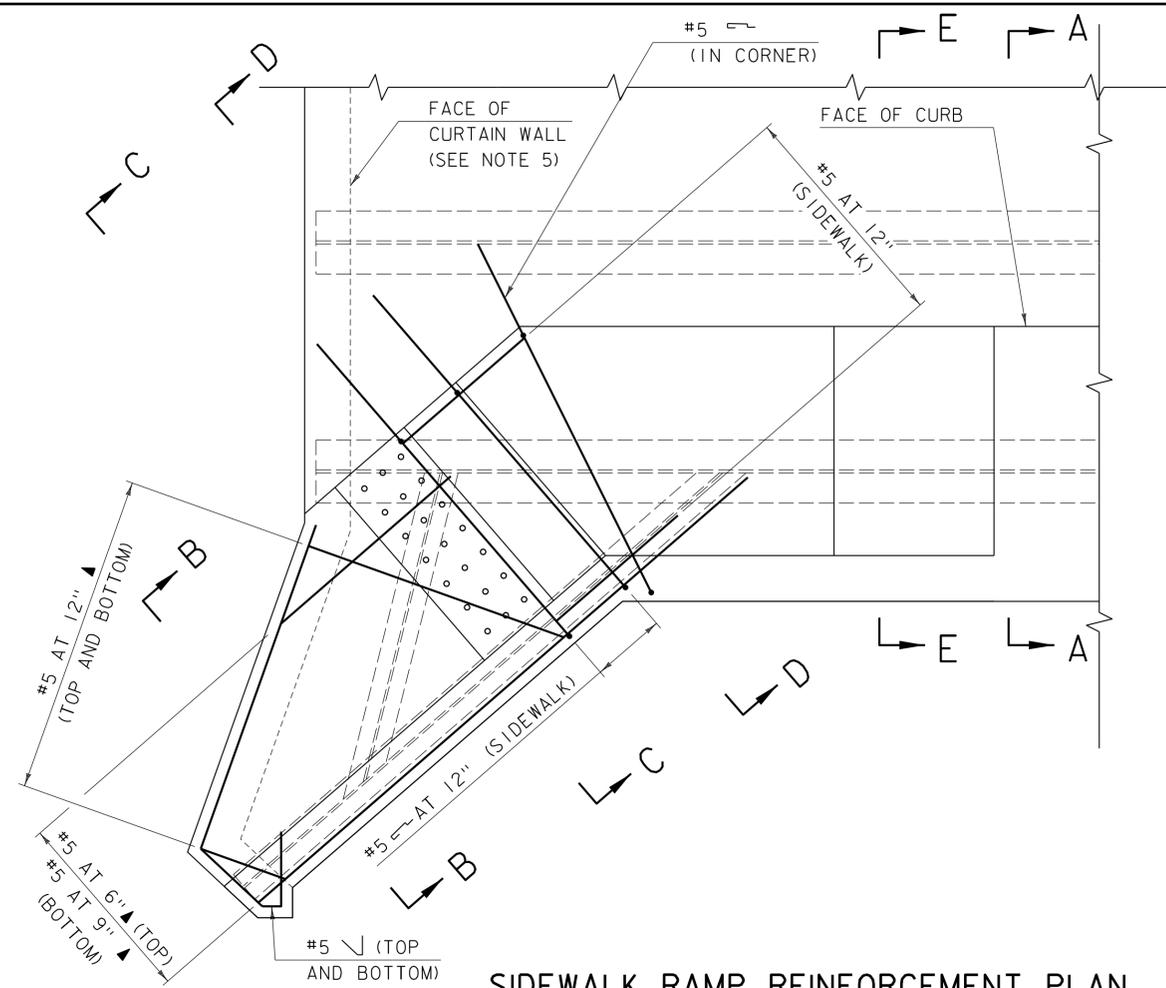


**SIDEWALK RAMP MASONRY PLAN**  
SCALE: 1/2" = 1'-0"

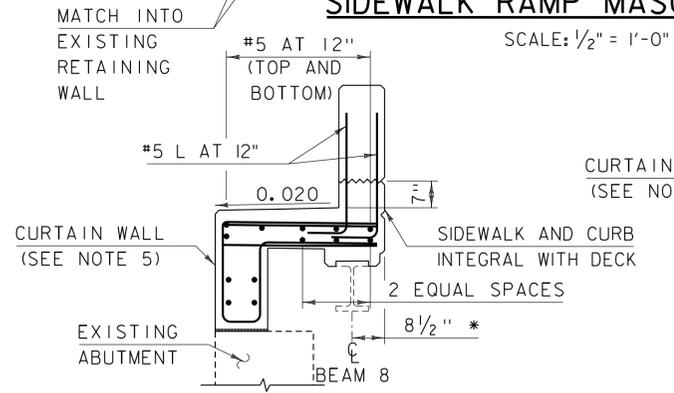


**NOTES:**

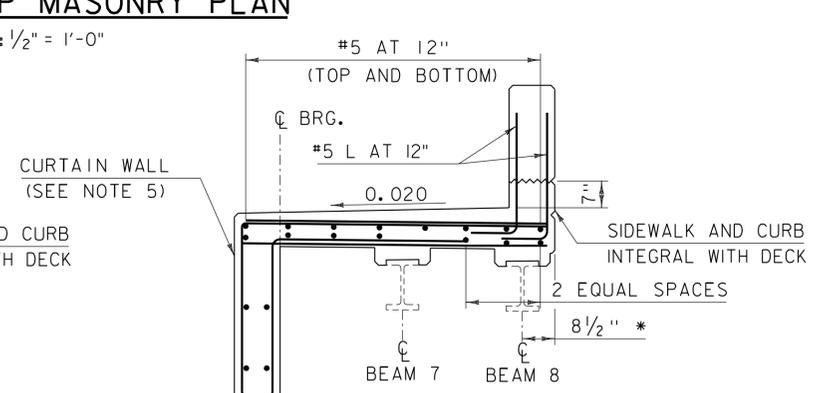
1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. EF = EACH FACE
4. SEE SHEET 13 FOR SECTION A-A.
5. SEE TYPICAL CURTAIN WALL SECTION ON SHEET 15 FOR MASONRY AND REINFORCEMENT DETAILS AND SECTION F-F THIS SHEET FOR REINFORCEMENT LAYOUT IN CURTAIN WALL AT SIDEWALK RAMP.



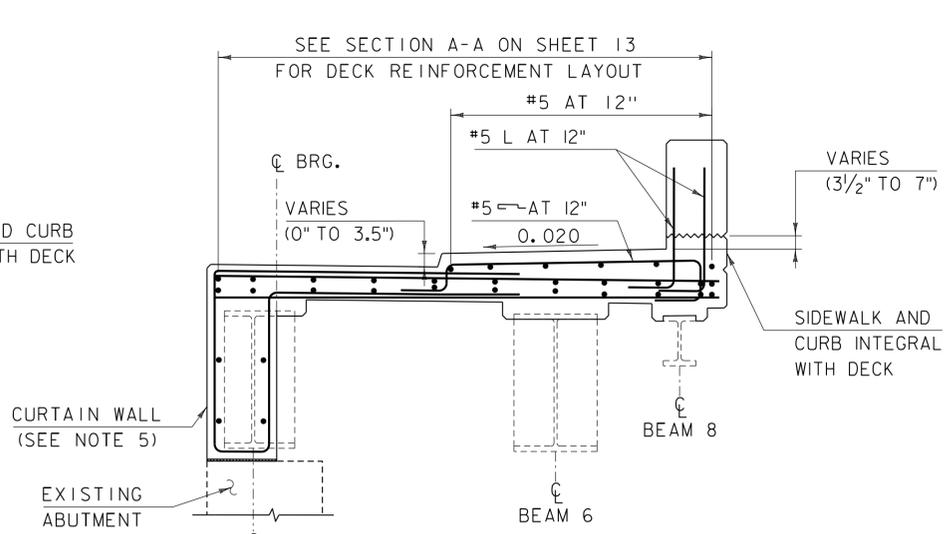
**SIDEWALK RAMP REINFORCEMENT PLAN**  
SCALE: 1/2" = 1'-0"



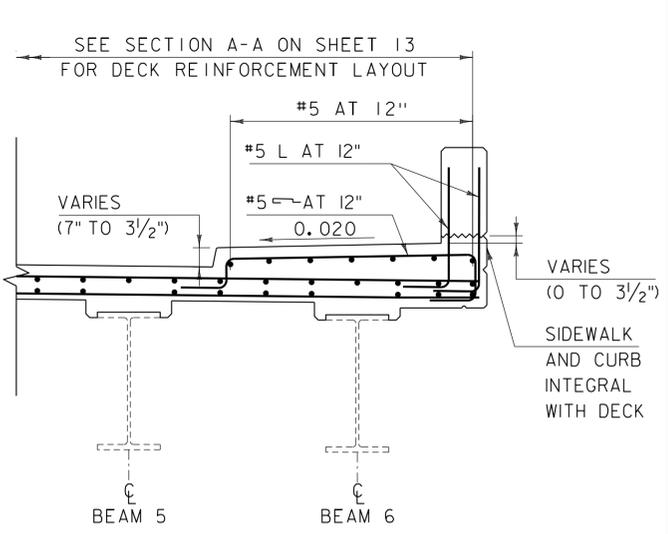
**SECTION B-B**  
SCALE: 1/2" = 1'-0"



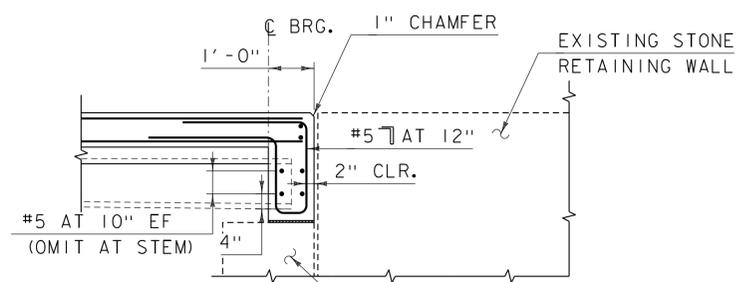
**SECTION C-C**  
SCALE: 1/2" = 1'-0"



**SECTION D-D**  
SCALE: 1/2" = 1'-0"



**SECTION E-E**  
SCALE: 1/2" = 1'-0"



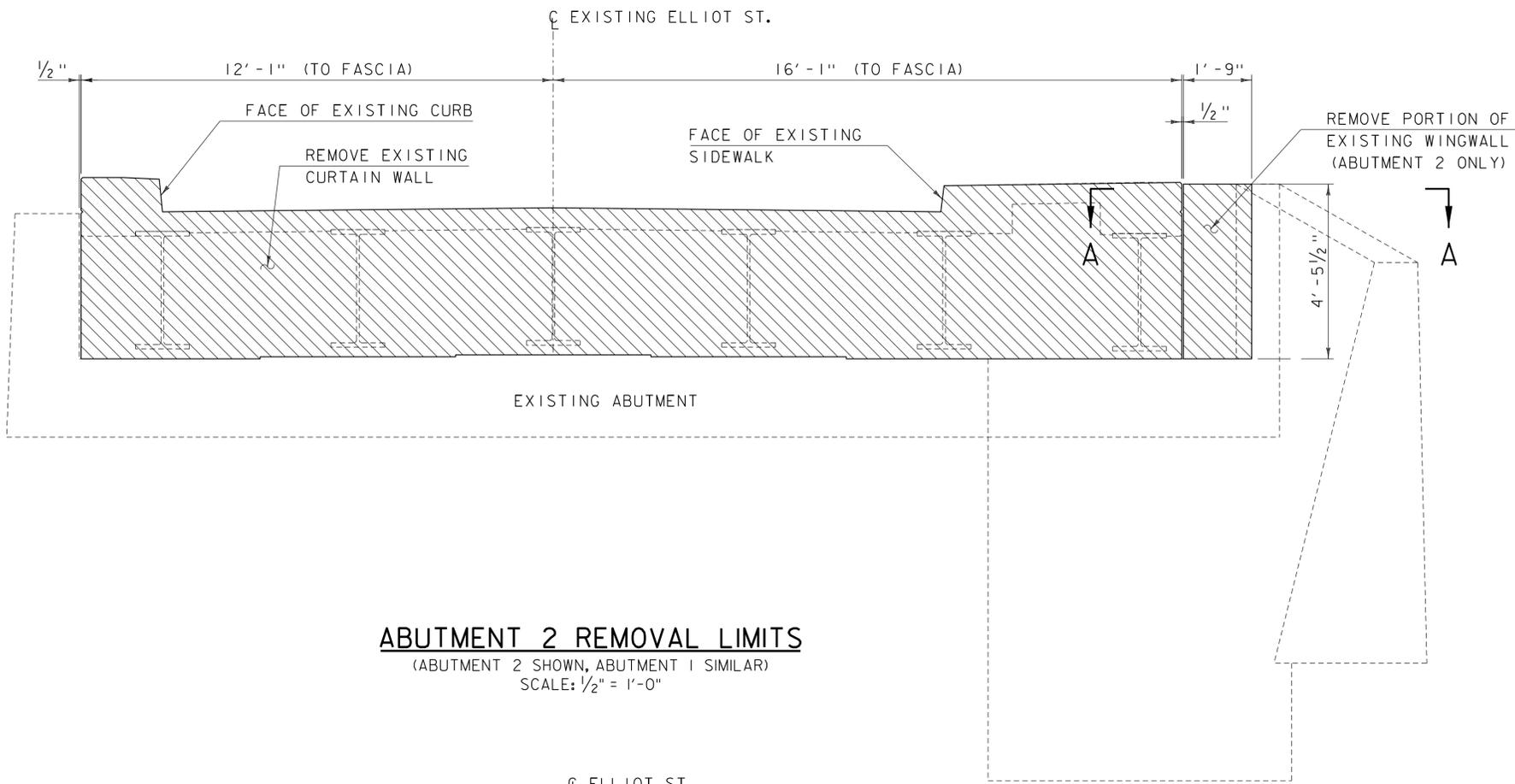
**SECTION F-F**  
SCALE: 1/2" = 1'-0"

* ALL DIMENSIONS ARE BASED ON FIELD MEASUREMENTS AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS.

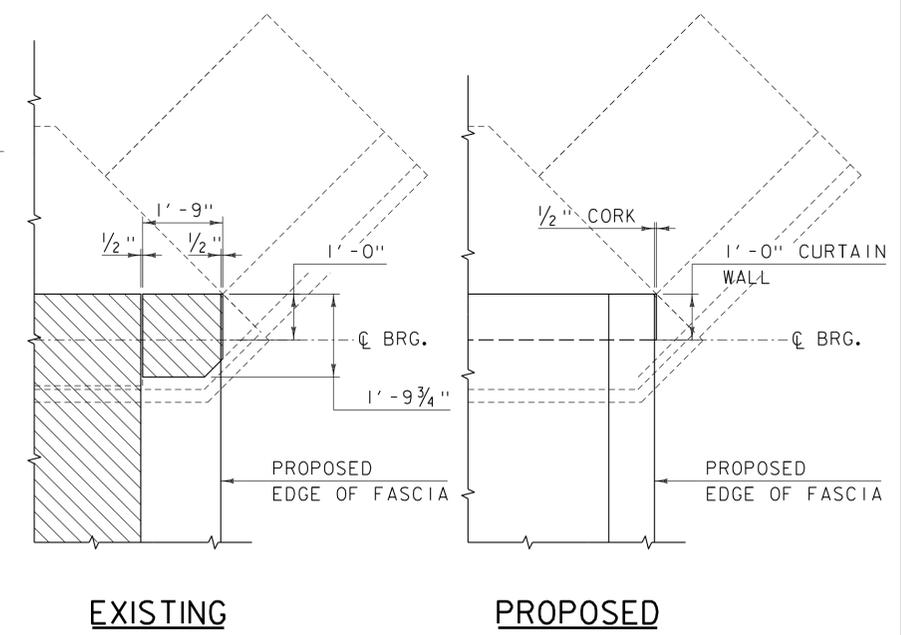
MODEL: TYP05  
CLD 15-0223



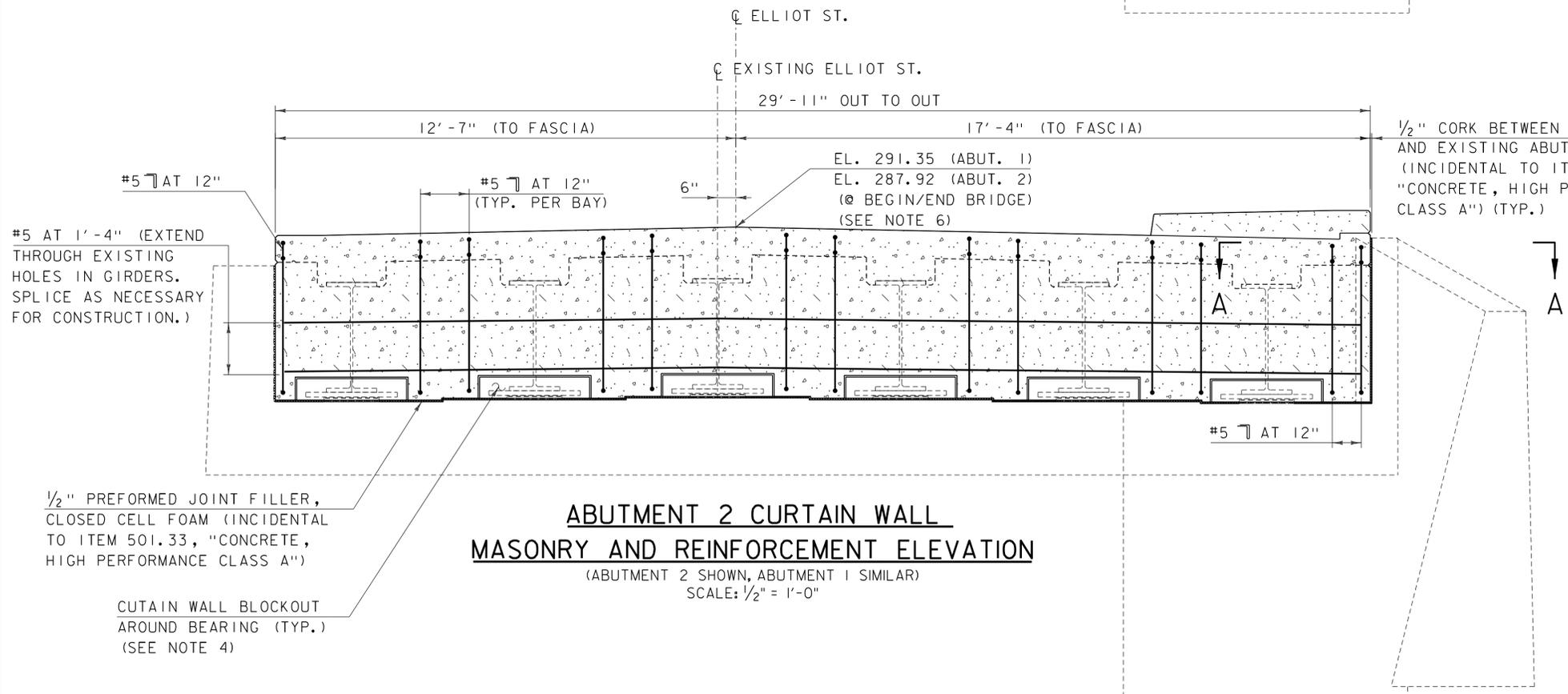
PROJECT NAME:	BRATTLEBORO	PLOT DATE:	1/22/2016
PROJECT NUMBER:	BF 2000(26)	DRAWN BY:	M. SMITH
FILE NAME:	z15j091+yp-3l.dgn	DESIGNED BY:	S. BEAUMONT
PROJECT LEADER:	J. BYATT	CHECKED BY:	J. FRENCH
DECK DETAILS SHEET 2		SHEET	14 OF 26



**ABUTMENT 2 REMOVAL LIMITS**  
 (ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)  
 SCALE: 1/2" = 1'-0"



**SECTION A-A**  
 SCALE: 1/2" = 1'-0"



**ABUTMENT 2 CURTAIN WALL  
 MASONRY AND REINFORCEMENT ELEVATION**  
 (ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)  
 SCALE: 1/2" = 1'-0"

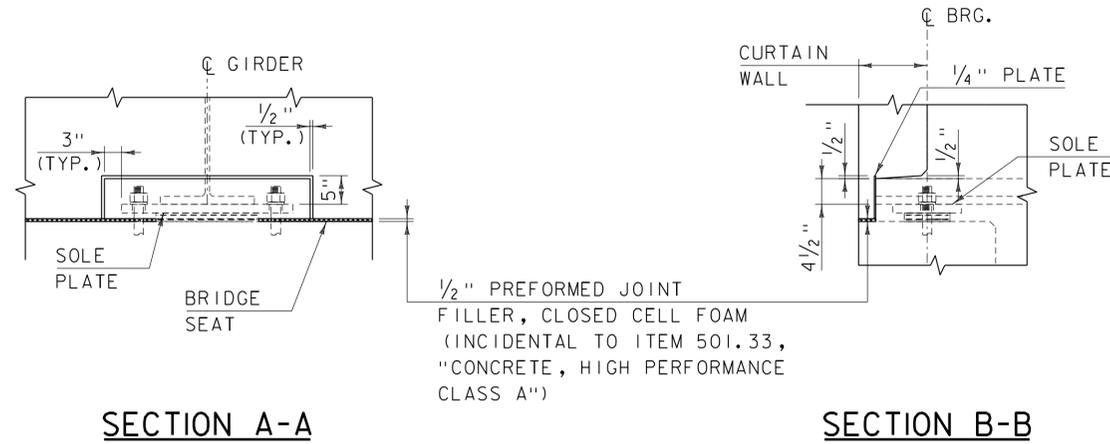
- PARTIAL REMOVAL OF STRUCTURE (SEE NOTE 18 ON SHEET 3)
- CONCRETE, HIGH PERFORMANCE CLASS A

- NOTES:
1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
  2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
  3. EF = EACH FACE
  4. SEE SHEET 16 FOR TYPICAL CURTAIN WALL SECTION AND CURTAIN WALL BLOCKOUT AROUND BEARINGS DETAILS.
  5. SEE SECTION F-F ON SHEET 14 FOR CURTAIN WALL AT SIDEWALK RAMP REINFORCEMENT LAYOUT.
  6. ELEVATIONS ARE FOR INFORMATIONAL PURPOSES ONLY. FINAL FINISHED GRADE SHALL BE DETERMINED BY VTRANS AFTER EXISTING TOP OF DECK AND TOP OF BEAM ELEVATIONS ARE SURVEYED. SEE PROJECT NOTE 22 ON SHEET 3.

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BF 2000(26)
FILE NAME:	z15j091typ-3l.dgn
PROJECT LEADER:	J. BYATT
DESIGNED BY:	S. BEAUMONT
REMOVAL & CURTAIN WALL DETAILS SHEET 1	
PLOT DATE:	1/22/2016
DRAWN BY:	M. SMITH
CHECKED BY:	J. FRENCH
SHEET 15	OF 26

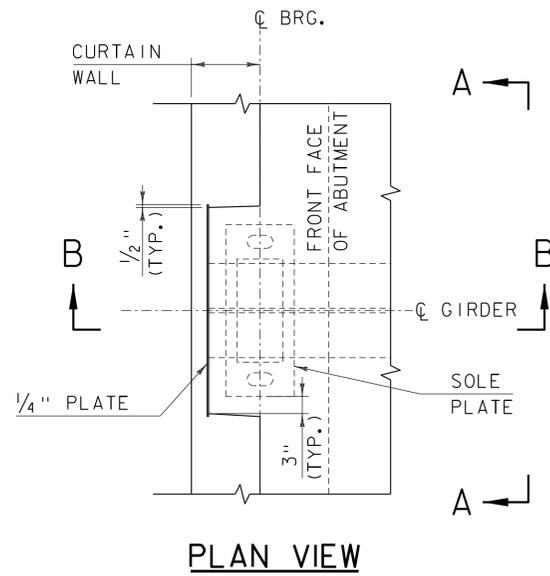


CLD 15-0223 MODEL: TYP06

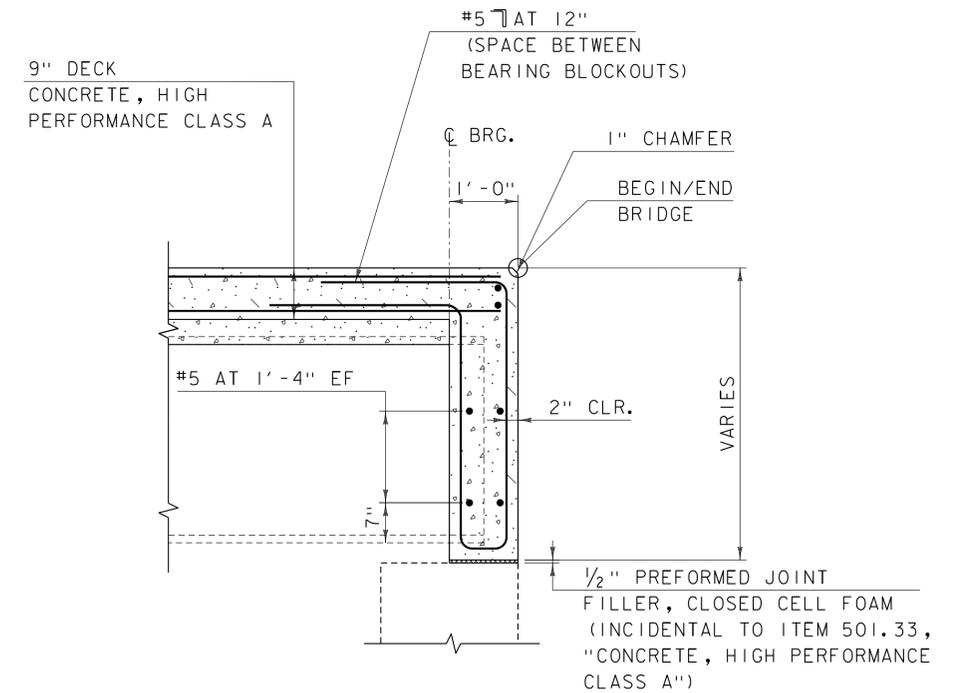


**NOTES:**

1. 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. 3'-0" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. EF = EACH FACE
4. SEE SHEET 15 FOR CURTAIN WALL MASONRY AND REINFORCEMENT ELEVATION.



**CONCRETE CURTAIN WALL BLOCKOUTS AROUND BEARINGS**  
SCALE: 3/4" = 1'-0"



**TYPICAL CURTAIN WALL SECTION**

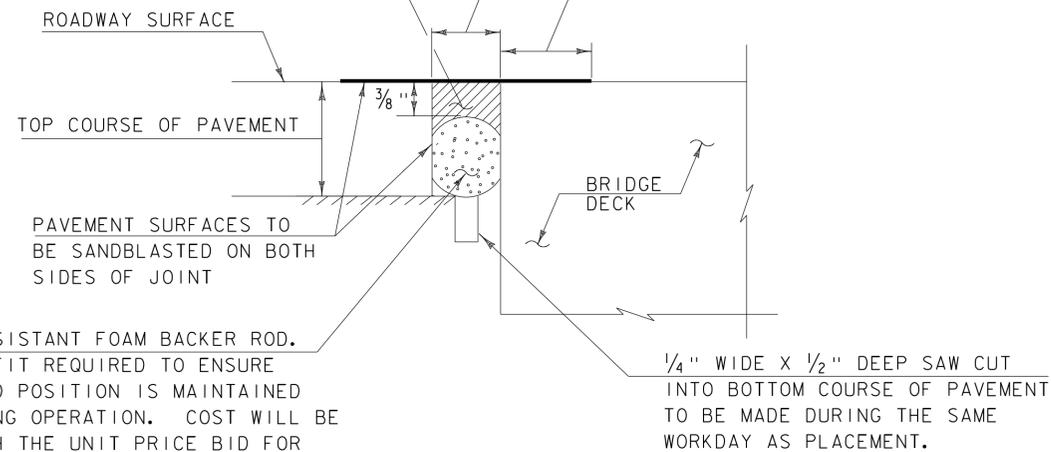
PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j091typ-31.dgn PLOT DATE: 1/22/2016  
PROJECT LEADER: J. BYATT DRAWN BY: M. SMITH  
DESIGNED BY: S. BEAUMONT CHECKED BY: N. CARON  
REMOVAL & CURTAIN WALL DETAILS SHEET 2 SHEET 16 OF 26

JOINT SEALER, HOT Poured. SHALL BE SLIGHTLY OVER FILLED THEN WIPEd FLUSH WITH A "V" OR "U" SHAPED SQUEEGEE TO PROVIDE A 1/4" WIPE ZONE EACH SIDE OF JOINT.

3/4" SAW CUT * COST TO BE INCLUDED WITH UNIT BID PRICE FOR JOINT SEALER.

1 1/4" MIN. WIPE ZONE (TYP.)



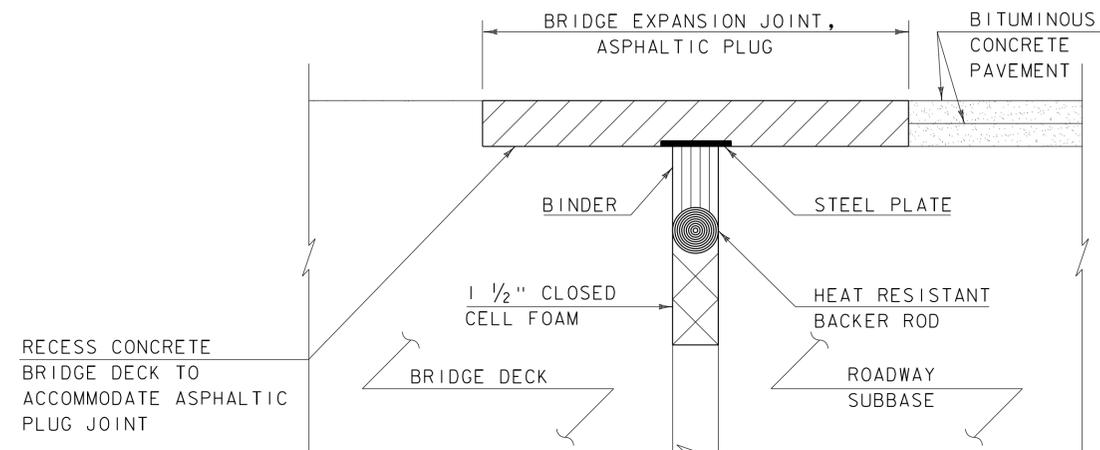
7/8" Ø HEAT RESISTANT FOAM BACKER ROD. COMPRESSION FIT REQUIRED TO ENSURE THAT THE ROD POSITION IS MAINTAINED DURING FILLING OPERATION. COST WILL BE INCLUDED WITH THE UNIT PRICE BID FOR ITEM 524.11, "JOINT SEALER, HOT POUR".

1/4" WIDE X 1/2" DEEP SAW CUT INTO BOTTOM COURSE OF PAVEMENT TO BE MADE DURING THE SAME WORKDAY AS PLACEMENT.

### SAWED PAVEMENT JOINT DETAIL

(NOT TO SCALE)

* JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUT WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. ALL WORK WILL BE PAID FOR UNDER ITEM 524.11, "JOINT SEALER, HOT Poured".



### ASPHALTIC PLUG-TYPE JOINT DETAIL

(NOT TO SCALE)

NOTE: SEE STANDARD SD-516.10 FOR ADDITIONAL INFORMATION.

CLD 15-0223 MODEL: TYP08



PROJECT NAME: BRATTLEBORO

PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j091typ-3l.dgn

PROJECT LEADER: J. BYATT

DESIGNED BY: N. CARON

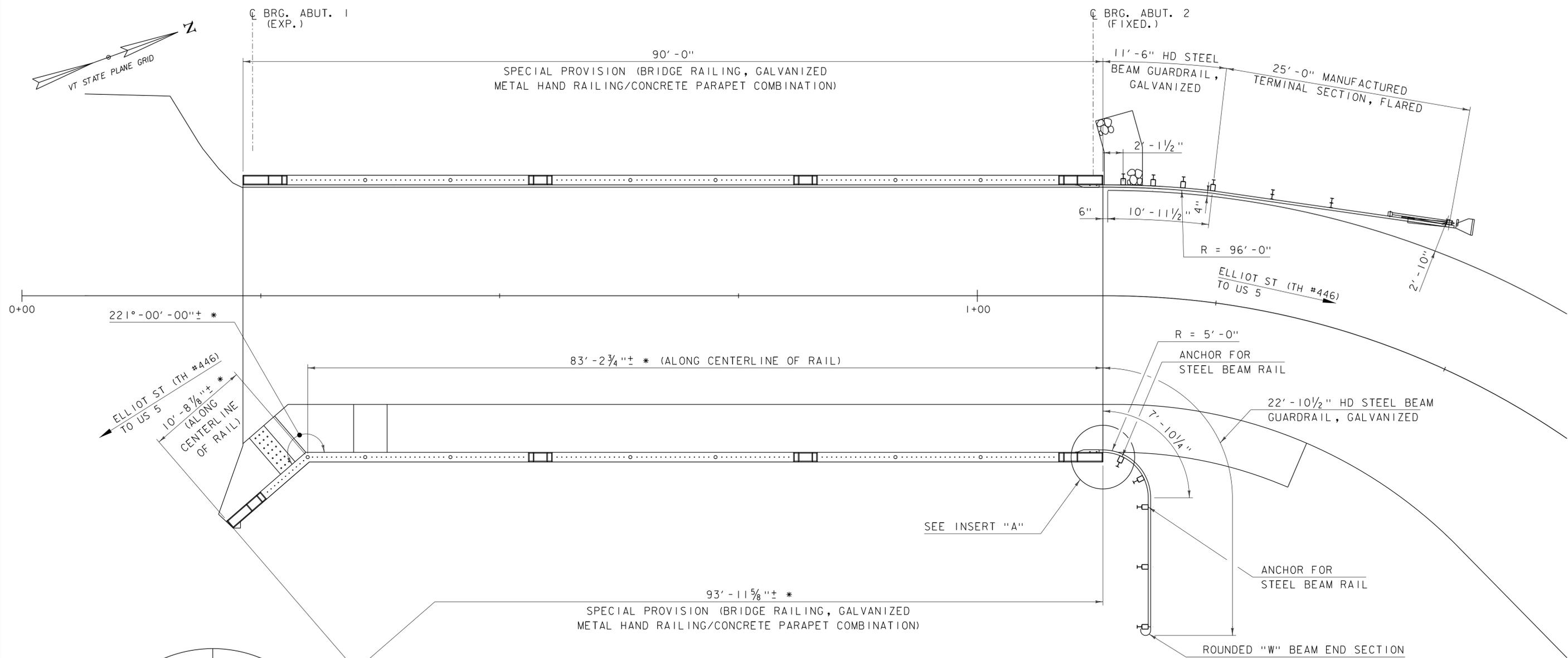
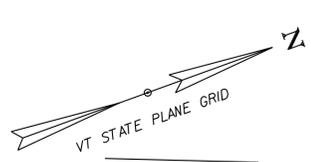
JOINT DETAILS SHEET

PLOT DATE: 1/22/2016

DRAWN BY: M. SMITH

CHECKED BY: S. BEAUMONT

SHEET 17 OF 26

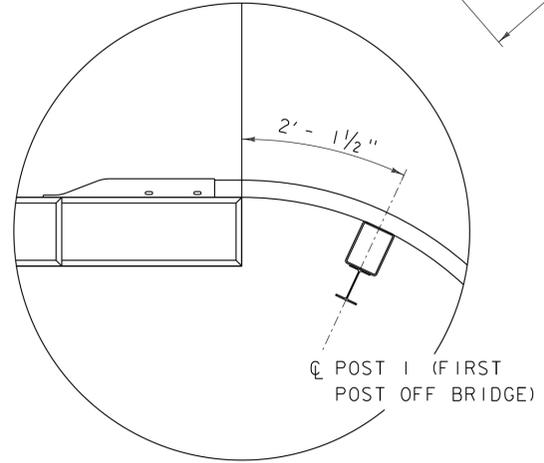


**RAIL LAYOUT**

SCALE: 3/16" = 1'-0"

* DIMENSIONS ARE BASED ON FIELD MEASUREMENTS AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS AND MAKE ADJUSTMENTS TO RAIL LAYOUT AS APPLICABLE. SEE SIDEWALK RAMP MASONRY PLAN ON SHEET 14.

- NOTES:
- REFER TO STANDARDS G-1 AND G-1d.
  - SEE BRIDGE AND APPROACH RAIL DETAILS ON SHEETS 19 TO 23.



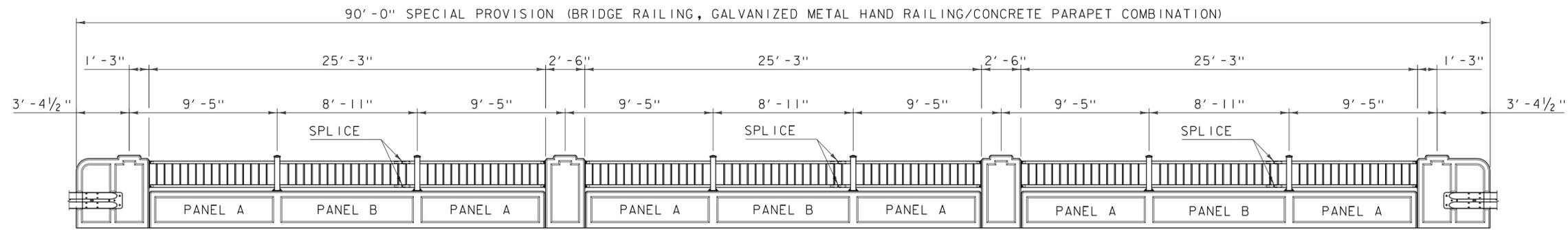
**INSERT "A"**

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

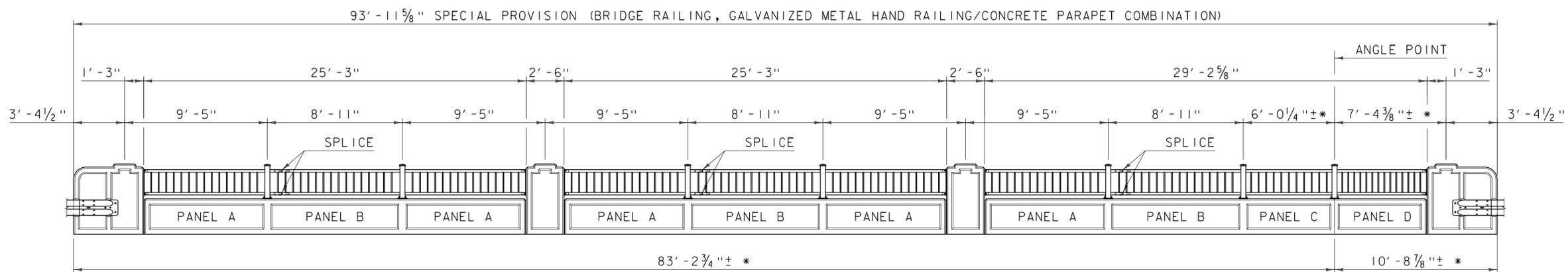
PROJECT NAME:	BRATTLEBORO	FILE NAME:	z15j091rail_bdr-3l.dgn	PLOT DATE:	1/22/2016
PROJECT NUMBER:	BF 2000(26)	PROJECT LEADER:	J. BYATT	DRAWN BY:	M. SMITH
		DESIGNED BY:	M. SMITH	CHECKED BY:	N. CARON
		RAIL LAYOUT SHEET		SHEET	18 OF 26



CLD 15-0223 MODEL: Sheet01



WEST RAIL

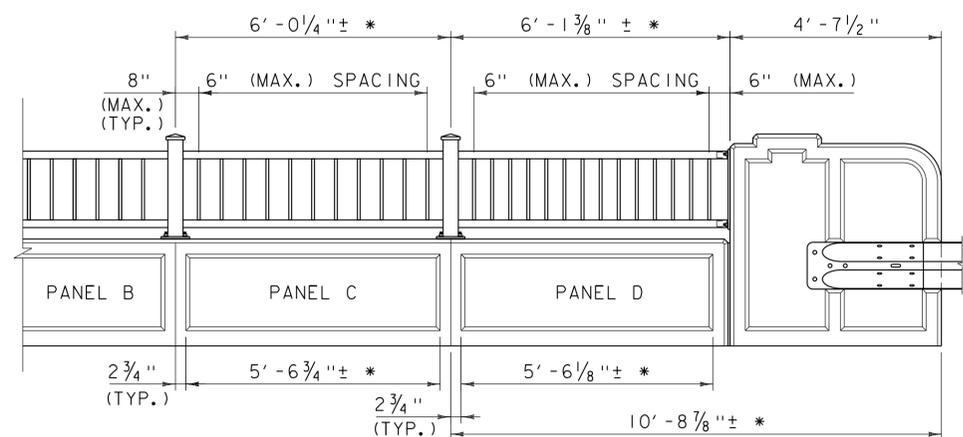


EAST RAIL

**BRIDGE RAIL ELEVATION (INTERIOR FACE)**

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

* DIMENSIONS ARE BASED ON FIELD MEASUREMENTS AND ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY EXISTING DIMENSIONS AND MAKE ADJUSTMENTS TO RAIL LAYOUT AS APPLICABLE. SEE SIDEWALK RAMP MASONRY PLAN ON SHEET 14.



**BRIDGE RAIL ELEVATION (INTERIOR FACE) AT SIDEWALK RAMP**

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

NOTES:

1. ALL DIMENSIONS ARE MEASURED ALONG CENTERLINE OF RAIL UNLESS NOTED OTHERWISE ON PLANS.
2. THE BRIDGE PLAQUE FURNISHED BY THE AGENCY SHALL BE CAST INTO THE BACKFACE OF THE CONCRETE RAIL AT THE NORTHEAST END PILASTER. SEE STANDARD SD-502.00 FOR ADDITIONAL INFORMATION.

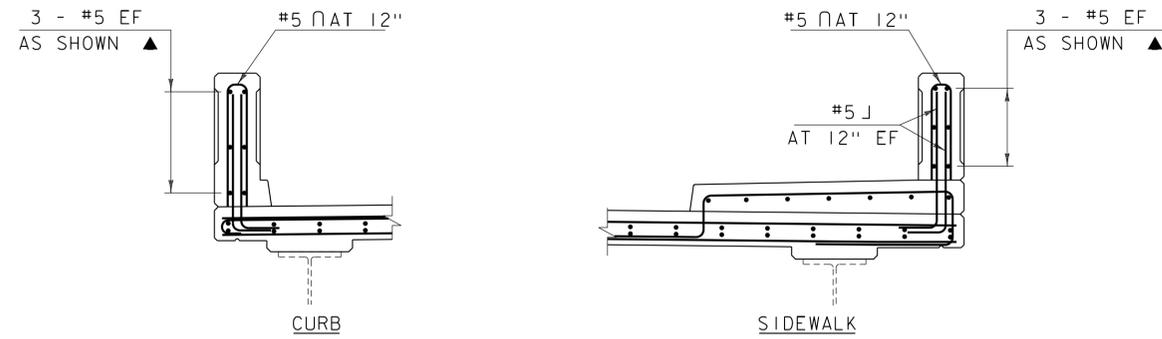
PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j09rail_bdr-3l.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: M. SMITH  
BRIDGE RAIL DETAILS SHEET 1

PLOT DATE: 1/22/2016  
DRAWN BY: M. SMITH  
CHECKED BY: N. CARON  
SHEET 19 OF 26

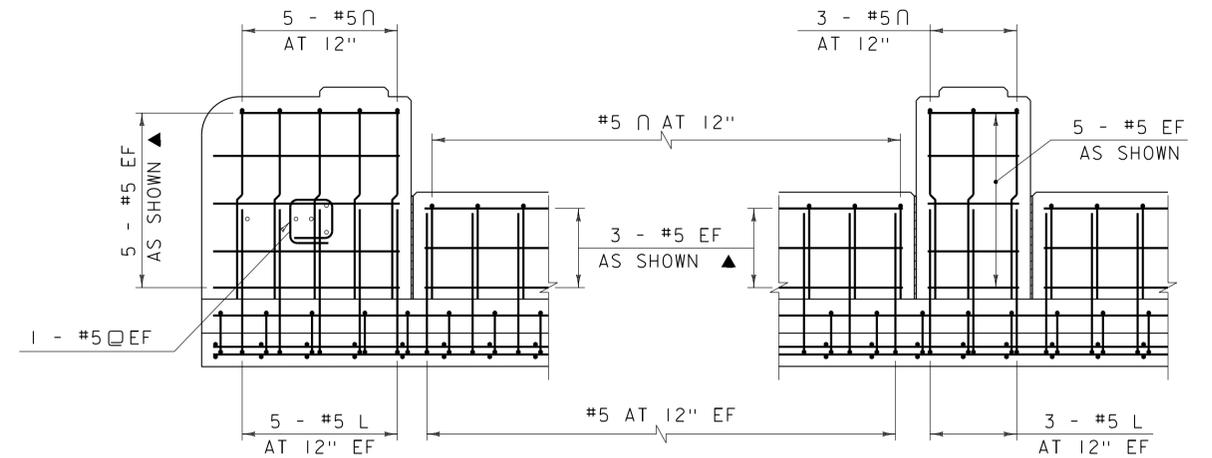






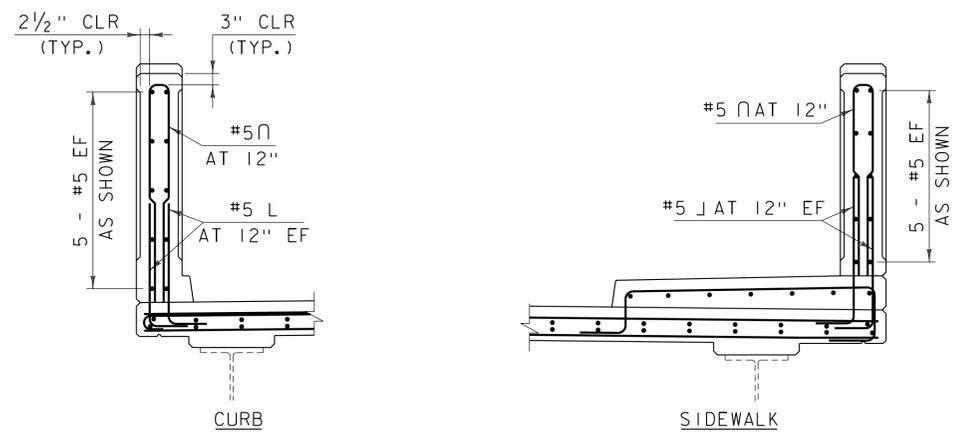
**TYPICAL CONCRETE BASE PARAPET SECTIONS**

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



**TYPICAL REINFORCING SIDEWALK SIDE**

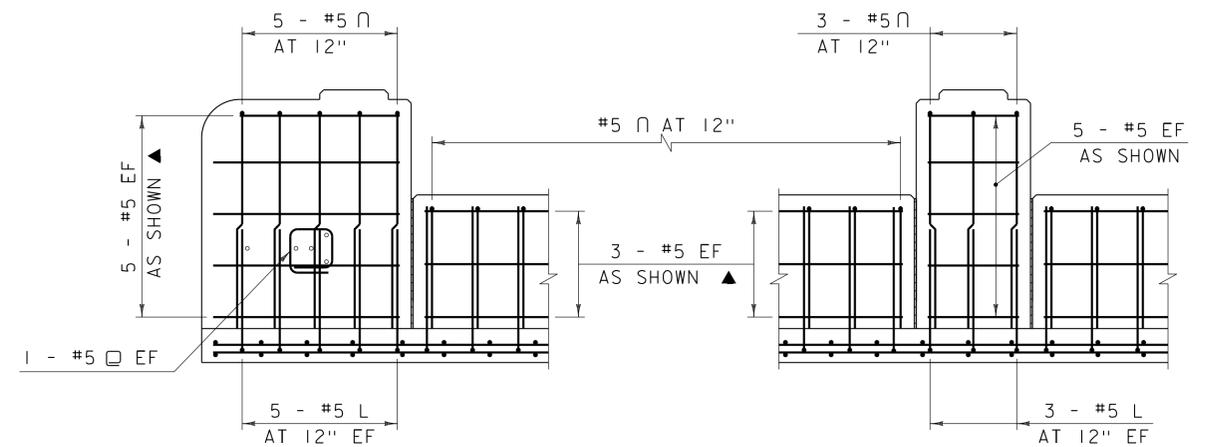
SCALE: 1/2" = 1'-0"



**TYPICAL INTERMEDIATE PILASTER SECTIONS**

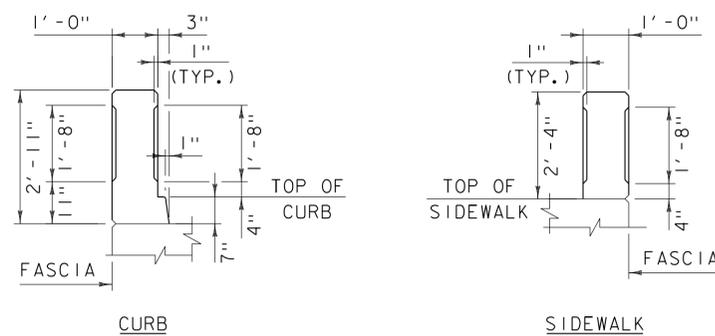
SCALE: 1/2" = 1'-0"

(END PILASTERS ARE SIMILAR)



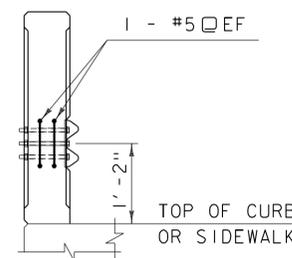
**TYPICAL REINFORCING CURB SIDE**

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



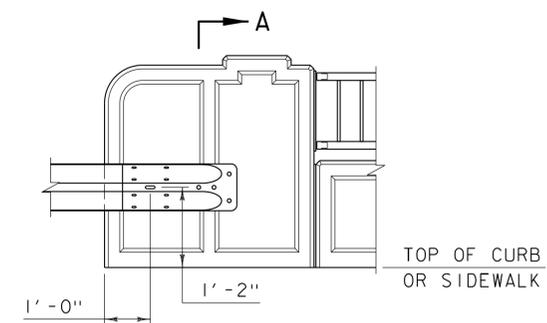
**CONCRETE INSERT DETAILS**

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



**SECTION "A-A"**

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



**TERMINAL CONNECTOR LOCATION**

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

**NOTE:**

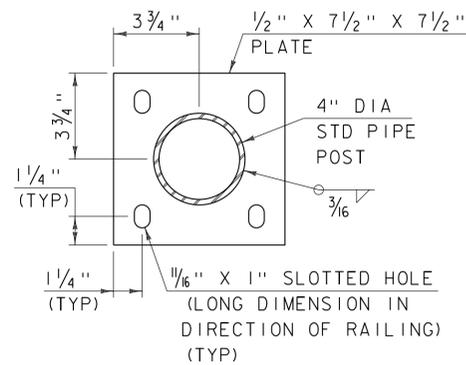
- NF = NEAR FACE
- FF = FAR FACE
- EF = EACH FACE
- ALL REINFORCING ON THIS SHEET SHALL BE LEVEL 1 EPOXY COATED REINFORCING STEEL
- ▲ = CUT TO FIT IN FIELD
- 3" CLEAR, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 2'-2" BAR LAP UNLESS OTHERWISE SPECIFIED ON THE PLANS.



PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BF 2000(26)

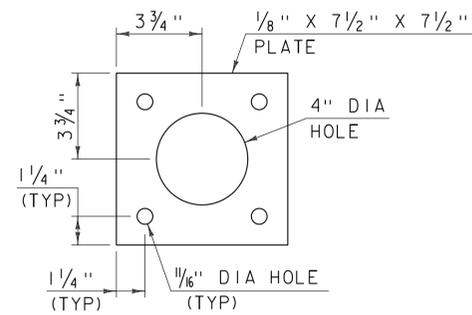
FILE NAME: z15j091rail_bdr-3l.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: M. SMITH  
BRIDGE RAIL DETAILS SHEET 3

PLOT DATE: 1/22/2016  
DRAWN BY: M. SMITH  
CHECKED BY: N. CARON  
SHEET 21 OF 26



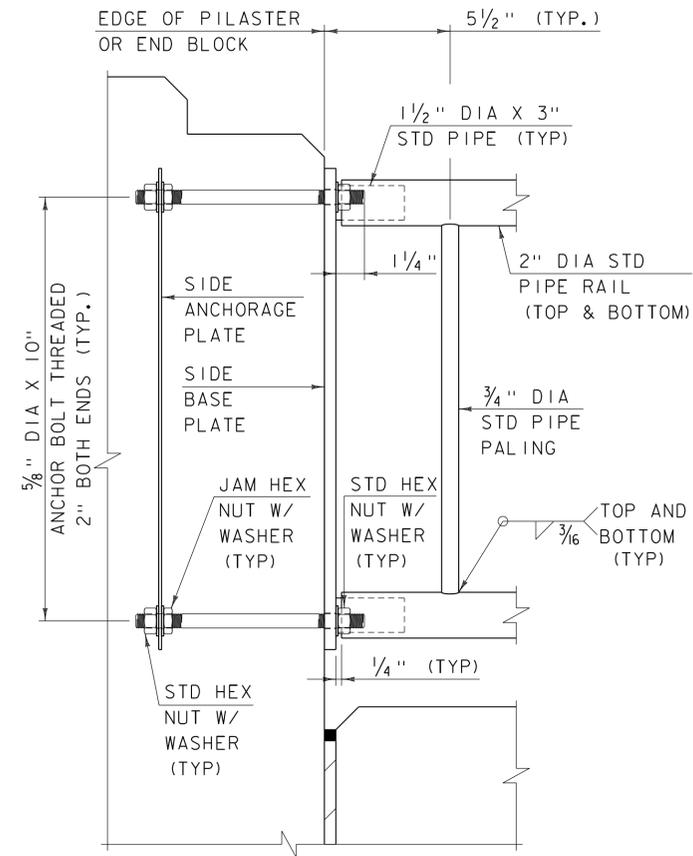
**POST BASE PLATE**

SCALE: 3" = 1'-0"



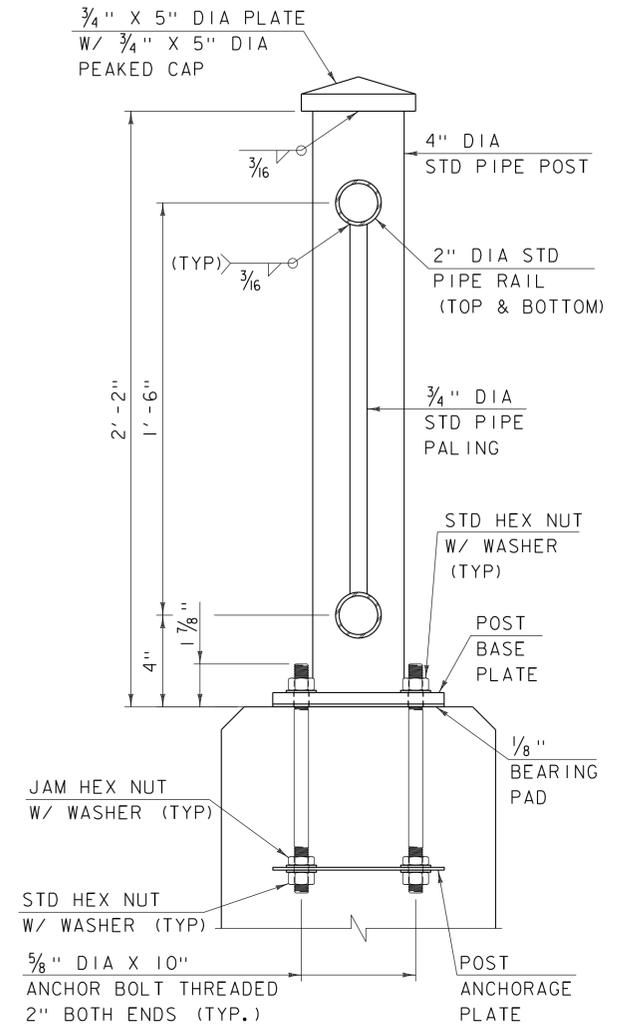
**POST ANCHORAGE PLATE**

SCALE: 3" = 1'-0"



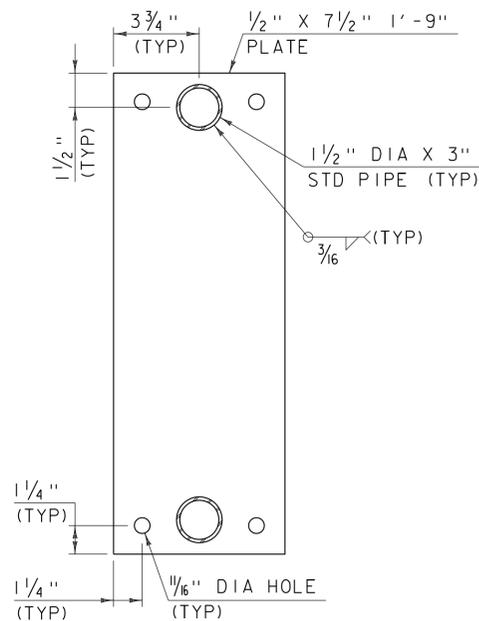
**SIDE PLATE CONNECTION DETAIL**

SCALE: 3" = 1'-0"



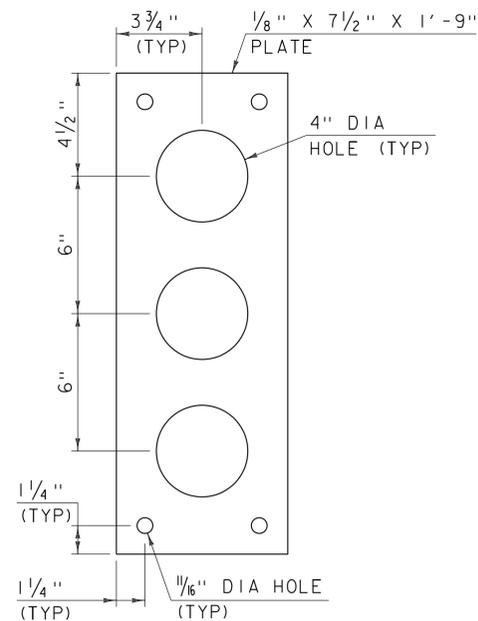
**METAL RAILING DETAIL**

SCALE: 3" = 1'-0"



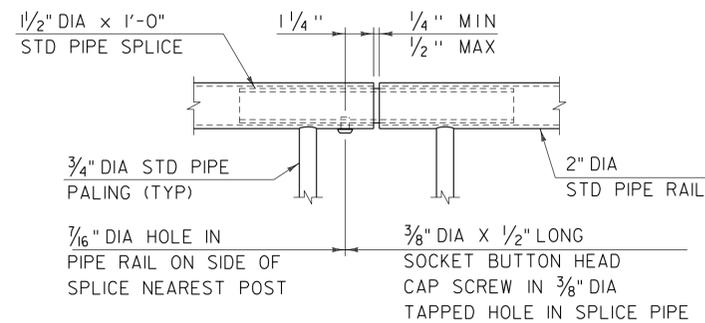
**SIDE BASE PLATE**

SCALE: 3" = 1'-0"



**SIDE ANCHORAGE PLATE**

SCALE: 3" = 1'-0"



**RAIL SPLICE DETAIL**

SCALE: 3" = 1'-0"

CLD 15-0223 MODEL: Sheet05



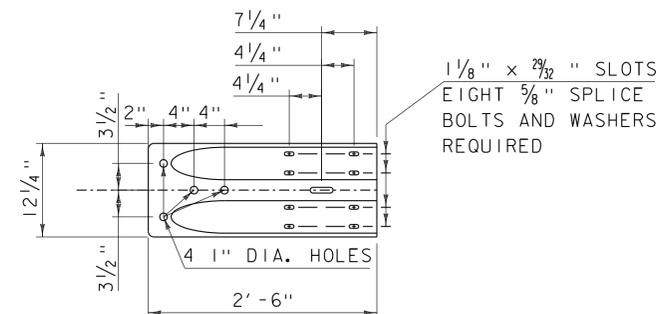
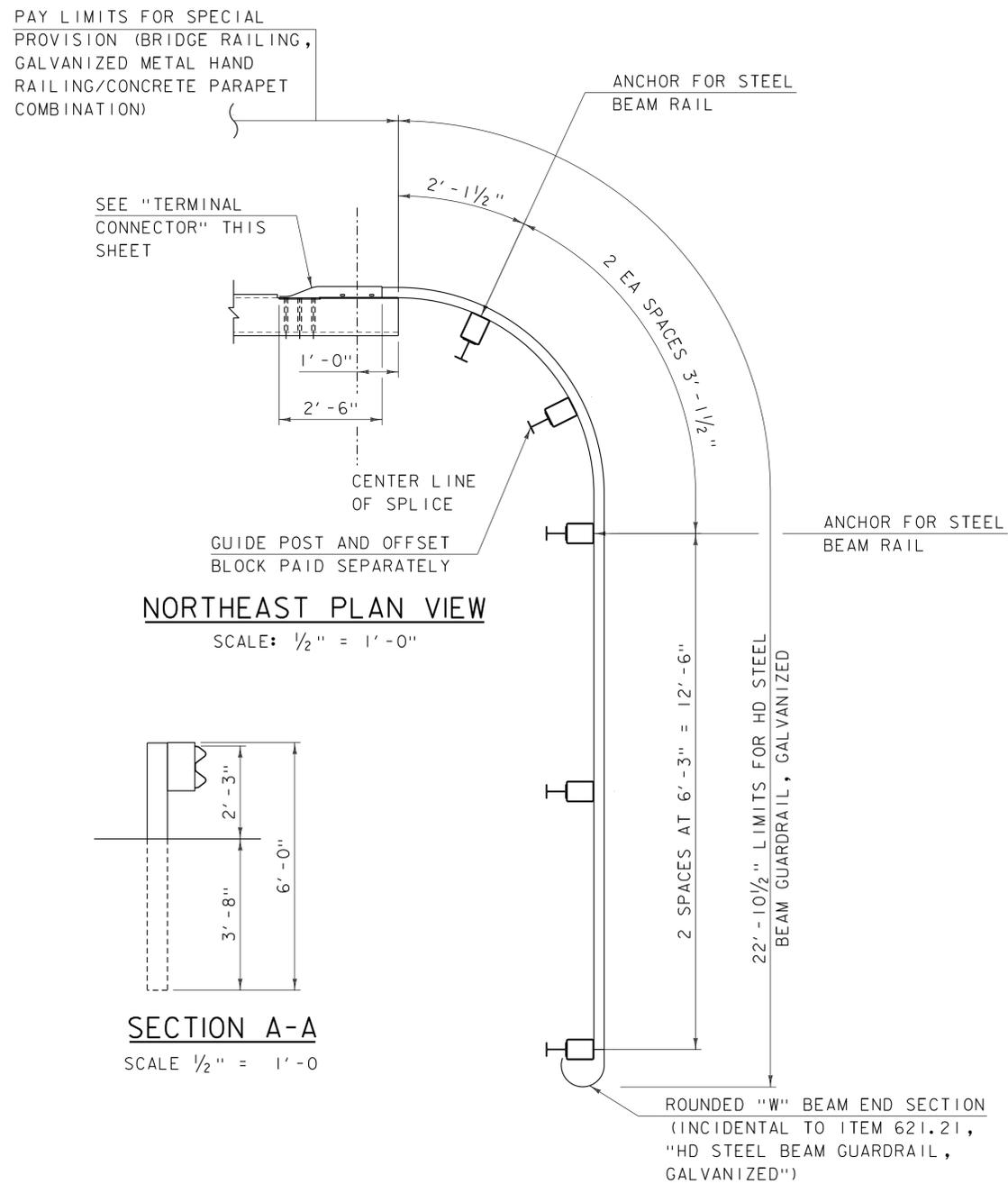
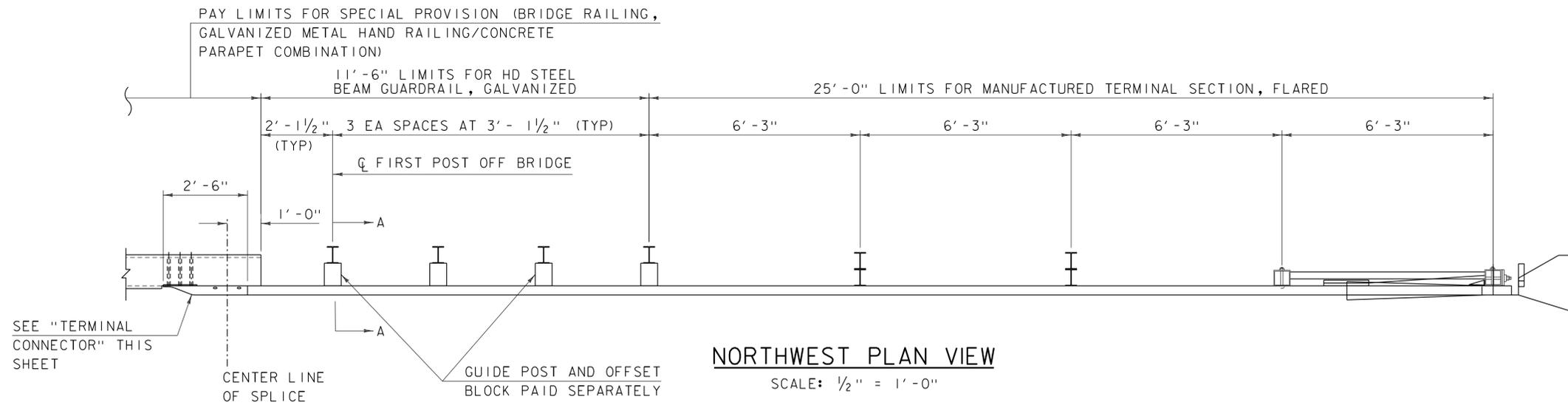
PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j09rail_bdr-3l.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: M. SMITH  
BRIDGE RAIL DETAILS SHEET 4

PLOT DATE: 1/22/2016  
DRAWN BY: M. SMITH  
CHECKED BY: N. CARON  
SHEET 22 OF 26

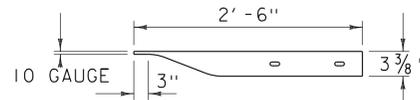
**NOTES**

1. A COMPOSITE MATERIAL POST AND/OR BLOCKOUT FROM THE APPROVED PRODUCTS LIST MAY BE SUBSTITUTED FOR A POST AND/OR BLOCKOUT OF SIMILAR DIMENSIONS.
2. REFER TO STANDARD DRAWINGS G-1 AND G-1d FOR ADDITIONAL DETAILS.
3. THE TERMINAL CONNECTOR TO BRIDGE RAIL AND THE CONNECTION PLATE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 900.640, "SPECIAL PROVISION (BRIDGE RAILING, GALVANIZED METAL HAND RAILING/CONCRETE PARAPET COMBINATION)".



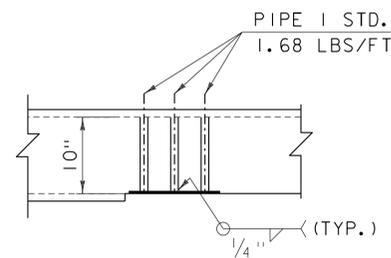
**TERMINAL CONNECTOR ELEVATION**

SCALE 1" = 1'-0"



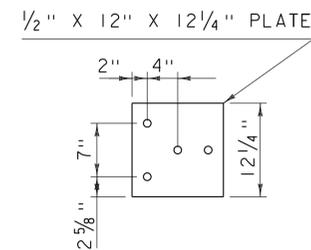
**TERMINAL CONNECTOR PLAN**

SCALE 1" = 1'-0"



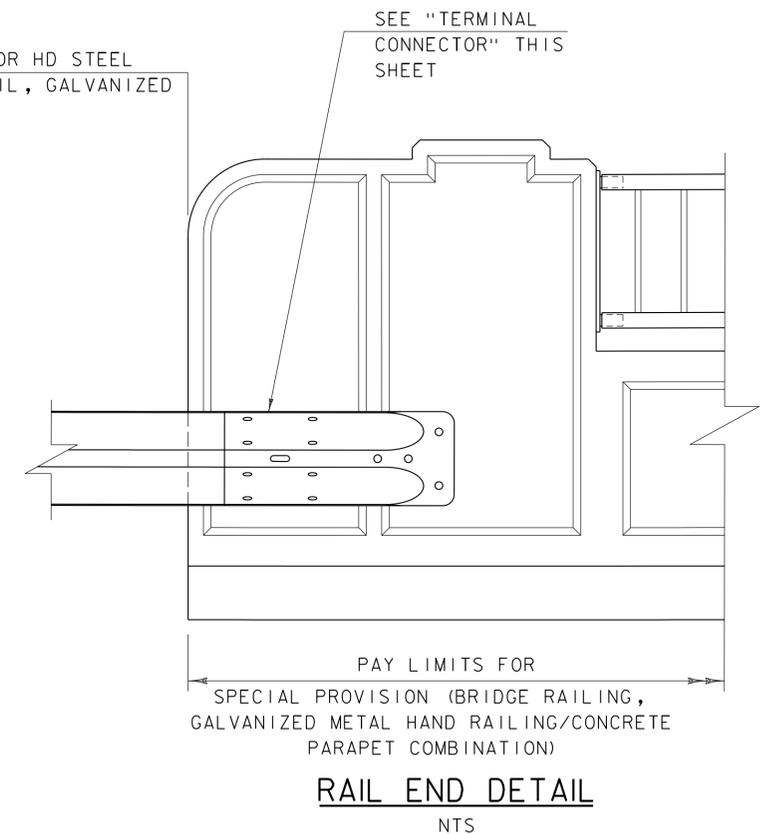
**CONNECTION PLATE DETAIL - PLAN**

SCALE 1" = 1'-0"



**CONNECTION PLATE DETAIL - ELEVATION**

SCALE 1" = 1'-0"



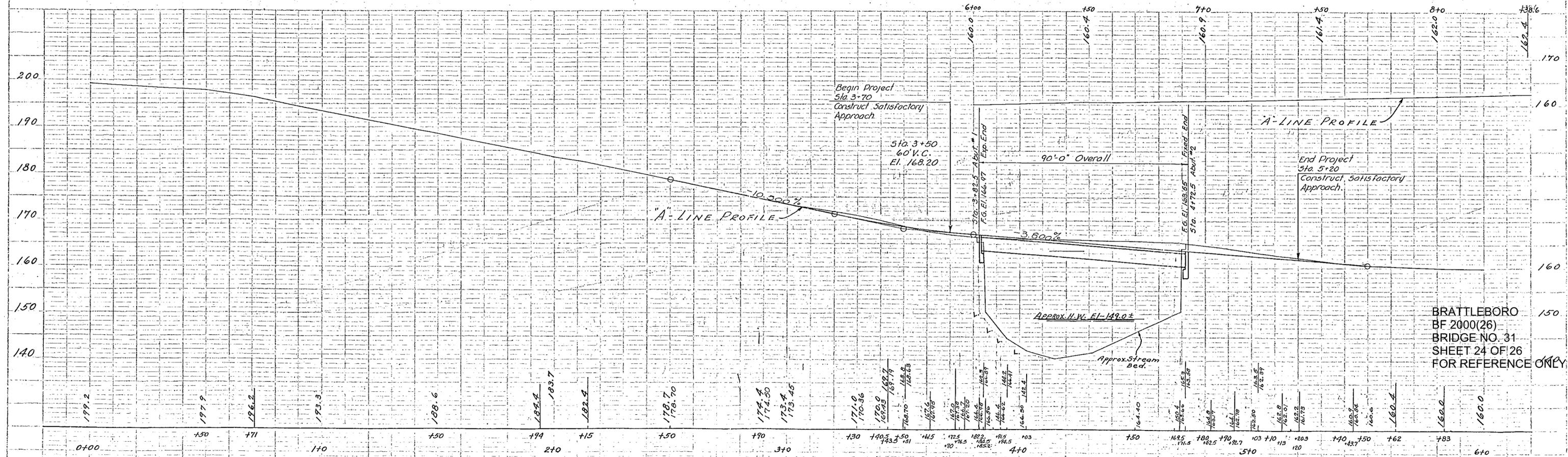
THE USE OF THIS RAILING IS RESTRICTED TO DESIGN SPEEDS OF 45 MPH OR LESS.

PROJECT NAME: BRATTLEBORO  
PROJECT NUMBER: BF 2000(26)

FILE NAME: z15j091rail_bdr-31.dgn  
PROJECT LEADER: J. BYATT  
DESIGNED BY: N. CARON  
APPROACH RAIL DETAILS SHEET

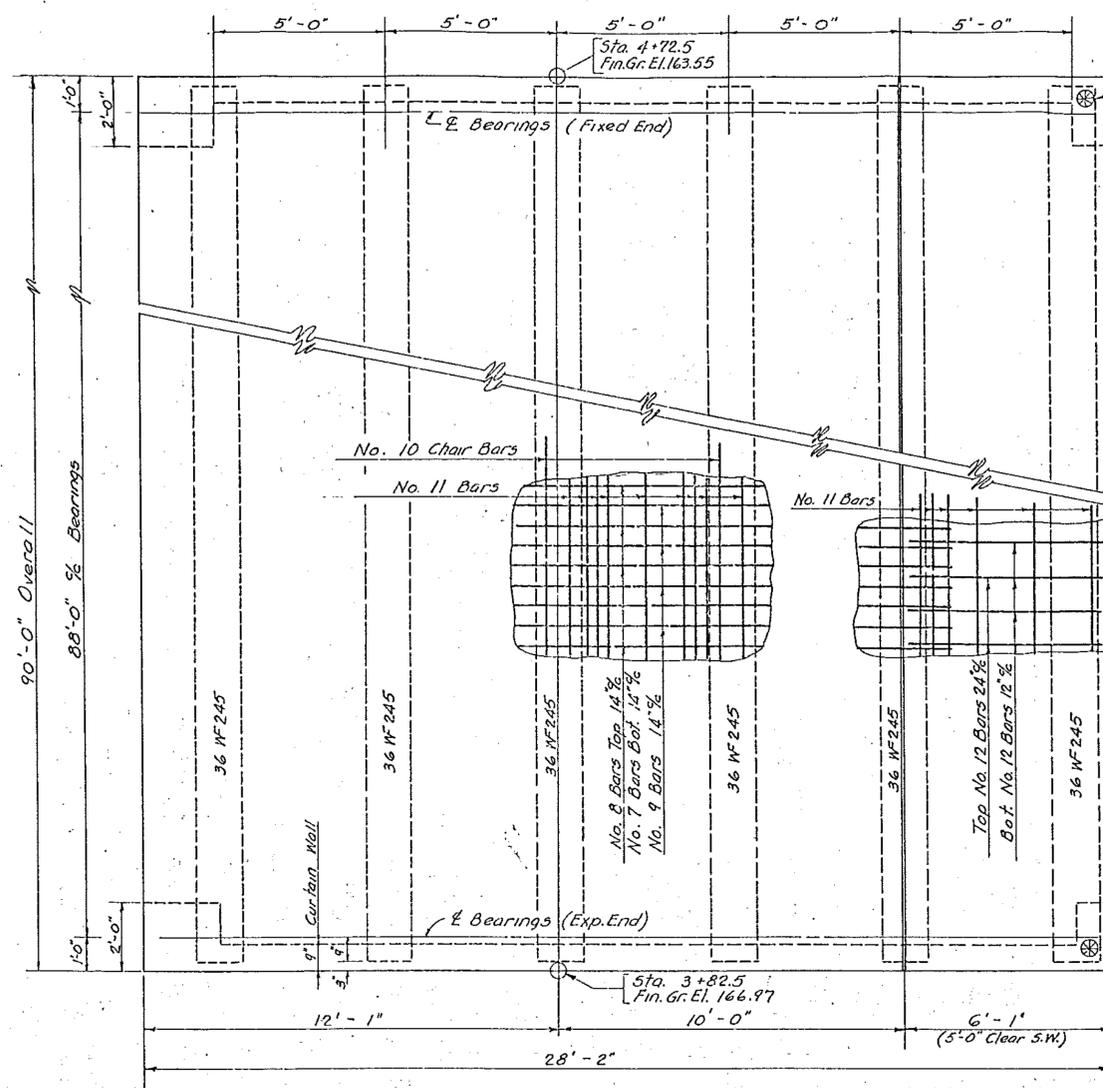
PLOT DATE: 1/22/2016  
DRAWN BY: M. SMITH  
CHECKED BY: S. BEAUMONT  
SHEET 23 OF 26





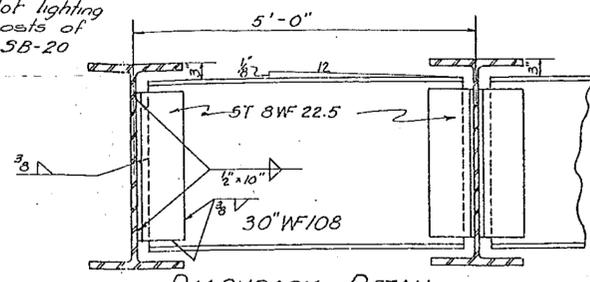
BRATTLEBORO  
 BF 2000(26)  
 BRIDGE NO. 31  
 SHEET 24 OF 26  
 FOR REFERENCE ONLY



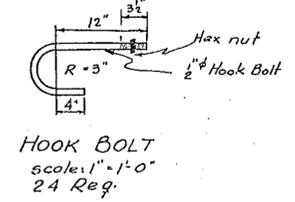


**PLAN**  
scale: 3/8" = 1'-0"

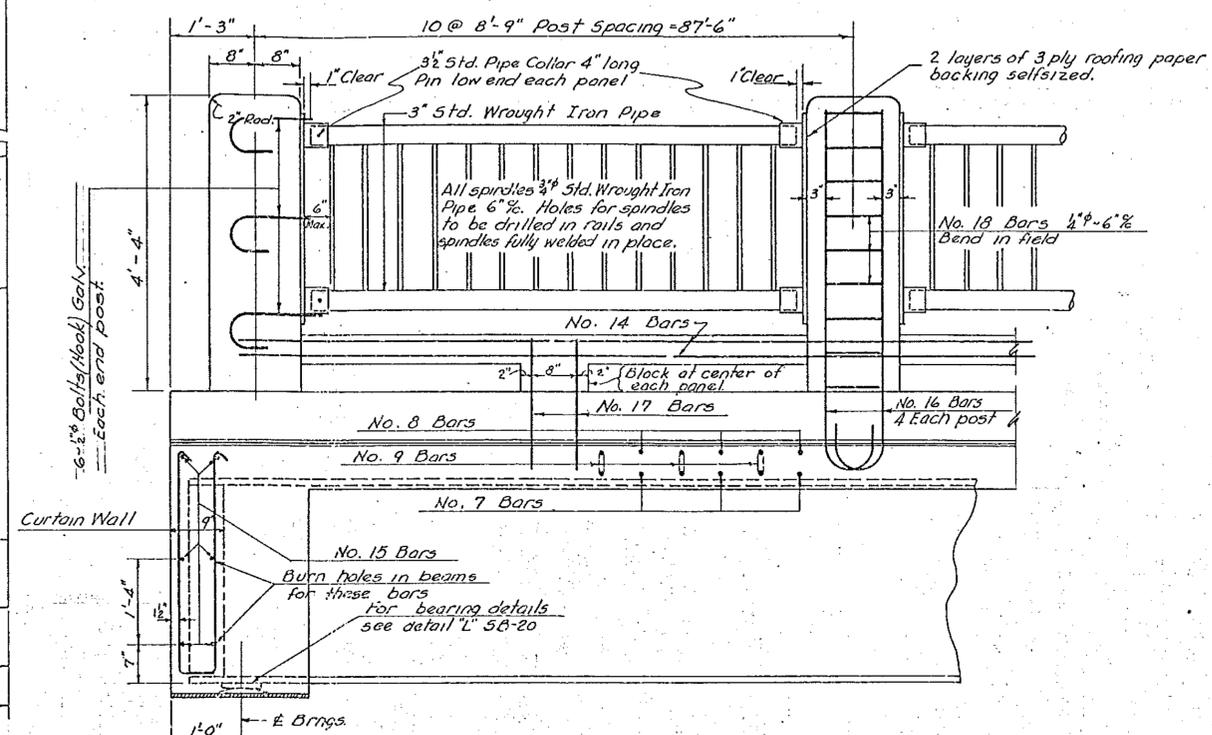
Provide Conduit for lighting system in end posts of Bridge. See Std. 5B-20 Detail-M



**DIAPHRAGM DETAIL**  
4-sets req'd of 5 points  
scale: 3/4" = 1'-0"



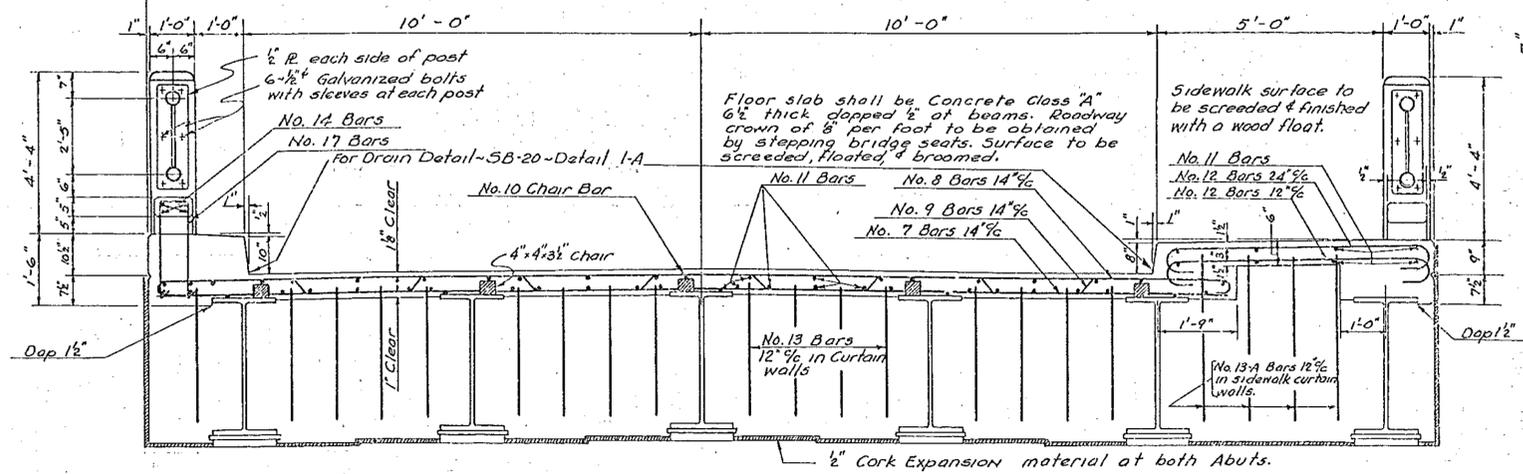
**HOOK BOLT**  
scale: 1" = 1'-0"  
24 Req.



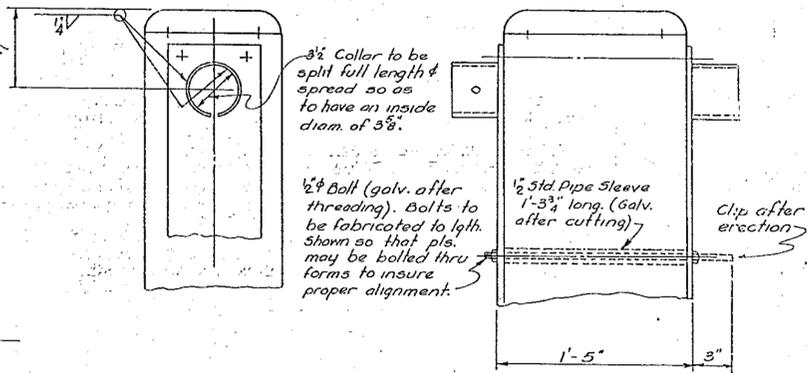
**PART LONGITUDINAL SECTION**  
scale: 3/4" = 1'-0"

REINFORCING STEEL SCHEDULE				
BAR NO.	SIZE	TOTAL REQD.	OVERALL LGTH.	DETAIL
7	5/8"	78	23'-4"	Straight
8	5/8"	78	24'-8"	
9	5/8"	77	25'-8"	
10	3/4"	15	31'-9"	Straight
11	1/2"	156	31'-3"	"
12	5/8"	135	7'-3"	
13	3/8"	34	7'-0"	
13A	3/8"	8	8'-6"	
14	3/4"	24	31'-4"	Straight
15	5/8"	12	27'-6"	Straight
16	1"	88	6'-5"	
17	1/2"	40	4'-10"	
18	1/2"	198	3'-6"	Straight-Bend to fit in field

**GENERAL NOTES:-**  
Beams shall be rolled to a true circular camber the full length of the beam. Middle ordinate for camber 3/4".  
All Structural Steel shall be painted as specified under item 43-B of Pamphlet 'E', Standard Road & Bridge Specifications, State of Vermont, 1936. Final coat shall be green.  
All material & construction shall conform to the Standard Road & Bridge Specifications, State of Vermont, 1936 & A.A.S.H.O. Specifications of 1944.  
Designed for H-15(44) live loading & 25# paving allowance.



**CROSS SECTION OF BRIDGE**  
scale: 1/2" = 1'-0"



**DETAIL OF TOP OF POSTS**  
scale: 1/2" = 1'-0"

**ESTIMATED QUANTITIES**

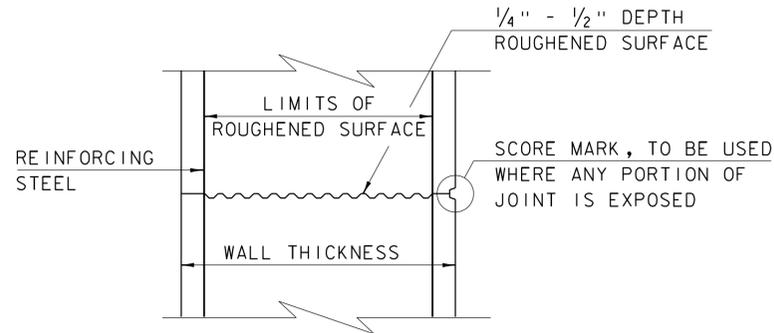
Conc. Class "A" 79 c.y.  
Reinforcing Steel 14,300 lbs.  
Steel Superstructure 150,500 lbs.  
Conduit for Lighting System 1 L.S.

BRATTLEBORO  
BF 2000(26)  
BRIDGE NO. 31  
SHEET 26 OF 26  
FOR REFERENCE ONLY

Surveyed by  
Designed by E.F.P.  
Drawn by E.F.P.  
Traced by H.W.S.  
Checked by L.M.B. 2-19-47  
Series T-7 No. 1946 Filed  
Sheet 3 of 11 Sheets

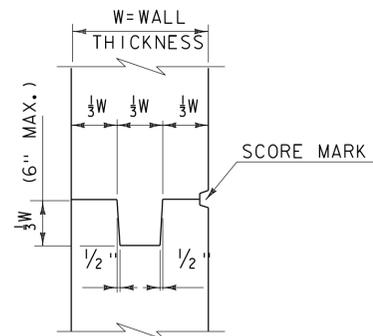
**CONCRETE GENERAL NOTES**

1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1"
2. REINFORCING STEEL SIZE AND SPACING SHOWN IN THE PLANS IS BASED ON 60 KSI STEEL, UNLESS NOTED OTHERWISE. WITH THE ENGINEER'S PERMISSION, BAR SIZE AND SPACING MAY BE MODIFIED ACCORDING TO THE LATEST AASHTO LRFD BRIDGE DESIGN SPECIFICATION AND STRUCTURES DESIGN MANUAL WHEN USING HIGHER STRENGTH STEEL.

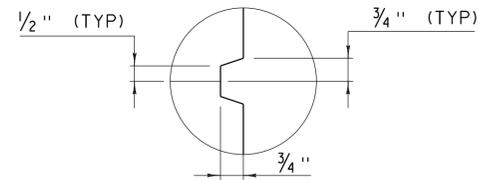


**TYPICAL HORIZONTAL CONSTRUCTION JOINT**  
(NOT TO SCALE)

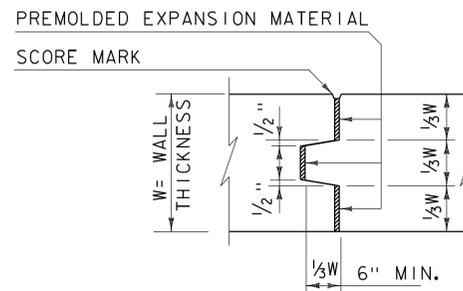
1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.
2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



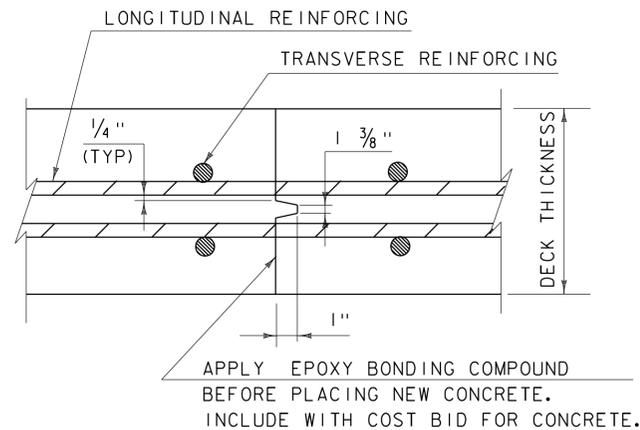
**TYPICAL CONCRETE CONSTRUCTION JOINT**  
(NOT TO SCALE)



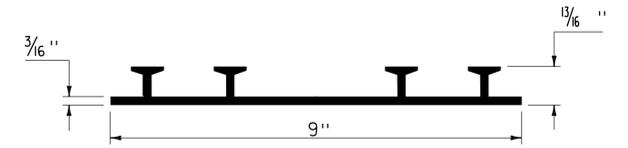
**SCORE MARK DETAIL**  
(NOT TO SCALE)



**TYPICAL CONCRETE EXPANSION JOINT**  
(NOT TO SCALE)



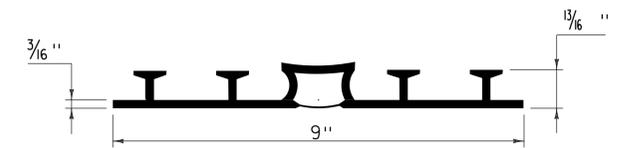
**TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS**  
(NOT TO SCALE)



**P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS**  
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

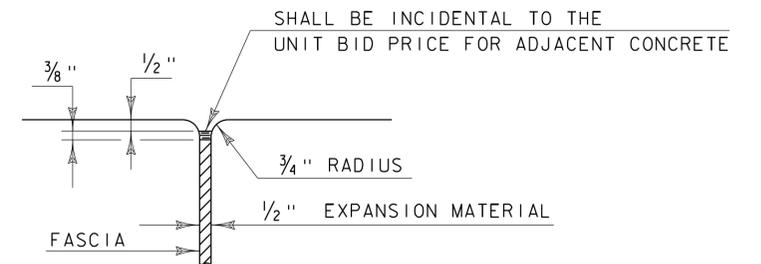
OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



**P.V.C. WATERSTOP FOR EXPANSION JOINTS**  
(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE.

OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.



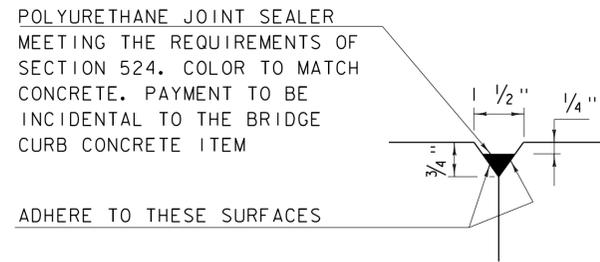
**JOINT BETWEEN FASCIA AND WINGWALL**  
(NOT TO SCALE)

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
FEBRUARY 9, 2012	REBAR SUBSTITUTION ALLOWANCE ADDED TO CONCRETE GENERAL NOTES.

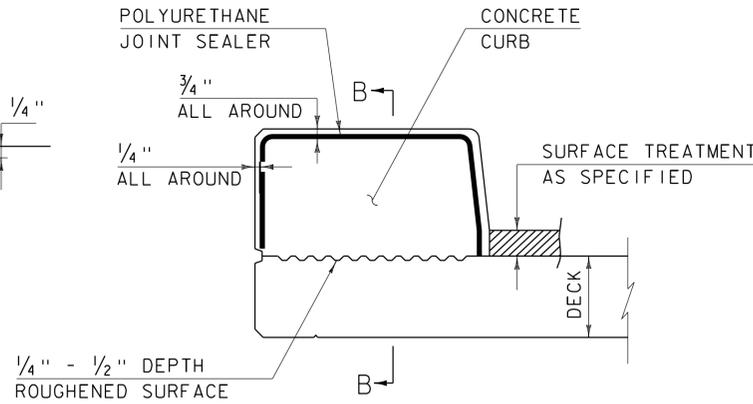
**CONCRETE  
DETAILS AND NOTES**



**STRUCTURES  
DETAIL  
SD-501.00**

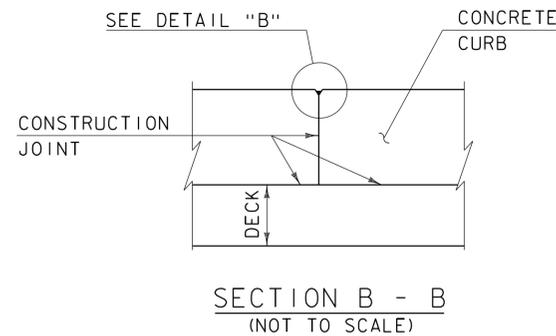


DETAIL "B"  
(NOT TO SCALE)

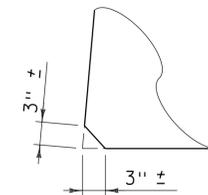


CONCRETE CURB JOINT SECTION  
(NOT TO SCALE)

1. SEE TYPICAL HORIZONTAL CONSTRUCTION JOINT DETAIL FOR ADDITIONAL INFORMATION



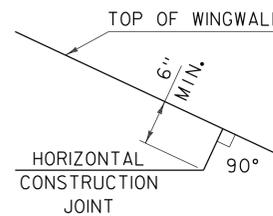
SECTION B - B  
(NOT TO SCALE)



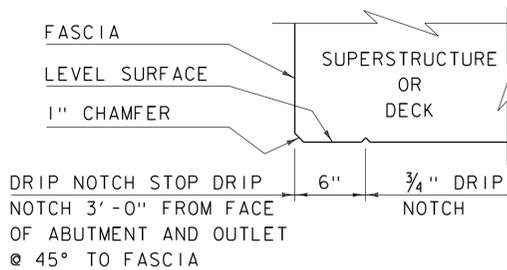
ACUTE ANGLE  
CLIP DETAIL  
(NOT TO SCALE)

CONCRETE CURB JOINT NOTES

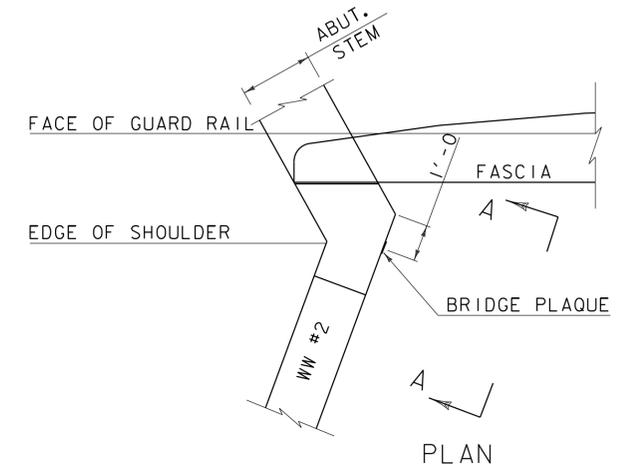
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 15'-0" CENTER TO CENTER AND 2'-0" MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 7'-0" EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS. CURB STIRRUP BARS SHALL BE TURNED AS NECESSARY TO MAINTAIN COVER IN THE FLARED CURB ENDS.
6. THE JOINT SPACING AND DETAILS SHOWN SHALL APPLY TO SIDEWALKS WHEN SHOWN IN THE PLANS.



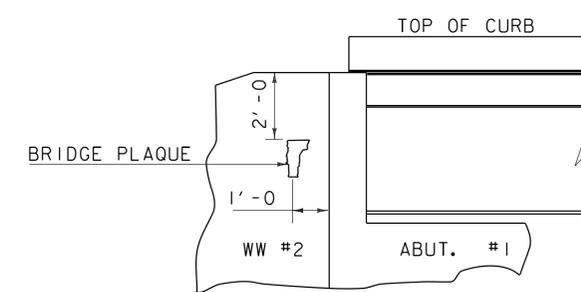
HORIZONTAL WINGWALL  
CONSTRUCTION JOINT  
(NOT TO SCALE)



DRIP NOTCH DETAIL  
(NOT TO SCALE)



PLAN



VIEW "A - A"

BRIDGE PLAQUE  
(NOT TO SCALE)

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

PAYMENT FOR INSTALLATION OF THE BRIDGE PLAQUE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

REVISIONS

MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED AND ADDED TWO DETAILS
OCTOBER 10, 2012	MODIFIED HORZ. JOINT WINGWALL ADD 6" MIN. DIMENSION

CONCRETE  
DETAILS AND NOTES



STRUCTURES  
DETAIL  
SD-502.00

ASPHALTIC PLUG JOINT NOTES

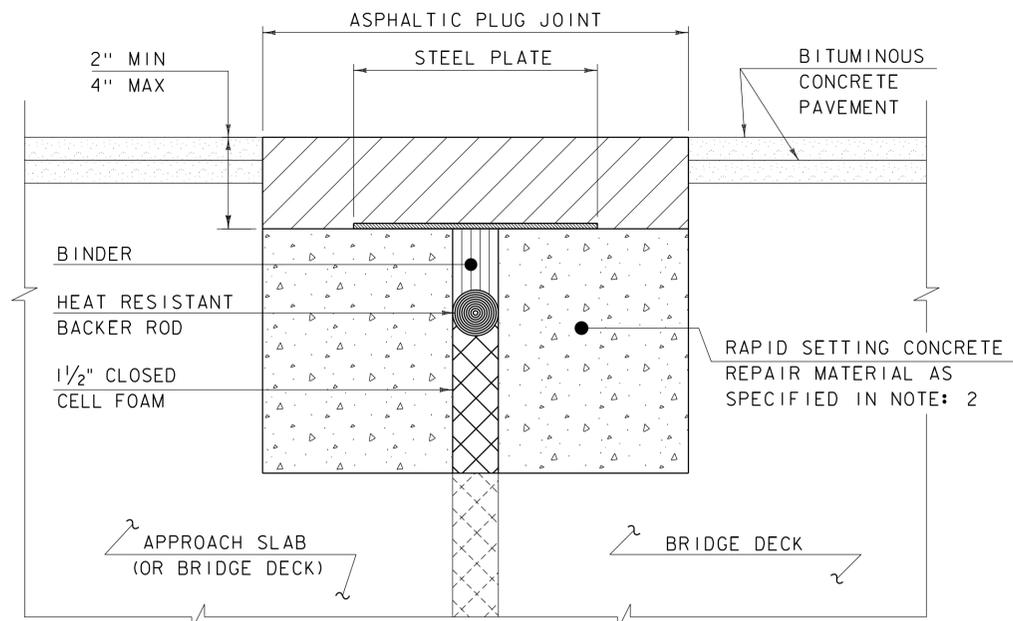
INSTALLATION:

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
5. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
6. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

WEATHER LIMITATIONS

APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

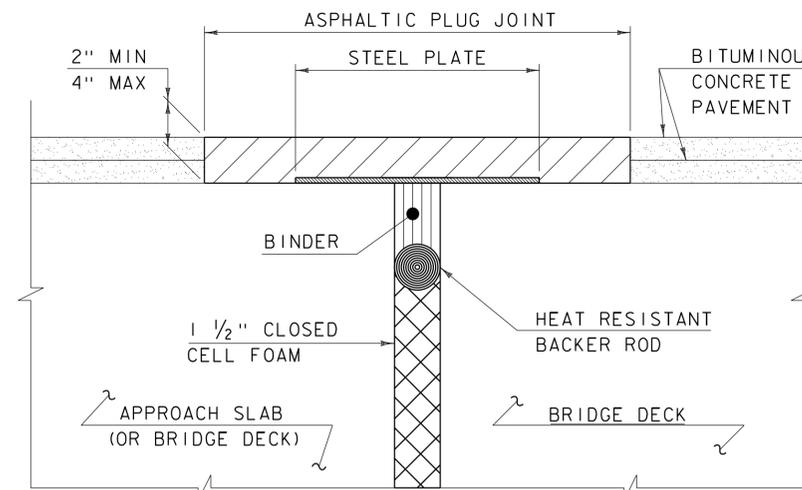
1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



ASPHALTIC PLUG JOINT DETAIL - REHAB

NOTES:

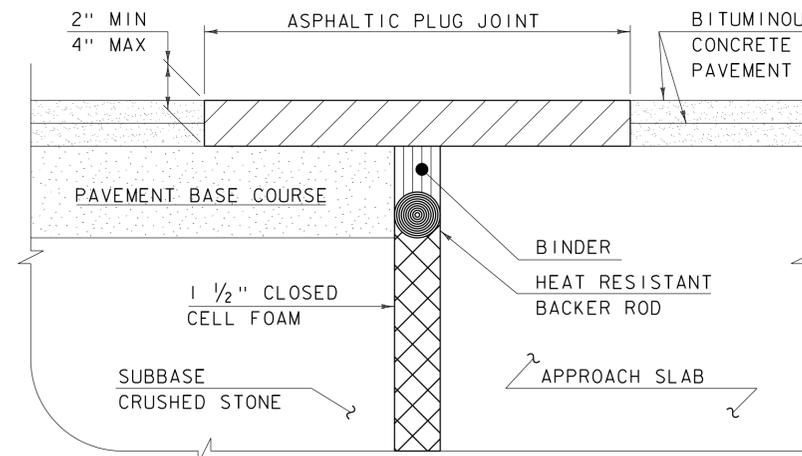
1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.
4. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.



ASPHALTIC PLUG JOINT DETAIL "A" - NEW

NOTE:

PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.



ASPHALTIC PLUG JOINT DETAIL "B" - NEW

DETAILS ON THIS SHEET ARE NOT TO SCALE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
AUGUST 29, 2011	ADD DETAIL "B" AND REV. NOTES

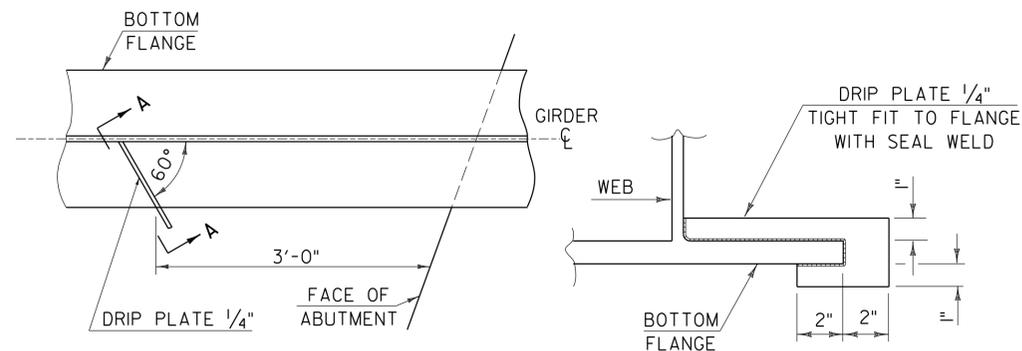
BRIDGE JOINT  
ASPHALTIC PLUG



STRUCTURES  
DETAIL  
SD-516.10

STRUCTURAL STEEL GENERAL NOTES:

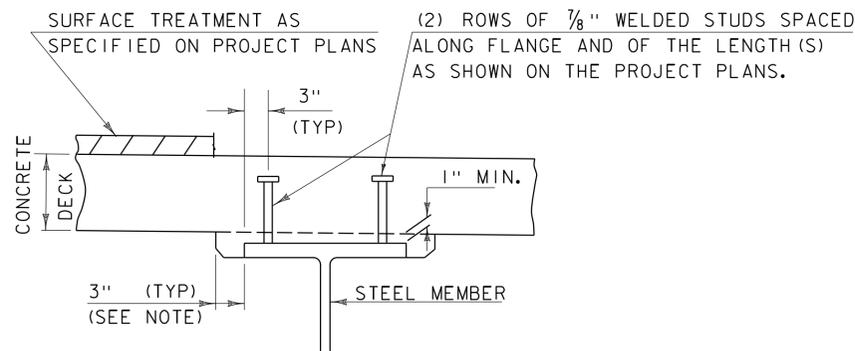
1. ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES, PER SUBSECTION 506.I9, UNLESS OTHERWISE SPECIFIED.
2. ALL HOLES IN THE WEBS OF THE FASCIA GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.I9.
3. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.I0.
4. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
5. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.
6. ENDS OF GIRDERS ARE TO BE VERTICAL IN THEIR FINAL POSITION.
7. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE GIRDERS SHALL BE TAKEN AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES.



PLAN DRIP PLATE

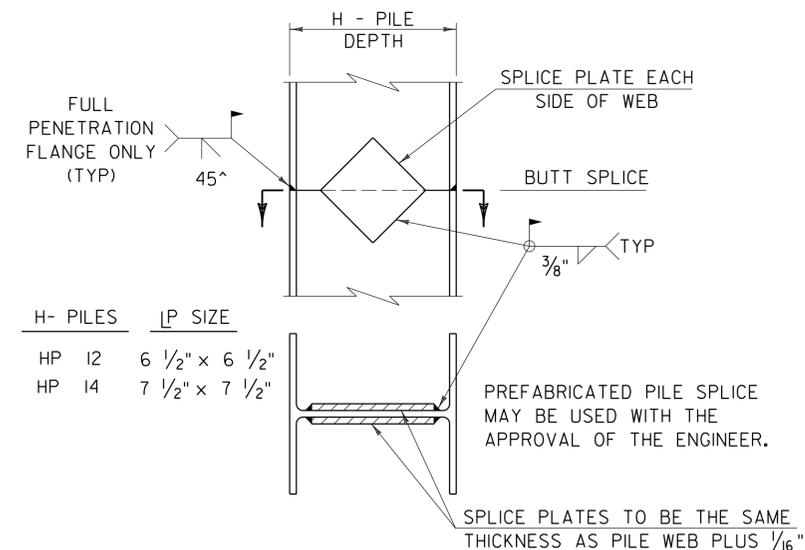
SECTION A - A

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



NOTE:  
THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.

HAUNCH AND SHEAR CONNECTOR DETAIL

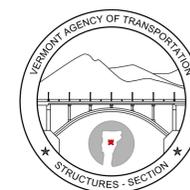


DETAIL OF PILE SPLICE

DETAILS ON THIS SHEET ARE "NOT TO SCALE" UNLESS NOTED OTHERWISE.

REVISIONS	
MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION
JUNE 4, 2010	MODIFIED NOTES

# STRUCTURAL STEEL DETAILS & NOTES



# STRUCTURES DETAIL SD-601.00