STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROPOSED IMPROVEMENT
BRIDGE PROJECT
TOWN OF HUNTINGTON
COUNTY OF CHITTENDEN
BRIDGE NO. 42 ON EAST STREET (T.H. 4) CLASS 3 (LOCAL ROAD)

INDEX OF SHEETS

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C-3A	09-01-04
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D-4	06-01-94
D-6	06-01-94
D-8	01-03-00
D-9	06-01-94
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G-1	01-03-00
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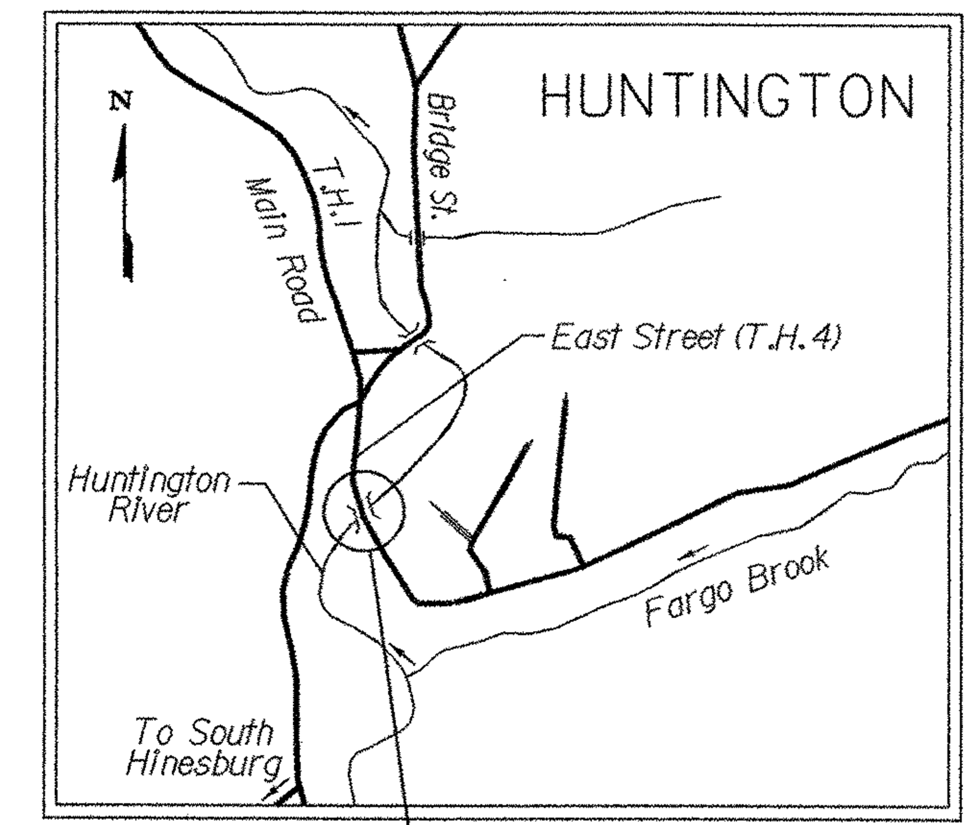
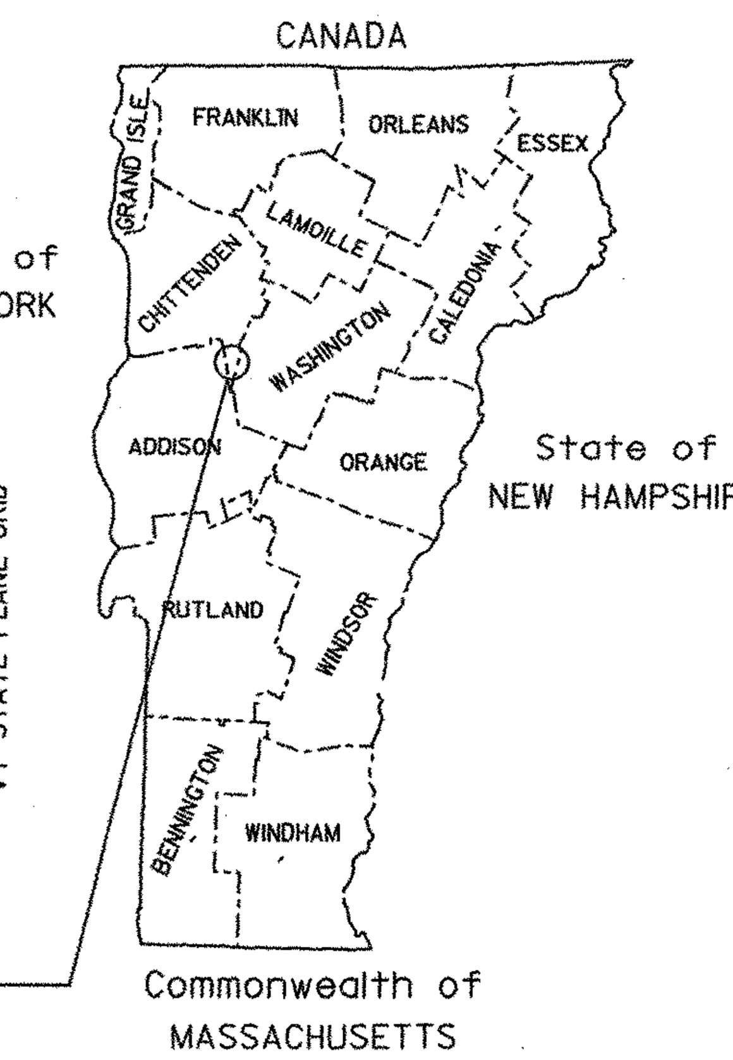




HUNTINGTON BRO 1445 (29)
BRIDGE 42 ON T.H. 4

LOCATION MAP
N.T.S.

PROJECT LOCATION: BEGINNING AT APPROXIMATELY 0.25 MILES SOUTH OF THE INTERSECTION OF MAIN ROAD (T.H. 1) AND EAST STREET (T.H. 4) IN HUNTINGTON, VT AND PROCEEDING SOUTHERLY APPROXIMATELY 0.10 MILES ALONG EAST STREET (T.H. 4).

PROJECT DESCRIPTION: REPLACEMENT OF EXISTING BRIDGE WITH NEW STRUCTURE, INCLUDING RELATED CHANNEL AND ROADWAY APPROACH WORK.
LENGTH OF SUPERSTRUCTURE: 188.01 FEET (0.03 MILES)
LENGTH OF ROADWAY: 361.99 FEET (0.07 MILES)
LENGTH OF PROJECT: 550.0 FEET (0.10 MILES)

RECORD PLANS

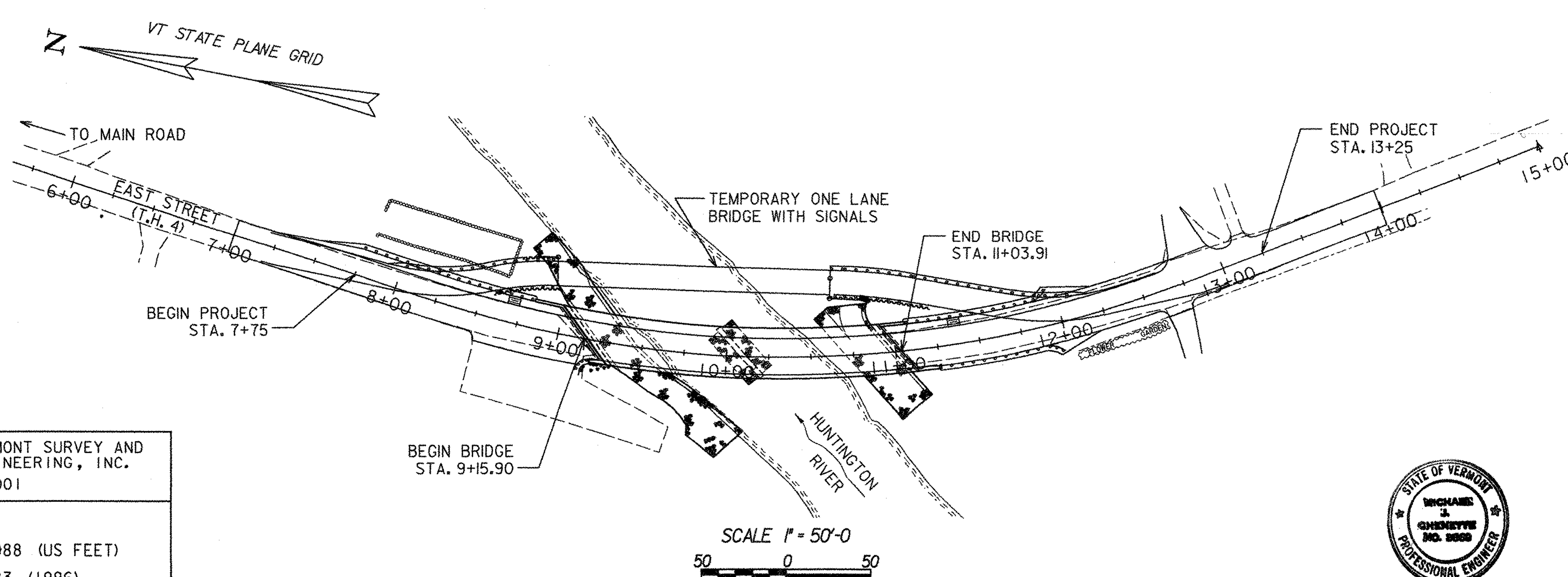
CONTRACTOR: PARENT CONSTRUCTION INC. – HINESBURG, VT
RESIDENT ENGINEER: DALE NORTON
CONSTRUCTION BEGAN: JUNE 26, 2006
CONSTRUCTION COMPLETE: NOVEMBER 30, 2007
RECORD PLANS BY: DALE NORTON & BEN LOGAN

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY *Dale R. Norton* RESIDENT ENGINEER

DATE *19 June 2009*

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.



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

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

CONVENTIONAL SYMBOLS

COUNTY LINE	COUNTY LINE
TOWN LINE	TOWN LINE
LIMITS OF ACCESS	—o——o——o—
POINT OF ACCESS	X
FENCE LINE	X——X——X——X
STONE WALL	oooooooooooo
TRAVELED WAY	– – – – –
GUARD RAIL	o o o o o o
RAILROAD	++++++++
SURVEY LINE	—+——+——+—
CULVERT	═══════
POWER POLE	◊
TELEPHONE POLE	◊
TREES	❁ ✶
CONTROL OF ACCESS	——///——///——///—
PROPERTY LINE	—— —— ——
R.O.W. TAKING LINE	— — — —
SLOPE RIGHTS	—o— SR —△— SR —o— SR
TOP OF CUT	—△——△——△—
TOE OF SLOPE	—o——o——o—

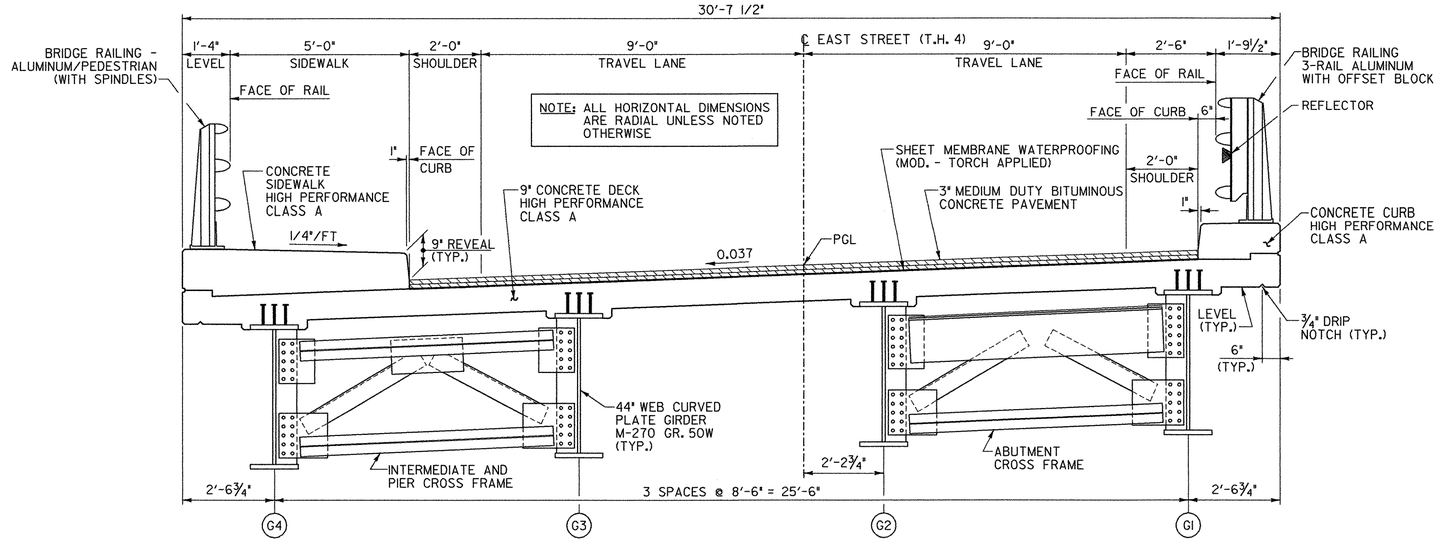
SURVEYED BY: VERMONT SURVEY AND ENGINEERING, INC.
SURVEYED DATE: 7/2001

DATUM
VERTICAL: NAVD88 (US FEET)
HORIZONTAL: NAD83 (1996) SPC VT (US FEET)

STATE OF VERMONT MICHAEL J. CHENETTE NO. 5869 PROFESSIONAL ENGINEER

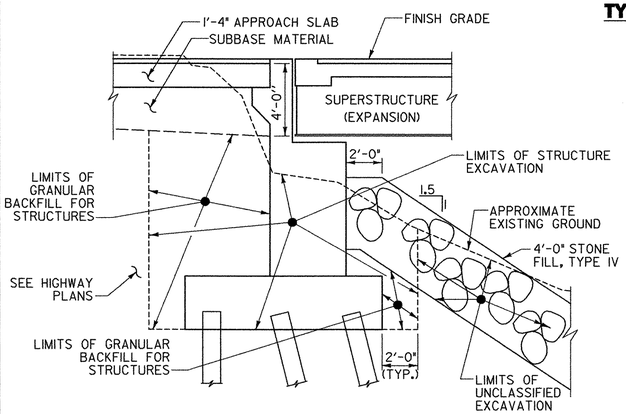
PLANS PREPARED BY:
DH
Dufresne-Henry
BY: *Michael J. Chenette*

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED *[signature]* DATE *4-4-06*
PROJECT MANAGER : P. THURBER
PROJECT NAME : HUNTINGTON
PROJECT NUMBER : BRO 1445 (29)
SHEET 1 OF 63 SHEETS



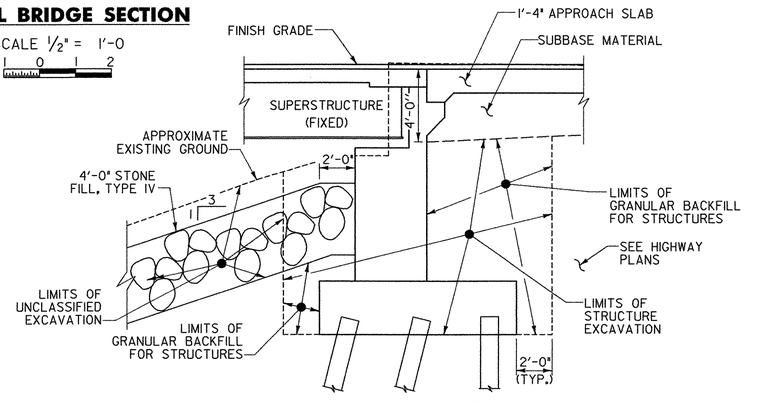
TYPICAL BRIDGE SECTION

SCALE ½" = 1'-0



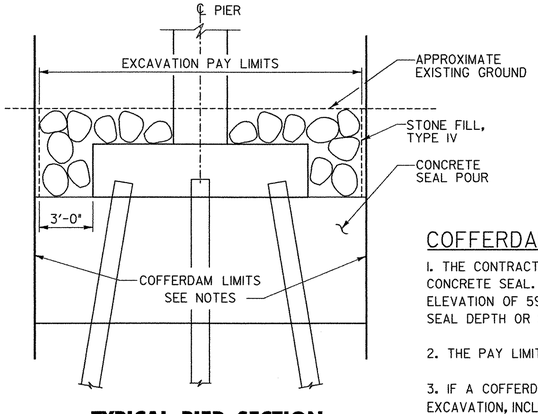
TYPICAL ABUTMENT 1 SECTION

NOT TO SCALE



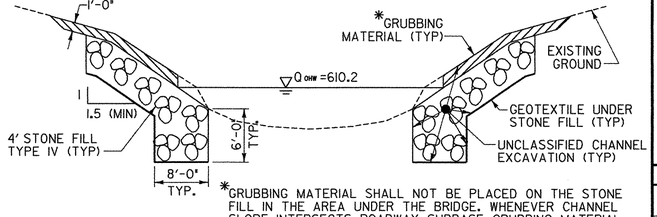
TYPICAL ABUTMENT 2 SECTION

NOT TO SCALE



TYPICAL PIER SECTION

NOT TO SCALE



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

TYPICAL CHANNEL SECTION

NOT TO SCALE

COFFERDAM NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE COFFERDAM AND CONCRETE SEAL. THE PREDICTED SCOUR DEPTH IS BASED ON A BOTTOM OF SEAL ELEVATION OF 590.50. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE FOUNDATION SEAL DEPTH OR SIZE. THESE CHANGES MAY IMPACT THE SIZE AND SPACING OF THE PILES.

2. THE PAY LIMITS OF 'COFFERDAM EXCAVATION, EARTH' AND COFFERDAM EXCAVATION, ROCK' SHALL BE 3'-0" OUTSIDE THE PERIMETER OF THE FOOTING.

3. IF A COFFERDAM IS CONSTRUCTED WHICH IS LARGER THAN THE COFFERDAM EXCAVATION PAY LIMITS, PAYMENT FOR ALL UNCLASSIFIED CHANNEL EXCAVATION, INCLUDING THAT PORTION WHICH IS INSIDE THE COFFERDAM BUT OUTSIDE THE COFFERDAM EXCAVATION PAY LIMITS, WILL BE MADE AT THE CONTRACT UNIT PRICE FOR UNCLASSIFIED CHANNEL EXCAVATION.

Dufresne-Henry

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA= 44.91 square miles
CHARACTER OF TERRAIN: Predominantly mountainous woodland
CHARACTER & TYPE OF STREAM: Moderate slopes, natural channel, irregular sideslopes
NATURE OF STREAMBED: Sand, gravel, cobbles

Q2.33= 1500 cfs Q50= 5700 cfs
Q10= 3600 cfs Q100= 6400 cfs
Q25= 4800 cfs Q500= 8600 cfs

DATE OF FLOOD OF RECORD: Unknown
WATER SURFACE ELEV.: Unknown ESTIMATED DISCHARGE: Unknown
NATURAL STREAM VELOCITY @ Q25 = 6.65 fps
ICE CONDITIONS: Moderate DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? Yes
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No
IF YES, DESCRIBE.

WATERSHED STORAGE 4.0% HEADWATERS ___ UNIFORM THROUGHOUT WATERSHED X IMMEDIATELY ABOVE SITE ___

EXISTING STRUCTURE

STRUCTURE TYPE: Three-span Steel Girder Bridge with Reinforced Concrete Deck YEAR BUILT: 1939
CLEAR SPAN (NORMAL TO STREAM): 103 feet
VERTICAL CLEARANCE ABOVE STREAMBED: 16.1 feet
WATERWAY OF FULL OPENING: 1600 square feet
DISPOSITION OF STRUCTURE: Remove
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEV. @ Q2.33= 612.64 ft VELOCITY= 4.8 fps
Q10= 616.02 ft " 6.8 fps
Q25= 617.51 ft " 7.5 fps
Q50= 618.50 ft " 8.0 fps
Q100= 619.23 ft " 8.3 fps

LONG TERM STREAM BED CHANGES: Long Term Profile Degradation

IS THE ROADWAY OVERTOPPED BELOW THE Q100? No FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

UPSTREAM STRUCTURE: TOWN: Huntington DISTANCE: 1.0 miles
HIGHWAY NO.: Town Highway No. 20 STRUCTURE NO.: Brg. No. 39
STRUCTURE TYPE: Single Span Steel Girder with Concrete Deck
CLEAR SPAN: 86' +/- CLEAR HEIGHT: 14' +/-
YEAR BUILT: 1980 FULL WATERWAY: UNKNOWN

DOWNSTREAM STRUCTURE: TOWN: Huntington DISTANCE: 0.45 miles
HIGHWAY NO.: Town Highway No. 3 STRUCTURE NO.: Brg. No. 11
STRUCTURE TYPE: Single Span Pony Truss
CLEAR SPAN: 110' +/- CLEAR HEIGHT: 13' +/-
YEAR BUILT: 2000 FULL WATERWAY: Unknown

PROPOSED STRUCTURE

STRUCTURE TYPE: Two Span Curved Steel Girder w/Reinforced Conc. Deck

CLEAR SPAN (NORMAL TO STREAM): 125 ft
VERTICAL CLEARANCE ABOVE STREAMBED: 14.3 ft
WATERWAY OF FULL OPENING: 1300 sq. ft.

WATER SURFACE ELEV. @ Q2.33= 612.71 ft VELOCITY= 4.6 fps
Q10= 616.12 ft " = 6.1 fps
Q25= 617.64 ft " = 6.5 fps
Q50= 618.66 ft " = 6.8 fps
Q100= 619.43 ft " = 6.9 fps

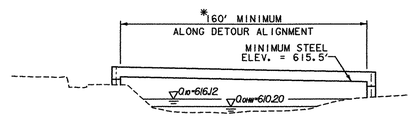
IS THE ROADWAY OVERTOPPED BELOW THE Q100? No FREQUENCY: N/A
RELIEF ELEVATION: N/A DISCHARGE OVER ROAD @ Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 620.7 feet
VERTICAL CLEARANCE: @ FEMA Q25 = 3.1 feet

SCOUR: Predicted Q500 Pier Scour Prism extends down to EL. 578' (this includes 2 feet of predicted long term profile degradation and 27 feet of local pier scour.)
REQUIRED CHANNEL PROTECTION: Type IV, Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW: 165 cfs
ORDINARY LOW WATER: 45 cfs DEPTH: 1 foot
ORDINARY HIGH WATER: 620 cfs DEPTH: 3.8 feet (EL. 610.2')



* - CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING A SINGLE SPAN, TWO SPAN, OR THREE SPAN TEMPORARY BRIDGE. ANY PIERS SHALL BE LOCATED OUTSIDE OF THE LIMITS OF ORDINARY HIGH WATER.

DESIGN OF PIERS SHALL INCLUDE ICE LOADINGS AS FOLLOWS:
ICE THICKNESS = 2'
ICE PRESSURE = 250 PSI

TEMPORARY BRIDGE REQUIREMENTS

NTS

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO HS-25
2. DESIGN SPAN 90.75'+90.75'=181.5'
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING 145 KIPS (ABUTMENTS), 195 KIPS (PIER) TYPE STEEL H-PILES ESTIMATED LENGTH 46' (ABUT. 1), 47' (ABUT. 2), 53' (PIER)
5. STRUCTURAL STEEL AASHTO GRADE AASHTO M270 GRADE 50W
6. REINFORCING STEEL GRADE 60
   CONCRETE, HIGH PERFORMANCE CLASS A f'_c = 4000 PSI f_c=1600 psi
   CONCRETE, HIGH PERFORMANCE CLASS B f'_c = 3500 PSI f_c=1400 psi

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE NO OR ON TEMPORARY BRIDGE YES
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY ONE WAY TRAFFIC CONTROL SIGNALS REQUIRED YES
   MINIMUM CLEAR SPAN (NORMAL TO STREAM) 92 feet MINIMUM CLEAR HEIGHT SEE TEMPORARY BRIDGE SKETCH
   MINIMUM WATERWAY AREA 700 square feet
   ARE SIDEWALKS REQUIRED? No IF SO, ON WHAT SIDE?
   STRUCTURE TYPE

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY A=2.17	48	55					
POSTED A=1.55	67	77	93		71	72	82
OPERATING A=1.30		91	111	133	84	85	

STRENGTH RF= $\frac{\phi M_N - 1.3\ M_{DL}}{A \times M_{LL+I}}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2005	890	150	64	4	40
2025	1200	180	64	5	70

18 kip ESAL for flexible pavement from 2005 to 2025 : 155,000
18 kip ESAL for flexible pavement from 2005 to 2045 : 376,000
Design speed: 35

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta.
	Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

PRELIMINARY INFORMATION SHEET

Designed By T. KNIGHT	Drawn By D. HARRINGTON
Checked By M. CHENETTE Date 06/04	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302pi.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 2 of 63

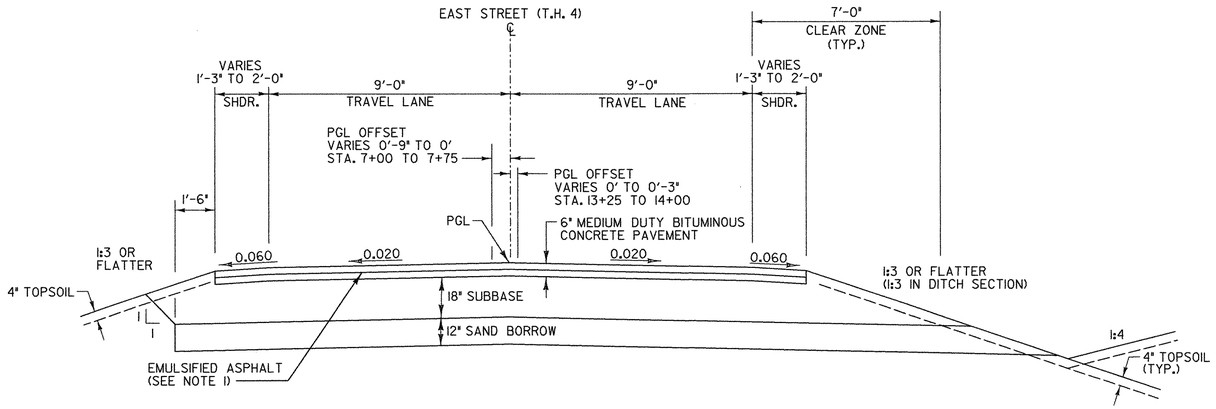
TYPICAL SECTIONS

3" MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (2 LIFTS - TYPE III)
3" MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT (1 LIFT - TYPE I)
18" SUBBASE OF GRAVEL
12" SAND BORROW

MATERIAL ITEM	THICKNESS / TOLERANCE
MEDIUM DUTY BITUMINOUS CONCRETE PAVEMENT	+/- 1/4 " (TOTAL DEPTH)
SUBBASE	+/- 1"
SAND BORROW	+/- 1"

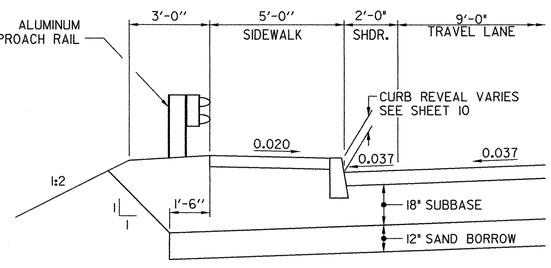
NOTES:

1. EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.015 Gal./SY BETWEEN SUCCESSIVE COURSES OF PAVEMENT OR AS DIRECTED BY THE ENGINEER.



TYPICAL ROADWAY SECTION NORMAL CROWN

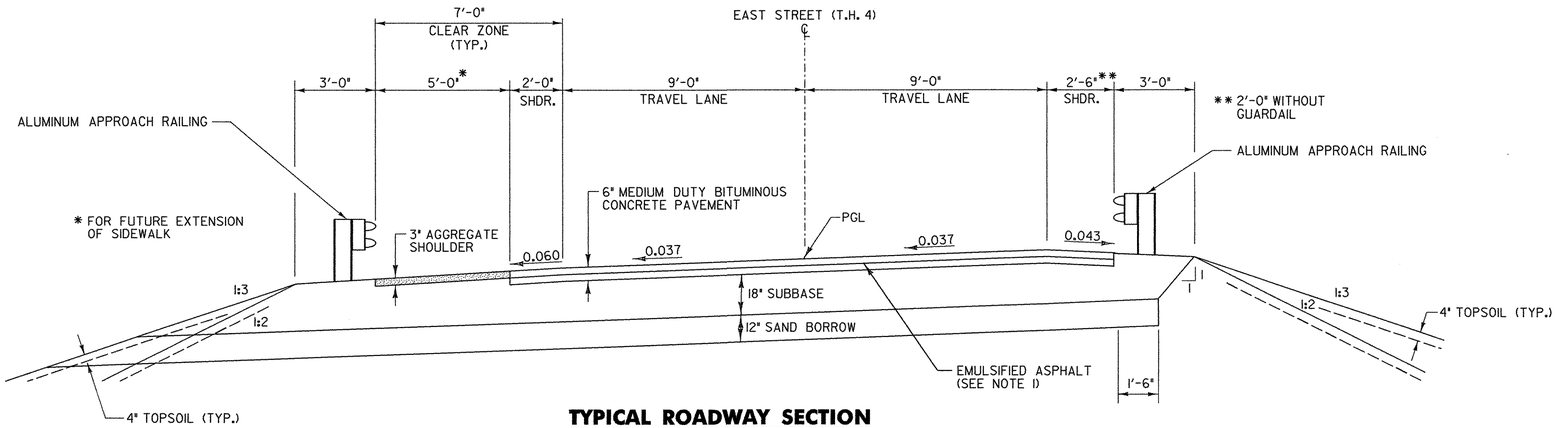
SCALE: 3/8" = 1'-0"



TYPICAL SIDEWALK DETAIL

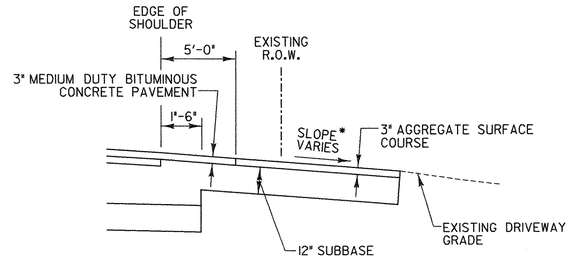
SCALE: 3/8" = 1'-0"

CURVE NO. 1 SUPERELEVATION TRANSITION INFORMATION	
BEGIN TANGENT RUNOUT (RT SIDE ONLY)	STA. 7+39.00
END TANGENT RUNOUT/ BEGIN SUPERELEVATION RUNOFF (RT SIDE ONLY)	STA. 7+78.00
REVERSE NORMAL CROWN (CROSS SLOPE = 2.0%)	STA. 8+17.00
END SUPERELEVATION RUNOFF/ BEGIN FULL SUPERELEVATION (CROSS-SLOPE = 3.7%)	STA. 8+50.00
END FULL SUPERELEVATION/ BEGIN SUPERELEVATION RUNOFF	STA. 12+49.00
REVERSE NORMAL CROWN	STA. 12+82.00
END SUPERELEVATION RUNOFF/ BEGIN TANGENT RUNOUT	STA. 13+21.00
END TANGENT RUNOUT	STA. 13+60.00



TYPICAL ROADWAY SECTION BANKED

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



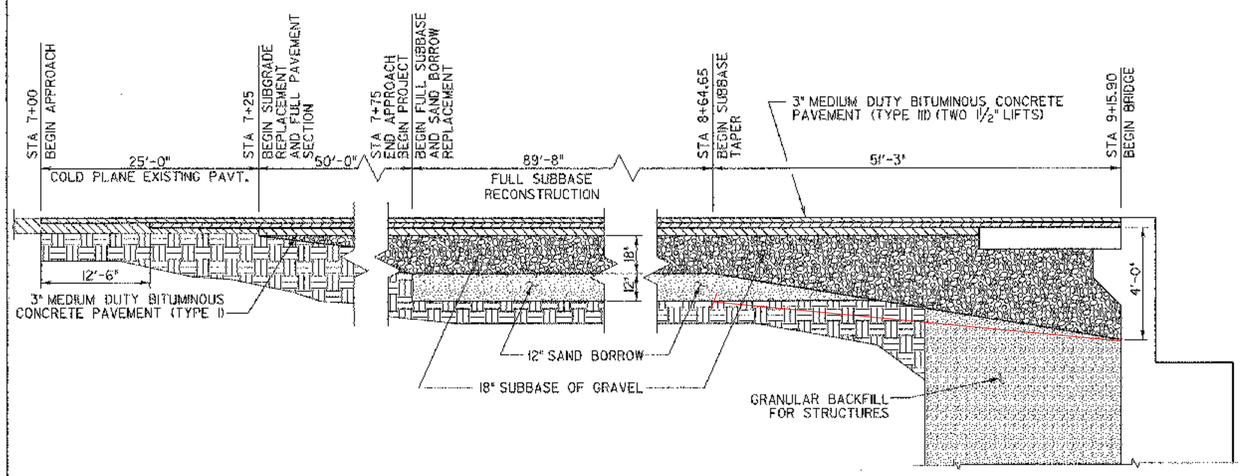
DRIVEWAY DETAIL

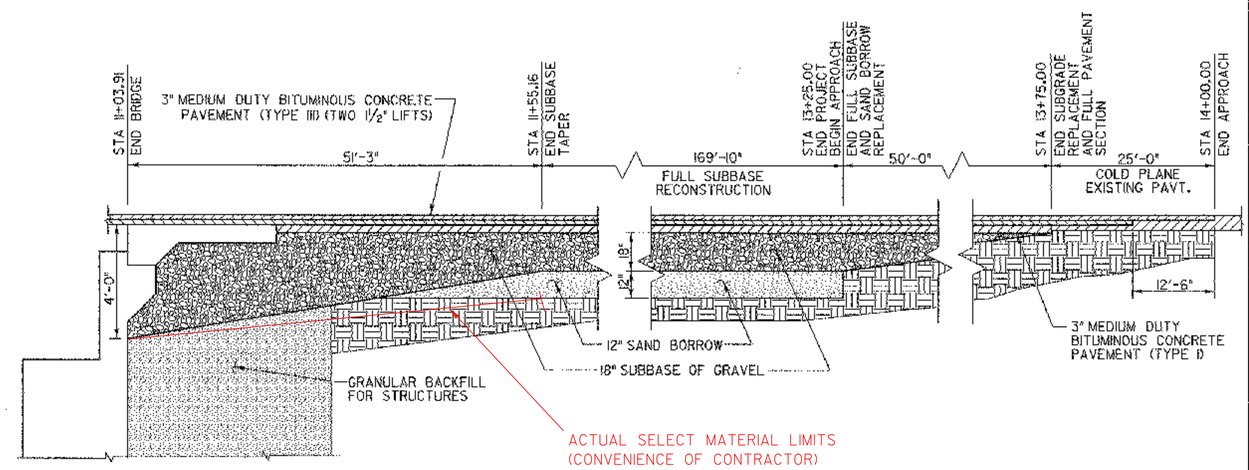
SCALE: 3/8" = 1'-0"

*SEE CROSS SECTIONS STA. 8+75, 9+00, 12+68 AND 12+86

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302frml.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
ROADWAY TYPICAL SECTIONS	SHEET 3 OF 63

DH Dufresne-Henry





APPROACH SECTION

NOT TO SCALE

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01302frm1.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: M. CHENETTE
ROADWAY APPROACH SECTION	SHEET 4 OF 63

Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

FULL C.E. ITEMS	TRAINING	ROADWAY		EROSION CONTROL		CHANNEL		ABUTMENT No. 1	PIER	ABUTMENT No. 2	APPROACH SLAB No. 1	APPROACH SLAB No. 2	DECK			BRIDGE QUANTITY
		1														
		930														
						1150										
		325														
								340		360						700
								115		95						210
									520							520
									20							20
									1							1
		110														
		820														
		26														
		4											1			1
		361									10	10	76			96
								3					240			243
								130	134	109	26	28				427
																1
								874	954	752						2580
		1800														
								1	1	1						3
													194152			194152
								11404	20530	10284						42218
								592		182	3241	3217	60610			67841
													1			1
													1			1
													1			1
								4	3	8			17			32
										27						27
								44								44
													460			460
													209			209
													219			219
		1														
													420			420
													1			1
								4								4
									4							4
										4						4
		220														
		2														
		5														
				30												
				2												
						1200										
		84														

TOTALS

ROUND	GRAND TOTAL	FINAL
	1	
	930	
	1150	
	325	
	700	
	210	
	520	
	20	
	1	
	110	
	820	
	26	
	5	
	457	
	243	
	427	
	1	
	2580	
	1800	
	3	
	194152	
	42218	
	67841	
	1	
	1	
	1	
	32	
	27	
	44	
	460	
	209	
	219	
	1	
	420	
	1	
	4	
	4	
	4	
	220	
	2	
	5	
	30	
	2	
	1200	
	84	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
LS	CLEARING AND GRUBBING (INCL. INDV. TREES & STUMPS)	201.10
CY	COMMON EXCAVATION	203.15
CY	UNCLASSIFIED CHANNEL EXCAVATION	203.27
CY	SAND BORROW	203.31
CY	STRUCTURE EXCAVATION	204.25
CY	GRANULAR BACKFILL FOR STRUCTURES	204.30
CY	COFFERDAM EXCAVATION, EARTH	208.30
CY	COFFERDAM EXCAVATION, ROCK	208.35
LS	COFFERDAM (PIER)	208.40
SY	COLD PLANING-BIT.PAVEMENT	210.10
CY	SUBBASE OF GRAVEL	301.15
CY	AGGREGATE SURFACE COURSE	401.10
CWT	EMULSIFIED ASPHALT	404.65
TON	MEDIUM DUTY BIT. CONC. PAVEMENT (PG 58-34)	406.27
CY	CONCRETE, HIGH PERFORMANCE CLASS A	501.33
CY	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10
LF	STEEL PILING (HP 12 X 74)	505.16
SF	TEMPORARY STEEL SHEET PILING	505.36
EACH	DYNAMIC PILE LOADING TEST	505.45
LB	STRUCTURAL STEEL (PLATE GIRDER)	506.55
LB	REINFORCING STEEL	507.15
LB	EPOXY COATED REINFORCING STEEL	507.17
LS	SHEAR CONNECTORS (2610 - 7/8"X7")	508.15
LS	STRUCTURAL PAINTING, SHOP APPLIED (4.4 TONS)	513.25
LS	SURFACE PREPARATION, SHOP (4.4 TONS)	513.40
GAL	WATER REPELLENT (MOD. - SILANE)	514.10
LF	BRIDGE EXPANSION JOINT (ASPHALTIC PLUG)	516.10
LF	BRIDGE EXPANSION JOINT (VERMONT)	516.10
SY	SHEET MEMBRANE WATERPROOFING (MOD. - TORCH APPLIED)	519.20
LF	BRIDGE RAILING - 3 RAIL ALUM	525.22
LF	BRIDGE RAILING-ALUMINUM / PEDESTRIAN	525.23
LS	ONE-WAY TEMPORARY BRIDGE (3000 SF - EST) (MOD.)	528.10
SY	REMOVAL OF BRIDGE PAVEMENT	529.10
EACH	PARTIAL REMOVAL OF STRUCTURE (4400 SF - EST.)	529.20
EACH	BEARING DEVICE ASSEMBLY (POT) (ABUTMENT NO. 1)	531.10
EACH	BEARING DEVICE ASSEMBLY (POT) (PIER)	531.10
EACH	BEARING DEVICE ASSEMBLY (FABRIC) (ABUTMENT NO. 2)	531.10
LF	15" CPEP(SL)	601.261
EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20
CY	STONE FILL, TYPE I	613.10
CY	STONE FILL, TYPE I (MOD. - CONSTRUCTION ENTRANCE)	613.10
CY	STONE FILL, TYPE I (MOD. - INLET PROTECTION)	613.10
CY	STONE FILL, TYPE IV	613.13
LF	CAST-IN-PLACE CONCRETE CURB, TYPE B (MOD.)	616.28

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
205	CY	FILL REQUIRED: 178 X 1.15 FILL FACTOR
		FILL AVAILABLE:
930	CY	COMMON EXCAVATION: 930 X 1.0
345	CY	UNCLASSIFIED CHANNEL EXCAVATION: 1150 X 0.3
210	CY	STRUCTURE EXCAVATION: 700 X 0.3
156	CY	COFFERDAM EXCAVATION (EARTH): 520 X 0.3
6	CY	COFFERDAM EXCAVATION (ROCK): 20 X 0.3
1647	CY	TOTAL
1647	CY	FILL AVAILABLE
-205	CY	FILL REQUIRED
1442	CY	APPROX. NET SUITABLE FILL

Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: Quantity Sheet
PROJECT LEADER: M. CHENETTE
DESIGNED BY: D. ALTERI
QUANTITY SHEET #1

PLOT DATE: 4/20/2004
DRAWN BY: J. OAKMAN
CHECKED BY: D. ALTERI
SHEET 5 OF 63

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET

SUMMARY OF ESTIMATED QUANTITIES

FULL C.E. ITEMS	TRAINING	ROADWAY		EROSION CONTROL		CHANNEL		ABUTMENT No. 1	PIER	ABUTMENT No. 2	APPROACH SLAB No. 1	APPROACH SLAB No. 2	DECK			BRIDGE QUANTITY
		3														
		42														
		2														
		600														
		2														
		282														
		175														
		60														
1																
1																
1																
1																
	520															
		1														
		1														
		1400														
		22														
						900										
				330												
				370												
				40												
				40												
				300												
				2												
				2												
				280												
						550										
				1												
				160												
				1												
				620												
		8														
		1														
		2														

TOTALS

ROUND	GRAND TOTAL	FINAL
	3	
	42	
	2	
	600	
	2	
	282	
	175	
	60	
	1	
	1	
	1	
	1	
	520	
	1	
	1	
	1400	
	22	
	900	
	330	
	370	
	40	
	40	
	300	
	2	
	2	
	280	
	550	
	1	
	160	
	1	
	620	
	8	
	1	
	2	

DESCRIPTIONS

UNIT	ITEMS	ITEM NUMBER
EACH	RELOCATE MAILBOX, SINGLE SUPPORT	617.10
SY	PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH (MOD.)	618.10
SY	DETECTABLE WARNING SURFACE	618.30
LF	SNOW FENCE (MOD. - PDF)	620.70
EACH	ENERGY ABSORPTION ATTENUATOR	621.56
LF	ALUMINUM APPROACH RAILING	621.74
LF	REMOVL AND DISP OF GUARD RAIL	621.80
LF	TEMPORARY TRAFFIC BARRIER	621.90
LS	FIELD OFFICE - ENGINEERS	631.10
LS	TESTING EQUIPMENT - CONCRETE	631.16
LS	TESTING EQUIPMENT - BITUMINOUS	631.17
LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25
HR	EMPLOYEE TRAINEESHIP	634.10
LS	MOBILIZATION/DEMOBILIZATION	635.11
LS	TRAFFIC CONTROL	641.10
LF	DURABLE 4" YELLOW LINE (THERMOPLASTIC)	646.41
LF	TEMPORARY 24" STOP BAR (PAINT)	646.66
SY	GEOTEXTILE UNDER STONE FILL	649.31
SY	GEOTEXTILE FOR SILT FENCE	649.51
SY	GEOTEXTILE FOR FILTER CURTAIN	649.61
LB	SEED	651.15
LB	SEED-WINTER RYE	651.17
LB	FERTILIZER	651.18
TON	AGRICULTURAL LIMESTONE	651.20
TON	HAY MULCH	651.25
CY	TOPSOIL	651.35
SY	GRUBBING MATERIAL	651.40
LS	EROSION PREVENTION AND SEDIMENT CONTROL PLAN	652.10
HR	MONITORING EROSION PREVENTION AND SEDIMENT CONTROL PLAN	652.20
LU	MAINTENANCE OF EROSION PREVENTION AND SEDIEMTN CONTROL PLAN (N.A.B.I.)	652.30
SY	EROSION MATTING	654.10
EACH	REMOVING SIGNS	675.50
EACH	TEMPORARY TRAFFIC SIGNAL SYSTEM	678.40
EACH	TEMPORARY DETECTOR	678.42

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: Quantity Sheet
PROJECT LEADER: M. CHENETTE
DESIGNED BY: D. ALTERI
QUANTITY SHEET #2

PLOT DATE: 4/20/2004
DRAWN BY: J. OAKMAN
CHECKED BY: D. ALTERI
SHEET 6 OF 63

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

TABLE OF PROPERTY ACQUISITION

PARCEL NO.	PROPERTY OWNER	SHEET NO.	BEGINNING STATION	ENDING STATION	TAKE	REMAINDER	RIGHT			RECORDING DATA					REMARKS
					AREA±	AREA±	TYPE	(T)/(P)	AREA ±	TITLE	DATE	TOWN / CITY	BOOK	PAGE	
1	BEANE, VANCE G. & VIOLA S.	7	7+14.8 RT.				INSTALL	(T)							GUY ANCHOR
2	MELVILLE, DIANNA	7	7+07.3 LT.									HUNTINGTON			MONITOR WELL
			7+16.6 LT.	7+96.1 LT.			INSTALL	(T)	863 SF						EROSION CONTROL
			7+47.9 LT.	7+92.5 LT.			SLOPE	(T)	164 SF						
			7+94.6 LT.	9+78.7 LT.			DETOUR	(T)	0.09 A						3,766 SF±; INCL. EROSION CONTROL & TEMP. UTILITY RELOCATION
			8+27.6 LT.	8+76.2 LT.			INSTALL	(T)	1216 SF						EROSION CONTROL
			8+30.8 LT.	9+78.7 LT.			UTILITY	(P)	0.04 A						1,692 SF±
			8+73.9 LT.	9+21.5 LT.			CHANNEL	(P)	621 SF						
			8+77.9 LT.	8+95.7 LT.			SLOPE	(P)	55 SF						
			8+78.2 LT.	9+03.2 LT.			INSTALL	(T)	115 SF						EROSION CONTROL
3	LACAILLADE, LEIGH	7	8+33.0 RT.									HUNTINGTON			EXCEPT & RESERVE SEPTIC SYSTEM
			9+03.9 RT.	9+70.0 RT.			ACCESS	(T)	1,050 SF						
			9+51.4 RT.	10+11.2 RT.			CHANNEL	(P)	976 SF						
			9+18.5 RT.	10+56.1 RT.			CONST.	(T)	2,650 SF						INCL. EROSION CONTROL
4	BRACE, LISA M.& DELISLE, LESTER J.	7	9+32.7 LT.	12+78 LT.			DETOUR	(T)	0.29 A			HUNTINGTON			12,590 SF±; INCL. EROSION CONTROL, TEMP. UTILITY RELOCATION, & PDF
			9+54.5 LT.	11+61.6 LT.			UTILITY	(P)	0.07 A						2,999 SF±
			10+59.0 LT.	10+85.2 LT.			CHANNEL	(P)	55 SF						
			10+81.0 LT.	10+95.6 LT.			CUL., DIT. & DR.	(P)							
			10+84.3 LT.	12+15.0 LT.			SLOPE	(P)	546 SF						
			11+30.0 LT.				INSTALL	(T)							GUY ANCHOR
			12+84 LT.				DRIVE	(T)							12' GRAVEL
5	BLODGETT, GARY A. & RUTH A.	7	10+30.1 RT.	11+56.0 RT.			CONST.	(T)	0.05 A			HUNTINGTON			2,203 SF±; INCL. EROSION CONTROL & PDF
			10+88.2 RT.	11+18.4 RT.			CHANNEL	(P)	309 SF						
			11+15.1 RT.	12+60.5 RT.			INSTALL	(T)	0.03 A						PDF, 1296 SF±; INCL. EROSION CONTROL
			11+15.8 RT.	11+36.0 RT.			SLOPE	(P)	58 SF						INCLUDES EROSION CONTROL
			11+70.7 RT.	12+34.1 RT.			SLOPE	(T)	221 SF						INCLUDES EROSION CONTROL
			12+44.6 RT.												MONITOR WELL
			12+68 RT.				DRIVE	(T)							10' GRAVEL
			12+70.1 RT.	12+87.6 RT.			INSTALL	(T)	267 SF						PDF, INCLUDES EROSION CONTROL
			12.83.9 RT.	12+87.6RT.			SLOPE	(T)	7 SF						
6	WISNIOWSKI, MARK & JENNIFER A.	7	12+87.6 RT.	13+09.8 RT.			SLOPE	(T)	34 SF						
			12+87.6 RT.	14+01.6 RT.			INSTALL	(T)	0.02 A						PDF, 1120 SF±; INCL. EROSION CONTROL
			12+89.6 RT.	12+93.6 RT.			INSTALL	(T)							GUY ANCHOR
7	GREEN MOUNTAIN POWER CORPORATION														UTILITY
8	CHAMPLAIN VALLEY TELECOM														UTILITY
9	ADELPHIA CABLE COMMUNICATIONS														UTILITY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	6,7	PARCEL NO. 3 LACAILLADE. CHANGE ENDING STA. OF	10/06/06
		ACCESS (T) FROM 9+99.9 TO 9+70.0 ; 1,050 SF±.	
		CHANGE BEGINNING STA. OF CONST. (T) FROM 9+83.0 TO	
		9+18.5 ; 2,650 SF±. PER C.O. 9444.	
		MADE BY: MR APPROVED BY: RD	

PLAN LEGEND

- EXISTING RIGHT-OF-WAY
- TAKING WITH ACCESS
- TAKING WITHOUT ACCESS
- CLEAR ZONE (CZ)
- PROPERTY LINE (P L)
- TOE OF SLOPE
- TOP OF CUT
- SLOPE RIGHT (SR (P))
- CONSTRUCTION RIGHT (CONST. (T))
- PROJECT DEMARCATION FENCE (PDF)

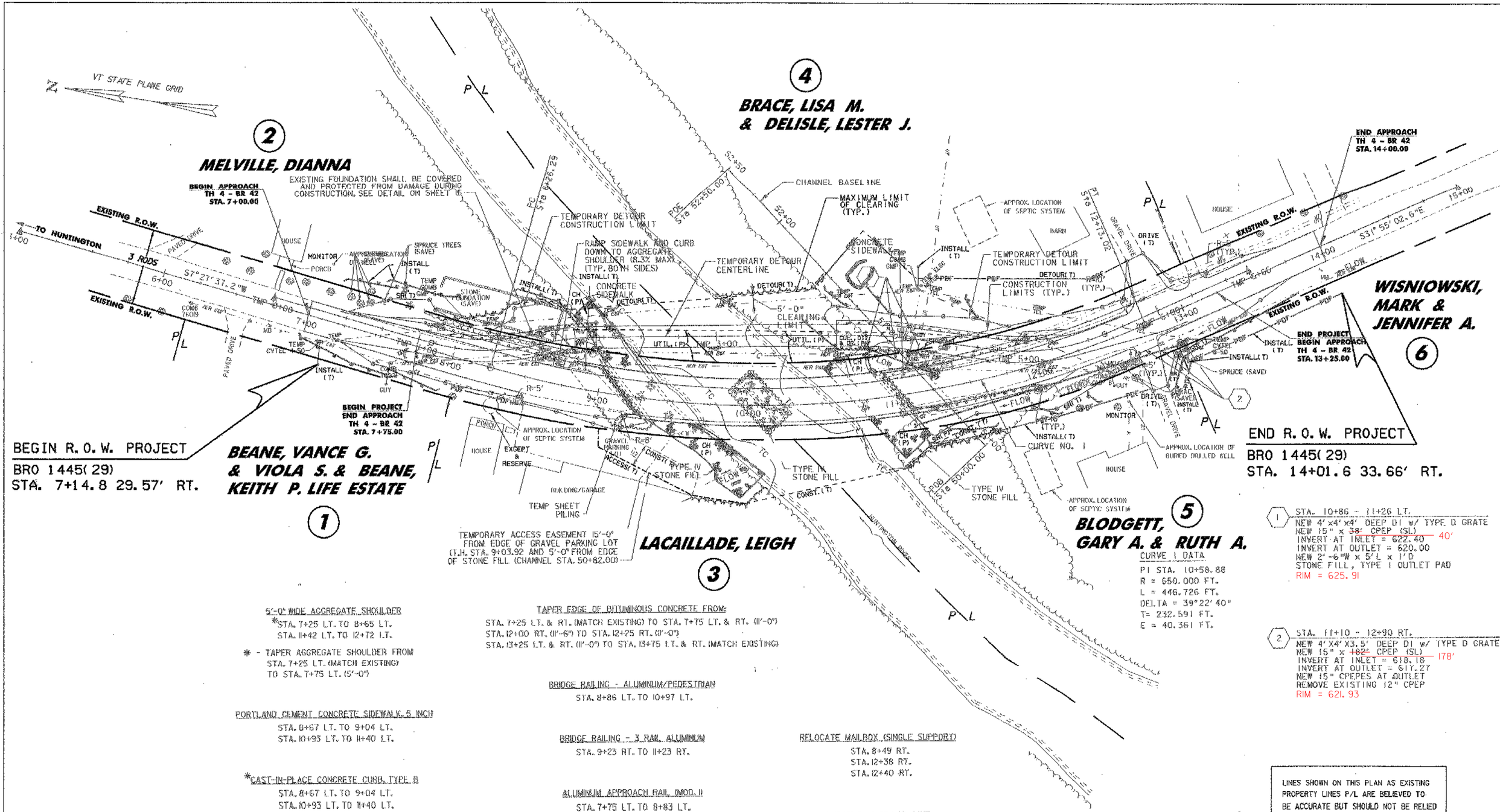
EC	-EROSION CONTROL
(P)	-PERMANENT
(T)	-TEMPORARY
DR.	-DRAINAGE RIGHT
DIT.	-DITCHING RIGHT
CH.	-CHANNEL RIGHT
DRIVE	-DRIVE RIGHT
CUL.	-CULVERT RIGHT
C&T	-CLEARING & TRIMMING RIGHT
SR	-SLOPE RIGHT
UE	-UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 07-18-05
CHIEF, PLANS & TITLES

PLOT DATE 10/06/05

PROJECT NAME:	HUNTINGTON		
PROJECT NUMBER:	BRO 1445 (29)		
FILE NAME:	r01j302.xls	PLOT DATE:	4/25/05
PROJECT LEADER:	M. CHENETTE	DRAWN BY:	MR
DESIGNED BY:	D. ALTERI	CHECKED BY:	GF
	R.O.W.	SHEET 6	OF 7

OCT 06 2005



5'-0" WIDE AGGREGATE SHOULDER
*STA. 7+25 LT. TO 8+65 LT.
STA. 11+42 LT. TO 12+72 LT.

* - TAPER AGGREGATE SHOULDER FROM STA. 7+25 LT. (MATCH EXISTING) TO STA. 7+75 LT. (5'-0")

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
STA. 8+67 LT. TO 9+04 LT.
STA. 10+93 LT. TO 11+40 LT.

*CAST-IN-PLACE CONCRETE CURB, TYPE 8
STA. 8+67 LT. TO 9+04 LT.
STA. 10+93 LT. TO 11+40 LT.

* - CURB REVEAL TRANSISTIONS FROM 7" AT STA. 8+74 LT. TO 9" AT STA. 8+84 LT. AND FROM 9" AT STA. 8+08 LT. TO 7" AT STA. 11+18 LT.

CONSTRUCT SIDEWALK RAMP TYPE I (SEE VAOT STD. C-3A)
STA. 8+74 LT.
STA. 11+33 LT.

TAPER EDGE OF BITUMINOUS CONCRETE FROM:
STA. 7+25 LT. & RT. (MATCH EXISTING) TO STA. 7+75 LT. & RT. (11'-0")
STA. 12+00 RT. (11'-6") TO STA. 12+25 RT. (9'-0")
STA. 13+25 LT. & RT. (11'-0") TO STA. 13+75 LT. & RT. (MATCH EXISTING)

BRIDGE RAILING - ALUMINUM/PEDESTRIAN
STA. 8+86 LT. TO 10+97 LT.

BRIDGE RAILING - 3 RAIL, ALUMINUM
STA. 9+23 RT. TO 11+23 RT.

ALUMINUM APPROACH RAIL (MOD. I)
STA. 7+75 LT. TO 8+83 LT.
STA. 9+15 RT. TO 9+23 RT.
STA. 8+07 LT. TO 11+95 LT.
STA. 11+23 RT. TO 11+98 RT.

CONSTRUCT DRIVE
STA. 8+83 RT.
STA. 12+68 RT.
STA. 12+84 LT.
STA. 13+16 LT.

RELOCATE MAILBOX (SINGLE SUPPORT)
STA. 8+49 RT.
STA. 12+38 RT.
STA. 12+40 RT.

DURABLE 4" YELLOW LINE
STA. 7+00 TO 14+00, DOUBLE CENTERLINE

1 STA. 10+86 - 11+26 LT.
NEW 4'×4'×4' DEEP DI W/ TYPE D GRATE
NEW 15" x ~~38'~~ CPEP (SL) 40'
INVERT AT INLET = 622.40
INVERT AT OUTLET = 620.00
NEW 2'-6"W x 5'L x 1'D
STONE FILL, TYPE I OUTLET PAD
RIM = 625.91

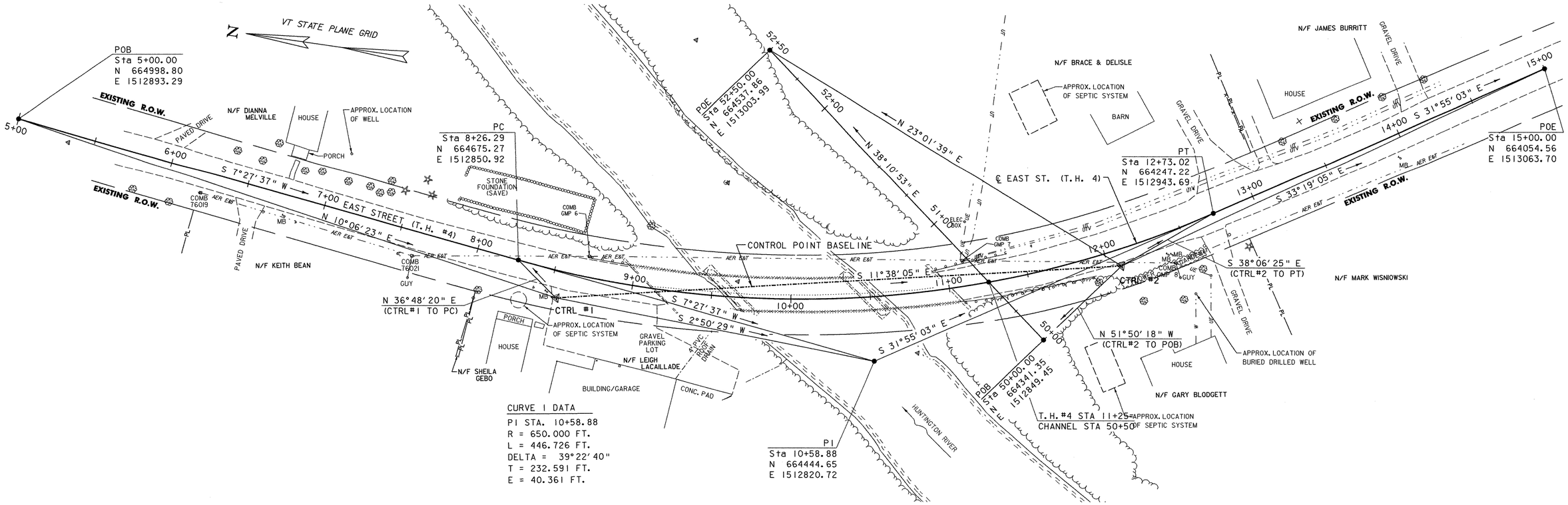
2 STA. 11+10 - 12+90 RT.
NEW 4'X4'X3.5' DEEP DI W/ TYPE D GRATE
NEW 15" x ~~182'~~ CPEP (SL) 178'
INVERT AT INLET = 618.18
INVERT AT OUTLET = 617.27
NEW 15" CPEPES AT OUTLET
REMOVE EXISTING 12" CPEP
RIM = 621.93

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

OCT 06 2005

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: $FILEABBREV$
PROJECT LEADER: M. CHENETTE
DESIGNED BY: D. ALTERI
PLOT DATE: 06-OCT-2005
DRAWN BY: J. OAKMAN
CHECKED BY: D. ALTERI
R.O.W. SHEET 7 OF 7

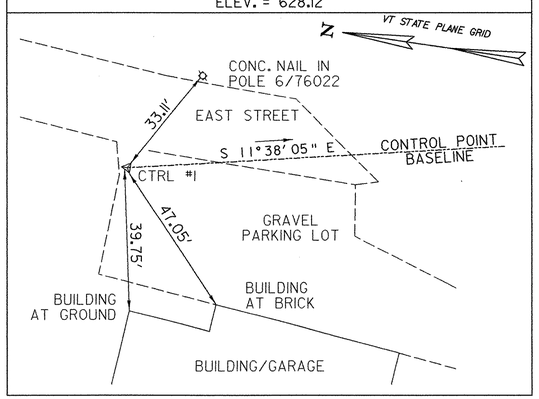


PLAN

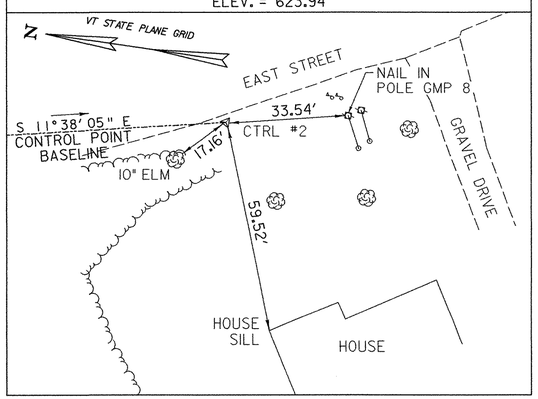
SCALE 1" = 30'-0

30 0 30

CTRL #1
N = 664648.43
E = 1512830.84
ELEV. = 628.12



CTRL #2
N = 664299.52
E = 1512902.68
ELEV. = 623.94



CENTERLINE EAST STREET (T.H. 4) ALIGNMENT				
BS	OC	FS POINT	ANGLE RIGHT	DISTANCE
CTRL #2	CTRL #1	POB	201°-44'-28"	355.90'
CTRL #2	CTRL #1	PC	228°-26'-25"	33.53'
CTRL #2	CTRL #1	PI	14°-28'-34"	204.03'
CTRL #1	CTRL #2	PT	153°-31'-39"	66.46'
CTRL #1	CTRL #2	POE	158°-19'-00"	293.14'

BS = BACKSITE STATION
OC = OCCUPIED STATION
FS = FORESITE STATION

CHANNEL ALIGNMENT				
BS	OC	FS POINT	ANGLE RIGHT	DISTANCE
CTRL #1	CTRL #2	POB	319°-47'-47"	67.70'
CTRL #1	CTRL #2	POE	34°-39'-44"	258.98'

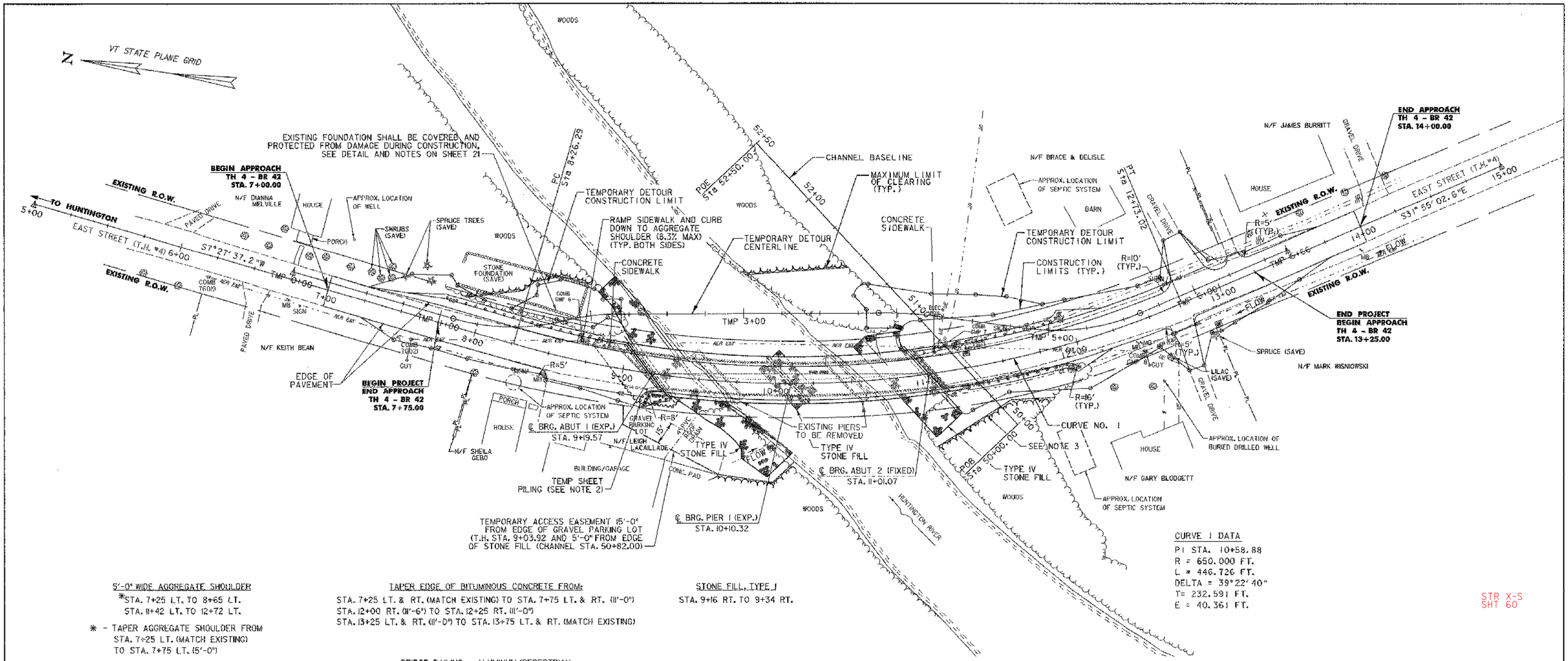
BS = BACKSITE STATION
OC = OCCUPIED STATION
FS = FORESITE STATION

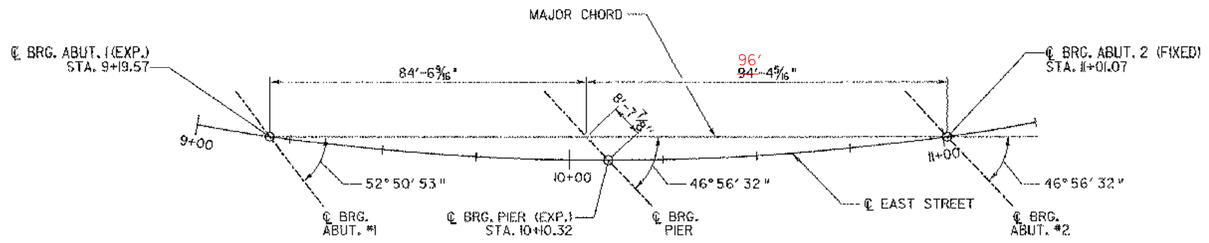
Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302tie.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: T. KNIGHT
TIE SHEET

PLOT DATE: 1/12/2006
DRAWN BY: D. HARRINGTON
CHECKED BY: T. KNIGHT
SHEET 9 OF 63





STRUCTURE LAYOUT

SCALE: 1"=20'

STR X-S SHT 60

5'-0" WIDE AGGREGATE SHOULDER

*STA. 7+25 LT. TO 8+65 LT.
STA. 8+42 LT. TO 12+72 LT.

* - TAPER AGGREGATE SHOULDER FROM STA. 7+25 LT. (MATCH EXISTING) TO STA. 7+75 LT. (5'-0")

PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH

STA. 8+67 LT. TO 9+04 LT.
STA. 10+93 LT. TO 11+40 LT.

*CAST-IN-PLACE CONCRETE CURB, TYPE B

STA. 8+67 LT. TO 9+04 LT.
STA. 10+93 LT. TO 11+40 LT.

* - CURB REVEAL TRANSISTIONS FROM 7" AT STA. 8+74 LT. TO 9" AT STA. 8+84 LT. AND FROM 9" AT STA. 11+08 LT. TO 7" AT STA. 11+18 LT.

CONSTRUCT SIDEWALK RAMP, TYPE I
(SEE VAOT STD. C-3A)

STA. 8+74 LT.
STA. 11+33 LT.

TAPER EDGE OF BITUMINOUS CONCRETE FROM:

STA. 7+25 LT. & RT. (MATCH EXISTING) TO STA. 7+75 LT. & RT. (11'-0")
STA. 12+00 RT. (11'-6") TO STA. 12+25 RT. (11'-0")
STA. 13+25 LT. & RT. (11'-0") TO STA. 13+75 LT. & RT. (MATCH EXISTING)

BRIDGE RAILING - ALUMINUM/PEDESTRIAN

STA. 8+86 LT. TO 10+97 LT.

BRIDGE RAILING - 3 RAIL ALUMINUM

STA. 9+23 RT. TO 11+23 RT.

ALUMINUM APPROACH RAIL (MOD. I)

STA. 7+75 LT. TO 8+83 LT.
STA. 9+15 RT. TO 9+23 RT.
STA. 11+07 LT. TO 11+95 LT.
STA. 11+23 RT. TO 11+98 RT.

CONSTRUCT DRIVE

STA. 8+83 RT.
STA. 12+68 RT.
STA. 12+84 LT.
STA. 13+16 LT.

STONE FILL, TYPE I

STA. 9+16 RT. TO 9+34 RT.

RELOCATE MAILBOX (SINGLE SUPPORT)

STA. 8+49 RT.
STA. 12+38 RT.
STA. 12+40 RT.

DURABLE 4" YELLOW LINE

STA. 7+00 TO 14+00, DOUBLE CENTERLINE

0 20 40 60
SCALE IN FEET

CURVE 1 DATA

PI STA. 10+58.88
R = 650.000 FT.
L = 446.726 FT.
DELTA = 39°22' 40"
T= 232.591 FT.
E = 40.361 FT.

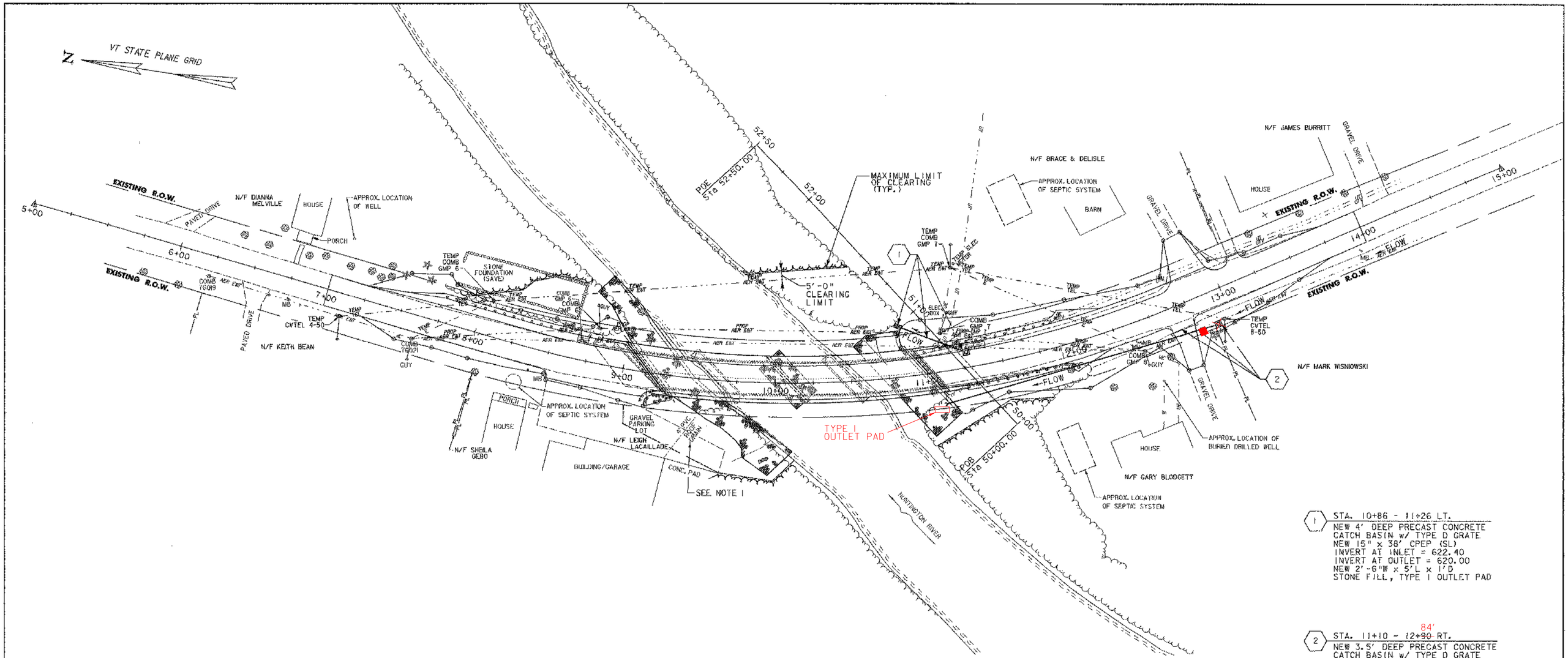
NOTE:

1. FOR UTILITIES AND DRAINAGE INFROMATION SEE NEXT SHEET.
2. TEMPORARY STEEL SHEET PILING, STATION 9+00 RT TO 9+40 RT WILL BE PAID FOR UNDER ITEM 505.36. ANY SHEET PILING OR TEMPORARY RETAINING STRUCTURES ADJACENT TO THE TEMPORARY BRIDGE (SEE SHEET 21) WILL BE PAID FOR UNDER ITEM 528.10, ONE-WAY TEMPORARY BRIDGE (MOD.).
3. HIGHER TREE LIMBS OVERHANGING THE CLEARING LIMIT IN THIS AREA SHALL NOT BE TRIMMED.

Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Trans\PlotFiles\08Layout.plt PLOT DATE: 1/30/2006
PROJECT LEADER: M. CHENETTE DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI CHECKED BY: D. ALTERI
LAYOUT SHEET SHEET 10 OF 63



1 STA. 10+86 - 11+26 LT.
NEW 4' DEEP PRECAST CONCRETE CATCH BASIN w/ TYPE D GRATE
NEW 15" x 38' CPEP (SL)
INVERT AT INLET = 622.40
INVERT AT OUTLET = 620.00
NEW 2'-6"W x 5'L x 1'D STONE FILL, TYPE I OUTLET PAD

2 STA. 11+10 - 12+~~90~~ 84' RT.
NEW 3.5' DEEP PRECAST CONCRETE CATCH BASIN w/ TYPE D GRATE
NEW 15" x ~~182'~~ CPEP (SL) 178'
INVERT AT INLET = 618.18
INVERT AT OUTLET = ~~617.27~~ 617.27
NEW 15" CPEPES AT OUTLET
REMOVE EXISTING 12" CPEP

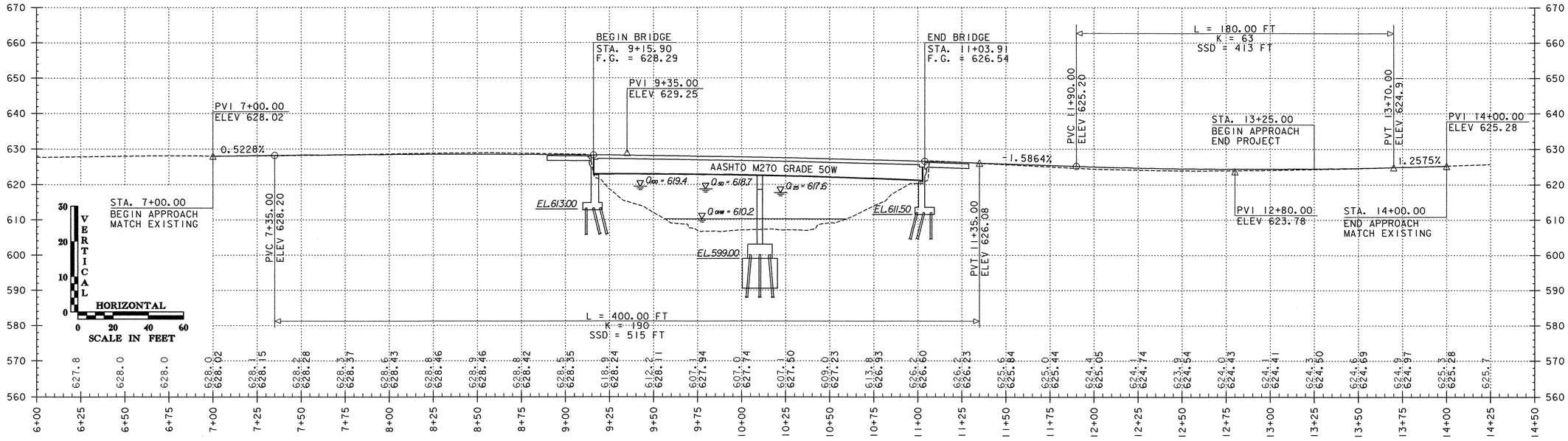
NOTE:

1. THE CONTRACTOR SHALL TAKE PROPER PRECAUTION TO AVOID DAMAGE TO THE EXISTING ROOF DRAIN. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE DRAIN AT NO COST TO THE OWNER OR TO THE PROJECT.

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Trans\PlotFiles\09Drn&Utl.ptf PLOT DATE: 1/30/2006
PROJECT LEADER: M. CHENETTE DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI CHECKED BY: D. ALTERI
DRAINAGE AND UTILITY PLAN SHEET 11 OF 63

Dufresne-Henry



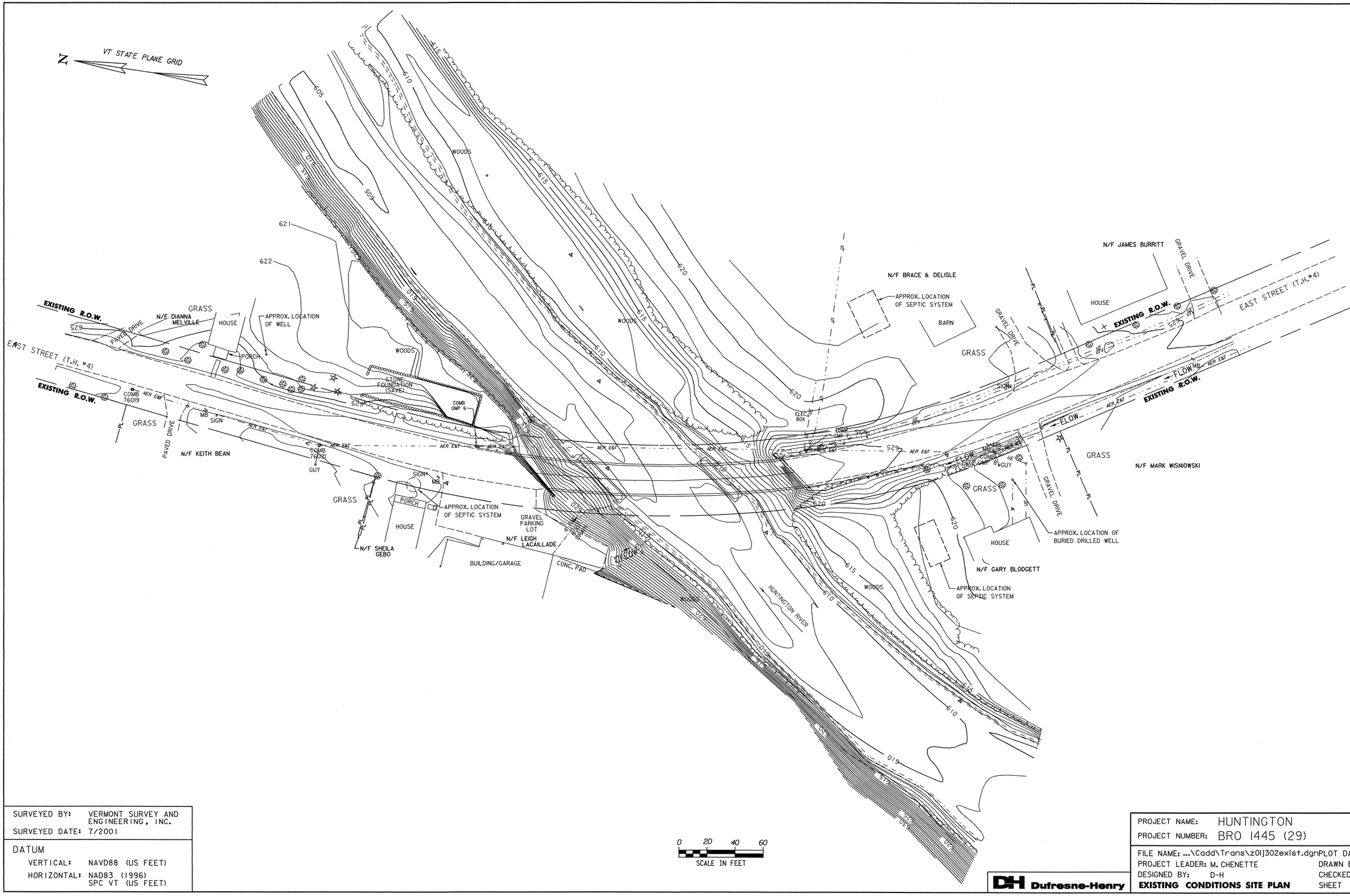
NOTE: GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG CENTERLINE. GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADES ALONG CENTERLINE.

PROFILE ALONG CENTERLINE OF EAST STREET (T.H. #4)

SCALE: HORIZ.: 1" = 30'-0"
VERT.: 1" = 15'-0"

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302pro.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
PROFILE SHEET	SHEET 12 OF 63

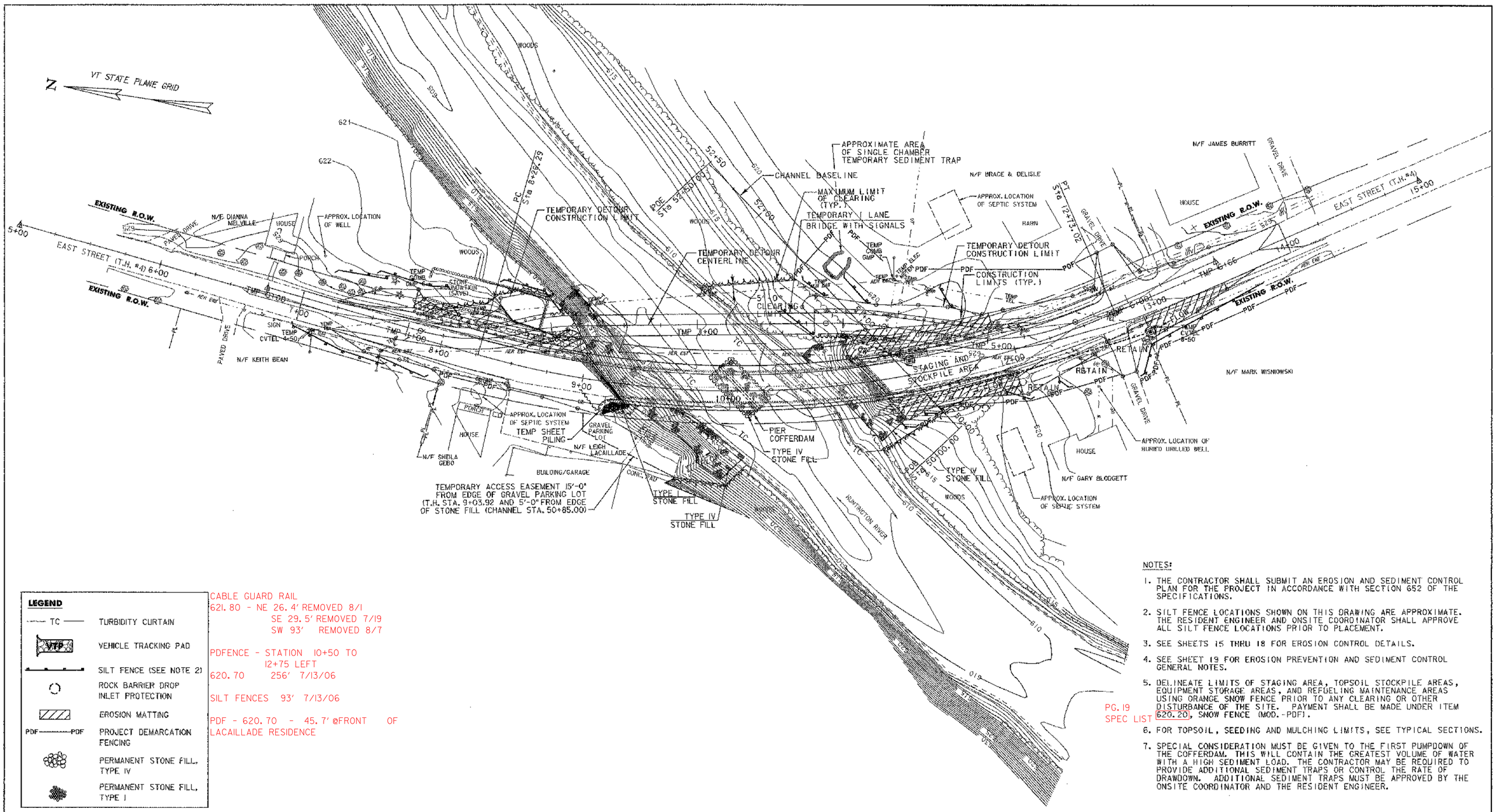
Dufresne-Henry



SURVEYED BY:	VERMONT SURVEY AND ENGINEERING, INC.
SURVEYED DATE:	7/2001
DATUM	
VERTICAL:	NAVD88 (US FEET)
HORIZONTAL:	NAD83 (1996) SPC VT (US FEET)

Dufresne-Henry

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302exist.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: D.HARRINGTON
DESIGNED BY: D-H	CHECKED BY: M.CHENETTE
EXISTING CONDITIONS SITE PLAN	SHEET 13 OF 63



LEGEND

TC	TURBIDITY CURTAIN
VTP	VEHICLE TRACKING PAD
	SILT FENCE (SEE NOTE 2)
	ROCK BARRIER DROP INLET PROTECTION
	EROSION MATTING
PDF PDF	PROJECT DEMARCATION FENCING
	PERMANENT STONE FILL, TYPE IV
	PERMANENT STONE FILL, TYPE I

CABLE GUARD RAIL
621.80 - NE 26.4' REMOVED 8/1
SE 29.5' REMOVED 7/19
SW 93' REMOVED 8/7

PDFENCE - STATION 10+50 TO 12+75 LEFT
620.70 256' 7/13/06

SILT FENCES 93' 7/13/06

PDF - 620.70 - 45.7' @FRONT OF LACAILLADE RESIDENCE

NOTES:

1. THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN FOR THE PROJECT IN ACCORDANCE WITH SECTION 652 OF THE SPECIFICATIONS.
2. SILT FENCE LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE RESIDENT ENGINEER AND ONSITE COORDINATOR SHALL APPROVE ALL SILT FENCE LOCATIONS PRIOR TO PLACEMENT.
3. SEE SHEETS 15 THRU 18 FOR EROSION CONTROL DETAILS.
4. SEE SHEET 19 FOR EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES.
5. DELINEATE LIMITS OF STAGING AREA, TOPSOIL STOCKPILE AREAS, EQUIPMENT STORAGE AREAS, AND REFUELING MAINTENANCE AREAS USING ORANGE SNOW FENCE PRIOR TO ANY CLEARING OR OTHER DISTURBANCE OF THE SITE. PAYMENT SHALL BE MADE UNDER ITEM 620.20, SNOW FENCE (MOD.-PDF).

PG. 19
SPEC LIST

6. FOR TOPSOIL, SEEDING AND MULCHING LIMITS, SEE TYPICAL SECTIONS.
7. SPECIAL CONSIDERATION MUST BE GIVEN TO THE FIRST PUMPDOWN OF THE COFFERDAM. THIS WILL CONTAIN THE GREATEST VOLUME OF WATER WITH A HIGH SEDIMENT LOAD. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL SEDIMENT TRAPS OR CONTROL THE RATE OF DRAWDOWN. ADDITIONAL SEDIMENT TRAPS MUST BE APPROVED BY THE ONSITE COORDINATOR AND THE RESIDENT ENGINEER.

SURVEYED BY:	VERMONT SURVEY AND ENGINEERING, INC.
SURVEYED DATE:	7/2001
DATUM	
VERTICAL:	NAV088 (US FEET)
HORIZONTAL:	NAD83 (1996) SPC VT (US FEET)

Dufresne-Henry

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME:	...\Cadd\Trans\z01j302eros.dgn
PLOT DATE:	1/30/2006
PROJECT LEADER:	M. CHENETTE
DRAWN BY:	J. OAKMAN
DESIGNED BY:	D. ALTERI
CHECKED BY:	D. ALTERI
EROSION & SEDIMENT CONTROL PLAN	SHEET 14 OF 63

PROJECT DESCRIPTION

THE PROJECT IS LOCATED APPROXIMATELY 0.25 MILES SOUTH OF THE INTERSECTION OF MAIN ROAD (T.H. 1) AND EAST STREET (T.H. 4) IN HUNTINGTON, VT AND PROCEEDS SOUTHERLY APPROXIMATELY 0.10 MILES ALONG EAST STREET (T.H. 4).

WORK TO BE PERFORMED FOR THIS PROJECT IS THE CONSTRUCTION OF A TEMPORARY ROADWAY AND BRIDGE TO THE EAST (DOWNSTREAM) SIDE OF THE EXISTING STRUCTURE. THE COMPLETE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE. THE CONSTRUCTION OF A NEW SUBSTRUCTURE (PIER AND ABUTMENTS) AND SUPERSTRUCTURE, ARMORING OF THE RIVER BANKS WITH STONE FILL AND RECONSTRUCTION OF THE APPROACHES. THE NEW BRIDGE, WHICH WILL BE CONSTRUCTED ALONG THE EXISTING ALIGNMENT, WILL BE WIDER THAN THE EXISTING STRUCTURE AND WILL HAVE A SIDEWALK ON THE EAST (DOWNSTREAM) SIDE. THE TOTAL DISTURBED AREA WILL BE LESS THAN 1.25 ACRES OVER THE ENTIRE PROJECT.

SITE INVENTORY AND ANALYSIS

THE AREA NORTH OF THE SITE IS A VILLAGE SETTING (HUNTINGTON VILLAGE). THERE ARE HOUSES WITH GRASS LAWNS AND SOME TREES FOR LANDSCAPING. ALONG THE EDGE OF THE RIVER ON THE NORTHEAST SIDE THERE IS A FORESTED AREA. ON THE NORTHWEST SIDE THERE IS A BUILDING WITH A GRAVEL PARKING LOT LOCATED AT THE TOP OF THE RIVER BANK. THE AREA SOUTH OF THE SITE IS ALSO A VILLAGE SETTING WITH NEWER HOUSES, LARGER GRASS LAWNS, AND SOME TREES FOR LANDSCAPING. ON THE SOUTH SIDE THE LAWNS EXTEND TO THE TOP OF THE RIVER BANK. ALL HOMES ALONG THE SITE HAVE SEPTIC SYSTEMS AND WELLS ON THEIR PROPERTIES. THE UNIVERSITY OF VERMONT CONSULTING ARCHAEOLOGY PROGRAM CONDUCTED A PHASE I ARCHAEOLOGICAL SITE IDENTIFICATION SURVEY IN THE PROJECT AREA AND MADE A DETERMINATION OF NO EFFECT FOR THE PURPOSED PROJECT.

AERIAL ELECTRICAL AND TELEPHONE LINES ARE LOCATED ON THE WESTERN SIDE OF THE ROADWAY ON THE NORTH SIDE OF THE BRIDGE THEN SWITCH TO THE EASTERN SIDE OF THE ROADWAY BEFORE CROSSING THE HUNTINGTON RIVER. ONCE ON THE SOUTH SIDE OF THE BRIDGE THEY SWITCH BACK TO THE WESTERN SIDE OF THE ROADWAY. UNDERGROUND ELECTRICAL AND TELEPHONE LINES RUN FROM THE POLE ON THE SOUTHEASTERN SIDE (GMP #7) OF THE BRIDGE TO THE HOME ON THE SAME SIDE. AN UNDERGROUND ELECTRICAL LINE RUNS FROM THE POLE ON THE SOUTHWESTERN SIDE (GMP #8) OF THE BRIDGE TO THE HOME ON THE SAME SIDE. THE ROADWAY IS PAVED, WITH THE LAWNS EXTENDING TO THE EDGE OF THE ROADWAY. THE ROADWAY HAS A RELATIVELY FLAT PROFILE WITH A TYPICAL CROWN. STORMWATER RUNS EAST AND WEST FROM THE ROADWAY, AND CASCADES OVER THE LAWNS. STORMWATER ON THE NORTHWEST GRAVEL PARKING LOT DRAINS TO THE SOUTHWEST AND INTO THE HUNTINGTON RIVER. ON THE NORTHEAST SIDE THE LAWNS SLOPE EASTWARD TOWARD THE HUNTINGTON RIVER. ON THE NORTHWEST SIDE THE LAWNS ARE FLAT. ON THE SOUTH SIDE BOTH LAWNS SLOPE NORTHWARD TO THE HUNTINGTON RIVER.

THE HUNTINGTON RIVER GOES DIRECTLY THROUGH THE SITE. THE RIVER HAS A GRAVEL AND STONE BOTTOM WITH STEEP FORESTED BANKS ON ITS NORTH SIDE AND SHALLOWER BANKS WITH TALL GRASS AND SHRUBS AND SMALL CLUMPS OF TREES ON ITS SOUTH SIDE. THE SOUTHERN BANK BECOMES STEEPER AT THE BRIDGE ABUTMENT. THE NORTH ABUTMENT IS LOCATED AT THE TOP OF THE BANK WITH A PIER LOCATED AT THE RIVER'S EDGE. THE SOUTHERN ABUTMENT IS LOCATED BEYOND THE RIVER'S EDGE, BUT HAS SIDE SLOPES BECAUSE THE ROADWAY IS BUILT UP FROM THE NATURAL GRADE. THERE IS ALSO A PIER LOCATED AT THE RIVER'S EDGE ON THE SOUTH SIDE. THERE IS A DITCH ALONG THE ROADWAY'S TOE OF SLOPE ON THE SOUTHWEST SIDE. THERE IS A SWALE FROM THE GRAVEL DRIVEWAY TO THE RIVER ON THE NORTHWEST SIDE. THERE ARE NO WETLANDS ON OR NEAR THE SITE.

THE NATIVE SOIL THROUGHOUT MOST OF THIS PROJECT IS AGAWAM FINE SANDY LOAM (Kw = 0.28) WHICH IS MODERATELY ERODIBLE. THERE IS ALSO SOME WINOOSKI VERY FINE SANDY LOAM (Kw=0.49) WHICH IS HIGHLY ERODIBLE ON THE SOUTHWEST SIDE OF THE PROJECT. HOWEVER, SINCE MOST OF THE WORK WILL OCCUR IN AREAS PREVIOUSLY DISTURBED FOR THE CONSTRUCTION OF THE EXISTING BRIDGE AND ROADWAY MOST OF THE DISTURBED SOILS WILL BE SAND AND GRAVEL (Kw < 0.23) WHICH HAS A LOW ERODIBILITY.

TEMPORARY EROSION AND SEDIMENT CONTROL

THE FOLLOWING EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE USED AT THIS SITE:

SNOW FENCE (MOD. - PDF)
FENCING WILL BE USED TO DEMARCATE LIMITS OF CONSTRUCTION AS DIRECTED BY THE ENGINEER. FENCING SHALL BE PAID FOR UNDER ITEM 620.70, SNOW FENCE (MOD. - PDF)

SILT FENCE:
SILT FENCE IS TO BE CONSTRUCTED AS SHOWN ON THE PLANS, WITH PROPER EMBEDMENT AND ANCHORING, AS WELL AS ENDS THAT ARE "CURLED" UPHILL TO PROMOTE PONDING AND SETTLING OF SEDIMENT. SEE DETAILS ON SHEET 16.

TEMPORARY SEED AND MULCH:
ALL EXPOSED SOILS SHALL BE MULCHED WITHIN 48 HOURS IF NOT WORKED WITHIN 7 DAYS AND SEEDED AND MULCHED AND/OR MATTED WITHIN 48 HOURS IF NOT WORKED WITHIN 30 DAYS.

EROSION MATTING:
EROSION MATTING SHALL BE USED ON ANY SLOPE GREATER THAN 3H:1V, ON ALL DISTURBED DRAINAGE SWALES AND AS SHOWN ON THE PLANS. EROSION MATTING SHALL BE INSTALL IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

VEHICLE TRACKING PAD:
VEHICLE TRACKING PAD SHALL BE USED TO PROVIDE A STABILIZED ENTRANCE TO ALL CONSTRUCTION STAGING AREAS AND TO ASSIST WITH THE REMOVAL OF SEDIMENT CAPTURED ON THE TIRES OF CONSTRUCTION VEHICLES ENTERING AND EXITING THESE STAGING AREAS. SEE DETAILS ON SHEET 17.

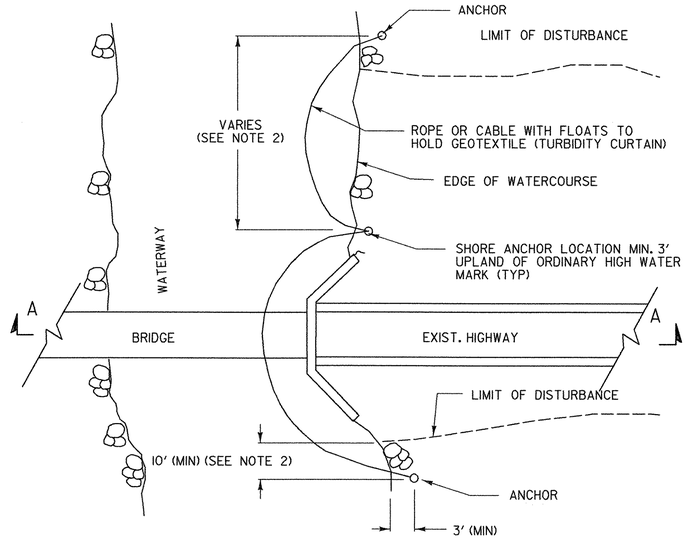
TURBIDITY CURTAIN:
TURBIDITY CURTAIN SHALL BE USED TO PREVENT SILT LADEN WATER FROM ENTERING THE RIVER DURING THE REMOVAL OF THE EXISTING PIERS AND THE ARMOURING OF THE BANKS OF THE RIVER. THE TURBIDITY CURTAIN IS TO BE CONSTRUCTED AS SHOWN ON THE PLANS. SEE DETAILS ON THIS SHEET.

ROCK BARRIER INLET PROTECTION:
ROCK BARRIER INLET PROTECTION SHALL BE USED TO FILTER RUNOFF AND CREATE PONDING TO ALLOW SETTLING OF SEDIMENT. IT IS NOT TO BE USED IF THE INLET IS ON A SLOPE, AS THIS COULD CAUSE WATER TO BYPASS THE INLET AND POTENTIALLY CREATE PROBLEMS WITH FLOODING DOWNSTREAM. THE ROCK BARRIER INLET PROTECTION SHOULD ONLY BE USED IN A SUMP SITUATION, WHERE WATER WILL POND UP, FLOW OVER OR FILTER THROUGH THE ROCK, AND ENTER THE INLET. SEE THE DETAIL ON SHEET 18.

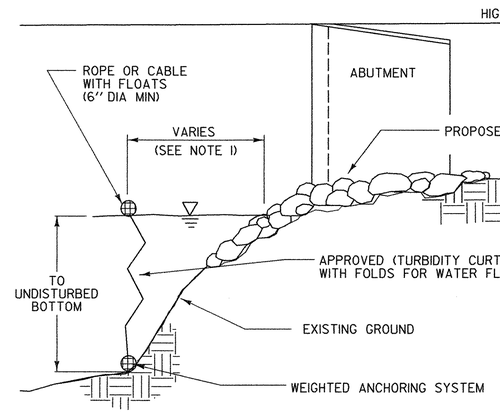
SINGLE CHAMBER TEMPORARY SEDIMENT TRAP:
SEDIMENTATION TRAP SHALL BE USED TO SETTLE SEDIMENT LADEN WATER FROM THE PUMP DOWN OF THE PIER COFFERDAM. SEE THE DETAIL ON SHEET 17.

FINAL EROSION CONTROL MEASURES

THE FINAL EROSION CONTROL MEASURES CONSIST OF STONE FILL, TYPE IV PLACED IN FRONT OF THE NEW ABUTMENTS AND AROUND THE NEW PIER. A NEW CULVERT WITH A DI AND STONE OUTLET PROTECTION AT THE SOUTHEAST END OF THE BRIDGE TO COLLECT ALL THE STORMWATER FROM THE BRIDGE. A NEW CULVERT WITH A DI AND STONE OUTLET PROTECTION JUST SOUTH OF THE FIRST DRIVEWAY ON THE SOUTHEAST SIDE TO COLLECT STORMWATER FROM LAWN AREAS SOUTH OF THE SITE. THE RESEEDING OF ALL DISTURBED AND NEW SIDE SLOPES AND EXPOSED SOILS.



PLAN



SECTION A-A

TURBIDITY CURTAIN - TEMPORARY

APPLICATION NOTES:

A. THE PURPOSE OF A TURBIDITY CURTAIN IS TO SEPARATE WORK AREAS IN OR ADJACENT TO WATERS, TO PREVENT SEDIMENT FROM ENTERING THE WATERS.

B. TURBIDITY CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY. THE TURBIDITY CURTAIN SHALL BE A TYPE III (HEAVY DUTY) CURTAIN CAPABLE OF RESISTING STREAM VELOCITIES UP TO 5 FT/SEC.

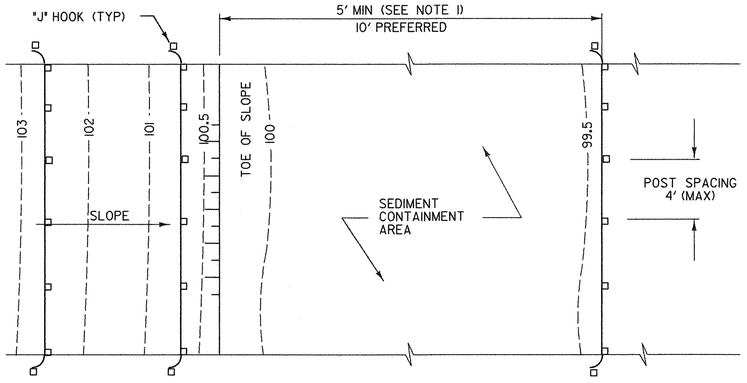
GENERAL NOTES:

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

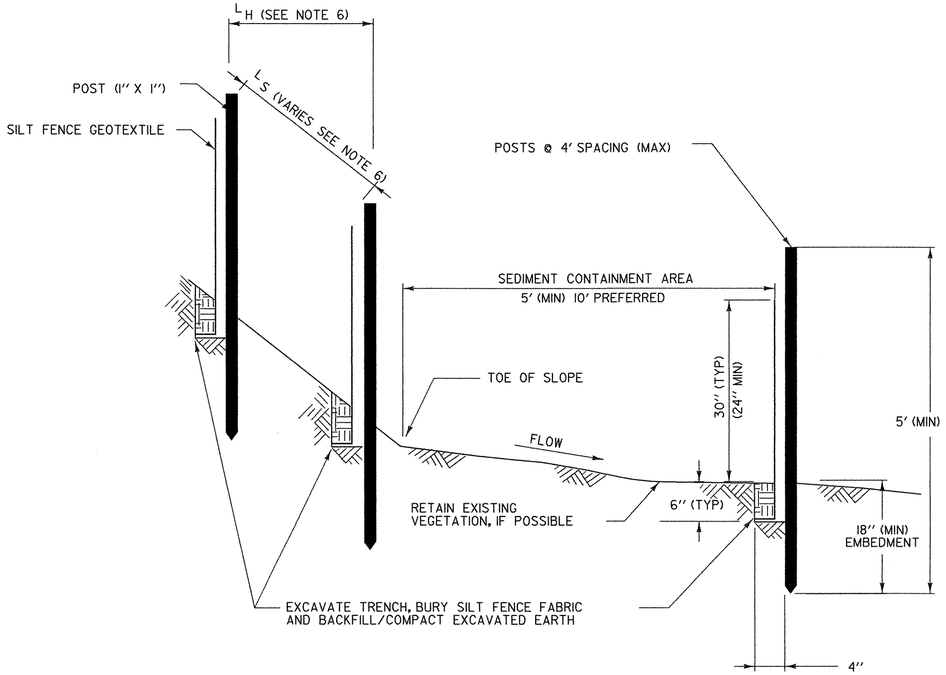
Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302frm2.dgn PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE DRAWN BY: S. BURBANK
DESIGNED BY: S. BURBANK CHECKED BY: M. CHENETTE
NARRATIVE & EROS. CONTROL DETAILS SHEET 15 OF 63



PLAN



SECTION

SILT FENCE - TEMPORARY

SILT FENCE

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF SILT FENCE IS TO REDUCE RUNOFF VELOCITY AND TRAP SEDIMENT. VELOCITY IS REDUCED, WATER IS IMPOUNDED BEHIND THE MEASURE, AND SEDIMENT FALLS OUT OF SUSPENSION.

B. SILT FENCE SHALL BE INSTALLED ON A LINE OF EQUAL ELEVATION (CONTOUR). IT MAY BE INSTALLED AT INTERMEDIATE POINTS UP SLOPES AS WELL AS AT THE BOTTOM, AS SHOWN IN THE DETAIL.

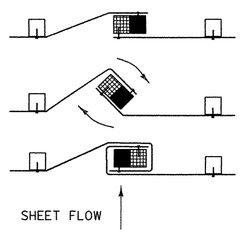
C. SILT FENCE SHALL NOT BE USED ACROSS CONCENTRATED FLOW.

GENERAL NOTES:

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

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

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



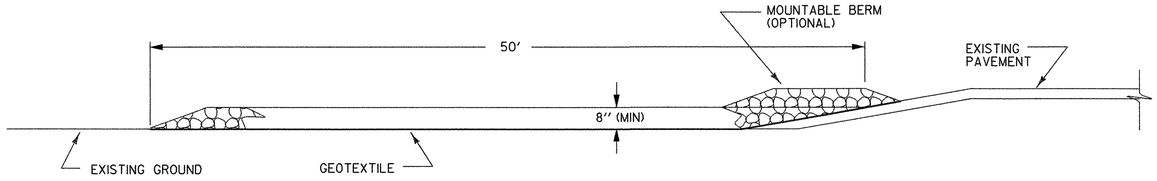
1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 18 INCHES INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

SPLICING DETAIL

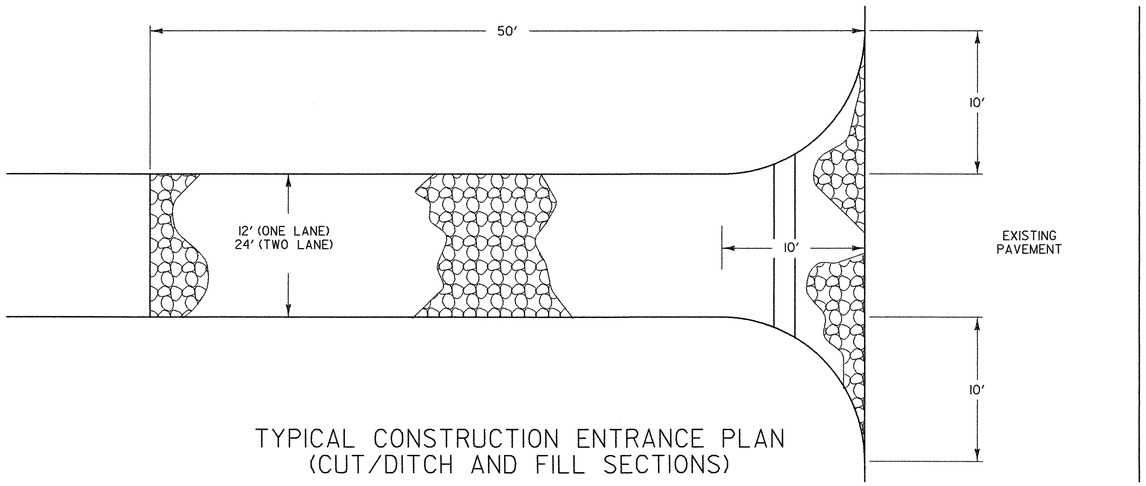
PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302frm2.dgn PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT CHECKED BY: M. CHENETTE
EROSION CONTROL DETAILS SHEET 16 OF 63

DH Dufresne-Henry



TYPICAL CONSTRUCTION ENTRANCE PROFILE
(CUT AND DITCH SECTIONS)



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

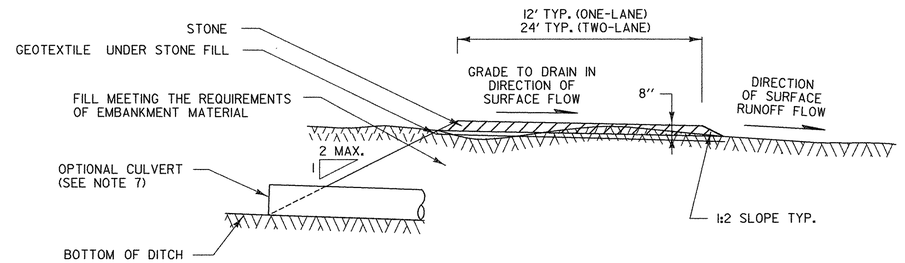
STABILIZED CONSTRUCTION ENTRANCE

APPLICATION NOTES:

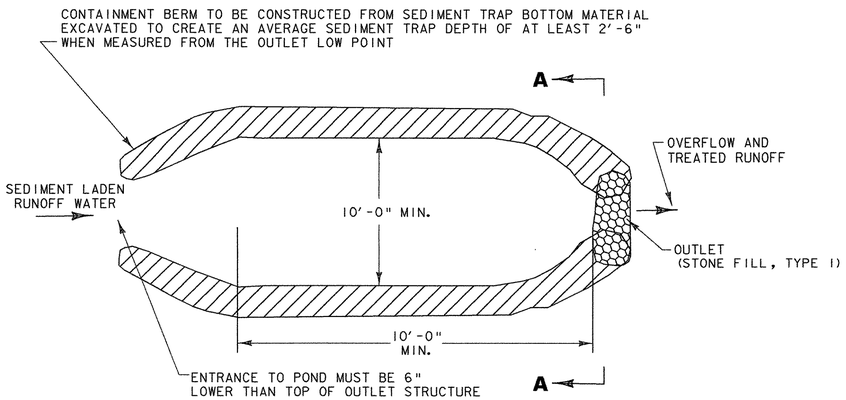
A. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY OR STREETS.

GENERAL NOTES:

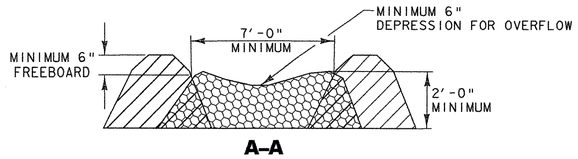
1. STONE SIZE - USE CLEAN STONE WITH GRADATION BETWEEN 2 INCHES AND 4 INCHES .
2. LENGTH - 50 FEET (MIN)
3. THICKNESS - 18 INCHES (MIN)
4. WIDTH - 12 FEET (MIN)
5. GEOTEXTILE UNDER STONE WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE AS DIRECTED BY THE ENGINEER. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. PROPOSED DRAINAGE PIPES SHALL BE SIZED WITH SUFFICIENT CAPACITY TO CARRY DITCH FLOWS. ALTERNATIVE WAYS OF TRANSPORTING DITCH DRAINAGE ACROSS CONSTRUCTION ENTRANCES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER.
8. WHEN WASHING OF VEHICLE IS NECESSARY, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.
10. MAINTENANCE- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
11. AT THE TIME OF REMOVAL OF THE STABILIZED CONSTRUCTION ENTRANCE THE DISTURBED AREA SHALL BE REPAIRED AND STABILIZED.
12. PAYMENT FOR THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MADE UNDER STONE FILL, TYPE I (MOD. - CONSTRUCTION ENTRANCE).
13. PAYMENT FOR MONITORING STABILIZED CONSTRUCTION ENTRANCES SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.
14. PAYMENT FOR MAINTAINING THE CONSTRUCTION ENTRANCE SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



TYPICAL CONSTRUCTION ENTRANCE SECTION



PLAN VIEW



A-A

NOTES:
1. ONCE THE POND IS FULL, INFLOW RATES WILL EQUAL OUTFLOW RATES.
2. DISCHARGE MUST BE TO UNDISTURBED GROUND AND FLOW AWAY FROM THE CONSTRUCTION SITE.
3. SEDIMENT CAPTURED BY THE TEMPORARY SEDIMENT TRAP MUST BE REMOVED AND STABILIZED AS PER THE SPECIFICATIONS AND NOTES.

SINGLE CHAMBER TEMPORARY SEDIMENT TRAP

PROJECT NAME:	HUNTINGTON
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PROJECT LEADER: M. CHENETTE	DRAWN BY: T. KNIGHT
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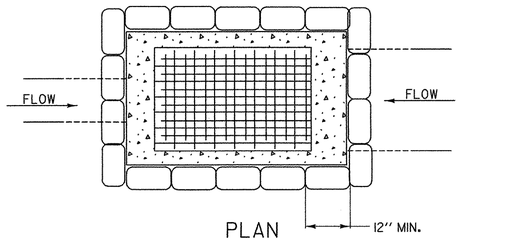
EROSION CONTROL DETAILS	SHEET 17 OF 63

DH Dufresne-Henry



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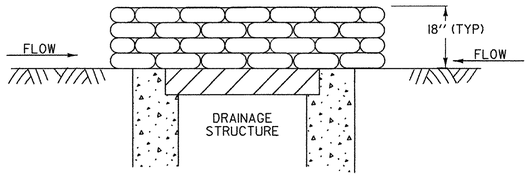
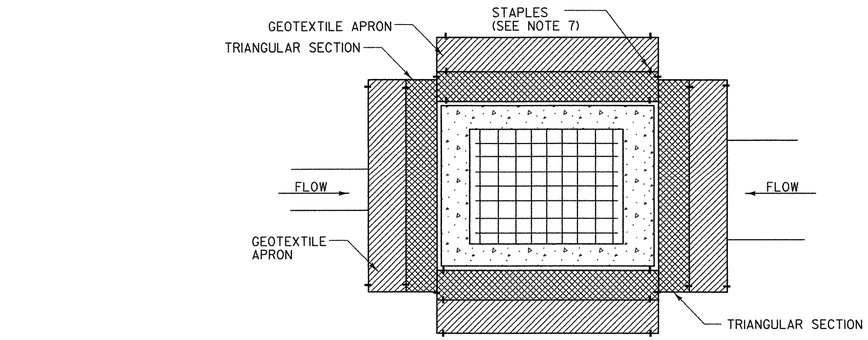


SECTION

GRAVEL BAG DROP INLET PROTECTION



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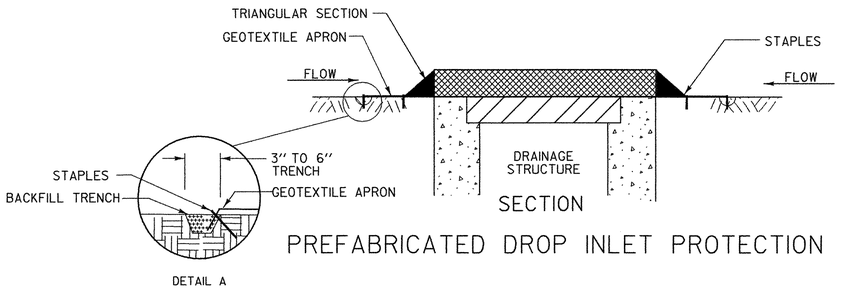
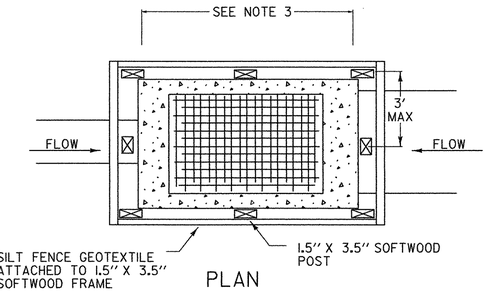


SECTION

PREFABRICATED DROP INLET PROTECTION



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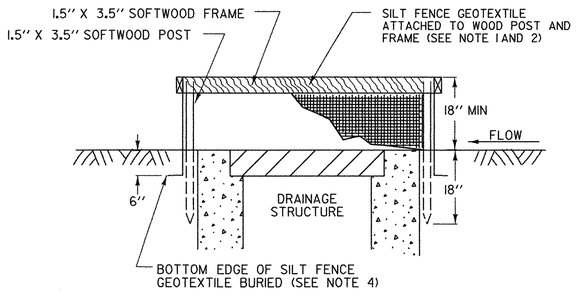
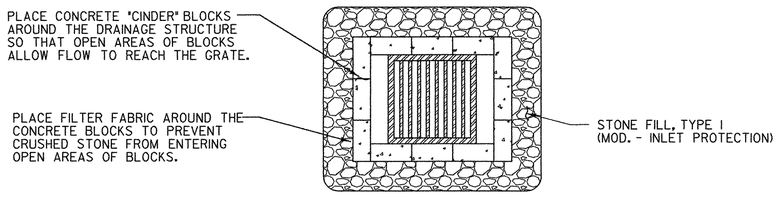


SECTION

SILT FENCE DROP INLET PROTECTION



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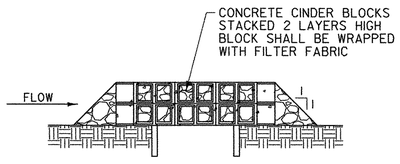


SECTION

ROCK BARRIER DROP INLET PROTECTION TEMPORARY PAVED AREAS

DROP INLET PROTECTION

APPLICATION NOTES:

A. THE PRIMARY PURPOSE OF DRAINAGE STRUCTURE INLET PROTECTION IS TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM BY PONDING WATER WHICH ALLOWS SEDIMENT TO FALL OUT OF SUSPENSION.

B. THESE EXAMPLES OF DROP INLET PROTECTION ARE NOT INTENDED FOR USE ON GRADES. ON GRADE THEY MAY CAUSE WATER TO BYPASS THE STRUCTURE, CREATING ADDITIONAL EROSION OR FLOODING.

C. POSSIBLE MODIFICATIONS FOR USE ON GRADE INCLUDE ADDING A BERM DOWNSTREAM OF THE INLET TO CREATE PONDING. CHECK DAMS MAY ALSO BE USED UPSTREAM OF THE INLET TO SLOW VELOCITIES.

D. PREFABRICATED DROP INLET PROTECTION SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO USE.

GENERAL NOTES:

1. THE TOP OF THE INLET PROTECTION SHALL BE SET AT THE MAXIMUM DESIRED WATER LEVEL, BASED ON FIELD LOCATION AND CONDITIONS.

2. SILT FENCE GEOTEXTILE SHALL BE A SINGLE CONTINUOUS PIECE TO ELIMINATE JOINTS.

3. SPACE SILT FENCE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 3 FEET. DRIVE POSTS A MINIMUM OF 18 INCHES INTO GROUND. WIRE MESH MAY BE REQUIRED BEHIND GEOTEXTILE TO PROVIDE SUPPORT.

4. SILT FENCE GEOTEXTILE SHALL BE EMBEDDED A MINIMUM OF 6 INCHES AND BACKFILLED. GEOTEXTILE SHALL BE SECURELY FASTENED TO POSTS AND FRAME.

5. GRAVEL BAGS SHALL BE FILLED WITH CLEAN STONE, RATHER THAN SAND, TO PREVENT SEDIMENT FROM ENTERING A DRAINAGE SYSTEM IF BAGS ARE DAMAGED DURING USE.

6. GRAVEL BAGS SHALL BE INDIVIDUALLY TIED, DOUBLE BAGGED AND INVERSELY INSERTED. GRAVEL BAGS SHALL LAP THE JOINTS BETWEEN THE BAGS IN THE LAYER BELOW.

7. SECURE THE ENDS OF THE APRON FOR THE PREFABRICATED DRAINAGE STRUCTURE INLET PROTECTION WITH STAPLES AS DETAILED IN THE PLAN VIEW OR AS RECOMMENDED BY THE MANUFACTURERS LITERATURE.

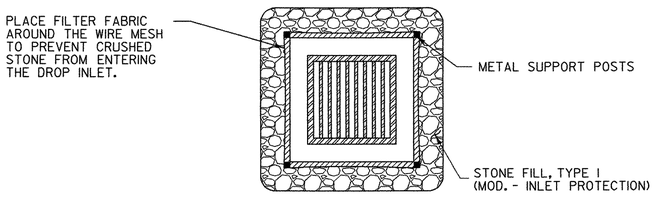
8. MEASURES SHALL BE INSPECTED EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT GREAT ENOUGH TO CAUSE WATER TO LEAVE THE CONSTRUCTION SITE.

9. MEASURES SHALL BE CLEANED AND REPAIRED AS NEEDED, SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION REACHES ONE-HALF OF THE MEASURE HEIGHT. SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIAL.

10. PAYMENT OF INLET PROTECTION SHALL BE MADE UNDER STONE FILL, TYPE I (MOD. - INLET PROTECTION)

11. PAYMENT FOR MONITORING INLET PROTECTION SHALL BE MADE UNDER THE MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM.

12. PAYMENT FOR MAINTAINING INLET PROTECTION SHALL BE MADE UNDER THE MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN ITEM, UNLESS MAINTENANCE IS REQUIRED DUE TO POOR INSTALLATION PRACTICES.



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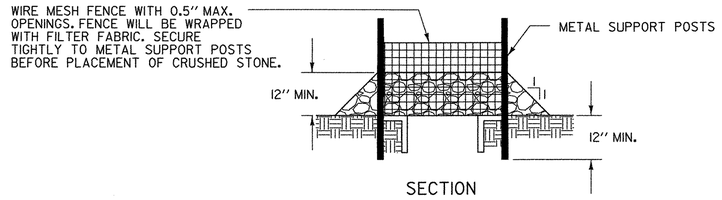


SECTION

ROCK BARRIER INLET PROTECTION TEMPORARY UNPAVED AREAS

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302frm2.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: T. KNIGHT
DESIGNED BY: T. KNIGHT	CHECKED BY: M. CHENETTE
EROSION CONTROL DETAILS	SHEET 18 OF 63

DH Dufresne-Henry

EROSION PREVENTION AND SEDIMENT CONTROL GENERAL NOTES

I. CONTRACTOR'S RESPONSIBILITIES FOR EROSION PREVENTION AND SEDIMENT CONTROL

A. PREVENT OR MINIMIZE SOIL EROSION OF DISTURBED LAND AND PREVENT THE DISCHARGE OF SEDIMENT AND OTHER CONSTRUCTION RELATED POLLUTANTS TO WATERS OF THE STATE.

B. FURNISH, INSTALL, INSPECT AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL MATERIALS IN CONJUNCTION WITH THE GENERAL CLEARING, GRADING AND EXCAVATION OF THIS SITE.

C. ESTABLISH LIMITS OF SOIL DISTURBANCE; LOCATION(S) OF TOPSOIL STOCKPILES; CONSTRUCTION STAGING AREAS; STORAGE AREAS; REFUELING AND MAINTENANCE AREAS.

D. ESTABLISH AND MARK BOUNDARIES FOR ANY UNDISTURBED RIPARIAN BUFFER ZONES AND MAINTAIN ALL EXISTING STREAMS AND RIPARIAN BUFFER ZONES IN THEIR NATURAL CONDITION.

E. LOCATE AREAS FOR DISPOSAL OF STUMPS, EXCESS SOILS AND COLLECTED SEDIMENT AND OTHER POLLUTANTS, AND DISPOSE OF THESE MATERIALS IN A MANNER THAT WILL NOT RESULT IN SEDIMENTS AND POLLUTANTS ENTERING WATERS OF THE STATE.

F. SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXTENT OF DISTURBED SOILS LEFT OPEN TO EROSION AT ANY GIVEN TIME AS DETAILED IN THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS.

G. AVOID ALL LAND DISTURBANCES WITHIN 50 FEET OF ALL WATER BODIES, MEASURED FROM THE TOP OF BANK, AND WETLANDS, EXCEPT WHERE NECESSARY FOR THE RECONSTRUCTION OF EXISTING ROADS AND THE CONSTRUCTION OF BRIDGES, STREAM CROSSINGS, AND COMPONENTS OF STORMWATER MANAGEMENT SYSTEMS WHICH BY NECESSITY MUST BE LOCATED IN THIS ZONE.

H. MAINTAIN AND PRESERVE TO THE EXTENT POSSIBLE THE SITE'S NATURAL DRAINAGE WAYS THAT CONVEY STORMWATER TO STREAMS, RIVERS, LAKES, PONDS AND WETLANDS.

I. PREVENT OFF-SITE STORMWATER FROM ENTERING AREAS OF DISTURBED SOIL ON-SITE.

J. PREVENT THE OFF-SITE DISCHARGE OF SEDIMENT MOBILIZED ON THE CONSTRUCTION SITE, INCLUDING OFF-SITE TRACKING OF SEDIMENT ONTO PAVED PUBLIC OR PRIVATE ROADWAYS BY CONSTRUCTION VEHICLES. THIS SHALL BE ACCOMPLISHED BY THE USE OF VEHICLE TRACKING PADS, POWER BROOM SWEEPING ON PAVED AND CONCRETE SURFACES, AND OTHER MEANS AS DIRECTED BY THE RESIDENT ENGINEER.

K. DISPOSE OF SEDIMENTS AND OTHER POLLUTANTS WHICH HAVE BEEN COLLECTED AND REMOVED IN THE COURSE OF STORMWATER TREATMENT IN A MANNER THAT WILL NOT RESULT IN THE SEDIMENTS AND POLLUTANTS ENTERING WATERS OF THE STATE. DISPOSAL SITES REQUIRE RELATIVELY LEVEL TERRAIN WITH AN ISOLATION DISTANCE OF AT LEAST 100 FEET FROM ANY SURFACE WATERS, INCLUDING WETLANDS.

2. LIMITATIONS AND PROHIBITIONS

A. THE CONTRACTOR SHALL SCHEDULE EARTHWORK COMPLETION, SITE STABILIZATION, ESTABLISHMENT OF PERENNIAL COVER AND INSTALLATION OF NON-VEGETATIVE PROTECTION MEASURES NO LATER THAN OCTOBER 15. TO ASSURE ESTABLISHMENT OF VEGETATED COVER, SEEDING AND MULCHING ACTIVITIES SHALL BE COMPLETED BY SEPTEMBER 15.

FOR PROJECTS EXTENDING BEYOND OCTOBER 15, LIMIT EXPOSURE OF SOILS AND MINIMIZE ADDITIONAL EARTHWORKS. ANY PROPOSED SOIL DISTURBANCE AND EARTHWORKS BETWEEN OCTOBER 15 AND MAY 1 WILL REQUIRE DEVELOPMENT OF A SPECIAL WINTER EROSION AND SEDIMENT CONTROL PLAN ADDRESSING THE SPECIFIC CONCERNS OF WINTER CONSTRUCTION. THIS PLAN MUST BE FILED WITH, AND APPROVED BY, THE PERMITTING AUTHORITY BY SEPTEMBER 15. IF IT IS DETERMINED BY THE ENGINEER OR THE PERMITTING AUTHORITY THAT WINTER CONSTRUCTION WOULD PRESENT A SIGNIFICANT RISK TO WATER QUALITY, THE CONTRACTOR WILL NEED TO REQUEST A WINTER SHUTDOWN IN ACCORDANCE WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS.

B. DISCHARGES OF ANY MATERIAL OTHER THAN STORMWATER, SUCH AS VEHICLE AND EQUIPMENT MAINTENANCE SPILLS, FUELS, WASH WATER, CONSTRUCTION DEBRIS, OIL, WET CONCRETE AND OTHER SUBSTANCES, ARE PROHIBITED. WASHOUT WATER FROM CONCRETE BATCH TRUCKS OR EQUIPMENT USED TO MIX CONCRETE SHALL BE DISCHARGED IN DESIGNATED AREAS APPROVED BY THE ONSITE COORDINATOR AND THE RESIDENT ENGINEER.

C. NO SILT FENCE SHALL BE UTILIZED IN AREAS OF CONCENTRATED FLOWS, SUCH AS CHANNELS OR DITCHES.

D. DISPOSAL OF SEDIMENT IN A WETLAND OR ANY CORRECTIVE ACTION UNDERTAKEN TO REMOVE SEDIMENT FROM A WETLAND IS PROHIBITED.

E. THE FAILURE TO PROMPTLY ABATE THE DISCHARGE OF SEDIMENT OR ANY OTHER WASTE WHICH CAUSES A VISIBLE DISCOLORATION OF SURFACE WATERS (INCLUDING WETLANDS), OR IS FOUND TO BE EXCEEDING WATER QUALITY STANDARDS BASED ON MONITORING, IS PROHIBITED.

3. GENERAL CONSTRUCTION NOTES

A. SEE THE EROSION CONTROL PLAN FOR CONSTRUCTION NOTES.

B. VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILER OR OTHER HIGH TRAFFIC AREAS SHALL BE COVERED WITH GEOTEXTILE FABRIC AND 12 INCHES OF GRAVEL OR CRUSHED STONE AS DIRECTED BY THE RESIDENT ENGINEER. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS SHALL BE REMOVED FROM THE STAGING AREA. COMPACTED, RUTTED, OR OTHERWISE DISTURBED SOILS SHALL BE TILLED, RAKED, SEEDED AND MULCHED.

C. ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS SHALL BE ISOLATED WITH FILTER FABRIC. SOIL STOCKPILED ON THE SITE SHALL BE SEEDED AND MULCHED.

D. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR MATTED WITHIN 24 HOURS OF BEING STRIPPED OR BACKFILLED AND FINAL GRADED. AREAS WHICH ARE CONTINUOUSLY BEING DISTURBED SHALL BE TEMPORILY PROTECTED WITH MULCH OR EROSION MATTING, ESPECIALLY WHEN A RAIN EVENT IS EXPECTED.

E. STOCKPILES SHALL BE MULCHED OR MATTED IF THEY WILL BE UNDISTURBED FOR MORE THAN 24 HOURS.

4. INSPECTION

A. THE ONSITE COORDINATOR SHALL INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL STRUCTURES AND MEASURES AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND NO LATER THAN 24 HOURS AFTER ANY STORM EVENT WHICH GENERATES A DISCHARGE OF STORMWATER RUNOFF FROM THE CONSTRUCTION SITE, TO ENSURE THEY ARE OPERATING CORRECTLY.

B. THE ONSITE COORDINATOR SHALL INSPECT ANY SITES THAT HAVE BEEN TEMPORARILY OR FINALLY STABILIZED A MINIMUM OF ONCE A MONTH.

C. THE CONTRACTOR SHALL INSPECT CHANNEL LININGS, EMBANKMENTS AND CHANNEL BEDS DAILY FOR ANY SIGN OF EROSION.

D. THE CONTRACTOR SHALL INSPECT DISCHARGE POINTS DAILY TO VISUALLY ASSESS WHETHER EROSION PERVENTION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING IMPACTS TO RECEIVING WATERS.

E. IN THE CASE OF SOIL DISTURBANCE OR EARTHWORK OCCURRING OVER THE WINTER PERIOD (OCT. 15 TO MAY 1), DAILY MONITORING OF ALL EROSION PREVENTION, SEDIMENT CONTROL AND CONSTRUCTION ACTIVITIES SHALL BE REQUIRED IN AREAS WHERE SUCH SOIL DISTURBANCE, EARTHWORK OR ACTIVITIES ARE ONGOING. IN AREAS THAT HAVE BEEN SHUT DOWN FOR THE WINTER, THE ONSITE COORDINATOR SHALL INSPECT EROSION PREVENTION AND SEDIMENT CONTROL DEVICES IN THE FIELD MONTHLY, NO LATER THAN 24 HOURS AFTER ANY STORM EVENT WHICH GENERATES A DISCHARGE OF STORMWATER RUNOFF FROM THE CONSTRUCTION SITE, OR DURING A THAW.
THE CONTRACTOR SHALL BE DIRECTED TO MAKE REPAIRS OR INSTALL ADDITIONAL MEASURES AS NECESSARY.

F. THE ONSITE COORDINATOR AND THE CONTRACTOR SHALL INSPECT FOR THE EVIDENCE OF, OR THE POTENTIAL FOR, SEDIMENT LEAVING FROM ALL DISTURBED AREAS OR MATERIAL STORAGE AREAS.

G. AN EROSION PREVENTION AND SEDIMENT CONTROL MONITORING REPORT FORM COMPLETED BY THE ONSITE COORDINATOR STATING THE DATE OF REVIEW AND DESCRIBING THE EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT MEASURES REVIEWED, THE EFFECTIVENESS OF THEIR OPERATION, ANY DEFICIENCIES, AND CORRECTIVE ACTION TO BE UNDERTAKEN SHALL BE PREPARED AFTER EACH REVIEW. A COPY SHALL BE PROVIDED TO THE ENGINEER AND MAINTAINED ON FILE AT THE PROJECT SITE.

5. MAINTENANCE

A. THE CONTRACTOR SHALL KEEP ALL SEEDED AREAS WATERED AND IN GOOD CONDITION, RE-SEEDING IF AND WHEN NECESSARY UNTIL A GOOD, HEALTHY, UNIFORM GROWTH IS ESTABLISHED OVER THE ENTIRE AREA SEEDED.

B. THE CONTRACTOR SHALL REPAIR ALL EROSION PREVENTION AND SEDIMENT CONTROL STRUCTURES AND MEASURES THAT ARE DETERMINED TO BE FAILING, OR NOT FUNCTIONING AS DESIGNED, WITHIN 24 HOURS OF INSPECTION.

C. THE CONTRACTOR SHALL REMOVE ACCUMULATED SEDIMENT FROM CONTAINMENT SYSTEMS AND OTHER SEDIMENT CONTROL STRUCTURES AS REQUIRED, SUCH THAT PERFORMANCE OF THESE SYSTEMS IS NOT COMPROMISED OR IN ANY WAY IMPAIRED.

D. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND REPAIR ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY.

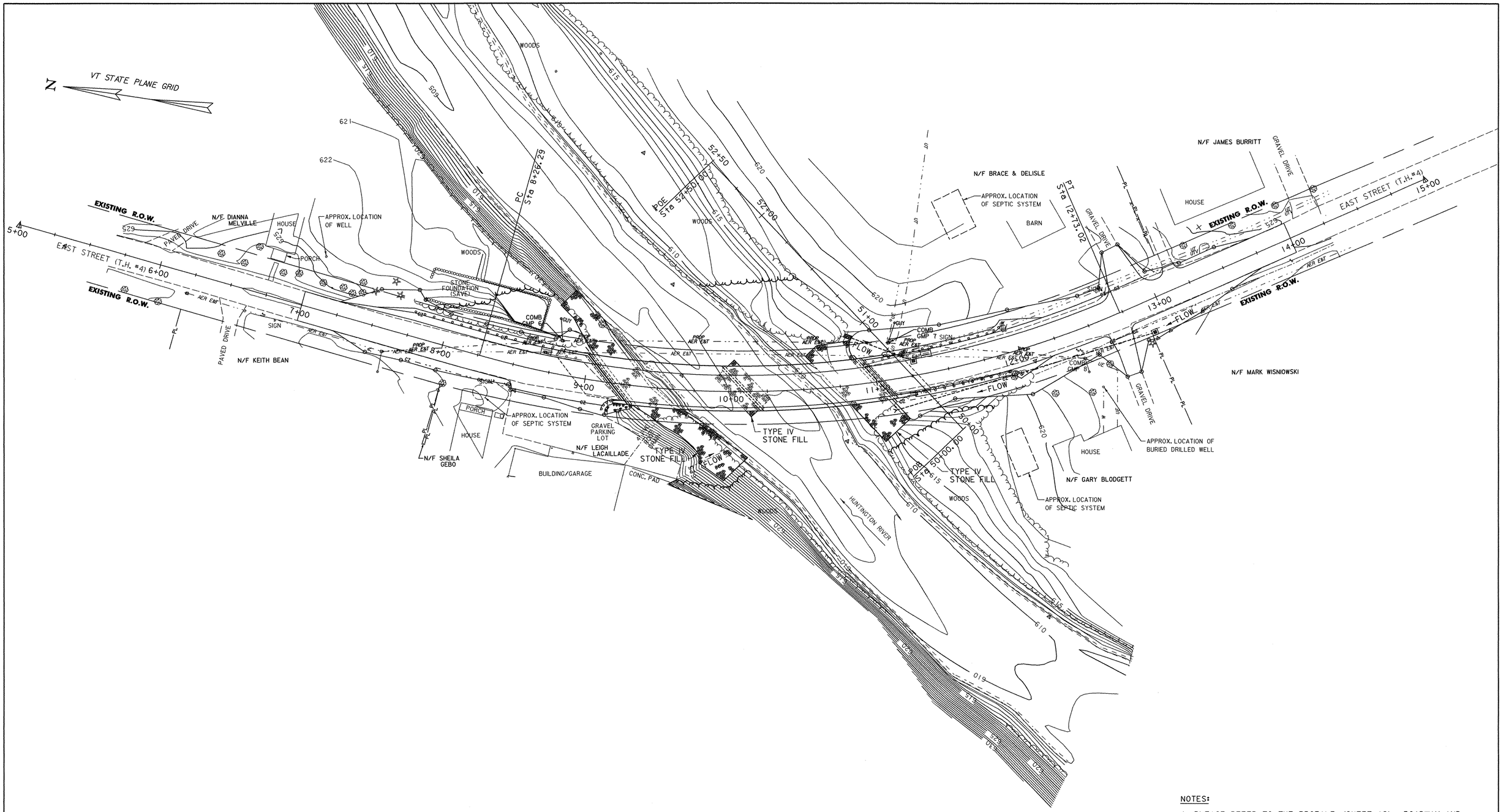
6. CORRECTIVE ACTION

A. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER AS SOON AS POSSIBLE, BUT WITHIN 24 HOURS, OF ANY EVIDENCE OF MEASURABLE AMOUNTS OF SEDIMENT OR SEDIMENT-LADEN WATER LEAVING THE CONSTRUCTION SITE OR ANY VISIBLE DISCOLORATION OF SURFACE WATERS (INCLUDING WETLANDS).

B. THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO CORRECT THE DISCHARGE, INCLUDING HALTING OR REDUCING CONSTRUCTION ACTIVITIES AS NECESSARY UNTIL THE DISCHARGE AND/OR THE CONDITION IS FULLY CORRECTED.

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302frm2.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
EROSION CONTROL NOTES	SHEET 19 OF 63

DH Dufresne-Henry



NOTES:

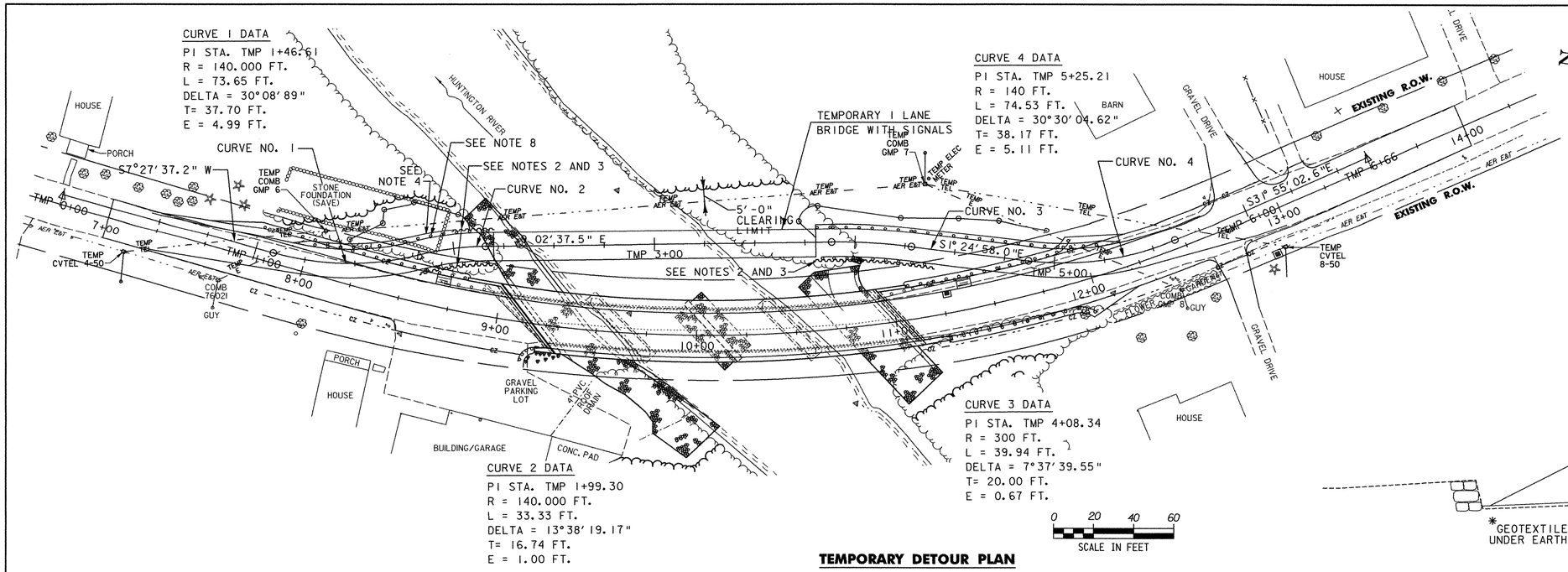
1. PLEASE REFER TO THE PROFILE (SHEET 12), ROADWAY AND CHANNEL CROSS SECTIONS (SHEETS 56-63) FOR FINAL GRADING.

0 20 40 60
SCALE IN FEET

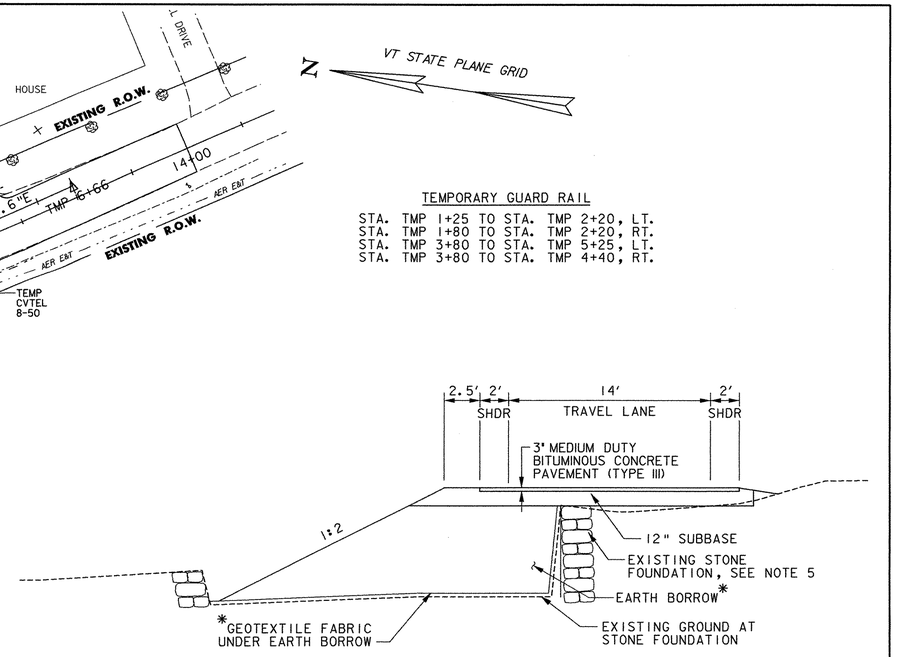
SURVEYED BY:	VERMONT SURVEY AND ENGINEERING, INC.
SURVEYED DATE:	7/2001
DATUM	
VERTICAL:	NAVD88 (US FEET)
HORIZONTAL:	NAD83 (1996) SPC VT (US FEET)

Dufresne-Henry

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302finalpln.dgn	PLOT DATE: 1/30/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: S. BURBANK
DESIGNED BY: D-H	CHECKED BY: M. CHENETTE
FINAL CONDITIONS SITE PLAN	SHEET 20 OF 63

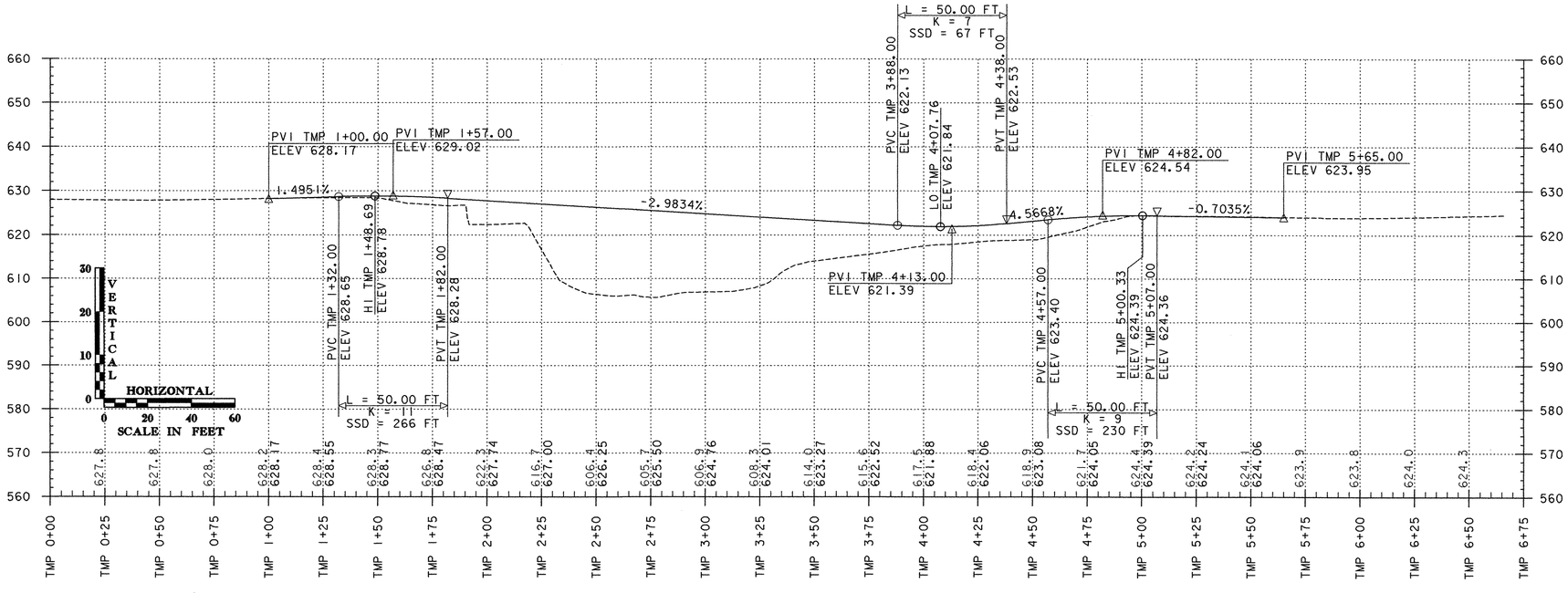


TEMPORARY DETOUR PLAN



TEMPORARY DETOUR DETAIL

NOT TO SCALE



TEMPORARY DETOUR PROFILE

NOTES:

1. SEE TEMPORARY TRAFFIC SIGNAL PLAN FOR TEMPORARY DETOUR SIGNING, STRIPING AND SIGNAL INFORMATION.
2. THE TEMPORARY RETAINING STRUCTURES SHALL BE DESIGNED AND FURNISHED AS PART OF ITEM 528.10, ONE-WAY TEMPORARY BRIDGE (MOD.).
3. THE TEMPORARY GUARD RAIL BETWEEN STATIONS TMP 1+80 TO TMP 2+20 RT. & TMP 2+00 TO TMP 2+20 LT. AND TMP 3+80 TO 4+40 RT. SHALL BE MOUNTED TO THE TEMPORARY RETAINING STRUCTURE FOR THE ABUTMENT IN A MANNER APPROVED BY THE ENGINEER.
4. THE CONTRACTOR MAY SPAN THE EXISTING STONE FOUNDATION AS PART OF THE TEMPORARY BRIDGE, IN LIEU OF FILLING IT IN AS SHOWN ABOVE.
5. THE CONTRACTOR SHALL PLACE AND REMOVE FILL IN THE AREA OF THE EXISTING STONE FOUNDATION WITH EXTREME CARE, TO AVOID DAMAGE TO THE STONE WALL. THE METHODS FOR PLACING AND REMOVING FILL SHALL BE APPROVED BY THE ENGINEER, PRIOR TO THE START OF WORK.
6. THE CONTRACTOR SHALL REMOVE ALL FILL FOR THE TEMPORARY DETOUR AND FABRIC FROM THE FOUNDATION AT THE CONCLUSION OF THE WORK AND RESTORE THE FOUNDATION AND GENERAL AREA TO THE ORIGINAL CONDITION, EXCLUDING LANDSCAPING.
7. THE CONTRACTOR MAY MAKE MINOR ADJUSTMENTS TO THE TEMPORARY DETOUR PROFILE, SUBJECT TO THE APPROVAL OF THE ENGINEER, PROVIDED THAT ALL WORK REMAINS WITHIN THE LIMITS SHOWN AND THE MINIMUM BEAM ELEVATIONS AND SPAN LENGTH ARE MAINTAINED.
8. GUARD RAIL POSTS FOR TEMPORARY GUARD RAIL BETWEEN STATIONS TMP 1+50 LT. TO TMP 2+00 LT. SHALL BE PLACED IN DRILLED OR HAND DUG HOLES. LOCATE POSTS TO AVOID CONFLICTS OR DAMAGE TO THE EXISTING STONE FOUNDATION.

PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302tsl.dgn	PLOT DATE: 1/30/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
TRAFFIC CONTROL PLAN	SHEET 21 OF 63

Dufresne-Henry

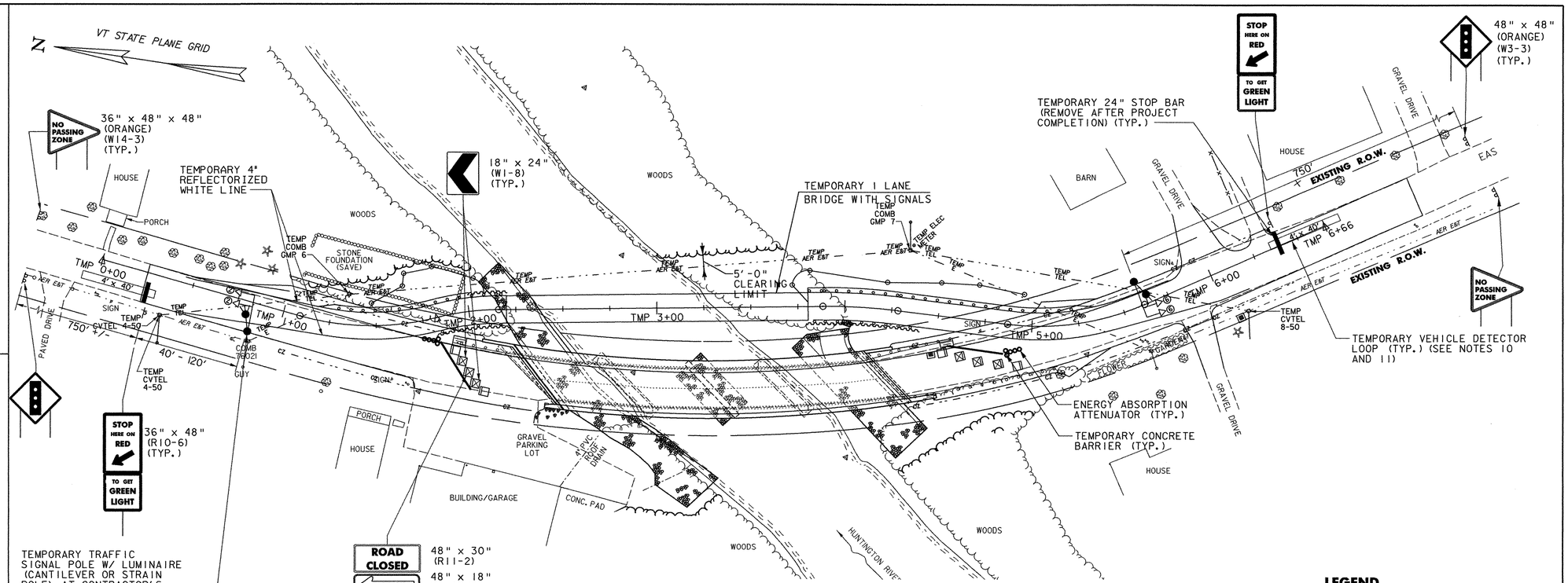
WHITE REFL. BACKGROUND
MATERIALS: PER STD. E-142

PHASING DIAGRAM

PHASE	2			6		
	G	Y	R	G	Y	R
MINIMUM	8	4	25	8	4	25
EXTENSION	2			2		
MAXIMUM	12			12		
HEAD 2	G	Y	R	R	R	R
HEAD 6	R	R	R	G	Y	R

SPECIAL REQUIREMENTS

APPROACH	TEMPORARY VEHICLE DETECTOR	FLASHING BEACON ON ADVANCED WARNING SIGN
2	✓	
6	✓	



NOTES:

1. ALL SIGNAL RELATED SIGNS SHALL BE REMOVED OR COVERED WHEN THE SIGNAL IS NOT OPERATING.
2. ITEM LOCATIONS ARE APROXIMATE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM ANY MEASUREMENTS IN THE FIELD.
4. SEE TRAFFIC CONTROL SHEET FOR TEMPORARY DETOUR DETAIL AND GEOMETRY INFORMATION.

LEGEND

- TRAFFIC SIGNAL POLE WITH LUMINAIRE
- TYPE III BARRICADES SEE STD.E-107A
- TYPE III BARRICADES (MOD.) SEE STD. E-107A
- SIGNAL HEAD AND PHASE

NOT TO SCALE

GENERAL TEMPORARY TRAFFIC SIGNAL NOTES

1. DESIGN OF THE SIGNAL SUPPORT(S) AND ANY REQUIRED GUYING IS THE RESPONSIBILITY OF THE CONTRACTOR.
2. SIGNAL TIMING/TIMING ADJUSTMENTS REQUESTED BY THE RESIDENT ENGINEER SHALL BE ACCOMPLISHED WITHIN A 48 HOUR PERIOD AND PAYMENT SHALL BE INCIDENTAL TO THE TRAFFIC SIGNAL ITEM. THE ALL-RED CLEARANCE INTERVAL IS BASED ON AN ASSUMED SPEED OF 10-20 MPH, THE RESIDENT ENGINEER SHALL MAKE SEVERAL TRIAL RUNS TO DETERMINE THE PROPER ALL-RED CLEARANCE INTERVAL.
3. SIGNAL FACES SHALL CONSIST OF 12'' LENSES. (RED, YELLOW, AND GREEN)
4. THE BOTTOM OF THE HOUSING OF A SIGNAL FACE SUSPENDED OVER A ROADWAY SHALL NOT BE LESS THAN 16 1/2 FEET NOR MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY. THE BOTTOM OF A SIGNAL FACE NOT MOUNTED OVER A ROADWAY, SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE GROUND. CAUTION SHOULD BE USED TO INSURE COMPLIANCE WITH THE HEIGHT REQUIREMENTS IN THE EVENT THE NEW APPROACH GRADES DIFFER SIGNIFICANTLY FROM THE OLD ROAD GRADE.
5. SIGNAL FACES FOR ANY ONE APPROACH SHALL NOT BE LESS THAN 8 FEET APART MEASURED HORIZONTALLY BETWEEN CENTER OF FACES.
6. SIGNAL HEADS MAY BE HUNG ON A SPAN WIRE OR ON A CANTILEVER MAST ARM. AT LEAST ONE SIGNAL HEAD SHALL BE UNMISTAKABLY IN LINE WITH THE CENTER OF APPROACHING TRAFFIC AT ALL TIMES. THE SECOND SIGNAL HEAD MAY BE POST MOUNTED, LOCATED AT A DISTANCE NO GREATER THAN 14 1/2 FEET FROM THE CENTER OF THE APPROACH LANE WHEN THE STOP BAR IS 40 FEET FROM THE SIGNAL HEAD. CONSULT THE M.U.T.C.D. 2000 MILLENNIUM EDTION FOR ADDITIONAL INFORMATION CONCERNING SIGNAL PLACEMENT.
7. SIGNAL HEAD PLACEMENT IS CRITICAL. HEADS SHALL BE ADJUSTED TO REFLECT LANE LOCATION CHANGES.
8. THE SIGNAL SYSTEM SHALL CONSIST OF POLES, SIGNS AND POSTS, WARNING SIGN, LUMINARIES, FLASHING BEACONS, AND SIGNAL EQUIPMENT TO PROVIDE FOR AN ADEQUATE DESIGN. IT ALSO INCLUDES PERMITS AND COST ASSOCIATED WITH PROVIDING ELECTRICAL POWER.
9. THE CONTRACTOR SHALL PROVIDE AN ACTUATED CONTROLLER. THE APPROACHES NOTED SHALL HAVE A TEMPORARY VEHICLE DETECTOR. THE TYPE OF DETECTION SHALL BE AT THE OPTION OF THE CONTRACTOR. LOOPS ARE SHOWN FOR PLACEMENT PURPOSES ONLY. THE CONTROLLER, DETECTOR AND ALL OTHER SIGNAL EQUIPMENT SHALL MEET OR EXCEED ALL NEMA STANDARDS.
10. WHEN USED, VEHICLE DETECTOR LOOPS SHALL BE 4' X 40' FOR PRESENCE DETECTION AT THE STOP BAR WITH THE NEAR PORTION LOCATED 5 FEET BEYOND THE STOP BAR. VEHICLE DETECTOR LOOPS SHALL BE CAPABLE OF DETECTING MOTORCYCLES.
11. INTERVAL TIMING SHOWN IN SECONDS.
12. INSTALL WIRING BETWEEN SIGNAL POLES BY WHATEVER MEANS POSSIBLE OR CONVENIENT TO PROVIDE FOR A SAFE INSTALLATION. ATTACHMENT TO UTILITY POLES TO BE COORDINATED BY THE CONTRACTOR WITH UTILITY COMPANY.
13. PLACE TEMPORARY POLES BEHIND GUARDRAIL WHERE POSSIBLE.
14. POLES SUPPORTING SPAN WIRES AND/OR MAST ARMS SHALL BE ADEQUATELY BRACED OR GUYED AND SHALL NOT BE PLACED SO AS TO CREATE A HAZARD TO THE TRAVELLING PUBLIC.
15. ALL TEMPORARY SIGNAL EQUIPMENT, SIGNS, TYPE III BARRICADES, ETC., SHALL BELONG TO THE CONTRACTOR AT THE END OF THE PROJECT AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR REMOVAL, INCLUDING ANY TEMPORARY PAVEMENT MARKINGS, UTILITY POLES, WIRES, ETC.
16. A 250 WATT MER/150 WATT HPS LUMINAIRE AND MAST ARM SHALL BE PROVIDED ON A POLE ON EACH APPROACH AT A MOUNTING HEIGHT OF 30' ABOVE ROADWAY CENTERLINE. THE INTENT IS TO LIGHT UP THE AREA AROUND THE SIGNAL HEADS AND STOP BAR FOR INCREASED VISIBILITY. THE RESIDENT ENGINEER SHALL DETERMINE THE ADEQUACY OF THE LIGHTING AND DIRECT CHANGES IF THE LIGHTING IS INSUFFICIENT.
17. STOP BARS SHALL BE LOCATED A MINIMUM OF 40' AND A MAXIMUM OF 120' FROM THE NEAREST SIGNAL HEAD.
18. PAYMENT FOR THE VEHICLE DETECTORS SHALL BE FOR EACH UNIT INSTALLED.
19. TYPE III BARRICADES, REFLECTORIZED PLASTIC DRUMS, SIGNS AND POSTS AS SHOWN ON THIS SHEET AND NOTED BELOW ARE INCIDENTAL TO THE TRAFFIC CONTROL SIGNAL ITEMS ('STOP HERE ON RED', 'SIGNAL AHEAD', 'NO PASSING ZONE', 'NO TURN ON RED', AND 'TO GET GREEN LIGHT', ETC.). THE TEMPORARY STOP BARS WILL BE PAID FOR UNDER THE TEMPORARY 24" STOP BAR ITEM.
20. THE 'NO PASSING' SIGN SHALL BE USED TO PREVENT PASSING FOR 750' IN ADVANCE OF THE STOP BAR. THE SIGNAL SHALL BE PER STANDARD E-102.
21. SEE STD. E-140 FOR 'STOP HERE ON RED' SIGN DETAIL, E-101 FOR 'SIGNAL AHEAD' SYMBOL SIGN AND CHEVRON SYMBOL SIGN. SEE STANDARD E-102A FOR 'ROAD CLOSED' SIGN. SEE STANDARD E-121 FOR SIGN PLACEMENT. SEE STANDARD E-171A AND E-172 FOR ADDITIONAL INFORMATION ON SIGNALS AND DETECTORS.
22. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND STATE INSPECTOR.
23. ALL STOP SIGNS AND ANY TRAFFIC SIGNS MADE IRRELEVANT DUE TO THE TEMPORARY SIGNAL SHALL BE COVERED WITH A NON TRANSLUCENT WEATHER RESISTANT MATERIAL. THESE SIGNS SHOULD ONLY BE COVERED DURING THE OPERATION OF THE TEMPORARY SIGNAL OR AT THE DISCRETION OF THE ENGINEER. THE COSTS OF COVERING AND UNCOVERING THESE SIGNS SHALL BE INCLUDED IN THE TRAFFIC CONTROL SIGNAL ITEM.
24. CONSTRUCTION APPROACH SIGNS SHALL BE PROVIDED ON EACH APPROACH PER STANDARD E-107. ADDITIONAL CONSTRUCTION APPROACH SIGNS SHALL BE INSTALLED AS REQUIRED BY THE RESIDENT ENGINEER PER STANDARD E-100, E-101, E-102 & E-102A. PAYMENT FOR THESE SIGNS SHALL BE PAID FOR AS APART OF THE 'TRAFFIC CONTROL' ITEM.
25. PAYMENT FOR THE TEMPORARY BARRIER USED SHALL BE MADE UNDER THE APPROPRIATE ITEM.
26. WHEN A TEMPORARY BARRIER IS USED, A BARRIER ENDING FACING ONCOMING TRAFFIC SHALL BE TAPERED BEYOND THE CLEAR ZONE. OR PROTECTED WITH AN APPROVED END TREATMENT DESIGNED FOR THE 85TH PERCENTILE SPEED OR THE POSTED SPEED LIMIT OF THE ROADWAY.

STDS. : REQUIRED E-100, E-101, E-102, E-102A, E-106, E-107, E-107A, E-110, E-121, E-140 E-142, E-170, E-171A, E-171B, E-171C, E-172, E-175

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302ts2.dgn PLOT DATE: 1/30/2006
PROJECT LEADER: M. CHENETTE DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI CHECKED BY: D. ALTERI

Dufresne-Henry

TRAFFIC SIGNAL PLAN SHEET 22 OF 63

SOIL CLASSIFICATION

AASHTO

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

ROCK QUALITY DESIGNATION

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

SHEAR STRENGTH

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

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊛	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per Foot For: 2" O.D. Sampler 1 3/8" I.D. Sampler Hammer Weight Of 140 Lbs. Hammer Fall Of 30"
VS	Field Vane Shear Test
US	Undisturbed Soil Sample
B	Blast
DC	Diamond Core
MD	Mud Drill
WA	Wash Ahead
HSA	Hollow Stem Auger
AX	Core Size 1 1/8"
BX	Core Size 1 5/8"
NX	Core Size 2 1/8"
M	Double Tube Core Barrel Used
LL	Liquid Limit
PL	Plastic Limit
PI	Plasticity Index
NP	Non Plastic
w	Moisture Content (Dry Wgt. Basis)
D	Dry
M	Moist
MTW	Moist To Wet
W	Wet
Sat	Saturated
Bo	Boulder
Gr	Gravel
Sa	Sand
Si	Silt
Cl	Clay
HP	Hardpan
Le	Ledge
NLTD	No Ledge To Depth
CNPF	Can Not Penetrate Further
TLOB	To Ledge Or Boulder
NR	No Recovery
Rec.	Recovery
%Rec.	Percent Recovery
RQD	Rock Quality Designation
CBR	California Bearing Ratio
<	Less Than
>	Greater Than
R	Refusal (N > 100)

COLOR

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

DEFINITIONS (AASHTO)

BEDROCK (LEDGE) - Rock in its native location of indefinite thickness.

BOULDER - A rock fragment with an average dimension > 12 inches.

COBBLE - Rock fragments with an average dimension between 3 and 12 inches.

GRAVEL - Rounded particles of rock < 3" and > 0.0787" (#10 sieve).

SAND - Particles of rock < 0.0787" (#10 sieve) and > 0.0029" (#200 sieve).

SILT - Soil < 0.0029" (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

CLAY - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

VARVED - Alternate layers of silt and clay.

HARDPAN - Extremely dense soil, cemented layer, not softened when wet.

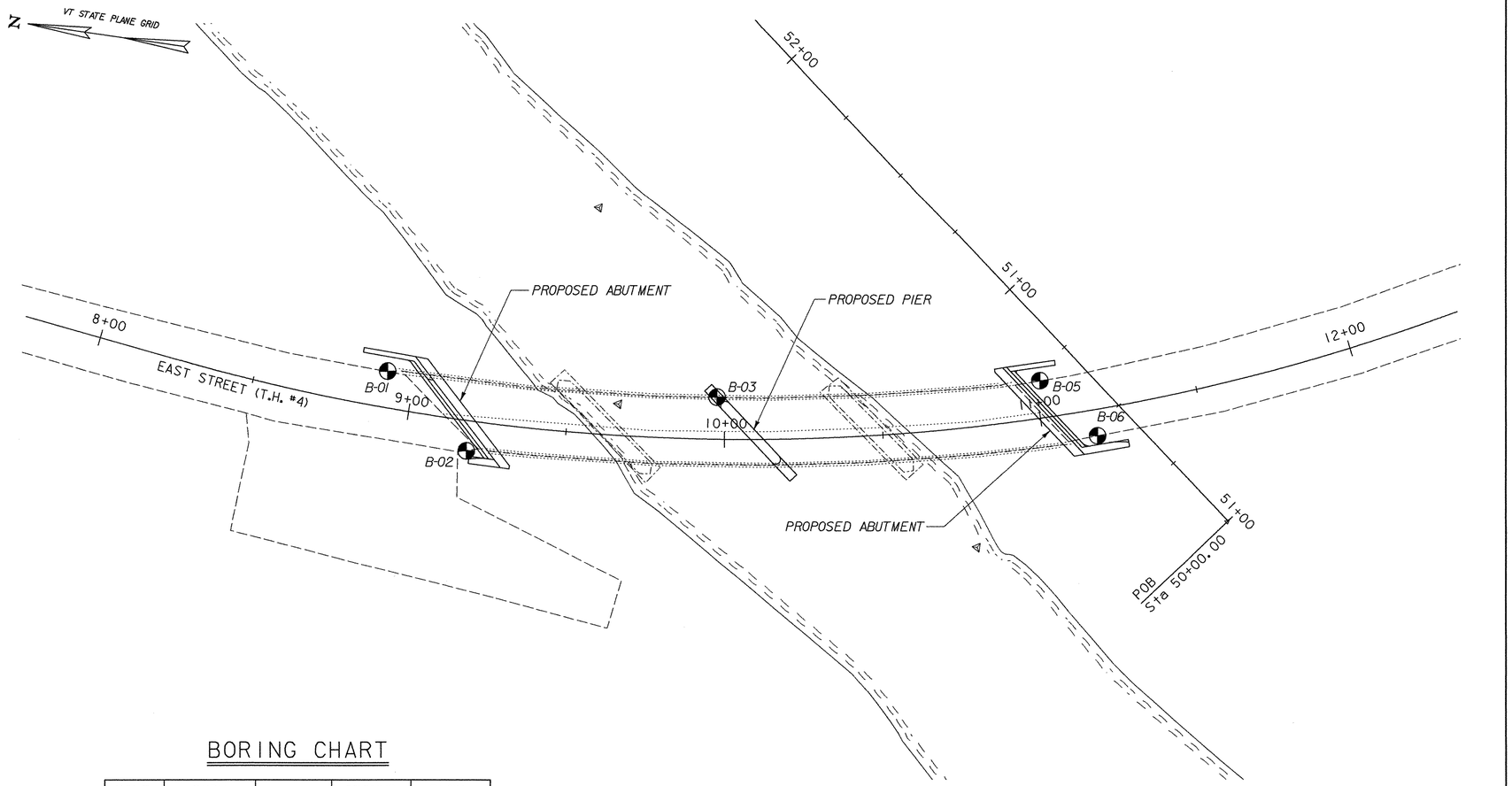
MUCK - Soft organic soil (containing > 10% organic material.

MOISTURE CONTENT - Weight of water divided by dry weight of soil.

FLOWING SAND - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

STRIKE - Angle from magnetic north to line of intersection of bed with a horizontal plane.

DIP - Inclination of bed with a horizontal plane.



BORING LAYOUT

SCALE 1" = 20'-0

20 0 20

BORING CHART

HOLE NO.	SURV. STATION	OFFSET	GROUND ELEV.	ELEV. TLOB
B-01	8+91.20	11.4' LT	628.16	NLTD
B-02	9+19.29	9.5' RT	628.10	551.10
B-03	9+97.52	13.3' LT	607.30	NLTD
B-04	ELIMINATED			
B-05	11+01.52	11.7' LT	626.64	NLTD
B-06	11+16.76	8.2' RT	626.18	NLTD

GENERAL NOTES

1. The subsurface explorations shown herein were made between 06/17/04 and 10/05/04 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

DH Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

BORING INFORMATION SHEET 1

Designed By T. KNIGHT	Drawn By D. HARRINGTON
Checked By M. CHENETTE Date 06/04	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn.: ...\Cadd\Trans\z01j302borpln.dgn Plot Date: 1/12/2006

Bridge Sheet No. Sheet 23 of 63

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

BORING NUMBER: B-01
SHEET 1 of 2
DATE STARTED: 7/08/04
DATE COMPLETED: 7/14/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 8+91.29
OFFSET: -11.40

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 628.16 ft
GROUNDWATER DEPTH: 22.5 ft 7/14/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: GARROW

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

ABUTMENT No.1
BOTTOM OF FOOTING
EL.613.00

ESTIMATED PILE LENGTH = 46'-0"
(INCLUDES 1'-0" EMBEDMENT IN FOOTING)

APPROXIMATE
BOTTOM OF PILE
EL.568.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5		A-2-4, GrSa, brn, Moist, Rec. = 0.4 ft	10	22.4	26.1	60.0	13.9
10		BXDC, Cleaned out casing, 9.5 ft - 10.0 ft					
		A-1-a, SaGr, gry, Moist, Rec. = 0.8 ft	19	8.8	64.4	26.6	9.0
15		A-4, SiSa, gry, Moist, Rec. = 1.1 ft	30	19.1	8.0	50.2	41.8
20		Pulled casing and changed to sawtooth bit, 19.0 ft					
		A-4, SiSa, gry, Moist, Rec. = 1.5 ft	36	23.7	0.0	59.1	40.9
25		No Rec., Stone in end of sampler., 25.0 ft - 27.0 ft	73				
30		A-2-4, SiSa, gry, Moist, Rec. = 2.0 ft	51	20.3	0.7	71.9	27.4
35		A-4, Si, gry, Moist, Rec. = 0.5 ft	39	24.0	0.0	19.5	80.7
		A-2-4, Sa, brn, Moist, Rec. = 0.5 ft		22.0	0.0	86.7	13.3
40		A-4, SaSi, gry, Moist, Rec. = 1.6 ft	32	23.1	0.2	28.4	71.4
		BXDC, Cleaned out casing, 44.0 ft - 45.0 ft					

LOG OF BORING WASHINGTON BRO(1445(29)).GPJ VT_ADT.GDT 11/15/04

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

BORING NUMBER: B-01
SHEET 2 of 2
DATE STARTED: 7/08/04
DATE COMPLETED: 7/14/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 8+91.29
OFFSET: -11.40

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 628.16 ft
GROUNDWATER DEPTH: 22.5 ft 7/14/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: GARROW

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	43	23.2	1.1	34.6	64.3
50		A-4, Si, gry, Moist, Rec. = 1.5 ft	44	24.0	0.2	18.9	80.9
55		A-2-4, SiSa, gry, Moist, Rec. = 2.0 ft	63	20.6	1.1	74.2	24.7
60		A-1-b, SaSiGr, gry, Moist, Rec. = 1.2 ft	80	8.0	58.5	20.0	21.5
65		BXDC, Cleaned out casing, 64.0 ft - 65.0 ft					
		A-1-a, SaGr, gry, Moist, Rec. = 1.0 ft	96	7.8	69.8	22.9	7.3
70		BXDC, Cleaned out casing, 69.2 ft - 70.0 ft					
		A-1-a, SaGr, gry, Moist, Rec. = 1.5 ft	89	9.1	60.1	25.0	14.9
		BXDC, Could not advance casing, 72.0 ft - 73.3 ft					
75		Hole stopped @ 73.3 ft					
80							
85							

LOG OF BORING WASHINGTON BRO(1445(29)).GPJ VT_ADT.GDT 11/15/04

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

BORING NUMBER: B-02
SHEET 1 of 2
DATE STARTED: 6/17/04
DATE COMPLETED: 6/23/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 9+19.62
OFFSET: 9.50

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 628.1 ft
GROUNDWATER DEPTH: 18.0 ft 6/24/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

ABUTMENT No.1
BOTTOM OF FOOTING
EL.613.00

APPROXIMATE
BOTTOM OF PILE
EL.568.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-1-b, SaGr with Concrete, brn, Moist, Rec. = 0.5 ft	R	8.8	48.4	39.8	11.8
5		A-1-a, SaGr, brn, Moist, Rec. = 0.8 ft	17	9.8	62.5	28.5	9.0
		A-1-b, SiSaGr, brn, Moist, Rec. = 0.6 ft	10	13.7	43.0	36.4	20.6
		A-2-4, SiSa, brn, Moist, Rec. = 0.6 ft	8	15.2	18.5	52.6	28.9
10		A-2-4, GrSa, brn, Moist, Rec. = 0.6 ft	4	12.3	27.9	53.1	19.0
		A-2-4, GrSa, brn, Moist, Rec. = 0.7 ft	5	14.0	27.2	54.8	18.0
		A-2-4, GrSa, brn, Moist, Rec. = 0.6 ft	4	16.1	21.1	59.0	19.9
15		A-2-4, SiGrSa, brn, Moist, Rec. = 0.8 ft	9	16.3	24.0	54.5	21.5
		A-2-4, Sa, gry, Moist, Rec. = 1.6 ft	24	22.9	2.1	81.2	16.7
		A-4, SiSa, gry, Moist, Rec. = 1.5 ft	24	22.6	5.9	57.5	36.6
20		A-2-4, Sa, gry, Moist, Rec. = 1.5 ft	18	23.0	0.0	80.3	19.7
		A-2-4, Sa, gry, Moist, Rec. = 1.7 ft	35	22.4	0.0	88.2	11.8
		A-2-4, Sa, gry, Moist, Rec. = 2.0 ft	45	21.9	0.0	80.8	19.2
25		A-4, SaSi, gry, Moist, Rec. = 0.7 ft	36	24.1	0.0	31.8	68.2
		A-4, SaSi, gry, Moist, Rec. = 0.9 ft	36	25.1	0.0	44.6	55.4
		A-2-4, Sa, gry, Moist, Rec. = 0.8 ft	39	17.7	7.1	76.0	16.9
30							
		A-2-4, Sa, gry, Moist, Rec. = 1.3 ft	47	22.9	0.0	80.7	19.3
35							
		A-2-4, Sa, gry, Moist, Rec. = 1.3 ft	32	21.8	0.0	87.8	12.2
		A-4, SaSi, gry, Moist, Shorted using drilling mud		22.9	0.0	24.4	75.6
40							

LOG OF BORING WASHINGTON BRO(1445(29)).GPJ VT_ADT.GDT 11/15/04

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

BORING NUMBER: B-02
SHEET 2 of 2
DATE STARTED: 6/17/04
DATE COMPLETED: 6/23/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 9+19.62
OFFSET: 9.50

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 628.1 ft
GROUNDWATER DEPTH: 18.0 ft 6/24/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

ESTIMATED PILE LENGTH = 46'-0"
(INCLUDES 1'-0" EMBEDMENT IN FOOTING)

APPROXIMATE
BOTTOM OF PILE
EL.568.00

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SaSi, gry, Moist, Rec. = 1.4 ft	36	24.9	0.3	21.4	78.3
50		A-4, Si, gry, Moist, Rec. = 1.6 ft	44	25.0	0.0	18.1	81.9
55		A-4, SaSi, gry, Moist, Rec. = 1.4 ft	45	21.5	5.8	27.3	66.9
		BXDC, No Rec., Replaced bit, 56.8 ft - 58.5 ft					
60		BXGDC, Boulders or Cobbles, No sample, 58.5 ft - 61.0 ft					
		BXDC, Appears to be Gravel, Drilled hard and slow, 63.0 ft - 65.0 ft					
65		A-1-a, Gr, gry, Moist, Rec. = 0.8 ft	76	4.8	88.3	10.2	1.5
		BXDC, Cleaned out casing & cored ahead, 67.5 ft - 70.0 ft					
70		A-1-a, SaGr, gry, Moist, Rec. = 0.7 ft	49	6.1	71.1	20.7	8.2
		BXDC, Cleaned out casing & cored ahead, 72.5 ft - 75.0 ft					
75		A-1-a, SaGr BXDC, Cleaned out casing & cored ahead, gry, Moist, Rec. = 0.7 ft	75	6.7	60.5	26.1	13.4
		BXGDC, Boulders & Cobbles, No Rec., 77.0 ft - 82.0 ft					
80		Hole stopped @ 82.0 ft					
85							

LOG OF BORING WASHINGTON BRO(1445(29)).GPJ VT_ADT.GDT 11/15/04

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

BORING INFORMATION SHEET 2

Designed By T. KNIGHT	Drawn By S. BURBANK
Checked By M. CHENETTE Date 12/04	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.:...\Cadd\Trans\z01j302bor1.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 24 of 63

Dufresne-Henry

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

BORING NUMBER: B-03
SHEET 1 of 2
DATE STARTED: 9/28/04
DATE COMPLETED: 10/05/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 9+95.50
OFFSET: -13.30

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 607.30 ft
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: DOZER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
5		BXDC, Cleaned out casing, 4.6 ft - 5.0 ft A-2-4, Sa, gry, Moist, Rec. = 1.4 ft	33	23.0	1.7	86.3	12.0
10		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	33	25.4	0.3	41.9	57.8
15		A-4, SiSa, gry, Moist, Rec. = 1.7 ft	60	23.3	0.7	63.8	35.5
20		A-3, Sa, gry, Moist, Rec. = 1.8 ft	43	22.8	0.3	90.2	9.5
		BXDC, Casing plugged up, Used drillers mud, 22.0 ft - 25.0 ft					
25		A-2-4, Sa, gry, Moist, Rec. = 2.0 ft, Casing broke off, Moved Hole 2 ft., Went down 30' before sampling again.	53	16.7	13.1	71.4	15.5
30		A-4, SaSi, gry, Moist, Rec. = 2.0 ft	47	21.5	2.7	42.4	54.9
35		A-4, SaSi, gry, Moist, Rec. = 1.8 ft	48	23.3	3.8	41.7	54.5

PIER BOTTOM OF FOOTING EL. 599.00

ESTIMATED PILE LENGTH = 53'-0" (INCLUDES 1'-0" EMBEDMENT IN FOOTING)

LOG OF BORING HUNTINGTON BRO1445(29).GPJ VT AOT.GDT 03/31/05

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

BORING NUMBER: B-03
SHEET 2 of 2
DATE STARTED: 9/28/04
DATE COMPLETED: 10/05/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 9+95.50
OFFSET: -13.30

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 607.30 ft
GROUNDWATER DEPTH:

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: DOZER
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, SaSi, gry, Moist, Rec. = 1.2 ft	81	23.0	0.1	21.7	78.2
		A-4, SiSa, gry, Moist, Rec. = 0.5 ft		21.5	0.1	57.6	42.3
45		BXDC, Cleaned out and then hit a big Aquifer, 44.5 ft - 45.0 ft A-1-a, Gr, gry, Moist, Rec. = 0.8 ft	80	7.8	77.5	17.1	5.4
50		BXDC, Cleaned out casing, 49.5 ft - 50.0 ft A-1-a, Gr, gry, Moist, Rec. = 0.2 ft	R	5.6	84.0	14.9	1.1
55		BXDC, Cleaned out casing, 54.5 ft - 55.0 ft A-1-a, SaGr, gry, Moist, Rec. = 0.8 ft	R	9.5	66.6	29.7	3.7
60		BXDC, Cleaned out casing, 59.25 ft - 60.0 ft A-1-a, SaGr, gry, Moist, Rec. = 1.5 ft	R	8.4	67.5	26.6	5.9
65		A-1-a, SaGr, gry, Moist, Rec. = 1.2 ft, Casing would not advance due..to bit being worn out.	R	7.9	71.2	22.5	6.3
		Hole stopped @ 67.0 ft					
70		DRILLER'S NOTES: A large Aquifer is at 45 feet and pushes a full casing of water. Water was still pushing out of the casing at 65 feet. Water would stop flowing out of the casing with 6 feet of casing showing above the river. Water also stopped flowing while retrieving the casing at 30 feet.					
75							

APPROXIMATE BOTTOM OF PILE EL. 547.00

LOG OF BORING HUNTINGTON BRO1445(29).GPJ VT AOT.GDT 03/31/05

Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.
EAST STREET (T.H. #4) OVER HUNTINGTON RIVER	
BORING INFORMATION SHEET 3	
Designed By T. KNIGHT	Drawn By S. BURBANK
Checked By M. CHENETTE, Date 12/04	Bridge Design Supervisor M. CHENETTE, Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.:...\Cadd\Trans\z01j302bor2.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 25 of 63

ABUTMENT No. 2
BOTTOM OF FOOTING
EL.611.50

ESTIMATED PILE LENGTH = 47'-0"
(INCLUDES 1'-0" EMBEDMENT IN FOOTING)

APPROXIMATE
BOTTOM OF PILE
EL.565.50

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

BORING NUMBER: B-05
SHEET 1 of 2
DATE STARTED: 6/21/04
DATE COMPLETED: 7/06/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 11+01.52
OFFSET: -11.70

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 626.64 ft
GROUNDWATER DEPTH: 21.2 ft 7/06/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		Asphalt, 0.0 ft - 0.75 ft					
5		A-1-a, SaGr, brn, Moist, Rec. = 0.3 ft	9	10.1	68.6	26.2	5.2
		BXDC, Cleaned out casing, 9.0 ft - 10.0 ft					
10		A-1-a, SaGr, brn, Moist, Rec. = 0.3 ft	8	10.5	60.5	28.0	11.5
15		A-1-a, SaGr, brn, Moist, Rec. = 0.25 ft	9	10.0	71.9	22.0	6.1
		BXDC, Cleaned out casing, 18.5 ft - 20.0 ft					
20		A-4, SiSa, brn, Moist, Rec. = 0.8 ft	26	23.4	1.2	62.6	36.2
25		A-2-4, SiSa, gry, Dry, Rec. = 1.0 ft	24	22.3	0.3	73.7	26.0
30		A-2-4, SiSa, gry, Dry, Rec. = 1.7 ft	42	21.7	0.0	66.1	33.9
35		A-2-4, SiSa, gry, Moist, Rec. = 1.5 ft	48	22.4	0.0	75.3	24.7
40		A-3, Sa, gry, Moist, Rec. = 1.6 ft	64	21.0	0.0	89.6	10.4

LOG OF BORING HUNTINGTON BRO1445(29).GPJ VT AOT.GDT 11/18/04

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

BORING NUMBER: B-05
SHEET 2 of 2
DATE STARTED: 6/21/04
DATE COMPLETED: 7/06/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 11+01.52
OFFSET: -11.70

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 626.64 ft
GROUNDWATER DEPTH: 21.2 ft 7/06/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, Si, gry, Moist, Rec. = 1.3 ft	45	25.4	0.0	16.2	83.8
50		A-4, SaSi, gry, Moist, Rec. = 1.7 ft	41	20.8	0.0	36.7	63.3
55		A-4, Si, gry, Moist, Rec. = 1.6 ft	48	20.0	0.0	15.7	84.3
60		A-2-4, Sa, gry, Moist, Rec. = 1.1 ft	61	22.2	0.1	86.1	13.8
		BXDC, Cleaned out casing, 63.5 ft - 65.0 ft					
65		A-1-a, SaGr, brn-gry, Moist, Rec. = 1.0 ft	67	7.4	65.1	23.0	11.9
		BXDC, Cleaned out casing, 69.0 ft - 70.0 ft					
70		A-1-a, SaGr, gry, Moist, Rec. = 0.75 ft	87	5.3	67.4	24.3	8.3
75		A-1-a, SaGr, gry, Moist, Rec. = 1.0 ft	R	6.2	65.4	28.2	6.4
80		A-1-a, SaGr, gry, Moist, Rec. = 1.4 ft	86	6.8	66.5	25.9	7.6
85		A-1-a, SaGr HP, gry, Moist, Rec. = 1.1 ft	R	5.8	62.2	24.5	13.3
		Hole stopped @ 87.0 ft					

LOG OF BORING HUNTINGTON BRO1445(29).GPJ VT AOT.GDT 11/18/04

ABUTMENT No. 2
BOTTOM OF FOOTING
EL.611.50

ESTIMATED PILE LENGTH = 46'-6"
(INCLUDES 1'-0" EMBEDMENT IN FOOTING)

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

BORING NUMBER: B-06
SHEET 1 of 2
DATE STARTED: 7/15/04
DATE COMPLETED: 8/06/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 11+16.76
OFFSET: 8.40

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 626.18 ft
GROUNDWATER DEPTH: 17.0 ft 8/11/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		NXDC, Cleaned casing, 0.0 ft - 5.0 ft					
		A-1-a, Gr, brn, Moist, Rec. = 0.3 ft, Visual Classification, Insufficient sample for testing.	4				
		NXDC, Cleaned casing, 7.0 ft - 10.0 ft					
10		A-4, SaSi with Trace of Organics (5.3%), brn, Moist, Rec. = 1.5 ft	2	38.9	0.5	38.1	61.4
		A-1-a, SaGr, brn-gry, Moist, Rec. = 0.9 ft	R	4.8	66.2	23.2	10.6
		NXDC, Cleaned casing, 16.0 ft - 20.0 ft					
20		A-2-4, SiSa, gry, Moist, Rec. = 1.7 ft	36	20.6	15.6	56.2	28.2
		A-3, Sa, gry, Moist, Rec. = 2.0 ft	15	23.8	2.0	92.2	5.8
30		A-4, SaSi, gry, Moist, Rec. = 1.3 ft	66	21.2	1.2	43.9	54.9
		A-2-4, Sa, gry, Moist, Rec. = 0.7 ft	63	20.9	0.0	81.5	18.5
40		A-3, Sa, gry, Moist, Rec. = 1.0 ft	69	18.2	1.8	90.6	7.6
		A-4, SiSa, gry, Moist, Rec. = 0.5 ft	56	21.7	1.1	63.3	35.6
50		A-4, Si, gry, Moist, Rec. = 0.4 ft	59	23.6	0.0	17.3	82.7

LOG OF BORING HUNTINGTON BRO1445(29).GPJ VT AOT.GDT 11/18/04

APPROXIMATE
BOTTOM OF PILE
EL.566.00

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

BORING NUMBER: B-06
SHEET 2 of 2
DATE STARTED: 7/15/04
DATE COMPLETED: 8/06/04

PROJECT NAME: HUNTINGTON
SITE NAME: BR-42
STATION: 11+16.76
OFFSET: 8.40

PROJECT NUMBER: BRO 1445(29)
SITE NUMBER: TH-4
GROUND ELEVATION: 626.18 ft
GROUNDWATER DEPTH: 17.0 ft 8/11/04

BORING CREW
CREW CHIEF: TALLMAN
DRILLER: TALLMAN
LOGGER: RUSSELL

BORING RIG: LARGE SKID RIG
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: DLG

DEPTH (ft)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER FOOT	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-4, Si, gry, Moist, Rec. = 1.25 ft	33	25.1	0.0	17.6	82.4
60		A-2-4, Sa, gry, Moist, Rec. = 1.75 ft	65	17.8	8.9	78.8	12.3
		A-1-b, SaGr, gry-brn, Moist, Rec. = 1.2 ft	R	7.7	49.2	33.2	17.6
70		A-1-a, SaGr, gry-brn, Moist, Rec. = 0.7 ft	R	6.9	68.0	26.6	5.4
		A-1-a, SaGr, gry, Moist, Rec. = 0.8 ft	R	7.4	67.8	26.2	6.0
		NXDC, Cleaned casing, 76.0 ft - 80.0 ft					
80		A-1-a, SaGr, gry, Moist, Rec. = 1.5 ft	90	7.4	63.7	26.5	9.8
		A-1-a, SaGr, gry, Moist, Rec. = 1.2 ft	R	6.9	63.7	22.6	13.7
		BXDC, Cleaned casing, 87.0 ft - 90.0 ft					
90		A-1-a, SaGr, gry, Moist, Rec. = 1.6 ft	79	7.3	66.3	25.1	8.6
		BXDC, Cleaned casing, Could not advance casing past 94.5', 92.0 ft - 95.0 ft					
		A-1-a, SaGr, gry, Moist, Rec. = 1.0 ft	71	6.7	68.2	23.5	8.3
		Roller coned, Still could not advance casing, 97.0 ft - 100.0 ft					
100		A-1-a, SaGr, gry, Moist, Rec. = 1.0 ft, Roller coned again, Hole stayed open and took sample	R	6.3	55.5	30.4	14.1
		Hole stopped @ 102.0 ft					

LOG OF BORING HUNTINGTON BRO1445(29).GPJ VT AOT.GDT 11/18/04

STATE OF VERMONT
AGENCY OF TRANSPORTATION

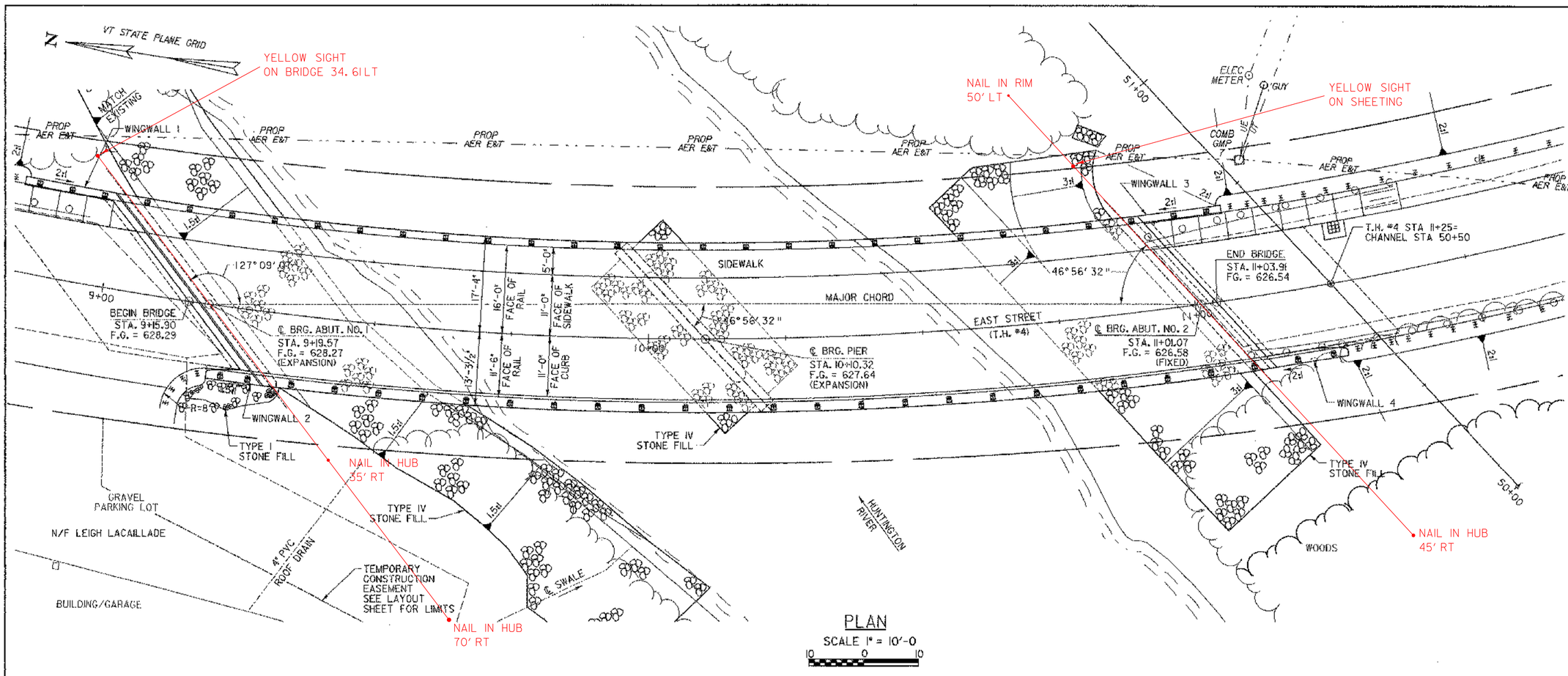
Town Of HUNTINGTON | Bridge No. 42
Highway No. T.H. 4 | Log Sta. | Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

BORING INFORMATION SHEET 4

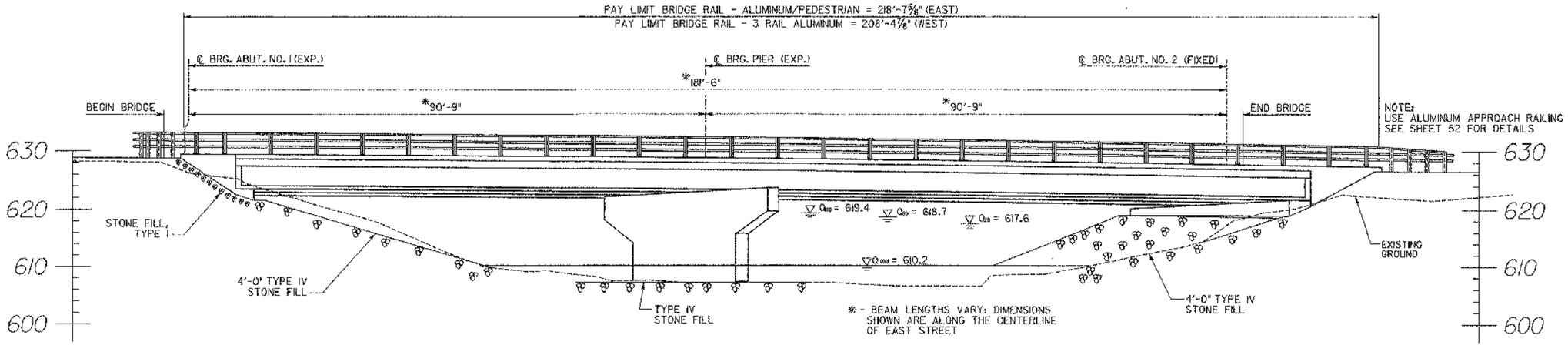
Designed By T. KNIGHT | Drawn By S. BURBANK
Checked By M. CHENETTE | Date 12/04 | Bridge Design Supervisor M. CHENETTE | Date 09/05
PROJECT HUNTINGTON | PROJECT NO. BRO 1445 (29)
DH Dgn.:...\Cadd\Trans\z01j302bor3.dgn | Plot Date: 1/12/2006

DH Dufresne-Henry



PLAN

SCALE 1" = 10'-0



ELEVATION

SCALE 1" = 10'-0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

PLAN AND ELEVATION

Designed By T. KNIGHT	Drawn By D. HARRINGTON
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn: ...\Cadd\Trans\z01j302plan.dgn	Plot Date: 1/30/2006
Bridge Sheet No.	Sheet 27 of 63

Dufresne-Henry

PROJECT NOTES

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT, AGENCY OF TRANSPORTATION, 2001 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY PROJECT SIGNING. THE COSTS WILL BE INCIDENTAL TO THE ITEM 641.10, "TRAFFIC CONTROL".

3. DURING CONSTRUCTION, TRAFFIC WILL BE MAINTAINED ON A ONE-WAY TEMPORARY BRIDGE LOCATED DOWNSTREAM OF THE EXISTING STRUCTURE THE BRIDGE SHALL SPAN THE STREAM IN ACCORDANCE WITH THE REQUIREMENTS INDICATED ON SHEET 2.

4. ACCESS TO ALL EXISTING SIDE ROADS, DRIVES, AND PARKING AREAS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.

5. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AT 68 DEGREES FAHRENHEIT.

6. IN-STREAM CONSTRUCTION SHALL BE CONDUCTED ONLY DURING THE PERIOD OF JUNE 1 TO OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS PERMISSION FROM THE AGENCY OF NATURAL RESOURCES TO WORK OUTSIDE OF THAT TIME FRAME.

EARTHWORK AND RELATED ITEMS

ITEM 529.20 "REMOVAL, PARTIAL, OF STRUCTURE" IS RECORDED ON CONTRACT

7. ITEM 529.15, "REMOVAL OF STRUCTURE" SHALL BE USED FOR REMOVAL OF EXISTING SUPERSTRUCTURE AND ANY PORTIONS OF THE SUBSTRUCTURE NOT REMOVED UNDER THE ITEMS 203.27, "UNCLASSIFIED CHANNEL EXCAVATION" OR 204.25, "STRUCTURE EXCAVATION". THE ABUTMENTS SHALL BE REMOVED IN THEIR ENTIRETY. THE WOOD PILES SHALL REMAIN IN PLACE UNLESS THEY ARE REMOVED UNDER THE ITEMS 203.27 OR 204.25. THE PIERS SHALL BE REMOVED TO THE TOP OF THEIR FOOTINGS. REMOVAL AND DISPOSAL OF THE BRIDGE PAVEMENT SHALL BE PAID FOR UNDER ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT". THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE STRUCTURAL STEEL.

8. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE SHALL BE PLACED BEFORE THE GIRDERS ARE SET.

CONCRETE AND REINFORCING STEEL

9. CONCRETE FOR THE DECK, SIDEWALK AND CURB SHALL BE HIGH PERFORMANCE CLASS A AND WILL BE PAID FOR UNDER ITEM 501.33, "CONCRETE, HIGH PERFORMANCE CLASS A". ALL OTHER CONCRETE SHALL BE HIGH PERFORMANCE CLASS B AND WILL BE PAID FOR UNDER ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B" UNLESS OTHERWISE NOTED.

10. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 1/2" PER FOOT. THE ABUTMENT SEATS SHALL BE SLOPED FULL WIDTH TOWARD MIDSPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE GIVEN A MAGNESIUM FLOAT FINISH.

11. NO CONCRETE SHALL BE PLACED IN THE ABUTMENTS OR WINGWALLS ABOVE THE ADJACENT BEAM SEAT ELEVATIONS UNTIL THE BEAMS HAVE BEEN PROFILED AND THE FINISHED GRADE OF THE DECK HAS BEEN DETERMINED BY THE ENGINEER.

12. NO CONSTRUCTION TRAFFIC SHALL BE ALLOWED ON THE NEW DECK UNTIL THE CURE PERIOD IS UP AND THE 28-DAY DESIGN STRENGTH IS ATTAINED, AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.

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

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

15. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ONE (1) INCH.

16. ITEM 514.10, "WATER REPELLENT (MOD.-SILANE)" SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.

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

18. MINIMUM COVER FOR REINFORCING STEEL IN THE SUBSTRUCTURES SHALL BE TWO (2) INCHES ALONG WALL FACES AGAINST EARTH, AND THREE (3) INCHES ELSEWHERE, UNLESS DETAILED OTHERWISE.

19. ALL REINFORCING STEEL IN THE CONCRETE DECK, BRIDGE SIDEWALK, APPROACH SLABS, BACKWALLS AND BRIDGE CURB SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 507.17, "EPOXY COATED REINFORCING STEEL". WHEN EPOXY COATED REINFORCING STEEL IS TO BE CUT, THE UNCOATED ENDS SHALL BE REPAIRED WITH MATERIALS AND PROCEDURES APPROVED BY THE COATING MANUFACTURER. FLAME CUTTING OF EPOXY COATED REINFORCING STEEL WILL NOT BE PERMITTED.

20. REINFORCING PLACEMENT TOLERANCES SHALL BE:
SPACING +/- 1"
CLEARANCE +/-1/4"

STRUCTURAL STEEL

21. ALL STRUCTURAL STEEL PAID FOR UNDER ITEM 506.55, "STRUCTURAL STEEL (PLATE GIRDER)" SHALL CONFORM TO AASHTO M270 GRADE 50W UNLESS OTHERWISE NOTED.

22. THE CHARPY V-NOTCH TEST IS REQUIRED ONLY FOR THOSE MEMBERS DESIGNATED AS SUCH ON THE PLANS AS SPECIFIED IN SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

23. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF EACH GIRDER UNDER THE DIRECTION OF THE ENGINEER. THESE ELEVATIONS SHALL BE USED IN DETERMINING FINAL GRADE.

24. ALL FIELD CONNECTIONS IN UNPAINTED AREAS SHALL BE MADE USING 7/8" DIAMETER BOLTS, CONFORMING TO AASHTO M 164 TYPE 3. IN PAINTED AREAS USE 7/8" DIAMETER BOLTS CONFORMING TO AASHTO M 164 TYPE 1. HOLES SHALL BE 15/16" DIAMETER, UNLESS OTHERWISE NOTED. CONNECTIONS NOT DESIGNED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

25. FASCIA OVERHANG BRACKETS OR SIMILAR FALSE WORK SHALL BE SPACED AT A MAXIMUM OF FOUR (4) FEET. THE DESIGN OF THE FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

26. ANY HOLES IN THE FASCIA BEAMS NOT OTHERWISE FILLED SHALL BE FITTED WITH BUTTON HEAD OR HEX HEAD BOLTS CONFORMING TO AASHTO M 164 TYPE 3 (UNPAINTED AREA) OR TYPE 1 (PAINTED AREA). THE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

27. ALL STRUCTURAL STEEL INCLUDING, GIRDERS, CROSS FRAMES, BEARING PLATES AND GUSSET PLATES WITHIN A DISTANCE OF 10 FEET FROM THE EXPANSION END OF THE GIRDERS WILL BE COATED WITH A PROTECTIVE PAINT SYSTEM AND GREASE RUSTPROOFING COMPOUND. THE FINAL PAINT COAT TO BE DARK BROWN, FEDERAL COLOR CHIP NO. 20059. THIS WORK SHALL BE PAID FOR UNDER ITEM 513.25, "STRUCTURAL PAINTING, SHOP APPLIED" AND 513.40, "SURFACE PREPARATION". SEE SUPPLEMENTAL SPECIFICATION 513 FOR PAINTING STRUCTURAL STEEL.

STEEL PILES

28. PILES SHALL BE HP12x74 ASTM A572, GRADE 36. THE ESTIMATED LENGTH OF EACH PILE AT ABUTMENT NO. 1 IS 46 FEET AT ABUTMENT NO. 2 IS 47 FEET, AND AT THE PIER 53 FEET, INCLUDING THE 1 FOOT EMBEDMENT IN THE CONCRETE PILE CAP. NO SUBSTITUTIONS FOR THE NUMBER, SIZE AND GRADE OF THE PILES WILL BE ALLOWED.

29. THE DRIVING POINT OF ALL PILES SHALL BE REINFORCED. POINT REINFORCEMENT SHALL BE CAST STEEL AND SHALL CONFORM TO SUBSECTIONS 505.04 (E) AND 730.01 OF THE STANDARD SPECIFICATIONS.

30. THE PILES SHALL BE DRIVEN TO AN ULTIMATE AXIAL CAPACITY OF 326 KIPS AT THE ABUTMENTS AND 439 KIPS AT THE PIER, AS DIRECTED BY THE RESIDENT ENGINEER.

31. DYNAMIC MONITORING SHALL BE PERFORMED FOR THE FIRST PILE DRIVEN AT EACH SUBSTRUCTURE LOCATION TO DETERMINE THE DRIVING CRITERIA REQUIRED TO ACHIEVE THE SPECIFIED ULTIMATE AXIAL CAPACITY AND PREVENT DAMAGE TO THE PILES DURING DRIVING OPERATIONS. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 505.04 (C) -2 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR PILE TESTING SHALL BE MADE UNDER ITEM 505.45, "DYNAMIC PILE LOADING TEST".

32. PILE HEAD CUT-OFF ELEVATION SHALL BE WITHIN 2 INCHES OF THE ELEVATION DETAILED IN THE PLANS. AT THE CUT-OFF ELEVATION, THE PILE SHALL BE FREE FROM DRIVING DAMAGE AS DETERMINED BY THE RESIDENT ENGINEER.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

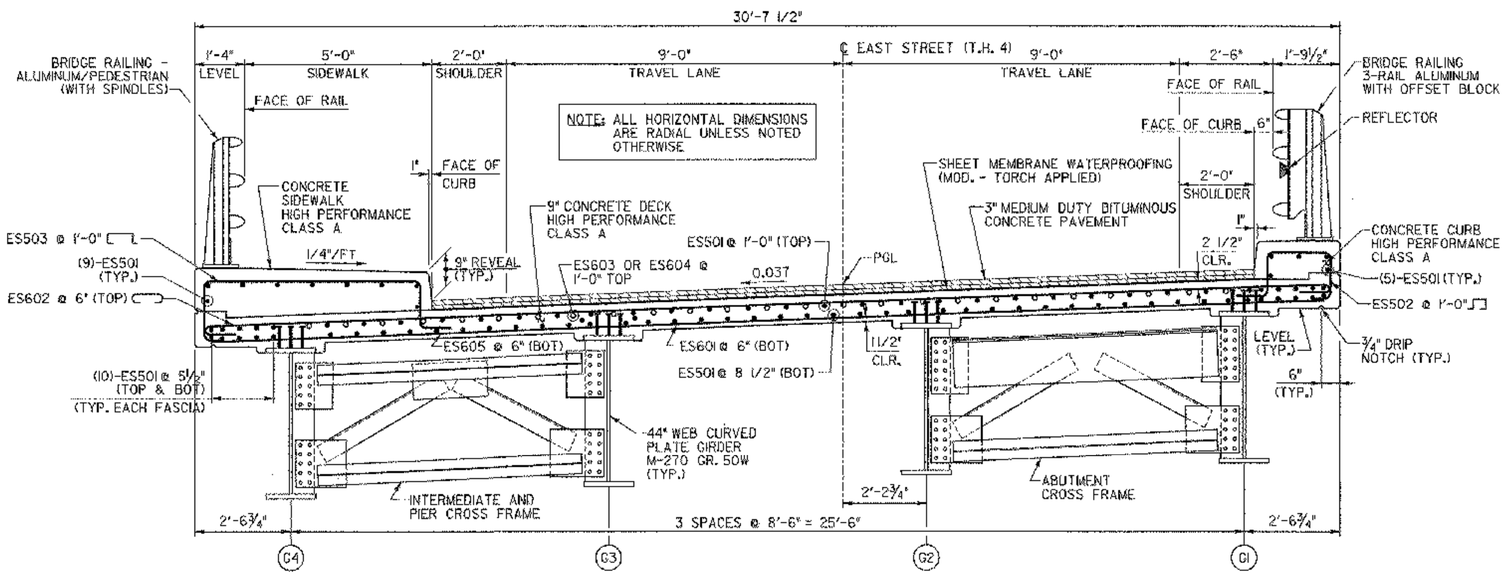
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

PROJECT NOTES

Designed By S. BURBANK	Drawn By S. BURBANK
Checked By M. CHENETTE Date 03/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01J302notes.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 28 of 63

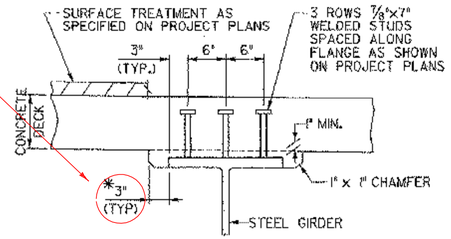
DH Dufresne-Henry



TYPICAL BRIDGE SECTION

SCALE ½" = 1'-0

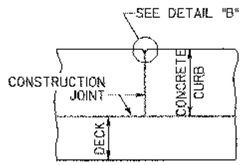
WO#3 BORG HANGAR SYSTEM APPROVED; ELIMINATES 3" HAUNCH.



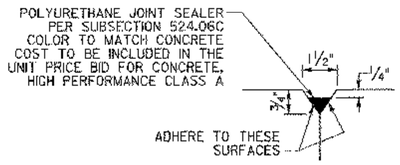
* - THE 3" HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES IF APPROVED BY THE STRUCTURES ENGINEER. ANY HOLES RESULTING FROM THIS FORMING SYSTEM SHALL BE FILLED WITH MORTAR, TYPE IV. COST OF MORTAR TO BE INCIDENTAL TO ITEM 501.33.

HAUNCH AND SHEAR CONNECTOR DETAILS

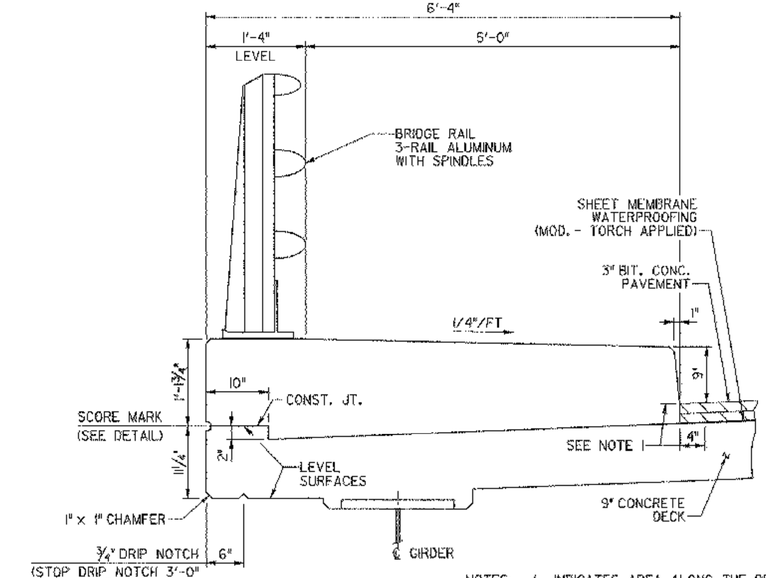
NOT TO SCALE



SECTION A-A

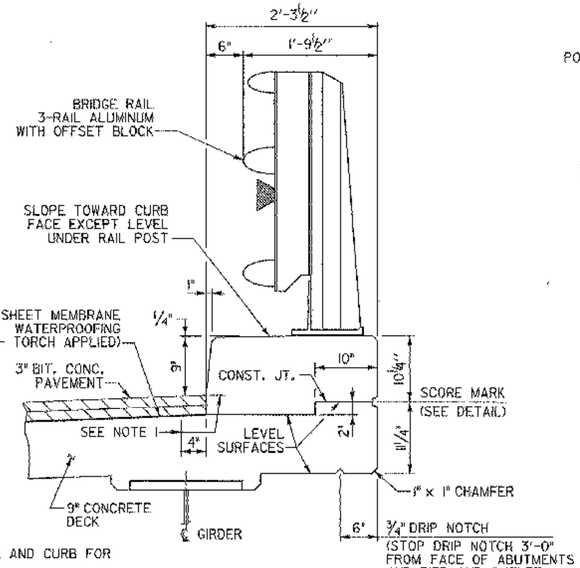


DETAIL B



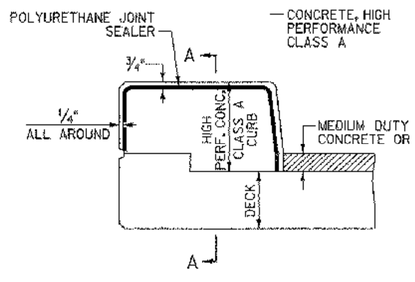
CURB SECTION - LEFT FASCIA

SCALE 1" = 1'-0



CURB SECTION - RIGHT FASCIA

SCALE 1" = 1'-0



NOTES:

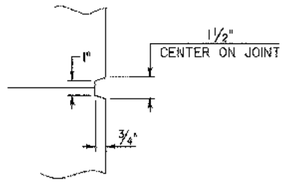
1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM (5'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. CONSTRUCTION JOINTS THROUGH SIDEWALKS SHALL BE SIMILAR TO CONCRETE CURB CONSTRUCTION JOINTS.

TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE

NOTES:

1. INDICATES AREA ALONG THE DECK AND UP THE FACE OF THE SIDEWALK AND CURB FOR PLACEMENT OF 2 COATS OF POLYURETHANE MEMBRANE.
2. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING (MOD. - TORCH APPLIED).
3. SHEET MEMBRANE WATERPROOFING (MOD. - TORCH APPLIED) SHALL EXTEND TO THE FACE OF THE SIDEWALK AND CURB AS SHOWN.
4. BLAST CLEAN 3'-0" FROM THE FACE OF THE SIDEWALK AND CURB AND 3" UP THE SIDEWALK AND CURB FACE PRIOR TO PLACING MEMBRANE.
5. ALL CONCRETE IN THE SIDEWALK AND CURB SHALL BE HIGH PERFORMANCE CONCRETE CLASS A.



SCORE MARK DETAIL

NOT TO SCALE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

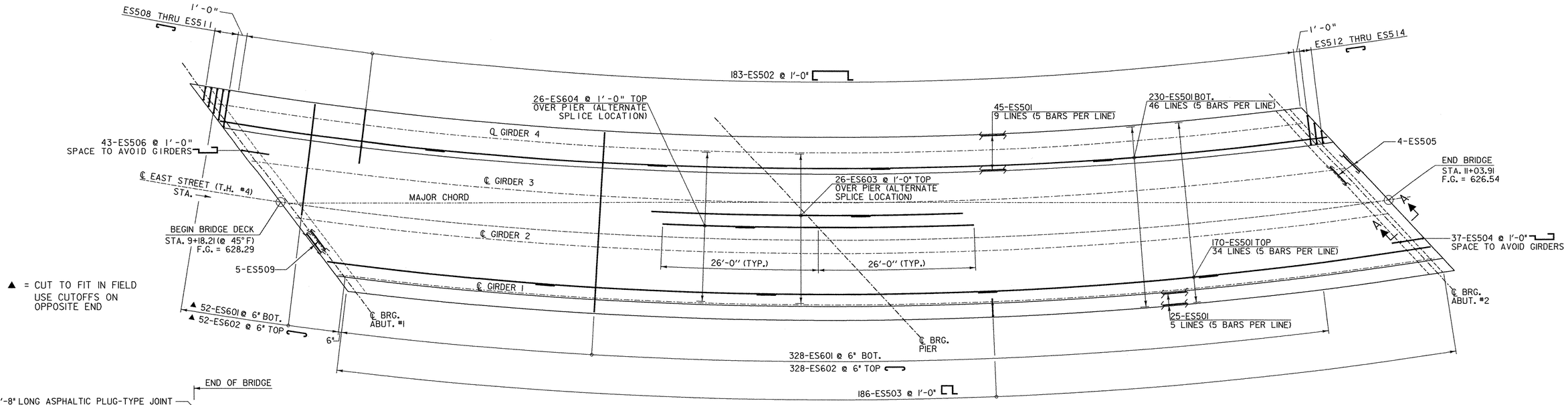
Town Of	HUNTINGTON	Bridge No.	42
Highway No.	T.H. 4	Log Sta. / Surv. Sta.	

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

TYPICAL BRIDGE SECTION

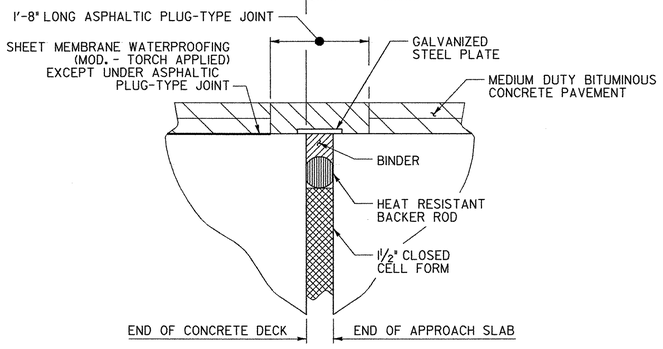
Designed By S. BURBANK		Drawn By S. BURBANK	
Checked By G. BOGUE	Date 08/05	Bridge Design Supervisor M. CHENETTE	Date 09/05
PROJECT HUNTINGTON		PROJECT NO. BRO 1445 (29)	
DH Dgn.: ...\Cadd\Trans\z01j302typ.dgn		Plot Date: 1/12/2006	
Bridge Sheet No.		Sheet 29 of 63	

Dufresne-Henry



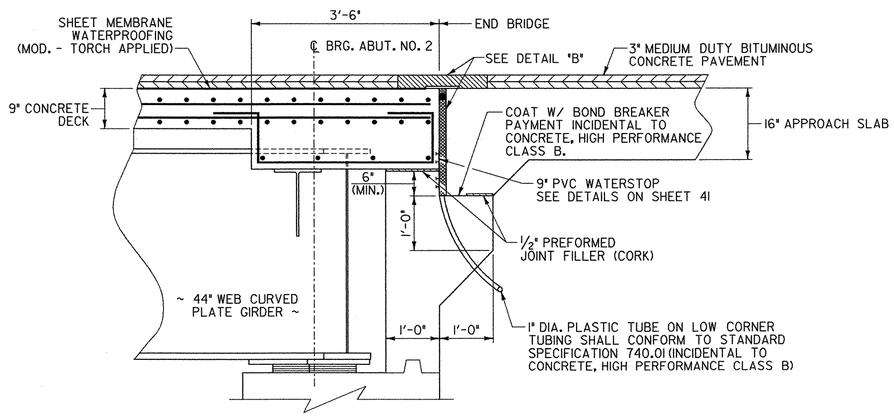
DECK REINFORCING PLAN

SCALE 1/8" = 1'-0
0 1 2 4 6 8



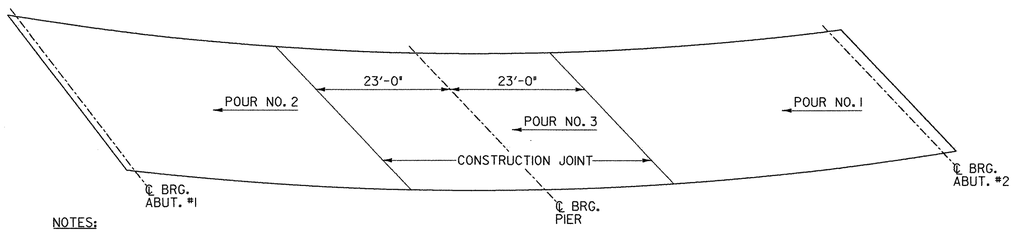
DETAIL "B"

NOT TO SCALE



SECTION A-A

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

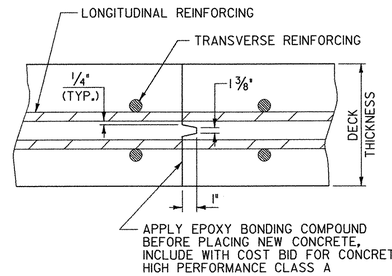


DECK POUR SEQUENCE

NOT TO SCALE

NOTES:

1. THE ARROWS INDICATE THE DIRECTION OF THE CONCRETE PLACEMENT.
2. THE CONCRETE SHALL BE DEPOSITED PARALLEL TO THE CENTERLINE OF BEARING SO AS TO LOAD THE GIRDERS EQUALLY.
3. TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINTS, AS SHOWN ON THIS SHEET, SHALL BE USED BETWEEN ADJACENT DECK POURS.
4. IF APPROVED BY THE ENGINEER, POURS NO. 1 AND NO. 2 MAY BE POURED THE SAME DAY PROVIDED THAT THE MAXIMUM TIME SPAN OF THE POURS IS EIGHT HOURS, THE INDICATED POURING SEQUENCE SHALL BE FOLLOWED AND A RETARDING ADMIXTURE USED SO THAT THE DECK CONCRETE WILL NOT SET UP UNTIL ALL THE CONCRETE HAS BEEN POURED. THE RETARDING ADMIXTURE SHALL BE INCIDENTAL TO ITEM 501.33, "CONCRETE HIGH PERFORMANCE CLASS A".
5. A NINETY-SIX (96) HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANY OTHER POUR SHALL BE OBSERVED.
6. THE CONTRACTOR MAY SUBMIT, IN WRITING, AN ALTERNATE POUR SEQUENCE TO THE ENGINEER FOR REVIEW.



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

NOT TO SCALE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

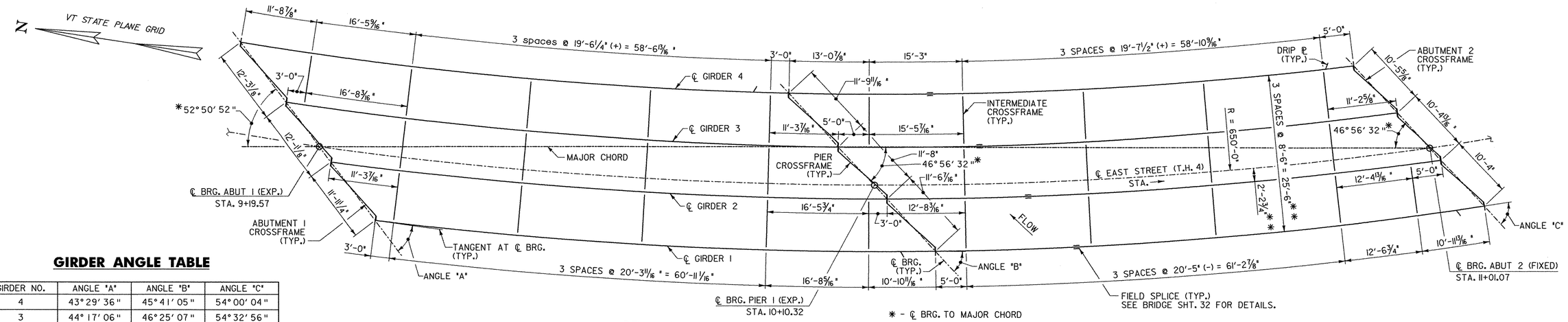
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

DECK REINFORCING PLAN

Designed By S. BURBANK	Drawn By S. BURBANK
Checked By T. KNIGHT Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302deck.dgn	Plot Date: 03/30/2006
Bridge Sheet No.	Sheet 30 of 63

Dufresne-Henry



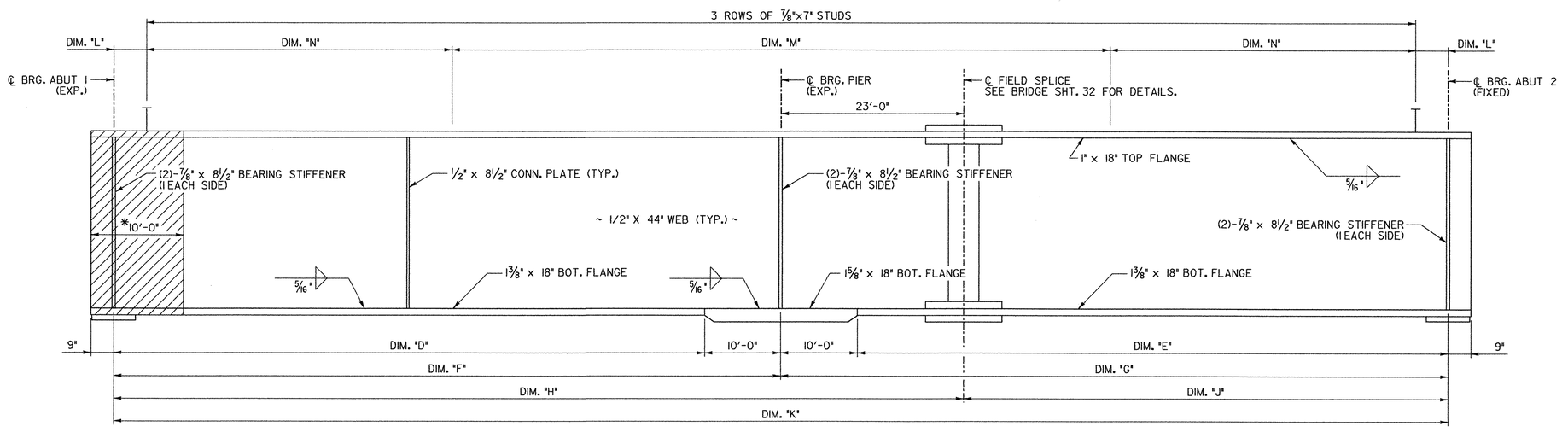
* - ℄ BRG. TO MAJOR CHORD
** - RADIAL

FRAMING PLAN

SCALE 1/8" = 1'-0
0 2 4 6 8

GIRDER ANGLE TABLE

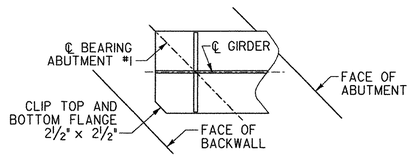
GIRDER NO.	ANGLE "A"	ANGLE "B"	ANGLE "C"
4	43° 29' 36"	45° 41' 05"	54° 00' 04"
3	44° 17' 06"	46° 25' 07"	54° 32' 56"
2	45° 02' 44"	47° 07' 31"	55° 04' 43"
1	45° 46' 36"	47° 48' 21"	55° 35' 30"



* - THE EXPANSION ENDS OF THE GIRDERS SHALL BE PAINTED AND GREASED SEE NOTE 27 ON SHEET 28

GIRDER ELEVATION

NOT TO SCALE

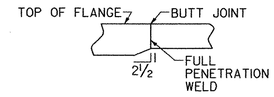


FLANGE COPING DETAIL

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

GIRDER DIMENSION TABLE

GIRDER NO.	RADIUS	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	DIM "J"	DIM "K"	DIM "L"	DIM "M"	DIM "N"
4	635.229'	79'-9 1/4"	82'-2 7/16"	89'-9 1/4"	92'-2 7/16"	112'-9 1/4"	69'-2 7/16"	181'-11 11/16"	3 3/8"(-)	105 SPACES @ 9" = 78'-9"	56 SPACES @ 11" = 51'-4"
3	643.729'	80'-3 15/16"	81'-4 1/8"	90'-3 15/16"	91'-4 1/8"	113'-3 15/16"	68'-4 1/8"	181'-8 1/16"	1 1/2"(+)	105 SPACES @ 9" = 78'-9"	56 SPACES @ 11" = 51'-4"
2	652.229'	80'-10 7/8"	80'-6 7/16"	90'-10 7/8"	90'-6 7/16"	113'-10 7/8"	67'-6 7/16"	181'-5 5/16"	4 5/8"(+)	104 SPACES @ 9" = 78'-0"	56 SPACES @ 11" = 51'-4"
1	660.729'	81'-6 1/16"	79'-9 7/16"	91'-6 1/16"	89'-9 7/16"	114'-6 1/16"	66'-9 7/16"	181'-3 1/2"	3 3/4"(+)	104 SPACES @ 9" = 78'-0"	56 SPACES @ 11" = 51'-4"



FLANGE TRANSITION DETAIL

NOT TO SCALE

NOTES:

1. GIRDER DIMENSIONS ARE ALONG ℄ OF GIRDER.
2. FOR CAMBER AND DEAD LOAD DEFLECTION DIAGRAMS, SEE SHEET 32.
3. THE INTERMEDIATE CROSSFRAMES ARE PLACED ALONG LINES THAT ARE RADIAL TO THE CURVE.
4. THE INTERMEDIATE CROSSFRAMES' SPACING NOT SHOWN ALONG GIRDERS 2 AND 3 ARE PROPORTIONAL TO THE SPACINGS GIVEN ALONG GIRDERS 1 AND 4.
5. FOR CROSSFRAME DETAILS, SEE SHEET 33.
6. THE ENDS OF GIRDERS SHALL BE VERTICAL UNDER DEAD LOAD.
7. THE BEARING STIFFENERS SHALL BE PERPENDICULAR TO THE FLANGES AND WEB IN THE FINAL POSITION.
8. CHARPY V-NOTCH TESTING REQUIRED ON ALL STRUCTURAL STEEL, EXCEPT IN THE DOWNSPOUTS.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

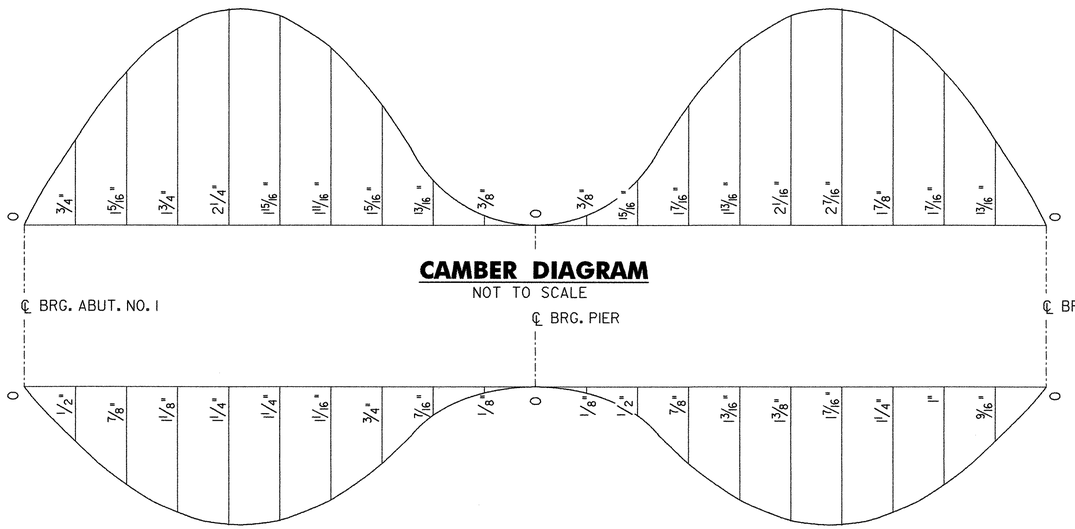
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

FRAMING PLAN

Designed By G. BOGUE	Drawn By T. KNIGHT
Checked By S. BURBANK Date 03/06	Bridge Design Supervisor M. CHENETTE Date 03/06
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302fra.dgn	Plot Date: 3/28/2006
Bridge Sheet No.	Sheet 31 of 63

DH Dufresne-Henry



CAMBER DIAGRAM

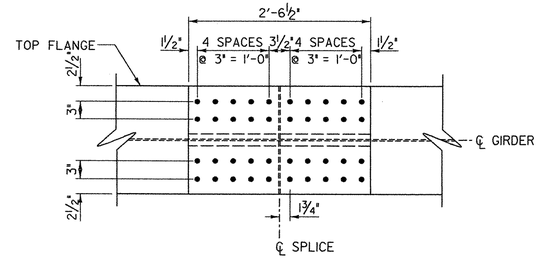
NOT TO SCALE

DEAD LOAD DEFLECTION DIAGRAM

NOT TO SCALE

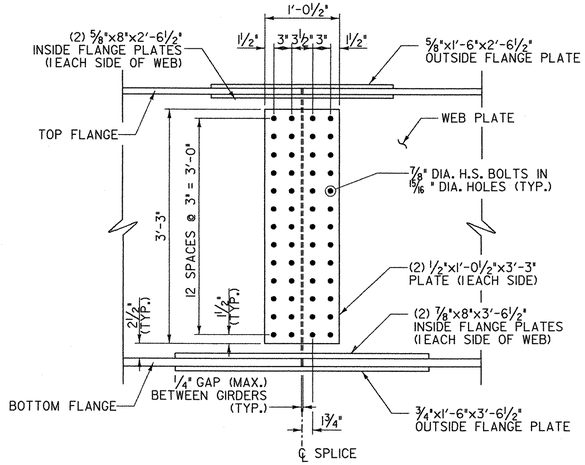
NOTES:

1. CAMBER AND DEAD LOAD MEASUREMENTS ARE GIVEN IN INCHES AT SPAN TENTH POINTS.
2. DEAD LOAD DEFLECTIONS SHOWN ARE FOR ALL DEAD LOADS AND SUPERIMPOSED DEAD LOADS INCLUDING BEAM AND DIAPHRAGM WEIGHTS. DESIGN DEAD LOAD DEFLECTIONS SHOWN ARE BASED ON GIRDER 2. ACTUAL DEAD LOAD DEFLECTIONS FOR OTHER GIRDERS VARY SLIGHTLY.



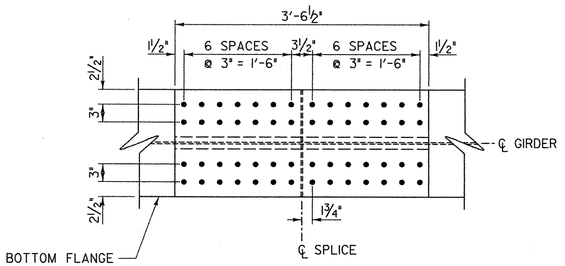
TOP FLANGE PLAN

SCALE 1" = 1'-0



WEB ELEVATION

SCALE 1" = 1'-0



BOTTOM FLANGE PLAN

SCALE 1" = 1'-0

Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

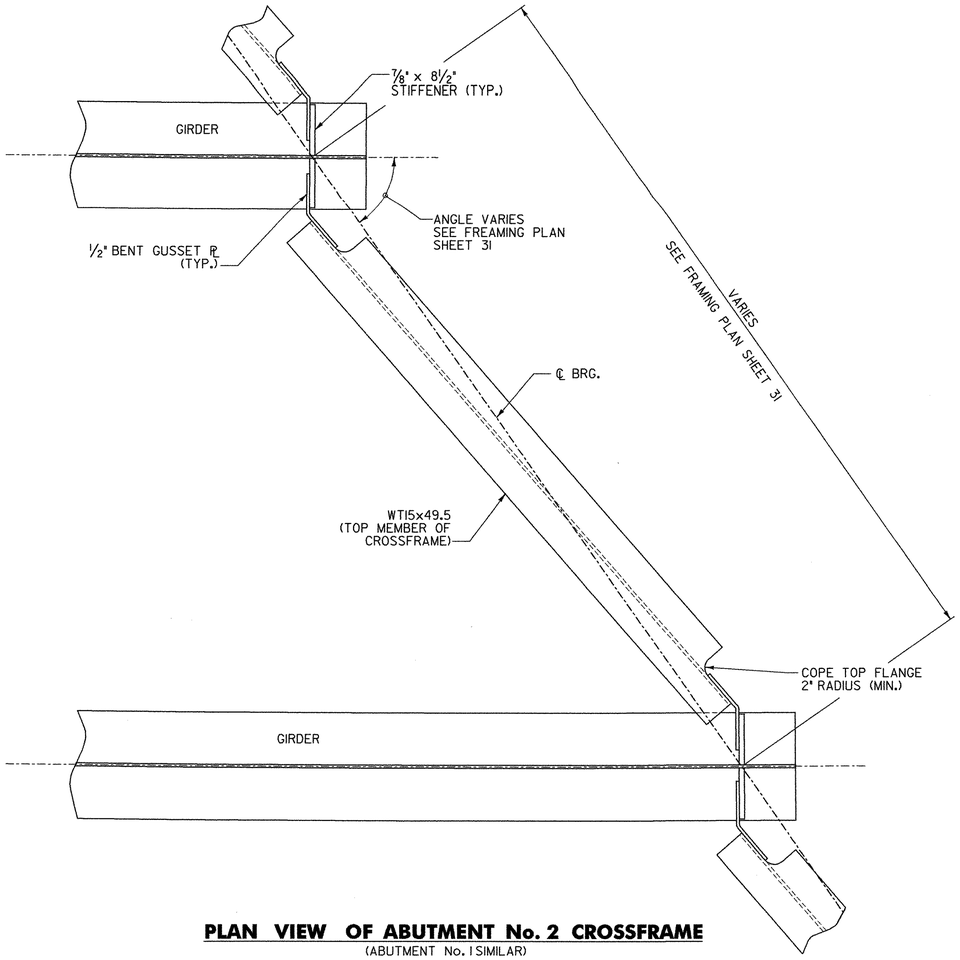
EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

MISCELLANEOUS GIRDER DETAILS

Designed By C. BOGUE	Drawn By J. SOTER
Checked By S. BURBANK Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn.: ...\Trans\z01j302miscGRDRdet.dgn Plot Date: 1/12/2006

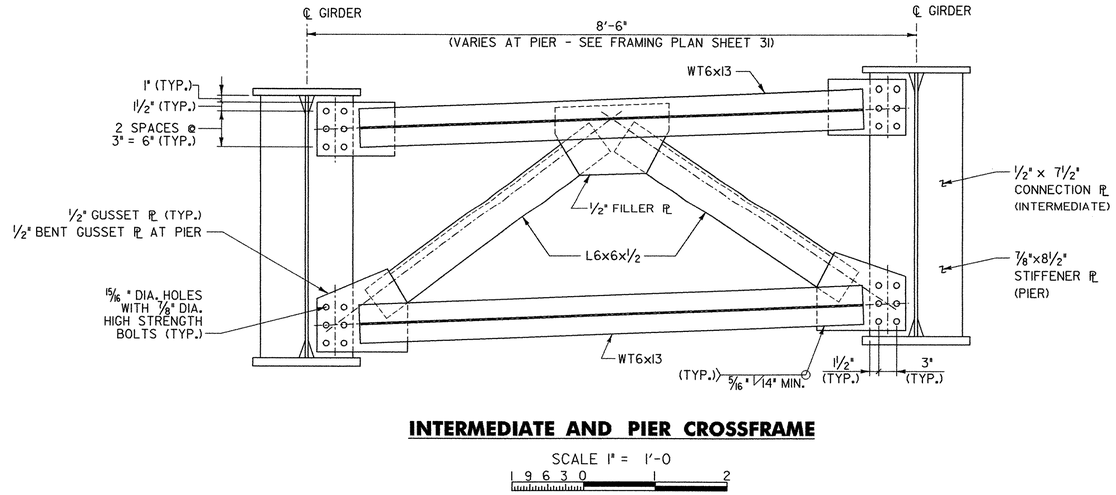
Bridge Sheet No. Sheet 32 of 63



PLAN VIEW OF ABUTMENT No. 2 CROSSFRAME

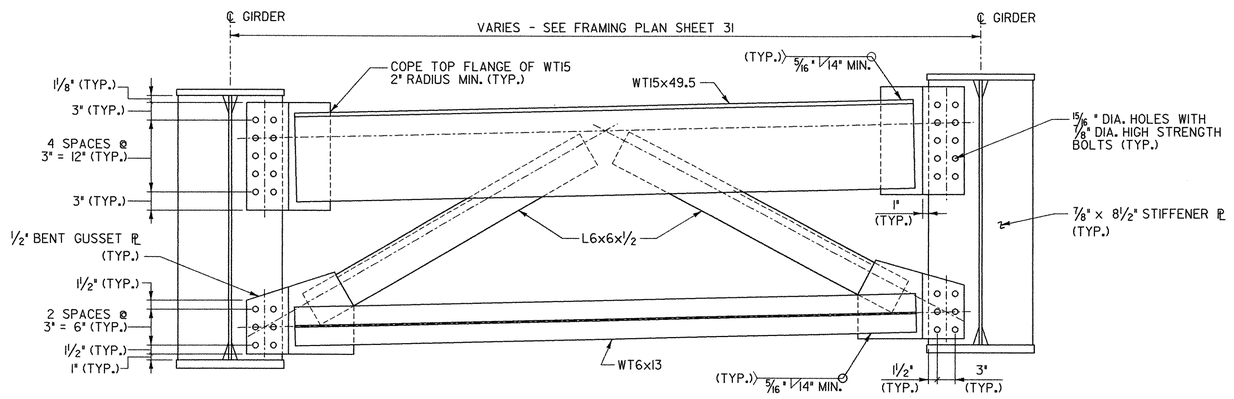
(ABUTMENT No. 1 SIMILAR)

SCALE 1" = 1'-0



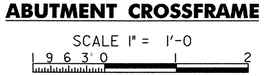
INTERMEDIATE AND PIER CROSSFRAME

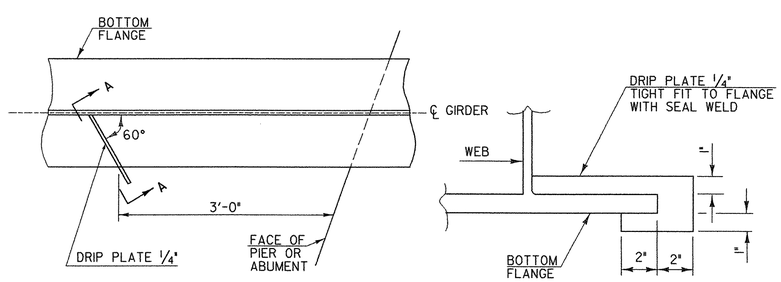
SCALE 1" = 1'-0



ABUTMENT CROSSFRAME

SCALE 1" = 1'-0





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.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

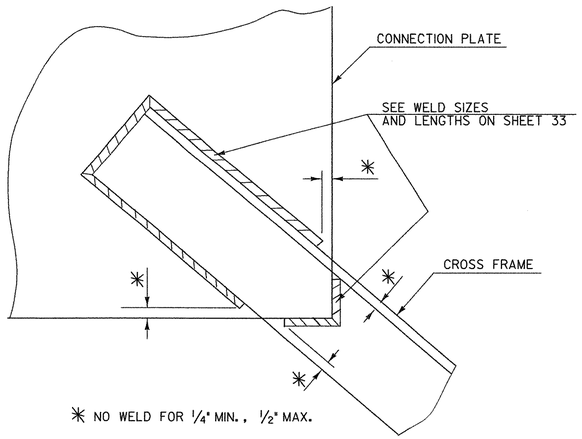
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

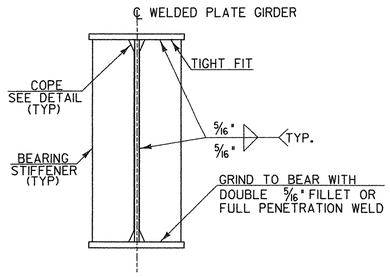
CROSSFRAME DETAILS

Designed By G. BOGUE	Drawn By J. SOTER
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01J302xfdet.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 33 of 63

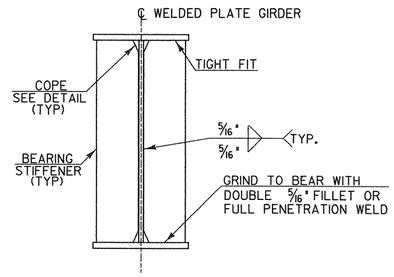
Dufresne-Henry



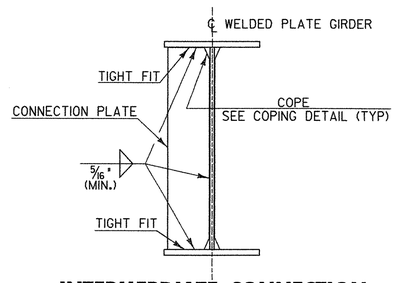
WELD LOCATION DETAIL AT CROSS FRAMES



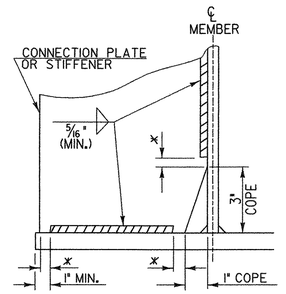
ABUTMENT BEARING STIFFENERS FOR WELDED PLATE GIRDERS



PIER BEARING STIFFENERS FOR WELDED PLATE GIRDERS

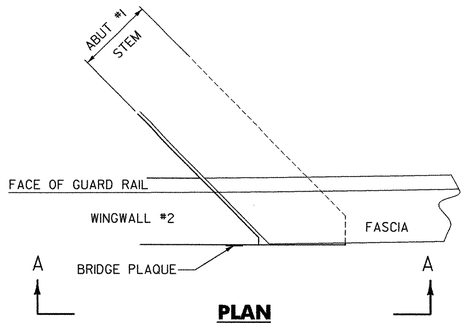


INTERMERDIATE CONNECTION PLATES FOR WELDED PLATE GIRDERS

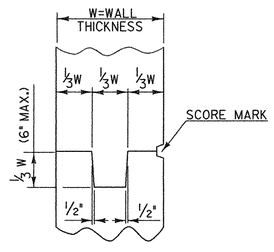


WELD TERMINATION AND COPING DETAILS FOR STEEL MEMBERS

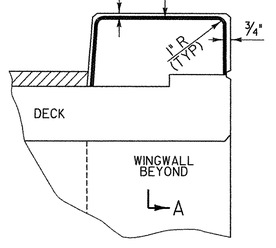
✳ NO WELD FOR 3/8" MIN. 7/8" MAX. (EXCEPT MUST MAINTAIN 1" MINIMUM FROM EDGE OF FLANGE)



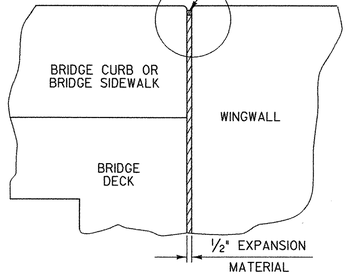
PLAN



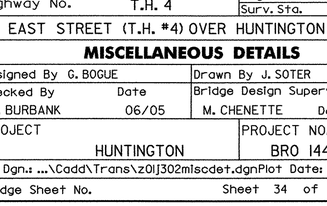
TYPICAL CONCRETE CONSTRUCTION JOINT



TYPICAL SECTION THROUGH CURB OR SIDEWALK JOINT AT FIXED END OF BRIDGE

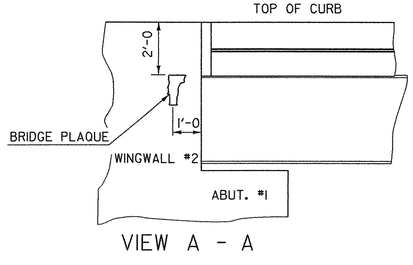


SECTION A - A



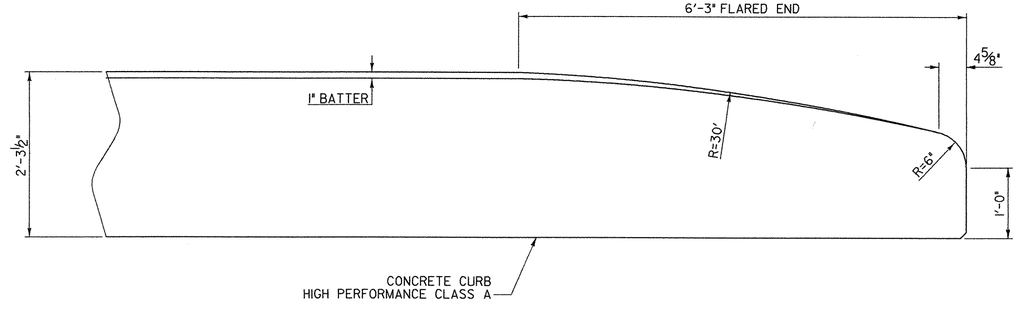
DETAIL "B"

FOR DETAILS OF POLYURETHANE JOINT SEALER SEE SUBSECTION 524.06



LOCATE BRIDGE PLAQUE

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



FLARED END FOR WINGWALL CURB

STATE OF VERMONT
AGENCY OF TRANSPORTATION

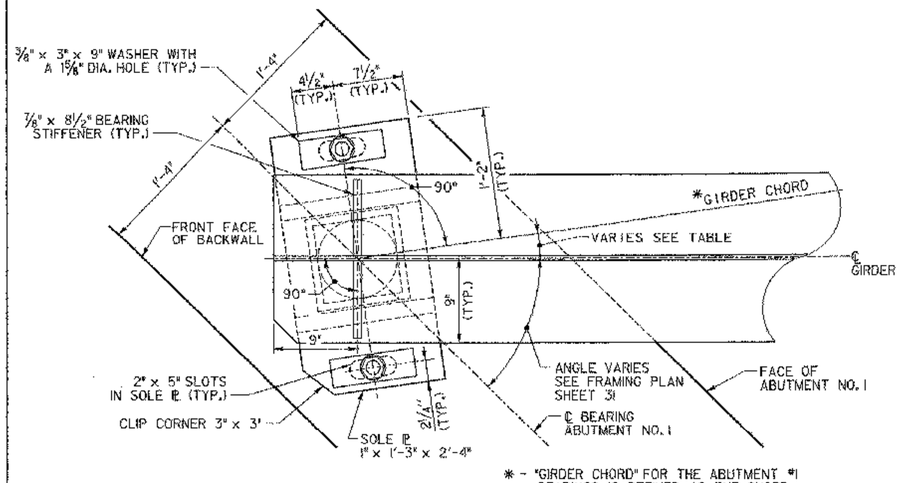
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

MISCELLANEOUS DETAILS

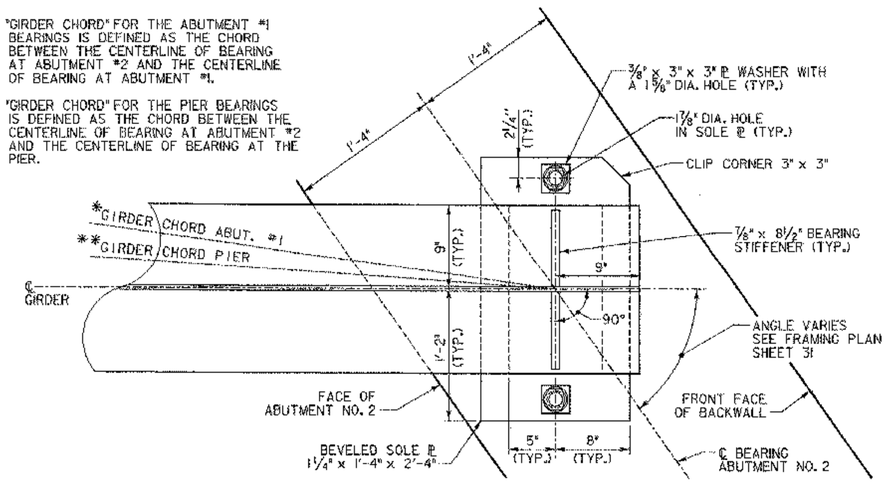
Designed By G. BOGUE	Drawn By J. SOTER
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302miscdet.dgn Plot Date: 1/12/2006	
Bridge Sheet No.	Sheet 34 of 63

Dufresne-Henry



* - "GIRDER CHORD" FOR THE ABUTMENT #1 BEARINGS IS DEFINED AS THE CHORD BETWEEN THE CENTERLINE OF BEARING AT ABUTMENT #2 AND THE CENTERLINE OF BEARING AT ABUTMENT #1.

** - "GIRDER CHORD" FOR THE PIER BEARINGS IS DEFINED AS THE CHORD BETWEEN THE CENTERLINE OF BEARING AT ABUTMENT #2 AND THE CENTERLINE OF BEARING AT THE PIER.



GIRDER CHORD ANGLE TABLE

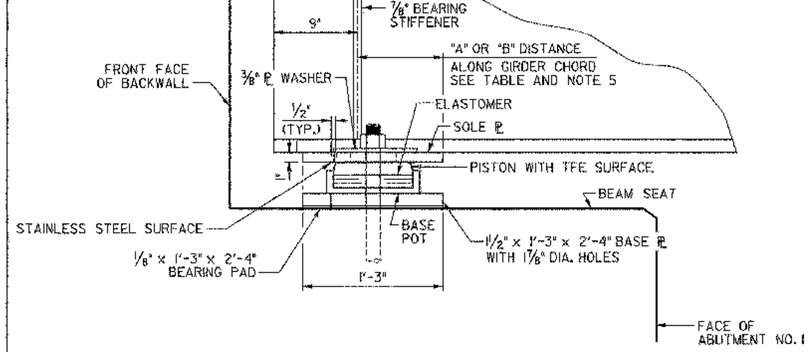
LOCATION	ANGLE BETWEEN GIRDER CHORD AND THE TANGENT AT ℄ BRG. FOR ABUTMENT #1
GIRDER NO. 4	8° 12' 24"
GIRDER NO. 3	8° 05' 05"
GIRDER NO. 2	7° 58' 11"
GIRDER NO. 1	7° 51' 37"

"I" PER TOM KNIGHT

* - "GIRDER CHORD" FOR THE ABUTMENT #1 BEARINGS IS DEFINED AS THE CHORD BETWEEN THE CENTERLINE OF BEARING AT ABUTMENT #2 AND THE CENTERLINE OF BEARING AT ABUTMENT #1.

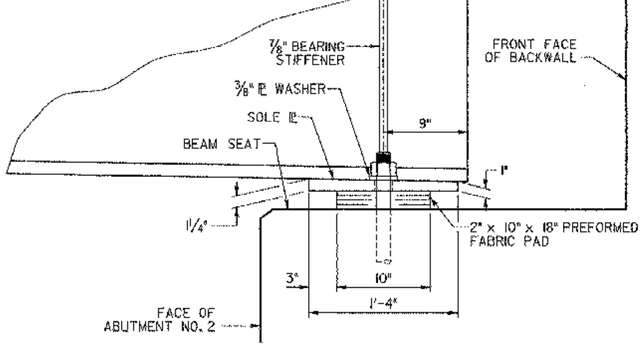
PLAN

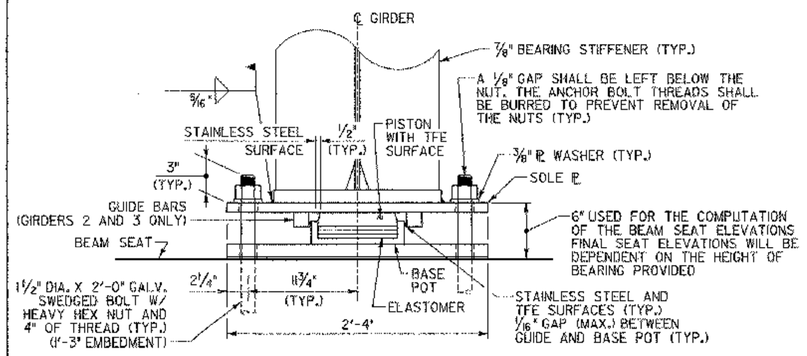
SCALE 1½" = 1'-0



SIDE ELEVATION

SCALE 1½" = 1'-0

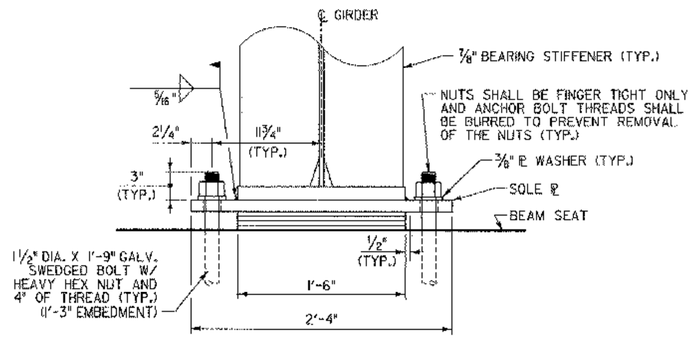




EXPANSION BEARING DETAILS @ ABUTMENT NO. 1

FRONT VIEW

SCALE 1½" = 1'-0



FIXED BEARING DETAILS @ ABUTMENT NO. 2

TEMPERATURE SETTING TABLE

TEMP.	"A" DIST.	"B" DIST.
0° F	8 5/8"	8 1/16"
15° F	8 3/16"	7 7/8"
30° F	8 1/4"	7 11/16"
45° F	8 1/16"	7 1/2"
60° F	7 7/8"	7 5/16"
75° F	7 11/16"	7 1/8"
90° F	7 1/2"	6 15/16"
105° F	7 5/16"	6 3/4"

SEE NOTE 5 ON SHEET 36

SEE SHEET 36 FOR BEARING NOTES

STATE OF VERMONT
AGENCY OF TRANSPORTATION

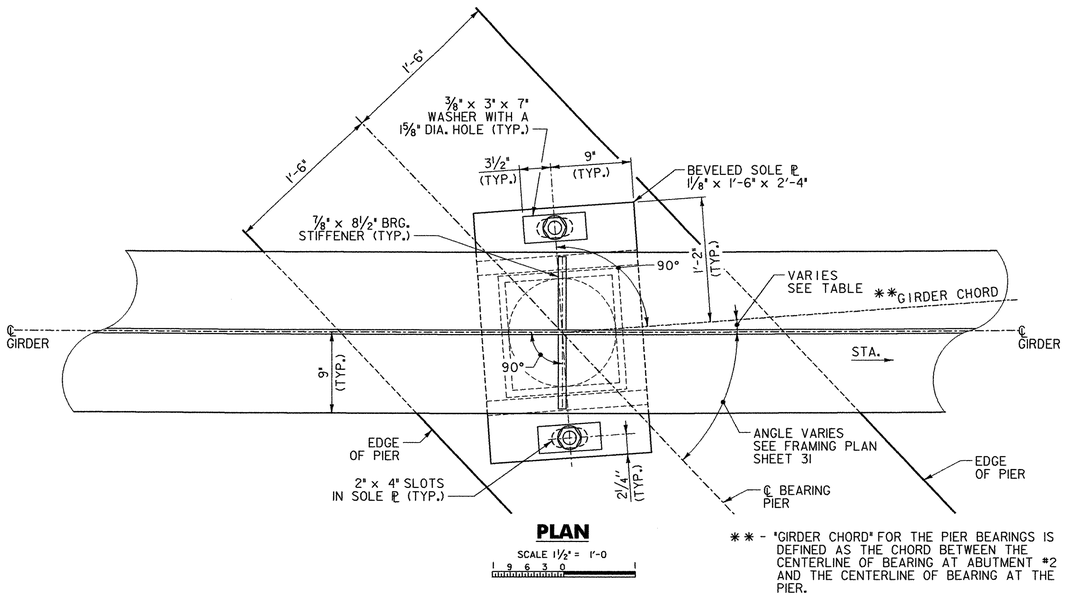
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

ABUTMENT BEARING DETAILS

Designed By T. KNIGHT	Drawn By S. BURBANK
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z0lj302brgst.dgn	Plot Date: 01/31/2006
Bridge Sheet No.	Sheet 35 of 63

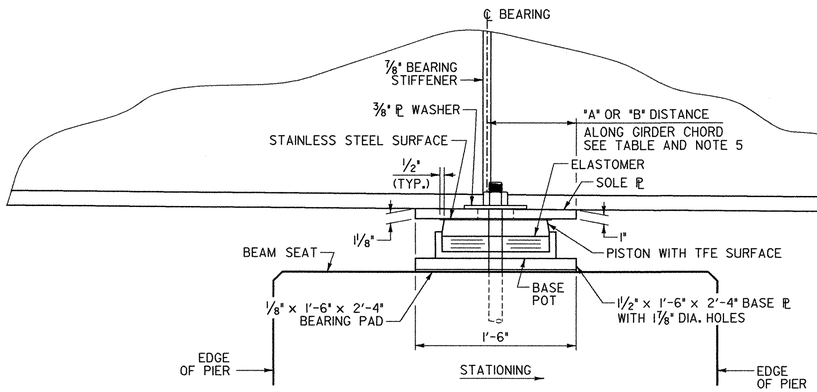
DH Dufresne-Henry



PLAN

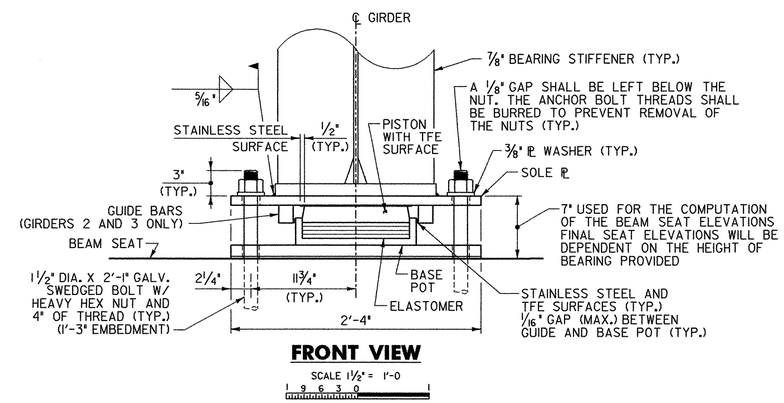
SCALE 1 1/2" = 1'-0

** - "GIRDER CHORD" FOR THE PIER BEARINGS IS DEFINED AS THE CHORD BETWEEN THE CENTERLINE OF BEARING AT ABUTMENT #2 AND THE CENTERLINE OF BEARING AT THE PIER.



SIDE ELEVATION

SCALE 1 1/2" = 1'-0



FRONT VIEW

SCALE 1 1/2" = 1'-0

BEARING NOTES:

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF THE STANDARD SPECIFICATION SECTIONS 531 AND 731
2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10, "BEARING DEVICE ASSEMBLY".
3. SHOP DRAWINGS CONFORMING TO STANDARD SPECIFICATION SUBSECTION 513.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.
4. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
5. THE "A" DISTANCE IS LISTED FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE "B" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, SIDEWALK, PAVEMENT, AND BRIDGE RAIL ARE PLACED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL "B" DISTANCE, AS SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN 1/8".
6. DESIGN CRITERIA:
   A. BASE PLATE TO CONCRETE DESIGN PRESSURE = 1000 P.S.I. MAXIMUM.
   B. SEE TABLES BELOW FOR DESIGN LOADS.
7. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS STEEL) SHALL BE AASHTO M-270, (ASTM A-709) GRADE 36.
8. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 1'-3" EMBEDMENT INTO THE CONCRETE AND SHALL CONFORM TO STANDARD SPECIFICATION SUBSECTION 714.08. ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-183 (ASTM A-36).
9. ALL THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. ALL WASHERS SHALL BE 3/8" PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "BEARING DEVICE ASSEMBLY".
10. BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER STANDARD SPECIFICATION SUBSECTIONS 531.04(b) AND 506.15(a) AND (b). AREAS OF DAMAGED GALVANIZING SHALL BE COATED IN ACCORDANCE WITH ASTM A 760/A 760M AND A780. AREAS OF DAMAGED METAILIZING SHALL BE COATED WITH THE SAME SEALANT USED BY THE BEARING SUPPLIER.

ABUTMENT NO. 1 BEARING DESIGN LOAD TABLE

LOCATION	DESCRIPTION	* VERTICAL LOAD CAPACITY (KIPS)	TRANSVERSE LOAD CAPACITY (KIPS)	LONGITUDINAL LOAD CAPACITY (KIPS)	** MOVEMENT CAPACITY (INCHES)	ROTATION CAPACITY (RADIANS)
GIRDER NO. 4	NON-GUIDED EXP. BEARING	170	N/A	N/A	2 1/2"	0.020
GIRDER NO. 3	GUIDED EXP. BEARING (LONG.)	170	34	N/A	2 1/2"	0.020
GIRDER NO. 2	GUIDED EXP. BEARING (LONG.)	170	34	N/A	2 1/2"	0.020
GIRDER NO. 1	NON-GUIDED EXP. BEARING	170	N/A	N/A	2 1/2"	0.020

PIER BEARING DESIGN LOAD TABLE

LOCATION	DESCRIPTION	* VERTICAL LOAD CAPACITY (KIPS)	TRANSVERSE LOAD CAPACITY (KIPS)	LONGITUDINAL LOAD CAPACITY (KIPS)	** MOVEMENT CAPACITY (INCHES)	ROTATION CAPACITY (RADIANS)
GIRDER NO. 4	NON-GUIDED EXP. BEARING	335	N/A	N/A	1 1/2"	0.015
GIRDER NO. 3	GUIDED EXP. BEARING (LONG.)	335	67	N/A	1 1/2"	0.015
GIRDER NO. 2	GUIDED EXP. BEARING (LONG.)	335	67	N/A	1 1/2"	0.015
GIRDER NO. 1	NON-GUIDED EXP. BEARING	335	N/A	N/A	1 1/2"	0.015

ABUTMENT NO. 2 BEARING DESIGN LOAD TABLE

LOCATION	DESCRIPTION	* VERTICAL LOAD CAPACITY (KIPS)	TRANSVERSE LOAD CAPACITY (KIPS)	LONGITUDINAL LOAD CAPACITY (KIPS)	MOVEMENT CAPACITY (INCHES)	ROTATION CAPACITY (RADIANS)
GIRDER NO. 4	FIXED	150	15	15	0	0.016
GIRDER NO. 3	FIXED	150	15	15	0	0.016
GIRDER NO. 2	FIXED	150	15	15	0	0.016
GIRDER NO. 1	FIXED	150	15	15	0	0.016

* DESIGN LOAD SHOWN IS THE MAXIMUM ACTUAL LOAD FOR ALL GIRDERS.
** MOVEMENT IS IN THE DIRECTION OF GIRDER CHORDS.

GIRDER CHORD ANGLE TABLE

LOCATION	ANGLE BETWEEN GIRDER CHORD AND THE TANGENT AT ℄ BRG. FOR THE PIER
GIRDER NO. 4	4° 09' 30"
GIRDER NO. 3	4° 03' 54"
GIRDER NO. 2	3° 58' 36"
GIRDER NO. 1	3° 53' 35"

TEMPERATURE SETTING TABLE

TEMP.	"A" DIST.	"B" DIST.
0° F	9 5/8"	9 3/8"
15° F	9 1/2"	9 1/4"
30° F	9 3/8"	9 1/8"
45° F	9 1/4"	9"
60° F	9 1/8"	8 7/8"
75° F	9"	8 3/4"
90° F	8 7/8"	8 5/8"
105° F	8 3/4"	8 1/2"

SEE NOTE 5 THIS SHEET

Dufresne-Henry

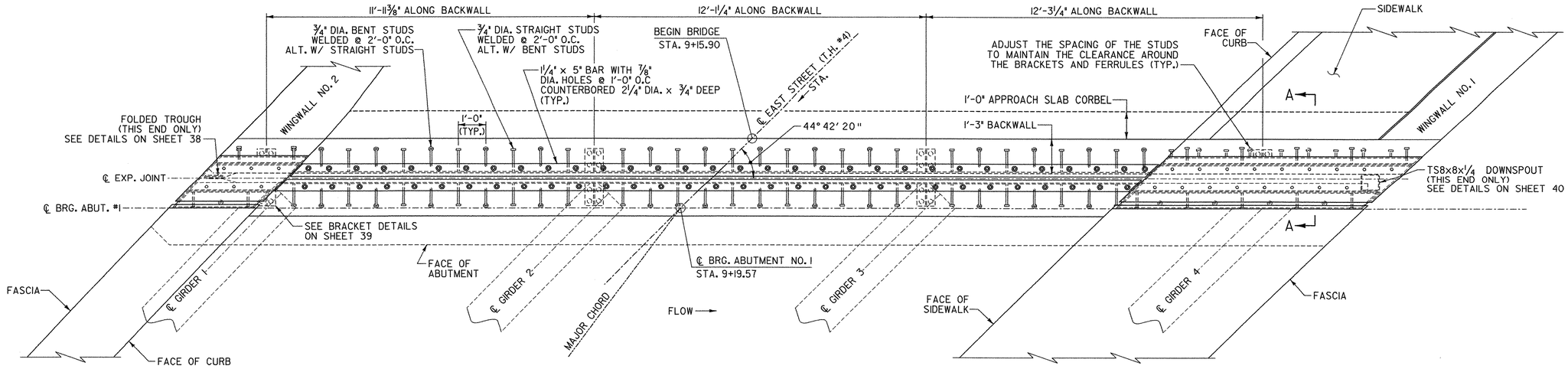
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta.
	Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

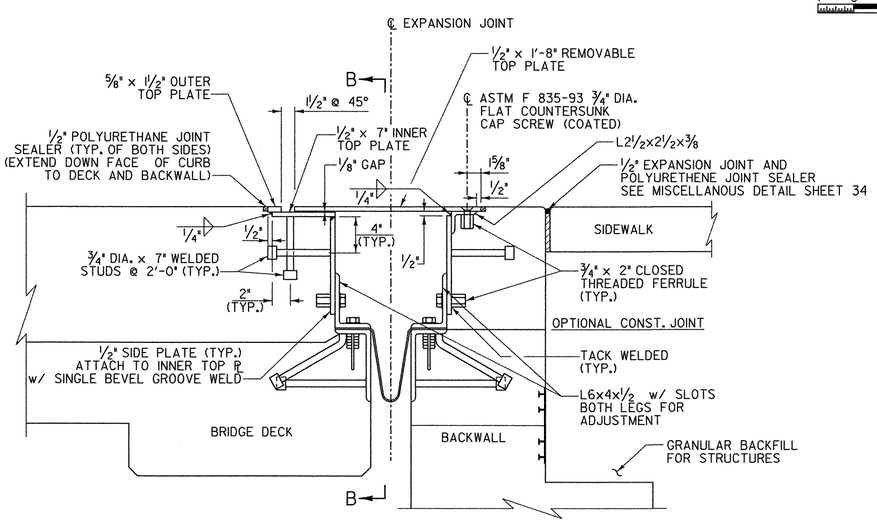
PIER BEARING DETAILS

Designed By G. BOGUE	Drawn By S. BURBANK
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302brgs2.dgn	Plot Date: 01/31/2006
Bridge Sheet No.	Sheet 36 of 63



PLAN VIEW

SCALE 1/2" = 1'-0

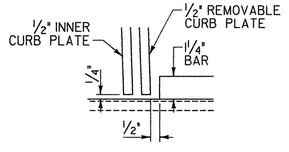


SECTION A–A

SCALE 1 1/2" = 1'-0

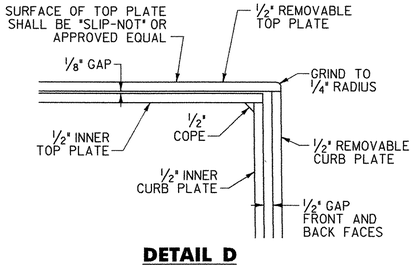
SECTION B–B

SCALE 1 1/2" = 1'-0



DETAIL C

SCALE 3" = 1'-0



DETAIL D

SCALE 3" = 1'-0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

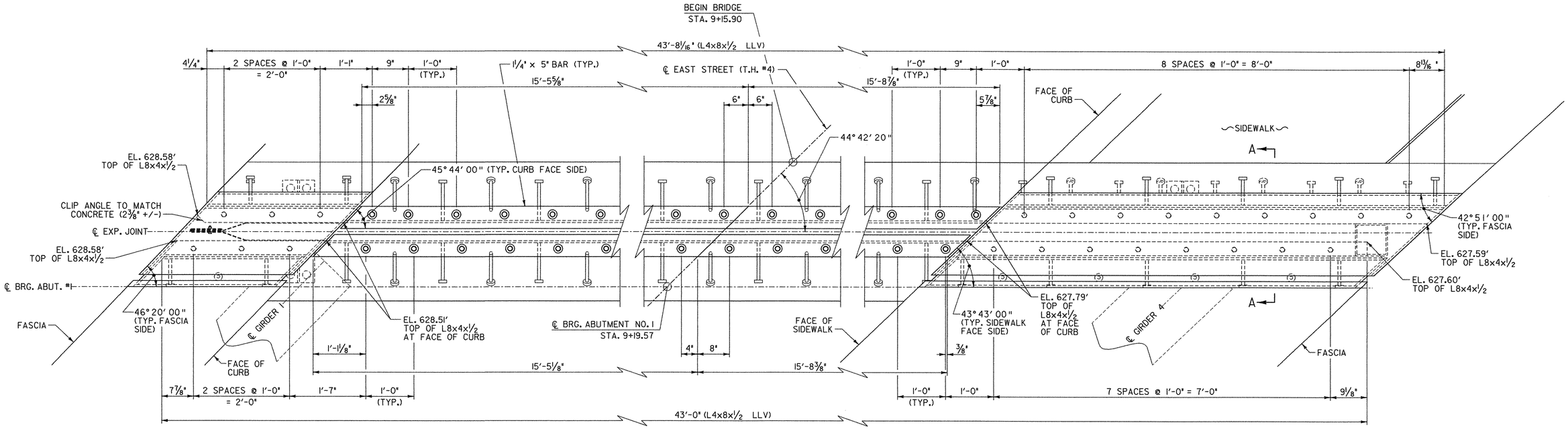
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

EXPANSION JOINT PLAN

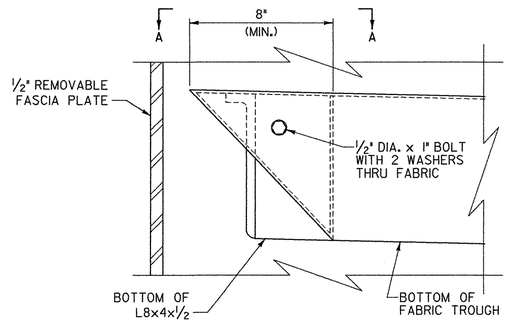
Designed By S. BURBANK	Drawn By S. BURBANK
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302expjt1.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 37 of 63

Dufresne-Henry



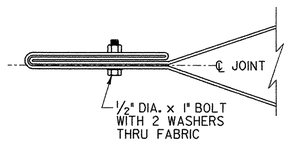
PARTIAL PLAN VIEW

SCALE 1" = 1'-0



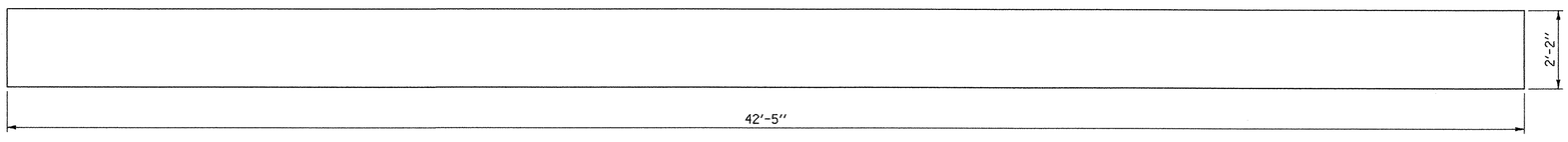
ELEVATION FOLDED TROUGH END DETAILS

NOT TO SCALE



VIEW A-A

NOT TO SCALE



TROUGH LAYOUT

SCALE 1/2" = 1'-0

SEE PREVIOUS SHEET FOR SECTION A-A

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

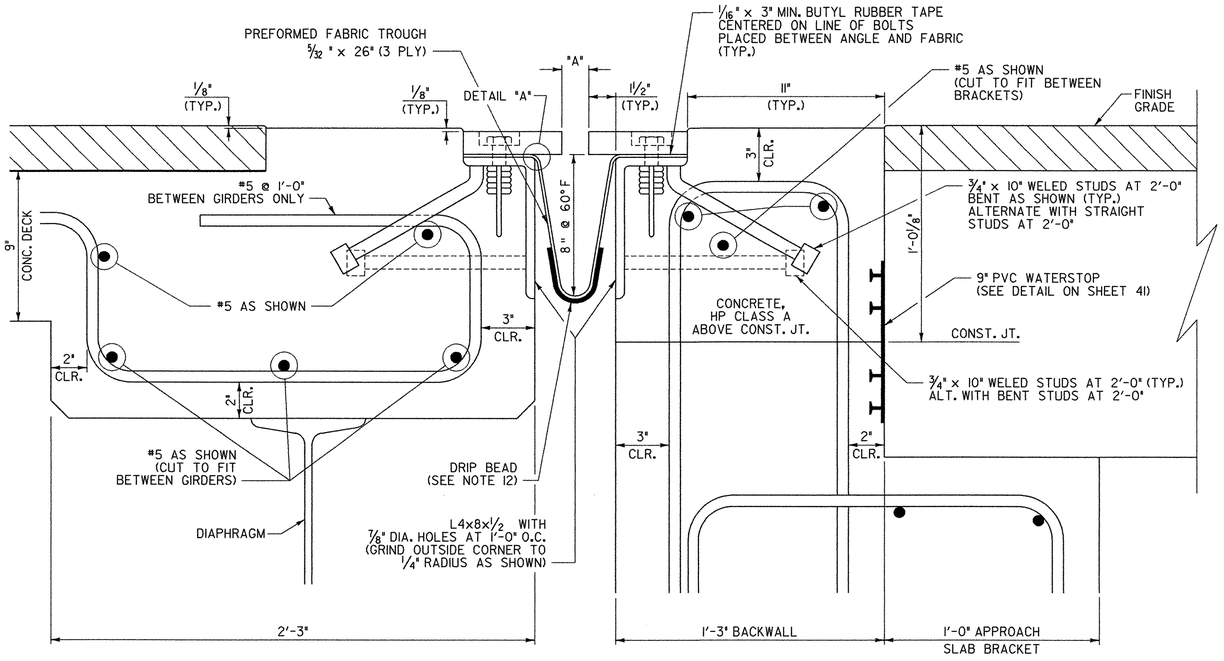
EXPANSION JOINT DETAILS SHEET 1

Designed By S. BURBANK	Drawn By S. BURBANK
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn.: ...\Cadd\Trans\z0lJ302expjt2.dgn Plot Date: 1/12/2006

Dufresne-Henry

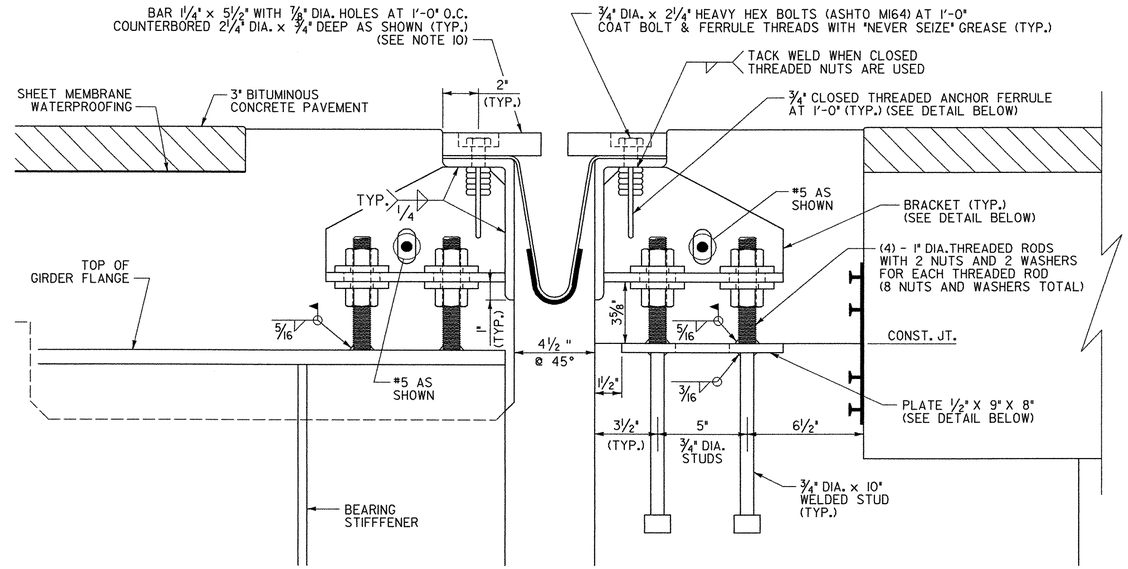
Bridge Sheet No. Sheet 38 of 63



TYPICAL SECTION BETWEEN GIRDERS

(NORMAL TO ℄ BEARING)

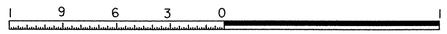
SCALE 3" = 1'-0



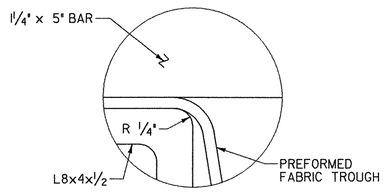
TYPICAL SECTION AT GIRDERS

(NORMAL TO ℄ BEARING)

SCALE 3" = 1'-0



1. DETAILS ON THIS SHEET AND THE EXPANSION JOINT PLAN SHEET ARE FOR ITEM 516.10 "BRIDGE EXPANSION JOINT (VERMONT)".
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07 OF STANDARD SPECIFICATIONS.
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE II.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15(a) OR (b) OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED. THREADED RODS SHALL CONFORM TO ASTM A307, GRADE C. THE NUTS FOR THE THREADED RODS SHALL BE ASTM A563.
6. THE ITEM "BRIDGE EXPANSION JOINT (VERMONT)" SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL, BUTYL RUBBER TAPE AND AND ANY OTHER MISCELLANEOUS MATERIAL NECESSARY TO INSTALL JOINT.
7. THE 4" x 8" x 1/2" ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 1 1/4" x 5 1/2" BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS.
8. COAT CONCRETE CONTACT SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTSOF SUBSECTION 719.02 OF THE STANDARD SPECIFICATIONS. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10 "BRIDGE EXPANSION JOINT (VERMONT)".
9. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. PAYMENT FOR THE WORK SHALL BE INCIDENTAL TO ITEM 516.10.
10. PAYMENT FOR PVC WATERSTOP SHALL BE INCIDENTAL TO THE CONCRETE PAY ITEM.
11. A DRIP BEAD OF 1/4" x 7" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1' FROM THE DOWNSPOUT END OF THE TROUGH.
12. THE FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER THE PAVING OPERATION.
13. THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.

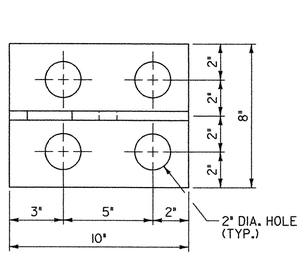


DETAIL "A"

NOT TO SCALE

TEMP	"A" DIST.
0° F	2"
15° F	1 7/8"
30° F	1 11/16"
45° F	1 1/2"
60° F	1 5/16"
75° F	1 1/8"
90° F	1"
105° F	13/16"

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



PLAN

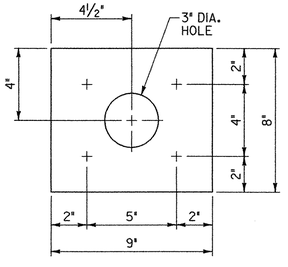
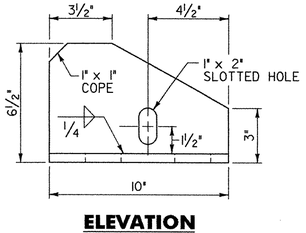
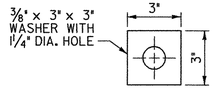


PLATE PLAN



ELEVATION

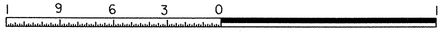


WASHER FOR BRACKET

NOTE: ALL PLATES SHALL BE 1/2" THICK U.N.O.

BRACKET DETAILS

SCALE 3" = 1'-0



DAYTON/RICHMOND TYPE LF, 3/4" DIA. CLOSED FERRULE OR EQUIVALENT

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

ANCHOR FERRULE DETAIL

NOT TO SCALE

Dufresne-Henry

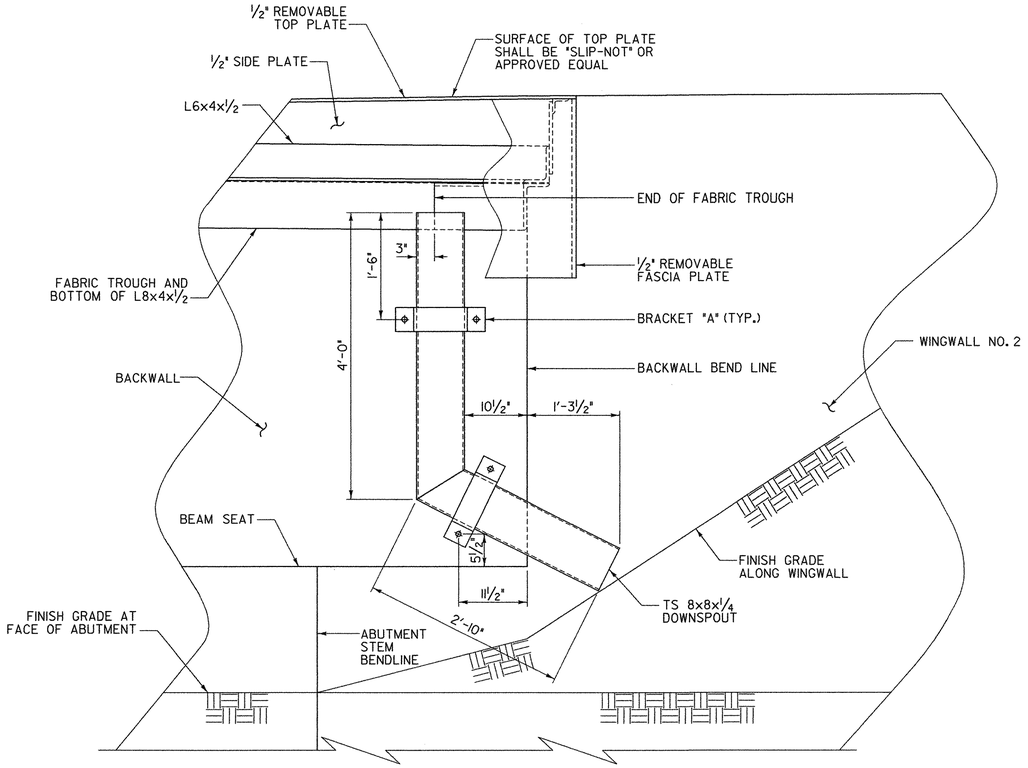
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

EXPANSION JOINT DETAILS SHEET 2

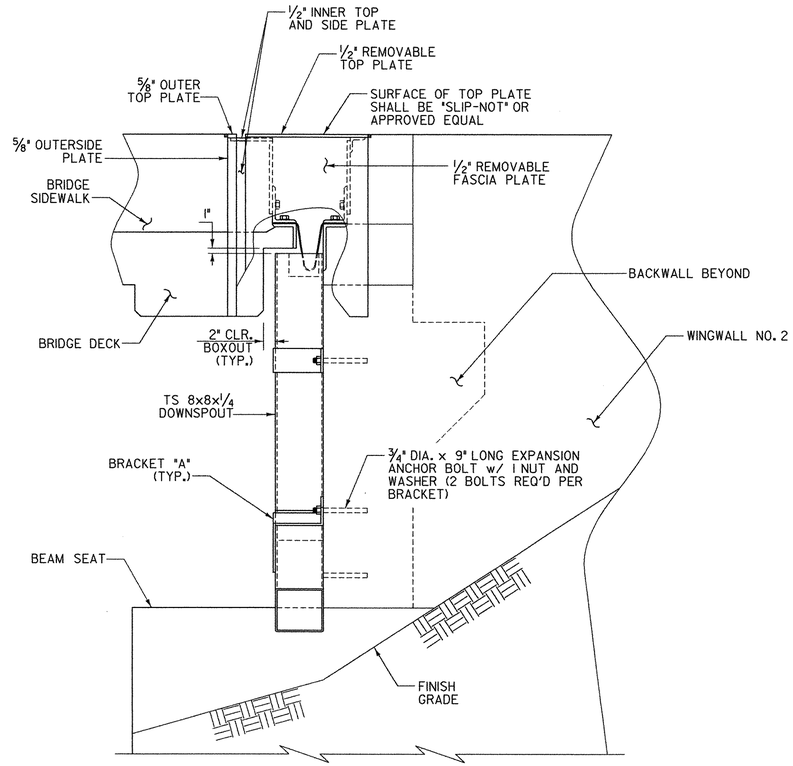
Designed By S. BURBANK	Drawn By S. BURBANK
Checked By / Date: M. CHENETTE 08/05	Bridge Design Supervisor: M. CHENETTE Date 09/05
PROJECT: HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z0ij302expjt3.dgn Plot Date: 1/12/2006	
Bridge Sheet No.	Sheet 39 of 63



SEE EXPANSION JOINT PLAN FOR INFORMATION NOT SHOWN

DOWNSPOUT FRONT ELEVATION

SCALE 1" = 1'-0



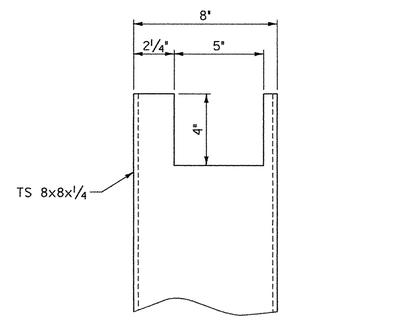
SEE EXPANSION JOINT PLAN FOR INFORMATION NOT SHOWN

DOWNSPOUT SIDE ELEVATION

SCALE 1" = 1'-0

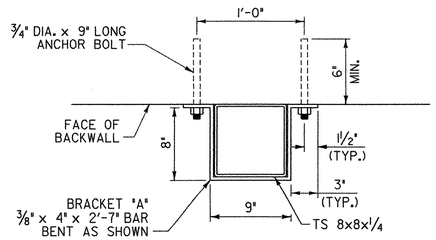
DOWNSPOUT NOTES

1. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 OR A501.
2. ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270 GRADE 36.
3. DOWNSPOUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4. ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A513 (AASHTO M232).
5. IN AREAS WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE REPAIRED BY THOROUGHLY CLEANING THE DAMAGED AREAS WITH A WIRE BRUSH AND PAINTING THE DAMAGED AREAS WITH TWO COATS OF AN APPROVED SEALANT.
6. ALL MATERIALS AND INSTALLATION COSTS FOR THE DOWNSPOUT, INCLUDING STEEL TUBING, RELATED HARDWARE, AND ANCHOR BOLTS SHALL BE PAID FOR UNDER ITEM 506.55 "STRUCTURAL STEEL (PLATE GIRDER)".



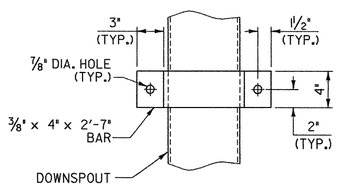
DOWNSPOUT CUTOUT FOR TROUGH

SCALE 3" = 1'-0



DETAIL FOR ATTACHING DOWNSPOUT TO BACKWALL

SCALE 1½" = 1'-0



ELEVATION VIEW OF BRACKET A

SCALE 1½" = 1'-0

STATE OF VERMONT
AGENCY OF TRANSPORTATION

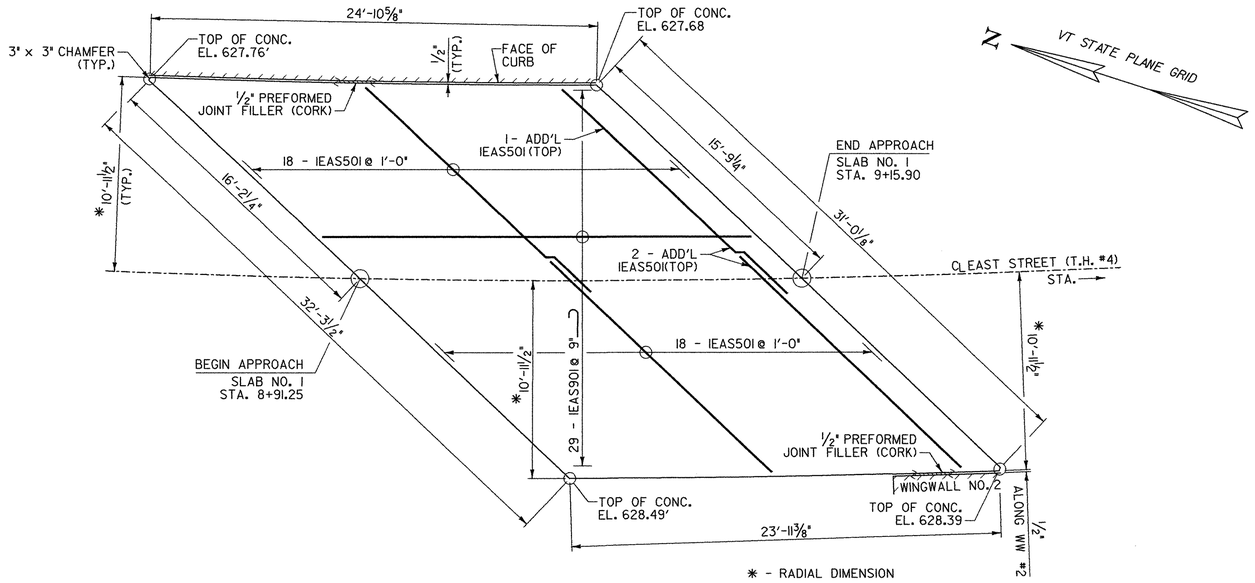
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

DOWNSPOUT DETAILS

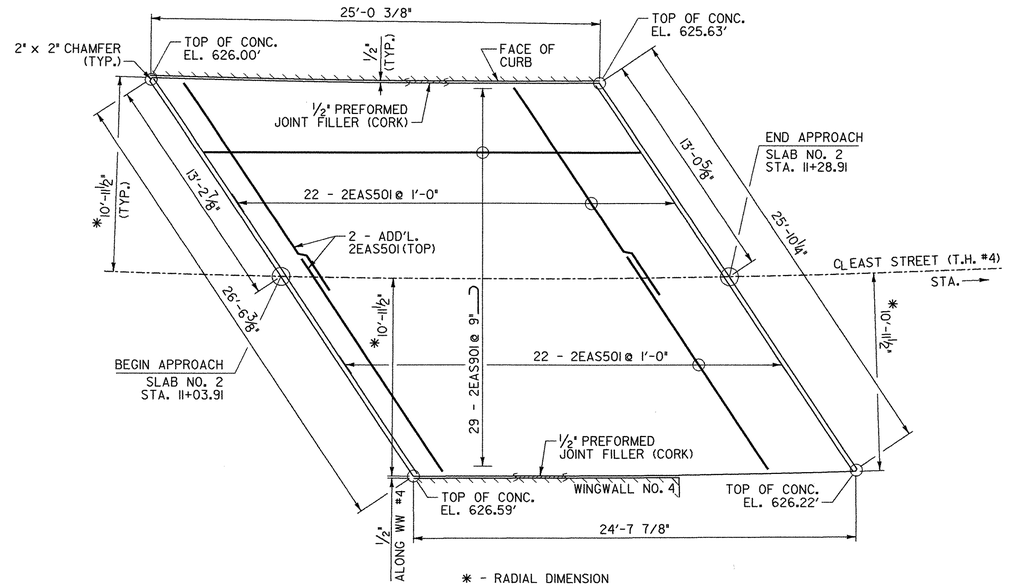
Designed By S. BURBANK	Drawn By J. SOTER
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302ds.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 40 of 63

Dufresne-Henry



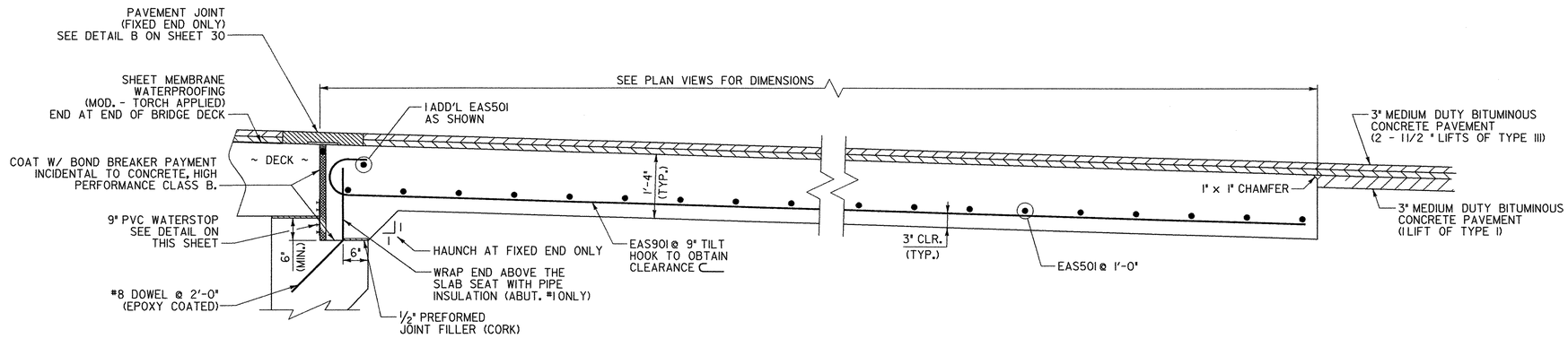
APPROACH SLAB NO. 1

SCALE 1/4" = 1'-0



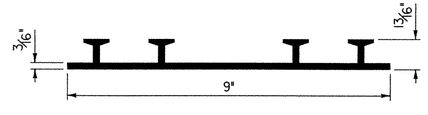
APPROACH SLAB NO. 2

SCALE 1/4" = 1'-0



APPROACH SLAB SECTION

SCALE 3/4" = 1'-0



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

P. V. C. WATERSTOP FOR CONSTRUCTION JOINTS

NOT TO SCALE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

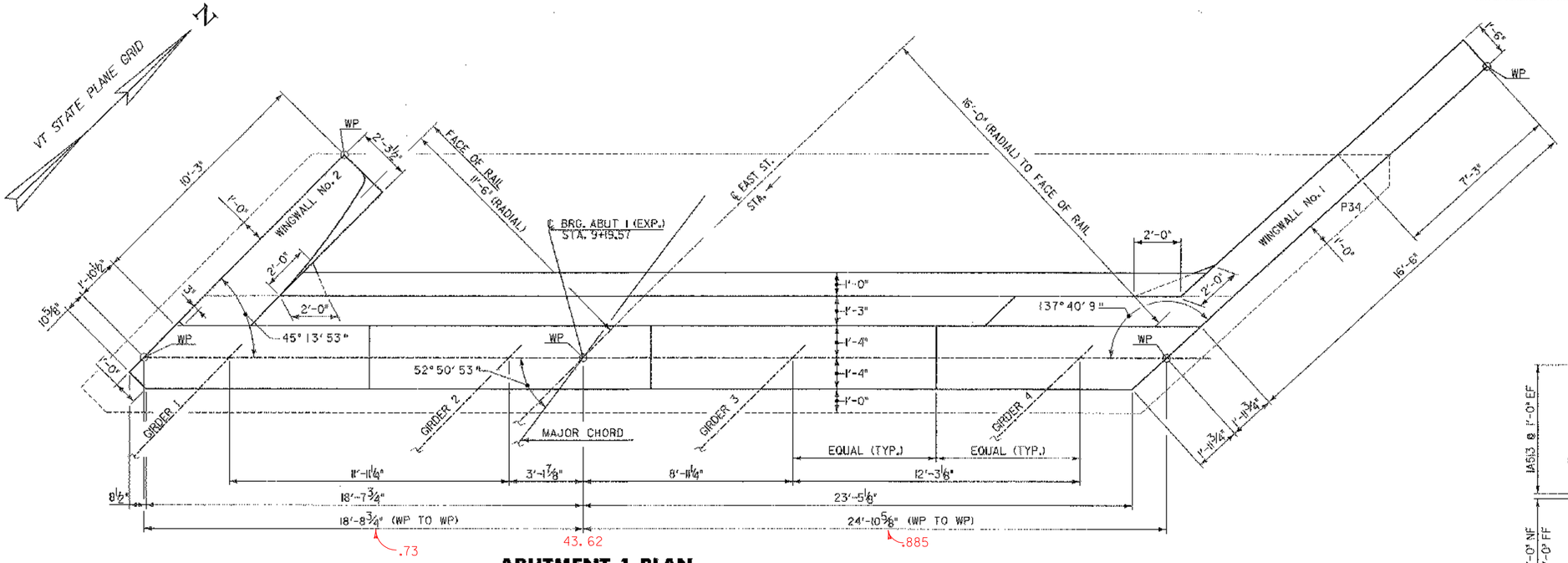
APPROACH SLAB DETAILS

Designed By S. BURBANK	Drawn By S. BURBANK
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn.: ...\Cadd\Trans\z01j302aprslab.dgn Plot Date: 1/30/2006

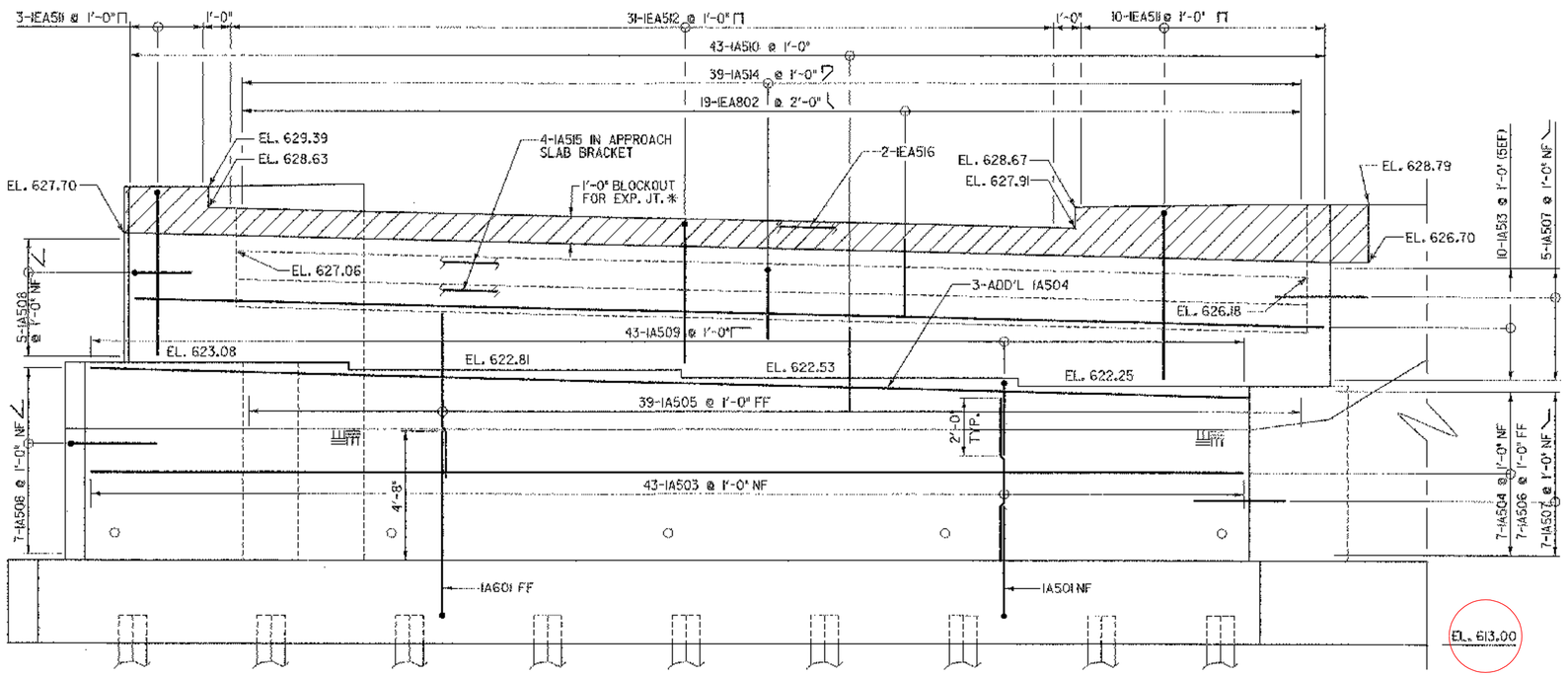
Dufresne-Henry

Bridge Sheet No. Sheet 41 of 63



ABUTMENT 1 PLAN

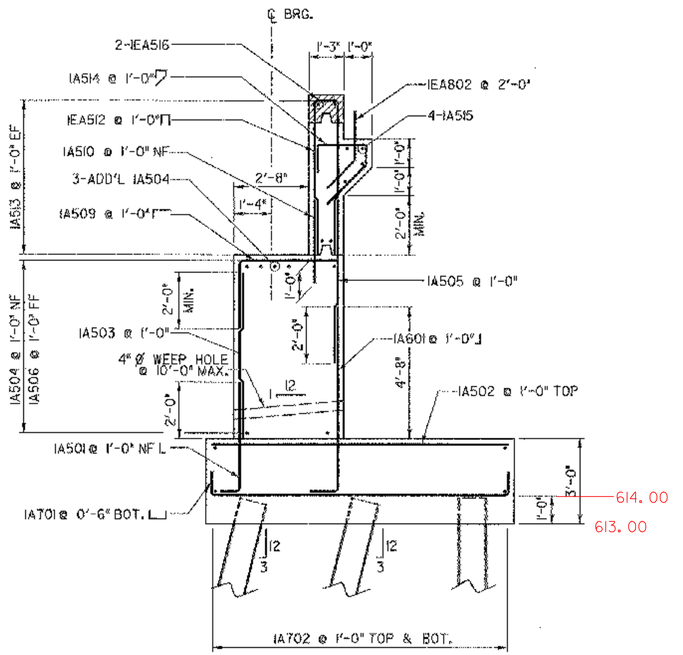
SCALE ⅜" = 1'-0



ABUTMENT 1 ELEVATION

SCALE ⅜" = 1'-0

* CONCRETE FOR EXPANSION JOINT BLOCKOUT TO BE HIGH PERFORMANCE CLASS A.



ABUTMENT NO. 1 TYPICAL SECTION

SCALE ⅜" = 1'-0

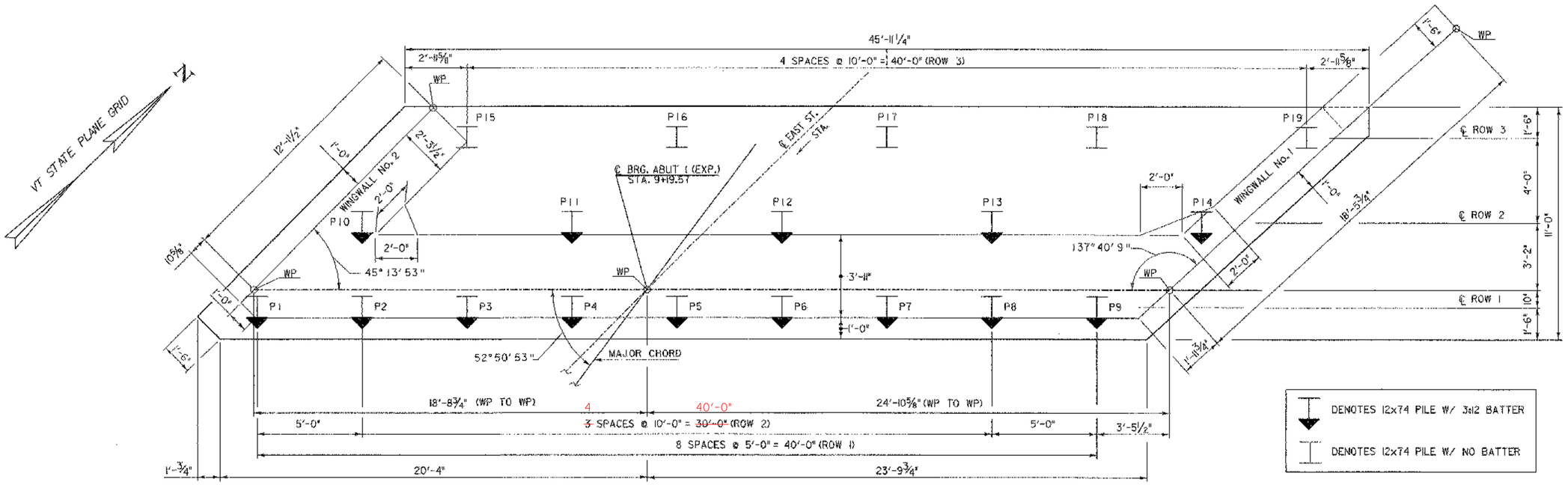
NOTE:

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

DH Dufresne-Henry

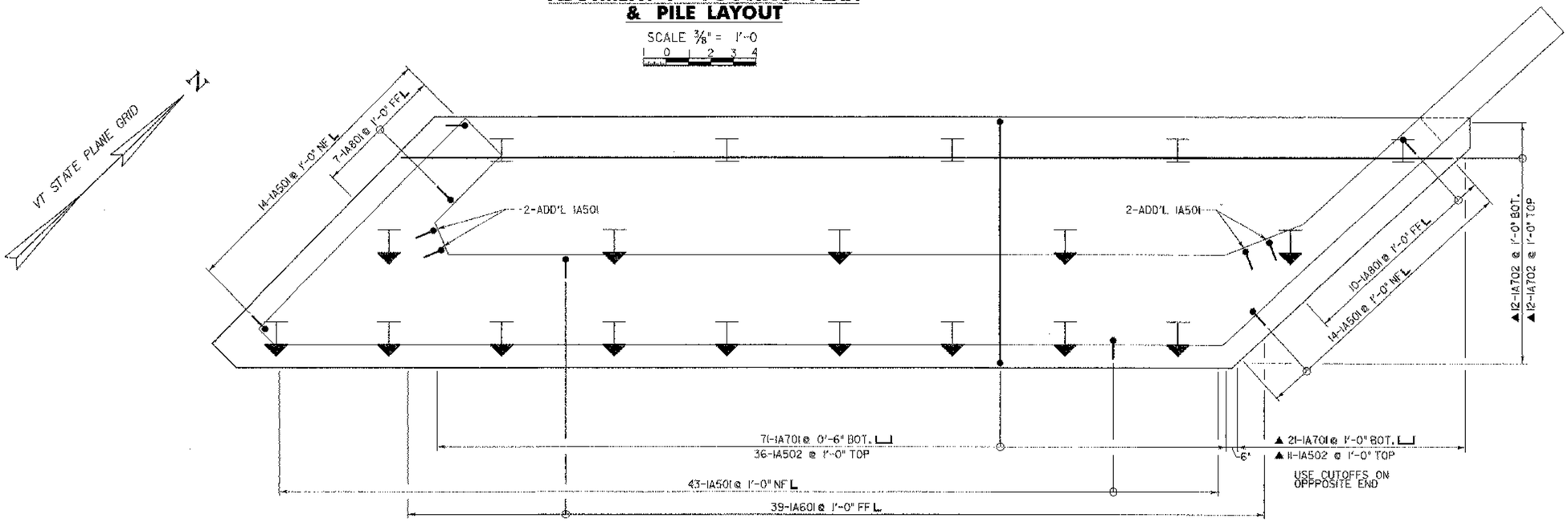
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.
EAST STREET (T.H. #4) OVER HUNTINGTON RIVER	
ABUTMENT NO. 1 PLAN AND ELEVATION	
Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01\302abut1.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 42 of 63



ABUTMENT 1 – FOOTING PLAN & PILE LAYOUT

SCALE 3/8" = 1'-0



▲ DENOTES BAR TO BE CUT IN FIELD

ABUTMENT 1 – FOOTING REINFORCEMENT PLAN

SCALE 3/8" = 1'-0

NOTE:

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

Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

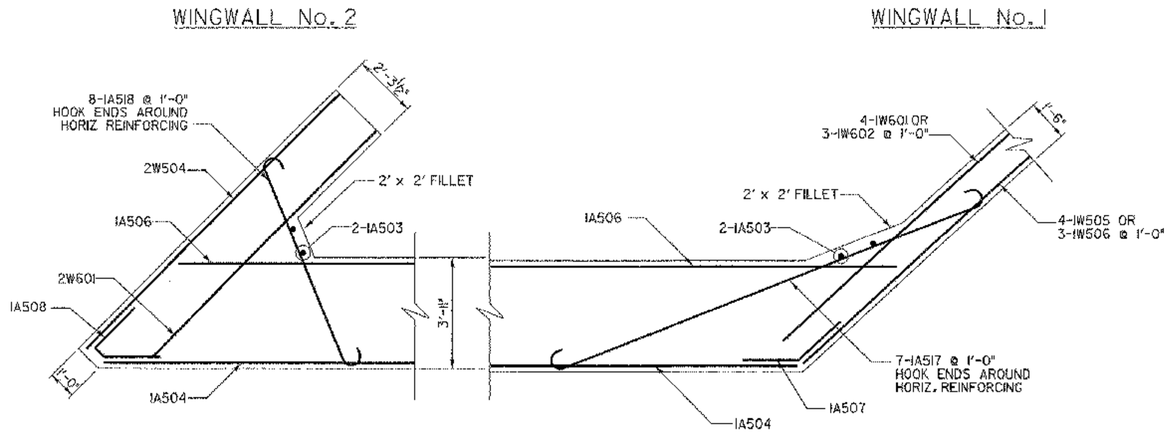
EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

ABUTMENT NO. 1 FOOTING PLAN

Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn: ...\Cadd\Trans\z01302abtftgl.dgn Plot Date: 1/12/2006

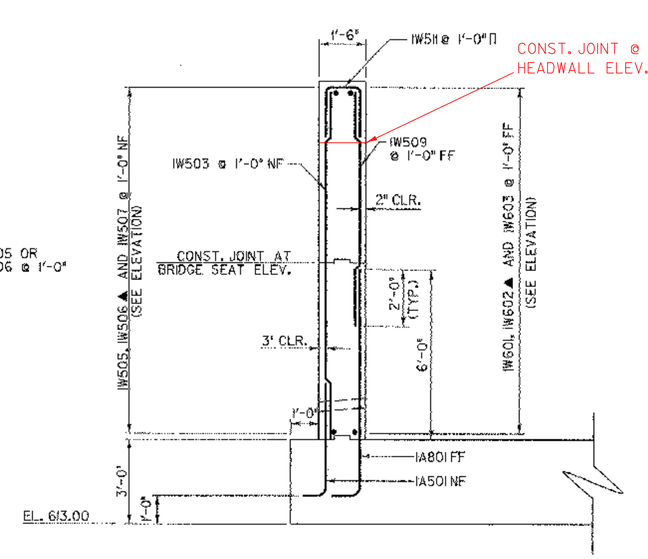
Bridge Sheet No. Sheet 43 of 63



ABUTMENT 1 – CORNER REINFORCEMENT

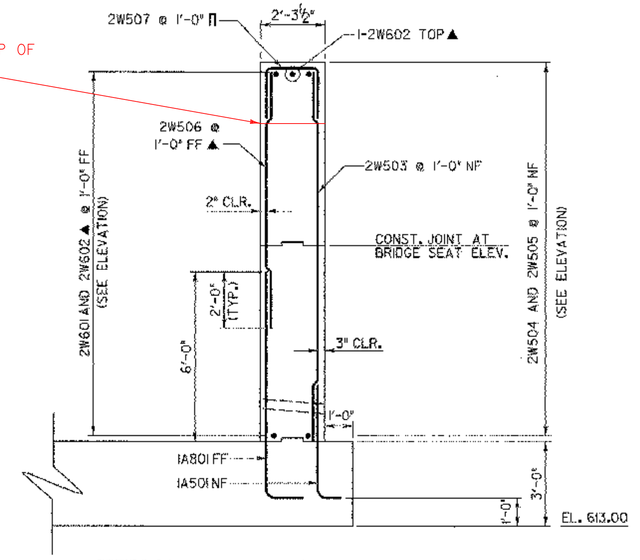
(BELOW BEAM SEAT)

SCALE 3/8" = 1'-0



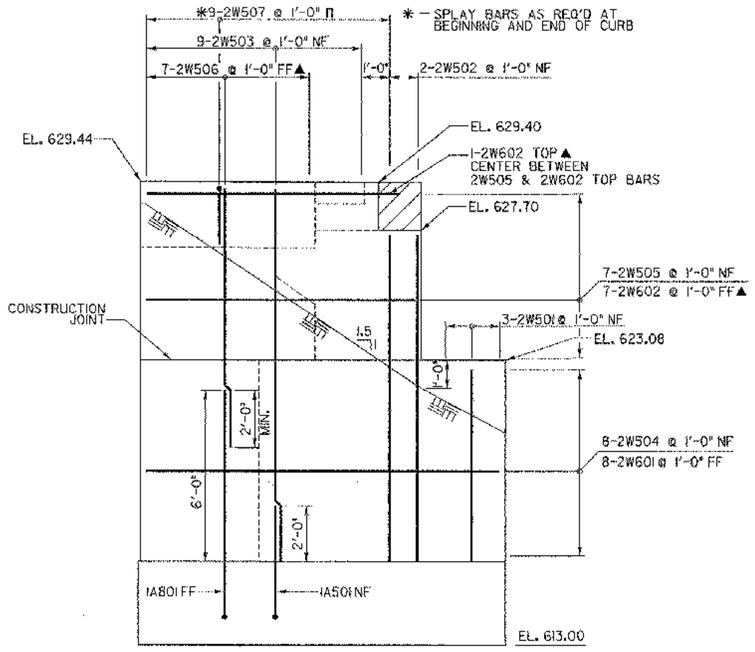
WINGWALL No. 1

SCALE 3/8" = 1'-0



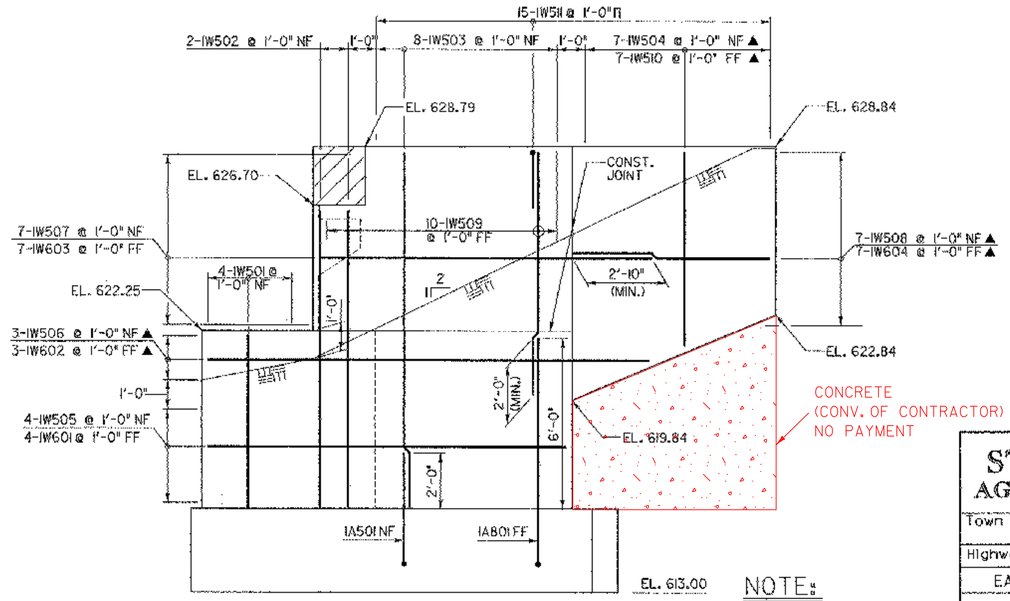
WINGWALL No. 2

SCALE 3/8" = 1'-0



WINGWALL No. 2 ELEVATION

SCALE 3/8" = 1'-0



WINGWALL No. 1 ELEVATION

SCALE 3/8" = 1'-0

NOTE:

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

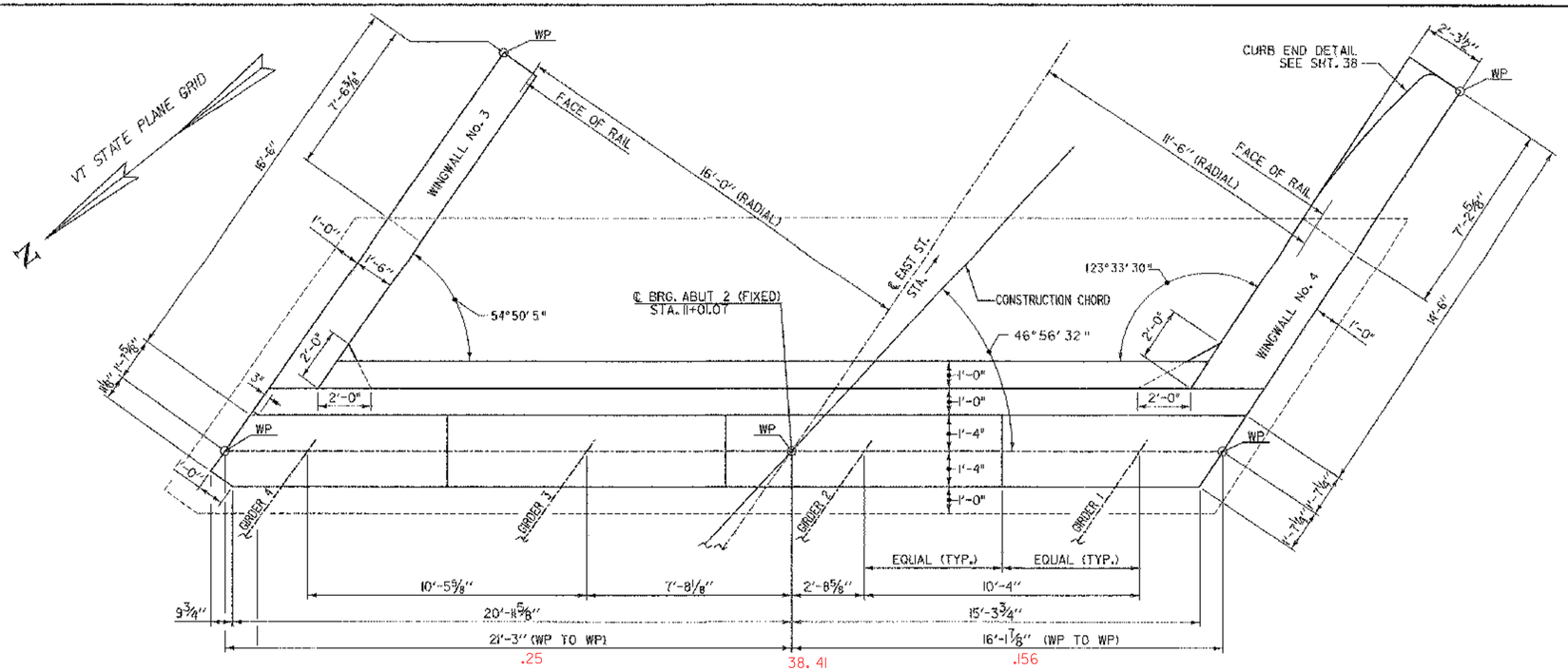
ABUTMENT NO. 1 WINGWALL DETAILS

Designed By T. KNIGHT	Drawn By J. SOTER
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn.: ...\Cadd\Trans\x01j302abutfw.dgn Plot Date: 1/12/2006

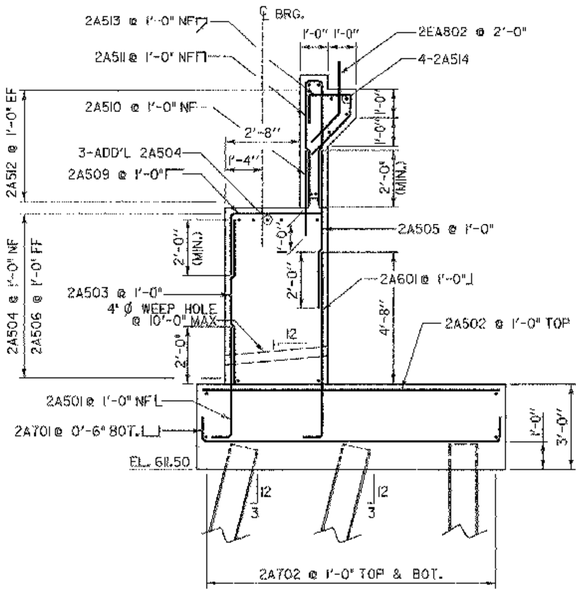
Dufresne-Henry

Bridge Sheet No. Sheet 44 of 63



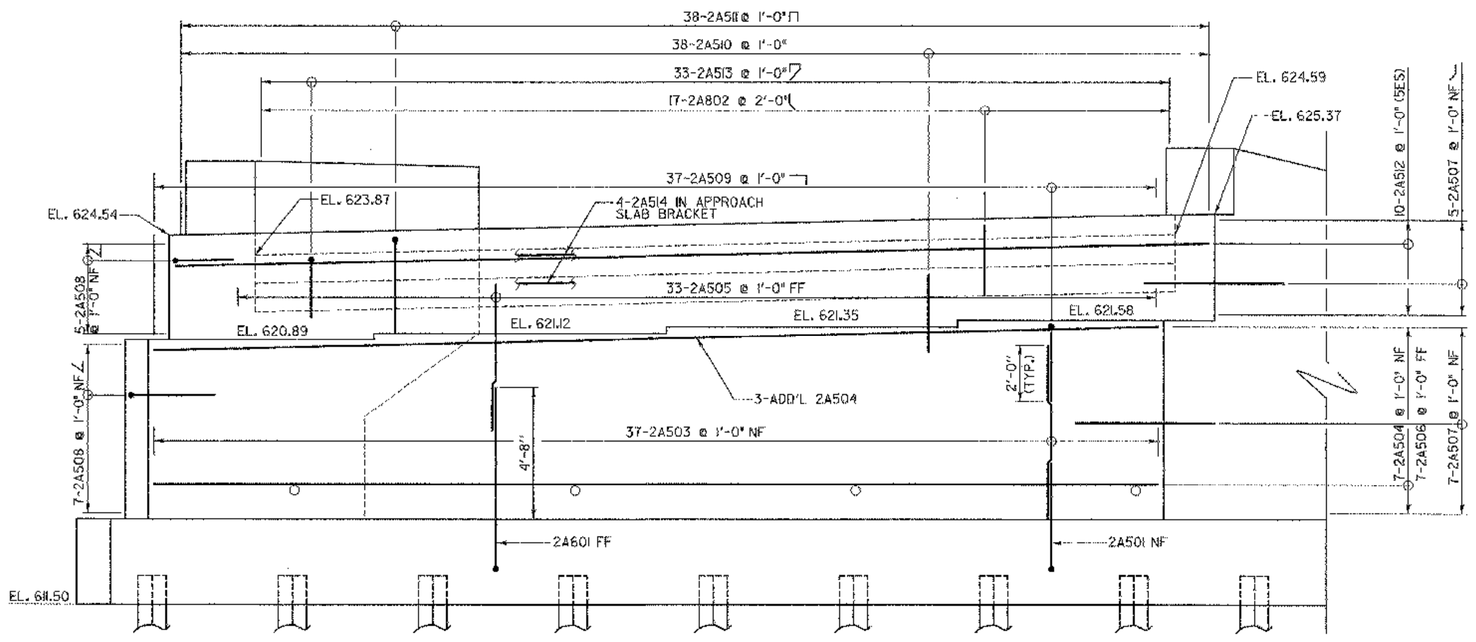
ABUTMENT 2 PLAN

SCALE 3/8" = 1'-0



ABUTMENT NO. 2 TYPICAL SECTION

SCALE 3/8" = 1'-0



ABUTMENT 2 ELEVATION

SCALE 3/8" = 1'-0

NOTE:

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION

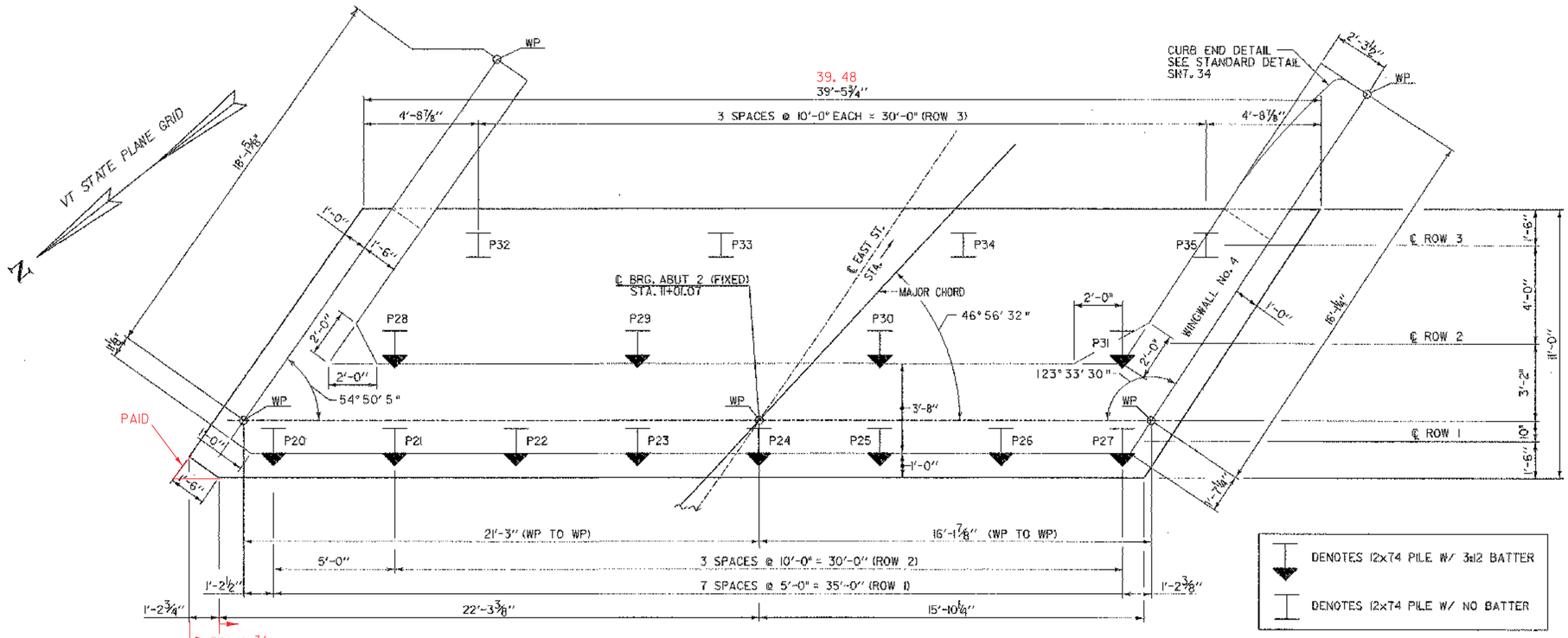
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

ABUTMENT NO. 2 PLAN AND ELEVATION

Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302abut2.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 45 of 63

Dufresne-Henry



ABUTMENT 2 – FOOTING PLAN & PILE LAYOUT

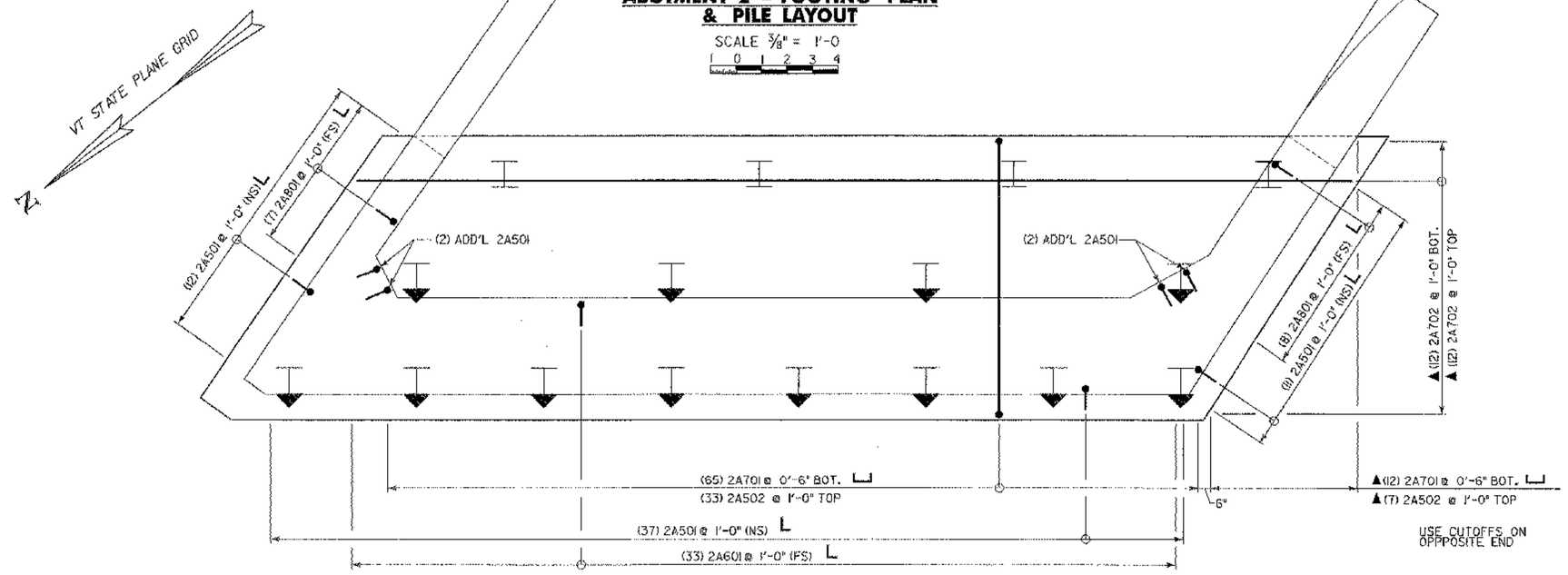
SCALE ⅜" = 1'-0

DENOTES 12x74 PILE W/ 3:12 BATTER

DENOTES 12x74 PILE W/ NO BATTER

	INFO	DRIVEN	
P.34	TEST PILE	10/5	RETEST-
	PAY	CUTOFF @612.5	
P.35		10/5	INCOMPLETE
P.32	48'	10/5	
P.27	46'	10/5	
P.26	46'	10/5	
P.25	50'	10/6	
P.24	46'	10/6	
P.23	46.5'	10/6	
P.22	47'	10/6	
P.33	48'	10/5	
P.21	50'	10/9	
P.20	46'	10/9	
P.35	86'	10/10	
P.28	51'	10/9	
P.29	49'	10/10	
P.30	52'	10/10	
P.31	48'	10/10	
760 TOTAL			

ADD'L PILE LENGTH DUE TO OVER EXCAVATION BY THE CONTRACTOR. EXCAVATION USED TO DETERMINE PILE LENGTH, VS TRANSIT GRADE USED TO DETERMINE CUT OFF LOCATION.



ABUTMENT 2 – FOOTING REINFORCEMENT PLAN

SCALE ⅜" = 1'-0

▲ DENOTES BAR TO BE CUT IN FIELD

DETAIL OF TYPICAL PILE SPLICE

NOT TO SCALE

NOTE:

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

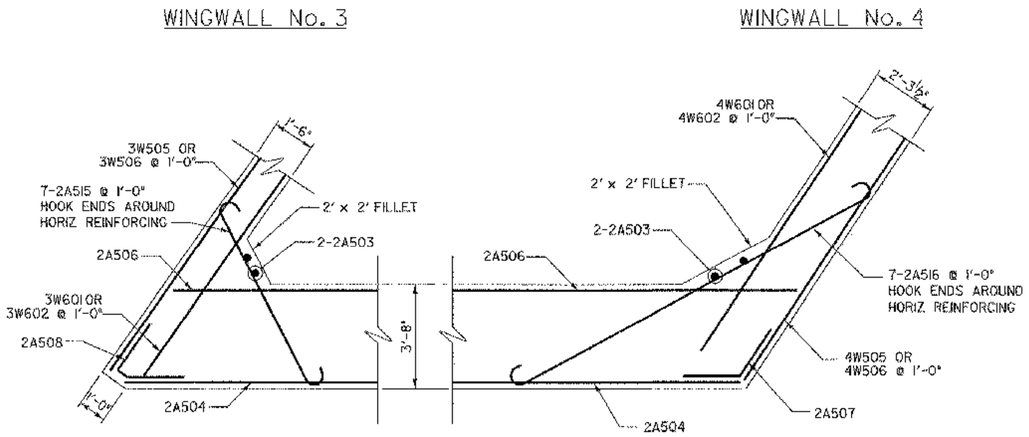
ABUTMENT NO. 2 FOOTING PLAN

Designed By T. KNIGHT	Drawn By T. KNIGHT
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dgn.: ...\Cadd\Trans\z0lj302abtftg2.dgn Plot Date: 1/12/2006

Dufresne-Henry

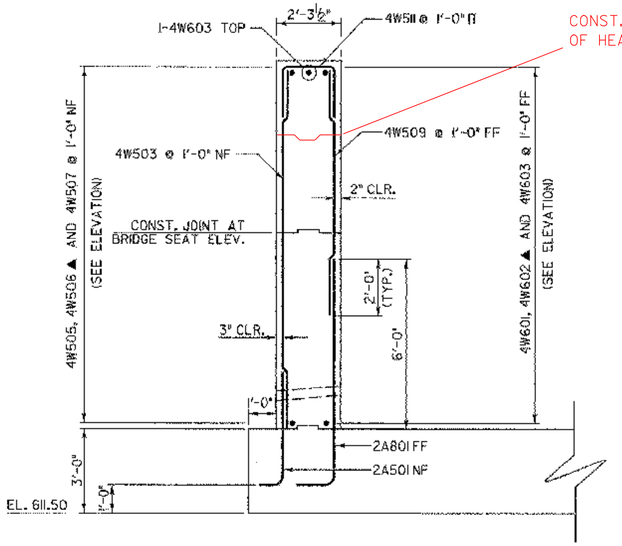
Bridge Sheet No. Sheet 46 of 63



ABUTMENT 2 – CORNER REINFORCEMENT

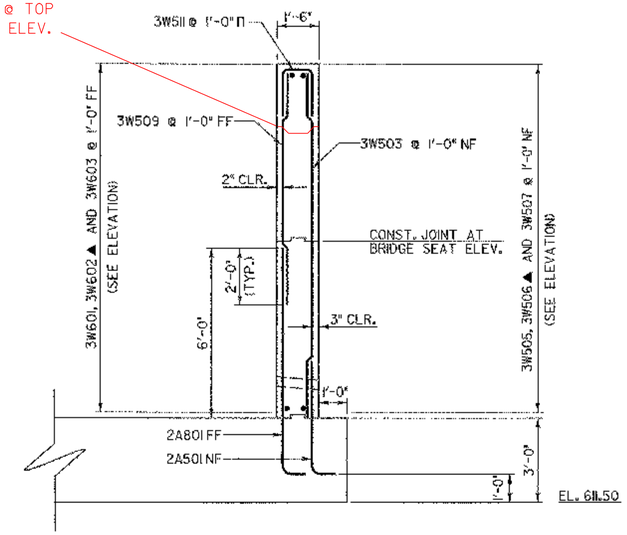
(BELOW BEAM SEAT)

SCALE ⅜" = 1'-0



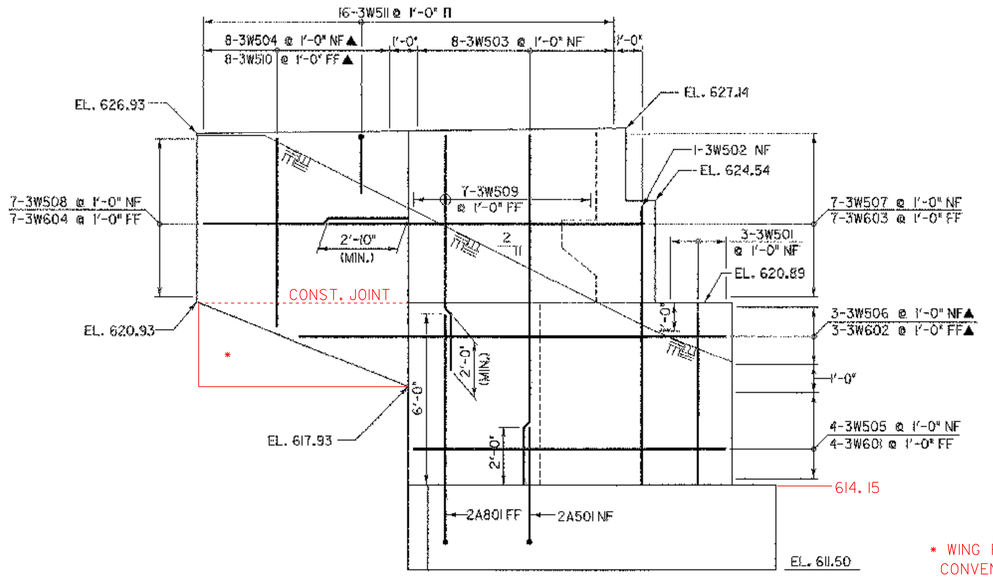
WINGWALL No. 4

SCALE ⅜" = 1'-0



WINGWALL No. 3

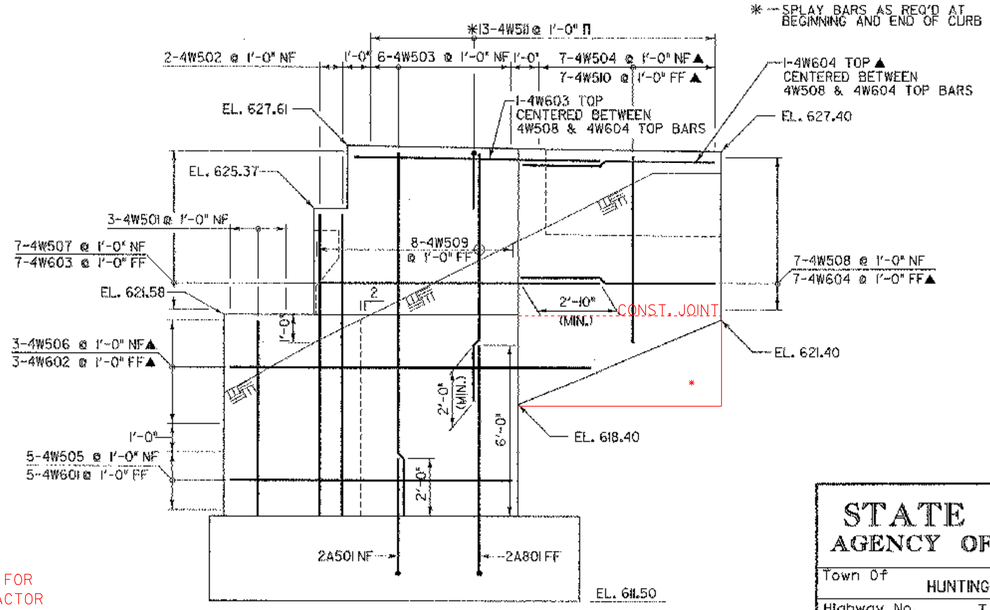
SCALE ⅜" = 1'-0



* WING FILLET EXCLUDED FOR CONVENIENCE OF CONTRACTOR

WINGWALL No. 3 ELEVATION

SCALE ⅜" = 1'-0



WINGWALL No. 4 ELEVATION

SCALE ⅜" = 1'-0

NOTE:

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

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

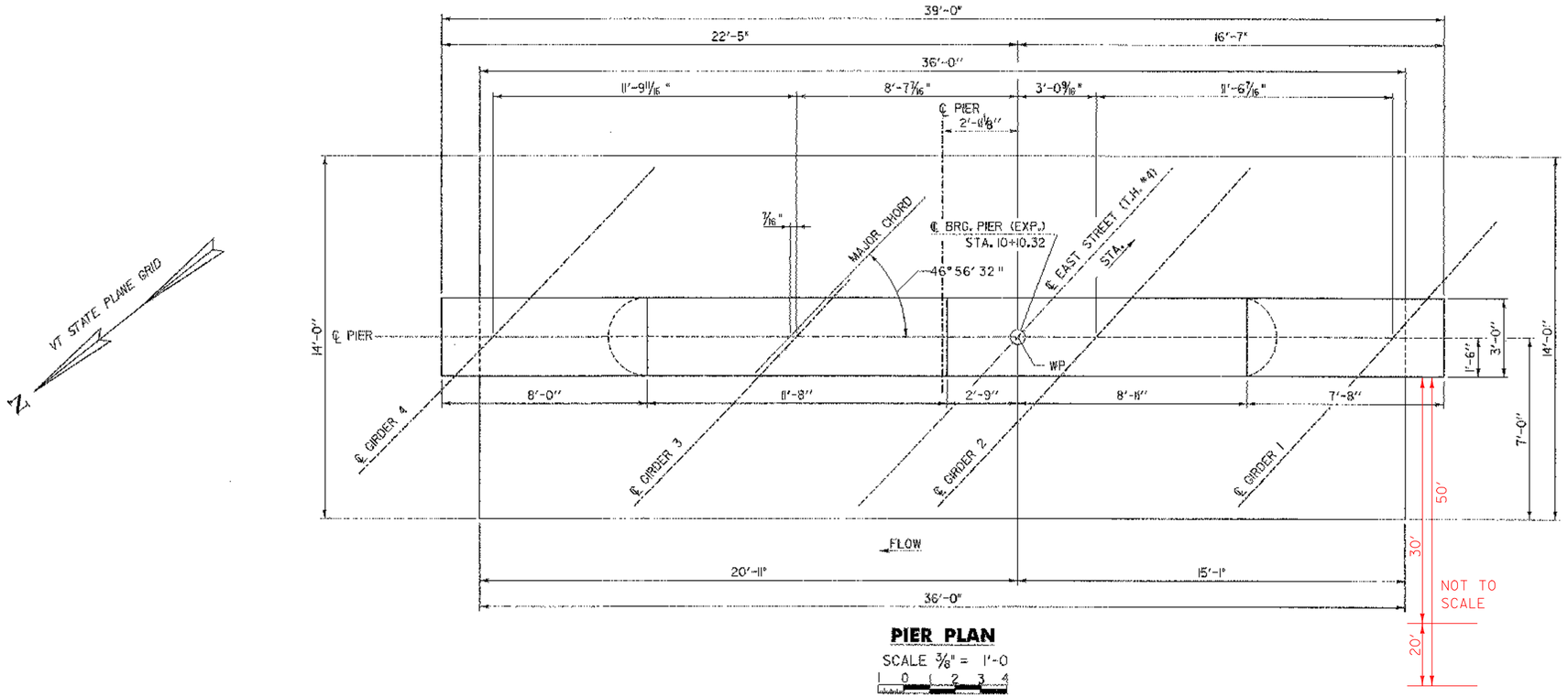
ABUTMENT NO. 2 WINGWALL DETAILS

Designed By T. KNIGHT	Drawn By J. SOTER
Checked By S. BURBANK Date 06/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)

DH Dufresne-Henry

DH Dgn.: ...\Cadd\Trans\z01j302abut2w.dgn Plot Date: 1/30/2006

Bridge Sheet No. Sheet 47 of 63

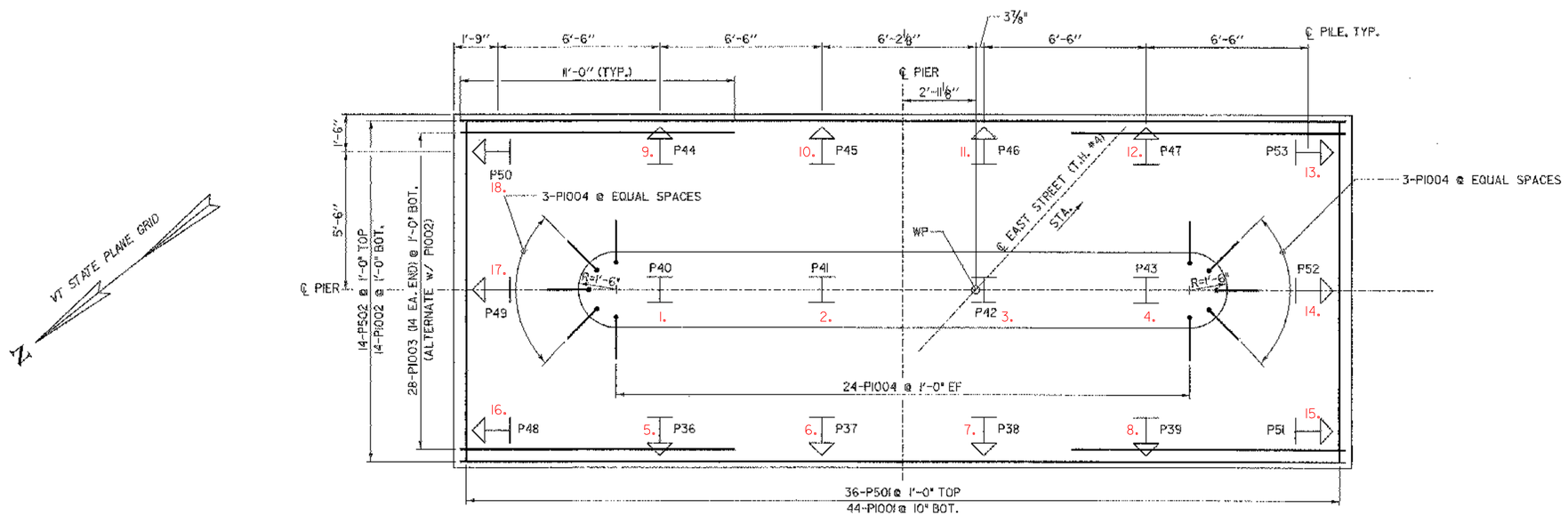


PIER PLAN

SCALE 3/8" = 1'-0

	COL#	PD. FT.	ACTUAL DRIVEN
1.	P. 40	TEST PILE	77'
2.	P. 41	75'	74.6'
3.	P. 42	76'	75.9'
4.	P. 43	78'	77.5'
5.	P. 36	78'	77.8'
6.	P. 37	76'	75.7'
7.	P. 38	76'	76.2'
8.	P. 39	76'	76.4'
9.	P. 44	78'	78.2'
10.	P. 45	78'	78.2'
11.	P. 46	80'	79.9'
12.	P. 47	79'	78.5'
13.	P. 53	77'	77.15'
14.	P. 52	77'	76.85'
15.	P. 51	76'	75.65'
16.	P. 58	81'	81.1'
17.	P. 49	80'	80.0'
18.	P. 50	80'	79.6'

1321 TOTAL PAID
PILE DRIVEN TO REFUSAL
AVERAGE DEPTH TO LEDGE FROM 600.0' IS 77.66''



FOOTING REINFORCING PLAN & PILE LAYOUT

SCALE 3/8" = 1'-0

DENOTES 12x74 PILE W/ 2:12 BATTER

DENOTES 12x74 PILE W/ NO BATTER

NOTE:

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

Dufresne-Henry

STATE OF VERMONT
AGENCY OF TRANSPORTATION

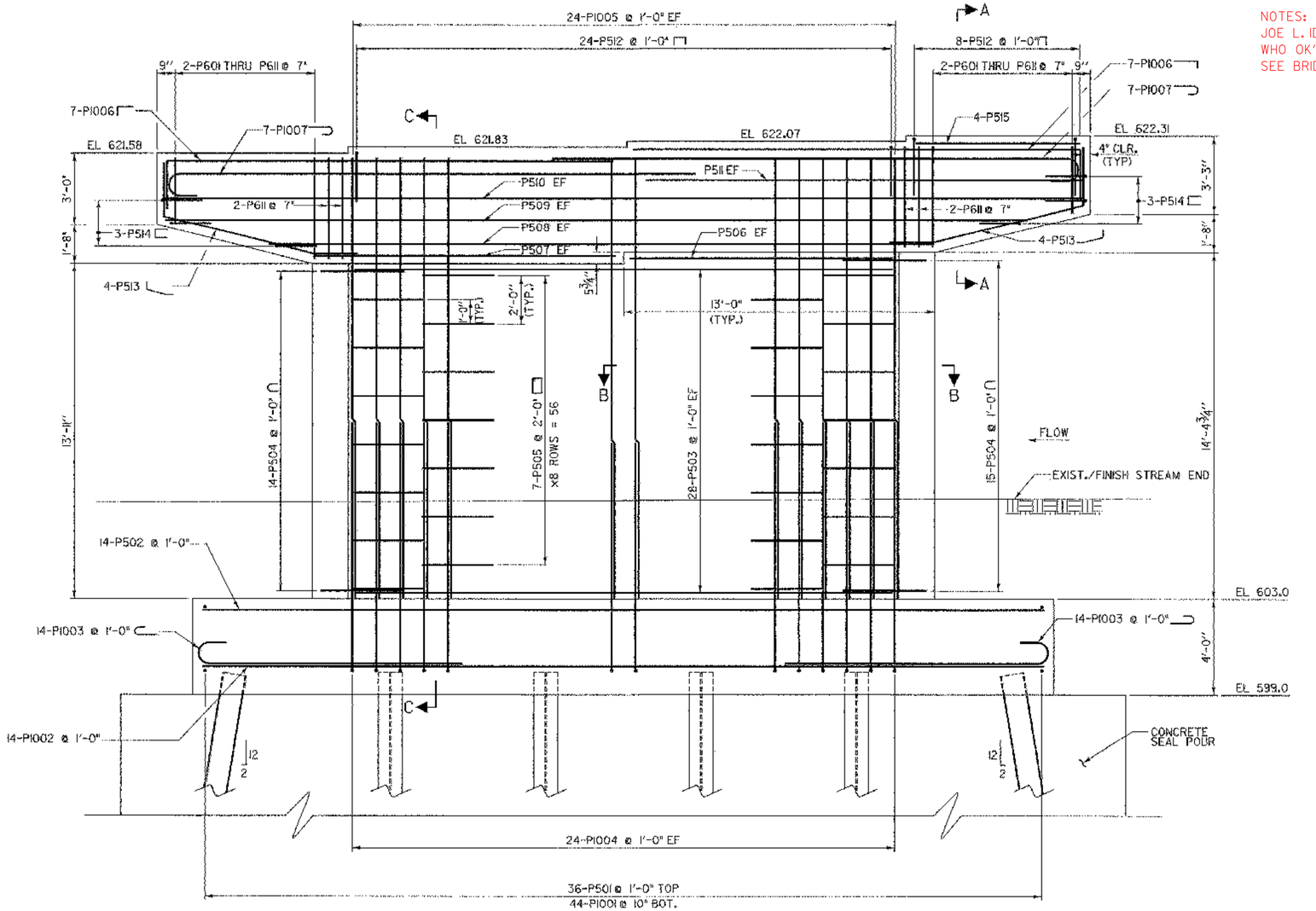
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

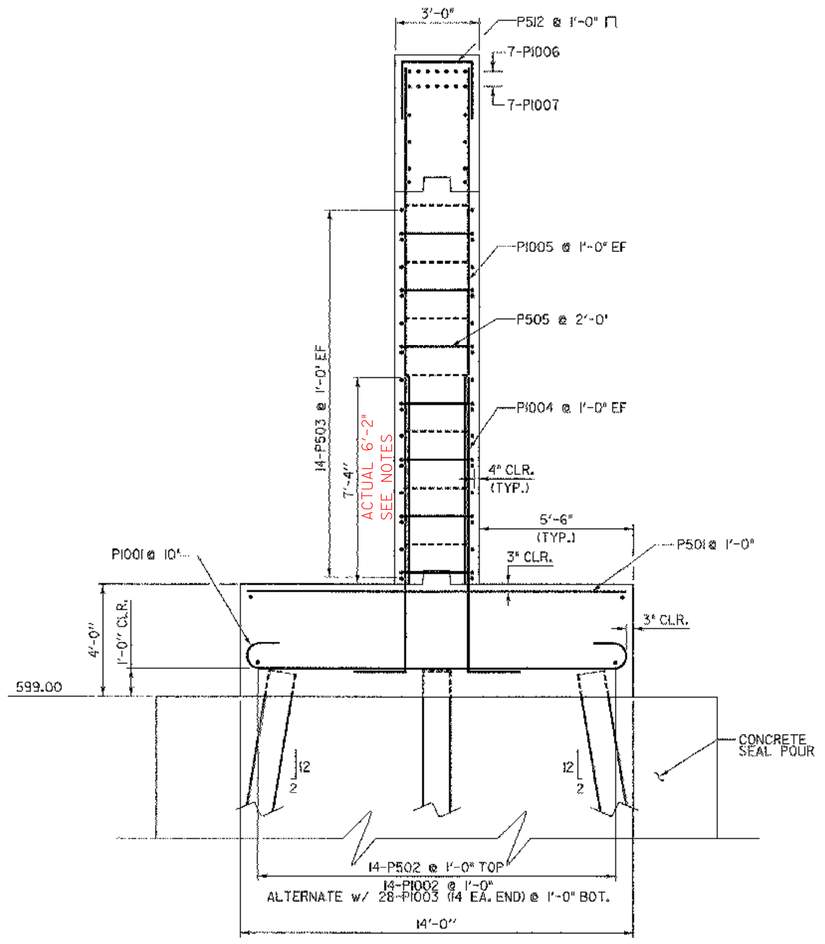
PIER DETAILS 1

Designed By M. CHENETTE	Drawn By J. SOTER
Checked By G. BOGUE — Date 08/05	Bridge Design Supervisor M. CHENETTE — Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302pier1.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 48 of 63

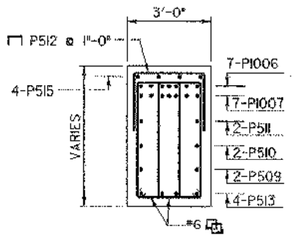
NOTES:
JOE L. IDENTIFIED DISCREPANCY, CALLED MICKE CHEVETTE,
WHO OK'D STARTER LENGTH DUE TO CLOSE DOWEL SPACING.
SEE BRIDGE CORRESPONDANCE FILE.



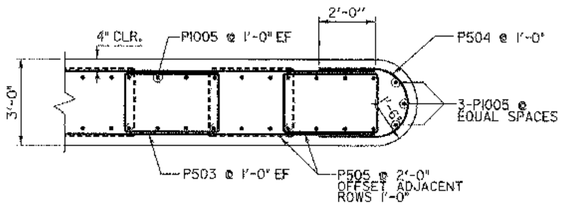
ELEVATION
SCALE ⅜" = 1'-0



SECTION C-C
SCALE ⅜" = 1'-0



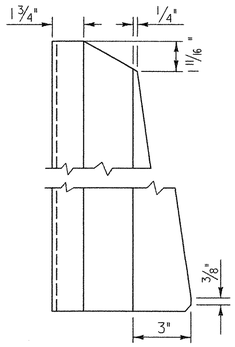
SECTION A-A
SCALE ⅜" = 1'-0



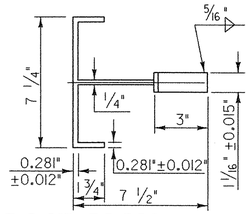
SECTION B-B
SCALE ⅜" = 1'-0

STATE OF VERMONT AGENCY OF TRANSPORTATION	
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. Surv. Sta.
EAST STREET (T.H. #4) OVER HUNTINGTON RIVER	
PIER DETAILS 2	
Designed By M. CHENETTE	Drawn By J. SOTER
Checked By G. BOGUE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\201\302pier2.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 49 of 63

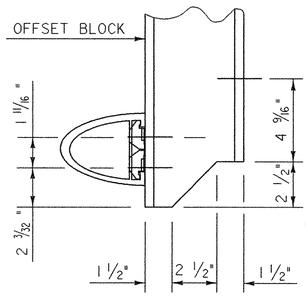
Dufresne-Henry



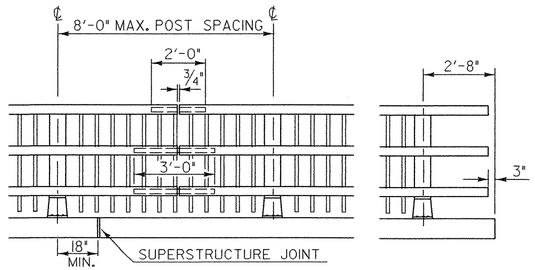
POST SIDE VIEW



POST PLAN VIEW



COPING DETAIL



FRONT ELEVATION OF THREE RAIL WITH SPINDLES

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

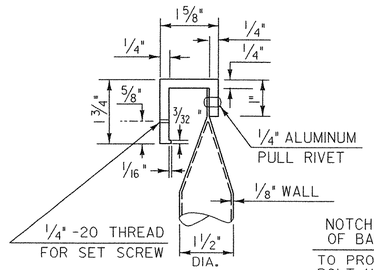
THIS REFLECTORIZED ALUMINUM DELINEATOR IS TO BE ERECTED EVERY 30 FEET (OR CLOSEST POST) WITH 2 NO. 8 X 3/4" SELF-TAPPING SCREWS.

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

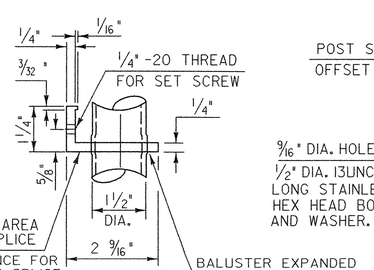
REFLECTIVE MATERIAL SHALL MEET THE REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.

ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH RAIL ON THE CURB SIDE)

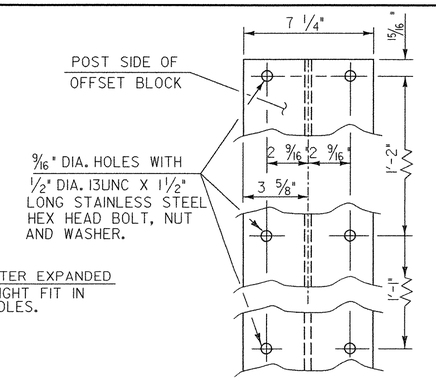
PAYMENT SHALL BE INCIDENTAL TO ALL OTHER ITEMS.



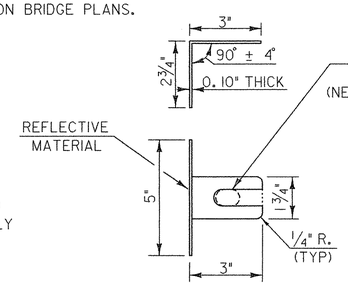
DETAIL A

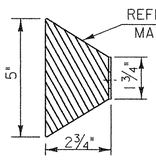


DETAIL B



OFFSET BLOCK CONNECTION



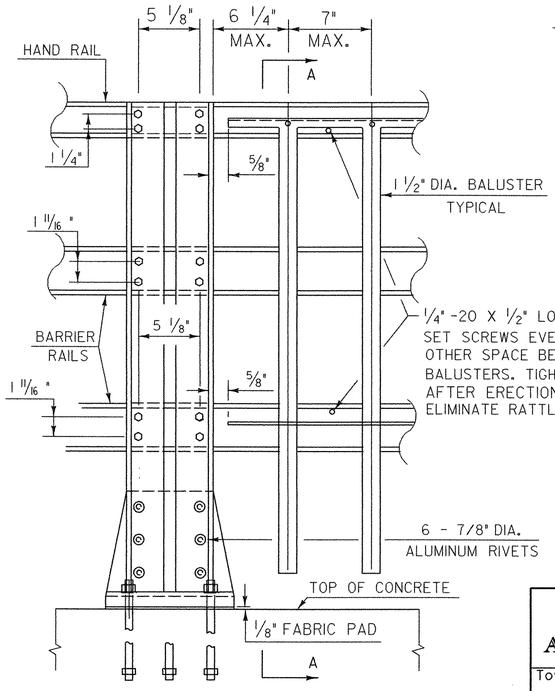


REFLECTOR DETAILS

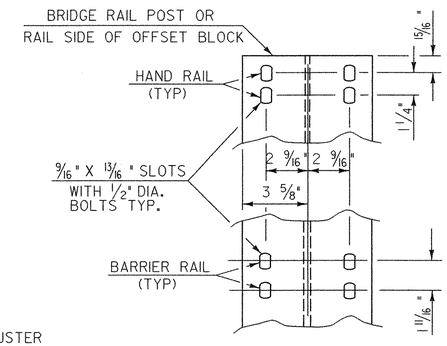
ALLOWABLE STRESSES:

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

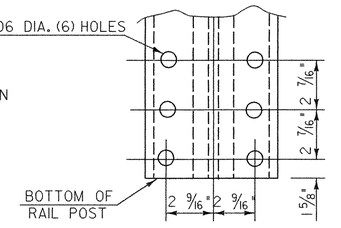
POSTS : 17,000 PSI TENSION
19,000 PSI COMPRESSION



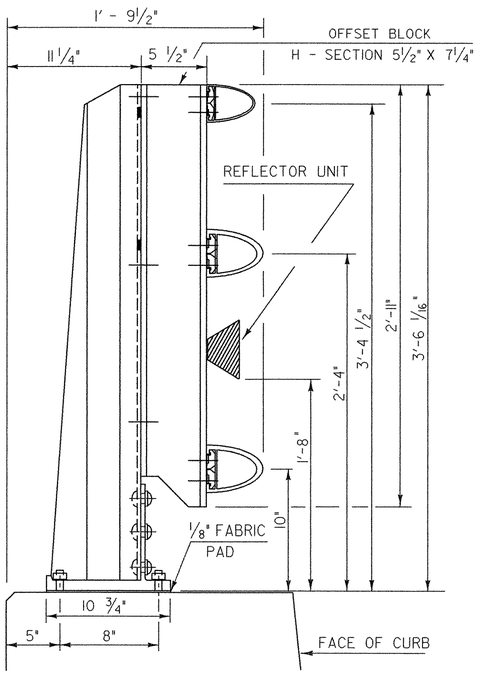
OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES



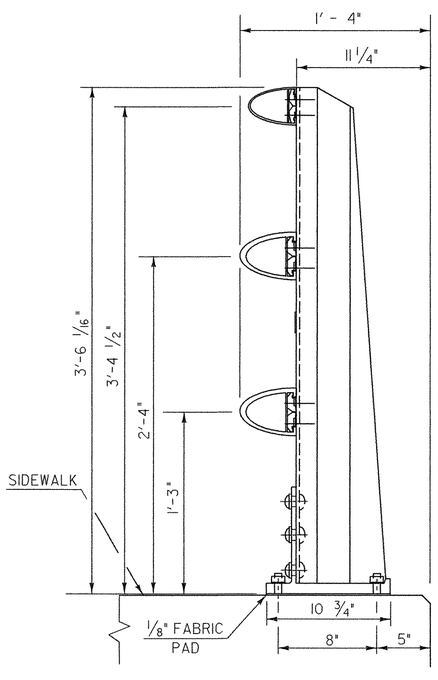
RAIL CONNECTION



POST BASE BOLT HOLE DETAILS

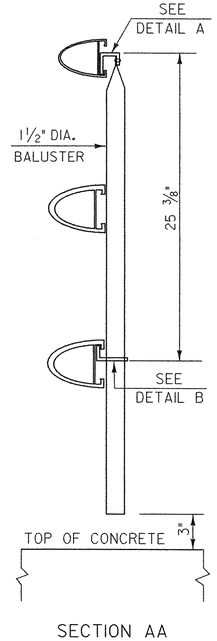


SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE



SIDE ELEVATION OF THREE RAIL TO BE USED ON CURB SIDE

RAIL POST DETAILS ON SUPERSTRUCTURE



SECTION AA

DETAILS OF SPINDLES FOR ALUMINUM RAILING

STATE OF VERMONT
AGENCY OF TRANSPORTATION

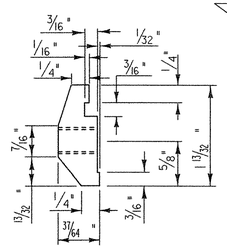
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

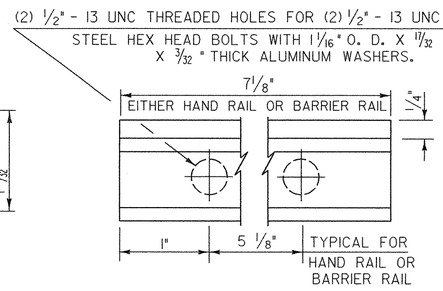
ALUMINUM BRIDGE RAIL DETAILS

Designed By VTrans	Drawn By VTrans
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302airail.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 50 of 63

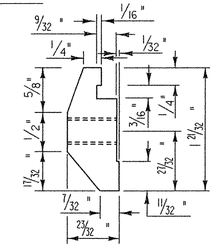
Dufresne-Henry



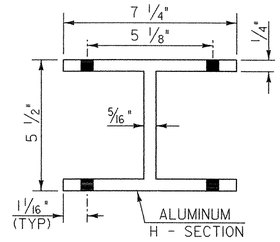
POST CONNECTION HANDRAIL SECTION



POST CONNECTION ELEVATION

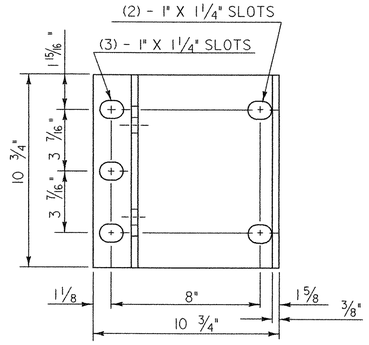


POST CONNECTION BARRIER RAIL SECTION

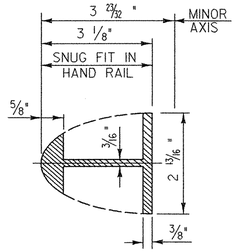


PLAN VIEW OF OFFSET BLOCK

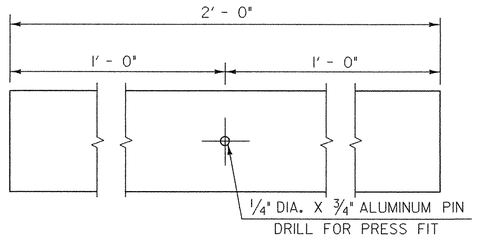
(TO BE USED ON SUPERSTRUCTURE ON CURB SIDE)



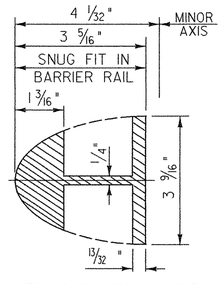
POST BASE PLAN



HAND RAIL SPLICE SECTION

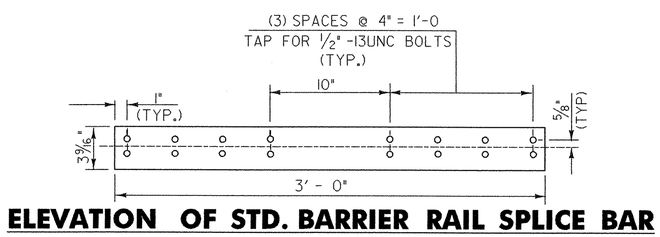


ELEVATION OF HANDRAIL SPLICE BAR



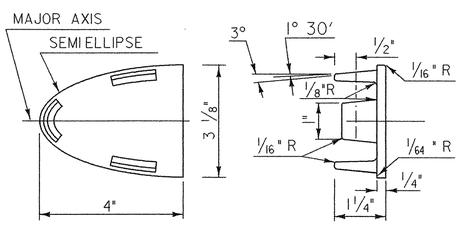
BARRIER RAIL SPLICE SECTION

(SEE SHEET xx FOR ELEVATION OF BARRIER RAIL SPLICE BAR)

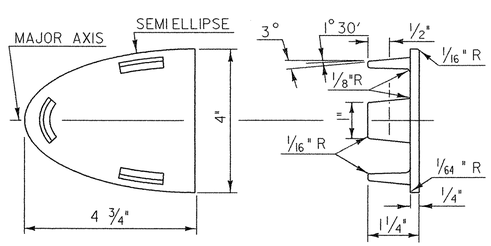


ELEVATION OF STD. BARRIER RAIL SPLICE BAR

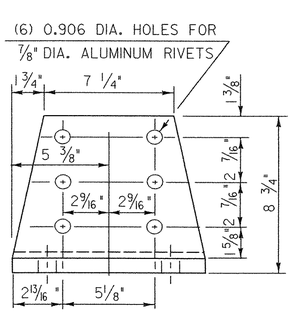
(FROM BACK)



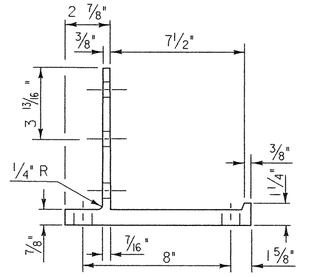
HANDRAIL END CAP



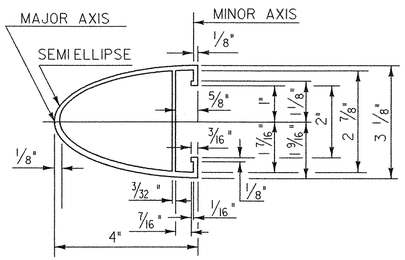
BARRIER RAIL END CAP



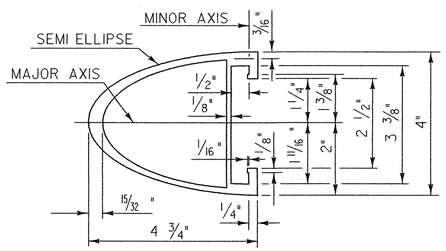
POST BASE FRONT ELEVATION



POST BASE SECTION

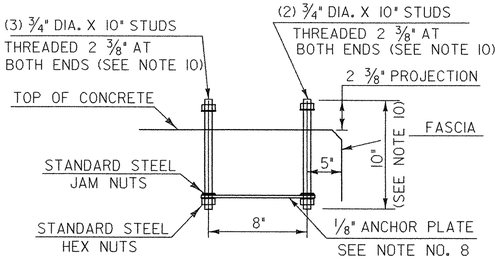


HANDRAIL SECTION

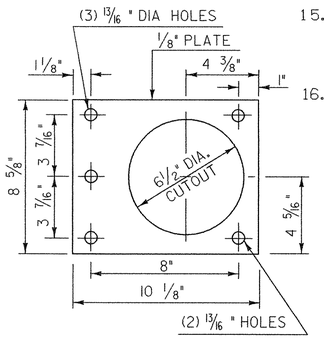


BARRIER RAIL SECTION

(SEE SHEET xx FOR ELEVATION OF BARRIER RAIL)



POST ANCHOR ASSEMBLY



ANCHOR PLATE

NOTES

1. ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING:
   - A. ASTM A449 GALVANIZED, OR
   - B. AASHTO M164 (ASTM A325) GALVANIZED
   - C. BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8NA.
2. ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS F_y = 35,000 PSI.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
5. THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL BE EITHER ASTM A193 OR ASTM A320. EITHER ONE SHALL BE CLASS 1, B8 GRADE AISI 304 WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI. NUTS FOR EITHER OF THE ABOVE BOLTS SHALL BE ASTM A194, GRADE 8, STAINLESS STEEL WITH AN ULTIMATE TENSILE STRENGTH OF 75,000 PSI.
6. SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL BE ASTM F880, TYPE 303 MATERIAL.
7. RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
8. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
9. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
10. UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
11. WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40' ±) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
12. ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
13. THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
14. SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02, SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-0.
15. EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-AGC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
16. ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ACLAD 2024-T4.

STATE OF VERMONT
AGENCY OF TRANSPORTATION

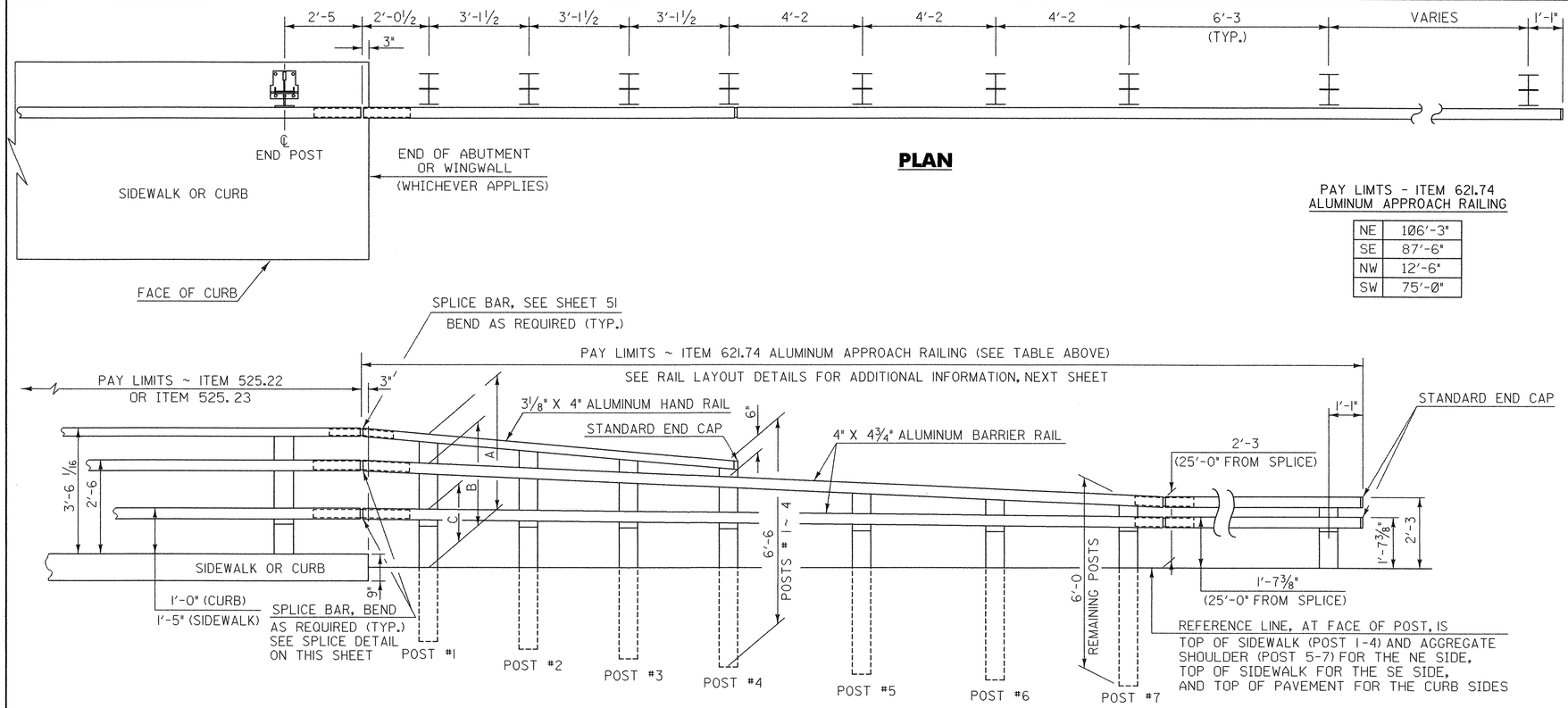
Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

ALUMINUM BRIDGE RAIL DETAILS

Designed By VTrans	Drawn By VTrans
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302alrail.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 51 of 63

DH Dufresne-Henry



PLAN

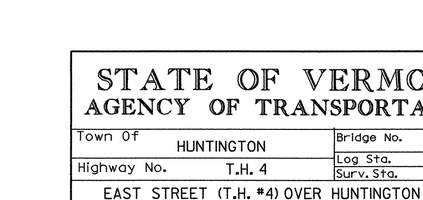
PAY LIMTS - ITEM 621.74
ALUMINUM APPROACH RAILING

NE	106'-3"
SE	87'-6"
NW	12'-6"
SW	75'-0"

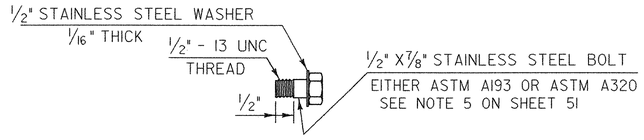
NOTES

1. ALL POSTS SHALL BE EXTRUDED ALUMINUM.
2. ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 36 GALVANIZED AFTER FABRICATION.
3. ALL ITEMS NOT OTHERWISE INDICATED SHALL MEET THE SPECIFICATION REQUIREMENTS OF THE STANDARD SHEETS ON WHICH THEY ARE DETAILED.
4. SEE SHEETS 50 AND 51 FOR ALUMINUM BRIDGE RAILING DETAILS.
5. THE COST OF ALL MATERIALS AND LABOR FOR THE SPLICE BETWEEN THE ALUMINUM APPROACH RAILING AND THE STEEL BEAM GUARD RAIL SHALL BE INCIDENTAL TO ITEM 621.74, ALUMINUM APPROACH RAILING.
6. DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING.
7. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.

ELEVATION

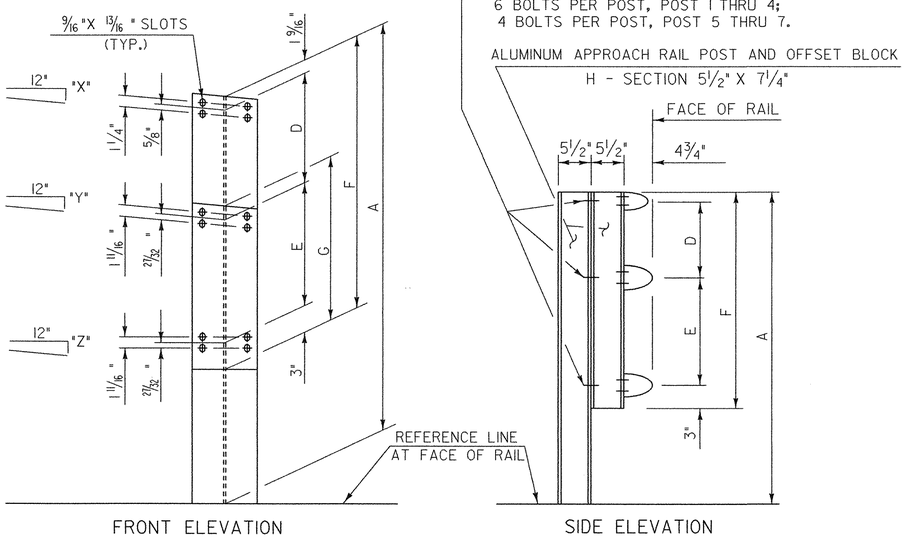


PLAN

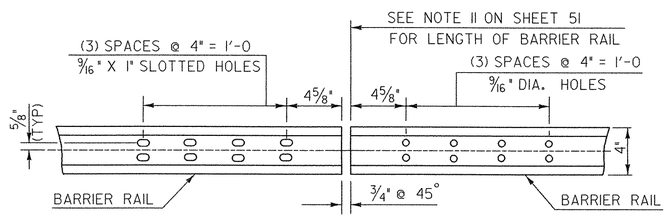


STAINLESS STEEL BOLT DETAILS

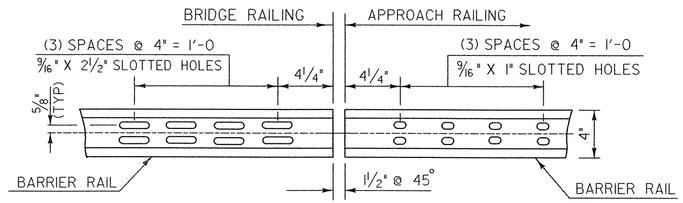
SEE NEXT SHEET FOR DIMENSIONS NOT SHOWN



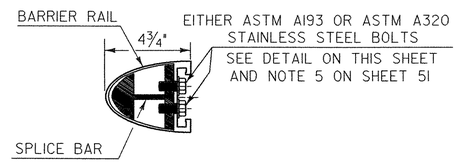
APPROACH RAIL DETAILS



ELEVATION OF BARRIER RAIL (FROM BACK) AT ALL INTERMEDIATE RAIL SPLICES



ELEVATION OF BARRIER RAIL (FROM BACK)



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

ALUMINUM APPROACH RAILING DETAILS

Designed By VTrans/D-H	Drawn By VTrans/D-H
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z0lj302alrail.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 52 of 63

Dufresne-Henry

NE ALUMINUM RAIL DIMENSIONS

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	3'-4"	2'-5 1/16"	1'-4 1/2"	11 7/16"	1'-0 9/16"	2'-4 9/16"	
2	3'-0 15/16"	2'-3 5/8"	1'-3 3/4"	9 3/4"	11 7/8"	2'-2 3/16"	
3	2'-9 3/4"	2'-2 1/8"	1'-2 7/8"	8 1/8"	11 5/16"	1'-11 7/8"	
4	2'-9 7/16"	2'-3 7/16"	1'-4 15/16"	6 7/16"	10 9/16"	1'-9 9/16"	
5		2'-5 9/16"	1'-7 15/16"		9 5/8"		1'-2 5/8"
6		2'-4 9/16"	1'-7 13/16"		8 3/4"		1'-1 3/4"
7		2'-3 11/16"	1'-7 13/16"		7 7/8"		1'-0 7/8"

ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

SE ALUMINUM RAIL DIMENSIONS

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	3'-4 13/16"	2'-5 13/16"	1'-5 1/4"	11 7/16"	1'-0 9/16"	2'-4 9/16"	
2	3'-3 1/8"	2'-5 13/16"	1'-5 15/16"	9 3/4"	11 7/8"	2'-2 3/16"	
3	3'-1 1/2"	2'-5 13/16"	1'-6 5/8"	8 1/8"	11 5/16"	1'-11 7/8"	
4	2'-11 11/16"	2'-5 1/16"	1'-7 1/8"	6 7/16"	10 9/16"	1'-9 9/16"	
5		2'-4 13/16"	1'-7 3/16"		9 5/8"		1'-2 5/8"
6		2'-4 1/16"	1'-7 5/16"		8 3/4"		1'-1 3/4"
7		2'-3 5/16"	1'-7 1/16"		7 7/8"		1'-0 7/8"

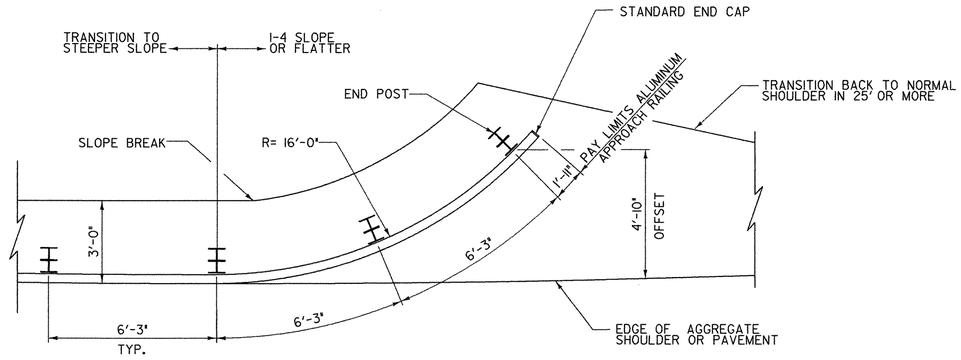
ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

SW ALUMINUM RAIL DIMENSIONS

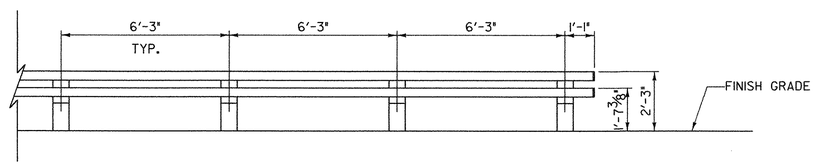
POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	4'-0 3/4"	3'-11 13/16"	1'-8 5/8"	11 7/16"	1'-5 1/8"	2'-9 1/8"	
2	3'-9 5/16"	3'-0"	1'-8 1/8"	9 3/4"	1'-3 7/8"	2'-6 3/16"	
3	3'-5 7/8"	2'-10 3/16"	1'-7 5/8"	8 1/8"	1'-2 9/16"	2'-3 1/4"	
4	3'-2 5/8"	2'-8 5/8"	1'-7 3/8"	6 7/16"	1'-1 1/4"	2'-0 1/4"	
5		2'-6 7/8"	1'-7 5/16"		11 1/2"		1'-4 1/2"
6		2'-5 1/8"	1'-7 5/16"		9 13/16"		1'-2 13/16"
7		2'-3 3/8"	1'-7 5/16"		8 1/16"		1'-1 1/16"

ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

	NE SIDE	SE SIDE	NW SIDE	SW SIDE
"X"	1 3/16"	1 5/16"	1 5/16"	1 1/4"
"Y"	5/8"	3/8"	3/4"	5/8"
"Z"	7/16"	3/16"	3/8"	1/4"



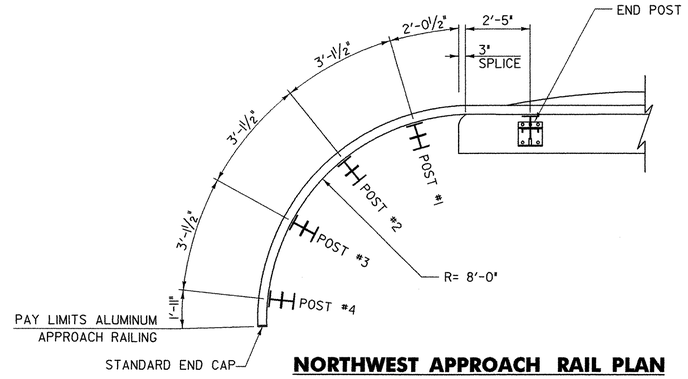
PLAN



ELEVATION

ALUMINUM APPROACH RAILING END DETAIL

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



NORTHWEST APPROACH RAIL PLAN

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

NW ALUMINUM RAIL DIMENSIONS

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
1	4'-1 3/16"	3'-2 3/16"	1'-9"	11 7/16"	1'-5 1/8"	2'-9 1/8"	
2	3'-9 15/16"	3'-0 5/8"	1'-8 3/4"	9 3/4"	1'-3 7/8"	2'-6 3/16"	
3	3'-7 3/16"	2'-11 1/2"	1'-8 15/16"	8 1/8"	1'-2 9/16"	2'-3 1/4"	
4	3'-4 7/8"	2'-10 7/8"	1'-9 5/8"	6 7/16"	1'-1 1/4"	2'-0 1/4"	

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta. / Surv. Sta.

EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

ALUMINUM APPROACH RAILING DETAILS

Designed By VTrans/D-H	Drawn By J. SOTER
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302alrail.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 53 of 63

Dufresne-Henry

VT STATE PLANE GRID

DURABLE 4" YELLOW LINE
STA. 7+00 TO 14+00, DOUBLE CENTERLINE

STA. 12+67, LT.

STA. 10+94, LT.
STA. 11+08, RT.

STA. 6+85, RT.

STA. 8+40, RT.

STA. 8+95, LT.
STA. 9+23, RT.

675.50 REMOVE SIGN
*ONE LANE BRIDGE AHEAD - 2 LOCATIONS

SCALE 1" = 30'-0
30 0 30

SIGN LEGEND

N	= NEW
R	= REMOVE
R&S	= REMOVE & SALVAGE
S	= SALVAGE SIGN
RET	= RETAIN
B-B	= BACK TO BACK
*	= RETURN TO TOWN OF HUNTINGTON

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302pvmrk.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: D. ALTERI
PAVEMENT MARKING PLAN

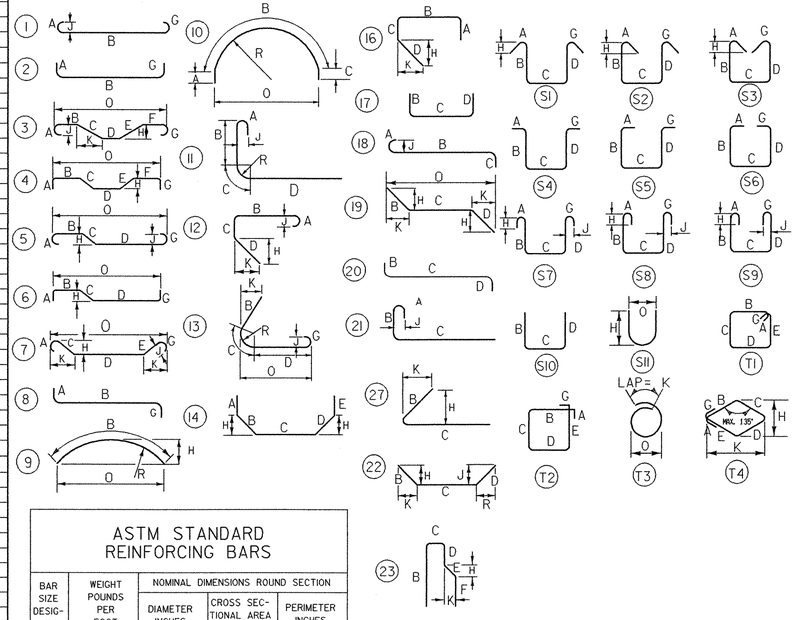
PLOT DATE: 1/30/2006
DRAWN BY: J. OAKMAN
CHECKED BY: D. ALTERI
SHEET 54 OF 63

Dufresne-Henry

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
1																	
2			**ABUTMENT NO. 1**														
3	75	5	4'-6"	1A501	17		10"	3'-8"									
4 ▲	47	5	10'-7"	1A502	STR.												
5	47	5	6'-1"	1A503	STR.												
6	10	5	41'-8"	1A504	STR.												
7 ✳	40	5	7'-2"	1A505	STR.												
8	7	5	43'-5"	1A506	STR.												
9	12	5	4'-0"	1A507	22		2'-0"	2'-0"					1'-4"		1'-6"		
10	12	5	4'-0"	1A508	22		2'-0"	2'-0"					1'-5"		1'-5"		
11	43	5	6'-4"	1A509	17			2'-10"	3'-6"								
12	43	5	3'-9"	1A510	STR.												
13	3	5	12'-4"	1EA511	17		5'-9"	10"	5'-9"								
14	31	5	10'-10"	1EA512	17		5'-0"	10"	5'-0"								
15	10	5	43'-0"	1A513	STR.												
16	31	5	5'-10"	1A514	16	10"	1'-10"	7"	2'-7"				1'-7"		2'-1"		
17	4	5	38'-0"	1A515	STR.												
18	2	5	42'-11"	1EA516	STR.												
19	7	5	17'-7"	1A517	1	7"	16'-5"					7"		5"			
20	8	5	8'-4"	1A518	1	7"	7'-2"					7"		5"			
21																	
22 ✳	40	6	7'-8"	1A601	17		1'-0"	6'-8"									
23																	
24 ▲	92	7	12'-11"	1A701	17		1'-2"	10'-7"	1'-2"								
25 ✳	25	7	47'-0"	1A702	STR.												
26																	
27 ✳	18	8	9'-4"	1A801	17		1'-4"	8'-0"									
28																	
29	19	8	4'-0"	1EA802	22		2'-0"	2'-0"					1'-5"		1'-5"		
30																	
31			**ABUTMENT NO. 2**														
32	64	5	4'-6"	2A501	17		10"	3'-8"									
33 ▲	40	5	10'-7"	2A502	STR.												
34	41	5	6'-2"	2A503	STR.												
35	10	5	35'-9"	2A504	STR.												
36 ✳	34	5	5'-1"	2A505	STR.												
37	7	5	36'-10"	2A506	STR.												
38	7	5	4'-0"	2A507	22		2'-0"	2'-0"					1'-8"		1'-1"		
39	7	5	4'-0"	2A508	27		2'-0"	2'-0"					1'-7"		1'-2"		
40	37	5	6'-0"	2A509	17			3'-3"	2'-9"								
41	38	5	3'-3"	2A510	STR.												
42	38	5	7'-7"	2A511	17		3'-5"	9"	3'-5"								
43	10	5	36'-8"	2A512	STR.												
44	33	5	5'-2"	2A513	16	10"	1'-7"	7"	2'-2"				1'-6"		1'-6"		
45	4	5	32'-3"	2A514	STR.												
46	7	5	7'-9"	2A515	1	7"	6'-7"					7"		5"			
47	7	5	15'-4"	2A516	1	7"	14'-2"					7"		5"			
48																	
49 ✳	34	6	7'-8"	2A601	17		1'-0"	6'-8"									
50																	
51 ▲	77	7	12'-11"	2A701	17		1'-2"	10'-7"	1'-2"								
52 ✳	25	7	39'-0"	2A702	STR.												
53																	
54 ✳	16	8	9'-4"	2A801	17		1'-4"	8'-0"									
55	17	8	4'-0"	2EA802	22		2'-0"	2'-0"					1'-5"		1'-5"		
56																	
57			**WINGWALL NO. 1**														
58 ✳	5	5	6'-0"	1W501	STR.												
59	2	5	10'-5"	1W502	STR.												
60	8	5	12'-6"	1W503	STR.												
61 ▲	7	5	8'-5"	1W504	STR.												
62	4	5	12'-8"	1W505	STR.												
63 ▲	3	5	17'-10"	1W506	STR.												
64	7	5	11'-10"	1W507	STR.												
65 ▲	7	5	7'-0"	1W508	STR.												
66	10	5	8'-7"	1W509	STR.												
67 ▲	7	5	8'-5"	1W510	STR.												
68	15	5	5'-1"	1W511	17		2'-0"	1'-1"	2'-0"								
69																	
70 ✳	5	6	12'-8"	1W601	STR.												
71 ▲	3	6	17'-10"	1W602	STR.												
72	7	6	11'-10"	1W603	STR.												
73 ▲	7	6	7'-0"	1W604	STR.												
74																	
75			**WINGWALL NO. 2**														
76 ✳	4	5	6'-10"	2W501	STR.												
77	2	5	11'-5"	2W502	STR.												
78	9	5	13'-1"	2W503	STR.												
79	8	5	12'-6"	2W504	STR.												
80	7	5	9'-5"	2W505	STR.												
81 ▲	7	5	9'-4"	2W506	STR.												
82	10	5	5'-10½"	2W507	17		2'-0"	1'-9½"	2'-0"								
83																	
84 ✳	9	6	12'-6"	2W601	STR.												
85 ▲	8	6	7'-9"	2W602	STR.												
86																	
87			**WINGWALL NO. 3**														
88 ✳	4	5	6'-1"	3W501	STR.												
89	1	5	9'-9"	3W502	STR.												
90	8	5	12'-3"	3W503	STR.												
91 ▲	8	5	8'-8"	3W504	STR.												
92	4	5	11'-0"	3W505	STR.												
93 ▲	3	5	18'-5"	3W506	STR.												
94	7	5	11'-4"	3W507	STR.												
95	7	5	7'-3"	3W508	STR.												
96	7	5	8'-4"	3W509	STR.												
97 ▲	8	5	8'-8"	3W510	STR.												
98	16	5	5'-1"	3W511	17		2'-0"	1'-1"	2'-0"								
99																	
100			**WINGWALL NO. 3 (CONTINUED)**														
101 ✳	5	6	10'-10"	3W601	STR.												
102 ▲	3	6	18'-5"	3W602	STR.												
103	7	6	10'-7"	3W603	STR.												
104	7	6	7'-3"	3W604	STR.												
105																	
106			**WINGWALL NO. 4**														
107 ✳	4	5	6'-9"	4W501	STR.												
108	2	5	10'-7"	4W502	STR.												
109	6	5	12'-9"	4W503	STR.												
110 ▲	7	5	8'-7"	4W504	STR.												
111	5	5	10'-1"	4W505	STR.												
112 ▲	3	5	17'-4"	4W506	STR.												
113	7	5	10'-0"	4W507	STR.												
114	7	5	6'-11"	4W508	STR.												
115	8	5	8'-10"	4W509	STR.												
116 ▲	7	5	8'-7"	4W510	STR.												
117	13	5	5'-9½"	4W511	17		2'-0"	1'-9½"	2'-0"								
118																	
119 ✳	6	6	11'-3"	4W601	STR.												
120 ▲	3	6	18'-5"	4W602	STR.												
121	8	6	11'-1"	4W603	STR.												
122 ▲	8	6	6'-11"	4W604	STR.												
123																	
124			**PIER**														
125 ✳	37	5	13'-6"	P501	STR.												
126	14	5	35'-6"	P502	STR.												
127	28	5	23'-0"	P503	STR.												
128	29	5	7'-8"	P504	S11										3'-2"		2'-4"
129	56	5	12'-3"	P505	T1	5½"	3'-4"	2'-4"	3'-4"	2'-4"		5½"					
130	2	5	11'-6"	P506	STR.												
131	2	5	12'-7½"	P507	STR.												
132	2	5	27'-9½"	P508	STR.												
133	2	5	35'-6½"	P509	STR.												
134	2	5	38'-4"	P510	STR.												
135	2	5	18'-3"	P511	STR.												
136	32	5	6'-10"	P512	17		2'-3"	2'-4"	2'-3"								
137	8	5	10'-10½"	P513	22		2'-5"	6'-5½"	2'-0"								
138	6	5	6'-2½"	P514	17		2'-0"	2'-2½"	2'-0"								
139	4	5	7'-0"	P515	STR.												
140																	
141	4	6	9'-4"	P601	T1	6"	2'-6"	1'-8"	2'-6"	1'-8"		6"					
142	4	6	9'-7½"	P602	T1	6"	2'-7¾"	1'-8"	2'-7¾"	1'-8"		6"					
143	4	6	9'-11"	P603	T1	6"	2'-9½"	1'-8"	2'-9½"	1'-8"		6"					
144	4	6	10'-3"	P604	T1	6"	2'-11½"	1'-8"	2'-11½"	1'-8"		6"					
145	4	6	10'-6½"	P605	T1	6"	3'-1¼"	1'-8"	3'-1¼"	1'-8"		6"					
146	4	6	10'-10"	P606	T1	6"	3'-3"	1'-8"	3'-3"	1'-8"		6"					
147	4	6	11'- 1½"	P607	T1	6"	3'-4¾"	1'-8"	3'-4¾"	1'-8"		6"					
148	4	6	11'-5"	P608	T1	6"	3'-6½"	1'-8"	3'-6½"	1'-8"		6"					
149	4	6	11'-9"	P609	T1	6"	3'-8½"	1'-8"	3'-8½"	1'-8"		6"					
150	4	6	12'-0½"	P610	T1	6"	3'-10¼"	1'-8"	3'-10¼"	1'-8"		6"					
151	4	6	12'-4"	P611	T1	6"	4'-0"	1'-8"	4'-0"	1'-8"		6"					
152																	
153	44	10	16'-4"	P1001	1	1'-5"	13'-6"					1'-5"					
154	14	10	35'-6"	P1002	STR.												
155	28	10	12'-5"	P1003	1	1'-5"	11'-0"										
156	54	10	11'-0"	P1004	17		1'-8"	9'-4"									
157 ✳	55	10	18'-6"	P1005	STR.												
158	14	10	20'-8"	P1006	17		2'-0"	18'-8"									
159	14	10	23'-5"	P1007	1	1'-5"	22'-0"										
160																	
161			**DECK**														
162 ✳	471	5	39'-0"	ES501	STR.												
163	183	5	10'-2"	ES502	S5	10"	1'-4"	5'-10"	1'-4"			10"					
164	186	5	6'-1"	ES503	S5	10"	1'-4"	1'-9"	1'-4"			10"					
165	37	5	8'-6"	ES504	S5	10"	1'-4"	4'-3"	1'-4"			10"					
166	4	5	36'-11"	ES505	STR.												
167	43	5	7'-1"	ES506	S5	10"	1'-4"	2'-9"	1'-4"			10"					
168	5	5	42'-10"	ES507	STR.												
169	1	5	9'-1"	ES508	S6	10"	1'-4"	4'-9"	1'-4"			10"					
170	1	5	8'-2"	ES509	S6	10"	1'-4"	3'-10"	1'-4"			10"					
171	1	5	7'-2"	ES510	S6	10"	1'-4"	2'-10"	1'-4"			10"					
172	1	5	6'-3"	ES511	S6	10"	1'-4"	1'-11"	1'-4"			10"					
173	1	5	8'-9"	ES512	S6	10"	1'-4"	4'-7"	1'-4"			10"					
174	1	5	7'-6"	ES513	S6	10"	1'-4"	3'-2"	1'-4"			10"					
175	1	5	5'-4"	ES514	S6	10"	1'-4"	1'-0"	1'-4"			10"					
176																	
177 ▲	380	6	30'-1"	ES601	STR.												
178 ▲	380	6	31'-5"	ES602	1	8"	30'-1"					8"					6"
179	26	6	40'-1"	ES603	STR.												
180	26	6	15'-0"	ES604	STR.												
181																	
182			**APPROACH SLAB NO. 1**														
183	38	5	17'-0"	1EAS501	STR.												
184																	
185 ✳	30	9	25'-2"	1EAS901	1	1'-3"	23'-11"									11¾"	
186																	
187																	
188			**APPROACH SLAB NO. 2**														
189 ✳	47	5	14'-2"	2EAS501	STR.												
190																	
191	29	9	25'-7"	2EAS902	1	1'-3"	24'-4"									11¾"	
192																	
193																	
194																	
195																	
196																	

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-91). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" 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

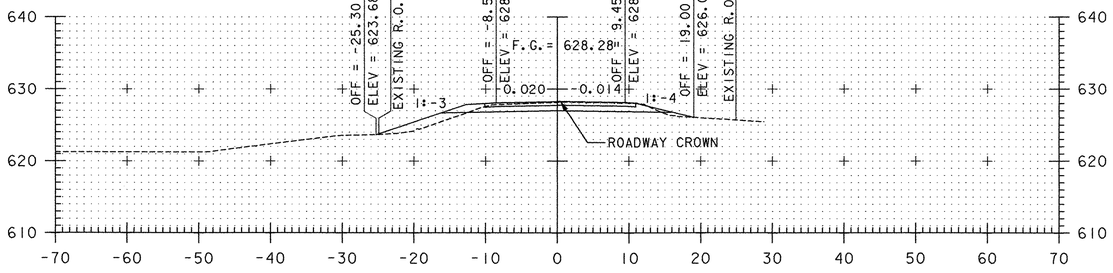
STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of HUNTINGTON	Bridge No. 42
Highway No. T.H. 4	Log Sta.
	Surv. Sta.

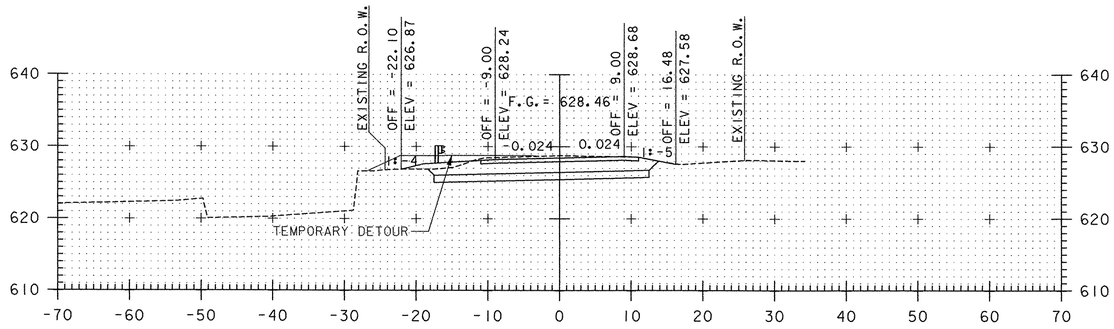
EAST STREET (T.H. #4) OVER HUNTINGTON RIVER

REINFORCING STEEL SCHEDULE

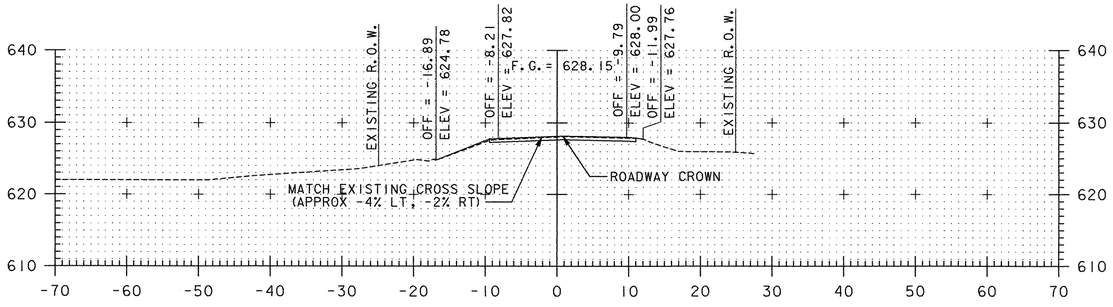
Designed By T. KNIGHT	Drawn By J. SOTER
Checked By M. CHENETTE Date 08/05	Bridge Design Supervisor M. CHENETTE Date 09/05
PROJECT HUNTINGTON	PROJECT NO. BRO 1445 (29)
DH Dgn.: ...\Cadd\Trans\z01j302rebar.dgn	Plot Date: 1/12/2006
Bridge Sheet No.	Sheet 55 of 63



7+50



8+25



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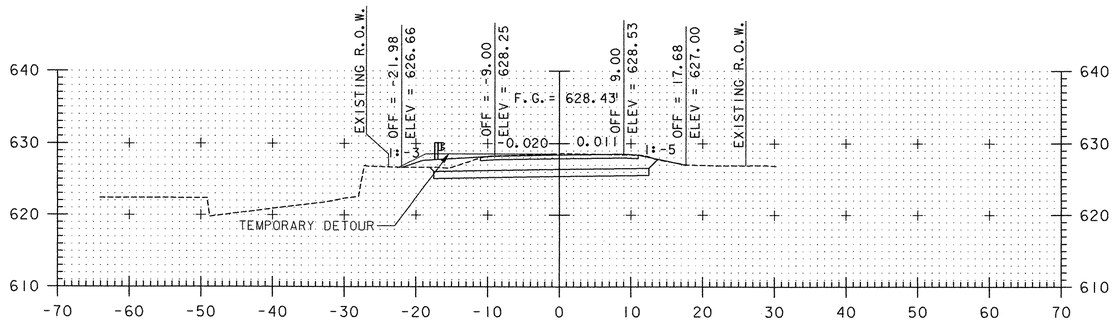
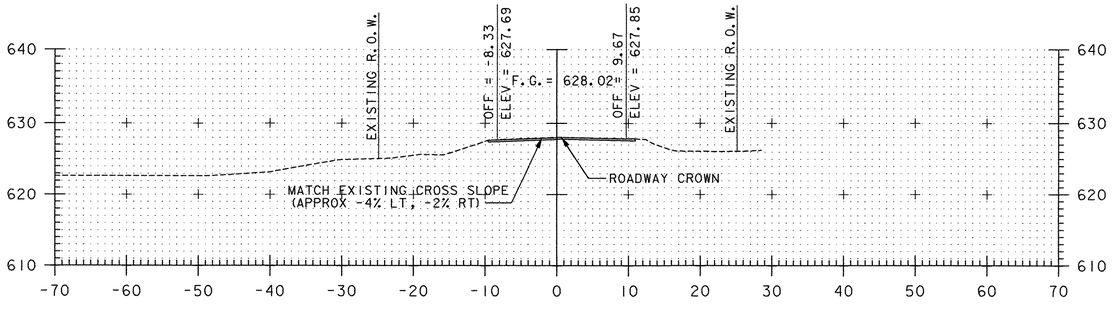
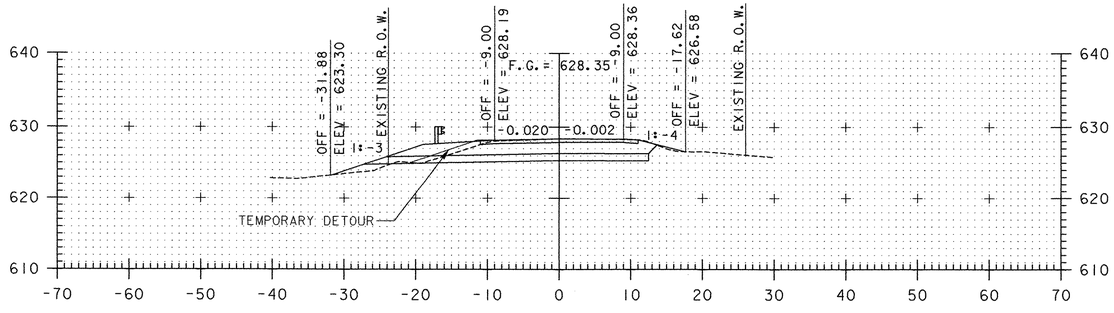


8+00



7+00



7+75

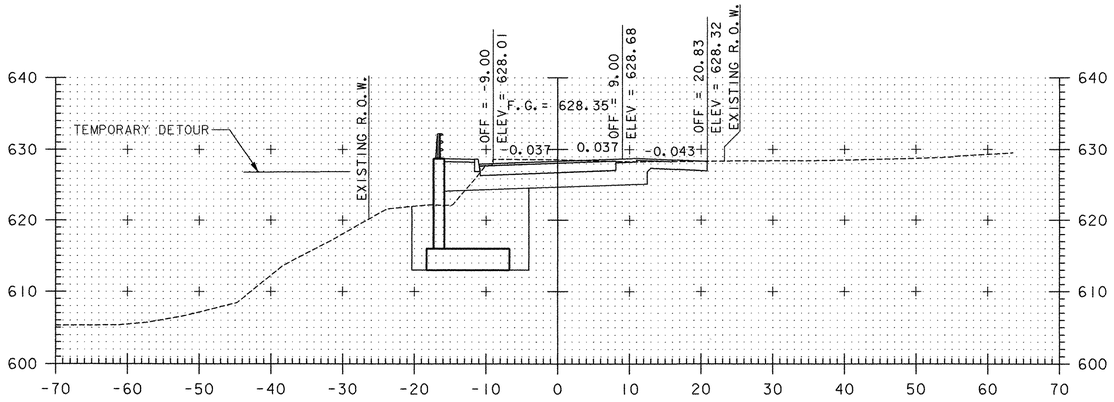
SCALE 1" = 10'-0

10 0 10

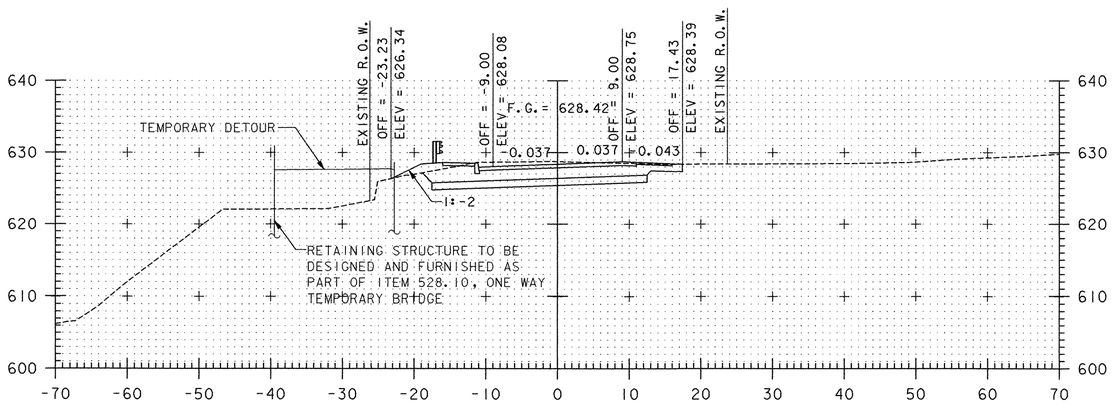
STA. 7+00 TO STA. 8+25

Dufresne-Henry

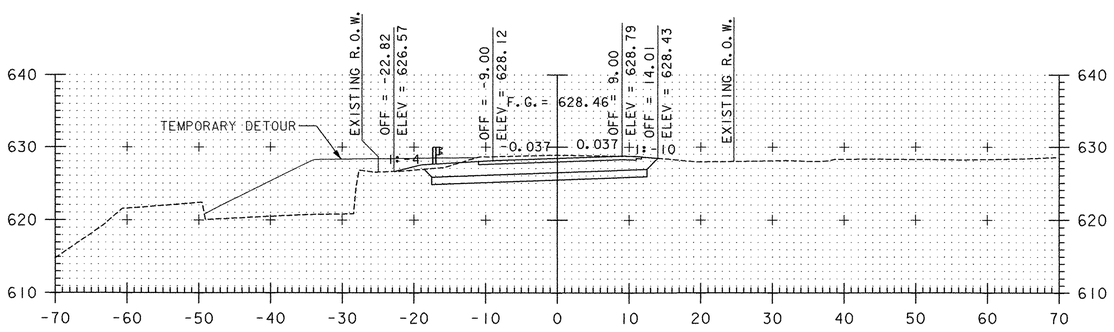
PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
ROADWAY CROSS SECTION	SHEET 56 OF 63



9+00



8+75



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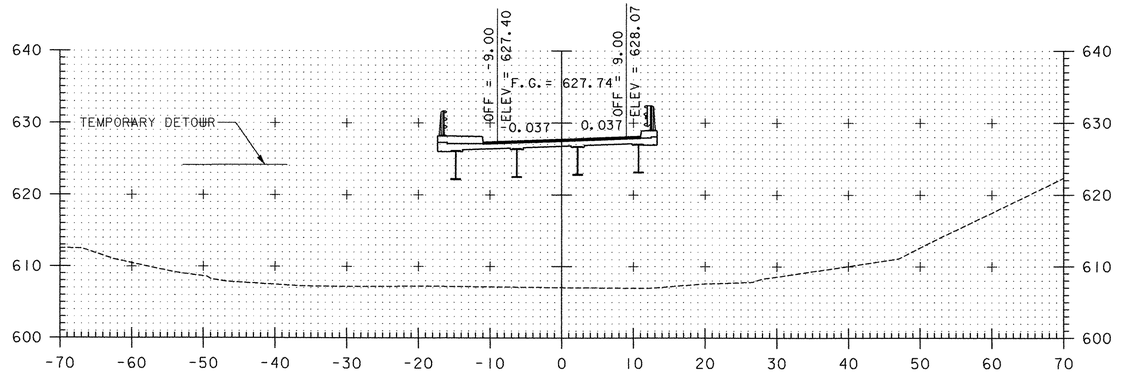
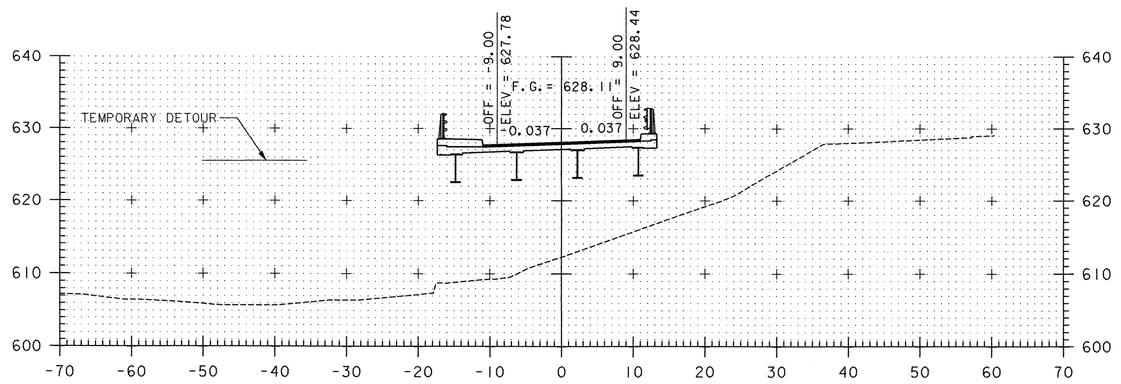


10+00



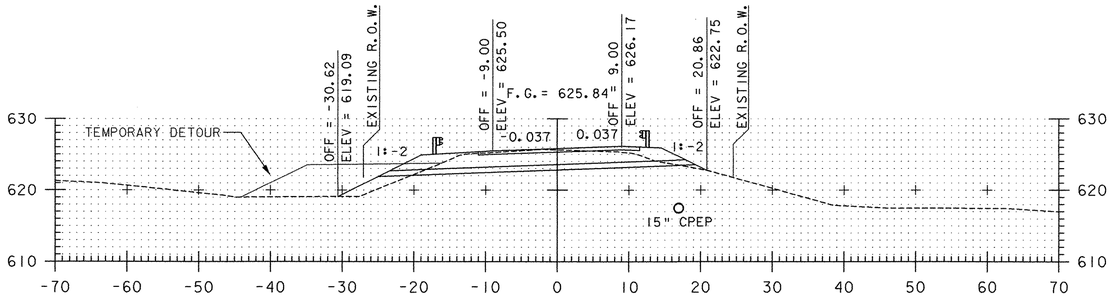
9+50

SCALE 1" = 10'-0
10 0 10

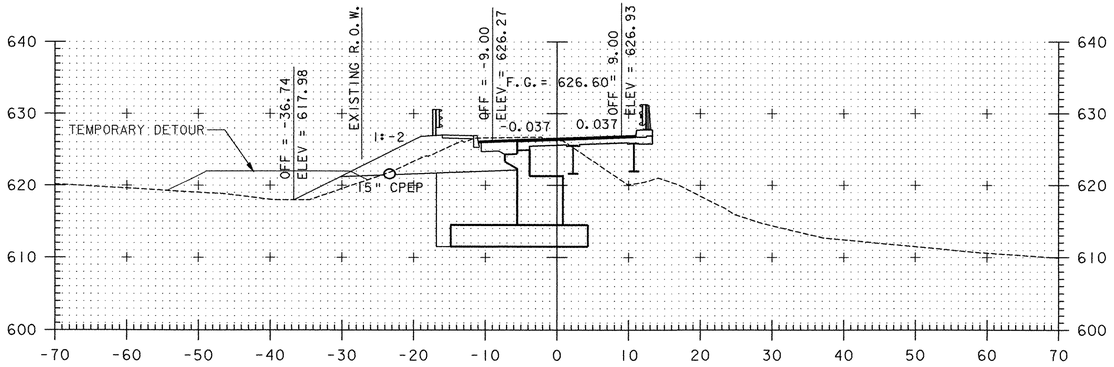
STA. 8+50 TO STA. 10+00

Dufresne-Henry

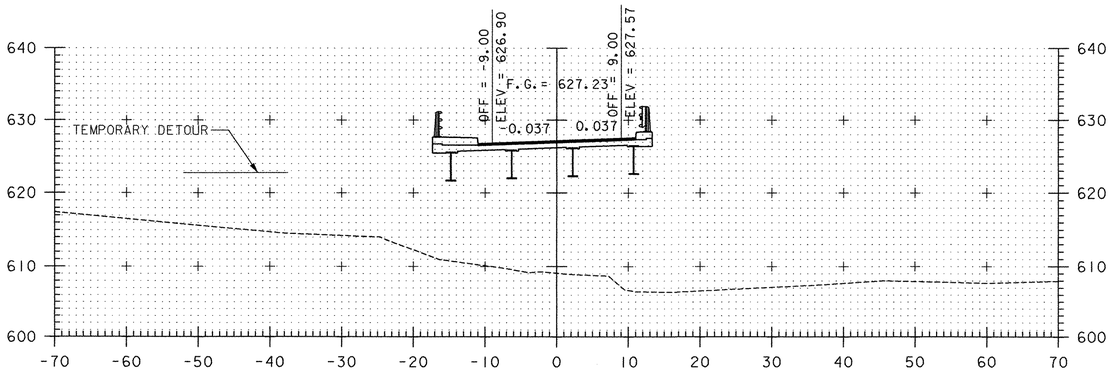
PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
ROADWAY CROSS SECTION	SHEET 57 OF 63



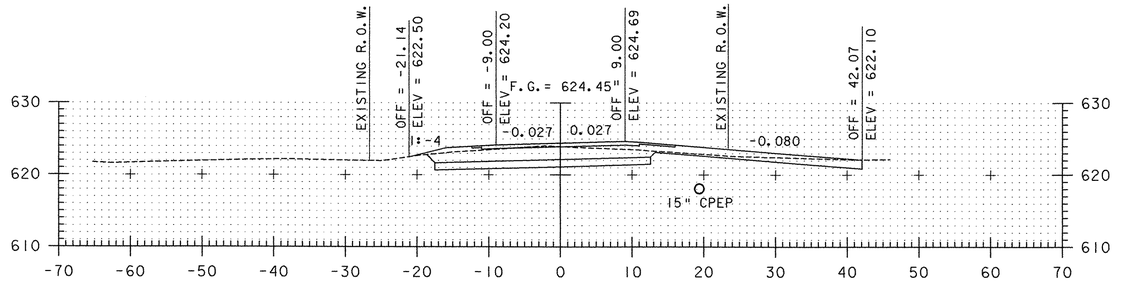
11+50



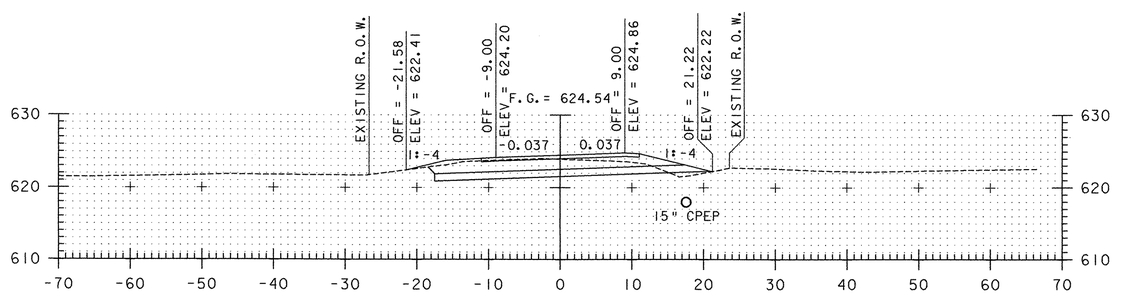
11+00



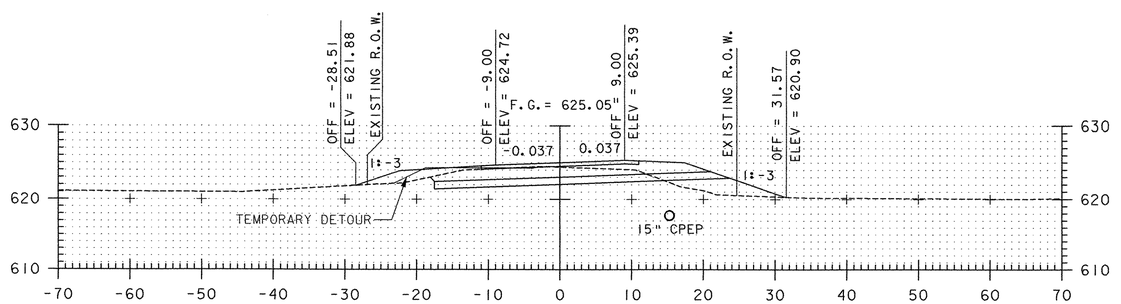
10+50



12+68



12+50



12+00

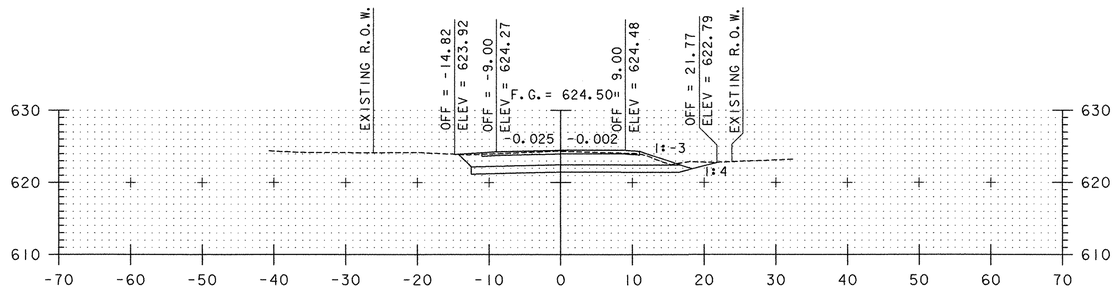
SCALE 1" = 10'-0

10 0 10

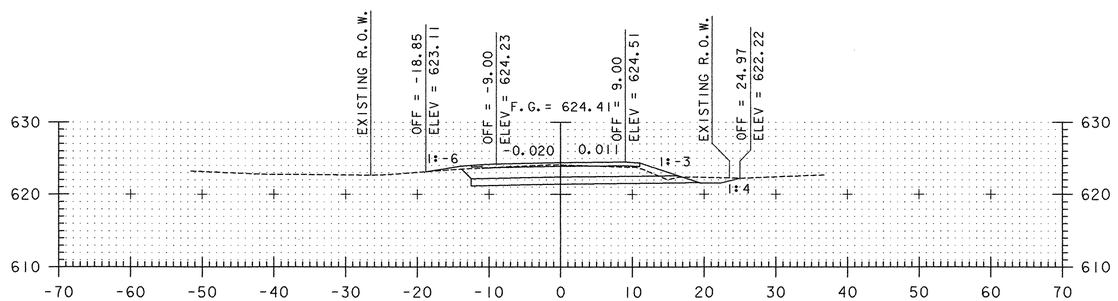
STA. 10+50 TO STA. 12+68

Dufresne-Henry

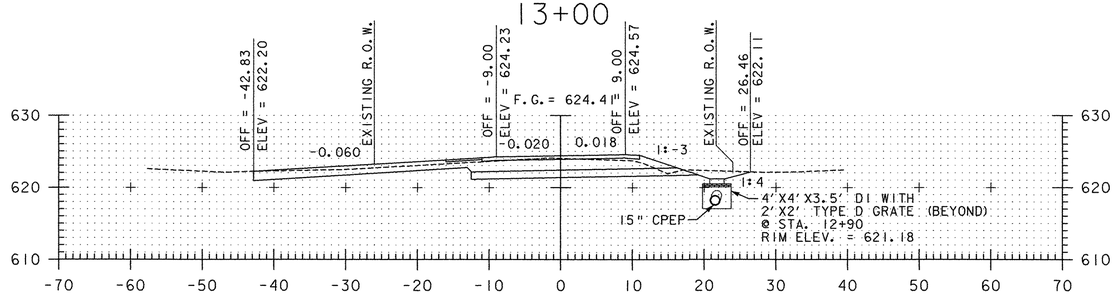
PROJECT NAME:	HUNTINGTON
PROJECT NUMBER:	BRO 1445 (29)
FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
ROADWAY CROSS SECTION	SHEET 58 OF 63



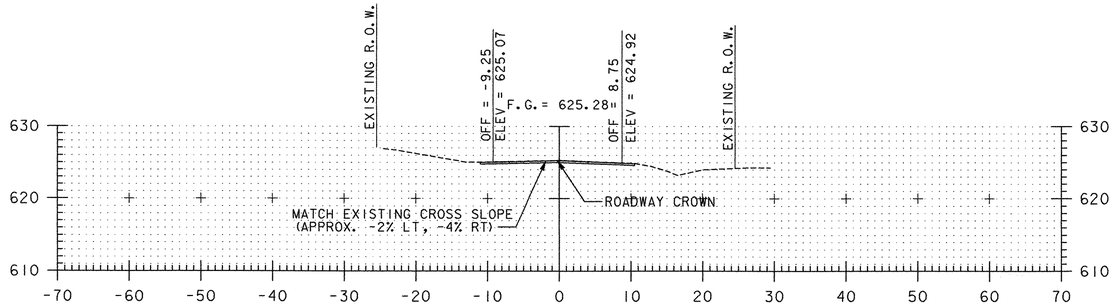
13+25



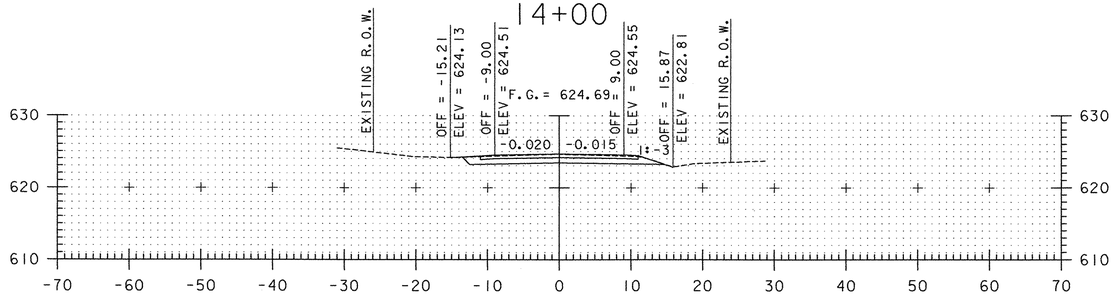
13+00



12+86



14+00



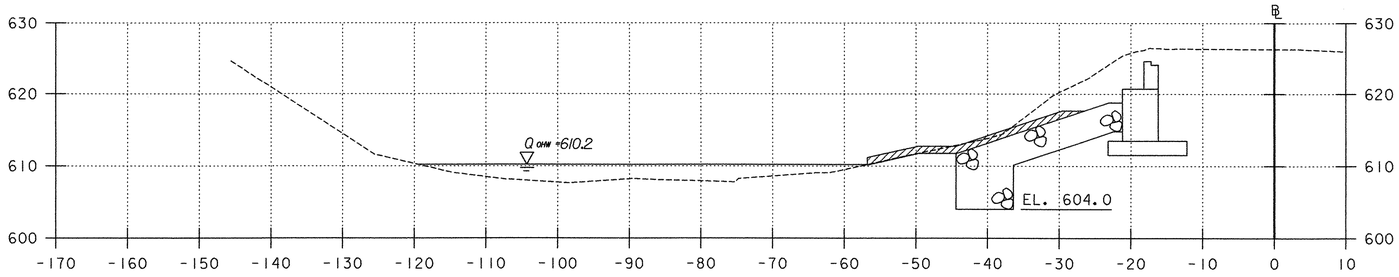
13+50

SCALE 1" = 10'-0
10 0 10

STA. 12+86 TO STA. 14+00

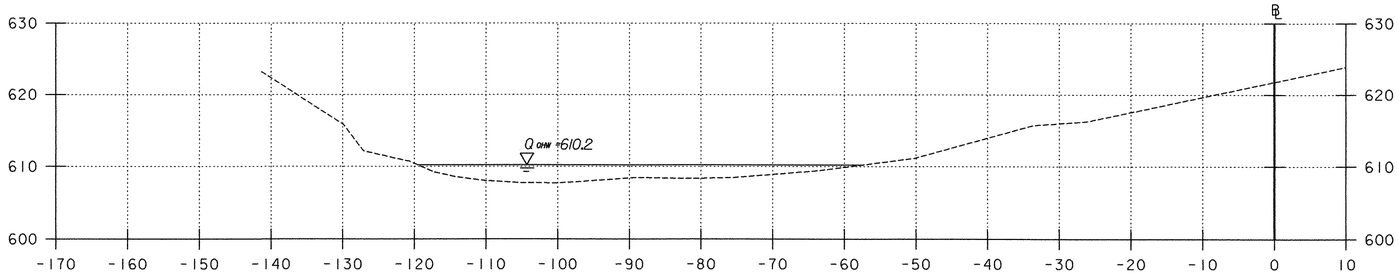
Dufresne-Henry

PROJECT NAME: HUNTINGTON	
PROJECT NUMBER: BRO 1445 (29)	
FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: J. OAKMAN
DESIGNED BY: D. ALTERI	CHECKED BY: D. ALTERI
ROADWAY CROSS SECTION	SHEET 59 OF 63

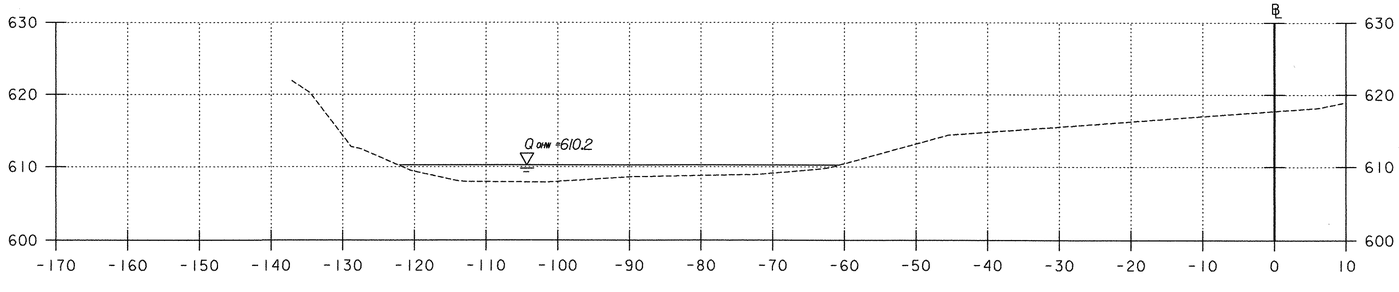


50+50

STA. 50+30 (ABUTMENT NO. 2)
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV



50+25



50+00

SCALE 1" = 10'-0
10 0 10

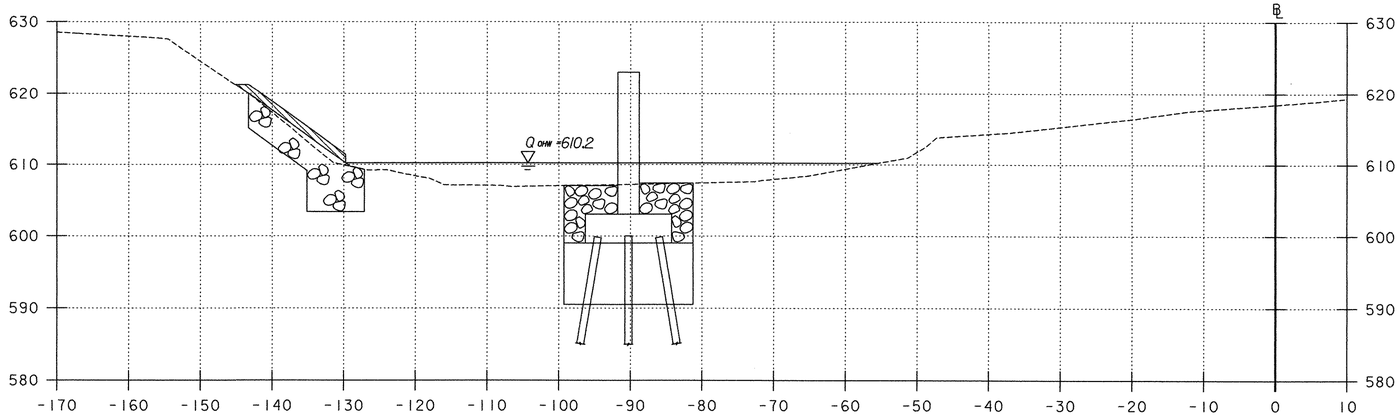
STA. 50+00 TO STA. 50+50

Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: T.KNIGHT
CHANNEL CROSS SECTIONS

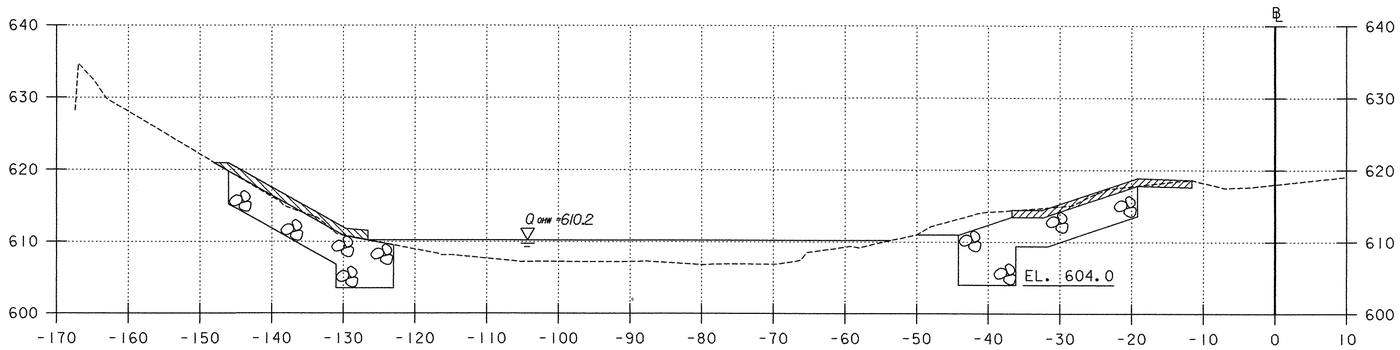
PLOT DATE: 1/12/2006
DRAWN BY: D.HARRINGTON
CHECKED BY: M.CHENETTE
SHEET 60 OF 63



51+25

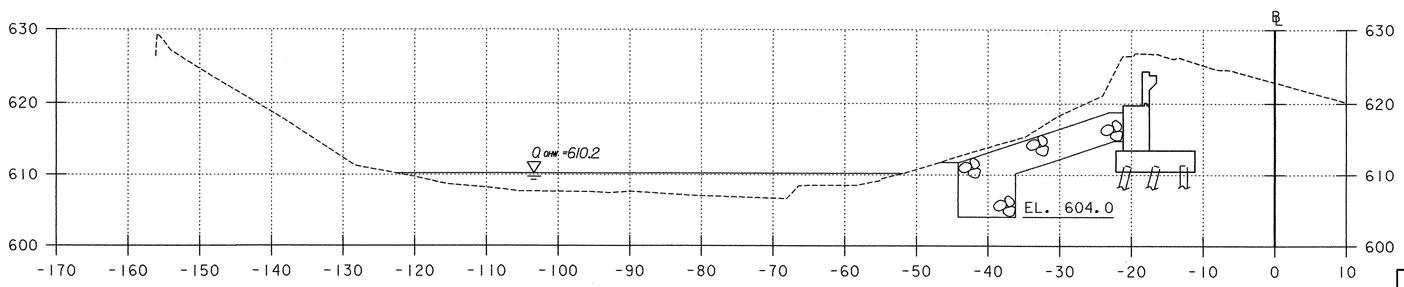
STA. 51+03 (PIER)
BEGIN COFFERDAM
COFFERDAM EXCAVATION, EARTH
STONE FILL, TYPE IV

STA. 51+10 (ABUTMENT NO. 2)
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV



51+00

STA. 50+87 (ABUTMENT NO. 1)
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV



50+75

SCALE 1" = 10'-0
10 0 10

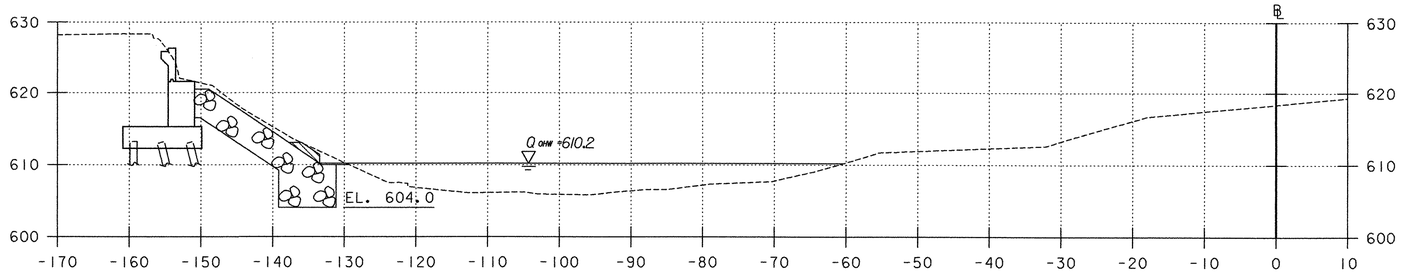
STA. 50+75 TO STA. 51+25

Dufresne-Henry

PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

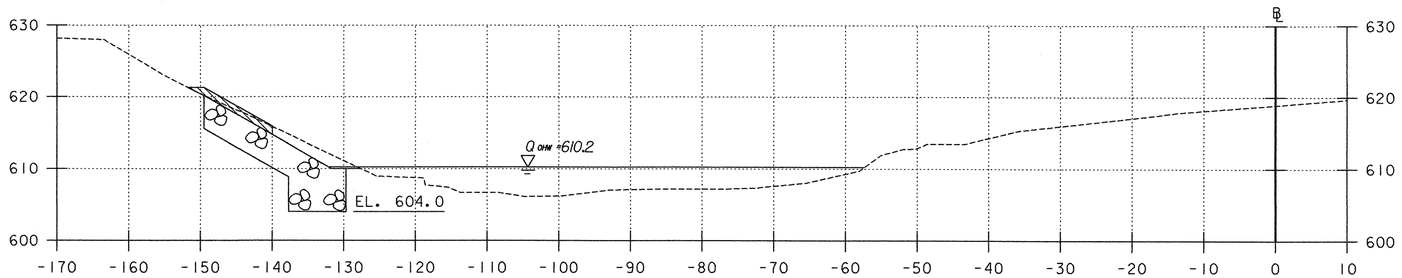
FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: T.KNIGHT
CHANNEL CROSS SECTIONS

PLOT DATE: 1/12/2006
DRAWN BY: D.HARRINGTON
CHECKED BY: M.CHENETTE
SHEET 61 OF 63



52+00

51+75



51+50

STA. 51+45 (PIER)
END COFFERDAM
COFFERDAM EXCAVATION, EARTH
STONE FILL, TYPE IV

SCALE 1" = 10'-0
10 0 10

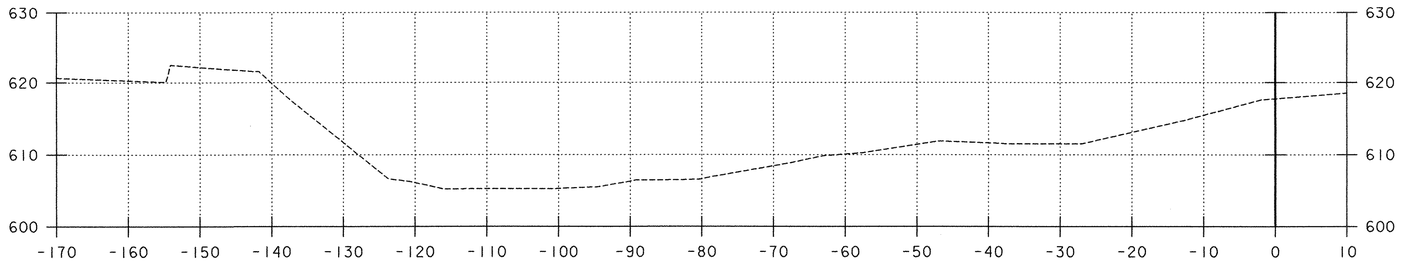
STA. 51+50 TO STA. 52+00

Dufresne-Henry

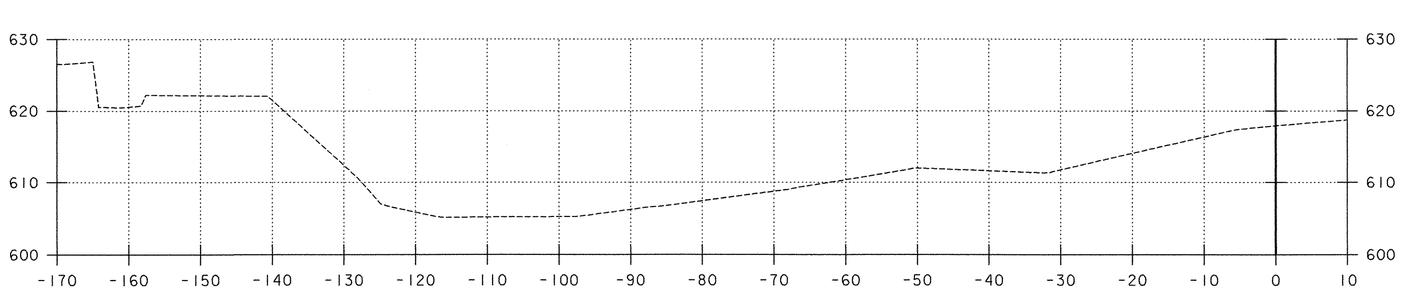
PROJECT NAME: HUNTINGTON
PROJECT NUMBER: BRO 1445 (29)

FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn
PROJECT LEADER: M. CHENETTE
DESIGNED BY: T.KNIGHT
CHANNEL CROSS SECTIONS

PLOT DATE: 1/12/2006
DRAWN BY: D.HARRINGTON
CHECKED BY: M.CHENETTE
SHEET 62 OF 63

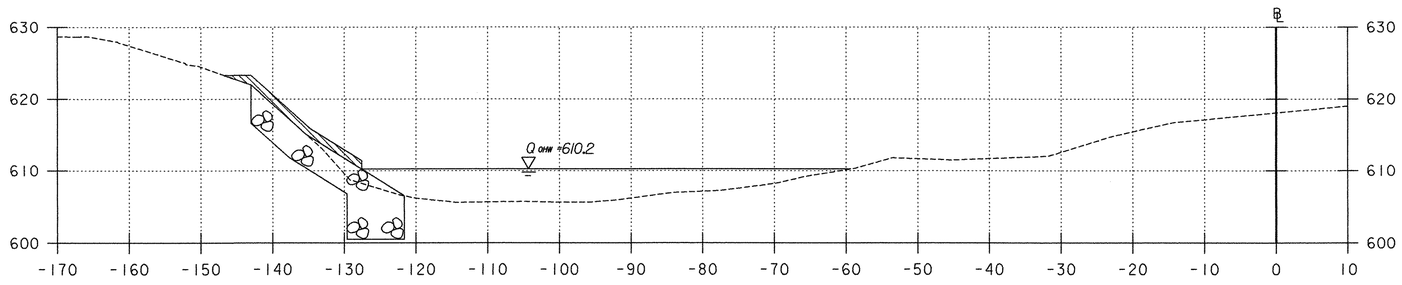


52+75



STA. 52+50 (ABUTMENT NO. 1)
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV

52+50



52+25

SCALE 1" = 10'-0
10 0 10

STA. 52+25 TO STA. 52+75

Dufresne-Henry

PROJECT NAME: HUNTINGTON	
PROJECT NUMBER: BRO 1445 (29)	
FILE NAME: ...\Cadd\Trans\z01j302xsl.dgn	PLOT DATE: 1/12/2006
PROJECT LEADER: M. CHENETTE	DRAWN BY: D.HARRINGTON
DESIGNED BY: T.KNIGHT	CHECKED BY: M.CHENETTE
CHANNEL CROSS SECTIONS	SHEET 63 OF 63

VERMONT

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

[phone] 802-828-2621
[fax] 802-828-2566
[tnd] 800-253-0191

Agency of Transportation

Rec'd @ home
Dec 29th, 2006
DRN

DATE: December 27, 2006

Cosmec, Inc.
70 South Street
Walpole, MA 02081

Project Name: Huntington **Project #: BRO 1445(29)**

Structure Identification: East Street Over Huntington River
The following bearing device details [Item # 531.10, Name: Bearing Device Assembly] for the above project (Vendor's Job # 60630) transmitted with a letter from Parent Construction, Inc. dated 12/11/06 have been reviewed and are being returned herewith.

Plan Sheets Number 5057, 5058, and 5059, Welding Procedures FCAW-FILLET, GTAW-WF, and Bonding Procedure EMS-QC-110 **are approved.** If any changes are made to any of these sheets, please submit white prints for our use in record plans for this project. Otherwise, our file copy will become the record set.

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

Sincerely,

Warren Tripp

Warren Tripp

Attachments
cc: [X] Resident Engineer Dale Norton, w/prints
[ ] Shop Inspector Jeff Clark, w/prints
[ ] Contractor Parent Construction, Inc., w/prints
[ ] Construction Division – letter only
[ ] Materials & Research Section (C&IA Unit) – letter only
[ ] Files (Structures & Central)

064 BR

VTrans Working to Get You There
Vermont Agency of Transportation

VERMONT
AGENCY OF TRANSPORTATION
HUNTINGTON
PROJECT BRO 1445(29)

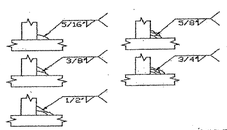
COSMEC INC.

WELDING PROCEDURE SPECIFICATION

SPECIFICATIONS AND CODE: AASHTO--AWS D1.5
MATERIAL SPECIFICATION ASTM A709 GR 50W, GR 50, GR 36
WELDING PROCESS---------- FCAW-G
MANUAL OR MACHINE------- SEMI-AUTOMATIC
POSITION OF WELDING----- 1F & 2F
FILLER METAL SPECIFICATION AWS 5.20 CLASSIFICATION: E71T
MANUFACTURER: LINCOLN ELECTRIC TRADENAME: E71T OUTERSHIELD
FLUX------- INTERNAL
SHIELDING GAS---------- CO2 FLOW RATE 45 CFH
SINGLE OR MULTIPLE PAS S MULTIPLE
SINGLE OR MULTIPLE ARC SINGLE
WELDING CURRENT---------- DC
POLARITY : REVERSE (EP)
WELDING PROGRESSION----------
ROOT TREATMENT---------- CLEANED & PREPARED BRIGHT METAL
PREHEAT AND INTERPASS TEMPERATURE---------- SEE BELOW
POSTHEAT TEMPERATURE N/A
HEAT IMPUT MIN.---------- MAX.----

WELDING PROCEDURE

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	VOLTS	TRAVEL SPEED	JOINT DETAIL
ALL	0.045	190-230	27-29	8-9	



PREHEAT TEMPS.

THICKNESS	TEMP.
UP TO 3/4"	50 DEG. F
OVER 3/4" TO 1 1/2"	70 DEG. F
OVER 1 1/2" TO 2 1/2"	150 DEG. F
OVER 2 1/2"	225 DEG. F
INTERPASS TEMP:	400 DEG. F

THIS PROCEURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE, ETC. WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5.

PROCEDURE NO. FCAW-FILLET
SUPPORTING PQR: FCAW-1.0-05
REVISION NO.

CONTRACTOR: COSMEC INC.
AUTHORIZED BY:DONALD VOSE

AWS QC 1 DONALD E VOSE 01100551 CWI

DATE:--- 1/31/2005

VTRANS RECEIVED
OK'D BY OK'D BY JWC
DEC 14 2006
RESUBMIT APPROVED
BY DATE 12-18-06

065 BB

VERMONT
AGENCY OF TRANSPORTATION
HUNTINGTON
PROJECT BRO 1445(29)

COSMEC INC.

WELDING PROCEDURE SPECIFICATION

SPECIFICATIONS AND CODE: D1.6
MATERIAL SPECIFICATION ASTM A240 TYPE 304 TO ASTM A709 GR 50W
WELDING PROCESS---------- GTAW
MANUAL OR MACHINE-------- MANUAL
POSITION OF WELDING----- 1F & 2F
FILLER METAL SPECIFICATION ER309L — CLASSIFICATION: A5.9
MANUFACTURER: HARRIS WELCO — TRADENAME:
FLUX------- INTERNAL
SHIELDING GAS---------- ARGON — FLOW RATE 45 CFH
SINGLE OR MULTIPLE PAS S SINGLE
SINGLE OR MULTIPLE ARC SINGLE
WELDING CURRENT---------- DC
POLARITY: REVERSE (EN)
WELDING PROGRESSION----------
ROOT TREATMENT---------- CLEANED & PREPARED BRIGHT METAL
PREHEAT AND INTERPASS TEMPERATURE---------- SEE BELOW
POSTHEAT TEMPERATURE N/A
HEAT IMPUT MIN.---------- MAX.----

WELDING PROCEDURE

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	VOLTS	TRAVEL SPEED	JOINT DETAIL
ALL	3/32"	130--155	14-17	6.75--8.5	LAP JOINT
		16 GA THRU 10 GA BM THICKNESS			

PREHEAT TEMPS. ***PREHEAT UNTIL NO MOSITURE PRESENT

THICKNESS	TEMP.
UP TO 3/4"	100 DEG.
OVER 3/4" TO 1 1/2"	100 DEG.
OVER 1 1/2" TO 2 1/2"	100 DEG.
OVER 2 1/2"	100 DEG.

THIS PROCEURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE, ETC.
WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5.
SUPPORTING PQR: GTAW-WF-05
PROCEDURE NO. GTAW-WF

CONTRACTOR: COSMEC INC.
AUTHORIZED BY: DONALD VOSE
CWI#:01100651 Donald Vose

REVISION NO. 1

DATE:---- 2/1/2005

AWS QC 1 DONALD E VOSE 01100651 CWI

VTRANS RECEIVED
CK'D BY _____ CK'D BY JUC
DEC 14 2006
RESUBMIT _____ APPROVED ✓
BY DATE 12-18-06

066 BR

VERMONT
AGENCY OF TRANSPORTATION
HUNTINGTON
PROJECT BRO 1445(29)

EMS-QC-110

COSMEC, INC.
70 SOUTH STREET
WALPOLE, MA 02081
PH# 508-668-6600
FAX# 508-660-1022

ENGINEERING AND MANUFACTURING STANDARD
PTFE FACING AND STEEL
OR PREFORMED FABRIC SUBSTRATE
SURFACE PREPARATION AND ADHESIVE PROCEDURE

The PTFE facing shall be prepared for bonding to a substrate material by chemically etching the face to be bonded using the sodium ammonia process.

The mating surface of the substrate shall be prepared for bonding using a three-step process as follows:

1. preliminary degrease using methyl ethyl ketone.
2. mechanically roughen to approx. 125 RMS and thoroughly brush and clean for final degreasing.
3. final degrease using methyl ethyl ketone

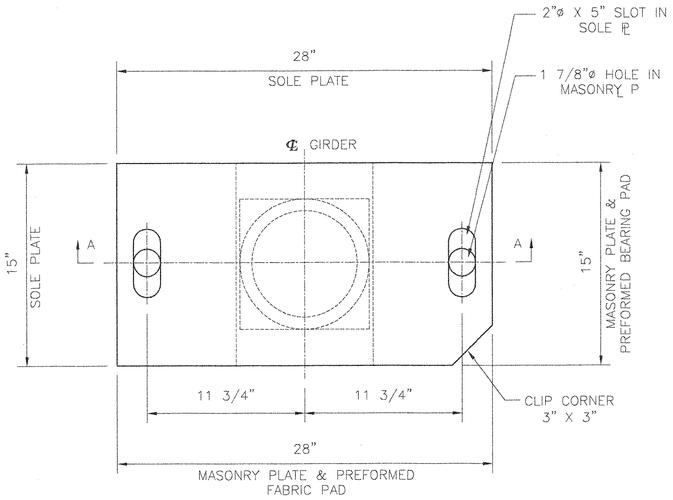
The PTFE and substrate mating surfaces shall be clean and dry with final degreasing performed within 30 minutes of bonding. Adhesive shall consist of a two-part epoxy adhesive system conforming to Military Specification MMM-A-134

The adhesive shall be applied to the full area of the contact surface in an even manner so as to establish a glue line not less than .002 inch nor more than .010 inch thick. Surfaces being bonded are to be assembled immediately with open assembly time not to exceed 20 minutes.

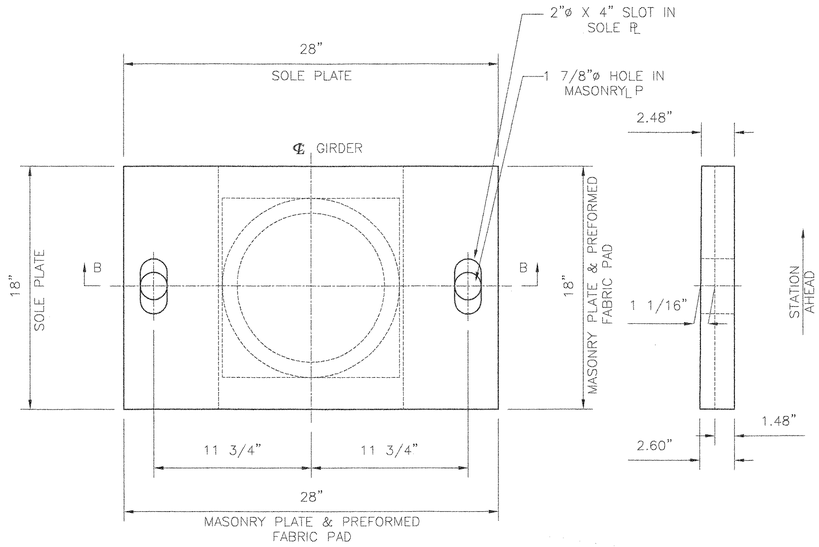
The PTFE material shall be greater in width and length than the substrate material by at least ½ inch when bonded. The PTFE shall be applied with contact starting at one edge and with contact progressing across entire bonded surface to eliminate air entrapment. The PTFE is to be in full contact with the steel or preformed fabric substrate. Curing of the bond shall be done under pressure of approx. 2-100 psi for 10-12 hours at approx. 70°F or other schedules as established by the manufacturer of the adhesive.

The PTFE shall be carefully trimmed to the same size as the substrate after bond curing and all bonds shall be visually inspected for bond retention.

067 BB

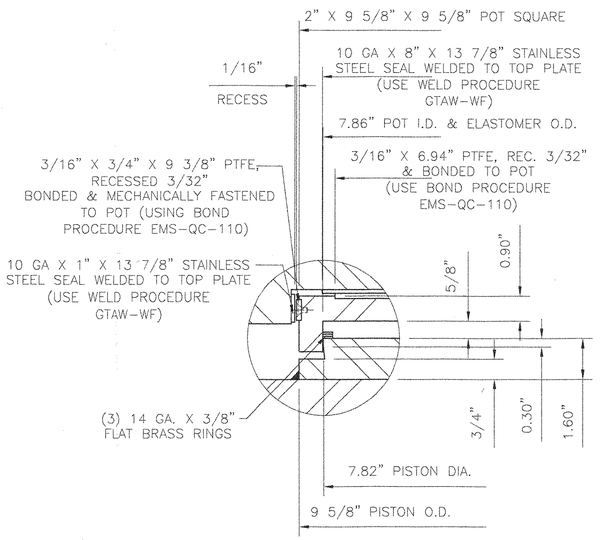


PLAN

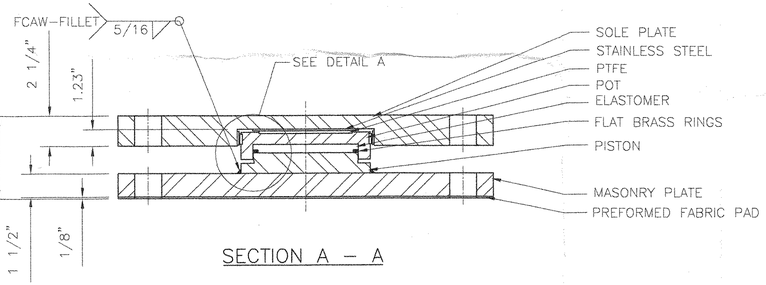


PLAN

SIDE ELEVATION



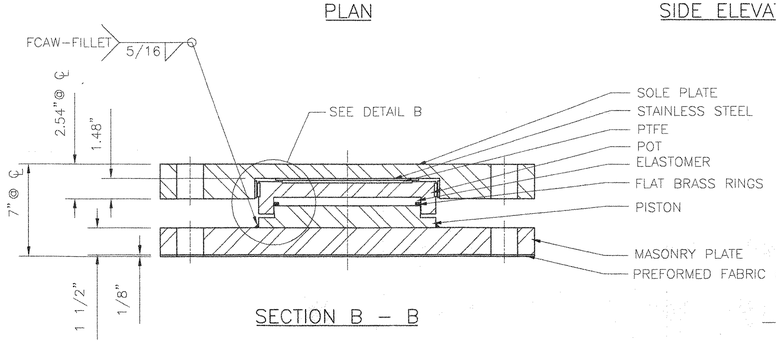
DETAIL A
N.T.S.



SECTION A – A

COSMEC GUIDED EXPANSION POT BEARING

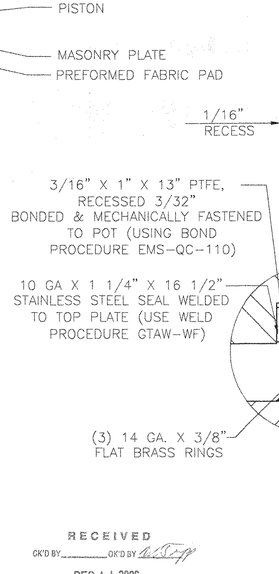
QUANTITY: 2
LOCATION: ABUTMENT 1, GIRDERS 2 & 3
VERTICAL LOAD CAPACITY: 170 KIPS
TRANSVERSE LOAD CAPACITY: 34 KIPS
LONGITUDINAL LOAD CAPACITY: N/A
MOVEMENT CAPACITY: 2 1/2"
ROTATION CAPACITY: .020 RADIANS



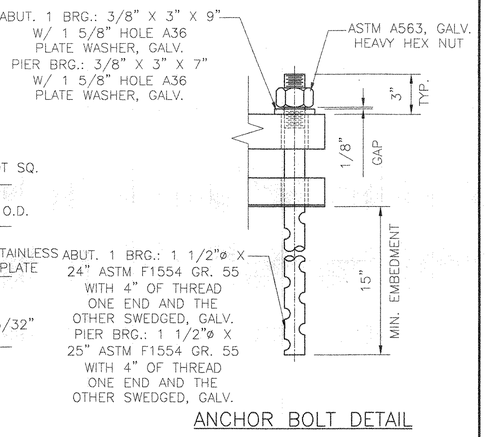
SECTION B – B

COSMEC GUIDED EXPANSION POT BEARING

QUANTITY: 2
LOCATION: PIER, GIRDERS 2 & 3
VERTICAL LOAD CAPACITY: 335 KIPS
TRANSVERSE LOAD CAPACITY: 67 KIPS
LONGITUDINAL LOAD CAPACITY: N/A
MOVEMENT CAPACITY: 1 1/2"
ROTATION CAPACITY: .015 RADIANS



DETAIL B
N.T.S.



ANCHOR BOLT DETAIL

BEARING NOTES

1. ALL MATERIALS USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS ARE TO BE SHIPPED AS COMPLETE UNITS, STEEL BANDED, AND SHALL BE WRAPPED TO PROTECT FROM MOISTURE AND DIRT DURING TRANSIT AND STORAGE.
3. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
4. COSMEC, INC. REPRESENTATIVE – MR. MATT McANDREWS (508) 668-6600
5. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION.
6. BEARINGS MUST NOT BE DISASSEMBLED
7. PROTECT PTFE & S.S. SURFACES FROM DIRT, WELD SPATTER, & ANY OTHER FOREIGN SUBSTANCES.

MATERIALS

STEEL – ASTM A709 GRADE 36, ZINC METALLIZED
STAINLESS STEEL – ASTM A240 TYPE 304, WITH 10 RMS FINISH OR LESS
PREFORMED FABRIC PAD – AASHTO DIV. II SPEC. 18.4.9.1
ANCHOR BOLTS – SEE ANCHOR BOLT DETAIL
PTFE – ASTM D.4894 VIRGIN UNFILLED
ELASTOMER – AASHTO SHORE A DUROMETER 50 ± 5 DUROMETER
BRASS SEALING RINGS – ASTM B.36 HALF HARD

RECEIVED
OK'D BY _____ OK'D BY
DEC 14 2006
RESUBMIT _____ APPROVED
BY _____ DATE 12/27/06

REV.		BY	DATE	CK'D	DATE

VERMONT
AGENCY OF TRANSPORTATION
HUNTINGTON
PROJECT BRO 1445(29)
EAST STREET (T.H.#4) OVER HUNTINGTON RIVER
BRIDGE NO. 42

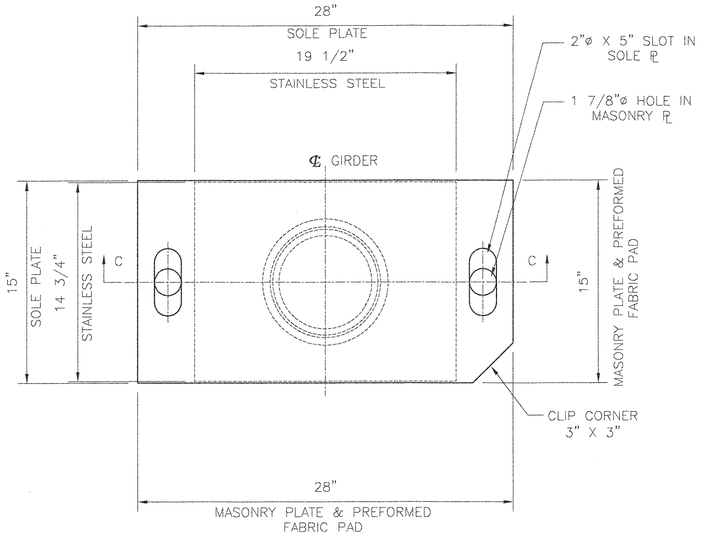
COSMEC, INC. — 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 3/16"=1"	DRAWN BY: MRR	CHECKED BY: MCM
DATE:	DATE: 11/16/06	DATE: 12/8/06

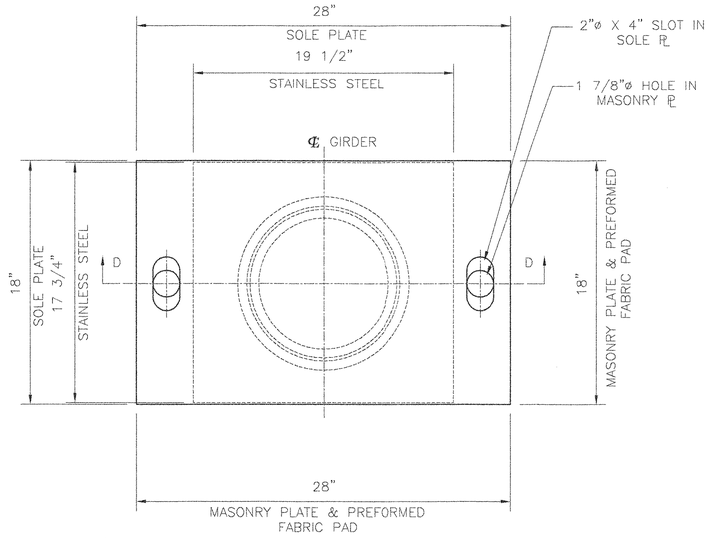
COSMEC POT BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
PARENT CONSTRUCTION INC.	60630	5057	

068 BB



PLAN



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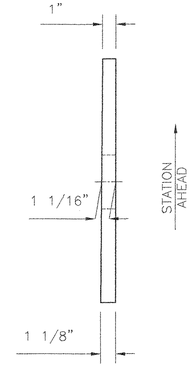
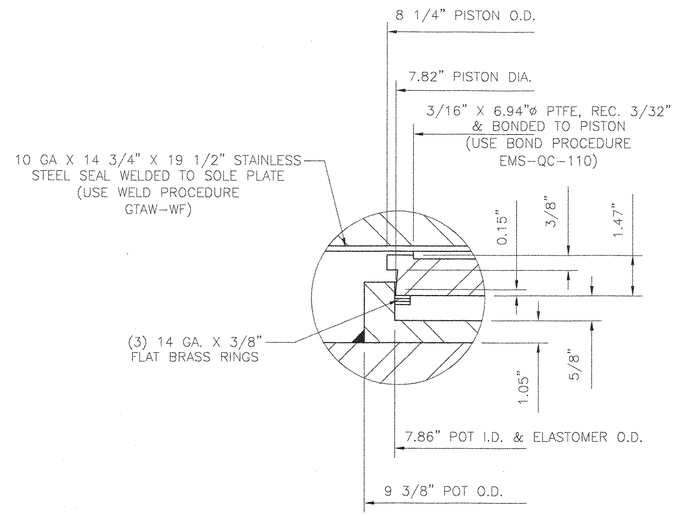
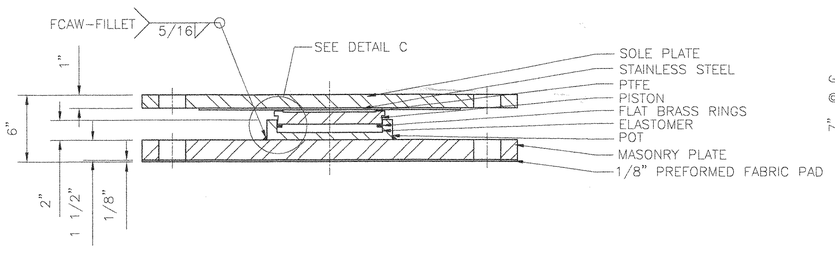


SIDE ELEVATION



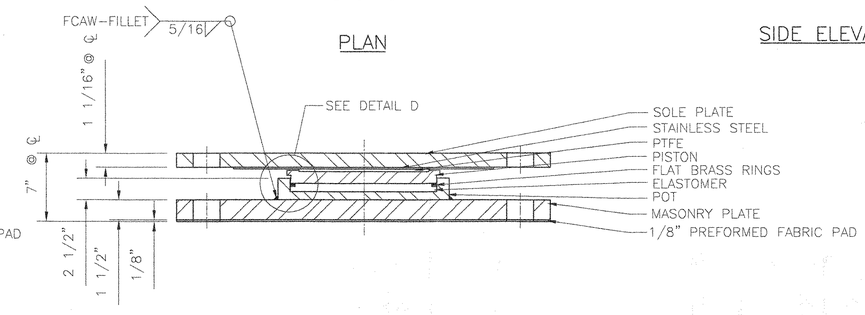
DETAIL C
N.T.S.



SECTION C – C

COSMEC NON-GUIDED EXPANSION POT BEARING

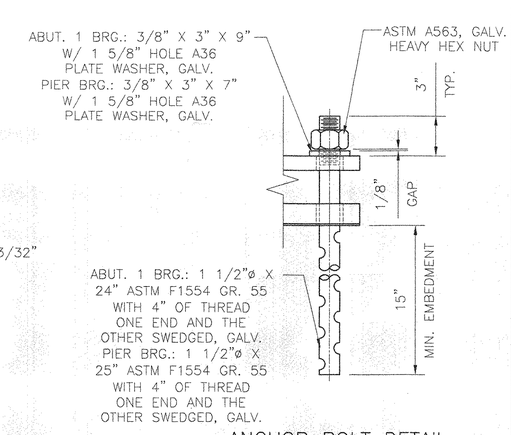
QUANTITY: 2
LOCATION: ABUTMENT 1, GIRDERS 1 & 4
VERTICAL LOAD CAPACITY: 170 KIPS
TRANSVERSE LOAD CAPACITY: N/A
LONGITUDINAL LOAD CAPACITY: N/A
MOVEMENT CAPACITY: 2 1/2"
ROTATION CAPACITY: .020 RADIANS



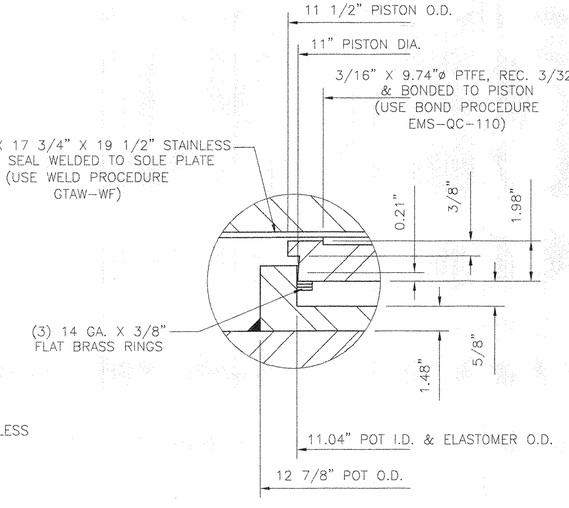
SECTION D – D

COSMEC NON-GUIDED EXPANSION POT BEARING

QUANTITY: 2
LOCATION: PIER, GIRDERS 1 & 4
VERTICAL LOAD CAPACITY: 335 KIPS
TRANSVERSE LOAD CAPACITY: N/A
LONGITUDINAL LOAD CAPACITY: N/A
MOVEMENT CAPACITY: 1 1/2"
ROTATION CAPACITY: .015 RADIANS



ANCHOR BOLT DETAIL



DETAIL D
N.T.S.

BEARING NOTES

1. ALL MATERIALS USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS ARE TO BE SHIPPED AS COMPLETE UNITS, STEEL BANDED, AND SHALL BE WRAPPED TO PROTECT FROM MOISTURE AND DIRT DURING TRANSIT AND STORAGE.
3. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
4. COSMEC, INC. REPRESENTATIVE – MR. MATT McANDREWS (508) 668-6600
5. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION.
6. BEARINGS MUST NOT BE DISASSEMBLED
7. PROTECT PTFE & S.S. SURFACES FROM DIRT, WELD SPATTER, & ANY OTHER FOREIGN SUBSTANCES.

MATERIALS

STEEL – ASTM A709 GRADE 36, ZINC METALLIZED
STAINLESS STEEL – ASTM A240 TYPE 304, WITH 20 RMS FINISH OR LESS
PREFORMED FABRIC PAD – AASHTO DIV. II SPEC. 18.4.9.1
ANCHOR BOLTS – SEE ANCHOR BOLT DETAIL
PTFE – ASTM D.4894 VIRGIN UNFILLED
ELASTOMER – AASHTO SHORE A DUROMETER 50 ± 5 DUROMETER
BRASS SEALING RINGS – ASTM B.36 HALF HARD

RECEIVED
CK'D BY _____ CK'D BY
DEC 1 4 2006
RESUBMIT _____ APPROVED
BY _____ DATE 12/27/06

REV.		BY	DATE	CK'D	DATE

VERMONT
AGENCY OF TRANSPORTATION
HUNTINGTON
PROJECT BRO 1445(29)
EAST STREET (T.H.#4) OVER HUNTINGTON RIVER
BRIDGE NO. 42

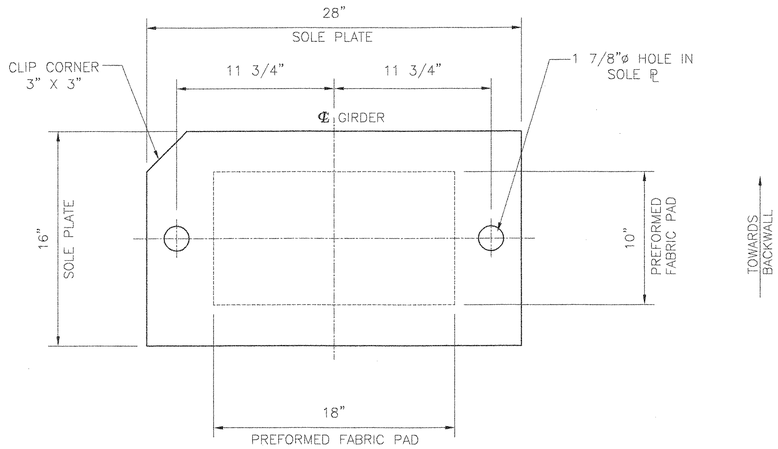
COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 3/16"=1"	DRAWN BY: MRR	CHECKED BY: MCM
DATE:	DATE: 11/16/06	DATE: 12/8/06

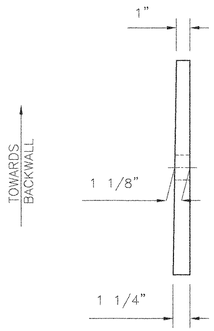
COSMEC POT BEARINGS

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
PARENT CONSTRUCTION INC.	60630	5058	

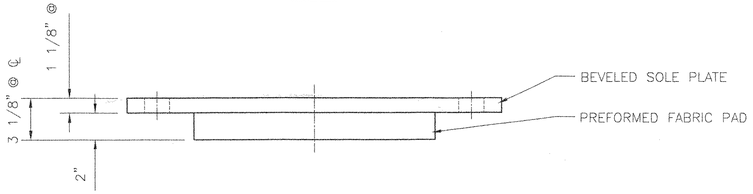
069 EB



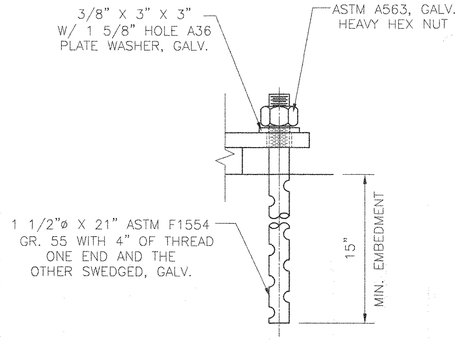
PLAN



SIDE ELEVATION



FRONT ELEVATION



COSMEC FIXED FABRIC PAD BEARING

QUANTITY: 4
LOCATION: ABUTMENT 2, GIRDERS 1-4
VERTICAL LOAD CAPACITY: 150 KIPS
TRANSVERSE LOAD CAPACITY: 15 KIPS
LONGITUDINAL LOAD CAPACITY: 15 KIPS
MOVEMENT CAPACITY: 0"
ROTATION CAPACITY: .016 RADIANS

BEARING NOTES

1. ALL MATERIALS USED IN THE FABRICATION OF THESE BEARINGS SHALL BE MADE IN THE U.S.A.
2. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION.
3. LOCATION OF FABRICATION PLANT – 70 SOUTH STREET WALPOLE, MA 02081
4. COSMEC, INC. REPRESENTATIVE – MR. MATT McANDREWS (508) 668-6600

MATERIALS

STEEL – ASTM A709 GRADE 36, ZINC METALLIZED
PREFORMED FABRIC PAD – AASHTO DIV. II SPEC. 18.4.9.1
ANCHOR BOLTS – SEE ANCHOR BOLT DETAIL

RECEIVED
CK'D BY _____ CK'D BY
DEC 14 2006
RESUBMIT _____ APPROVED
BY _____ DATE 12/13/06

REV.		BY	DATE	CK'D	DATE

VERMONT
AGENCY OF TRANSPORTATION
HUNTINGTON
PROJECT BRO 1445(29)
EAST STREET (T.H.#4) OVER
HUNTINGTON RIVER
BRIDGE NO. 42

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

SCALE: 3/16"=1"	DRAWN BY: MRR	CHECKED BY: MCM
DATE:	DATE: 11/16/06	DATE: 12/8/06

COSMEC FABRIC PAD BEARING

CUSTOMER	S.O. NUMBER	DRAWING NUMBER	REV.
PARENT CONSTRUCTION INC.	60630	5059	

070 BB

VERMONT

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

Agency of Transportation

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

October 30, 2006

Carolina Steel Corporation
P. O. Box 20888
Greensboro, NC 27420

Attention: Mike Williams, Manager, Bridge Drafting

Project Name: Huntington Project #: BRO 1445(29)
Structure Identification: TH # 4, Bridge #42, East Street over Huntington River

The following structural steel details and welding procedures [Item 506.55, Structural Steel (Plate Girder),] for the above project (**Vendor's Job # 18362H25**) transmitted with your letters dated August 30, 2006 and October 10, 2006, have been reviewed and are being returned herewith.

Sheets: HN1, HE1-HE3, HF1A/B-HF8A/B, HF9-HF19 and Welding Procedures 3N47, 3N48, 3N43, 3N34, and 3N6-10 **are approved or approved "as noted".**

Upon submitting extended weights for our approval, please make appropriate changes as indicated on these "as noted" drawings and submit white prints for out use in the record plans for this project.

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

Sincerely,

Warren Tripp

Warren Tripp, Project Manager

Attachments
cc: [X] Resident Engineer Dale Norton w/prints
[ ] Shop Inspector Jeff Clark w/prints
[ ] Parent Construction, Inc. w/prints
[ ] Subcontractor – letter only
[ ] Construction Division – letter only
[ ] Materials & Research Section (C&IA Unit) – letter only
[ ] Files (Structures & Central)

071 SS

VTrans Working to Get You There! Vermont Agency of Transportation

CAROLINA STEEL FABRICATION INC.
NASH COUNTY *PLANT*

VERMONT PROJECT: VT # BRO1445 (29) **CSC JOB NO.: 18362H25**
BRIDGE: #42 East Street (TH #4)
REFERENCE SPECS: AWS D1.5-02, VT-DOT STD SPECS - 2001
STRUCTURE: BRIDGE IN HUNTINGTON, VT.

JOINT WELDING
PROCEDURE SPECIFICATION

MATERIAL SPECIFICATION: M270-50W
WELDING PROCESS: SUBMERGED ARC WELDING
MANUAL OR MACHINE: MACHINE (STIFFENER WELDER)
POSITION OF WELDING: 2F-HORIZONTAL
FILLER METAL SPECIFICATION: AWS A5.23
FILLER METAL CLASSIFICATION: F7A4 EM12K - H8 LINCOLN L-61
ELECTRODE STICKOUT: 3/4" **SHIELDING GAS:** NA
FLUX: F7A4-LINCOLN AXXX10 **SINGLE OR MULTIPLE PASS:** SEE BELOW
SINGLE OR MULTIPLE ARC: SINGLE
WELDING CURRENT: DC- (STRAIGHT)
WELDING PROGRESSION: NA
ROOT TREATMENT: PER AWS D1.5 PARAGRAPH 3.2.1
PREHEAT & INTERPASS TEMPERATURE: PER AASHTO TABLE 4.4
HEAT INPUT MAXIMUM: 72 **MINIMUM:** 43.2
MAXIMUM INTERPASS TEMPERATURE: 316°C / 600 F

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	WELDING CURRENT VOLTS	TRAVEL SPEED IPM	JOINT DETAIL FILLETS
1	3/32"	400 - 450	28 - 32	12 - 15	1/4"
1	3/32"	400 - 450	28 - 32	12 - 15	5/16"

THE MAXIMUM SINGLE PASS FILLET WELD SHALL NOT EXCEED 5/16"

NON-FCM PROCEDURE

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE ECT., WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5- AWS D1.5.

PROCEDURE NO. 3N34 REV. 0 **APPROVED BY:** [signature]
WPQR REFERENCE NO.: 213-FC & CSC 142 B **QUALITY CONTROL SUPERVISOR**

PREHEAT

THICKNESS	TEMP.
UP TO 3/4"	50F
OVER 3/4" TO 1-1/2"	70F
OVER 1-1/2" TO 2-1/2"	150F
OVER 2-1/2"	225F

VTRANS
RECEIVED
OK'D BY JWC OK'D BY
OCT 11 2006
RESUBMIT APPROVED
BY DATE 10/30/06

07255

CAROLINA STEEL FABRICATION INC.
NASH COUNTY *PLANT*

VERMONT PROJECT: VT# BRO 1445 (29) **CSC JOB NO.: 18362H25**
BRIDGE: #42 East Street (TH #4)
REFERENCE SPECS: AWS D1.5-02, VT-DOT STD SPECS - 2001
STRUCTURE: BRIDGE IN HUNTINGTON VT

JOINT WELDING
PROCEDURE SPECIFICATION

MATERIAL SPECIFICATION: M270-50W
WELDING PROCESS: SUBMERGED ARC WELDING
MANUAL OR MACHINE: MACHINE
POSITION OF WELDING: 1F-FLAT
FILLER METAL SPECIFICATION: AWS A5.23
FILLER METAL CLASSIFICATION: F7A4 EM12K - H8 LINCOLN L-61
ELECTRODE STICKOUT: 1" **SHIELDING GAS:** NA
FLUX: LINCOLN F7A4 AXXX10 **SINGLE OR MULTIPLE PASS:** SINGLE
SINGLE OR MULTIPLE ARC: MULTIPLE
WELDING CURRENT: DC- (REVERSE)
WELDING CURRENT: DC-(LEAD), AC-(TRAIL)
ROOT TREATMENT: PER AWS D1.5 PARAGRAPH 3.2.1
PREHEAT & INTERPASS TEMPERATURE: PER AASHTO TABLE 4.4
HEAT INPUT MAXIMUM 112.2 **MINIMUM:** 67.3
MAXIMUM INTERPASS TEMPERATURE: 316°C / 600 F

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	WELDING CURRENT VOLTS	TRAVEL SPEED IPM	JOINT DETAIL FILLETS
1	3/16"	DC 750 - 850	30 - 32		
	3/16"	AC 725 - 825	32 - 35	30 - 40	1/4"
1	3/16"	DC 750 - 850	30 - 32		
	3/16"	AC 725 - 825	32 - 35	30 - 40	5/16"

STICKOUT	ARC SPACING	
DC 1" TO 1-1/2"	5/8"	TRACTOR WELDER
AC 1" TO 1-1/2"	5/8" WITH 10 DEGREE TILT	

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE ECT., WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5- AWS D1.5.

PROCEDURE NO.: 3N43 REV. 0 **APPROVED BY:** _____
WPQR REFERENCE NO.: CSC 208 - FC & CSC 143 A QUALITY CONTROL SUPERVISOR

PREHEAT THICKNESS	TEMP.
UP TO 3/4"	50F
OVER 3/4" TO 1-1/2"	70F
OVER 1-1/2" TO 2-1/2"	150F
OVER 2-1/2"	225F

VTRANS RECEIVED
OK'D BY _____ OK'D BY _____
OCT 11 2006
RESUBMIT _____ APPROVED
BY _____ DATE 10-30-06

07355

CAROLINA STEEL FABRICATION INC.
NASH COUNTY PLANT

VERMONT PROJECT: VT# BRO 1445 (29) **CSC JOB NO.: 18362H25**
BRIDGE: #42 East Street (TH #4)
REFERENCE SPECS: AWS D1.5-02, VT-DOT STD SPECS - 2001
STRUCTURE: BRIDGE IN HUNTINGTON VT

JOINT WELDING
PROCEDURE SPECIFICATION

MATERIAL SPECIFICATION: M270-50W
WELDING PROCESS: SUBMERGED ARC WELDING
MANUAL OR MACHINE: MACHINE AND SEMI-AUTO
POSITION OF WELDING: 1G- (FLAT GROOVE)
FILLER METAL SPECIFICATION: AWS A5.23
FILLER METAL CLASSIFICATION: F7A4-EM12K - H8 (LINCOLN L-61)
FLUX: F7A4- LINCOLN AXXX10 **SHIELDING GAS:** NA
ELECTRODE STICKOUT: 3/4" **SINGLE OR MULTIPLE PASS:** MULTIPLE
SINGLE OR MULTIPLE ARC: SINGLE
WELDING CURRENT: DC- REVERSE
WELDING PROGRESSION: NA
ROOT TREATMENT: PER AWS D1.5 PARAGRAPH 3.2.1
PREHEAT & INTERPASS TEMPERATURE: PER AASHTO TABLE 4.4(SEE BELOW)
HEAT INPUT MAXIMUM 96 **MINIMUM:** 57.6
MAXIMUM INTERPASS TEMPERATURE: 316°C / 600 F

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	WELDING CURRENT VOLTS	TRAVEL SPEED IPM	JOINT DETAIL 5/8" MAX B-L1A-S
ALL	3/32"	430-500	29-32	10 - 13	

* POSITION FLAT GROOVE *

T1= BASE METAL	R= ROOT	R= ROOT FACE
OVER 1/2" TO 1"	0	1/4" MINIMUM
OVER 1" TO 1-1/2"	0	3/8" MINIMUM
OVER 1-1/2" TO 2"	0	1/2" MINIMUM

BACKGOUGE SECOND SIDE TO SOUND METAL PRIOR TO WELDING
A=ANGLE= 60 DEGREES
NON-FCM PROCEDURE

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE ECT., WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5- AWS D1.5.

PROCEDURE NO.: 3N47 REV. 0 **APPROVED BY:** _____
WPQR REFERENCE NO.: CSC 207 - FC **QUALITY CONTROL SUPERVISOR**

PREHEAT THICKNESS	TEMP.
UP TO 3/4"	50F
OVER 3/4" TO 1-1/2"	70F
OVER 1-1/2" TO 2-1/2"	150F
OVER 2-1/2"	225F

VTRANS
RECEIVED
OK'D BY _____ OK'D BY JLK
OCT 11 2006
RESUBMIT _____ APPROVED ✓
BY _____ DATE 10-30-06

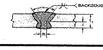
074 SS

CAROLINA STEEL FABRICATION INC.
NASH COUNTY *PLANT*

VERMONT PROJECT: VT# BRO 1445 (29) **CSC JOB NO.: 18362H25**
BRIDGE: #42 East Street (TH #4)
REFERENCE SPECS: AWS D1.5-02, VT-DOT STD SPECS - 2001
STRUCTURE: BRIDGE IN HUNTINGTON VT

JOINT WELDING
PROCEDURE SPECIFICATION

MATERIAL SPECIFICATION: M270-50W
WELDING PROCESS: SUBMERGED ARC WELDING
MANUAL OR MACHINE: MACHINE
POSITION OF WELDING: 1G- (FLAT GROOVE)
FILLER METAL SPECIFICATION: AWS A5.23
FILLER METAL CLASSIFICATION: F7A4-EM12K - H8 (LINCOLN L-61)
FLUX: F7A4- LINCOLN AXXX10 | **SHIELDING GAS:** NA
ELECTRODE STICKOUT: 3/4" | **SINGLE OR MULTIPLE PASS:** MULTIPLE
SINGLE OR MULTIPLE ARC: SINGLE
WELDING CURRENT: DC- REVERSE
WELDING PROGRESSION: NA
ROOT TREATMENT: PER AWS D1.5 PARAGRAPH 3.2.1
PREHEAT & INTERPASS TEMPERATURE: PER AASHTO TABLE 4.4
HEAT INPUT MAXIMUM 96 **MINIMUM;** 57.6
MAXIMUM INTERPASS TEMPERATURE: 316°C / 600 F

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	WELDING CURRENT VOLTS	TRAVEL SPEED IPM	JOINT DETAIL B-L2c-S
ALL	3/32"	430-500	29-32	10TO13	

POSITION- 1G FLAT

T1= BASE METAL	R= ROOT	R= ROOT FACE
OVER 1/2" TO 1"	0	1/4" MINIMUM
OVER 1" TO 1-1/2"	0	3/8" MINIMUM
OVER 1-1/2" TO 2"	0	1/2" MINIMUM

NON-FCM PROCEDURE

BACKGOUGE SECOND SIDE TO SOUND METAL PRIOR TO WELDING
A=ANGLE= 60 DEGREES

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE ECT., WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5- AWS D1.5.

PROCEDURE NO.: 3N48 REV. 0 **APPROVED BY:** [signature]
WPQR REFERENCE NO.: CSC 207 - FC QUALITY CONTROL SUPERVISOR

PREHEAT THICKNESS	TEMP.
UP TO 3/4"	50F
OVER 3/4" TO 1-1/2"	70F
OVER 1-1/2" TO 2-1/2"	150F
OVER 2-1/2"	225F

VERMONT RECEIVED
CK'D BY _____ CK'D BY [signature]
OCT 11 2006
RESUBMIT _____ APPROVED [signature]
BY _____ DATE 10-30-06

07555

CAROLINA STEEL FABRICATION INC.
NASH COUNTY *PLANT*

VERMONT PROJECT: VT# BRO 1445 (29) **CSC JOB NO.: 18362H25**
BRIDGE: #42 East Street (TH #4)
REFERENCE SPECS: AWS D1.5-02, VT-DOT STD SPECS - 2001
STRUCTURE: BRIDGE IN HUNTINGTON VT

JOINT WELDING
PROCEDURE SPECIFICATION

MATERIAL SPECIFICATION: M270-50W
WELDING PROCESS: SHIELDED METAL ARC WELDING (SMAW)
MANUAL OR MACHINE: MANUAL
POSITION OF WELDING: 1F-FLAT & 2F-HORIZONTAL
FILLER METAL SPECIFICATION: AWS A5.5
FILLER METAL CLASSIFICATION: E8018-C3
FLUX: NA **SHIELDING GAS:** NA
FLOW RATE: NA **SINGLE OR MULTIPLE PASS:** (SEE BELOW)
SINGLE OR MULTIPLE ARC: SINGLE
WELDING CURRENT: AC
WELDING PROGRESSION: NA
ROOT TREATMENT: PER AWS D1.5 PARAGRAPH 3.2.1
PREHEAT & INTERPASS TEMPERATURE: PER AASHTO TABLE 4.4
MAXIMUM INTERPASS TEMPERATURE: 300 F

PASS NO.	ELECTRODE SIZE	WELDING CURRENT AMPERES	WELDING CURRENT VOLTS	TRAVEL SPEED IPM	JOINT DETAIL FILLETS
ALL	5/32"	140-225	23-27	NA	3/16" TO 3/8"
ALL	3/16"	230-305	23-27	NA	3/16" TO 3/8"
ALL	7/32"	270-365	23-27	NA	3/16" TO 3/8"
ALL	1/4"	315-400	23-27	NA	3/16" TO 3/8"

* THE MAXIMUM SIZE SINGLE PASS FILLET WELD SHALL BE 5/16" FOR THE HORIZONTAL POSITION AND 3/8" FOR THE FLAT POSITION. *

NON-FCM PROCEDURE

THIS PROCEDURE MAY VARY DUE TO FABRICATION SEQUENCE, FIT-UP, PASS SIZE ECT., WITHIN THE LIMITATION OF VARIABLES GIVEN IN SECTION 5- AWS D1.5.

PROCEDURE NO.: 3N6-10 REV. 0.
APPROVED BY: **QUALITY CONTROL SUPERVISOR**
WPQR REFERENCE NO.: NA

PREHEAT THICKNESS	TEMP.
UP TO 3/4"	50F
OVER 3/4" TO 1-1/2"	70F
OVER 1-1/2" TO 2-1/2"	150F
OVER 2-1/2"	225F

RECEIVED
OK'D BY _____ OK'D BY
OCT 11 2006
RESUBMIT _____ APPROVED
BY DATE 10-30-06

076 55

Carolina Steel Group LLC

A HIRSCHFELD STEEL GROUP LP COMPANY
P.O. Box 20888 / Greensboro, N.C. 27420
Telephone: (336) 275-9711

Date: April 2, 2007
Carolina Steel Job Number: 18362H25

TO: Vermont Agency of Transportation
Structure Section
Attn: Warren Tripp
One National Life Drive
Montpelier, VT 05633-5001

Via: Best Way

RE: VT #BRO 1445(29)
Town of Huntington, VT
Chittenden County, VT

We are forwarding: ___X___ Herewith _____ Under Separate Cover

_____ For Approval
_____ For Your Use
_____ For Information Only
_____ For Permit Only

_____ Approved
_____ Approved as Noted
_____ Final Approval
___X___ Other:

Number of Original	Number of Prints	Revision Number	Drawing Numbers
	1 (50%)		HN1, HE1 – HE4, HF2A/B, HF4A/B, HF8A/B, HF15 – HF19
		1	HF1A/B, HF3A, HF5A/B, HF6A/B, HF7B, HF12, HF13, HF14
		2	HF3B, HF7A, HF9, HF10, HF11
	1		WEIGHT PRINTOUT

NOTE: This statement only applies to drawings for **APPROVAL**/or corrections.
On drawings sent to you for **approval,** please check carefully our interpretation of your requirements and return one print each with your approval/or corrections noted thereon.

Remarks: Enclosed please find steel drawings for the above mentioned project with all the latest revisions as per your request along with weight printout.

Sincerely,

Mike Williams
Manager – Bridge Drafting

clw

07755

SPECIFICATIONS

CONSTRUCTION – VERMONT AGENCY OF TRANSPORTATION 2001 STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION & LATEST REVISION.

AASHTO STANDARD BRIDGE DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES, 2002 EDITION, WITH LATEST REVISIONS.

GENERAL SPECIAL PROVISIONS & SUPPLEMENTAL SPECIFICATIONS DATED 12-27-05

WELDING – ANSI/AASHTO/AWS BRIDGE WELDING CODE D1.5-02

MATERIALS

ALL STRUCTURAL STEEL SHALL COMPLY WITH AASHTO M270, GRADE 50W, UNPAINTED WEATHERING REQUIREMENTS UNLESS NOTED OTHERWISE.

ALL MATERIAL SHALL BE DOMESTIC.

FABRICATION NOTES

V – INDICATES CHARPY V-NOTCH TESTED PER SPECIAL PROVISIONS (SUBSECTION 714.01) DATED 12/6/05

HEAT NUMBERS SHALL BE PRESERVED AND VISIBLE TO THE INSPECTOR.

THE BOTTOM FLANGE OF GIRDERS AT BEARINGS SHALL BE SHOP STRAIGHTENED AS REQUIRED TO PROVIDE UNIFORM CONTACT BETWEEN THE GIRDER FLANGE AND THE BEARINGS AT THE BRIDGE SEAT.

THERE SHALL BE NO PAINT, CRAYON, OR CHALK MARKS ON THE STEEL EXCEPT WHERE NOTED "PAINTED".

FIELD SPLICES SHALL BE SHOP ASSEMBLED, AND THE HOLES IN THE WEB AND FLANGES SHALL BE DRILLED FROM THE SOLID USING THE OUTSIDE SPLICE PLATES AS TEMPLATES.

Ⓡ INDICATE RADIOGRAPHIC INSPECTION REQ'-D-(ULTRASONIC INSPECTION MAY BE USED PER STANDARD SPECS SECTION 506.06(d)

Ⓣ INDICATE WELDS SUBJECTED TO TENSION

GIRDERS LESS THAN 750'. RAD. SHALL BE FABRICATED BY CUTTING THE FLANGE PLATE TO THE REQUIRED CURVETURE. EACH PL SHALL BE FLAME CUT SIMULTANLOUSY ON BOTH EDGES TO REDUCE UNBALANCED SHRINKAGE.

IDENTIFICATION MARKING STEEL MEMBERS

ALL STEEL MILL AND FABRICATOR IDENTIFICATION MARKINGS FOR STEEL PLATES, SHAPES, OR FABRICATED MEMBERS SHALL BE BY METAL TAGS, SOAPSTONE OR SOME OTHER READILY REMOVABLE MATERIAL, OR SHALL BE MARKED IN AN AREA OF THE COMPLETED MEMBER WHICH WILL BE ENCLOSED OR COVERED WITH CONCRETE. MARKING METHODS AND LOCATIONS ARE SUBJECT TO APPROVAL OF THE ENGINEER.

DO NOT USE PAINT OR WAX-BASED CRAYONS FOR MARKINGS

RECEIVED

CK'D BY ______ OK'D BY ______

FEB 7 - 2007

RESUBMIT ______ APPROVED ______

BY DATE

PAINT NOTES

SURFACE PREPARATION – SSPC-SP10 (NEAR WHITE BLAST CLEANING). PRIOR TO BLAST CLEANING, ALL OIL, GREASE OR OTHER FOREIGN MATTER SHALL BE REMOVED BY SOLVENT CLEANING (SSPC-SP1).

GIRDERS WILL BE COATED IN PAINTED AREA WITH A 3-COAT PARTIAL PAINT SYSTEM, PER MANUFACTURING RECOMMENDATIONS

FINAL PAINT COAT TO BE DARK BROWN , FEDERAL COLOR CHIP NO.20059

SHOP PAINT – NO PAINT, UNLESS NOTED TO BE PAINTED ON DETAILS.

PAINT AREAS ARE PER SECTION 513 OF AUG. 2000 SUPPLEMENTAL SPECIFICATIONS.

PRIMER – EPOXY PRIMER CARBOLINE 859ZR (SHOP APPLIED)
INTERMEDIATE – EPOXY CARBOLINE 888 (SHOP APPLIED)

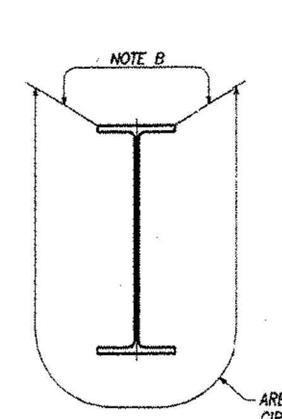
TOP COAT – 133HB ALIPHATIC POLYURETHANE (SHOP APPLIED). COLOR TO BE FED STANDARD 595. AND THE GLOSS AT AN ANGLE OF 60 DEGREES SHALL NOT EXCEED 25.

PAINT MANUFACTURER: CARBOLINE

SEE DETAIL BELOW AND INDIVIDUAL GIRDER DETAILS FOR 'NO PAINT' AREAS WITHIN THE AREAS DESIGNATED TO BE PAINTED.

NOTE B – MIST COAT PRIMER ONLY (1.5 MILS DFT)

NOTE C– INDICATE PRIMER ONLY
INTERMEDIATE AND TOP COATS TO BE STAGGERED A MINIMUM OF ½" FROM FAYING SURFACES AND EACH OTHER.



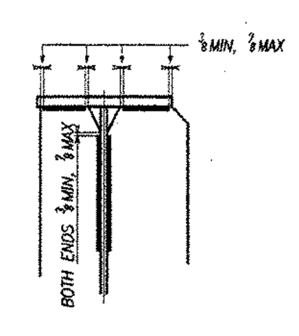
ERECTION NOTES

⅞" HEAVY HEX HIGH STRENGTH BOLTS (M164 TYPE 3) WITH ONE HARDENED WASHER ARE PROVIDED FOR THIS PROJECT AT UNPAINTED AREAS.

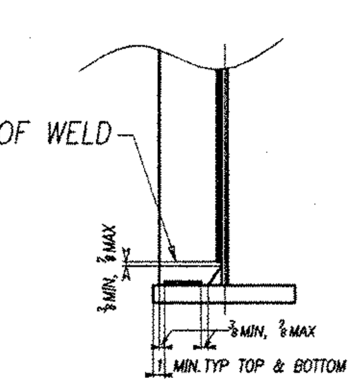
⅞" HEAVY HEX HIGH STRENGTH BOLTS (M164 TYPE 1) WITH ONE HARDENED WASHER ARE PROVIDED FOR THIS PROJECT AT PAINTED AREAS.

PLACE WASHER UNDER THE TURNED ELEMENT.

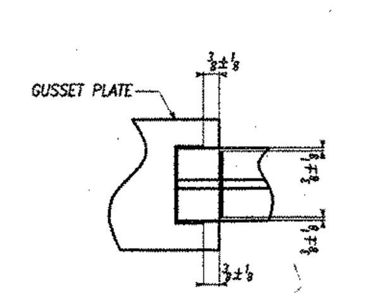
FIELD WELDS ARE NOT BY CAROLINA STEEL CORPORATION



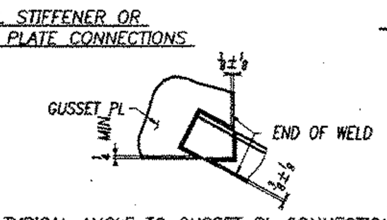
TYPICAL STIFFENER OR CONNECTOR PLATE CONNECTIONS



TYPICAL STIFFENER OR CONNECTOR PLATE CONNECTIONS



TYPICAL WT TO GUSSET WELD DETAIL



TYPICAL ANGLE TO GUSSET PL CONNECTION

WELD TERMINATION DETAILS

Revised sheets re: shop paint at diaphragm connections

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES
SHOP PAINT
GENERAL NOTES

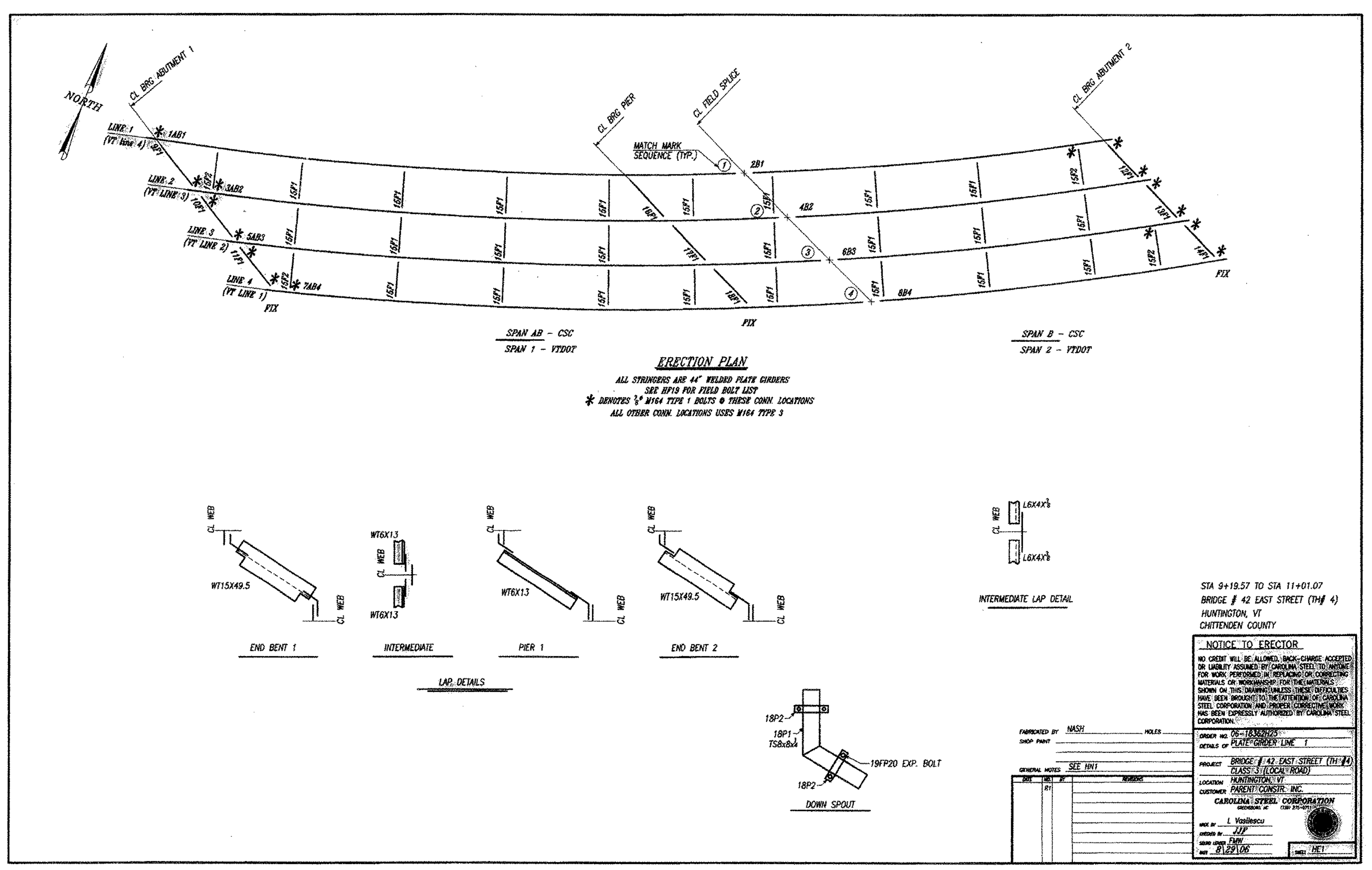
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF GENERAL NOTES
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

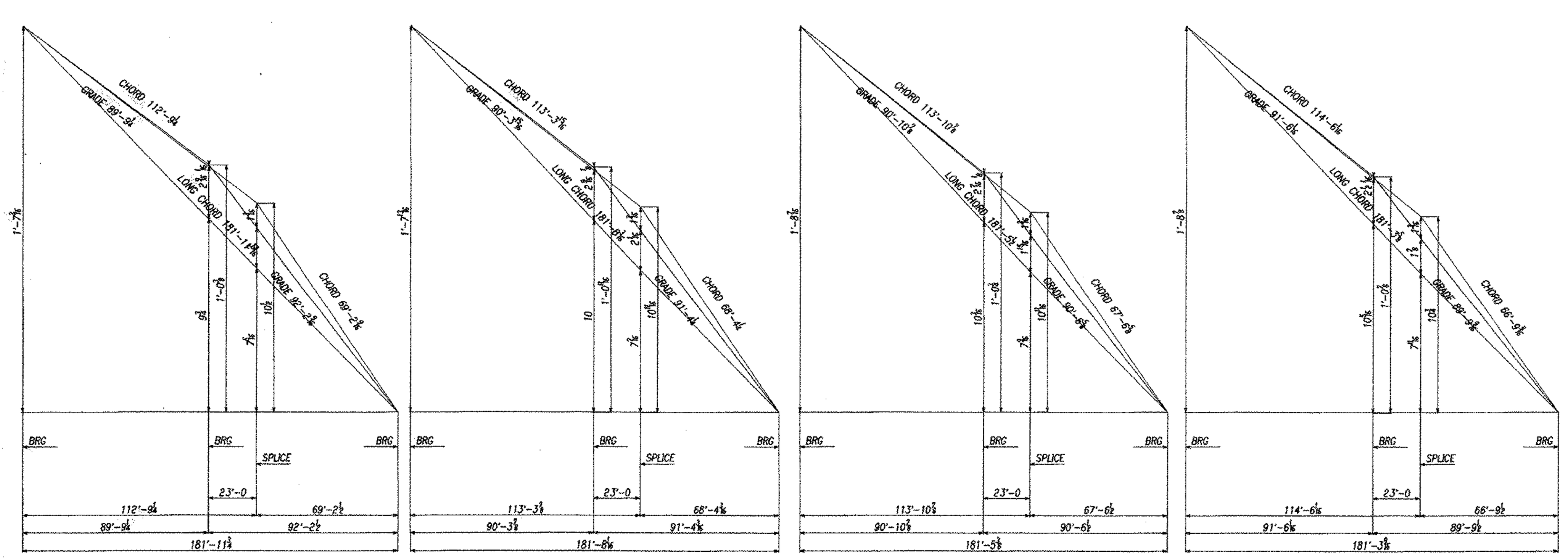
CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HN1

07855


NORTH
CL BRG ABUTMENT 1
CL BRG PIER
CL FIELD SPLICE
CL BRG ABUTMENT 2
MATCH MARK SEQUENCE (TYP.)
LINE 1 (VT line 4)
LINE 2 (VT LINE 3)
LINE 3 (VT LINE 2)
LINE 4 (VT LINE 1)
1AB1
3AB2
5AB3
7AB4
2B1
4B2
6B3
8B4
9F1
10F1
11F1
12F1
13F1
14F1
15F1
15F2
16F1
17F1
18F1
FIX
SPAN AB - CSC
SPAN 1 - VTDOT
SPAN B - CSC
SPAN 2 - VTDOT
ERECTION PLAN
ALL STRINGERS ARE 44" WELDED PLATE GIRDERS
SEE HF19 FOR FIELD BOLT LIST
* DENOTES 7/8" M164 TYPE 1 BOLTS @ THESE CONN. LOCATIONS
ALL OTHER CONN. LOCATIONS USES M164 TYPE 3
CL WEB
WT15X49.5
WT6X13
END BENT 1
INTERMEDIATE
PIER 1
END BENT 2
LAP DETAILS
L6X4X3/8
INTERMEDIATE LAP DETAIL
18P2
18P1
TS8x8x1/4
19FP20 EXP. BOLT
DOWN SPOUT
STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY
NOTICE TO ERECTOR
NO CREDIT WILL BE ALLOWED, BACK-CHARGE ACCEPTED OR LIABILITY ASSUMED BY CAROLINA STEEL TO ANYONE FOR WORK PERFORMED IN REPLACING OR CORRECTING MATERIALS OR WORKMANSHIP FOR THE MATERIALS SHOWN ON THIS DRAWING UNLESS THESE DIFFICULTIES HAVE BEEN BROUGHT TO THE ATTENTION OF CAROLINA STEEL CORPORATION AND PROPER CORRECTIVE WORK HAS BEEN EXPRESSLY AUTHORIZED BY CAROLINA STEEL CORPORATION.
FABRICATED BY NASH
SHOP PAINT
HOLES
GENERAL NOTES SEE HN1
DATE NO. BY REVISIONS
R1
ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 1
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
MADE BY L. Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8/29/06
SHEET HE1

079 SS



GRADE DIAGRAM LINE 1

GRADE DIAGRAM LINE 2

GRADE DIAGRAM LINE 3

GRADE DIAGRAM LINE 4

DEFINITION OF TERMS

ALL DIMENSIONS IN THE GRADE AND CAMBER DIAGRAMS, EXCEPT THOSE IDENTIFIED OTHERWISE, ARE ALONG THE LONG CHORD. THOSE IDENTIFIED BELOW ARE ALONG THE PLANES THROUGH THE ACTUAL ELEVATIONS.
LONG CHORD (ARC)–FROM CL END BRG TO CL END BRG
GRADE & CAMBER DIAGRAMS (ARCS)
GRADE LINE–FROM CL BRG TO CL BRG
CHORD LINE–FROM CL END BRG TO CL NEAREST FIELD SPLICE, OR FROM CL FIELD SPLICE TO CL FIELD SPLICE

BLOCKING NOTE

GIRDERS SHALL BE SHOP ASSEMBLED IN THE CAMBERED POSITION WITH THE BEARINGS AND SPLICES BLOCKED TO THE DIMENSIONS SHOWN, WITHOUT INDUCING STRESS INTO THE MEMBERS. FULLY ASSEMBLE AND CHECK ALL BLOCKING AND CAMBER ORDINATES IN THE SHOP, MAKING ADJUSTMENTS WHERE NECESSARY. HOLES SHALL BE DRILLED FROM THE SOLID (USING THE OUTSIDE SPLICE PLATE AS A TEMPLATE) AND MATCH MARKED WITH SPLICE MATERIAL ASSEMBLED TO THE GIRDERS.

FOR FIELD ERECTION, GIRDERS SHALL BE PINNED AND BOLTED, AND SPLICE ELEVATIONS SHALL BE CHECKED BEFORE BOLTS ARE TIGHTENED.

SHIPPING BOLTS SHALL BE MACHINE BOLTS.
ALL SHIPPING BOLTS SHALL BE REMOVED AND DISCARDED.

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES
SHOP PAINT
GENERAL NOTES SEE HN1

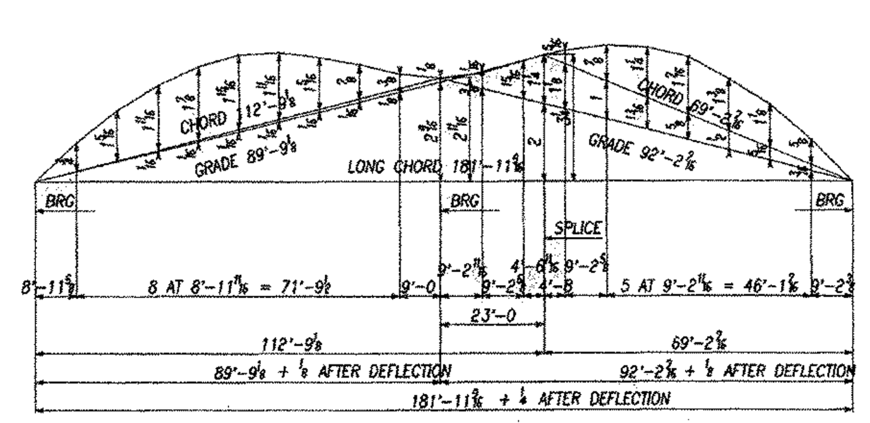
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF GRADE DIAGRAMS
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

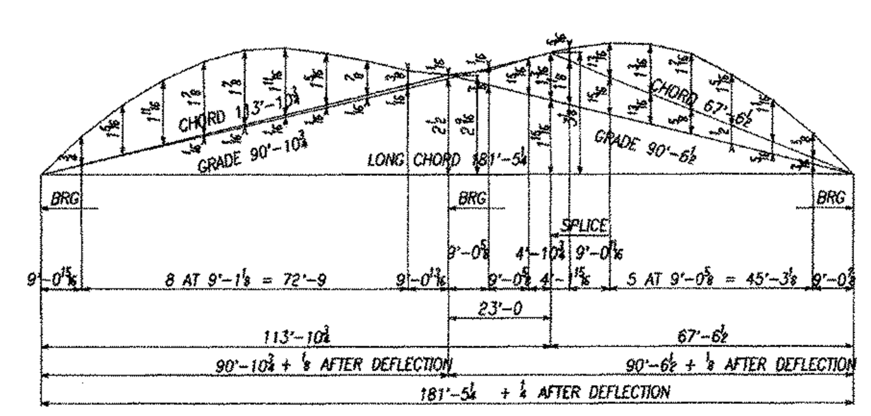
CAROLINA STEEL CORPORATION

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HE2

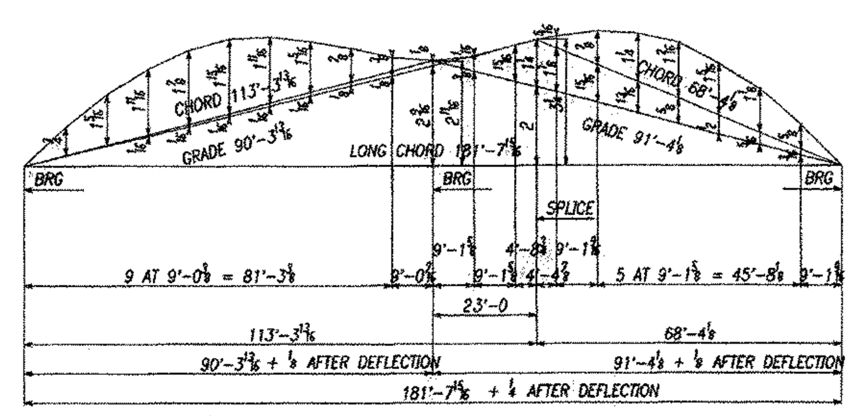
080SS



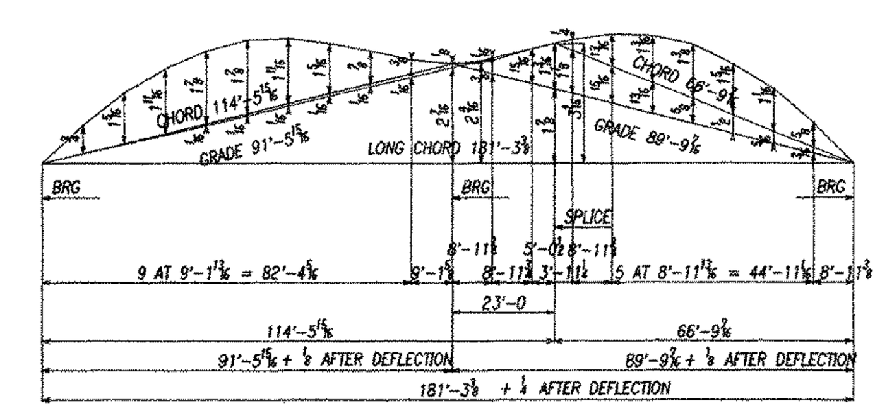
CAMBER DIAGRAM LINE 1



CAMBER DIAGRAM LINE 3



CAMBER DIAGRAM LINE 2



CAMBER DIAGRAM LINE 4

DEFINITION OF TERMS

ALL DIMENSIONS IN THE GRADE AND CAMBER DIAGRAMS, EXCEPT THOSE IDENTIFIED OTHERWISE, ARE ALONG THE LONG CHORD. THOSE IDENTIFIED BELOW ARE ALONG THE PLANES THROUGH THE ACTUAL ELEVATIONS.
LONG CHORD (ARC)—FROM CL END BRG TO CL END BRG
GRADE & CAMBER DIAGRAMS (ARCS)
GRADE LINE—FROM CL BRG TO CL BRG
CHORD LINE—FROM CL END BRG TO CL NEAREST FIELD SPLICE, OR FROM CL FIELD SPLICE TO CL FIELD SPLICE

BLOCKING NOTE

GIRDERS SHALL BE SHOP ASSEMBLED IN THE CAMBERED POSITION WITH THE BEARINGS AND SPLICES BLOCKED TO THE DIMENSIONS SHOWN, WITHOUT INDUCING STRESS INTO THE MEMBERS. FULLY ASSEMBLE AND CHECK ALL BLOCKING AND CAMBER ORDINATES IN THE SHOP, MAKING ADJUSTMENTS WHERE NECESSARY. HOLES SHALL BE DRILLED FROM THE SOLID (USING THE OUTSIDE SPLICE PLATE AS A TEMPLATE) AND MATCH MARKED WITH SPLICE MATERIAL ASSEMBLED TO THE GIRDERS.

FOR FIELD ERECTION, GIRDERS SHALL BE PINNED AND BOLTED, AND SPLICE ELEVATIONS SHALL BE CHECKED BEFORE BOLTS ARE TIGHTENED.

SHIPPING BOLTS SHALL BE MACHINE BOLTS.
ALL SHIPPING BOLTS SHALL BE REMOVED AND DISCARDED.

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES
SHOP PAINT
GENERAL NOTES SEE HN1

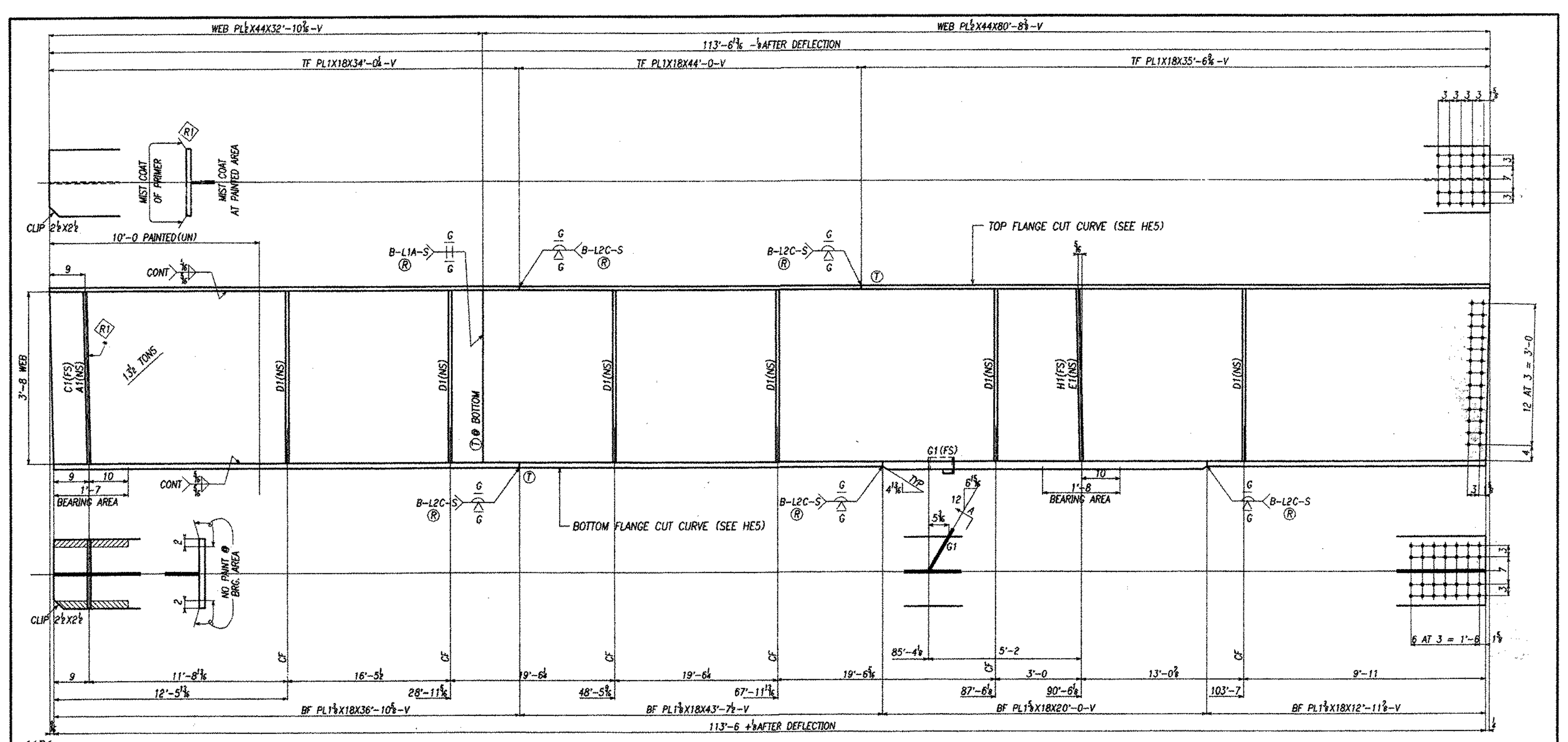
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF CAMBER DIAGRAMS
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC

MADE BY L Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HE3

08155



R1 ASTERISK * = DENOTES CONTACT SURFACE W/ PRIMER ONLY - " NOTE C "

RECEIVED
CK'D BY ______ OK'D BY
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF1B
GENERAL NOTES SEE HN1

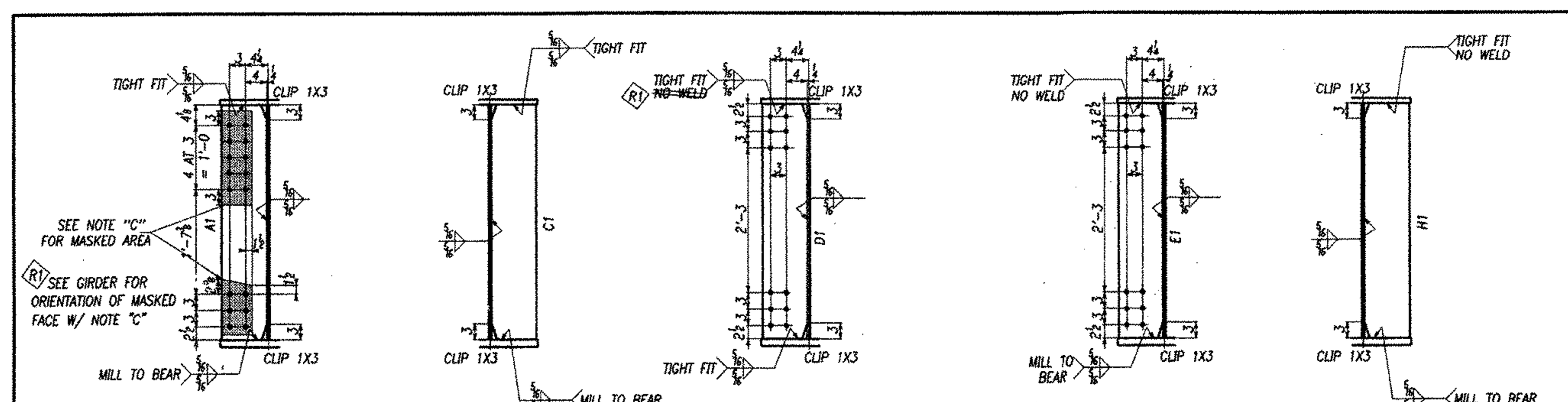
DATE	NO.	BY	REVISIONS
1-29-07	R1	FEW	MIST COAT TOP OF TOP FLG ONLY; PRIMER ONLY ON CONTACT SURF. NOTED " * "

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 1
SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION

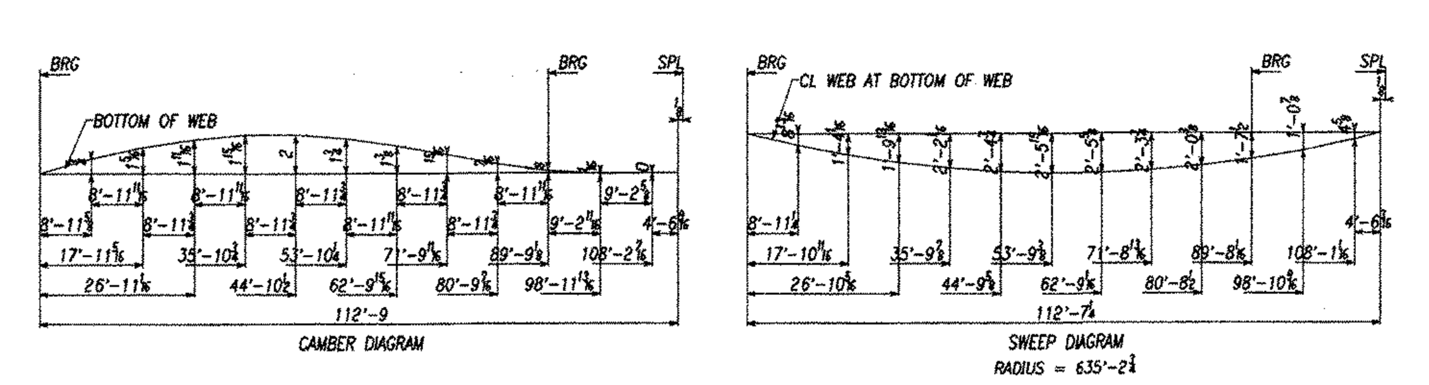
MADE BY L. Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF1A

08255



SHOP BILL

NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	DWG ITEM
1													
2	1	1AB1			PLATE GIRDER								
3			1		PL	1X18	34	0 1/4	TF1AB	V	M270-50W	2693NH	9
4			1		PL	1X18	44	0	TF2AB	V	M270-50W	2693NH	7
5			1		PL	1X18	35	6 9/16	TF3AB	V	M270-50W	2693NH	8
6													
7			1		PL	1 3/8X18	36	10 5/8	BF1AB	V	M270-50W	2693NH	4
8			1		PL	1 3/8X18	43	7 1/2	BF2AB	V	M270-50W	2693NH	3
9			1		PL	1 5/8X18	20	0	BF3AB	V	M270-50W	2693NH	1
10			1		PL	1 3/8X18	12	11 7/8	BF4AB	V	M270-50W	2693NH	5
11													
12			1		PL	1/2X44	32	10 7/16	W1AB	V	M270-50W	2693NH	14
13			1		PL	1/2X44	80	8 3/8	W2AB	V	M270-50W	2693NH	11
14													
15			1		PL	7/8X8 1/2	3	8	A1	FIN TF-1-E V	M270-50W	SHN	
16			1		PL	7/8X8 1/2	3	8	C1	FIN TF-1-E V	M270-50W	SHN	
17			6		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	2693NH	15
18			1		PL	7/8X8 1/2	3	8	E1	FIN TF-1-E V	M270-50W	SHN	
19													
20			1		PL	1/4X3 5/8	1	0 1/8	G1	TEMP	M270-50W	SHN	
21			1		PL	7/8X8 1/2	3	8	H1	FIN TF-1-E V	M270-50W	SHN	
22													
23													
24													
25	DOMESTIC MATERIAL												



RECEIVED
CK'D BY WBT OK'D BY
FEB 7 - 2007
RESUBMIT APPROVED ✓
BY W. Tapp DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF1A
GENERAL NOTES SEE HN1

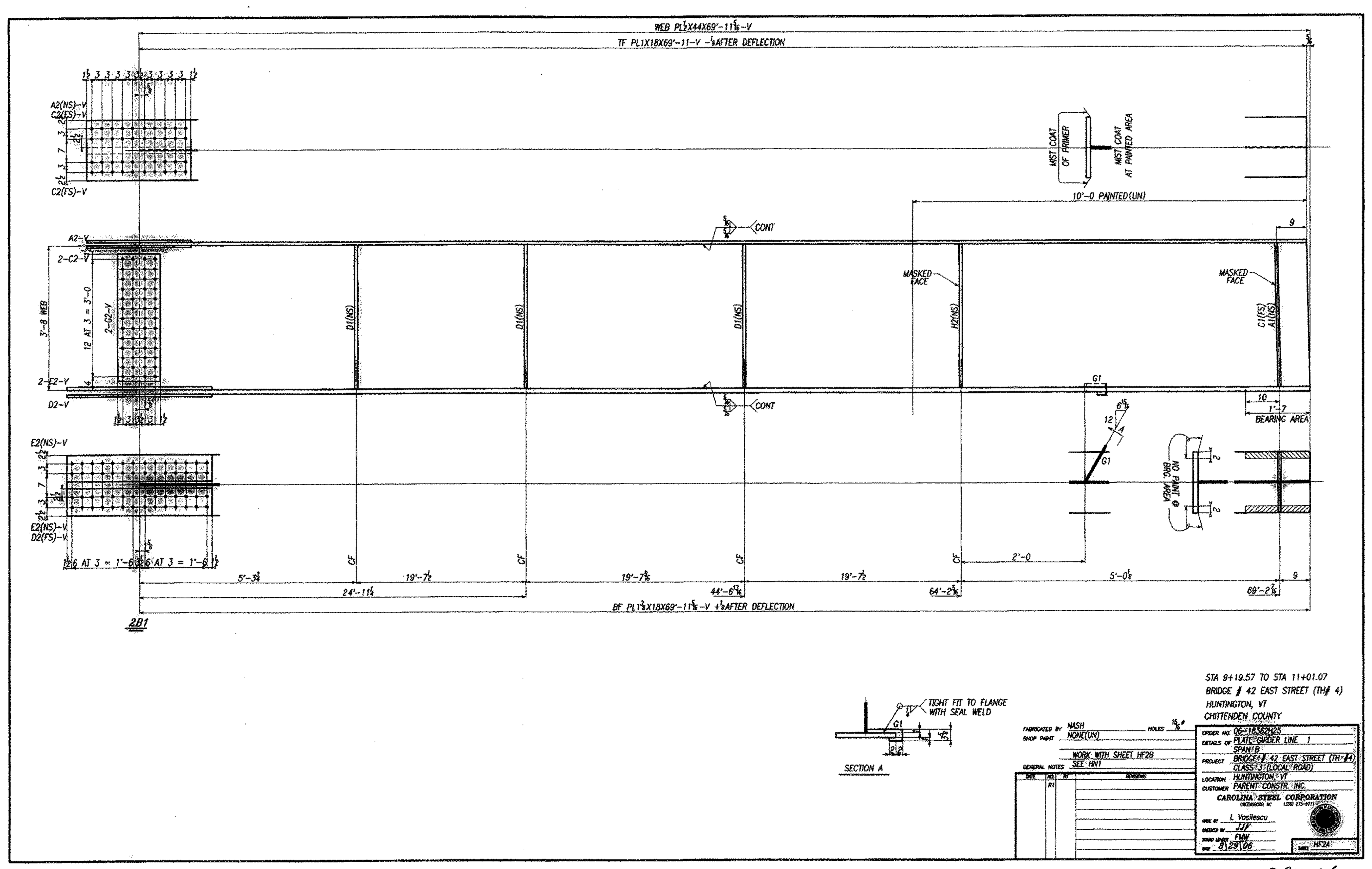
DATE	NO.	BY	REVISIONS
1-29-07	R1	FEW	ADD. NOTE TO A1 AND REV'D D1 AS NOTED

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 1 SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

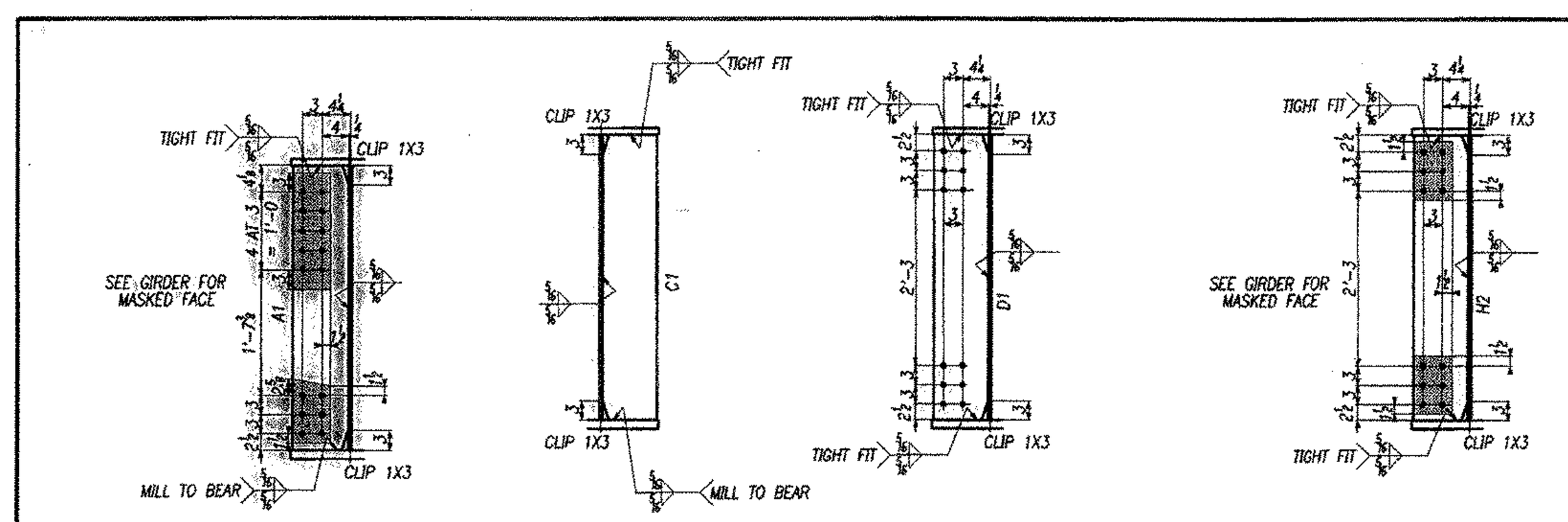
CAROLINA STEEL CORPORATION

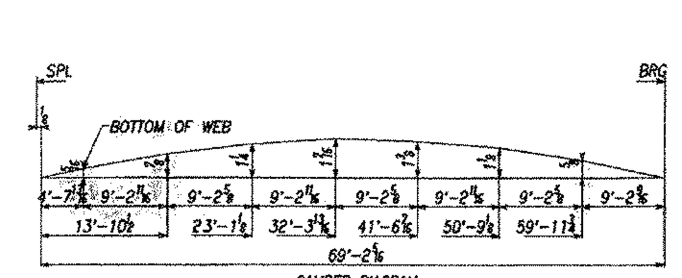
MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF1B

08355

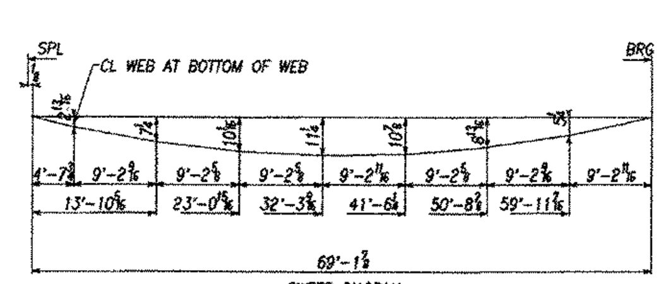

WEB PL½X44X69'-11⅝-V
TF PL1X18X69'-11-V -⅛AFTER DEFLECTION
MIST COAT OF PRIMER
MIST COAT PAINTED AREA
10'-0 PAINTED(UN)
MASKED FACE
CONT
BEARING AREA
BF PL1½X18X69'-11⅝-V ⅛AFTER DEFLECTION
TIGHT FIT TO FLANGE WITH SEAL WELD
SECTION A
STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY
FABRICATED BY NASH
SHOP PAINT NONE(UN)
HOLES 15/16"
WORK WITH SHEET HF2B
GENERAL NOTES SEE HN1
ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 1 SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
I. Vasilescu
JJF
FMW
8\29\06
HF2A

084 SS





CAMBER DIAGRAM



SWEEP DIAGRAM
RADIUS = 635'-2 1/16

SHOP BILL

	SHIPPING LIST NO. PCS	MARK	PCS REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.
1												
2	1	2B1			PLATE GIRDER							
3			1		PL	1X18	69	11	TF1B	V	M270-50W	
4												
5			1		PL	1 3/8X18	69	11 5/16	BF1B	V	M270-50W	
6												
7			1		PL	1/2X44	69	11 5/16	W1B	V	M270-50W	
8												
9			2		PL	7/8X8	3	6 1/2	E2	V	M270-50W	
10			1		PL	3/4X18	3	6 1/2	D2	V	M270-50W	
11			1		PL	5/8X18	2	6 1/2	A2	V	M270-50W	
12			2		PL	5/8X8	2	6 1/2	C2	V	M270-50W	
13												
14			2		PL	1/2X39	1	0 1/2	G2	V	M270-50W	
15												
16			1		PL	7/8X8 1/2	3	8	A1	FIN V	M270-50W	
17			1		PL	7/8X8 1/2	3	8	C1	FIN V	M270-50W	
18			3		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	
19			1		PL	1/2X8 1/2	3	8	H2	TF-2-E V	M270-50W	
20												
21			2	F	BOLT	7/8	0	2 1/2			A307	
22			4	F	BOLT	7/8	0	3 1/4			A307	
23			4	F	BOLT	7/8	0	4			A307	
24			1		PL	1/4X3 5/8	1	0 3/8	G1	TEMP	M270-50W	
25	DOMESTIC MATERIAL											

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16 #
SHOP PAINT NONE(UN)
WORK WITH SHEET HF2A
GENERAL NOTES SEE HN1

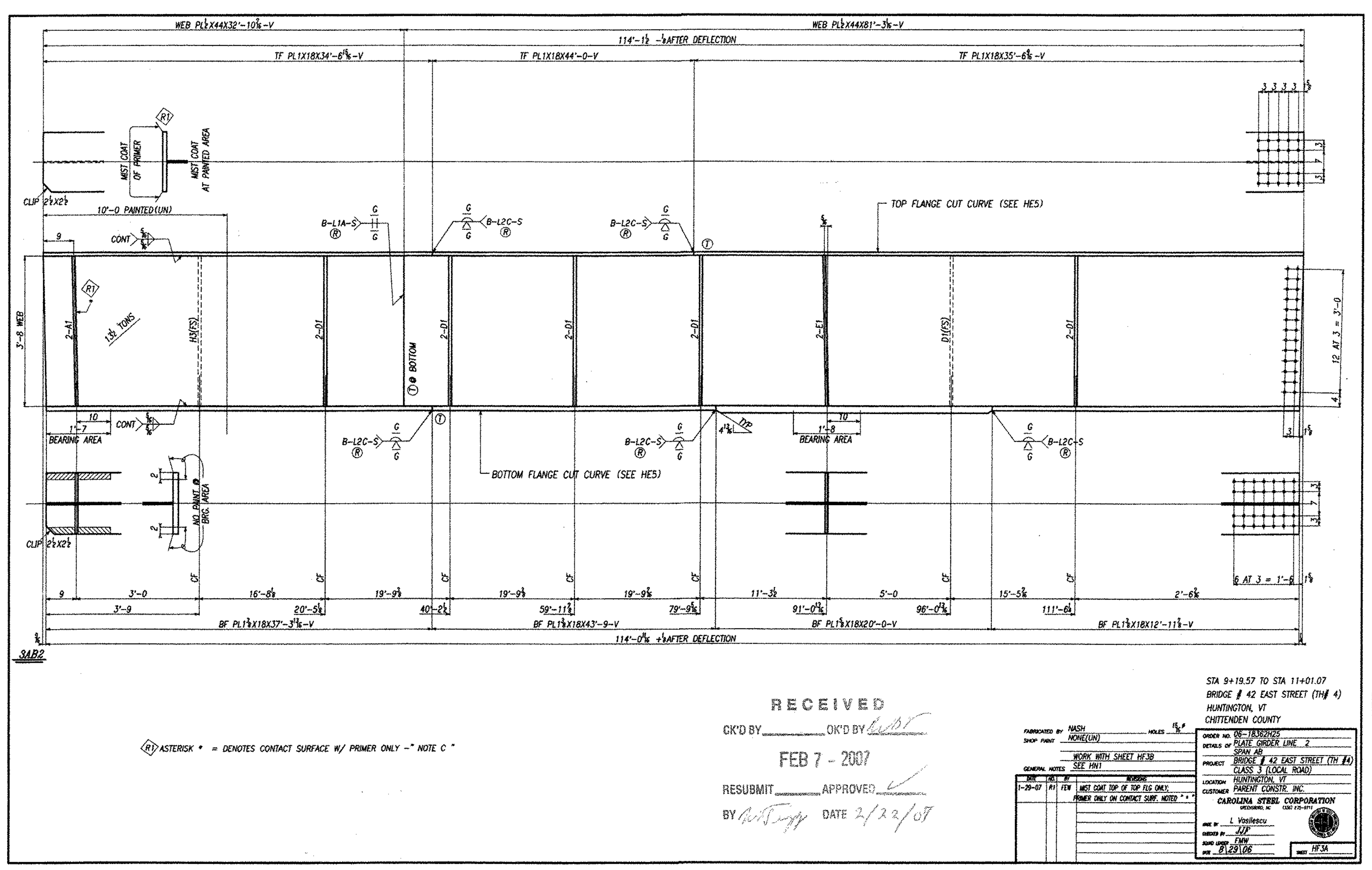
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 1
SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC

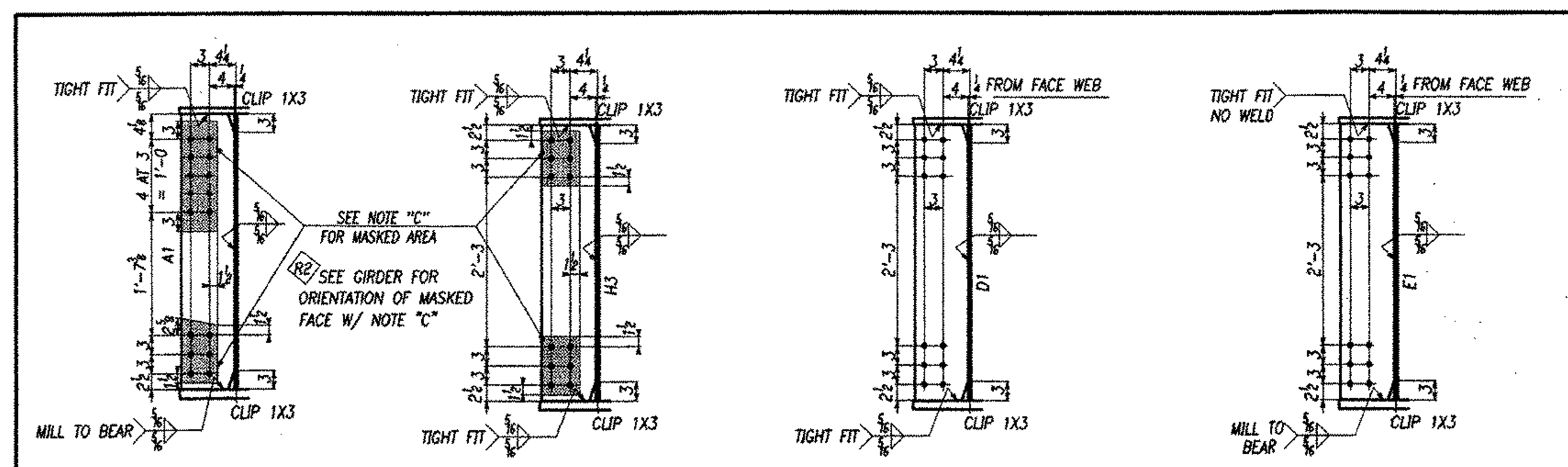
MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF2B

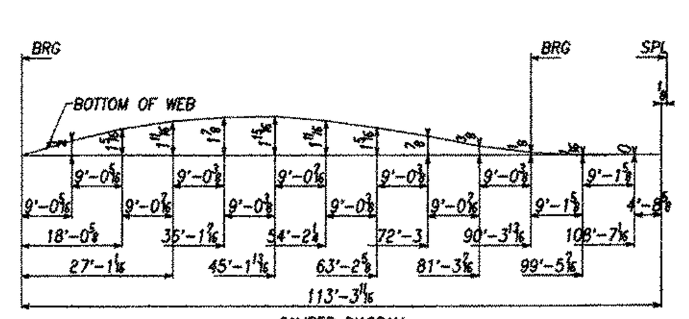
08555



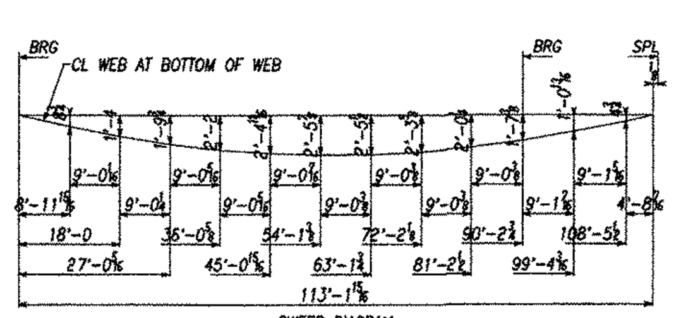
WEB PL1/2X44X32'-10 9/16-V
WEB PL1/2X44X81'-3 1/16-V
114'-1 1/2 -1/8 AFTER DEFLECTION
TF PL1X18X34'-6 15/16-V
TF PL1X18X44'-0-V
TF PL1X18X35'-6 9/16-V
MIST COAT OF PRIMER
MIST COAT AT PAINTED AREA
CLIP 2 1/2X2 1/2
10'-0 PAINTED(UN)
TOP FLANGE CUT CURVE (SEE HE5)
BOTTOM FLANGE CUT CURVE (SEE HE5)
BEARING AREA
BF PL1 3/8X18X12'-11 7/8-V
114'-0 3/8 +1/8 AFTER DEFLECTION
(R1) ASTERISK * = DENOTES CONTACT SURFACE W/ PRIMER ONLY -" NOTE C "
RECEIVED
CK'D BY
FEB 7 - 2007
RESUBMIT
APPROVED
BY
DATE 2/22/07
STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY
FABRICATED BY NASH
HOLES 15/16 #
SHOP PAINT NONE(UN)
WORK WITH SHEET HF3B
GENERAL NOTES SEE HN1
DATE NO. BY REVISIONS
1-29-07 R1 FEW MIST COAT TOP OF TOP FLG ONLY; PRIMER ONLY ON CONTACT SURF. NOTED " * "
ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 2 SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
L. Vasilescu
JJF
FMW
8\29\06
SHEET HF3A

086 SS





CAMBER DIAGRAM



SWEEP DIAGRAM
RADIUS = 643'-8¾

SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS. REQ'D	DESCRIPTION CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	
1													
2	1	3AB2			PLATE GIRDER								
3			1		PL	1X18	34	6 15/16	TF1AB	V	M270-50W	2693NH	9
4			1		PL	1X18	44	0	TF2AB	V	M270-50W	2693NH	7
5			1		PL	1X18	35	6 9/16	TF3AB	V	M270-50W	2693NH	8
6													
7			1		PL	1 3/8X18	37	3 13/16	BF1AB	V	M270-50W	2693NH	4
8			1		PL	1 3/8X18	43	9	BF2AB	V	M270-50W	2693NH	3
9			1		PL	1 5/8X18	20	0	BF3AB	V	M270-50W	2693NH	1
10			1		PL	1 3/8X18	12	11 7/8	BF4AB	V	M270-50W	2693NH	5
11													
12			1		PL	1/2X44	32	10 7/16	W1AB	V	M270-50W	2693NH	14
13			1		PL	1/2X44	81	3 1/16	W2AB	V	M270-50W	2693NH	11
14													
15			2		PL	7/8X8 1/2	3	8	A1	FW TF-1-E V	M270-50W	SHN	
16			11		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	2693NH	15
17			2		PL	7/8X8 1/2	3	8	E1	FW TF-1-E V	M270-50W	SHN	
18			1		PL	1/2X8 1/2	3	8	H3	FW TF-1-E V	M270-50W	2693NH	15
19													
20													
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

R1 (beside line 17)

RECEIVED
CK'D BY ______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF3A
GENERAL NOTES SEE HN1

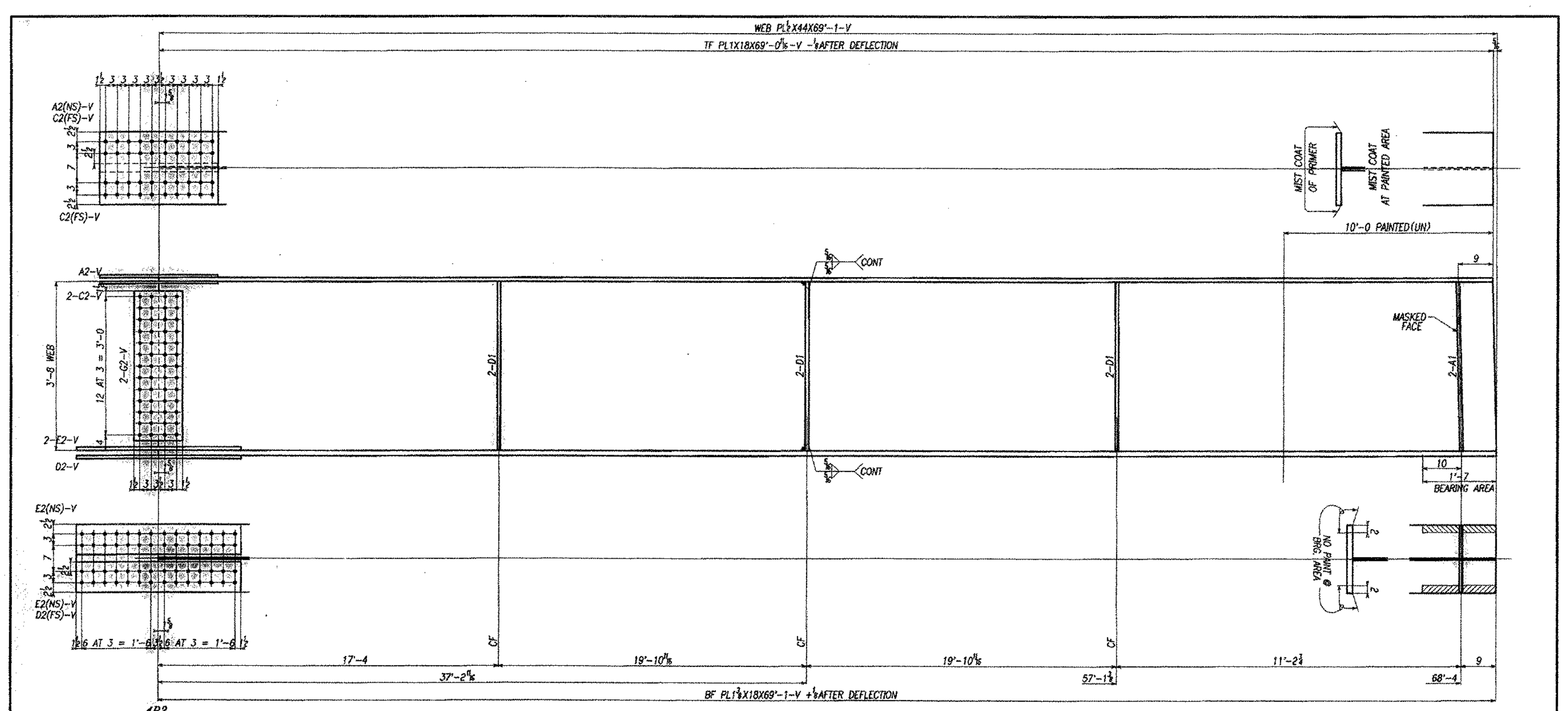
DATE	NO.	BY	REVISIONS
1-12-07	R1	LV	REV.D THICK. OF E1 TO 7/8. USE STOCK
1-29-07	R2	FEW	ADDED NOTE TO A1 AND H3

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 2
SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC

MADE BY L. Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF3B

08755



STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH — HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF4B
GENERAL NOTES SEE HN1

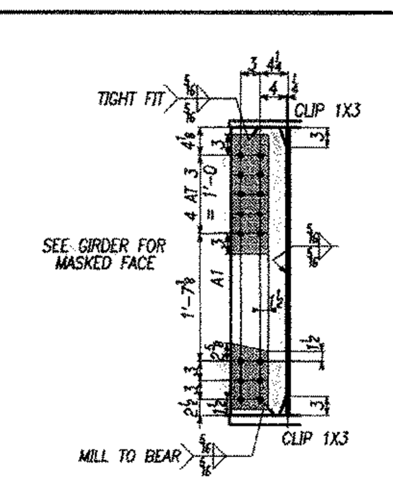
DATE	NO.	BY	REVISIONS
	R1		

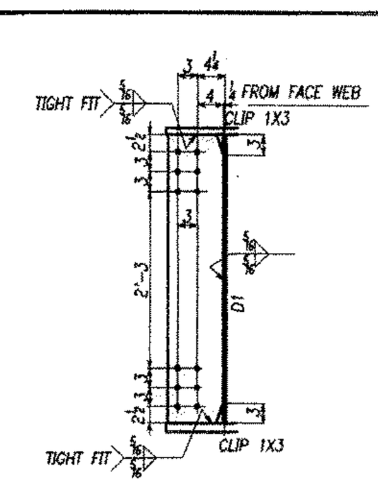
ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 2
SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION

MADE BY L. Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF4A

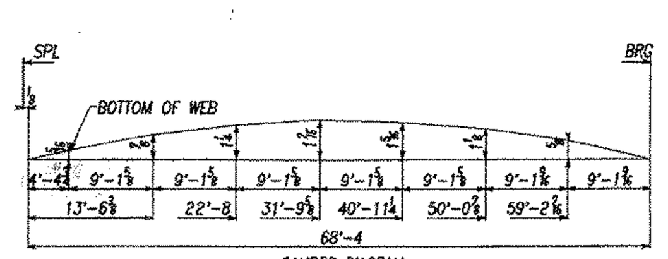
08855



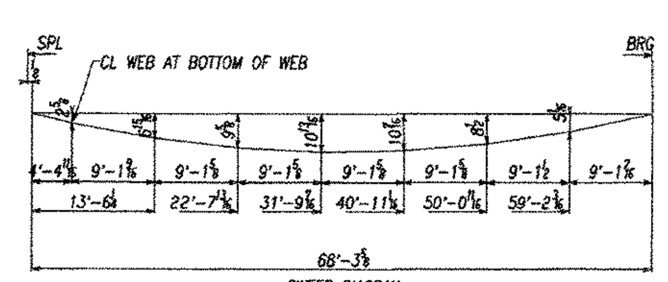


SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS. REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.
1												
2	1	4B2			PLATE GIRDER							
3			1		PL	1X18	69	0 11/16	TF1B	V	M270-50W	
4												
5			1		PL	1 3/8X18	69	1	BF1B	V	M270-50W	
6												
7			1		PL	1/2X44	69	1	W1B	V	M270-50W	
8												
9			2		PL	7/8X8	3	6 1/2	E2	V	M270-50W	
10			1		PL	3/4X18	3	6 1/2	D2	V	M270-50W	
11			1		PL	5/8X18	2	6 1/2	A2	V	M270-50W	
12			2		PL	5/8X8	2	6 1/2	C2	V	M270-50W	
13												
14			2		PL	1/2X39	1	0 1/2	G2	V	M270-50W	
15												
16			2		PL	7/8X8 1/2	3	8	A1	FW TF-1-E V	M270-50W	
17			6		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	
18												
19			2	F	BOLT	7/8	0	2 1/2			A307	
20			4	F	BOLT	7/8	0	3 1/4			A307	
21			4	F	BOLT	7/8	0	4			A307	
22												
23												
24												
25	DOMESTIC MATERIAL											



CAMBER DIAGRAM



SWEEP DIAGRAM
RADIUS = 643'-8 3/4

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF4A
GENERAL NOTES SEE HN1

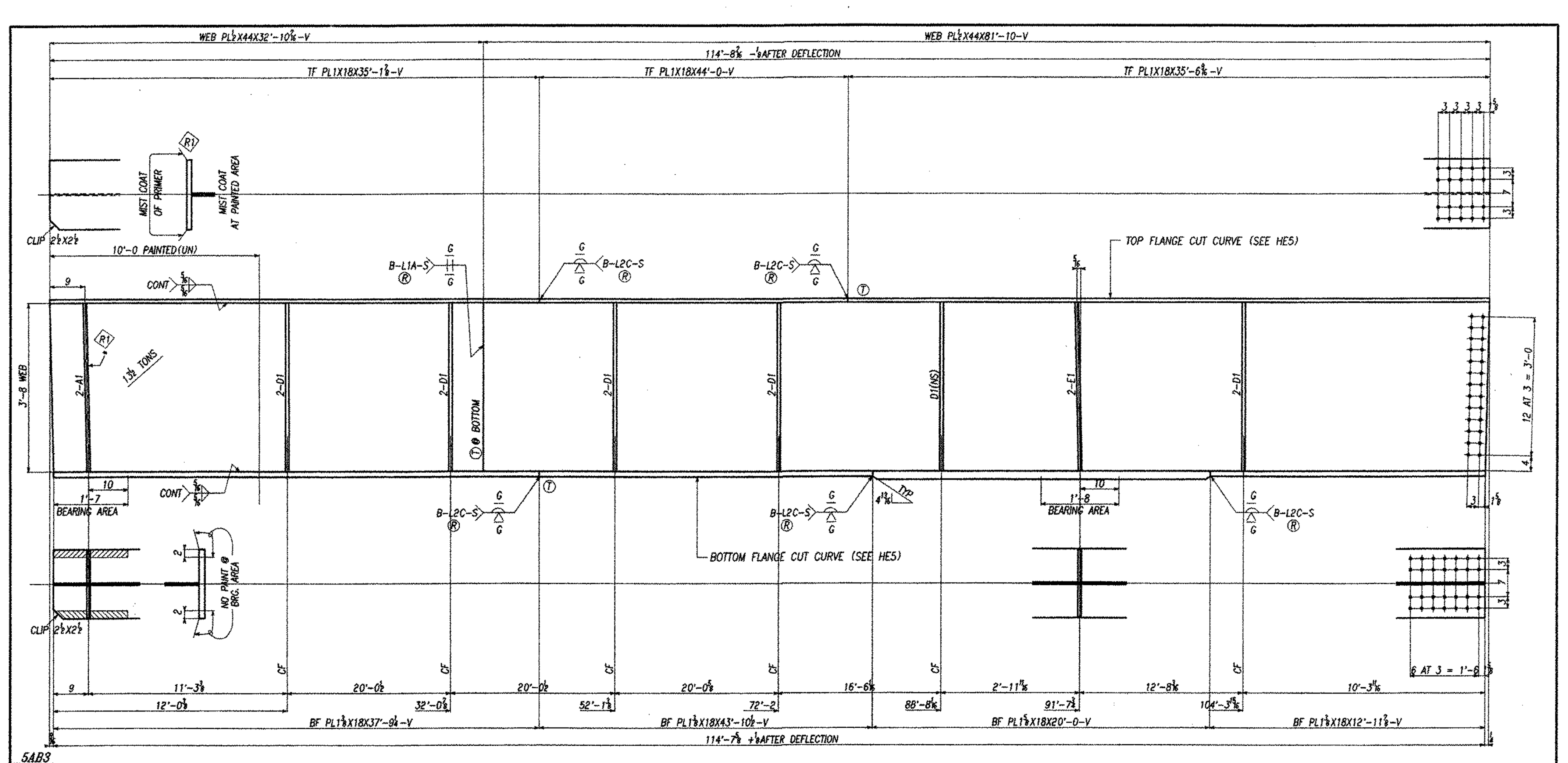
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 2
SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF4B

089 SS



R1 ASTERISK * = DENOTES CONTACT SURFACE W/ PRIMER ONLY -" NOTE C "

RECEIVED
CK'D BY ______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF5B
GENERAL NOTES SEE HN1

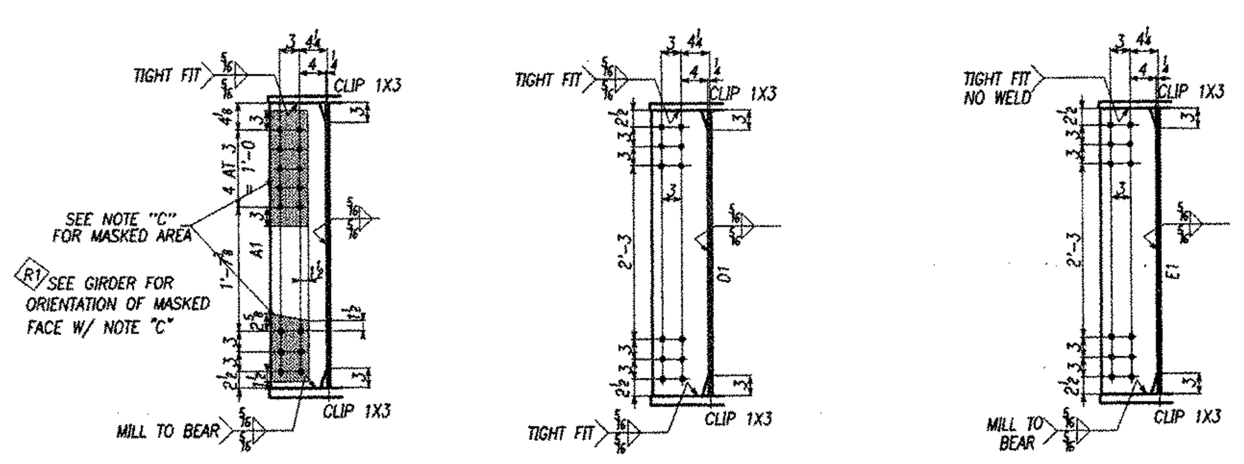
DATE	NO.	BY	REVISIONS
1-29-07	R1	FEW	MIST COAT TOP OF TOP FLG ONLY; PRIMER ONLY ON CONTACT SURF. NOTED " * "

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 3
SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF5A

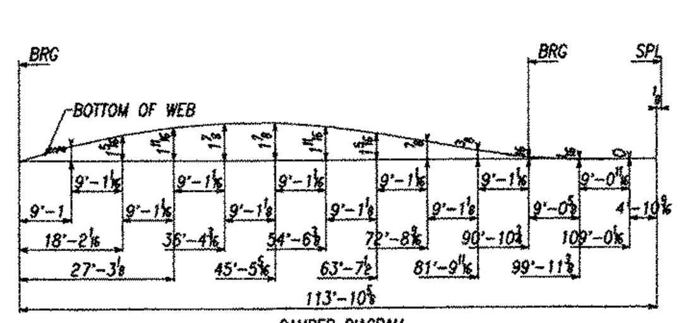
090 SS



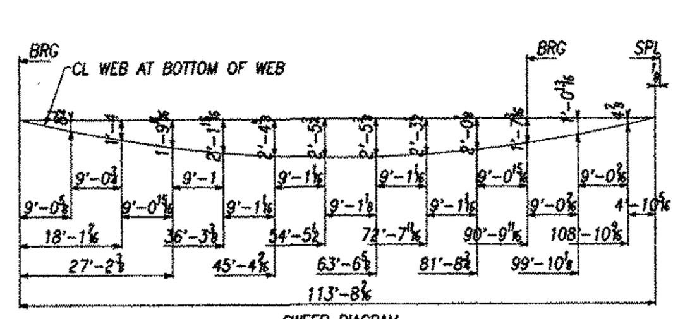
SHOP BILL

LINE	SHIPPING LIST NO. PCS.	SHIPPING LIST MARK	PCS. REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	5AB3			PLATE GIRDER								
3			1		PL	1X18	35	1 7/8	TF1AB	V	M270-50W	2693NH	9
4			1		PL	1X18	44	0	TF2AB	V	M270-50W	2693NH	7
5			1		PL	1X18	35	6 9/16	TF3AB	V	M270-50W	2693NH	8
6													
7			1		PL	1 3/8X18	37	9 1/4	BF1AB	V	M270-50W	2693NH	4
8			1		PL	1 3/8X18	43	10 1/2	BF2AB	V	M270-50W	2693NH	3
9			1		PL	1 5/8X18	20	0	BF3AB	V	M270-50W	2693NH	1
10			1		PL	1 3/8X18	12	11 7/8	BF4AB	V	M270-50W	2693NH	5
11													
12			1		PL	1/2X44	32	10 7/16	W1AB	V	M270-50W	2693NH	14
13			1		PL	1/2X44	81	10	W2AB	V	M270-50W	2693NH	10
14													
15			2		PL	7/8X8 1/2	3	8	A1	FIN TF-1-E V	M270-50W	SHN	
16			11		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	2693NH	15
17			2		PL	7/8X8 1/2	3	8	E1	FIN TF-1-E V	M270-50W	SHN	
18													
19													
20													
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

RECEIVED
CK'D BY______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT______ APPROVED ✓
BY [signature] DATE 2/22/07



CAMBER DIAGRAM



SWEEP DIAGRAM
RADIUS = 652'-2 3/4

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16 #
SHOP PAINT NONE(UN)
WORK WITH SHEET HF5A
GENERAL NOTES SEE HN1

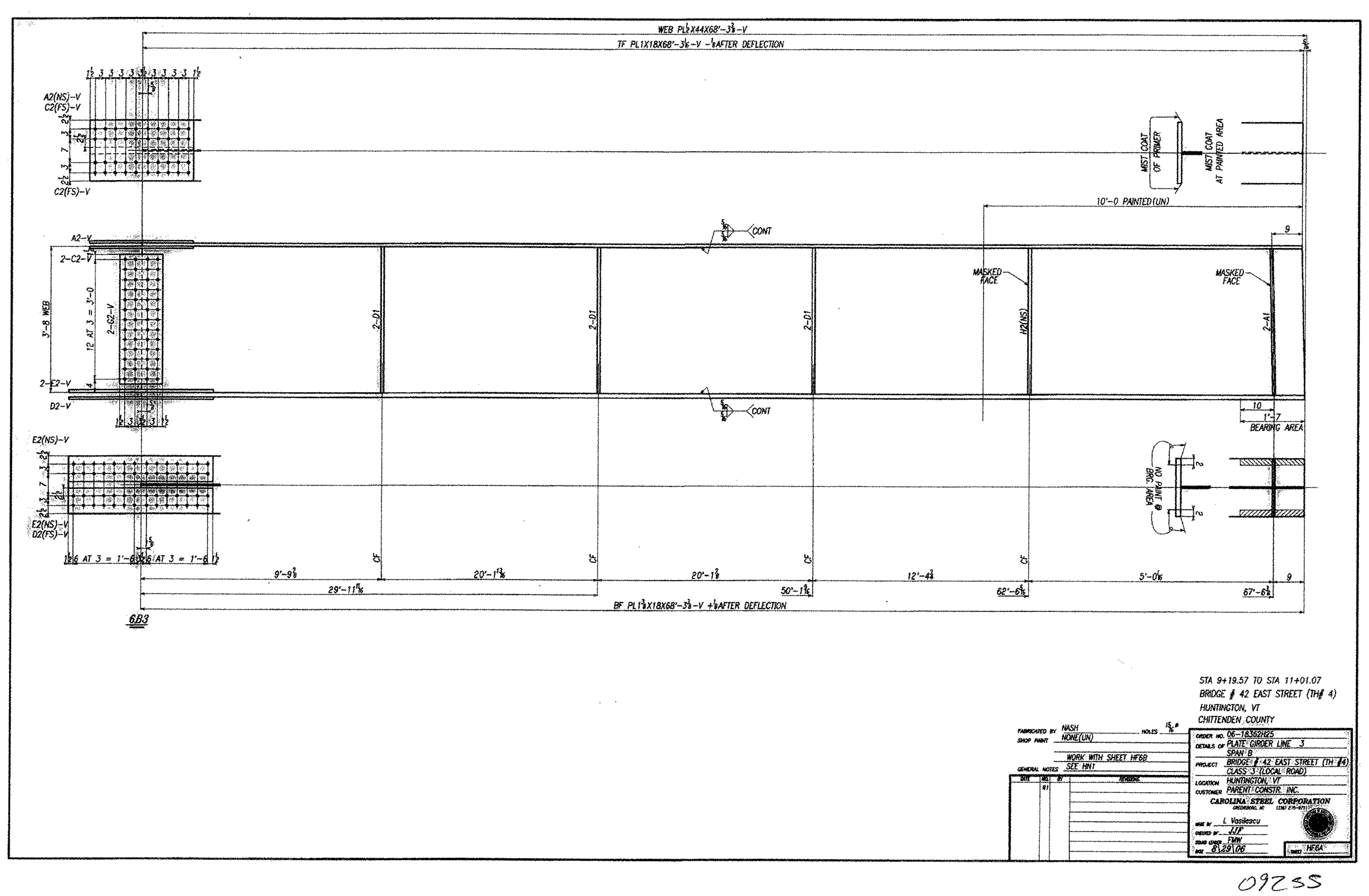
DATE	NO.	BY	REVISIONS
1-29-07	R1	FEW	ADDED NOTE TO A1

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 3
SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

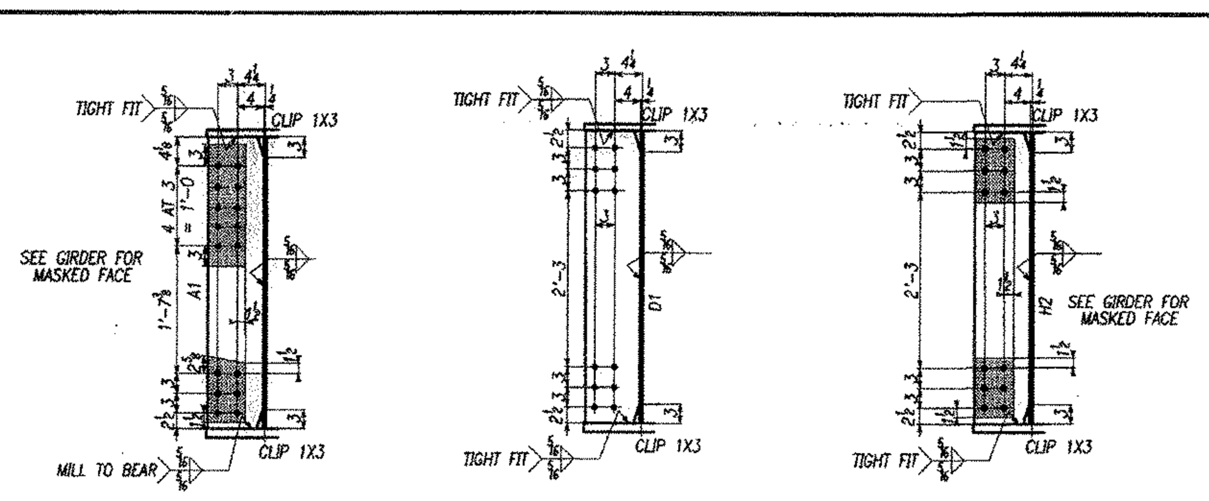
MADE BY L Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF5B

091 SS



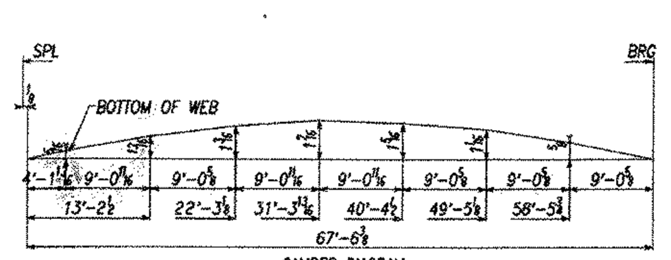
TF PL1X18X68'-3½-V +AFTER DEFLECTION
10'-0 PAINTED(UN)
MASKED FACE
CONT
BEARING AREA
STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY
FABRICATED BY NASH
SHOP PAINT NONE(UN)
WORK WITH SHEET HF6B
GENERAL NOTES SEE HN1
ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 3
SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
L Vasilescu
JJF
FMW
8\29\06
HF6A

09255

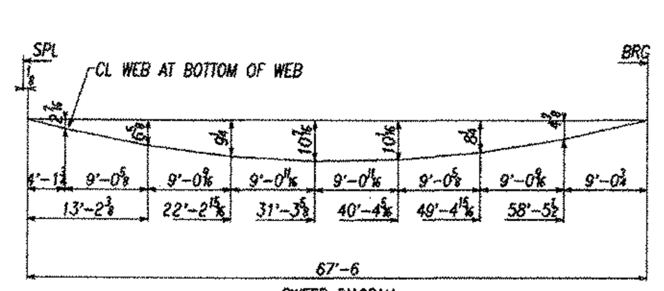


SHOP BILL

LINE	SHIPPING LIST NO. PCS.	SHIPPING LIST MARK	PCS. REQ'D	DESCRIPTION CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	6B3			PLATE GIRDER								
3			1		PL	1X18	68	3 1/16	TF1B	V	M270-50W		
4													
5			1		PL	1 3/8X18	68	3 3/8	BF1B	V	M270-50W		
6													
7			1		PL	1/2X44	68	3 3/8	W1B	V	M270-50W		
8													
9			2		PL	7/8X8	3	6 1/2	E2	V	M270-50W		
10			1		PL	3/4X18	3	6 1/2	D2	V	M270-50W		
11			1		PL	5/8X18	2	6 1/2	A2	V	M270-50W		
12			2		PL	5/8X8	2	6 1/2	C2	V	M270-50W		
13													
14			2		PL	1/2X39	1	0 1/2	G2	V	M270-50W		
15													
16			2		PL	7/8X8 1/2	3	8	A1	FIN TF-1-E V	M270-50W		
17			6		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W		
18			1		PL	1/2X8 1/2	3	8	H2	TF-2-E V	M270-50W		
19													
20			2	F	BOLT	7/8	0	2 1/2			A307		
21			4	F	BOLT	7/8	0	3 1/4			A307		
22			4	F	BOLT	7/8	0	4			A307		
23													
24													
25	DOMESTIC MATERIAL												



CAMBER DIAGRAM



SWEEP DIAGRAM
RADIUS = 652'-2 3/4

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF6A
GENERAL NOTES SEE HN1

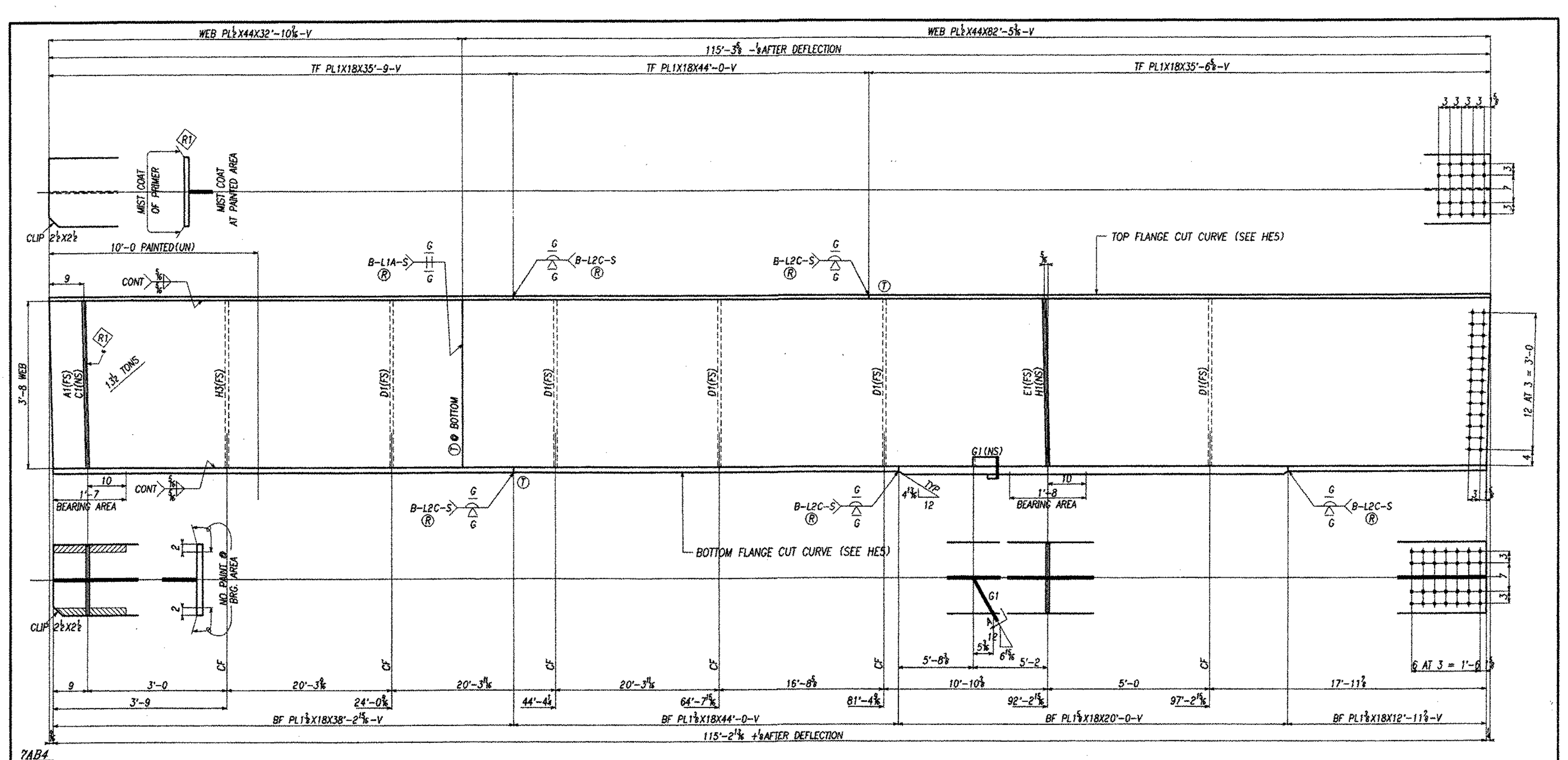
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 3 SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION

MADE BY L. Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF6B

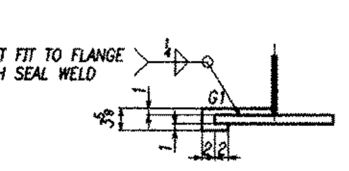
093SS



R1 ASTERISK * = DENOTES CONTACT SURFACE W/ PRIMER ONLY -" NOTE C "

RECEIVED
CK'D BY ______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

TIGHT FIT TO FLANGE WITH SEAL WELD



SECTION A

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
HOLES 15/16 #
SHOP PAINT NONE(UN)
WORK WITH SHEET HF7B
GENERAL NOTES SEE HN1

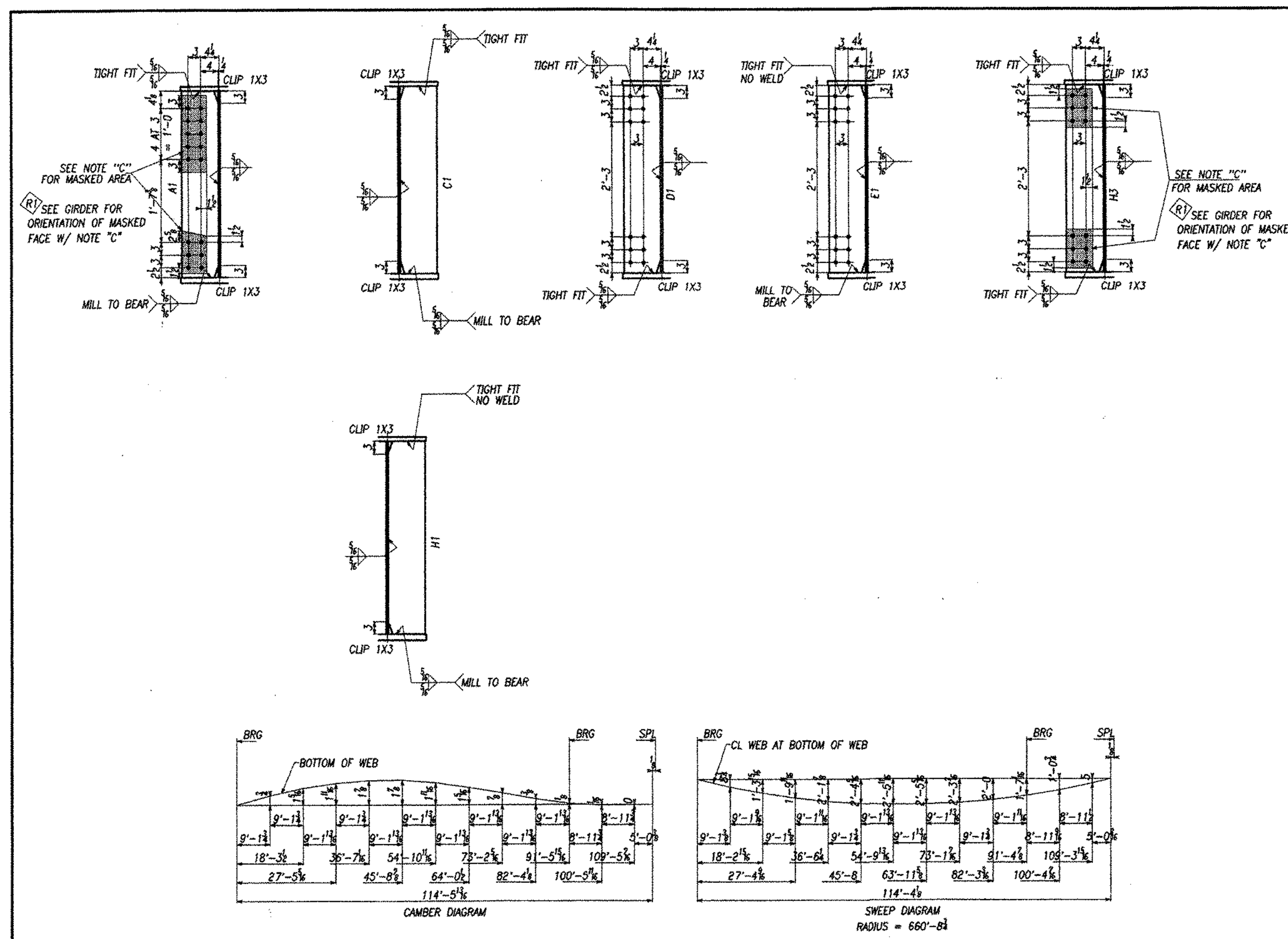
DATE	NO.	BY	REVISIONS
1-29-07	R1	FEW	MIST COAT TOP OF TOP FLG ONLY; PRIMER ONLY ON CONTACT SURF. NOTED " * "

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 4 SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF7A

09455



SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS. REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	7AB4			PLATE GIRDER								
3			1		PL	1X18	35	9	TF1AB	V	M270-50W	2693NH	9
4			1		PL	1X18	44	0	TF2AB	V	M270-50W	2693NH	7
5			1		PL	1X18	35	6 5/8	TF3AB	V	M270-50W	2693NH	8
6													
7			1		PL	1 3/8X18	38	2 15/16	BF1AB	V	M270-50W	2693NH	4
8			1		PL	1 3/8X18	44	0	BF2AB	V	M270-50W	2693NH	3
9			1		PL	1 5/8X18	20	0	BF3AB	V	M270-50W	2693NH	1
10			1		PL	1 3/8X18	12	11 7/8	BF4AB	V	M270-50W	2693NH	5
11													
12			1		PL	1/2X44	32	10 7/16	W1AB	V	M270-50W	2693NH	14
13			1		PL	1/2X44	82	5 3/16	W2AB	V	M270-50W	2693NH	10
14													
15			1		PL	7/8X8 1/2	3	8	A1	FIN TF-1-E V	M270-50W	SHN	
16			1		PL	7/8X8 1/2	3	8	C1	FIN TF-1-E V	M270-50W	SHN	
17			5		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	2693NH	15
18			1		PL	7/8X8 1/2	3	8	E1	FIN TF-1-E V	M270-50W	SHN	
19			1		PL	1/2X8 1/2	3	8	H3	TF-2-E V	M270-50W	2693NH	15
20			1		PL	7/8X8 1/2	3	8	H1	FIN TF-1-E V	M270-50W	SHN	
21			1		PL	1/4X3 5/8	1	0 1/8	G1	V TEMP	M270-50W	SHN	
22													
23													
24													
25	DOMESTIC MATERIAL												

RECEIVED
CK'D BY ________ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ________ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF7A
GENERAL NOTES SEE HN1

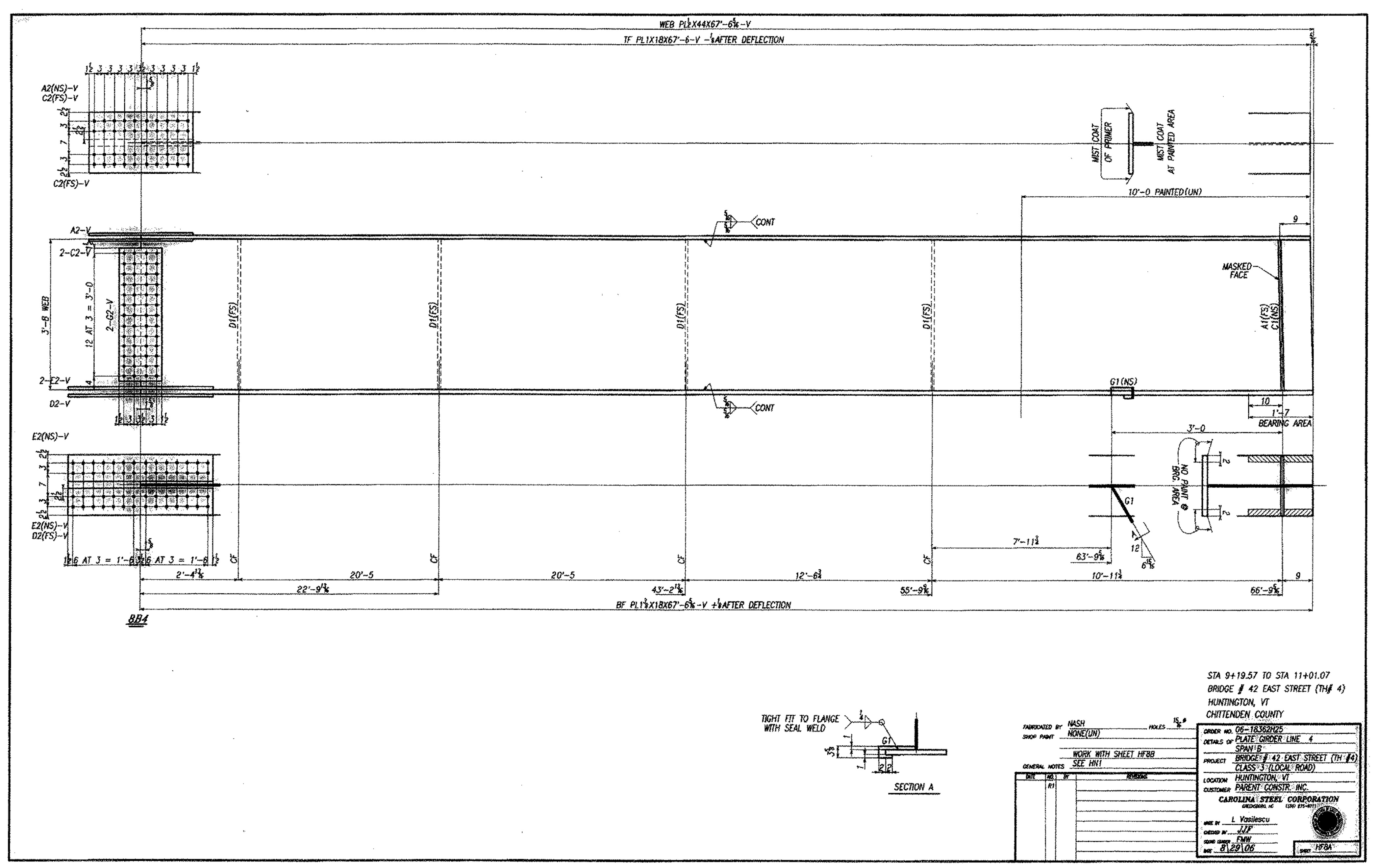
DATE	NO.	BY	REVISIONS
1-29-07	R1	FEW	ADD. NOTE TO A1 AND H3

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 4 SPAN AB
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

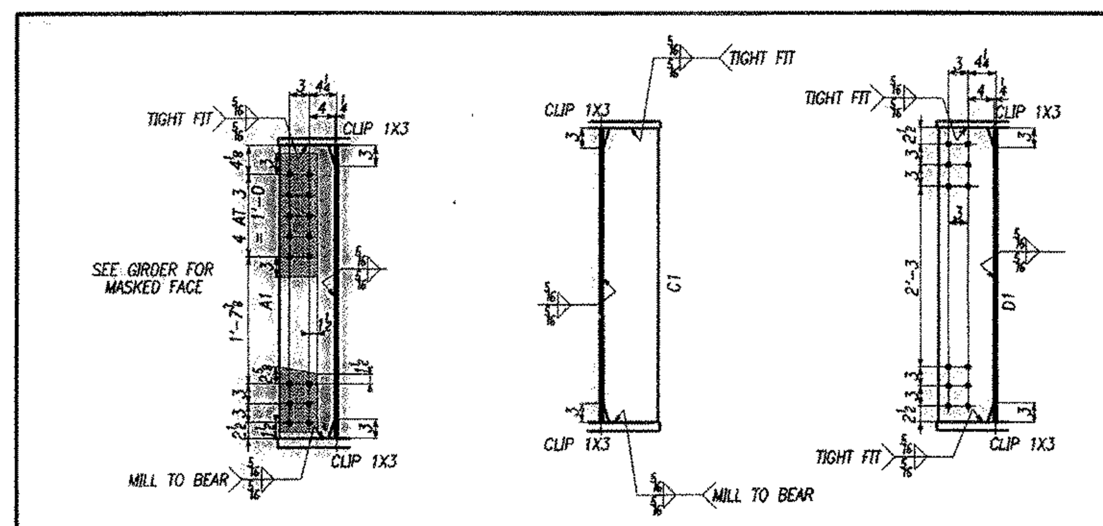
CAROLINA STEEL CORPORATION
GREENSBORO, NC

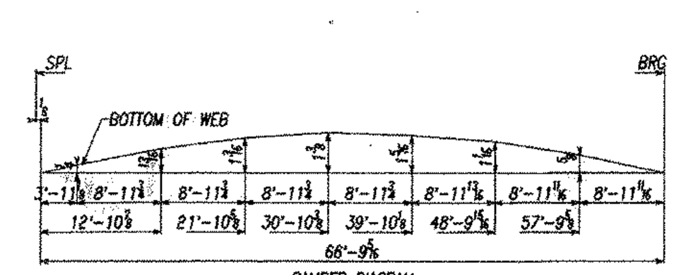
MADE BY L Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF7B

09555

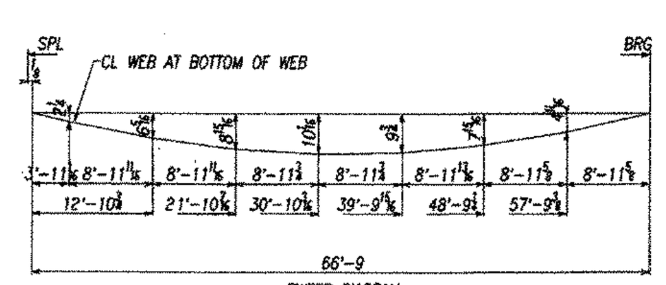

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY
FABRICATED BY NASH
HOLES 15/16"
SHOP PAINT NONE(UN)
WORK WITH SHEET HF8B
GENERAL NOTES SEE HN1
DATE NO. BY REVISIONS
R1
ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 4
SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
L. Vasilescu
JJF
FMW
8\29\06
SHEET HF8A
SECTION A
TIGHT FIT TO FLANGE WITH SEAL WELD
BEARING AREA
MASKED FACE
10'-0 PAINTED(UN)

096 SS





CAMBER DIAGRAM



SWEEP DIAGRAM
RADIUS = 660'-8 3/4

SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.
1												
2	1	8B4			PLATE GIRDER							
3			1		PL	1X18	67	6	TF1B	V	M270-50W	
4												
5			1		PL	1 3/8X18	67	6 5/16	BF1B	V	M270-50W	
6												
7			1		PL	1/2X44	67	6 5/16	W1B	V	M270-50W	
8												
9			2		PL	7/8X8	3	6 1/2	E2	V	M270-50W	
10			1		PL	3/4X18	3	6 1/2	D2	V	M270-50W	
11			1		PL	5/8X18	2	6 1/2	A2	V	M270-50W	
12			2		PL	5/8X8	2	6 1/2	C2	V	M270-50W	
13												
14			2		PL	1/2X39	1	0 1/2	G2	V	M270-50W	
15												
16			1		PL	7/8X8 1/2	3	8	A1	FIN TF-1-E V	M270-50W	
17			1		PL	7/8X8 1/2	3	8	C1	FIN TF-1-E V	M270-50W	
18			4		PL	1/2X8 1/2	3	8	D1	TF-2-E V	M270-50W	
19												
20			2	F	BOLT	7/8	0	2 1/2			A307	
21			4	F	BOLT	7/8	0	3 1/4			A307	
22			4	F	BOLT	7/8	0	4			A307	
23												
24			1		PL	1/4X3 5/8	1	0 3/8	G1	TEMP V	M270-50W	
25	DOMESTIC MATERIAL											

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
HOLES 15/16 #
SHOP PAINT NONE(UN)
WORK WITH SHEET HF8A
GENERAL NOTES SEE HN1

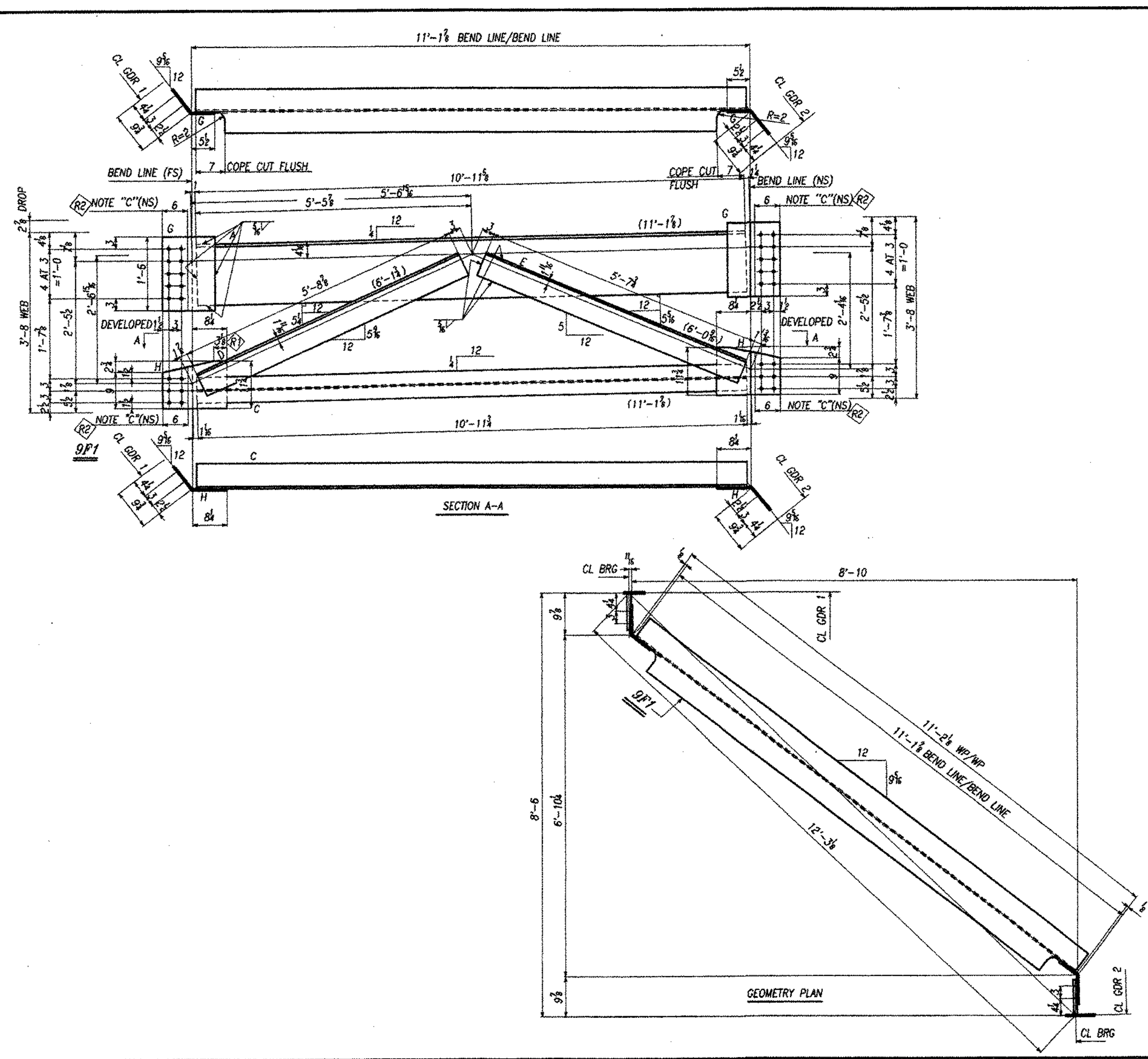
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF PLATE GIRDER LINE 4
SPAN B
PROJECT BRIDGE # 42 EAST STREET (TH #4)
CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L. Vasilescu
CHECKED BY JJP
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF8B

097 SS



SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS.	SHIPPING LIST MARK	PCS. REQ'D	DESCRIPTION CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	9F1				CROSSFRAMES							
3			1		WT	15X49.5	10	11⅝	A	V	M270-50W	2701LE	1
4			1		WT	6X13	10	11¾	C	V	M270-50W	2703LE	1
5			1		L	6X6X½	5	8⅞	D	V	M270-50W	2639BY	1
6			1		L	6X6X½	5	7¾	E	V	M270-50W	2639BY	1
7			2		PL	½X12½	1	6	G	V BEND	M270-50W	2693NH	15
8			2		PL	½X11¾	1	3¼	H	V BEND	M270-50W	2693NH	15
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

RECEIVED
CK'D BY______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT______ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT PAINTED
GENERAL NOTES SEE HN1

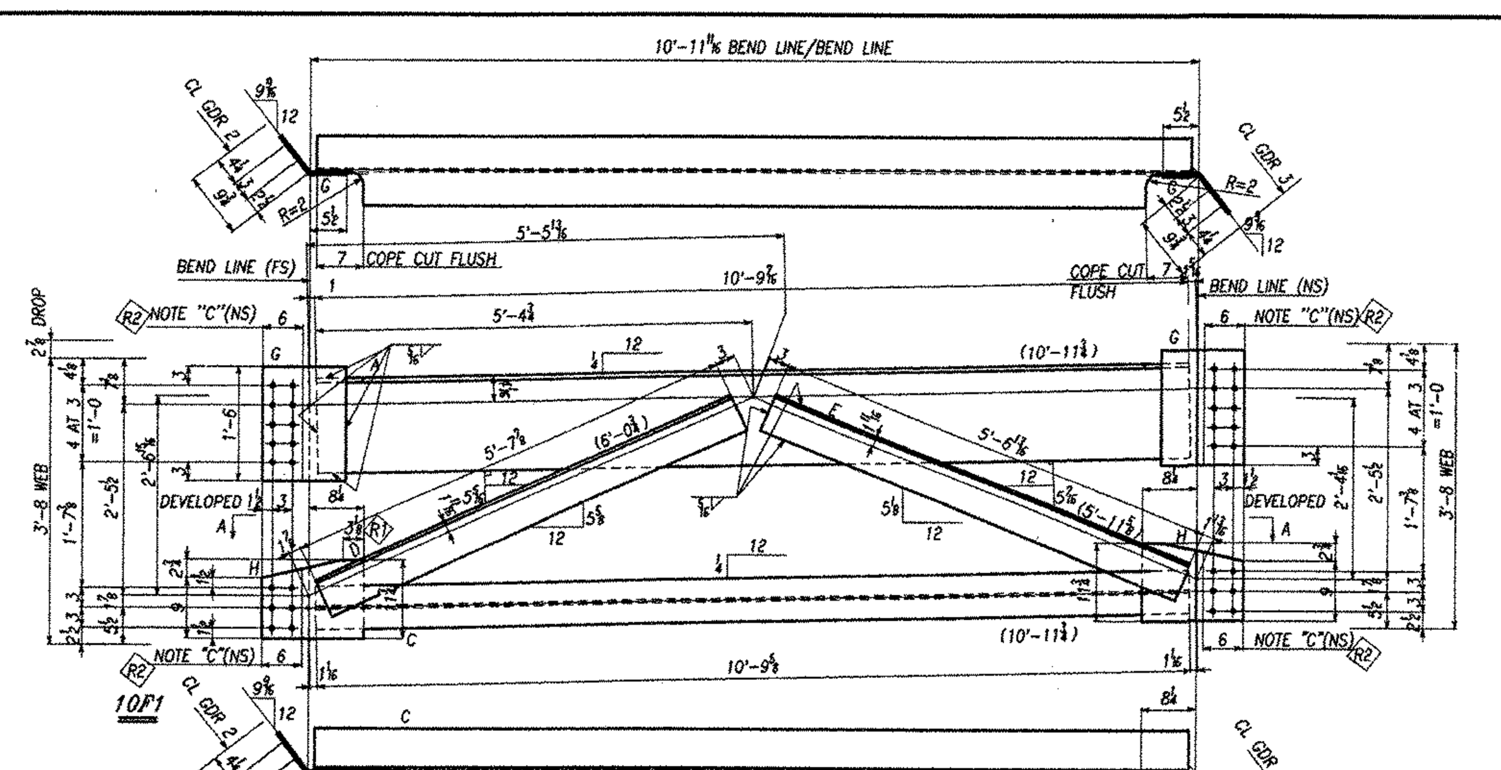
DATE	NO.	BY	REVISIONS
11-29-06	R1	FEW	ADDED DIMENSION TO PL H
1-29-07	R2	FEW	REVISED MASKING PL G AND H

ORDER NO. 06-18362H25
DETAILS OF ABUTMENT DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

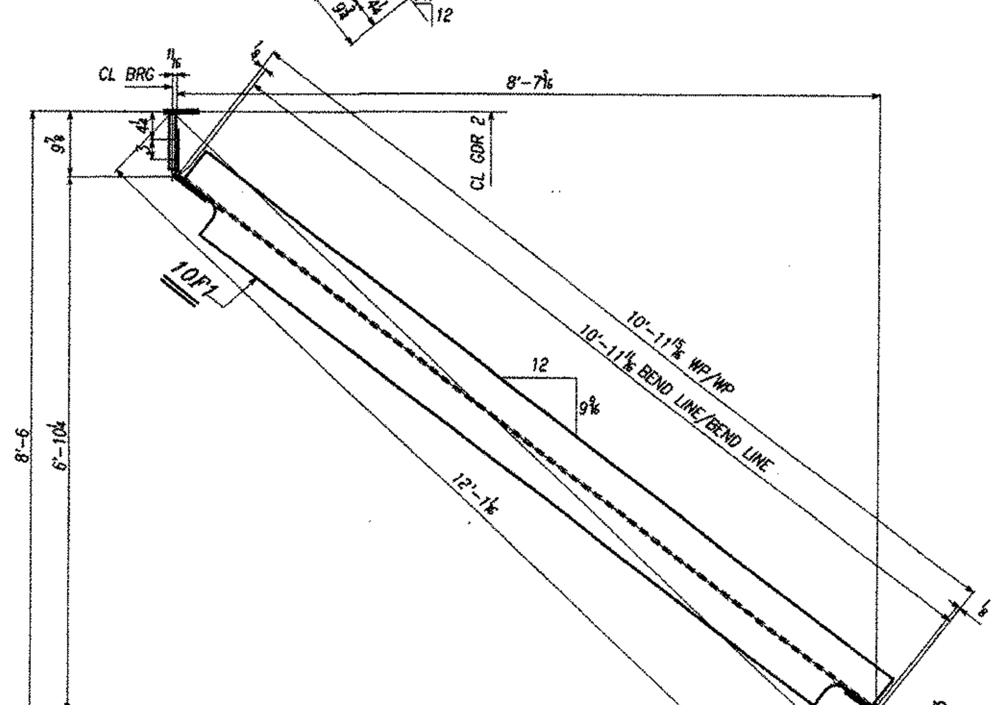
CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF9

09855



SECTION A-A



GEOMETRY PLAN

SHOP BILL

LINE	SHIPPING LIST NO. PCS.	SHIPPING LIST MARK	PCS. REQ'D	DESCRIPTION CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	10F1				CROSSFRAMES							
3			1		WT	15X49.5	10	9 7/16	A	V	M270-50W	2701LE	1
4			1		WT	6X13	10	9 5/8	C	V	M270-50W	2703LE	1
5			1		L	6X6X1/2	5	7 7/8	D	V	M270-50W	2639BY	1
6			1		L	6X6X1/2	5	6 13/16	E	V	M270-50W	2639BY	1
7			2		PL	1/2X12 1/2	1	6	G	V BEND	M270-50W	2693NH	15
8			2		PL	1/2X11 3/4	1	3 1/4	H	V BEND	M270-50W	2693NH	15

DOMESTIC MATERIAL

RECEIVED
CK'D BY ______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT PAINTED

GENERAL NOTES SEE HN1

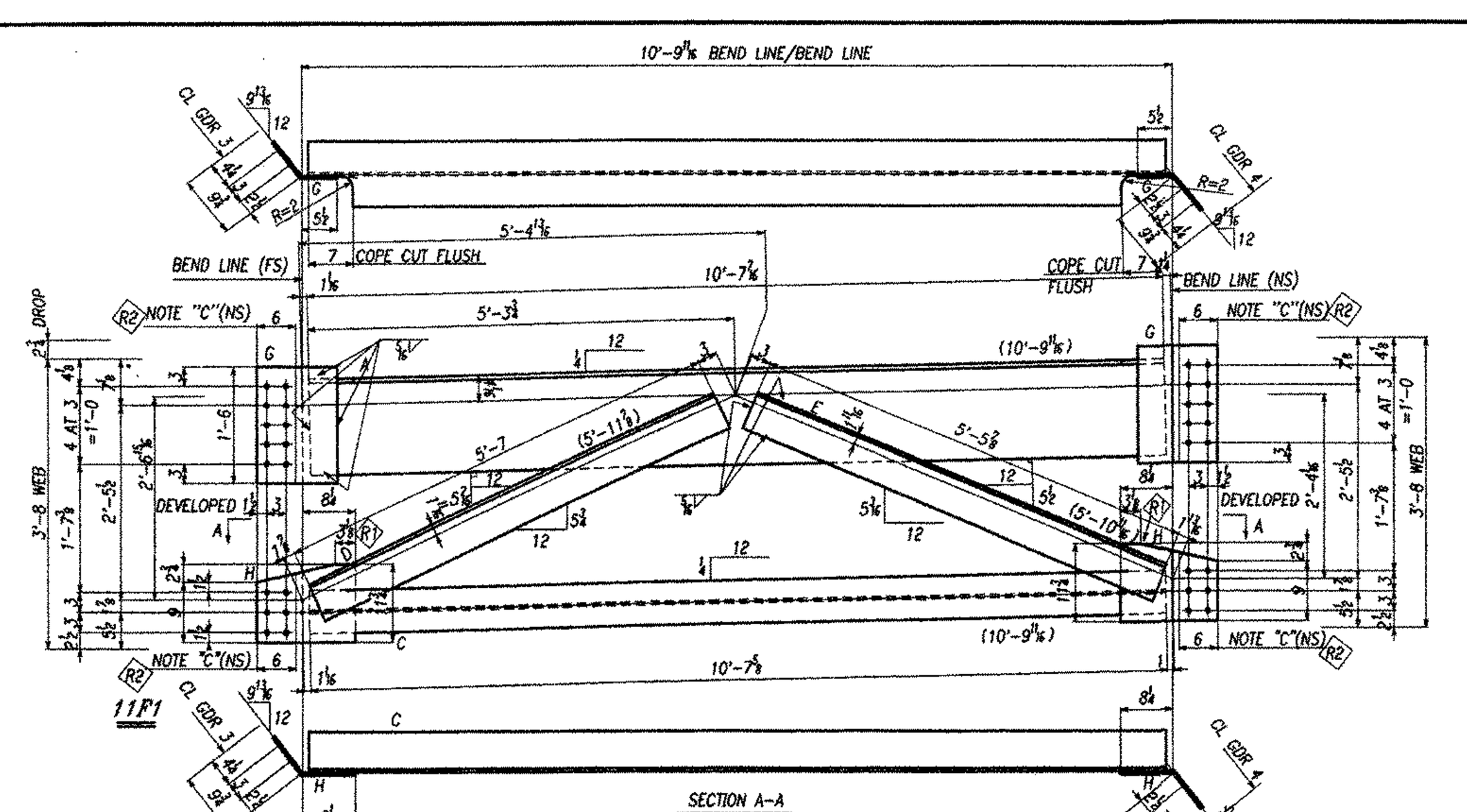
DATE	NO.	BY	REVISIONS
11-29-06	R1	FEW	ADDED DIMENSION TO PL H
1-29-07	R2	FEW	REVISED MASKING PL G AND H

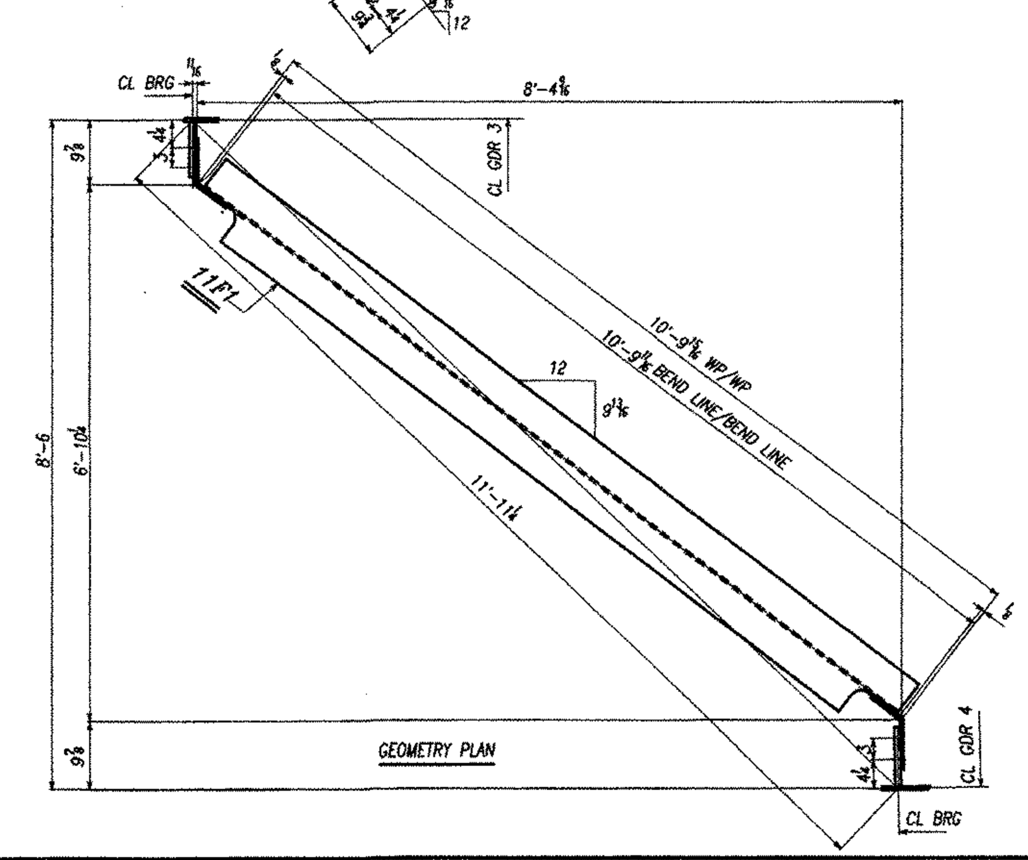
ORDER NO. 06-18362H25
DETAILS OF ABUTMENT DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF10

09955





SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS.	SHIPPING LIST MARK	PCS. REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	11F1				CROSSFRAMES							
3			1		WT	15X49.5	10	7 9/16	A	V	M270-50W	2701LE	1
4			1		WT	6X13	10	7 5/8	C	V	M270-50W	2703LE	1
5			1		L	6X6X1/2	5	7	D	V	M270-50W	2639BY	1
6			1		L	6X6X1/2	5	5 3/8	E	V	M270-50W	2639BY	1
7			2		PL	1/2X12 1/2	1	6	G	V BEND	M270-50W	2693NH	15
8			2		PL	1/2X11 3/4	1	3 1/4	H	V BEND	M270-50W	2693NH	15
	DOMESTIC MATERIAL												

RECEIVED
CK'D BY ______ CK'D BY [signature]
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

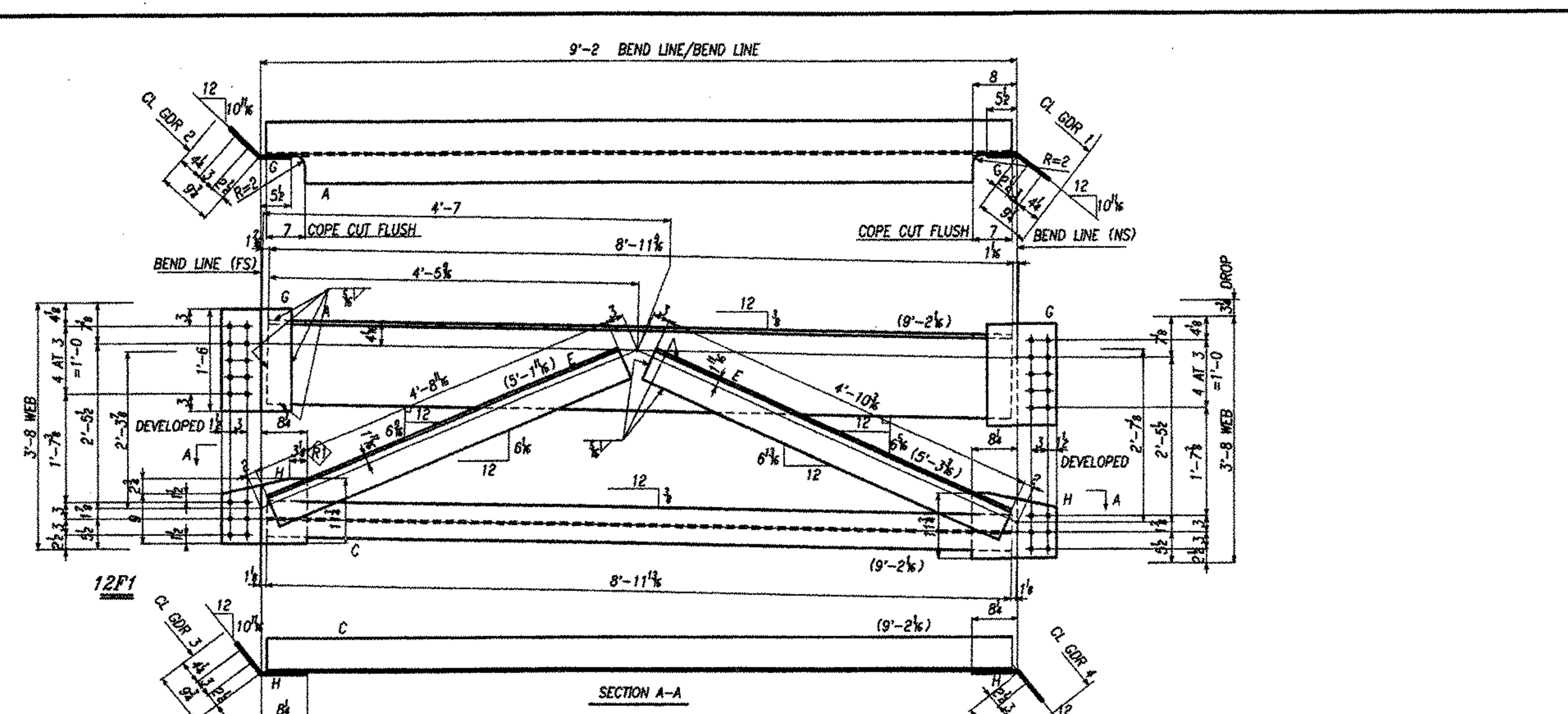
STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT PAINTED
GENERAL NOTES SEE HN1

DATE	NO.	BY	REVISIONS
11-29-06	R1	FEW	ADDED DIMENSION TO PL H
1-29-07	R2	FEW	REVISED MASKING PL G AND H

ORDER NO. 06-18362H25
DETAILS OF ABUTMENT DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711
MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF11

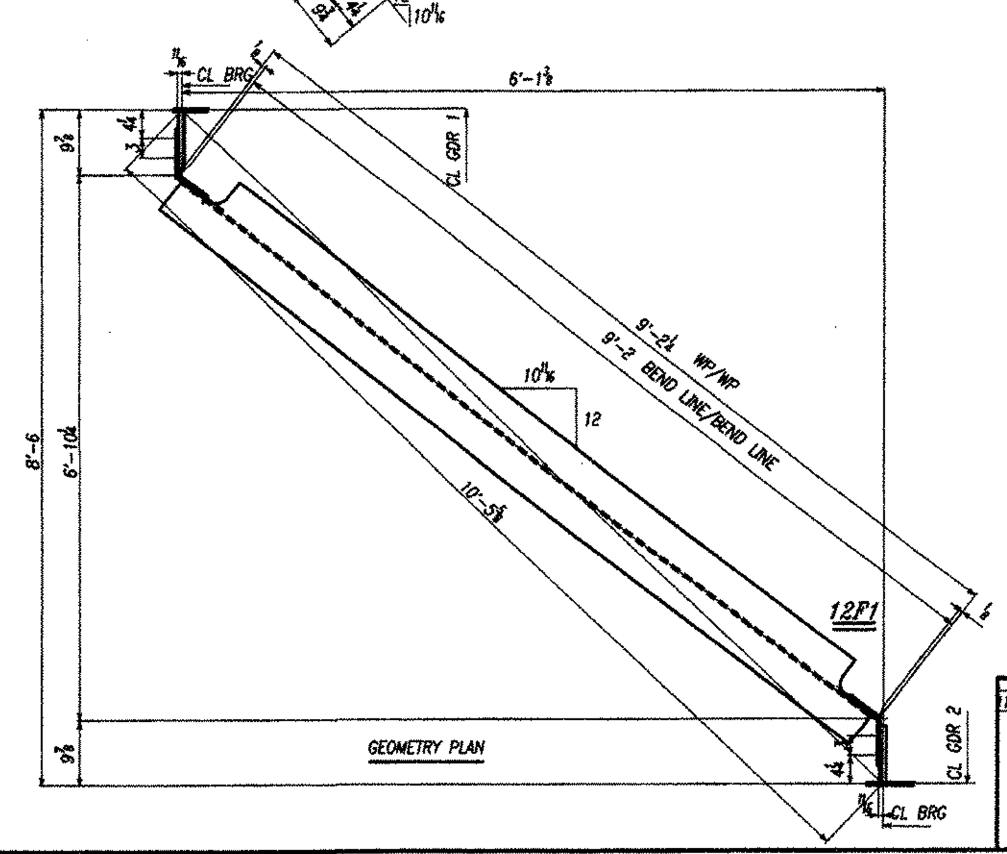
100 SS



SHOP BILL

ITEM NO.	SHIPPING LIST NO. PCS.	SHIPPING LIST MARK	PCS. REQ'D	DESCRIPTION CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	1	12F1				CROSSFRAMES							
3			1		WT	15X49.5	8	11 3/16	A	V	M270-50W	2701LE	1
4			1		WT	6X13	8	11 13/16	C	V	M270-50W	2703LE	1
5			1		L	6X6X1/2	4	8 11/16	D	V	M270-50W	2639BY	1
6			1		L	6X6X1/2	4	10 3/16	E	V	M270-50W	2639BY	1
7			2		PL	1/2X12 1/2	1	6	G	V BEND	M270-50W	2693NH	15
8			2		PL	1/2X11 3/4	1	3/4	H	V BEND	M270-50W	2693NH	15

DOMESTIC MATERIAL



RECEIVED
CK'D BY ______ CK'D BY
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

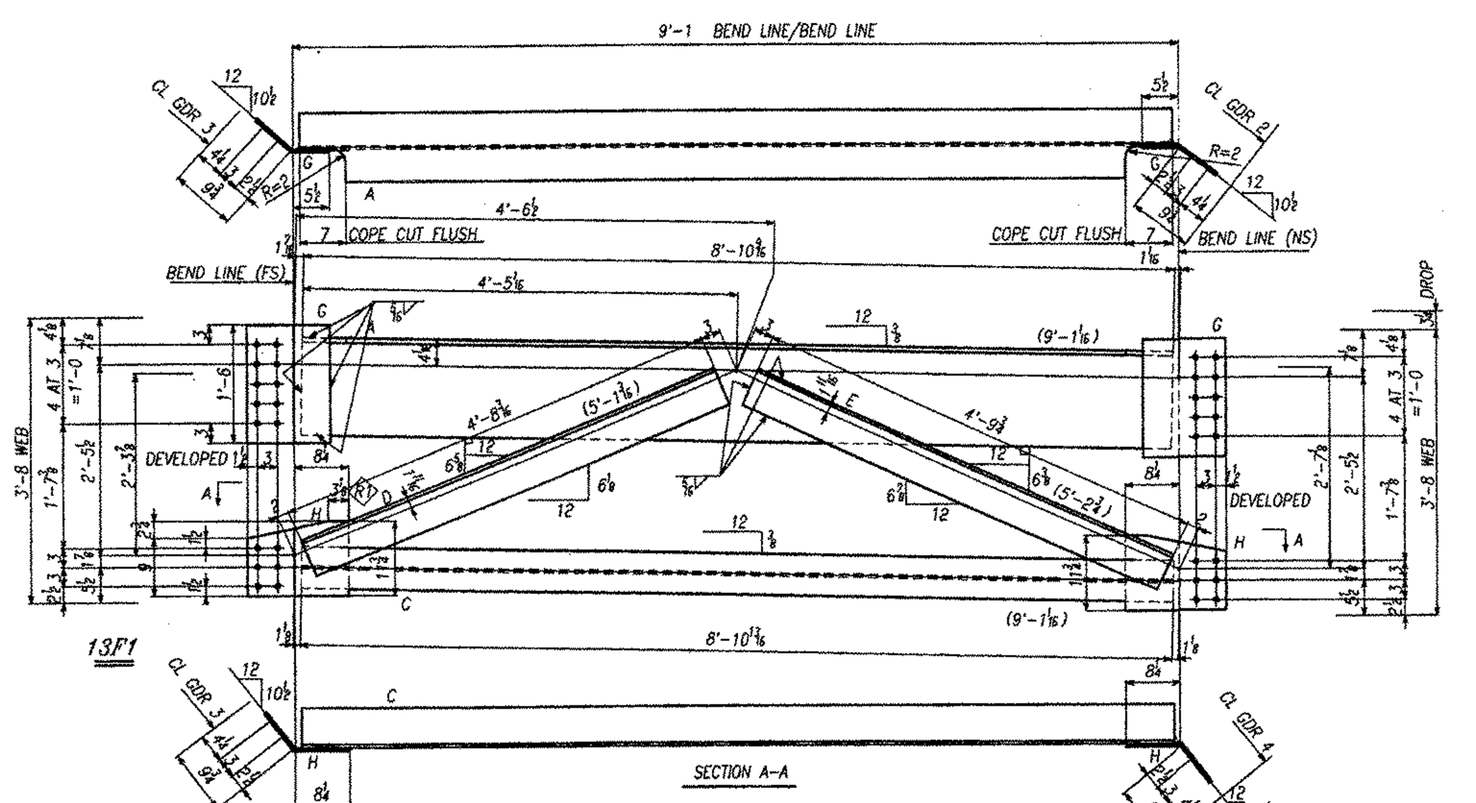
STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

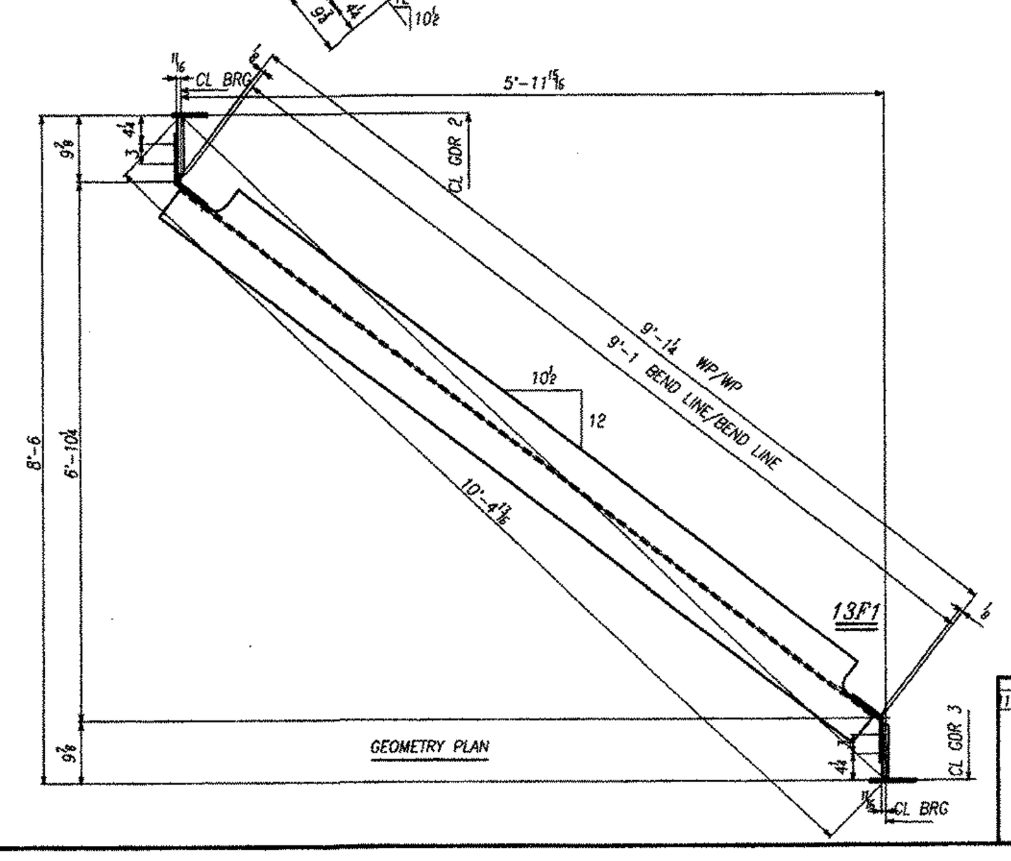
FABRICATED BY NASH HOLES 15/16 #
SHOP PAINT NONE
GENERAL NOTES SEE HN1

DATE	NO.	BY	REVISIONS
11-29-06	R1	FEW	ADDED DIMENSION TO PL H

ORDER NO. 06-18362H25
DETAILS OF ABUTMENT DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.
CAROLINA STEEL CORPORATION
MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF12

10155





SHOP BILL

LINE	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS. REQ'D	CODE	SYMBOL	SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.D. NO.	
1													
2	1	13F1				CROSSFRAMES							
3			1		WT	15X49.5	8	10 9/16	A	V	M270-50W	2775LE	1
4			1		WT	6X13	8	10 13/16	C	V	M270-50W	2703LE	1
5			1		L	6X6X½	4	8 3/16	D	V	M270-50W	2639BY	1
6			1		L	6X6X½	4	9¾	E	V	M270-50W	2639BY	1
7			2		PL	½X12½	1	6	G	V BEND	M270-50W	2693NH	15
8			2		PL	½X11¾	1	3¼	H	V BEND	M270-50W	2693NH	15
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

RECEIVED
CK'D BY ______ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ______ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16 #
SHOP PAINT NONE
GENERAL NOTES SEE HN1

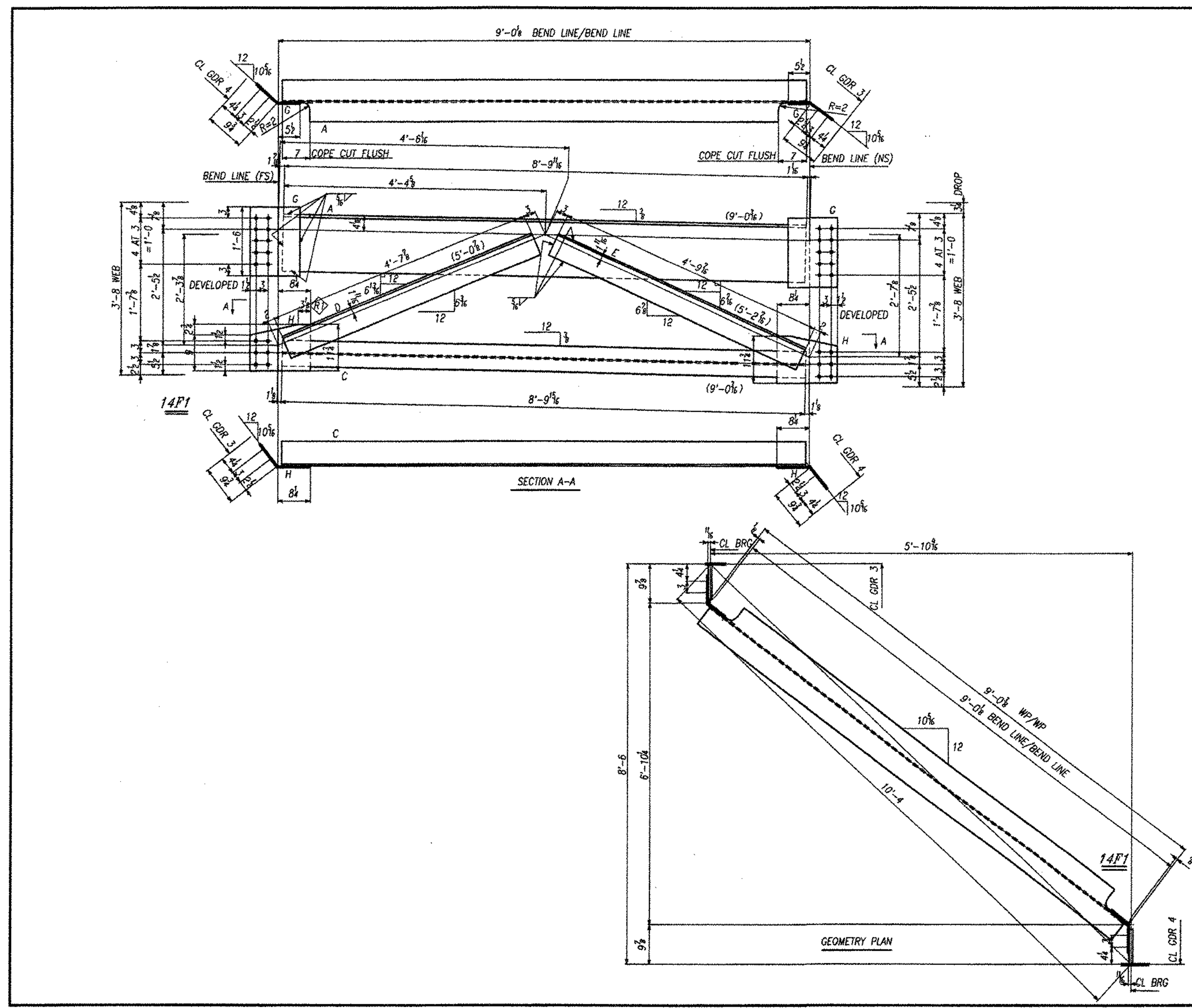
DATE	NO.	BY	REVISIONS
11-29-06	R1	FEW	ADDED DIMENSION TO PL H

ORDER NO. 06-18362H25
DETAILS OF ABUTMENT DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF13

10255



SHOP BILL

Line	Shipping List No. Pcs	Shipping List Mark	Pcs Req'd	Code	Symbol	Section Dim's	Feet	Inches	Assembly Mark	Remarks	Mtrl. Spec.	Mtrl. App. P.O. No.	Line Item
1													
2	1	14F1				CROSSFRAMES							
3			1		WT	15X49.5	8	9 11/16	A	V	M270-50W	2775LE	1
4			1		WT	6X13	8	9 15/16	C	V	M270-50W	2703LE	1
5			1		L	6X6X1/2	4	7 7/8	D	V	M270-50W	2639BY	1
6			1		L	6X6X1/2	4	9 7/16	E	V	M270-50W	2639BY	1
7			2		PL	1/2X12 1/2	1	6	G	V BEND	M270-50W	2693NH	15
8			2		PL	1/2X11 3/4	1	3 1/4	H	V BEND	M270-50W	2693NH	15

DOMESTIC MATERIAL

RECEIVED
CK'D BY ________ OK'D BY [signature]
FEB 7 - 2007
RESUBMIT ________ APPROVED ✓
BY [signature] DATE 2/22/07

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

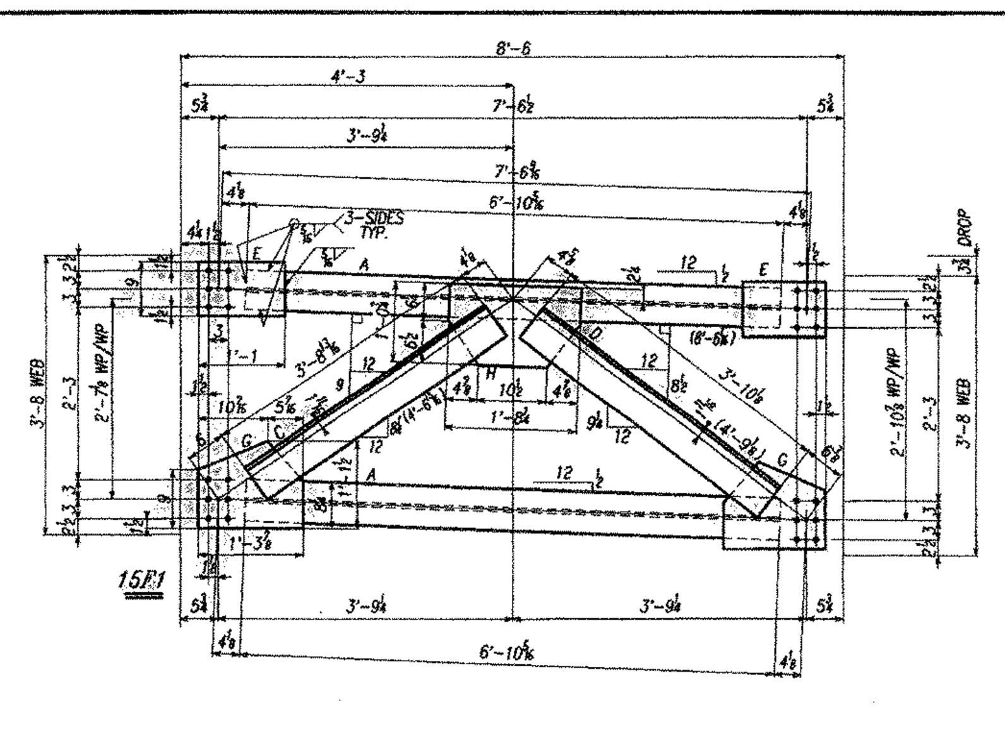
FABRICATED BY NASH — HOLES 15/16"
SHOP PAINT NONE
GENERAL NOTES SEE HN1

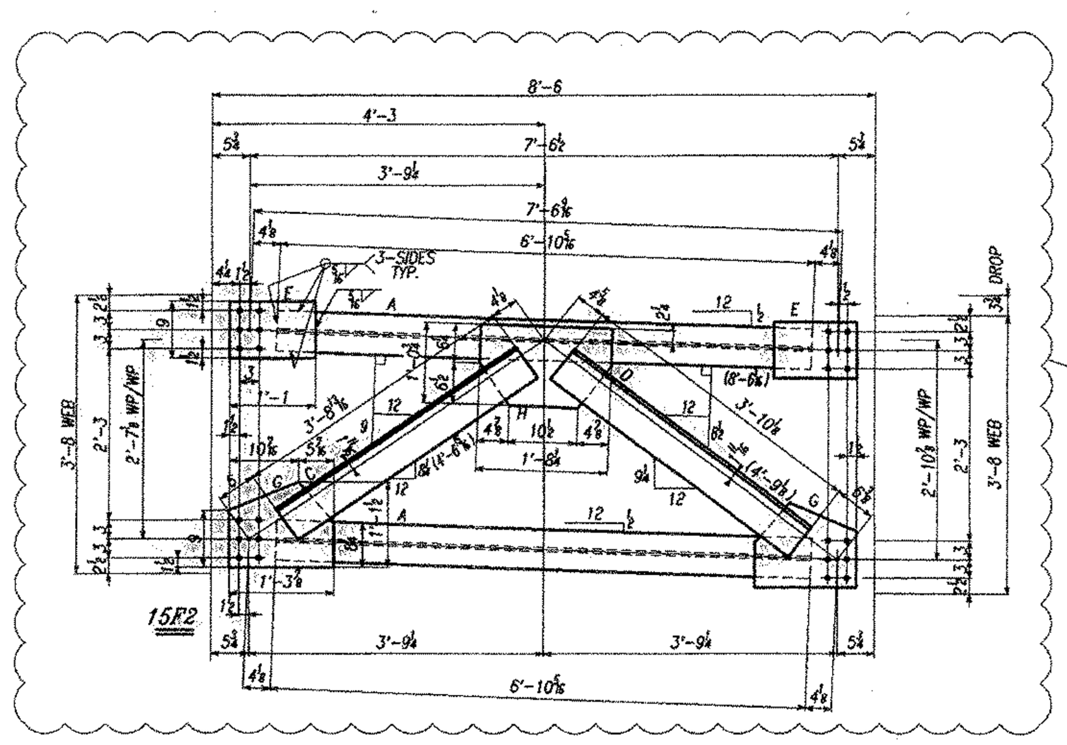
DATE	NO.	BY	REVISIONS
1-29-06	R1	FEW	ADDED DIMENSION TO PL H

ORDER NO. 06-18362H25
DETAILS OF ABUTMENT DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF14





PAINTED

SHOP BILL

LINE	SHIPPING LIST NO. PCS.	MARK	PCS. REQ'D	CODE	SYMBOL	SECTION DIM'S	FEET	INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE ITEM
1													
2	24	15F1				CROSSFRAMES							
3			48		WT	6X13	6	10 5/8	A	V	M270-50W		
4			24		L	6X6X½	3	8 13/16	C	V	M270-50W		
5			24		L	6X6X½	3	10 1/8	D	V	M270-50W		
6			48		PL	½X9	1	1	E	V	M270-50W		
7			48		PL	½X13½	1	3 3/8	G	V	M270-50W		
8			24		PL	½X12¾	1	8¼	H	V	M270-50W		
9													
10													
11													
12	4	15F2				CROSSFRAMES							
13			8		WT	6X13	6	10 5/8	A	V	M270-50W		
14			4		L	6X6X½	3	8 13/16	C	V	M270-50W		
15			4		L	6X6X½	3	10 1/8	D	V	M270-50W		
16			8		PL	½X9	1	1	E	V	M270-50W		
17			8		PL	½X13½	1	3 3/8	G	V	M270-50W		
18			4		PL	½X12¾	1	8¼	H	V	M270-50W		
19													
20													
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES 15/16"
SHOP PAINT NONE(UNLESS NOTED)

GENERAL NOTES SEE HN1

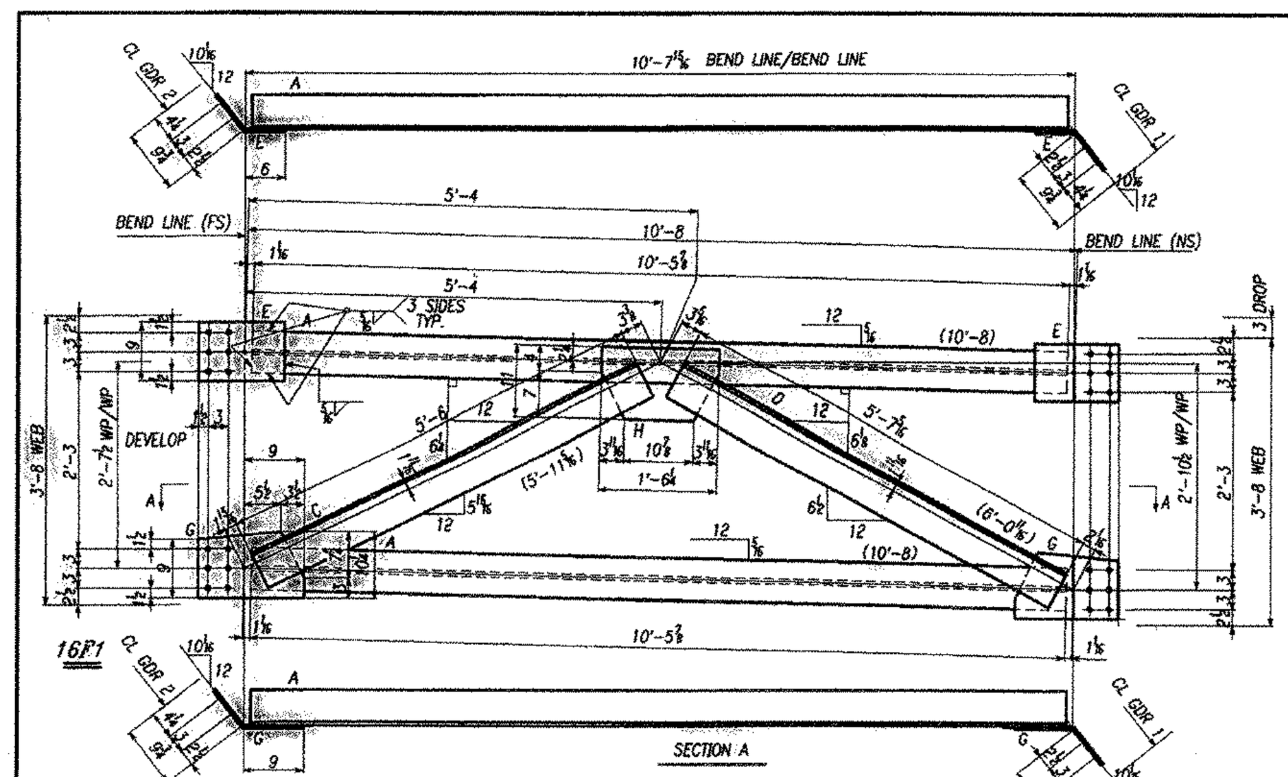
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF INTERMEDIATE DIAPHRAGMS
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION

MADE BY I. Vasilescu
CHECKED BY JJP
CHECKED LAYOUT FMW
DATE 8\29\06
SHEET HF15

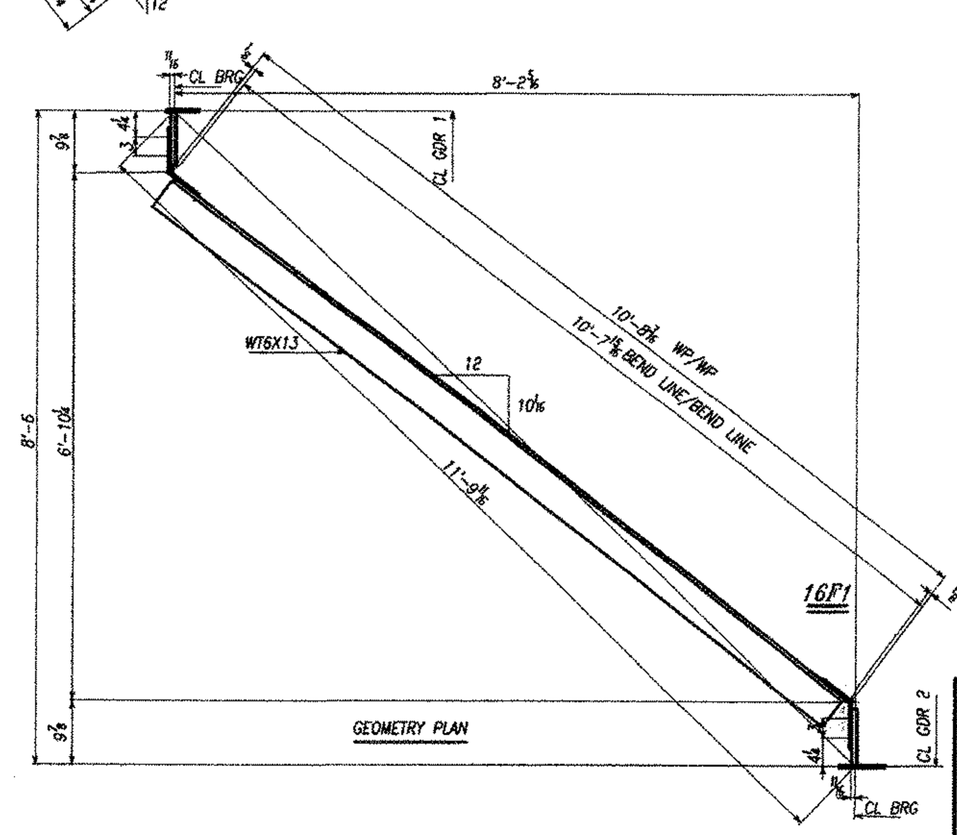
104 SS



SHOP BILL

NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS REQ'D	CODE	SYMBOL	SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.
1												
2	1	16F1				CROSSFRAMES						
3			2		WT	6X13	10	5 7/8	A	V	M270-50W	
4			1		L	6X6X1/2	5	6	C	V	M270-50W	
5			1		L	6X6X1/2	5	7 5/16	D	V	M270-50W	
6			2		PL	1/2X9	1	1	E	V	M270-50W	
7			2		PL	1/2X10 1/4	1	4	G	V	M270-50W	
8			1		PL	1/2X11	1	6 1/4	H	V	M270-50W	

DOMESTIC MATERIAL



STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
SHOP PAINT NONE
HOLES 15/16"
GENERAL NOTES SEE HN1

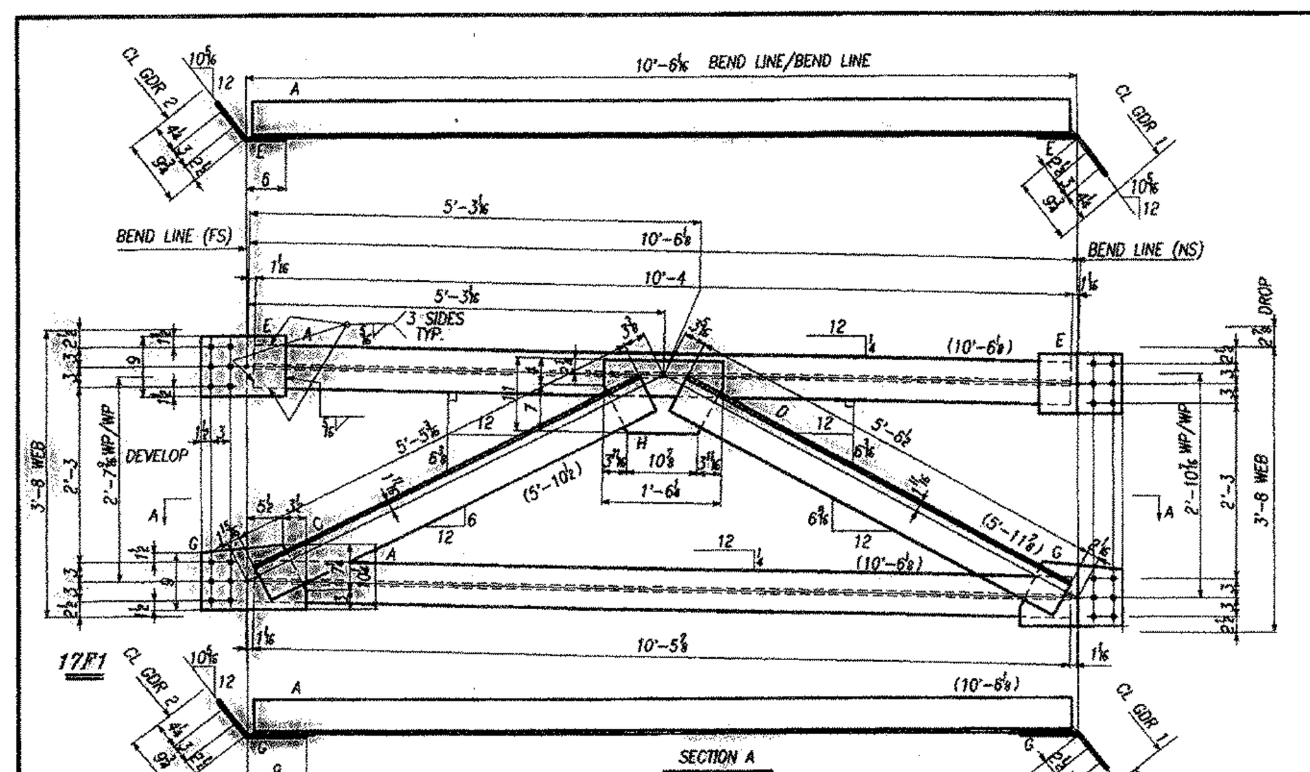
DATE	NO.	BY	REVISIONS
	R1		

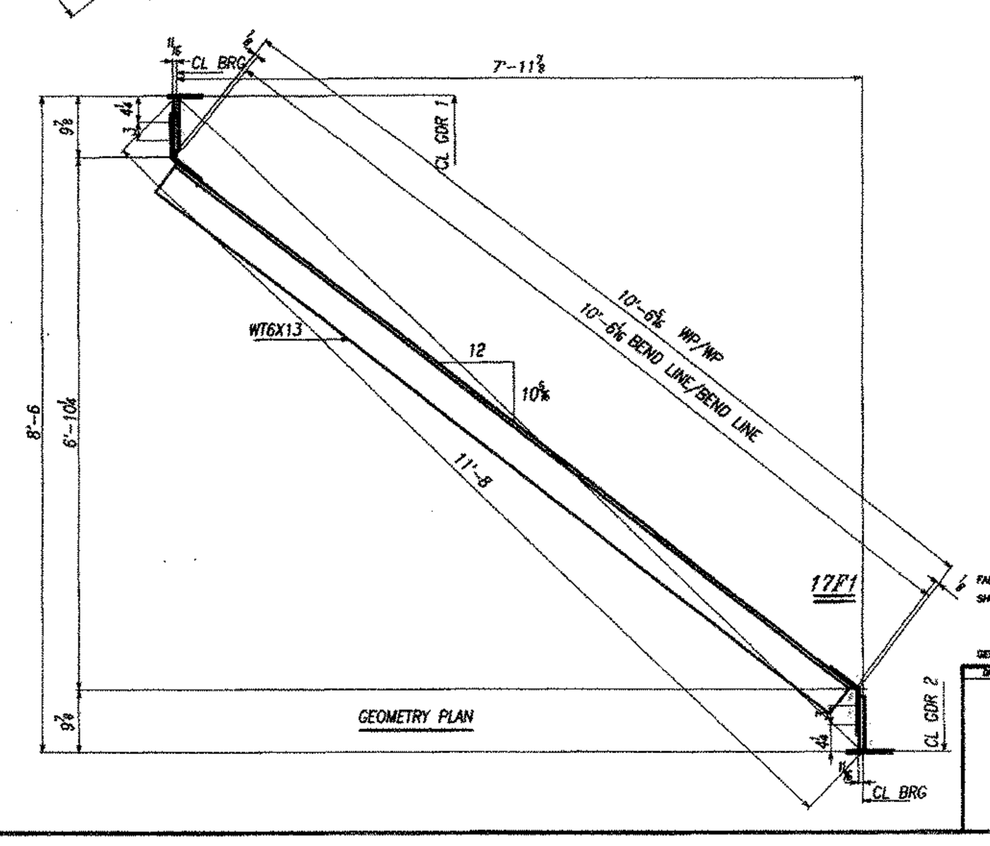
ORDER NO. 06-18362H25
DETAILS OF PIER DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF16

105 SS





SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS REQ'D	DESCRIPTION CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	
1													
2	1	17F1				CROSSFRAME							
3			2		WT	6X13	10	4	A	V	M270-50W		
4			1		L	6X6X1/2	5	5 3/16	C	V	M270-50W		
5			1		L	6X6X1/2	5	6 1/2	D	V	M270-50W		
6			2		PL	1/2X9	1	1	E	V	M270-50W		
7			2		PL	1/2X10 1/4	1	4	G	V	M270-50W		
8			1		PL	1/2X11	1	6 1/4	H	V	M270-50W		
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
SHOP PAINT NONE
HOLES 15/16"
GENERAL NOTES SEE HN1

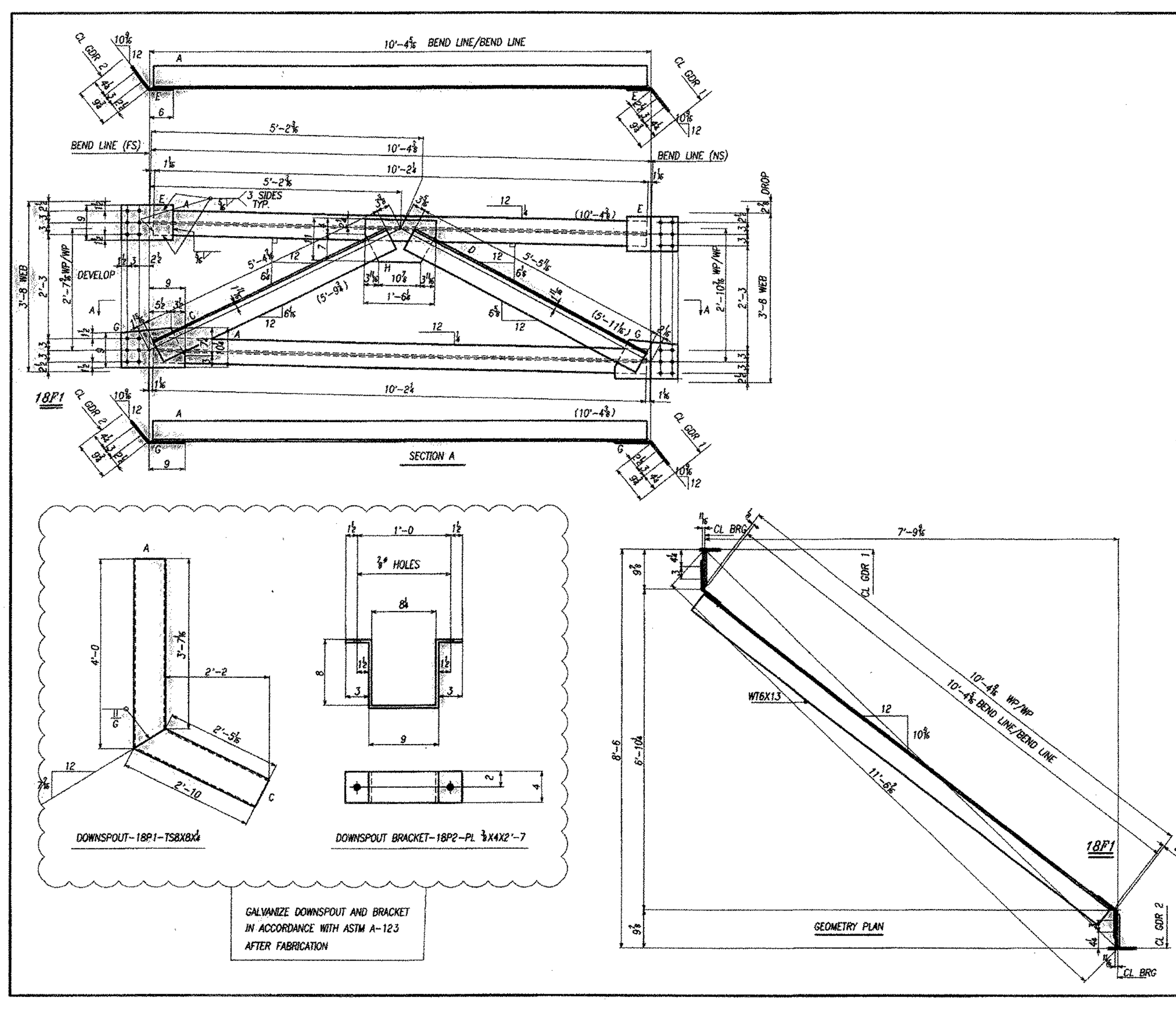
DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF PIER DIAPHRAGM
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L. Vasilescu
CHECKED BY JJF
SOUND LEADER FMW
DATE 8\29\06
SHEET HF17

106 SS



SHOP BILL

LINE NO.	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS. REQ'D	CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	LINE REV.
1													
2	1	18F1				CROSSFRAME							
3			2		WT	6X13	10	2 1/4	A	V	M270-50W		
4			1		L	6X6X1/2	5	4 7/16	C	V	M270-50W		
5			1		L	6X6X1/2	5	5 11/16	D	V	M270-50W		
6			2		PL	1/2X9	1	1	E	V	M270-50W		
7			2		PL	1/2X10 1/4	1	4	G	V	M270-50W		
8			1		PL	1/2X11	1	6 1/4	H	V	M270-50W		
9													
10													
11													
12													
13													
14													
15	1	18P1				DOWNSPOUT							
16			1		TS	8X8X1/4	4	0	A	GALV.	A500		
17			1		TS	8X8X1/4	2	10	C	GALV.	A500		
18													
19													
20	2	18P2	2		PL	3/8X4	2	7		BEND GALV.	M270-36		
21													
22													
23													
24													
25	DOMESTIC MATERIAL												

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH
SHOP PAINT NONE(UN)
HOLES 15/16" (UN)
GENERAL NOTES SEE HN1

DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF PIER DIAPHRAGM, DOWNSPOUT TUBE AND BRACKET
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF18

107 SS

DRIVING LIST

MACH BOLTS	HS BOLTS		DIA	GRIP	LENGTH	MEMBER SUPPORTED	CONNECTED TO
						ABUTMENT DIAPHRAGMS (6)	
	192		7/8	1 3/8	2 3/4	1/2 GUSSET PL	7/8 CONN PL *
						INTERMEDIATE (28)	
	96		7/8	1	2	1/2 GUSSET PL	1/2 CONN PL-INTER. *
	576		7/8	1	2	1/2 GUSSET PL	1/2 CONN PL-INTER.
						PIER DIAPHRAGMS (3)	
	72		7/8	1 3/8	2 3/4	1/2 GUSSET PL	7/8 CONN PL
					FIELD SPLICES		
	160		7/8	2 1/4	3 3/4	5/8, 5/8 TOP FLG SPLICE PL	1 TOP FLG PL
	224		7/8	3	4 1/4	3/4, 7/8 BOT. FLG SPLICE PL	1 3/8 BOT FLG PL
	208		7/8	1 1/2	2 3/4	1/2, 1/2 WEB SPLICE	1/2 WEB PL

ALL BOLTS TYPE 3 (UNLESS NOTED)
* DENOTES LOCATIONS SHOWN ON HE1 OF TYPE 1 BOLTS

TYPE 1 * SEE HE1

TYPE 1 AT PAINTED CONN PLATES ON ONE SIDE OF CROSSFRAMES, (4 LOCATIONS) * SEE HE1

TYPE 3

GALVANIZE DOWNSPOUT ANCHORS AND WASHERS IN ACCORDANCE WITH ASTM A513 (AASHTO M232)

SHOP BILL

LINE	SHIPPING LIST NO. PCS	SHIPPING LIST MARK	PCS REQ'D	CODE	DESCRIPTION SYMBOL	DESCRIPTION SECTION DIM'S	LENGTH FEET	LENGTH INCHES	ASSEMBLY MARK	REMARKS	MTRL. SPEC.	MTRL. APP. P.O. NO.	
1													
2													
3	200	19FP3	200	F	HSBT	7/8	0	2 3/4		TYPE 1	M164		
4	140	19FP4	140	F	HSBT	7/8	0	2		TYPE 1	M164		
5	300	19FP5	300	F	HWASH	7/8				TYPE 1	F436		
6													
7	590	19FP7	590	F	HSBT	7/8	0	2		TYPE 3	M164		
8	290	19FP8	290	F	HSBT	7/8	0	2 3/4		TYPE 3	M164		
9													
10	232	19FP10	232	F	HSBT	7/8	0	3 3/4		TYPE 3	M164		
11	166	19FP11	166	F	HSBT	7/8	0	4 1/2		TYPE 3	M164		
12													
13	1278	19FP13	1278	F	HWASH	7/8				TYPE 3	F436		
14													
15													
16					NUTS TO BE A563-DH								
17													
18													
19													
20	4	19FP20	4	F	BOLT	3/4	0	9		EXPANSION GALV.			
21	4	19FP21	4	F	WASH	3/4				GALV.	F436		
22	4	19FP22	4	F	NUT	3/4				GALV.	A563		
23													
24													
25	DOMESTIC MATERIAL												

STA 9+19.57 TO STA 11+01.07
BRIDGE # 42 EAST STREET (TH# 4)
HUNTINGTON, VT
CHITTENDEN COUNTY

FABRICATED BY NASH HOLES
SHOP PAINT
GENERAL NOTES SEE HN1

DATE	NO.	BY	REVISIONS
	R1		

ORDER NO. 06-18362H25
DETAILS OF FIELD BOLTS
PROJECT BRIDGE # 42 EAST STREET (TH #4) CLASS 3 (LOCAL ROAD)
LOCATION HUNTINGTON, VT
CUSTOMER PARENT CONSTR. INC.

CAROLINA STEEL CORPORATION
GREENSBORO, NC (336) 275-9711

MADE BY L. Vasilescu
CHECKED BY JJF
SQUAD LEADER FMW
DATE 8\29\06
SHEET HF19

108 SS

VERMONT

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

[phone] 802-828-2621
[fax] 802-828-2556
[tnd] 800-253-0191

Agency of Transportation

DATE: January 8, 2007

Merrimack Sheet Metal
119 Hall Street
Concord, NH 03301

Project Name: Huntington **Project #: BRO 1445(29)**

Structure Identification: East Street (TH #4) over Huntington River

The following Expansion Joint details and Welding Procedures [Item # 516.10, Bridge Expansion Joint] for the above project (Vendor's Job # 0922) transmitted with Parent Construction Inc. letter dated 12/11/06 have been reviewed and are being returned herewith.

Sheets: Shop Drawings E1, E2, F1, F2, F3, and F4 and Welding Procedures DS-7, DS-13 and DS-16
are approved or approved "as noted".

Upon receipt of these "approved and "approved as noted" drawings, please make changes as appropriate and submit white prints for our use in the record plans for this project.

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

Sincerely,

Warren Tripp

Warren Tripp, Project Manager

Attachments
cc: Resident Engineer Dale Norton, w/ prints
Shop Inspector Jeff Clark w/prints
Parent Construction, Inc. w/prints
Construction Division – letter only
Materials & Research Section (C&IA Unit) – letter only
Files (Structures & Central)

109 EJ

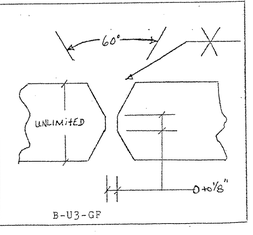
VTrans Working to Get You There! Vermont Agency of Transportation

PROJECT NAME _____

PREQUALIFIED JOINT WELDING PROCEDURE PROJECT NUMBER _____
PROCEDURE SPECIFICATION

Material specification A36;A572;A588 SINGLE PASS ONLY
Welding process FCAW
Manual or machine SEMI-AUTOMATIC
Position of welding FLAT
Filler metal specification AWS 5.20
Filler metal classification ALLOY RODS DUAL SHIELD 7T 71 ULTRA
Flux N/A
Shielding gas CO_2 Flow rate 35 CFH
Single or multiple pass MULTIPLE
Single or multiple arc SINGLE ELECTRICAL STICK-OUT 3/8"-3/4"
Welding current DC
Polarity REVERSE
Welding progression N/A
Root treatment Back-Gouge root to sound metal before welding second side.
Preheat and interpass temperature 50° to 3/8"TNCL.;70° to1"TNCL.;150° to 2½" TNCL
Postheat treatment NONE
Supported by WPS 007 and 008

WELDING PROCEDURE

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed (I.P.M.)	Joint detail
all	.045	220-240	26-28	14-16	

B-U3-GF

VTRANS
RECEIVED
DEC 14 2006

OK'D BY _____ OK'D BY JMK
RESUBMIT _____ APPROVED ✓
BY _____ DATE 12-18-06

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure no. PS-7
Revision no. _____
Form E-2

Contractor Merrimack Sheet Metal, Inc.
Authorized by Scott Barchetto
Date 11/26/01

1/10 EJ

PROJECT NAME

QUALIFIED JOINT WELDING PROCEDURE PROJECT NUMBER
PROCEDURE SPECIFICATION

Material specification A36:A572:65GR
Welding process FCAW
Manual or machine SEMI-AUTOMATIC
Position of welding FLAT for groove welds' Horizontal for fillet welds 1G: 2F
Filler metal specification AWS 5.20
Filler metal classification ALLOY RODS DUAL SHIELD 71 71 ULTRA (E71T-1)
Flux N/A
Shielding gas CO_2 Flow a/r 35 CFH
Single or multiple pass SINGLE AND MULTIPLE
Single or multiple arc SINGLE ELECTRICAL STICK-OUT 3/8"-3/8"
Welding current DC
Polarity REVERSE
Welding progression N/A
Root treatment NONE
Preheat and interpass temperature 50° to 3/8"INCL. 70° to 1"INCL. 150° to 2" INCL
Posttest treatment NONE
Supported by PQR 007 and 008

VTRANS
RECEIVED
DEC 14 2006

WELDING PROCEDURE

WPD BY _____ OKD BY JLVC
SUBMIT _____ APPROVED ✓
BY _____ DATE 12-13-06

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed I P M	Weld Size (S)
		GROOVE WELDS			
1	.045	220-240	26-28	16-18	3/16"
1	.045	220-240	26-28	10-12	1/4"
all	.045	220-240	26-28	14-16	5/16"+
		FILLET WELDS			
FILLET WELDS SHALL EQUAL 1/4 OF t BUT NOT MORE THAN 3/8" SEE PROCEDURE DS-16 FOR PARAMETERS OF FILLET WELDS					

Joint detail

TC-PB-GF

This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure no. DS-13
Revision no. _____
Form E-2

Contractor Merrimack Sheet Metal, Inc.
Authorized by Scott Blanchette
Date 1/26/01

111 EJ

PROJECT NAME

PREQUALIFIED JOINT WELDING PROCEDURE PROJECT NUMBER
PROCEDURE SPECIFICATION

Material specification A36:A572:A588
Welding process FCAW
Manual or machine SEMI-AUTOMATIC
Position of welding FLAT OR HORIZONTAL
Filler metal specification AWS 5.20
Filler metal classification ALLOY RODS DUAL SHIELD II 71 ULTRA (E71T-1)
Flux N/A
Shielding gas CO_2 Flow rate 35 CFH
Single or multiple pass SINGLE AND MULTIPLE
Single or multiple arc SINGLE ELECTRICAL STICK-OUT 3/8"-3/4"
Welding current DC
Polarity REVERSE
Welding progression N/A
Root treatment NONE
Preheat and interpass temperature 50°to 3/8"INCL ;70°to1"INCL ;150°to 2"INCL
Posthest treatment NONE
Supported by WPS 007 and 008

WELDING PROCEDURE

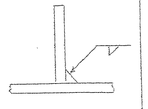
V-TRADS

RECEIVED
DEC 14 2006

CK'D BY JAC
RESUBMIT APPROVED
BY DATE 12-15-06

Pass no.	Electrode size	Welding current: Amperes	Welding current: Volts	Travel speed (T.P.M.)	Weld Size (e)
1	.045	220-240	26-28	16-18	3/16"
1	.045	220-240	26-28	12-13	1/4"
All	.045	210-230	25-27	9-10	5/16"
1	.045	220-240	26-28	16-18	
2	.045	220-240	26-28	16-18	3/8" (3 passes)
3	.045	220-240	26-28	16-18	
1	.045	210-230	25-27	9-11	
2	.045	210-230	25-27	9-11	7/16" (3 passes)
3	.045	210-230	25-27	9-11	

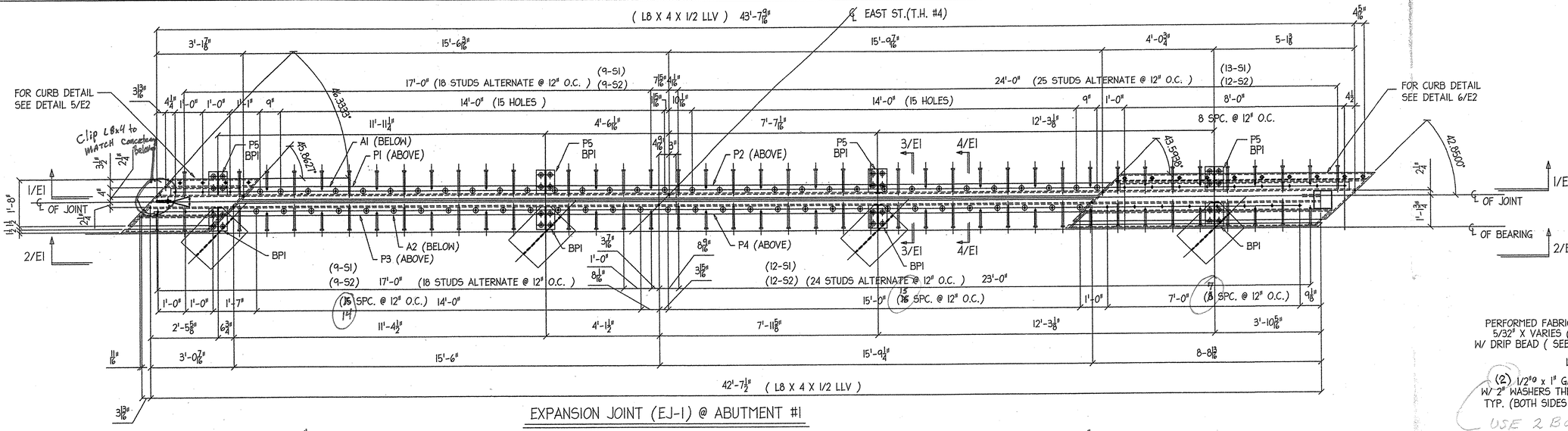
Joint detail



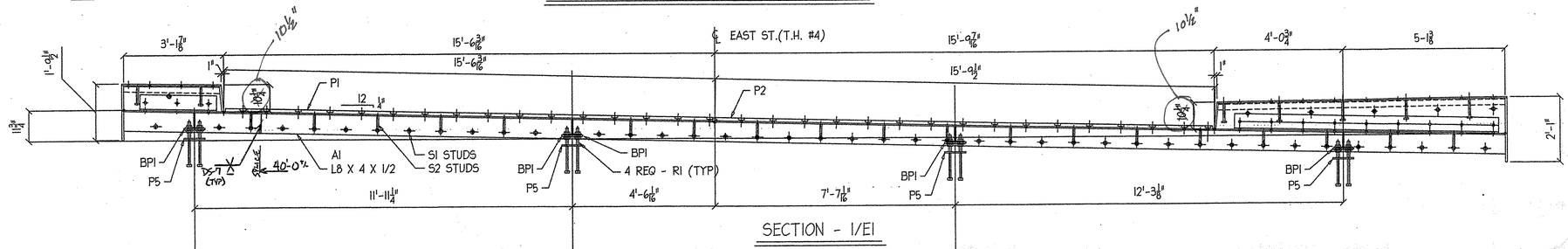
This procedure may vary due to fabrication sequence, fit-up, pass size, etc., within the limitation of variables given in Section 5.

Procedure no. DS-16
Revision

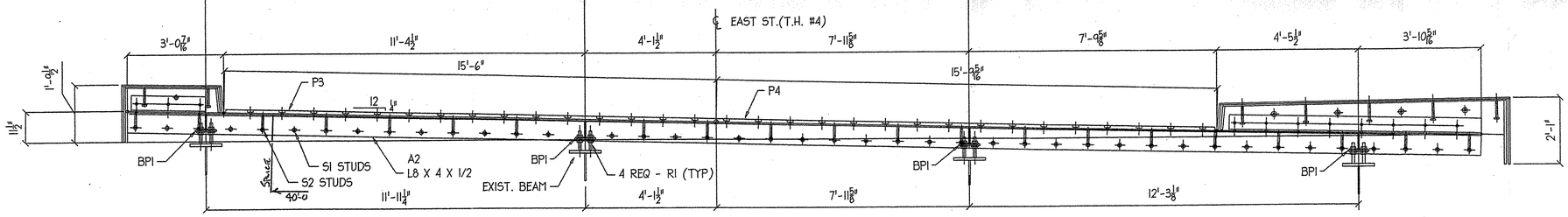
Contractor Merrimack Sheet Metal, Inc.
Authorized by Scott Bianchetta
Date 11/26/01 112 EJ



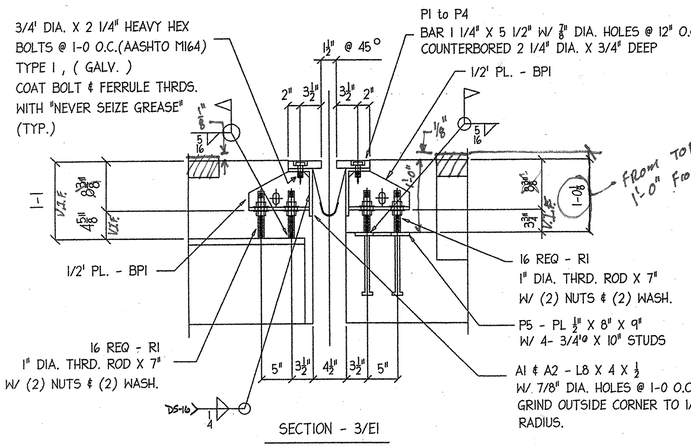
EXPANSION JOINT (EJ-1) @ ABUTMENT #1



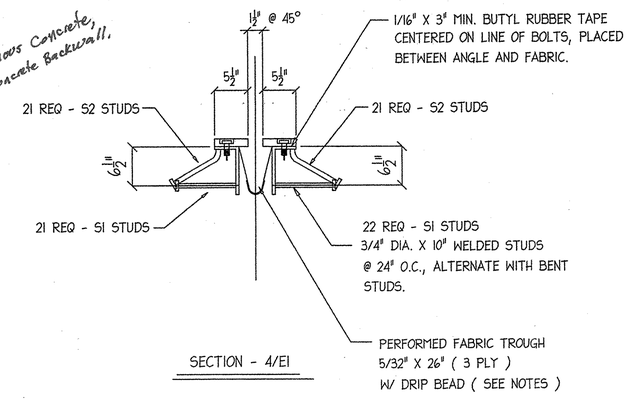
SECTION - 1/E1



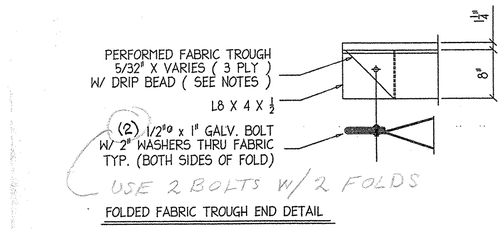
SECTION - 2/E1



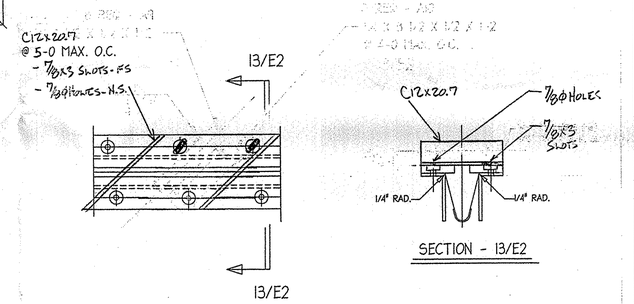
SECTION - 3/E1



SECTION - 4/E1



FOLDED FABRIC TROUGH END DETAIL



SECTION - 13/E2

PLAN - SHIPPING DEVICE

TEMP	"A" DIST.
0° F	2"
15° F	1 7/8"
30° F	1 11/16"
45° F	1 1/2"
60° F	1 5/16"
75° F	1 1/8"
90° F	1"
105° F	13/16"

"A" is the setting before Dead Loads are in Place.

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED RESUBMISSION NOT REQUIRED ✓
REVISE AS NOTED RESUBMISSION REQUIRED
REJECTED
DATE January 2nd 2007
SIGNATURE Scott Buckland
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

REV. NO.	DATE	DESCRIPTION
HOLES:	13/16"ø (U.N.O.)	DATE: 11-20-06
PAINT:		

STATE PROJECT # BRO 1445 (29)

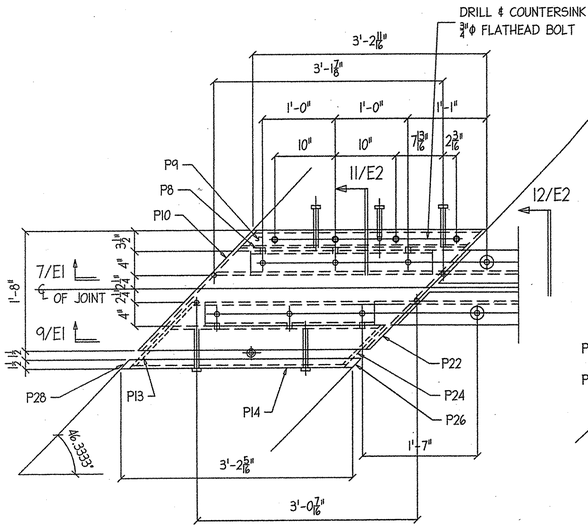
EXPANSION JOINT (EJ-1) @ ABUTMENT #1

DATE SUB.	PROJECT	EAST STREET (T.H. #4) OVER HUNTINGTON RIVER
	LOCATION	HUNTINGTON VT.
	ARCHITECT	
DATE APP.	ENGINEER	STATE OF VERMONT , AGENCY OF TRANSPROTATION
DATE DIST.	CUSTOMER	PARENT CONSTRUCTION

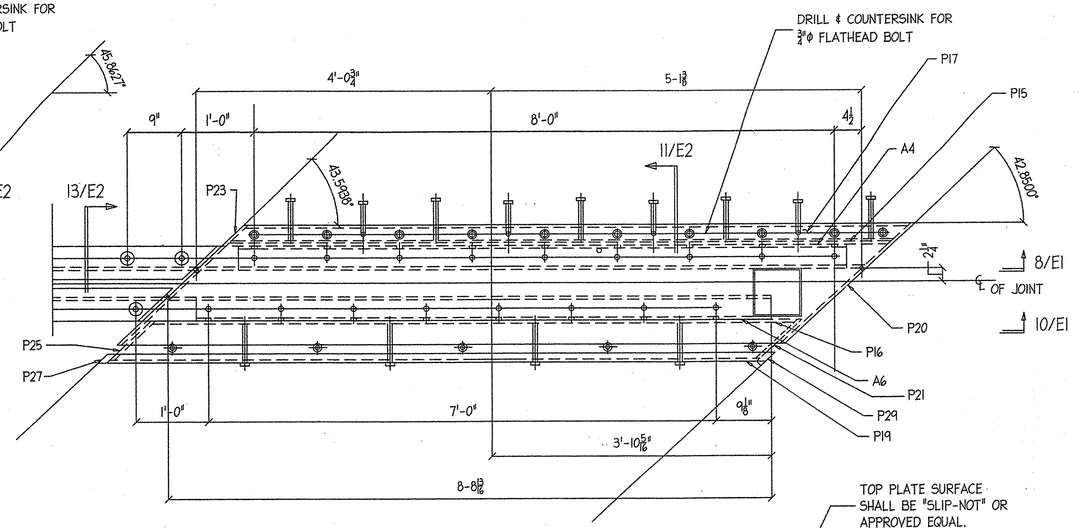
MERRIMACK
MISCELLANEOUS IRON STRUCTURAL STEEL FABRICATORS
MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

DR BY	KJM
REV BY	JD
JOB NO.	0922
DWG NO.	E1

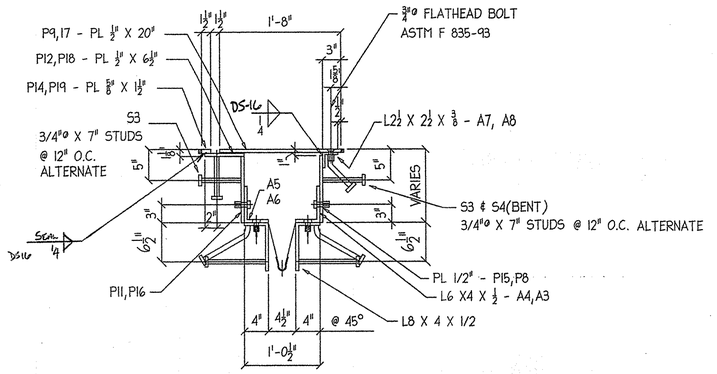
113 EJ



DETAIL - 5/EI

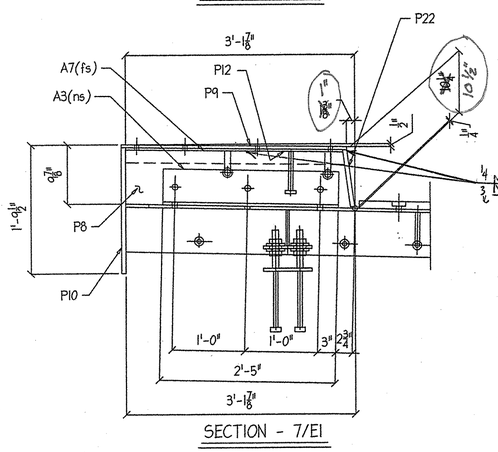


DETAIL - 6/EI

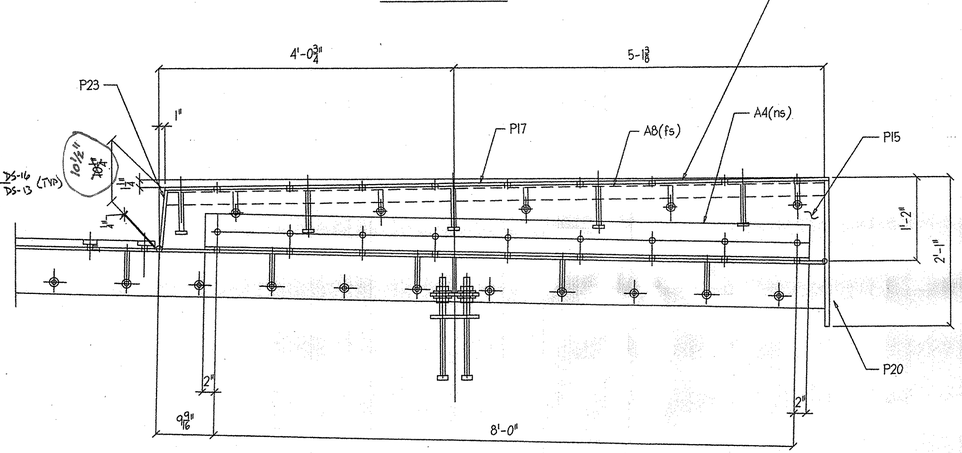


SECTION - 11/EI

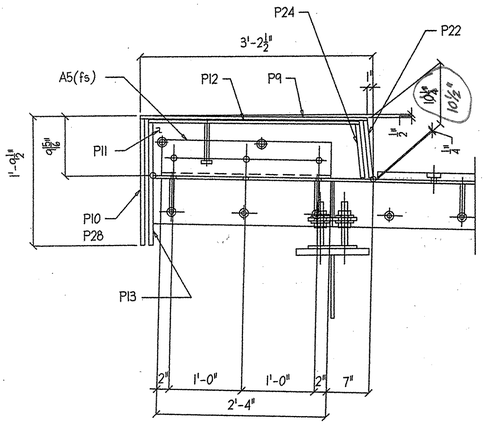
NOTE: - TOP PLATE SURFACE SHALL BE "SLIP-NOT" OR APPROVED EQUAL.



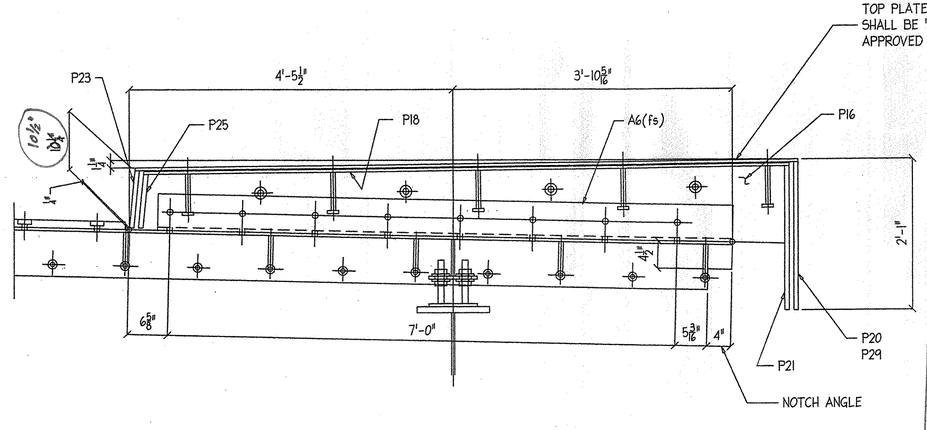
SECTION - 7/EI



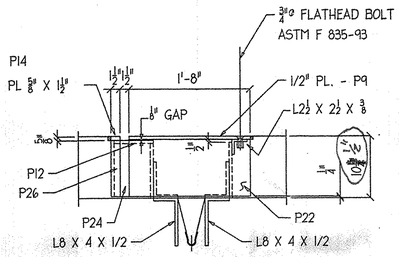
SECTION - 8/EI



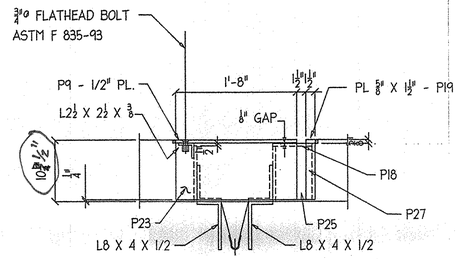
SECTION - 9/EI



SECTION - 10/EI



SECTION - 12/EI



SECTION - 13/EI

NOTES:

1.) PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.

2.) BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPEC. M-198, TYPE II.

3.) ALL STEEL COMPONENTS SHALL BE AASHTO M270, GRADE 36, GALVANIZED OR METALIZED AS PER SUBSECTION 506.15(a) or (b) UNLESS NOTED OTHERWISE, EXCEPT FOR THREADED RODS AND NUTS TO BE ASTM A307, GRADE C. THE NUTS FOR THE THREADED RODS SHALL BE ASTM A563.

4.) THE L8 X 4 X 1/2 ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE 1 1/4" X 5 1/2" BARS EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS.

5.) A DRIP BEAD OF 1/4" X 7" STRIP OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 1" FROM THE DOWNSPOUT END OF THE TROUGH.

~~6.) THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT.~~

6.7.) THE EXPANSION JOINT SHALL BE SHOP ASSEMBLED AD SHIPPED AS ONE UNIT. GALVANIZED IN ACCORDANCE WITH ASTM A153 (AASHTO M232).

7.) Seal weld all connections when possible prior to galvanizing.

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN	
REVISE AS NOTED RESUBMISSION NOT REQUIRED	✓
REVISE AS NOTED RESUBMISSION REQUIRED	
REJECTED	

Stantec

DATE January 7th, 2007

SIGNATURE Scott Burklund

REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

REV. NO.	DATE	DESCRIPTION

HOLES: 13/16"ø (U.N.O.) DATE: 11-20-06

PAINT:

STATE
PROJECT # BRO 1445 (29)

EXPANSION JOINT (EJ-1) CURB DETAILS

DATE SUB.	PROJECT	EAST STREET (T.H. #4) OVER HUNTINGTON RIVER
	LOCATION	HUNTINGTON VT.
	ARCHITECT	
DATE APP.	ENGINEER	STATE OF VERMONT , AGENCY OF TRANSPROTATION
DATE DIST.	CUSTOMER	PARENT CONSTRUCTION

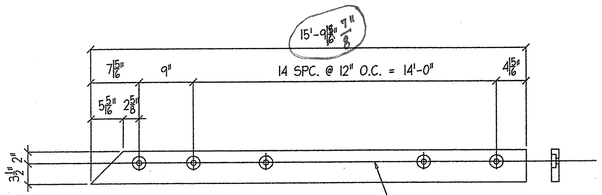
MERRIMACK

MISCELLANEOUS IRON STRUCTURAL STEEL FABRICATORS

MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

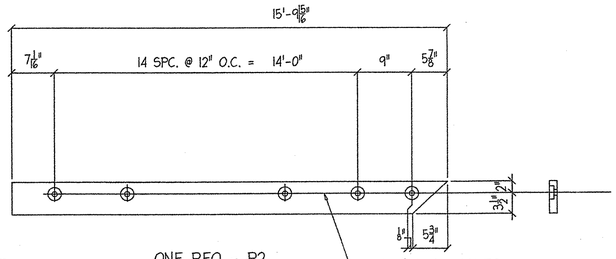
DR BY	KJM
REV BY	JD
JOB NO.	0922
DWG NO.	E2

1145



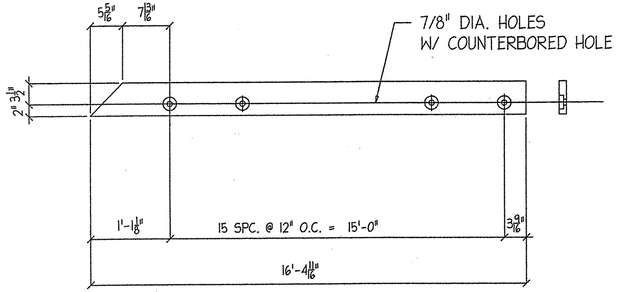
7/8" DIA. HOLES
W/ COUNTERBORED HOLE 2 1/4" X 3/4" DEEP

ONE REQ - P1



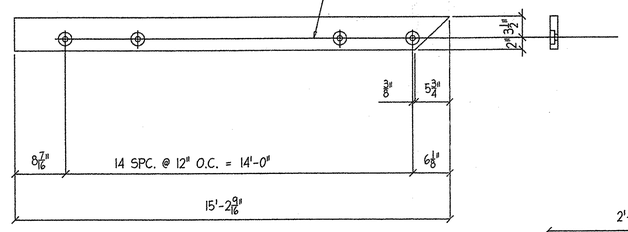
7/8" DIA. HOLES
W/ COUNTERBORED HOLE 2 1/4" X 3/4" DEEP

ONE REQ - P2



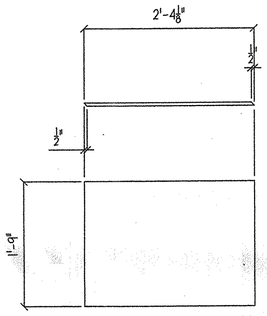
7/8" DIA. HOLES
W/ COUNTERBORED HOLE 2 1/4" X 3/4" DEEP

ONE REQ - P3

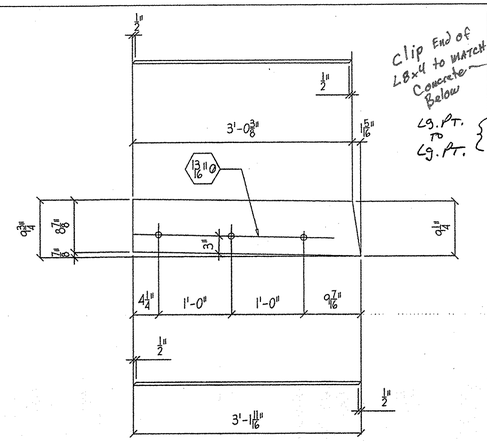


7/8" DIA. HOLES
W/ COUNTERBORED HOLE 2 1/4" X 3/4" DEEP

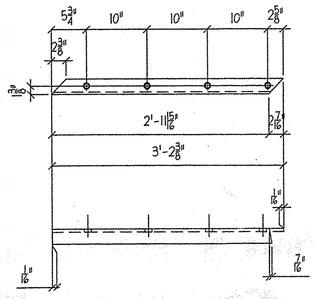
ONE REQ - P4



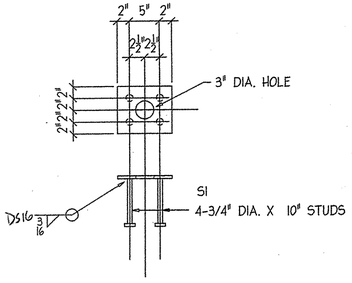
ONE REQ - P10



ONE REQ - P8

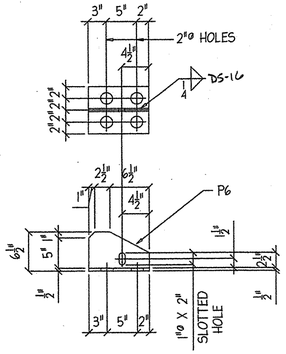


ONE REQ - A7

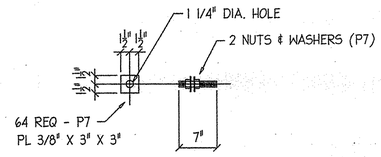


4 REQ - P5

PL 1/2" X 8" X 9"



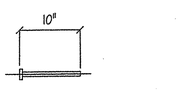
8 REQ - BPI



64 REQ - P7

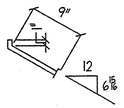
PL 3/8" X 3" X 3"

32 REQ - R1



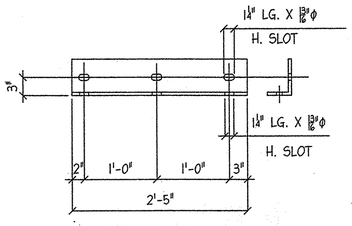
43 - S1 - 3/4"ø X 0-10 STUDS

18 - S3 - BENT 3/4"ø X 0-7 STUDS

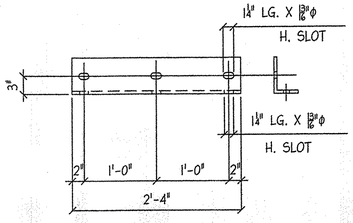


42 - S2 - BENT 3/4"ø X 0-10 STUDS

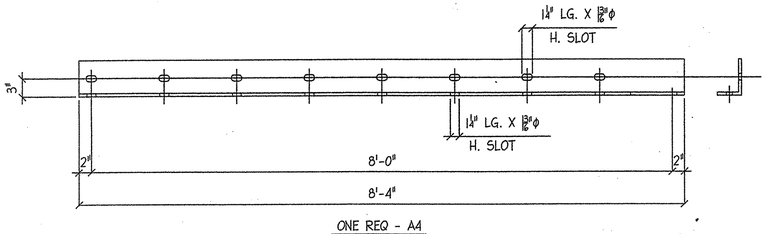
7 - S4 - BENT 3/4"ø X 0-10 STUDS



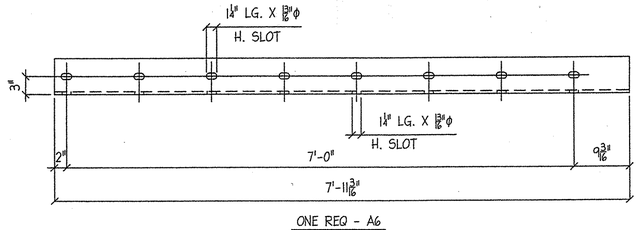
ONE REQ - A3



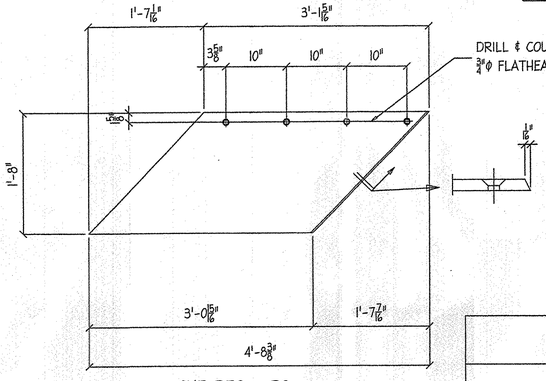
ONE REQ - A5



ONE REQ - A4



ONE REQ - A6



ONE REQ - P9

ANCHOR FERRULE DETAIL

DAYTON/RICHMOND TYPE LF,
3/4" DIA. CLOSED FERRULE
OR EQUAL.
NOTE: CLOSED THREADED FERRULE NUTS WITHOUT ANCHOR LOOPS MAY BE USED.

Tack on nuts with plastic caps as per conversation w/ Jeff Clark on 12-15-06.

BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
1	EJ-1	EXPANSION JOINT			GALV.
1	A1	L8 X 4 X 1/2	24 4/3	28 11 7/16"	
1	A2	L8 X 4 X 1/2	42	11 7/16 5	
43	S1	3/4"ø STUD	0	10	
42	S2	BENT 3/4"ø STUD	0	10	
18	S3	3/4"ø STUD	0	7	
7	S4	BENT 3/4"ø STUD	0	7	
1	P1	PL 1 1/4" X 5 1/2"	15	9 15/16 7/8	
1	P2	PL 1 1/4" X 5 1/2"	15	9 15/16	
1	P3	PL 1 1/4" X 5 1/2"	16	4 11/16	
1	P4	PL 1 1/4" X 5 1/2"	15	2 9/16	
4	P5	PL 1/2" X 8"	0	9	
16	S1	3/4"ø STUDS	0	10	
8	BP1	PL 1/2" X 8"	0	10	
8	P6	PL 1/2" X 6"	0	10	
32	R1	1"ø THRD. ROD	0	7	W/ 2 NUTS
64	P7	PL 3/8" X 3"	0	3	
1	P8	PL 1/2" X	3	1 11/16	
1	P9	PL 1/2" X 20"	4	8 3/8	
1	P10	PL 1/2" X 21"	2	4 1/8	
1	A3	L6 X 4 X 1/2	2	5	
1	A4	L6 X 4 X 1/2	8	4	
1	A5	L6 X 4 X 1/2	2	4	
1	A6	L6 X 4 X 1/2	7	11 3/16	
1	A7	L 2 1/2 X 2 1/ X 3/8	3	2 11/16	
		BOLTS @ EXPANSION JOINT (E.-1)			
86 -		3/4"ø X 2 1/4" HEAVY HEX BOLTS (ASHTO M164)@ L8 X 4 X 1/2			
		W/ 3/4"ø CLOSED THREADED ANCHOR FERRULE			
14 -		3/4"ø FLATHEAD BOLT (ASTM F 835-93)			
		W/ 3/4"ø X 2" CLOSED THREADED FERRULE @ CURB TOP PLATE			
23 -		3/4"ø X 2 1/4" HEAVY HEX BOLTS (ASHTO M164)@ L6 X 4 X 1/2			
		W/ 3/4"ø X 2" CLOSED THREADED FERRULE			
1 -		1/2"ø X 1' BOLT W/ 2 WASH. & NUT @ FABRIC TROUGH			

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN
REVISE AS NOTED RESUBMISSION NOT REQUIRED ✓
REVISE AS NOTED RESUBMISSION REQUIRED
REJECTED

Stantec

DATE January 2nd 2007

SIGNATURE Scott Burland

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REV. NO.	DATE	DESCRIPTION
HOLES:	13/16"ø (U.N.O.)	DATE: 11-20-06
PAINT:		

STATE
PROJECT # BRO 1445 (29)

EXPANSION JOINT (EJ-1) FAB DETAILS

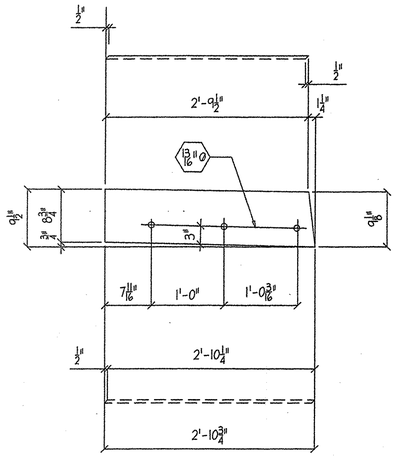
DATE SUB.	PROJECT	EAST STREET (T.H. #4) OVER HUNTINGTON RIVER
	LOCATION	HUNTINGTON VT.
	ARCHITECT	
DATE APP.	ENGINEER	STATE OF VERMONT , AGENCY OF TRANSPROTATION
DATE DIST.	CUSTOMER	PARENT CONSTRUCTION

MERRIMACK
MISCELLANEOUS IRON STRUCTURAL STEEL FABRICATORS

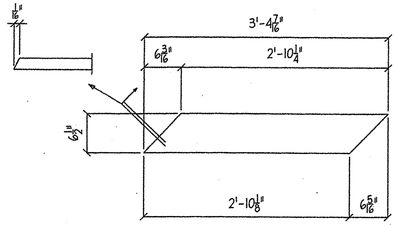
MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

DR BY KJM
REV BY JD
JOB NO. 0922
DWG NO. F1

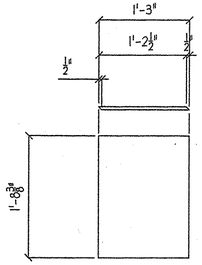
115 of 5



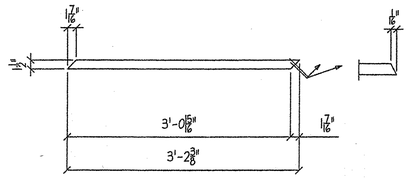
ONE REQ - P11



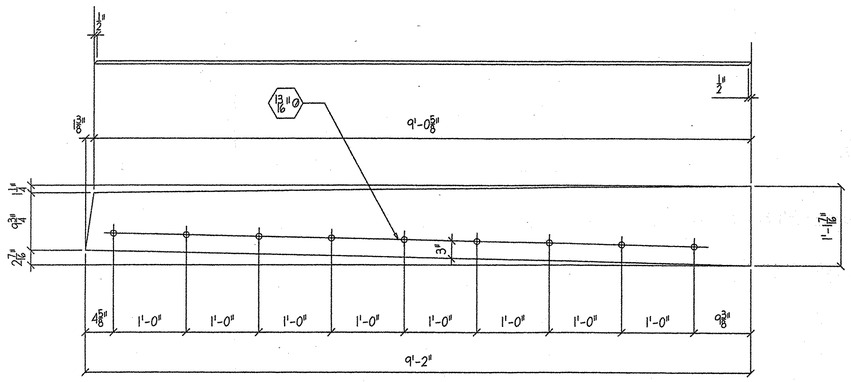
ONE REQ - P12



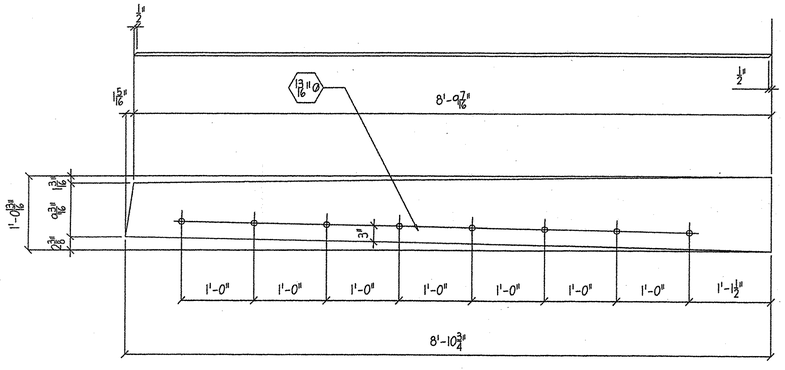
ONE REQ - P13



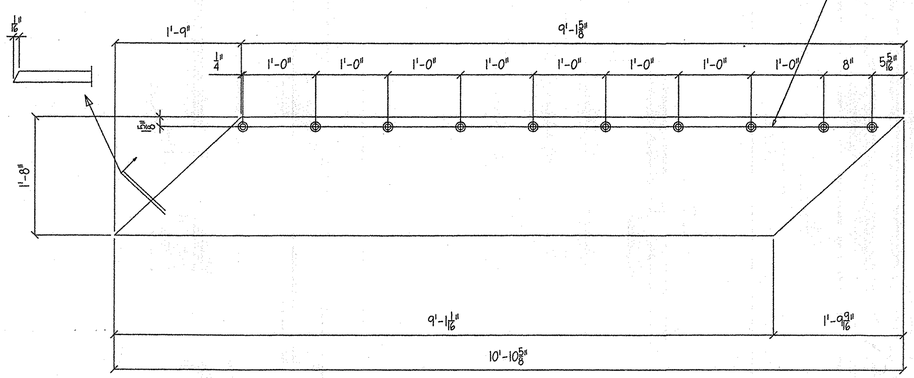
ONE REQ - P14



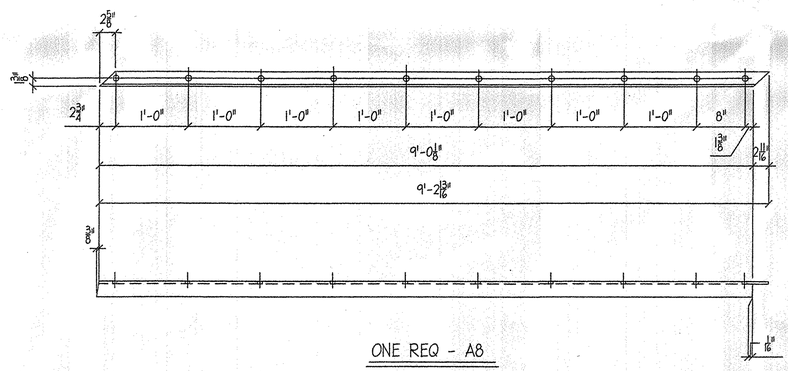
ONE REQ - P15



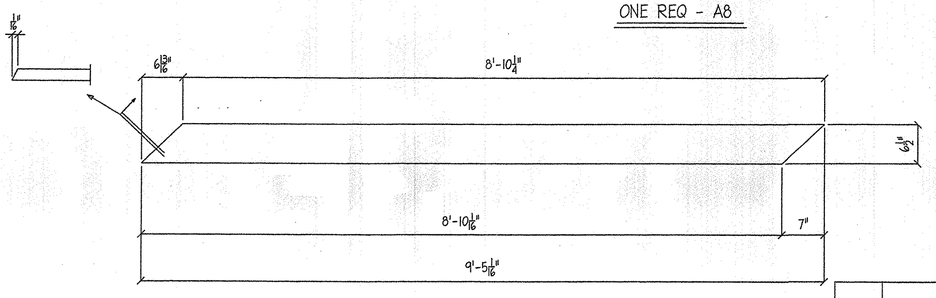
ONE REQ - P16



ONE REQ - P17



ONE REQ - A8



ONE REQ - P18

BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
1	P11	PL 1/2" X 9 1/2"	2	10 3/4	GALV.
1	P12	PL 1/2" X 6 1/2	3	4 7/16	
1	P13	PL 1/2" X 15"	1	8 3/8	
1	P14	P 5/8" X 1 1/2"	3	2 3/8	
1	P15	P 1/2" X 13 7/16"	9	2	
1	P16	P 1/2" X 12 13/16"	8	10 3/4	
1	P17	P 1/2" X 20"	10	10 5/8	
1	P18	P 1/2" X 6 1/2"	9	5 1/16	
1	A8	L 2 1/2 X 2 1/ X 3/8	9	2 3/4	

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NO EXCEPTION TAKEN ✓
REVISE AS NOTED
RESUBMISSION NOT REQUIRED
REVISE AS NOTED
RESUBMISSION REQUIRED
REJECTED
Stantec
DATE January 2nd 2007
SIGNATURE Scott Burbank
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HOLES: 13/16"ø (U.N.O.) DATE: 11-20-06
PAINT:

STATE
PROJECT # BRO 1445 (29)

EXPANSION JOINT (EJ-1) FAB DETAILS

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	LOCATION	HUNTINGTON VT.
	ARCHITECT	
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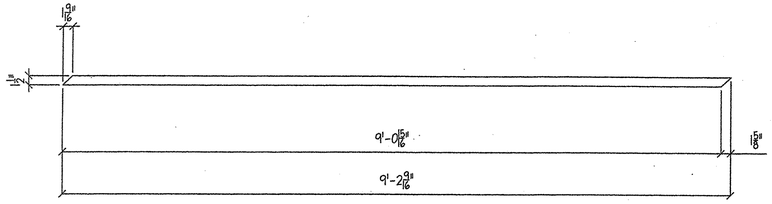
FAX. (603) 224-7925

DR BY KJM
REV BY JD
JOB NO. 0922
DWG NO. F2

1/6 EJ



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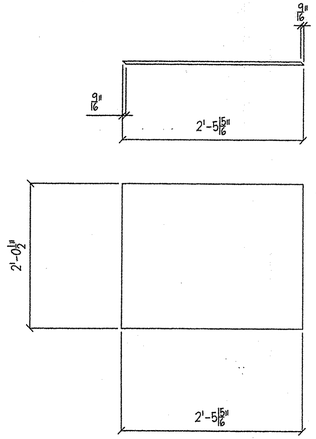
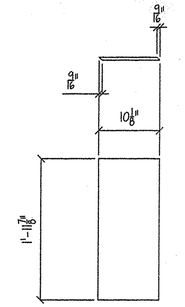
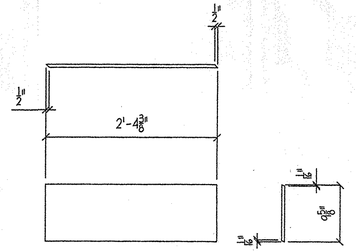


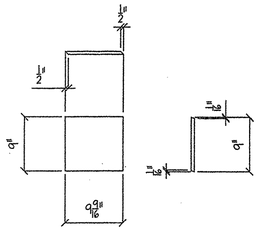
ONE REQ - P20



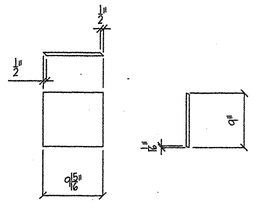
ONE REQ - P21



ONE REQ - P22



ONE REQ - P24



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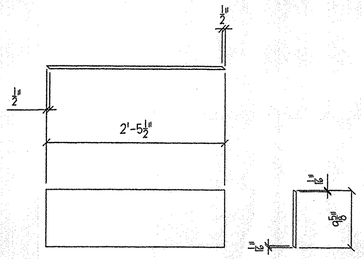
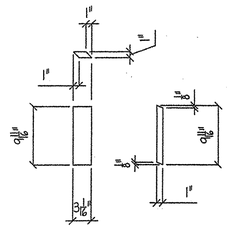
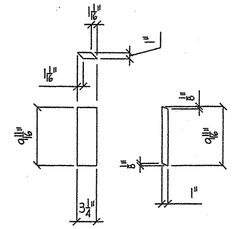


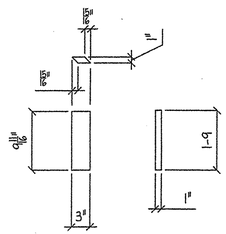
ONE REQ - P23



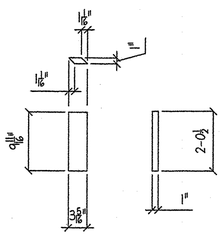
ONE REQ - P26



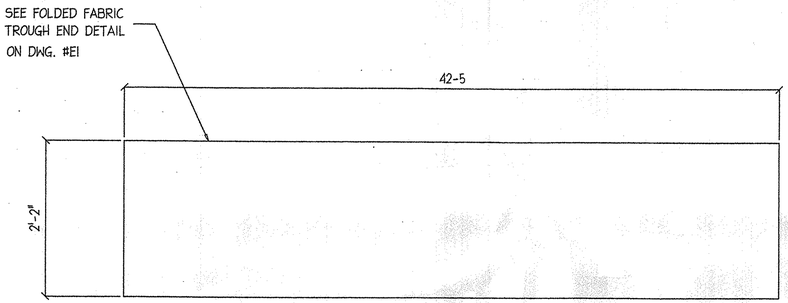
ONE REQ - P27



ONE REQ - P28

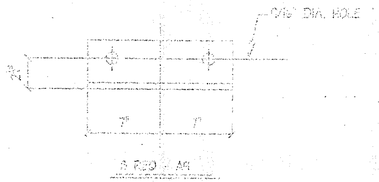


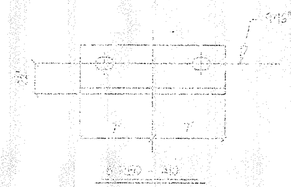
ONE REQ - P29



TROUGH LAYOUT

PERFORMED FABRIC TROUGH
5/32" X 26" (3 PLY)
W/ DRIP BEAD (SEE NOTES)





BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
1	P19	P 5/8" X 1 1/2"	9	2 9/16	GALV.
1	P20	P 1/2" X 24 1/2"	2	5 15/16	
1	P21	P 1/2" X 10 1/8"	1	11 7/8	
1	P22	P 1/2" X 9 5/8"	2	4 3/8	
1	P23	P 1/2" X 9 5/8"	2	5 1/2	
1	P24	P 1/2" X 9"	0	9 9/16	
1	P25	P 1/2" X 9"	0	9 15/16	
1	P26	P 1/2" X 3 1/16"	0	9 11/16	
1	P27	P 1/2" X 3 1/4"	0	9 11/16	
1	P28	P 1/2" X 3"	1	9	
1	P29	P 1/2" X 3 5/16"	2	0 1/2	
1		PERFORMED FABRIC TROUGH			
		5/32" X 26" (3 PLY)			
		W/ DRIP BEAD (SEE NOTES)			

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN	✓
REVISE AS NOTED RESUBMISSION NOT REQUIRED	
REVISE AS NOTED RESUBMISSION REQUIRED	
REJECTED	

Stantec

DATE January 2nd 2007

SIGNATURE Scott Burbank

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REV. NO.	DATE	DESCRIPTION

HOLES: 13/16" ø (U.N.O.) DATE: 11-20-06

PAINT:

STATE
PROJECT # BRO 1445 (29)

EXPANSION JOINT (EJ-1) FAB DETAILS

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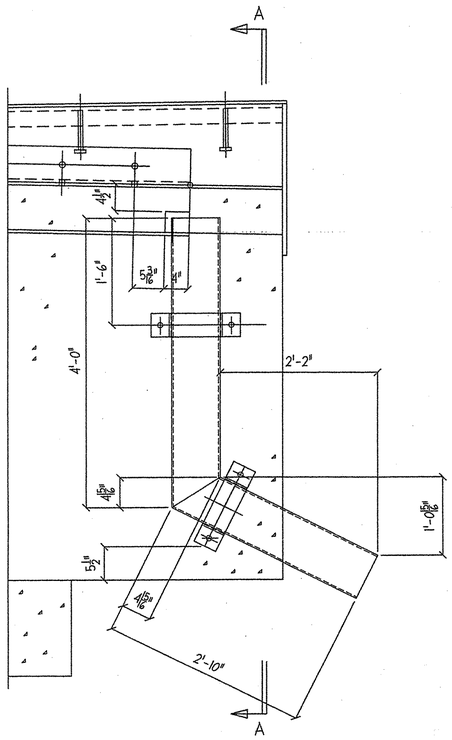
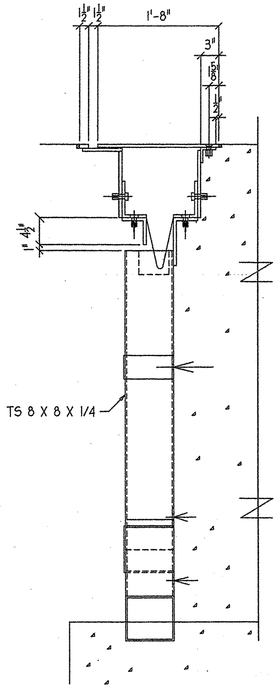
DR BY	KJM
REV BY	JD
JOB NO.	0922
DWG NO.	F3

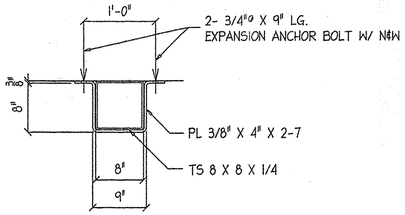
117 EJ



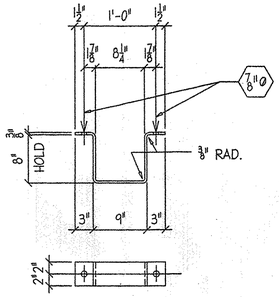
DOWNSPOUT FRONT ELEVATION



SECTION A-A

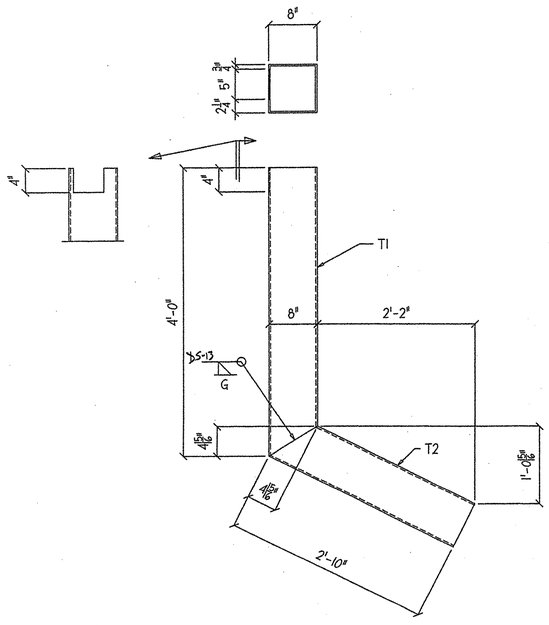


DOWNSPOUT BRACKET



2 REQ - DBI

BENT PL 3/8" X 4" X 2-6¼



ONE REQ - DSP-1

DOWNSPOUT NOTES

1.) HOLLOW STRUCTURAL STEEL TUBEING SHALL CONFORM TO ASTM A500.
2.)ALL PLATES, BARS, AND ANGLES SHALL CONFORM TO AASHTO M270, GR. 36.
3.)DOWNSPOUTS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AFTER FABRICATION.
4.)ALL BOLTS AND RELATED HARDWARE SHALL BE ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A513 (AASHTO M232).

BILL OF MATERIAL

QTY	MARK	SHAPE	LENGTH		REMARKS
1	DSP-1	DOWNSPOUT			GALV.
1	T1	TS 8 X 8 X 1/4	4	0	
1	T2	TS 8 X 8 X 1/4	2	10	
2	DBI	DOWNSPOUT BRKT.			
		BENT PL. 3/8" X 4"	2	6 1/4	
		FIELD BOLTS @ DOWNSPOUTS			
	4 -	3/4"ø X 9" LG. EXPANSION			
		ANCHOR BOLT W/ 2NUTS			

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN ✓
REVISE AS NOTED RESUBMISSION NOT REQUIRED
REVISE AS NOTED RESUBMISSION REQUIRED
REJECTED

Stantec

DATE: January 2nd, 2007

SIGNATURE: Scott Burbank

REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

REV. NO.	DATE	DESCRIPTION
HOLES:	13/16"ø (U.N.O.)	DATE: 11-20-06
PAINT:		

STATE
PROJECT # BRO 1445 (29)

EXPANSION JOINT (EJ-1) DOWNSPOUT

DATE SUB.	PROJECT	EAST STREET (T.H. #4) OVER HUNTINGTON RIVER
	LOCATION	HUNTINGTON VT.
	ARCHITECT	
DATE APP.	ENGINEER	STATE OF VERMONT , AGENCY OF TRANSPROTATION
DATE DIST.	CUSTOMER	PARENT CONSTRUCTION

MERRIMACK

MISCELLANEOUS IRON STRUCTURAL STEEL FABRICATORS

MERRIMACK SHEET METAL
119 HALL ST.
CONCORD, N.H., 03301
TEL. (603) 224-7766
FAX. (603) 224-7925

DR BY	KJM
REV BY	
JOB NO.	0922
DWG NO.	F4

118 EJ

VERMONT

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

Agency of Transportation

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

DATE: March 29, 2007

Parent Construction, Inc.
P. O. Box 489
Hinesburg, VT 05461
Attention: Tim Parent

Dear Mr. Parent

Project Name: Huntington Project #: BRO 1445(29)
Structure Identification: East Street over Huntington River

The following Bridge and Approach Railing details [Item # 525.22, Bridge Railing – 3 Rail Aluminum, Item # 525.23, Bridge Railing – Aluminum/Pedestrian, and Item # 621.74, Aluminum Approach Railing] for the above project (Vendor's Job # BR 2898) along with the welding procedure transmitted with your letter dated 2/26/07 have been reviewed and two sets are being returned herewith. Please forward one set to your fabricator, including a copy of this letter for the fabricator's use.

Sheets 1 through 8 and the welding procedure # 44 are **approved or approved "as noted.** Please note that upon receipt of these "as noted" or "approved" plans, the fabricator must make appropriate changes and submit white prints for our use in the record plans for this project.

The fabricator must provide notice to our fabrication inspector, Jeff Clark, as to the date fabrication represented by these drawings will begin. That notice must be received and acknowledged at least seven days prior to that date, as per Specification 506.03. Jeff may be contacted by phone at (802)828-0044 or email at jeff.clark@state.vt.us. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,
Warren Tripp
Warren Tripp

Attachments

cc: Auciello Iron Works
Resident Engineer w/prints Dale Norton
Shop Inspector w/prints Jeff Clark
Construction Divison – letter only
Materials & Research Section (C&IA Unit) – letter only
Files (Structures & Central)

119 BR

VERMONT

WELDING PROCEDURE SPECIFICATION (WPS) #44

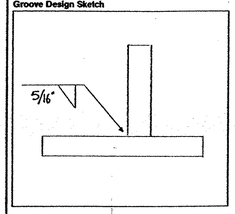
Welding Procedure Specification No. #44 Date 03.07.02 Approved Philippe

Revisions ____ Date ____ Approved ____

Supporting PQR Numbers #15

Joints

Groove Design Sketch



Backing

Type ____

Permanent ____

Removed ____

Other ____

Base Metals

Group No. M23 Thickness 3/4 to 3/4

Alloy and Temper 6061-T6

Filler Metal

F-No. F22 AWS No. ER 5556 Class

Size of electrode .045 3 1/64

Type of electrode Aluminum

Other –

Shielding Gas

Shielding gas(es) Helium - Argon

Percent composition 75% - 25%

Flow rate 55 CFH (+5% -2%)

Other –

Position

Position of ~~groove~~ Fillet: 2F Horizontal

Welding progression Forehand

Other ____

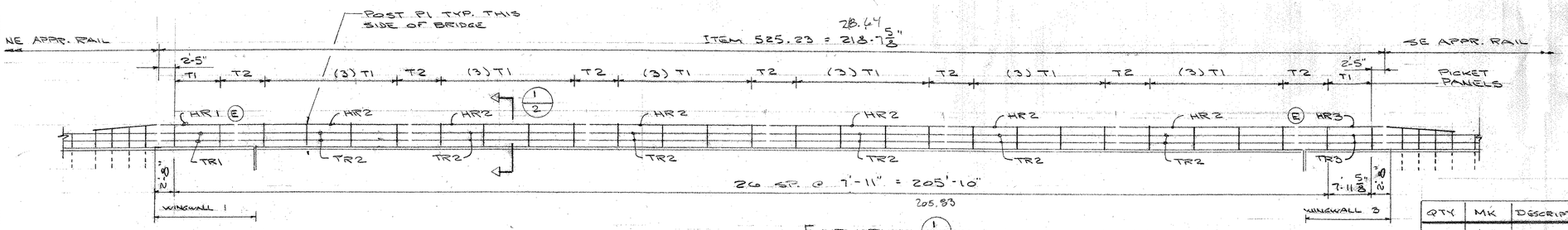
Preheat

Preheat temperature 50°F Min

Interpass temperature –

Form E(a)

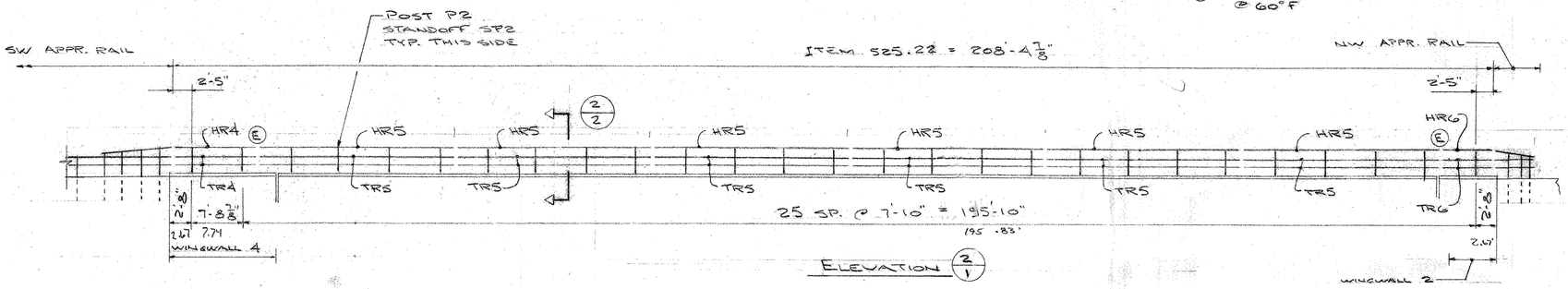
VTRANS RECEIVED
OK'D BY ____ OK'D BY JWC
FEB 28 2007
RESUBMIT ____ APPROVED ✓ 120BR
BY ____ DATE 3-22-07



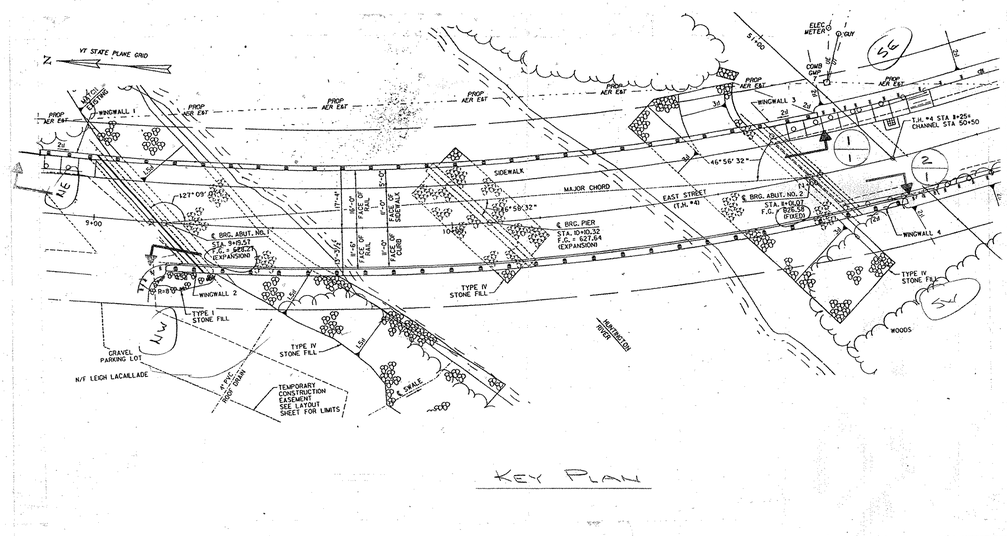
ELEVATION (1/1)

DIM'S ARE GIVEN ALONG FACE OF RAILING.

(E) = 1 1/2" EXPANSION JT. @ 60°F



ELEVATION (2/1)



KEY PLAN

JOB # AB70002

QTY	MK	DESCRIPTION
28	P1	RAIL POST
27	P2	do
31	P8	APPROACH POST
1	P11	
1	P12	
1	P13	
1	P14	
1	P15	
1	P16	
1	P17	
1	P21	
1	P22	
1	P23	
1	P24	
1	P25	
1	P26	
1	P27	
1	P31	
1	P32	
1	P33	
1	P34	
1	P35	
1	P36	
1	P37	
31	T8	STANDOFF
1	T11	
1	T12	
1	T13	
1	T14	
1	T15	
1	T16	
1	T17	
1	T21	
1	T22	
1	T23	
1	T24	
1	T25	
1	T26	
1	T27	
4	HANDRAIL CAP	
8	TRAFFIC RAIL CAP	

QTY	MK	DESCRIPTION
1	AP1	APPROACH POST
1	AP2	
1	AP3	
1	AP4	
1	TP1	STANDOFF
1	TP2	
1	TP3	
1	TP4	
1	T31	
1	T32	
1	T33	
1	T34	
1	T35	
1	T36	
1	T37	
27	SP2	
14	HS1	RAIL SPLICE
2	HS2	
1	HS3	
1	HS4	
38	TS1	
4	TS2	
2	TS3	
2	TS4	
4	TS5	
1	TS6	
1	TS7	
20	T1	PICKET PANEL
7	T2	do

HANDRAIL

QTY	MK	LENGTH
1	HR1	13-4 3/4
6	HR2	31-7 1/4
1	HR3	15-2 1/8
1	HR4	13-2 5/8
6	HR5	31-3 1/4
1	HR6	7-2 1/4
1	HR7	20-0
3	HR8	11-9

TRAFFIC RAIL

QTY	MK	LENGTH
2	TR1	13-4 3/4
12	TR2	31-7 1/4
2	TR3	15-2 1/8
2	TR4	13-2 5/8
12	TR5	31-3 1/4
2	TR6	7-2 1/4
2	TR7	20-0
6	TR8	24-10 1/2
2	TR9	19-8
2	TR10	24-11 1/2
4	TR11	22-0
2	TR12	29-0
2	TR13	28-1 1/2
2	TR14	31-8 1/4
2	TR15	31-8

142	#4 CLAMP BAR
444	#5 CLAMP BAR
1020	1/2x3 3/4 S.S. BOLT
888	1/2x1 S.S. BOLT
640	1/2x1 1/2 S.S. BOLT
640	1/2" S.S. HEX NUT
2548	1/2" AL. WASHER
64	1/2" S.S. WASHER
64	1/2x7/8" ∅ BOLT
55	POST PAD
55	ANCHOR BOLT ASSEMBLY
18	1/4 x 3/4 ST STL SOCKET SET SCREW
10	REFLECTOR COLOR DELINIATOR
20	#8 x 3/4 ST STL SELF-TAPPING SCREW

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

- NO EXCEPTION TAKEN
- REVISE AS NOTED RESUBMISSION NOT REQUIRED
- REVISE AS NOTED RESUBMISSION REQUIRED
- REJECTED

DATE 3/26/07

SIGNATURE Michael Arnett

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RECEIVED
FEB 28 2007
REVIEWED BY APPROVED DATE

ISSUE	DATE	DESCRIPTION	BY
1	2-22-07	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

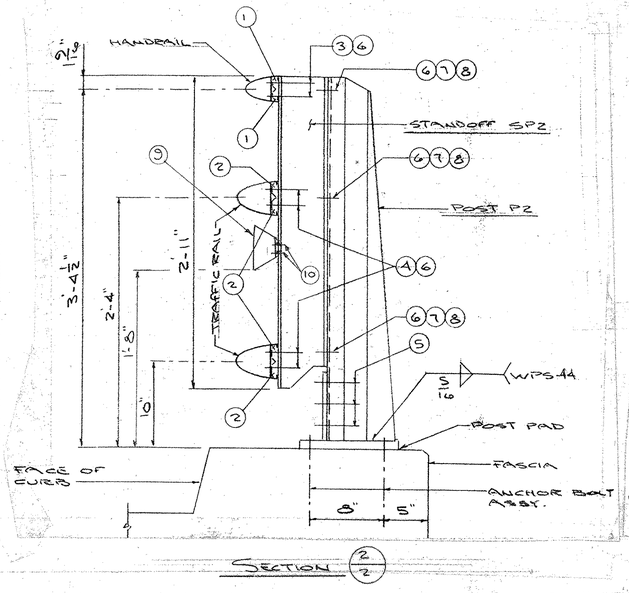
VT. AGENCY OF TRANSPORTATION
HUNTINGTON FRSJ-BRG (149)(29)
BRIDGE #42
EAST ST OVER HUNTINGTON RIVER

AL. BRIDGE & APPROACH RAILING

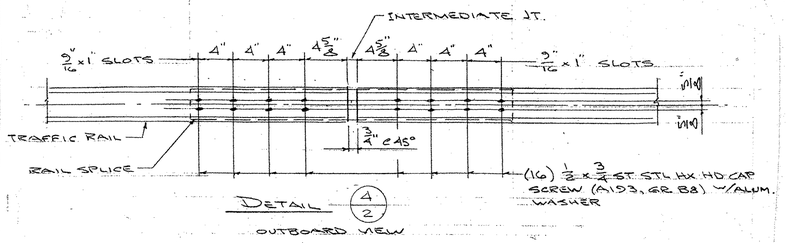
SURFACE PREP: NONE	FINISH: MILL FINISH
FOR: A.D. ROSSI CORP.	
DR: WM 2-16-07	DWG. NO.
CHK: EB 2-18-07	BR-2898
JOB NO. AB70002-1091	SHEET 1 OF 8

121BR

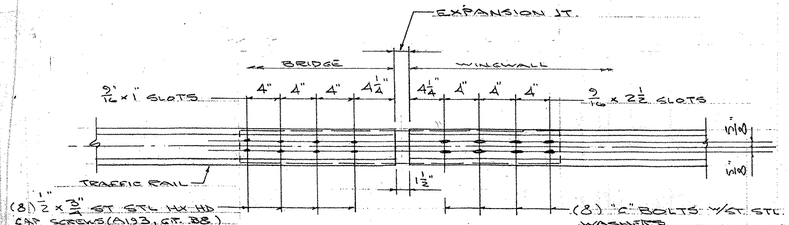
R.L. MAKEFACE INC. 108018



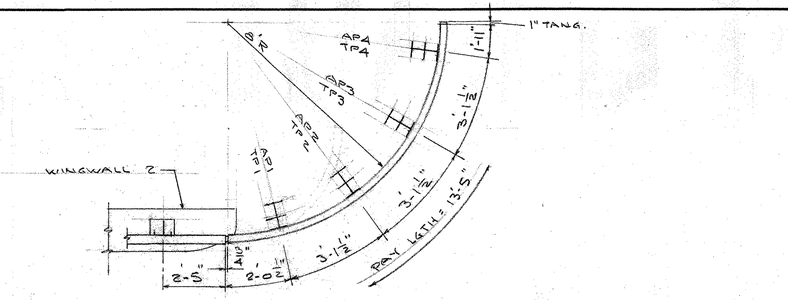
SECTION (2/2)



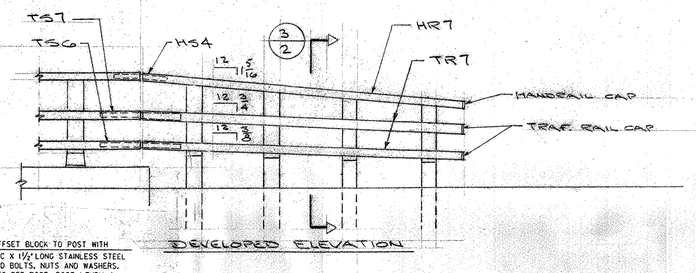
DETAIL (4/2)
OUTBOARD VIEW



DETAIL (5/2)
OUTBOARD VIEW



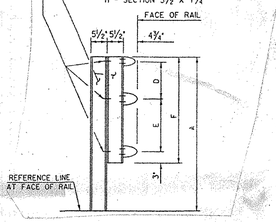
PLAN NW APPROACH RAIL



DEVELOPED ELEVATION

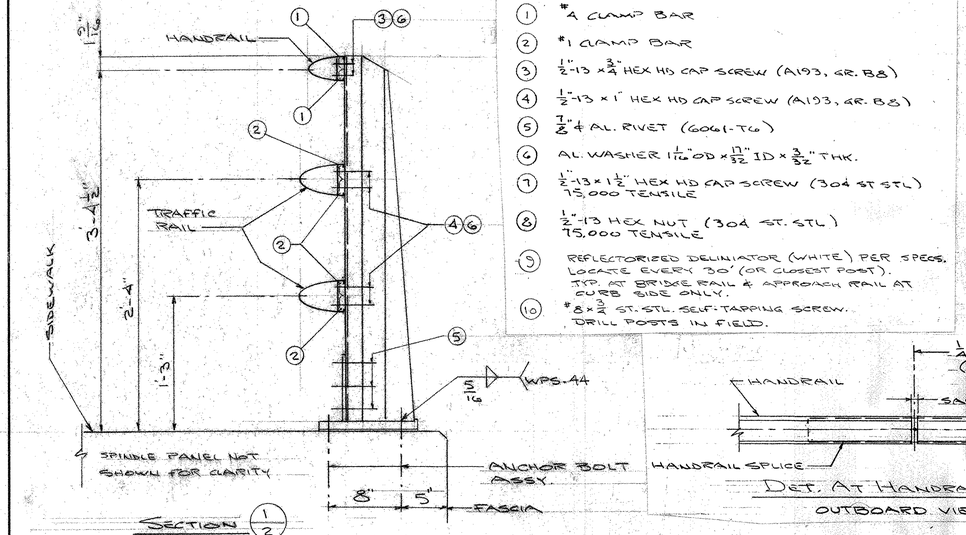
ATTACH OFFSET BLOCK TO POST WITH 1/2"-13 UNC X 11/2" LONG STAINLESS STEEL HEX HEAD BOLTS, NUTS AND WASHERS. 6 BOLTS PER POST, POST 1 THRU 4; 4 BOLTS PER POST, POST 5 THRU 7.

ALUMINUM APPROACH RAIL POST AND OFFSET BLOCK
H - SECTION 5 1/2" X 7 1/4"



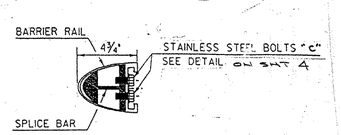
SECT. (3/2)

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	4'-1 3/16"	3'-2 3/16"	1'-9"	11 7/16"	1'-5 1/8"	2'-9 1/8"	
2	3'-9 9/16"	3'-0 3/8"	1'-8 3/4"	9 3/4"	1'-3 1/8"	2'-6 7/16"	
3	3'-7 7/16"	2'-11 1/2"	1'-8 1/16"	8 1/8"	1'-2 7/8"	2'-3 1/4"	
4	3'-4 7/8"	2'-10 1/8"	1'-9 3/8"	6 1/16"	1'-1 1/4"	2'-0 1/4"	



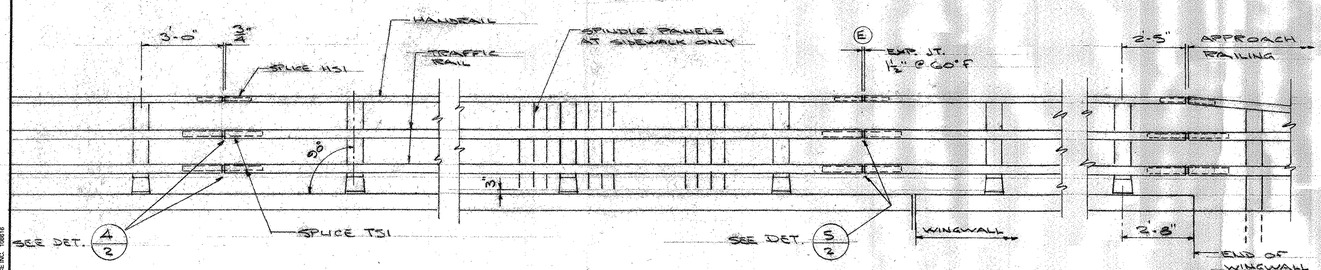
SECTION (1/2)

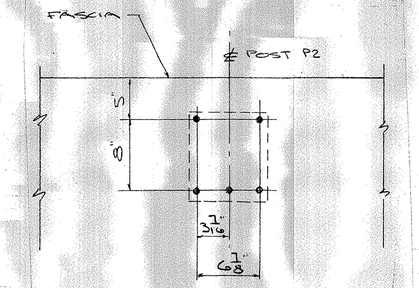
1. *4 CLAMP BAR
2. *1 CLAMP BAR
3. 1/2"-13 x 3/4" HEX HD CAP SCREW (A193, GR. B8)
4. 1/2"-13 x 1" HEX HD CAP SCREW (A193, GR. B8)
5. 7/8"ϕ AL. RIVET (6061-T6)
6. AL. WASHER 1 1/16" OD x 17/32" ID x 3/32" THK.
7. 1/2"-13 x 1 1/2" HEX HD CAP SCREW (304 ST STL) 75,000 TENSILE
8. 1/2"-13 HEX NUT (304 ST. STL) 75,000 TENSILE
9. REFLECTORIZED DELINIATOR (WHITE) PER SPECS. LOCATE EVERY 30' (OR CLOSEST POST). TYP. AT BRIDGE RAIL & APPROACH RAIL AT CURB SIDE ONLY.
10. *8 x 3/4 ST. STL. SELF-TAPPING SCREW. DRILL POSTS IN FIELD.



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE

DET. AT HANDRAIL SPLICE
OUTBOARD VIEW





PLAN AT ANCHOR BOLTS
BOLT PROJECTION = 2 1/2"

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN	✓
REVISE AS NOTED RESUBMISSION NOT REQUIRED	
REVISE AS NOTED RESUBMISSION REQUIRED	
REJECTED	

Stantec

DATE 3/26/07

SIGNATURE Michael Barrett

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RECEIVED
FEB 23 2007

CK'D BY ____ CK'D BY ____
RESUBMIT ____ APPROVED ____
BY ____ DATE ____

ISSUE	DATE	DESCRIPTION	BY
1	2-22-07	FOR APPROVAL	DJM

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT AGENCY OF TRANSPORTATION
HUNTINGTON PROJ BRO 1445(29)
BRIDGE # 42
EAST ST. OVER HUNTINGTON RIVER

AL. BRIDGE & APPROACH RAILING

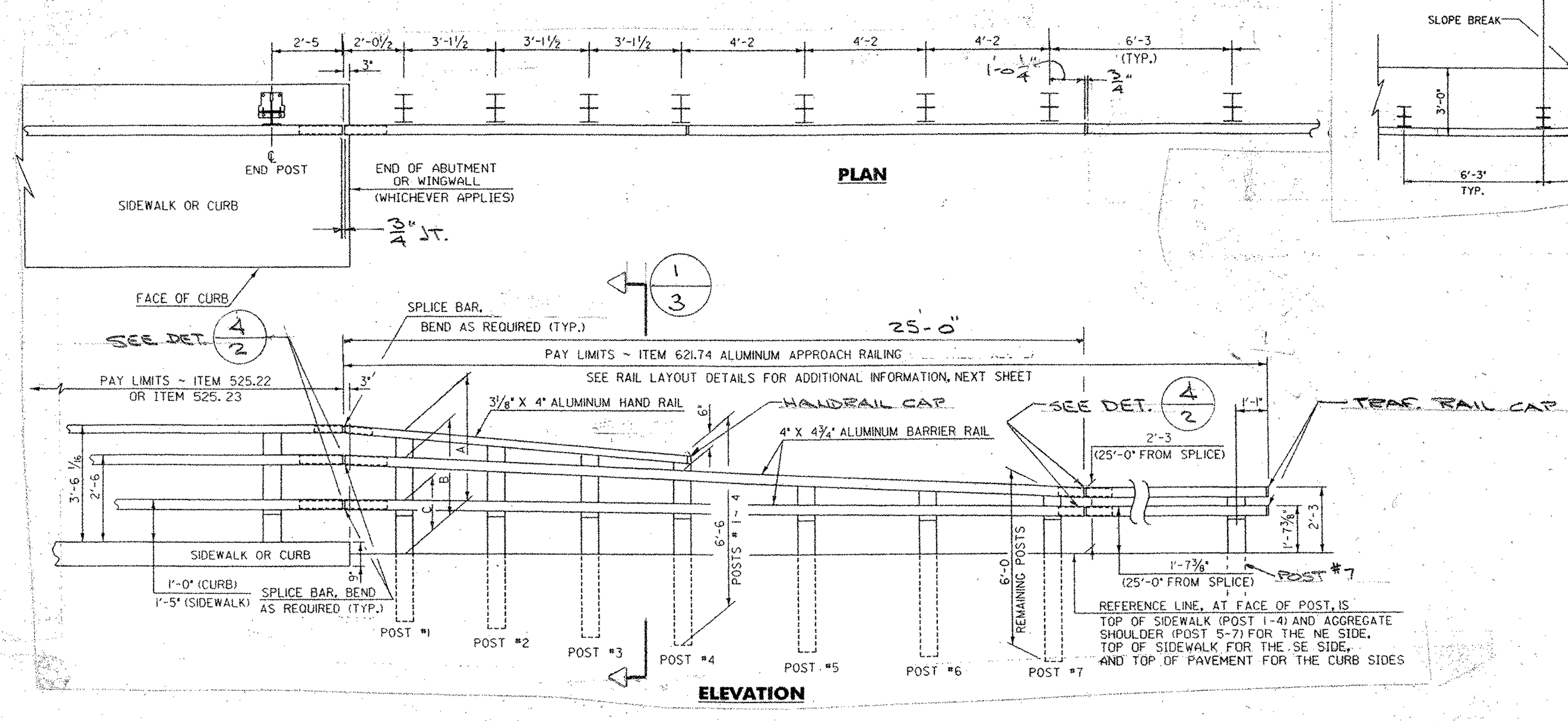
SURFACE PREP:	FINISH:
NONE	MILL FINISH

FOR: A.D. ROSSI CORP.

DR: WM 2-16-07
CHK'D 2-18-07
JOB NO. AB10002-1001
DWG. NO. BR-2898
SHEET 2 OF 8

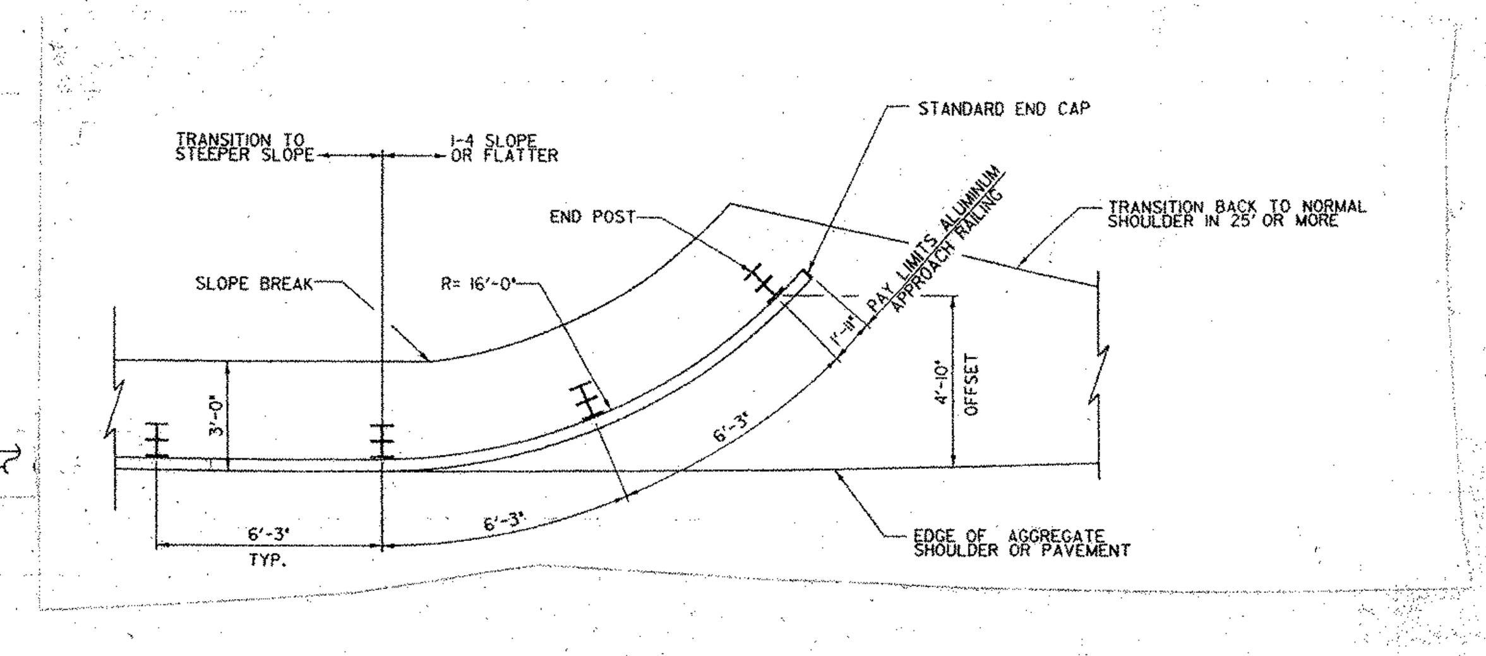
122 BR

B.L. MAKEPEACE INC. 108618

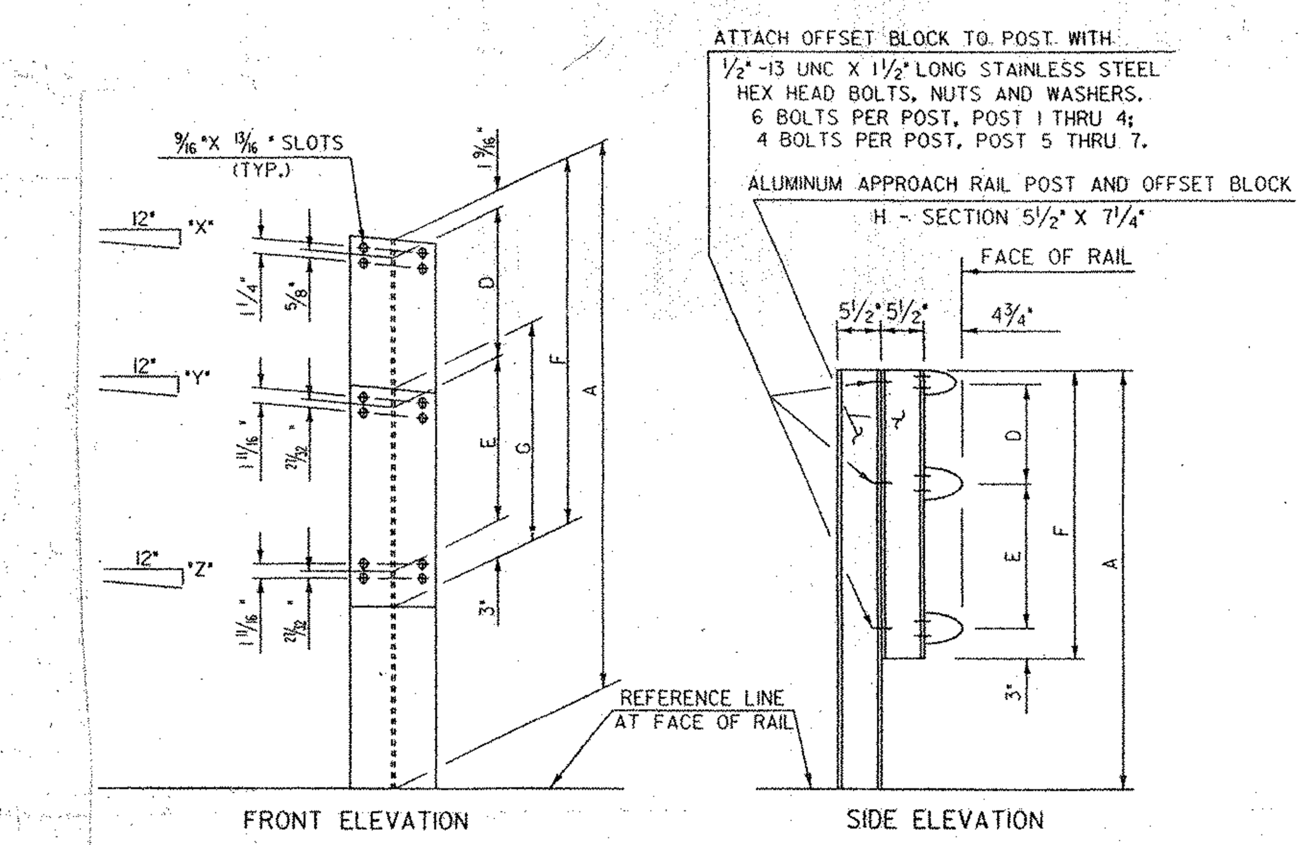


TYP. DETAILS AT APPROACH RAILING

SE CORNER AS SHOWN
NE & SW CORNERS OPP. HAND



	NE SIDE	SE SIDE		SW SIDE
"X"	1 3/16"	15/16"		1 1/4"
"Y"	5/8"	3/8"		5/8"
"Z"	7/16"	3/16"		1/4"



APPROACH RAIL DETAILS

NE ALUMINUM RAIL DIMENSIONS

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
11	3'-4"	2'-5 1/16"	1'-4 1/2"	11 7/16"	1'-0 9/16"	2'-4 9/16"	
12	3'-0 15/16"	2'-3 5/8"	1'-3 3/4"	9 3/4"	11 7/8"	2'-2 3/16"	
13	2'-9 3/4"	2'-2 1/8"	1'-2 7/8"	8 1/8"	11 3/16"	1'-11 7/8"	
14	2'-9 7/16"	2'-3 7/16"	1'-4 15/16"	6 7/16"	10 9/16"	1'-9 9/16"	
15		2'-5 9/16"	1'-7 15/16"		9 5/8"		1'-2 5/8"
16		2'-4 9/16"	1'-7 13/16"		8 3/4"		1'-1 3/4"
17		2'-3 11/16"	1'-7 13/16"		7 7/8"		1'-0 7/8"

ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

SE ALUMINUM RAIL DIMENSIONS

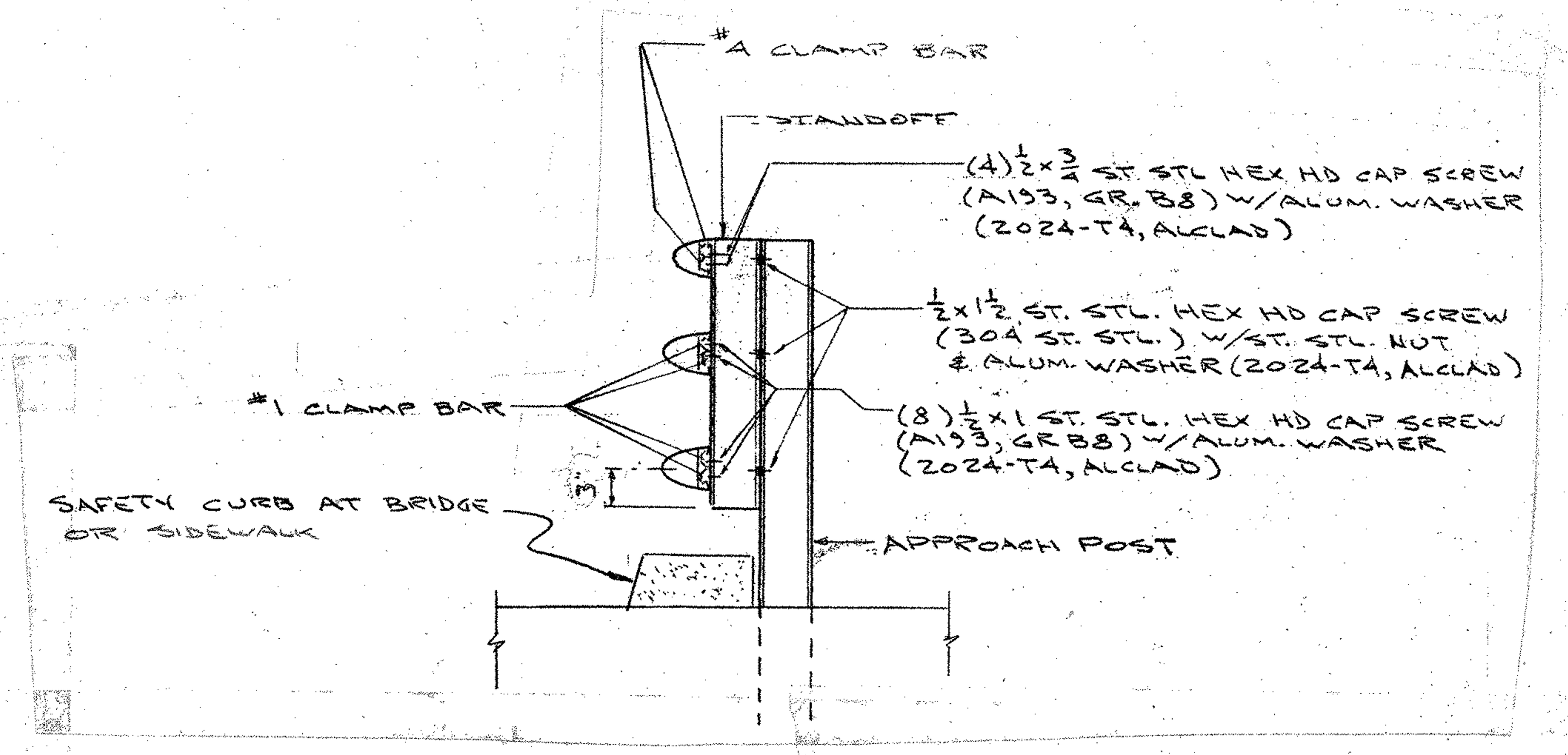
POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
21	3'-4 13/16"	2'-5 13/16"	1'-5 1/4"	11 7/16"	1'-0 9/16"	2'-4 9/16"	
22	3'-3 1/8"	2'-5 13/16"	1'-5 15/16"	9 3/4"	11 7/8"	2'-2 3/16"	
23	3'-1 1/2"	2'-5 13/16"	1'-6 5/8"	8 1/8"	11 3/16"	1'-11 7/8"	
24	2'-11 11/16"	2'-5 11/16"	1'-7 1/8"	6 7/16"	10 9/16"	1'-9 9/16"	
25		2'-4 13/16"	1'-7 3/16"		9 5/8"		1'-2 5/8"
26		2'-4 1/16"	1'-7 5/16"		8 3/4"		1'-1 3/4"
27		2'-3 5/16"	1'-7 7/16"		7 7/8"		1'-0 7/8"

ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

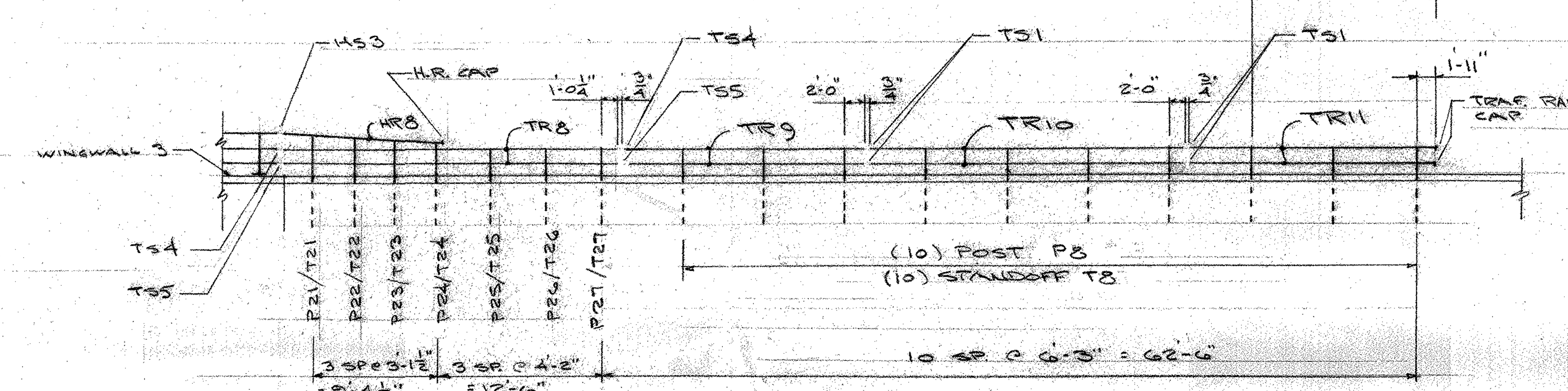
SW ALUMINUM RAIL DIMENSIONS

POST NO.	RAIL HEIGHT DIMENSIONS A	B	C	OFFSET BLOCK DIMENSIONS D	E	F	G
31	4'-0 3/4"	3'-1 13/16"	1'-8 5/8"	11 7/16"	1'-5 1/8"	2'-9 1/8"	
32	3'-9 5/16"	3'-0"	1'-8 1/8"	9 3/4"	1'-3 7/8"	2'-6 3/16"	
33	3'-5 7/8"	2'-10 3/16"	1'-7 5/8	8 1/8"	1'-2 9/16"	2'-3 1/4"	
34	3'-2 5/8"	2'-8 5/8"	1'-7 3/8"	6 7/16"	1'-1 1/4"	2'-0 1/4"	
35		2'-6 7/8"	1'-7 5/16"		11 1/2"		1'-4 1/2"
36		2'-5 1/8"	1'-7 5/16"		9 13/16"		1'-2 13/16"
37		2'-3 3/8"	1'-7 5/16"		8 1/16"		1'-1 1/16"

ALL REMAINING POSTS TO HAVE THE SAME DIMENSIONS AS POST NO. 7

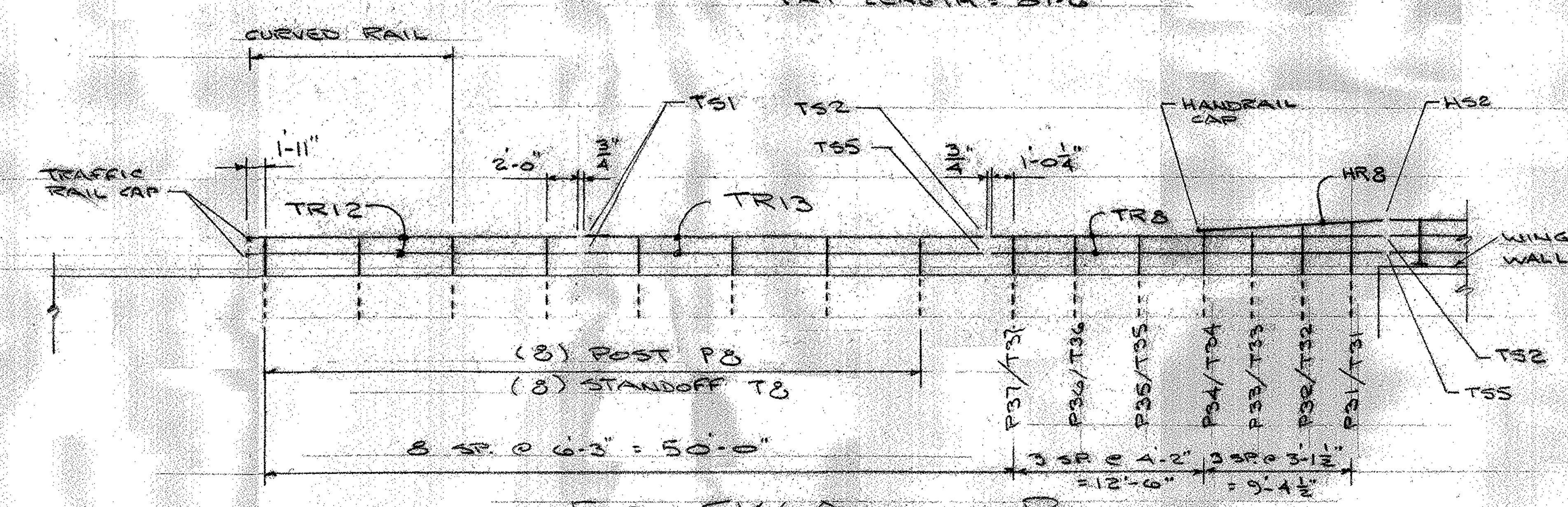


SECTION 1/3



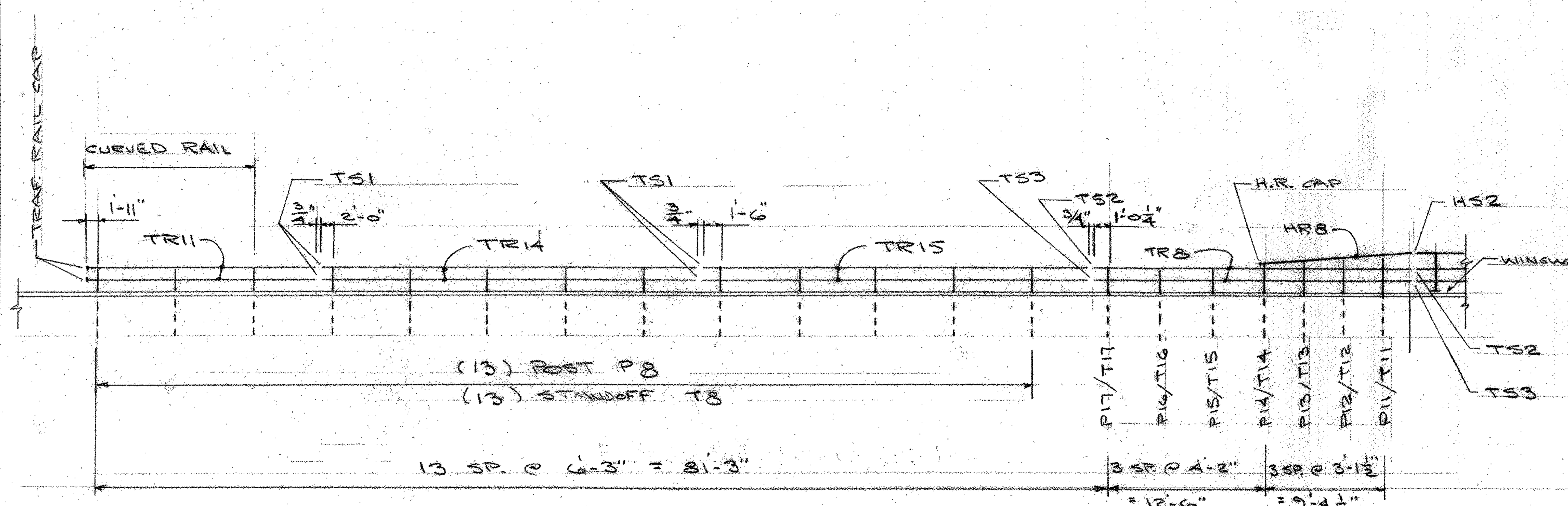
ELEV. SE APPROACH RAIL

PAY LENGTH = 87'-6"



ELEV. SW APPROACH RAIL

PAY LENGTH = 75'-0"



ELEV. NE APPROACH RAIL

PAY LENGTH = 106'-3"

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN	✓
REVISE AS NOTED RESUBMISSION NOT REQUIRED	
REVISE AS NOTED RESUBMISSION REQUIRED	
REJECTED	

Stantec

DATE 3/26/07

SIGNATURE Michael [signature]

REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

RECEIVED
CK'D BY ____ CK'D BY ____
FEB 28 2007
RESUBMIT ____ APPROVED ____
BY ____ DATE

ISSUE	DATE	DESCRIPTION	BY
1	2-22-07	FOR APPROVAL	RJ

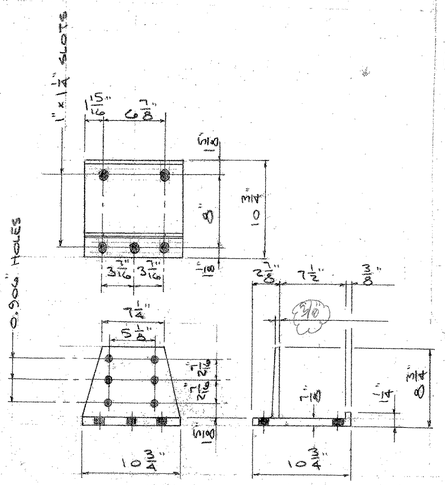
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HUNTINGTON PROJ. BRO 1445 (29)
BRIDGE # 42
EAST ST. OVER HUNTINGTON RIVER

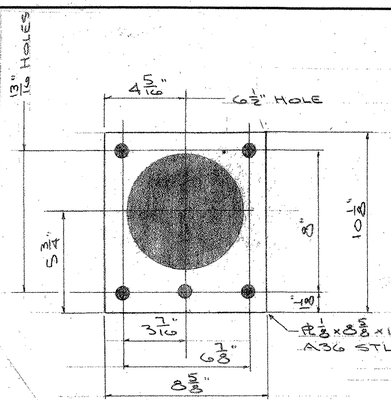
AL. APPROACH RAILING

SURFACE PREP: NONE
FINISH: MILL FINISH
FOR: A.D. ROSSI CORP.
DR: WM 2-16-07
CHK: D 2-18-07
DWG. NO. BR-2898
JOB NO. AB70002-1001
SHEET 3 OF 8

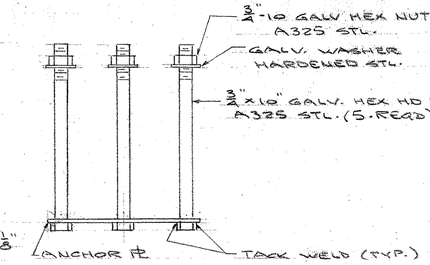
123 BR



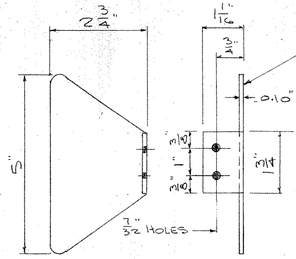
POST BASE (55-REQD)
ALLOY 6061-T6



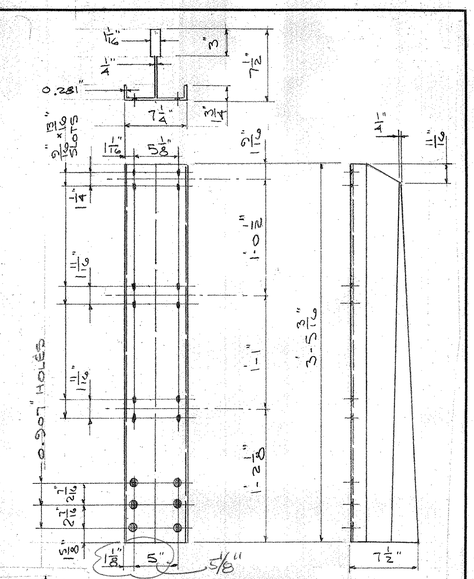
ANCHOR PL (55-REQD)
(PLAIN FINISH)



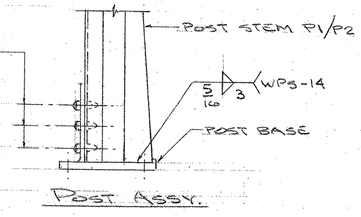
ANCHOR BOLT ASS'Y (55-REQD)



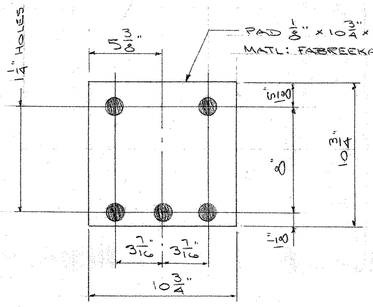
DELINIATOR (10-REQD)



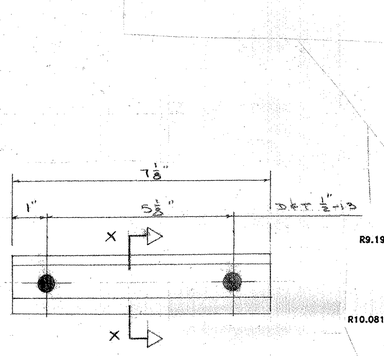
POST STEM P1 (28-REQD)
ALLOY 6061-T6



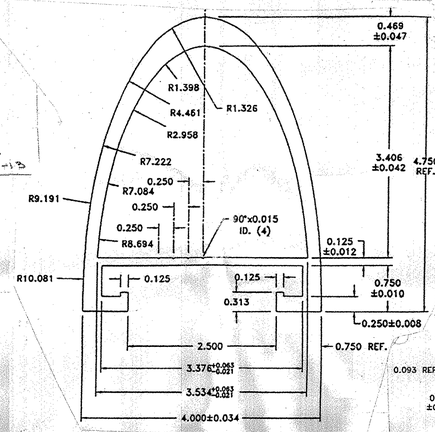
POST ASSY.



POST PAD (55-REQD)

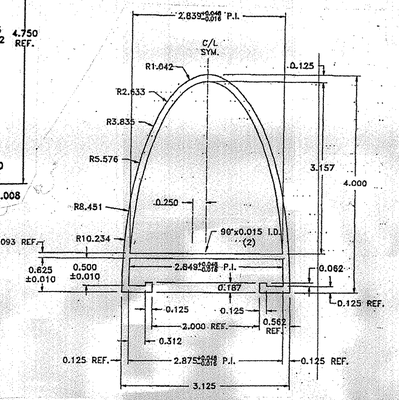


RAIL CLAMP BAR

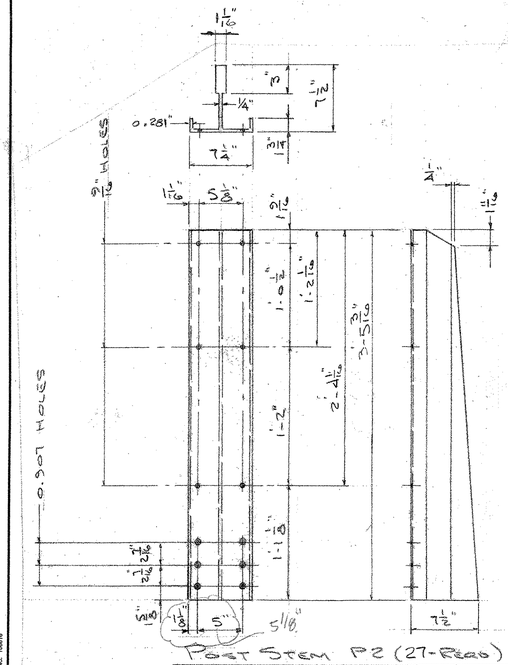


TRAFFIC RAIL EXTRUSION
ALLOY 6061-T6

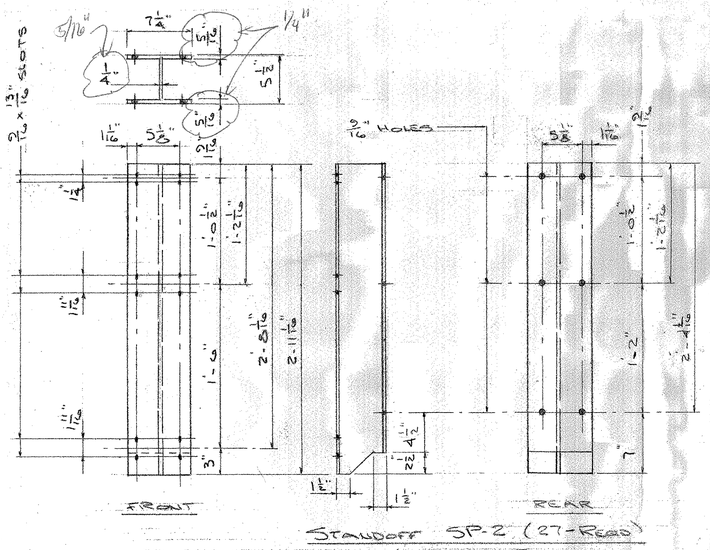
"C" BOLT



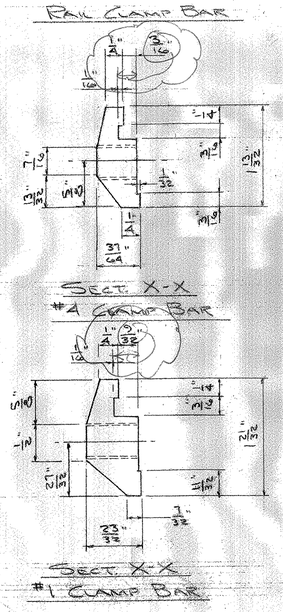
HANDRAIL EXTRUSION
ALLOY 6061-T6



POST STEM P2 (27-REQD)
ALLOY 6061-T6



STANDOFF SP-2 (27-REQD)
ALLOY 6061-T6



SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED RESUBMISSION NOT REQUIRED
REVISE AS NOTED RESUBMISSION REQUIRED
REJECTED
DATE 3/26/07
SIGNATURE Michael Dewitt
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

RECEIVED
CK'D BY ____ OK'D BY ____
FEB 28 2007
RESUBMIT ____ APPROVED ____
BY ____ DATE

ISSUE	DATE	DESCRIPTION	BY
1	2-28-07	FOR APPROVAL	MA

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HUNTINGTON PROJ. BRO 1445(23)
BRIDGE #42
EAST ST. OVER HUNTINGTON RIVER

AL. BRIDGE & APPROACH RAILING

SURFACE PREP: NONE
FINISH: BLACK ANODIZE

FOR: A.D. ROSSI CORP.

DR: WM 02-13-07
CHK: B 02-13-07

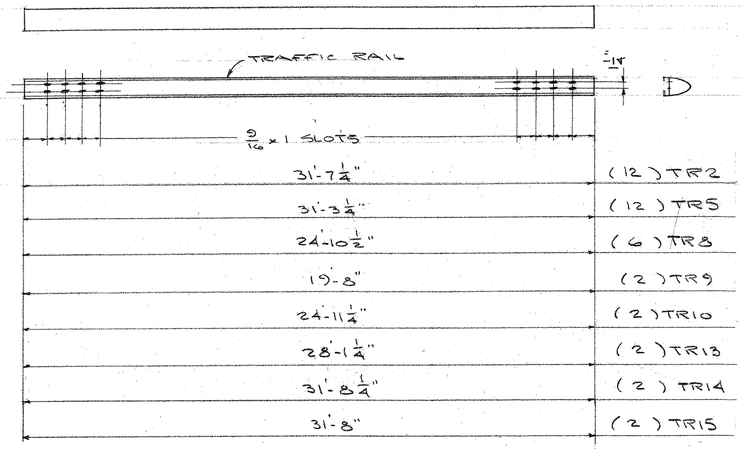
JOB NO. A070002-1001

DWG. NO. BR-2898

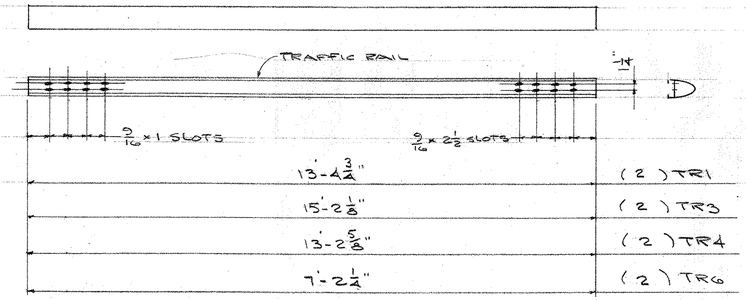
SHEET 4 OF 8

BL MAKEPEACE INC. 10916

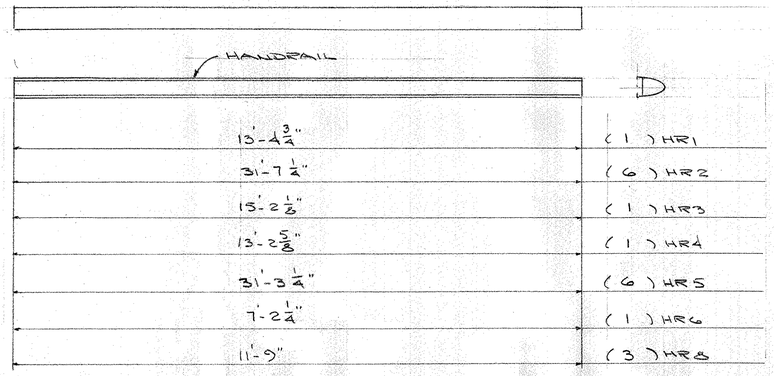
124 BR



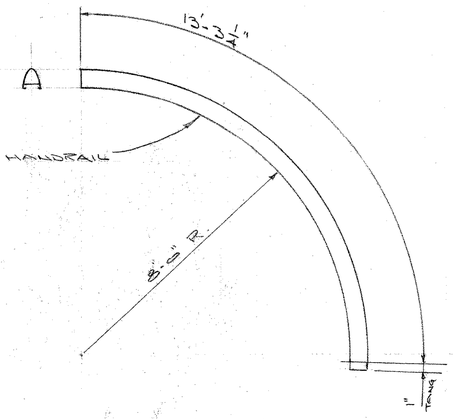
31'-7 1/4"	(12) TR2
31'-3 1/4"	(12) TR5
24'-10 1/2"	(6) TR8
19'-8"	(2) TR9
24'-11 1/4"	(2) TR10
28'-1 1/4"	(2) TR13
31'-8 1/4"	(2) TR14
31'-8"	(2) TR15



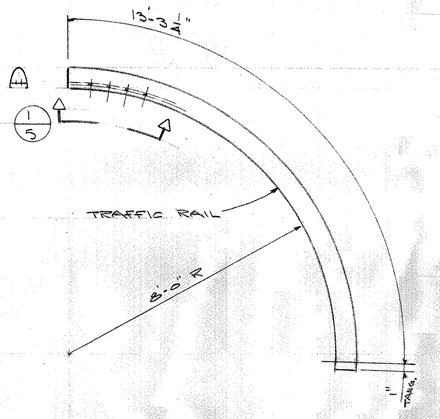
13'-4 3/4"	(2) TR1
15'-2 1/8"	(2) TR3
13'-2 5/8"	(2) TR4
7'-2 1/4"	(2) TR6



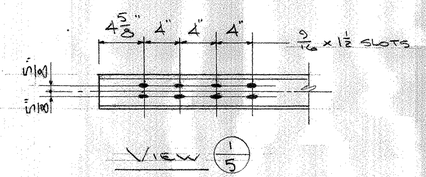
13'-4 3/4"	(1) HR1
31'-7 1/4"	(6) HR2
15'-2 1/8"	(1) HR3
13'-2 5/8"	(1) HR4
31'-3 1/4"	(6) HR5
7'-2 1/4"	(1) HR6
11'-9"	(3) HR8



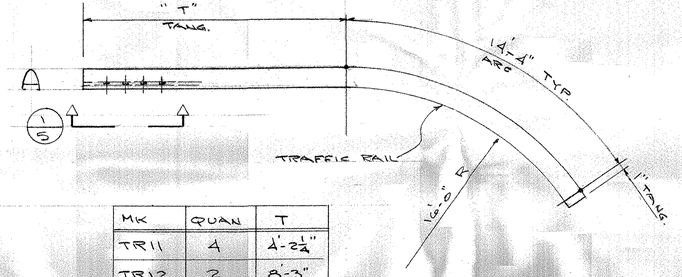
(1) HR7



(2) TR7



View $\frac{1}{5}$



MK	QUAN	T
TR11	4	4'-2 1/4"
TR12	2	8'-3"

ISSUE	DATE	DESCRIPTION	BY
1	2-22-07	FOR APPROVAL	WM

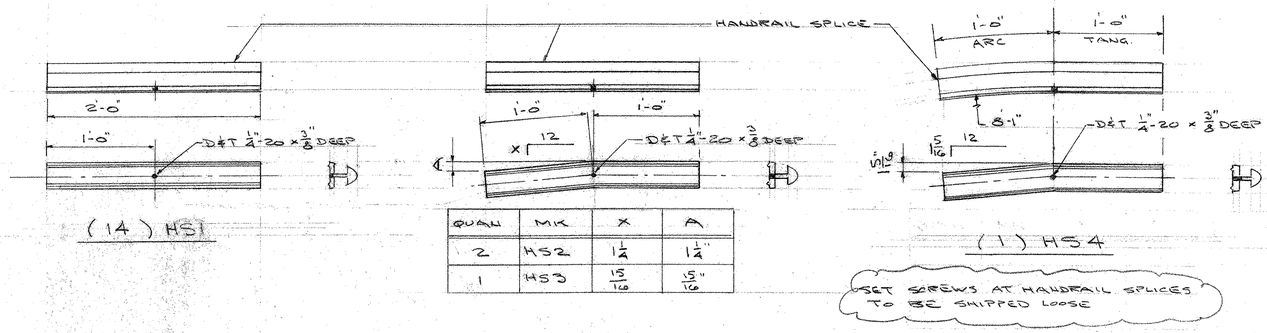
AUCIELLO IRON WORKS INC
550 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HUNTINGTON PROJ. BRO 1445(29)
BRIDGE # 42
EAST ST. OVER HUNTINGTON RIVER

ALL BRIDGE & APPROACH RAILING

SURFACE PREP: NONE	FINISH: MILL FINISH
FOR: A.D. ROSSI CORP.	
DR: WM 2-16-07 CHK: [illegible] 2-17-07	DWG. NO. BR-2898
JOB NO. A07002-1001	SHEET 5 OF 8

125BR

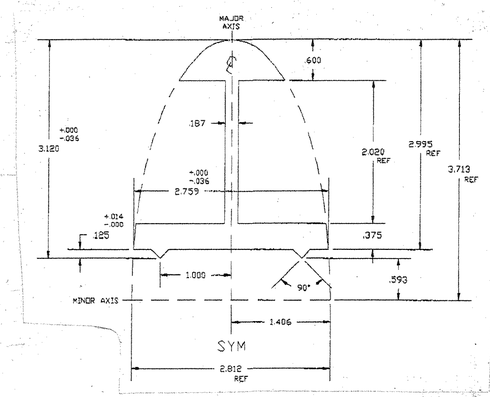


(14) HS1

QUAN	MK	X	A
2	HS2	1 1/4	1 1/4"
1	HS3	15/16	15/16"

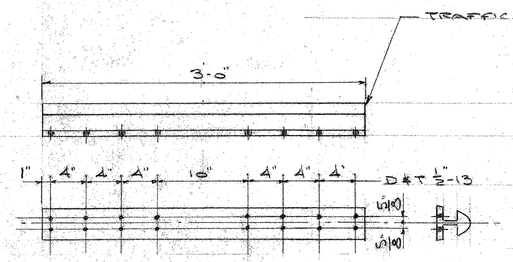
(1) HS4

SET SCREWS AT HANDRAIL SPLICES TO BE SHIPPED LOOSE

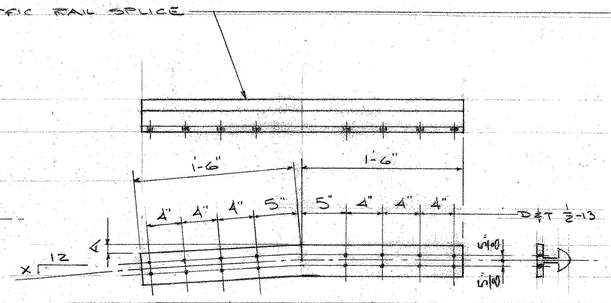


HANDRAIL SPLICE EXTRUSION

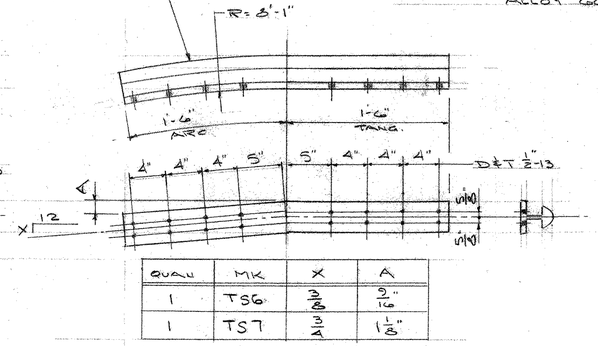
ALLOY 6061-T6



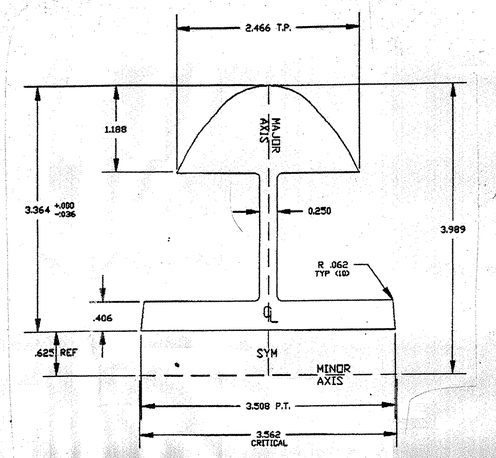
(38) TS1



QUAN	MK	X	A
TS2	4	5/8	7/8"
TS3	2	7/16	11/16"
TS4	2	3/8	9/16"
TS5	4	3/16	1/4"



QUAN	MK	X	A
1	TS6	3/8	9/16"
1	TS7	3/4	1 1/8"



TRAFFIC RAIL SPLICE EXTRUSION

ALLOY 6061-T6

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE

NO EXCEPTION TAKEN ✓

REVISE AS NOTED

RESUBMISSION NOT REQUIRED

REVISE AS NOTED

RESUBMISSION REQUIRED

REJECTED

Stanley

DATE 3/26/07

SIGNED Michael Arnott

REVIEW IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS

RECEIVED

CK'D BY _____ CK'D BY _____

FEB 28 2007

RESUBMIT _____ APPROVED _____

BY _____ DATE _____

ISSUE	DATE	DESCRIPTION	BY
1	2-22-07	FOR APPROVAL	RJA

AUCIELLO IRON WORKS INC

560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HUNTINGTON PROJ. BRO 1445(29)
BRIDGE #42

EAST ST. OVER HUNTINGTON RIVER

AL. BRIDGE & APPROACH RAILING

SURFACE PREP: NONE

FINISH: MILL FINIS

FOR: A.D. ROSSI CORP.

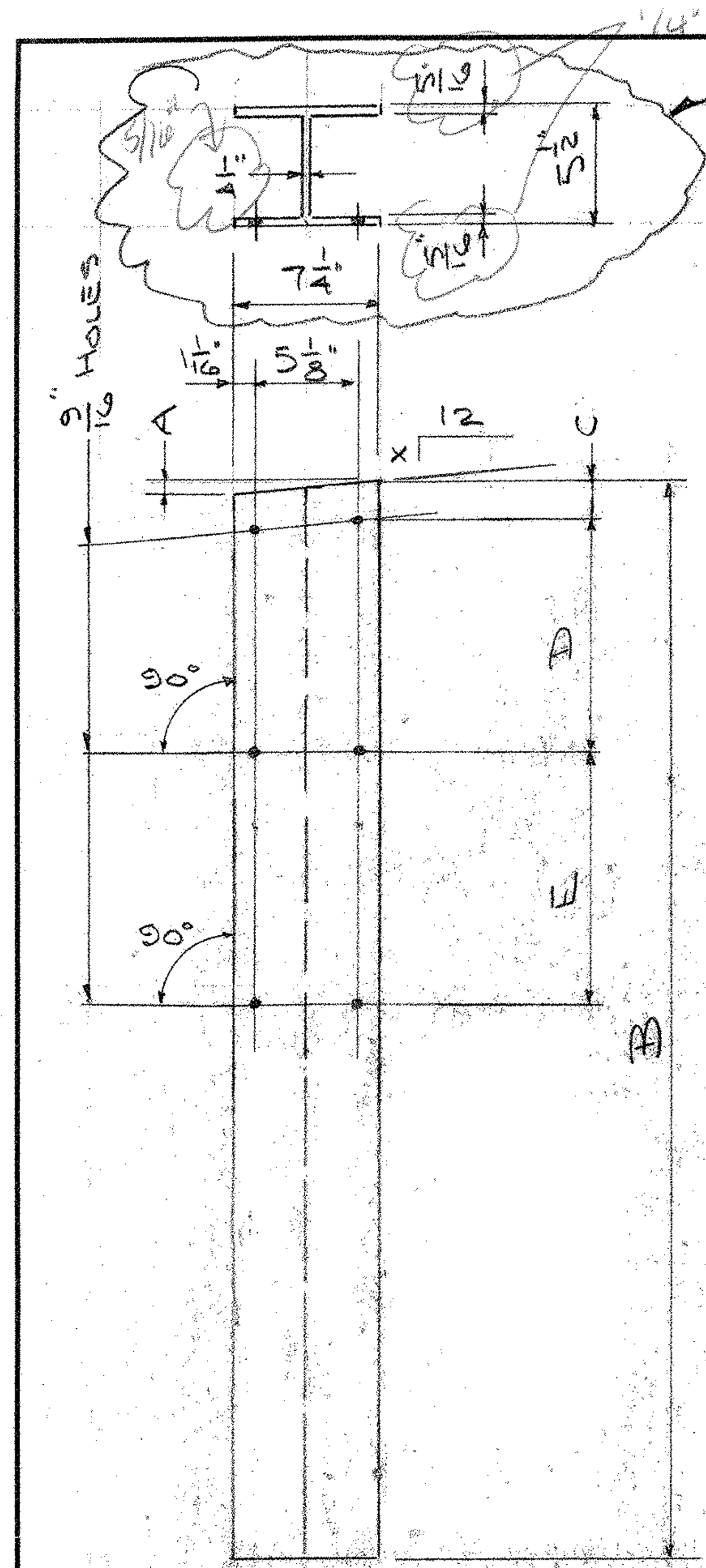
DR: WM 2-14-07
CHK: RJA 2-17-07

DWG. NO. BR-2898

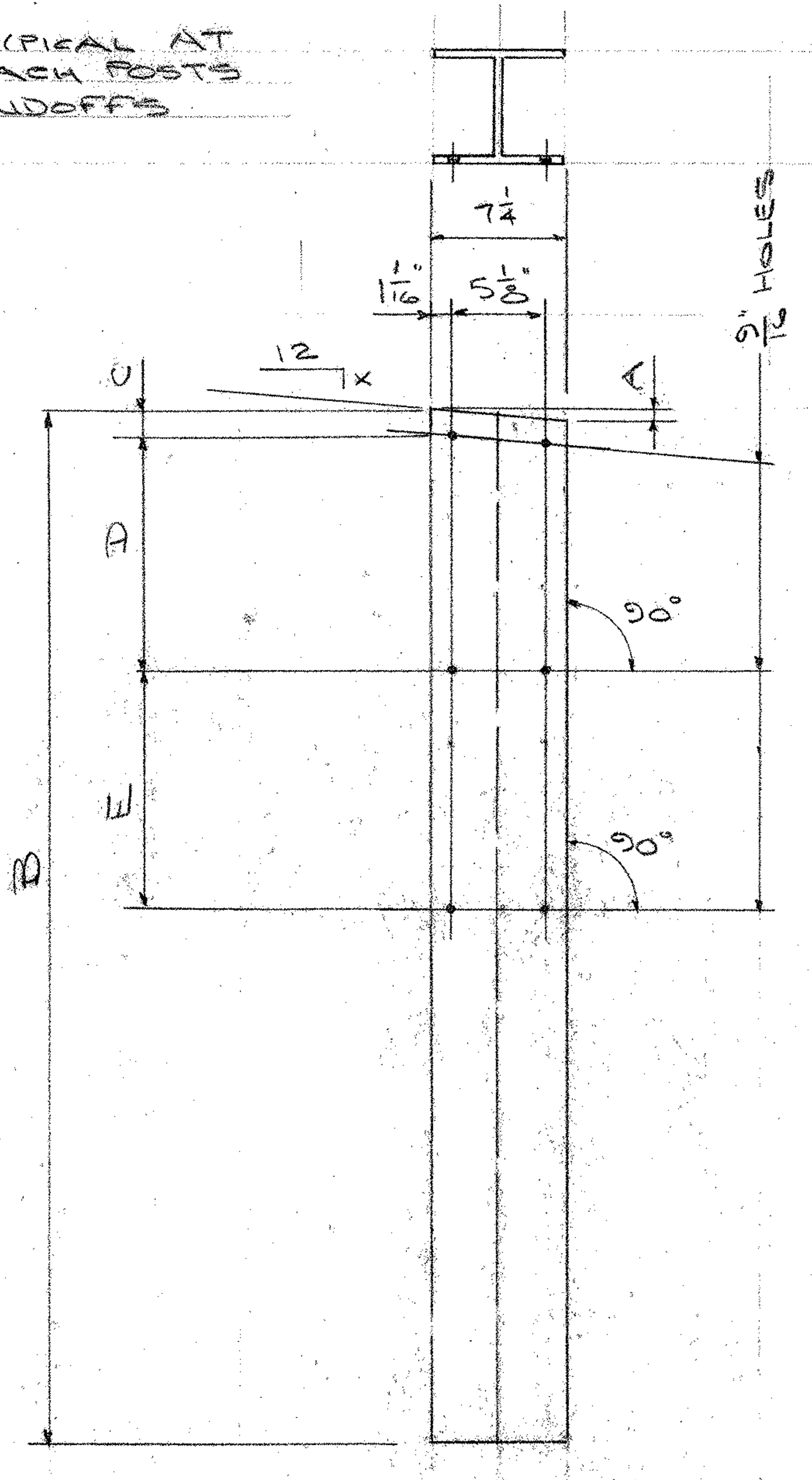
JOB NO. AB70002-1001

SHEET 6 OF 8

126 BR



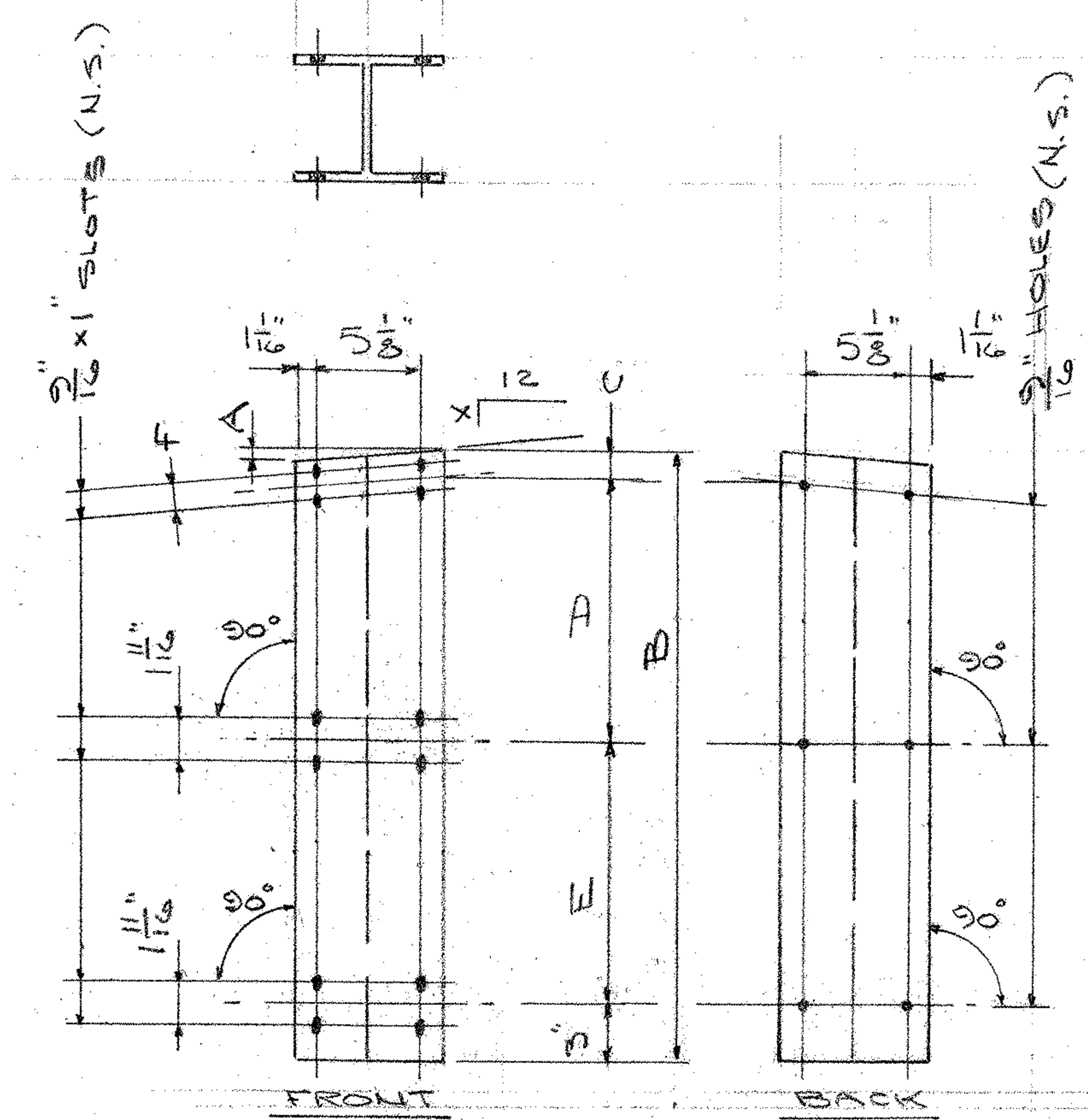
APPROACH POST



APPROACH POST

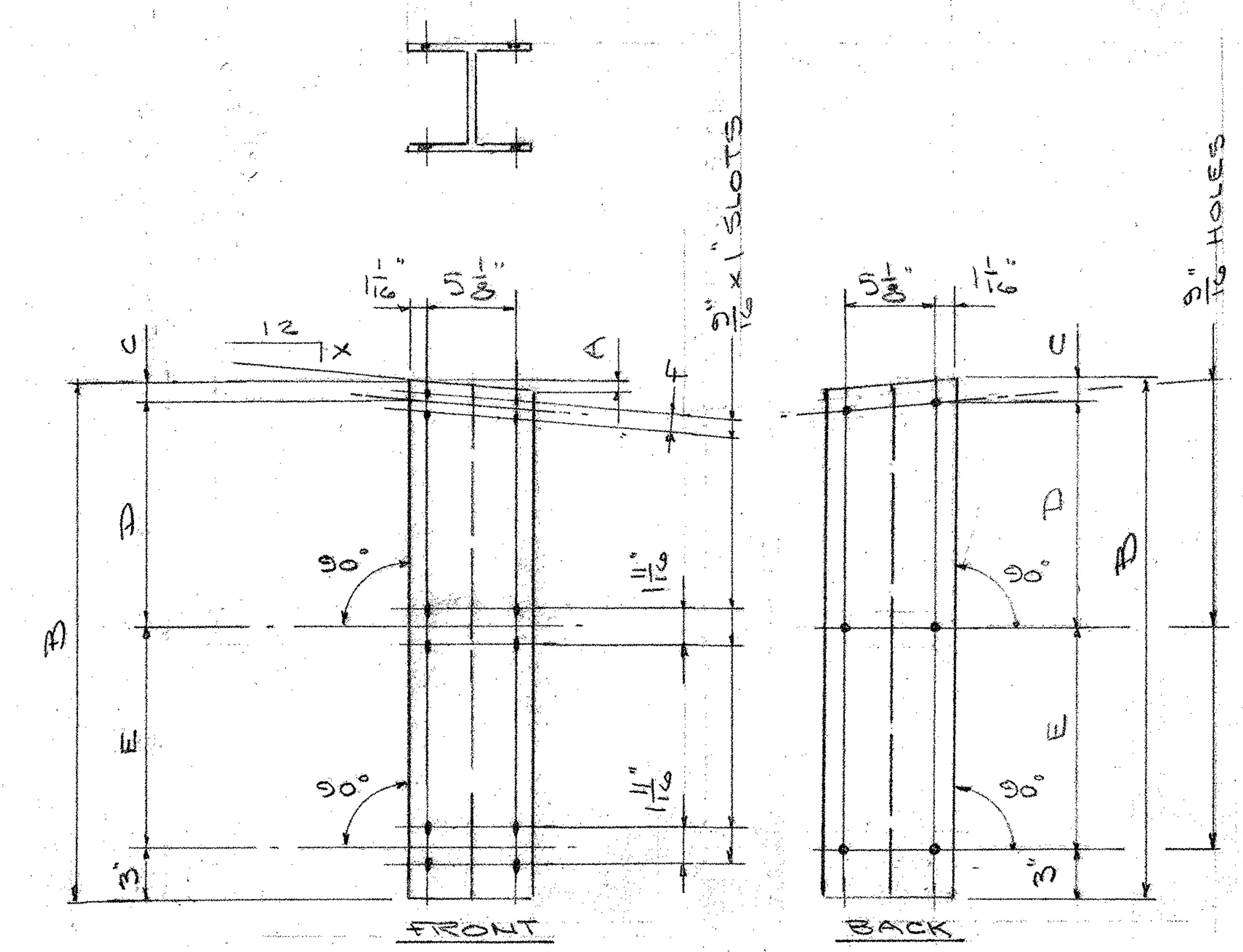
QTY	MK	X	A	B	C	D	E
1	P11	1 3/16"	3/4"	6'-6"	1 9/16"	11 7/16"	1'-0 9/16"
1	P12	1 3/16"	3/4"	6'-6"	1 9/16"	9 3/4"	11 7/8"
1	P13	1 3/16"	3/4"	6'-6"	1 9/16"	8 1/8"	11 3/16"
1	P14	1 3/16"	3/4"	6'-6"	1 9/16"	6 7/16"	10 9/16"
1	P15	5/8	3/8"	6'-0"	2"	0	9 5/8"
1	P16	5/8	3/8"	6'-0"	2"	0	8 3/4"
1	P17	5/8	3/8"	6'-0"	2"	0	7 7/8"
1	P31	1 1/4	3/4"	6'-6"	1 9/16"	11 7/16"	1'-5 1/8"
1	P32	1 1/4"	3/4"	6'-6"	1 9/16"	9 3/4"	1'-3 7/8"
1	P33	1 1/4"	3/4"	6'-6"	1 9/16"	8 1/8"	1'-2 9/16"
1	P34	1 1/4"	3/4"	6'-6"	1 9/16"	6 7/16"	1'-1 1/4"
1	P35	5/8"	3/8"	6'-0"	2"	0	11 1/2"
1	P36	5/8"	3/8"	6'-0"	2"	0	9 13/16"
1	P37	5/8"	3/8"	6'-0"	2"	0	8 1/16"
31	P8	0	0	6'-0"	2"	0	8"

QTY	MK	X	A	B	C	D	E
1	P21	15/16	9/16"	6'-6"	1 9/16"	11 7/16"	1'-0 9/16"
1	P22	15/16	9/16"	6'-6"	1 9/16"	9 3/4"	11 7/8"
1	P23	15/16	9/16"	6'-6"	1 9/16"	8 1/8"	11 3/16"
1	P24	15/16	9/16"	6'-6"	1 9/16"	6 7/16"	10 9/16"
1	P25	3/8	1/4"	6'-0"	2"	0	9 5/8"
1	P26	3/8	1/4"	6'-0"	2"	0	8 3/4"
1	AP1	1 5/16"	3/4"	6'-6"	1 9/16"	11 7/16"	1'-5 1/8"
1	AP2	1 5/16"	3/4"	6'-6"	1 9/16"	9 3/4"	1'-3 7/8"
1	AP3	1 5/16"	3/4"	6'-6"	1 9/16"	8 1/8"	1'-2 9/16"
1	AP4	1 5/16"	3/4"	6'-6"	1 9/16"	6 7/16"	1'-1 1/4"
1	P27	3/8	1/4"	6'-0"	2"	0	7 7/8"



STANDOFF

QTY	MK	X	A	B	C	D	E	F	
1	T11	1 3/16	3/4"	2'-4 15/16"	1 9/16"	11 13/16"	1'-0 9/16"	1 1/4"	
1	T12	1 3/16	3/4"	2'-2 9/16"	1 9/16"	10 1/8"	11 7/8"	1 1/4"	
1	T13	1 3/16	3/4"	2'-0 1/4"	1 9/16"	8 1/2"	11 3/16"	1 1/4"	
1	T14	1 3/16	3/4"	1'-9 15/16"	1 9/16"	6 13/16"	10 9/16"	1 1/4"	
1	T15	5/8	3/8"	1'-2 13/16"	2"	0	9 13/16"	1 11/16"	
1	T16	5/8	3/8"	1'-1 15/16"	2"	0	8 15/16"	1 11/16"	
1	T17	5/8	3/8"	1'-1 1/16"	2"	0	8 1/16"	1 11/16"	
1	T31	1 1/4	3/4"	2'-9 1/2"	1 9/16"	11 13/16"	1'-5 1/8"	1 1/4"	
1	T32	1 1/4	3/4"	2'-6 9/16"	1 9/16"	10 1/8"	1'-3 7/8"	1 1/4"	
1	T33	1 1/4	3/4"	2'-3 5/8"	1 9/16"	8 1/2"	1'-2 9/16"	1 1/4"	
1	T34	1 1/4	3/4"	2'-0 5/8"	1 9/16"	6 13/16"	1'-1 1/4"	1 1/4"	
1	T35	5/8	3/8"	1'-4 11/16"	2"	0	11 11/16"	1 11/16"	
1	T36	5/8	3/8"	1'-3"	2"	0	10"	1 11/16"	
1	T37	5/8	3/8"	1'-1 1/4"	2"	0	8 1/4"	1 11/16"	
31	T8	0	0	1'-1"	2"	0	8"	1 11/16"	



STANDOFF

QTY	MK	X	A	B	C	D	E	F	
1	T21	15/16	9/16"	2'-4 13/16"	1 9/16"	11 11/16"	1'-0 9/16"	1 1/4"	
1	T22	15/16	9/16"	2'-2 7/16"	1 9/16"	10"	11 7/8"	1 1/4"	
1	T23	15/16	9/16"	2'-0 1/8"	1 9/16"	8 3/8"	11 3/16"	1 1/4"	
1	T24	15/16	9/16	1'-9 13/16"	1 9/16"	6 11/16"	10 9/16"	1 1/4"	
1	T25	3/8	1/4"	1'-2 3/4	2"	0	9 3/4"	1 11/16"	
1	T26	3/8	1/4"	1'-1 7/8"	2"	0	8 7/8"	1 11/16"	
1	T27	3/8	1/4"	1'-1"	2"	0	8"	1 11/16"	
1	TP1	1 5/16	3/4"	2'-9 1/2"	1 9/16"	11 13/16"	1'-5 1/8"	1 1/4"	
1	TP2	1 5/16	3/4"	2'-6 9/16"	1 9/16"	10 1/8"	1'-3 7/8"	1 1/4"	
1	TP3	1 5/16	3/4"	2'-3 5/8"	1 9/16"	8 1/2"	1'-2 9/16"	1 1/4"	
1	TP4	1 5/16	3/4"	2'-0 5/8"	1 9/16"	6 13/16"	1'-1 1/4"	1 1/4"	

SHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE
NO EXCEPTION TAKEN
REVISE AS NOTED RESUBMISSION NOT REQUIRED ✓
REVISE AS NOTED RESUBMISSION REQUIRED
REJECTED
Stantec
DATE 3/26/07
SIGNATURE [signature]
REVIEW BY STANTEC IS FOR THE SOLE PURPOSE OF ASCERTAINING GENERAL CONFORMITY WITH DESIGN. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS, FABRICATION AND CONSTRUCTION METHODS, COORDINATION OF SUB-TRADES, DETAIL DESIGN OF COMPONENTS, AND ERRORS OR OMISSIONS ON SHOP DRAWINGS.

RECEIVED
CK'D BY ____ OK'D BY ____
FEB 28 2007
RESUBMIT ____ APPROVED ____
BY ____ DATE

ISSUE	DATE	DESCRIPTION	BY
1	2.22.07	FOR APPROVAL	RJM

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HUNTINGTON PROJ. BRO 1445 (29)
BRIDGE # 42

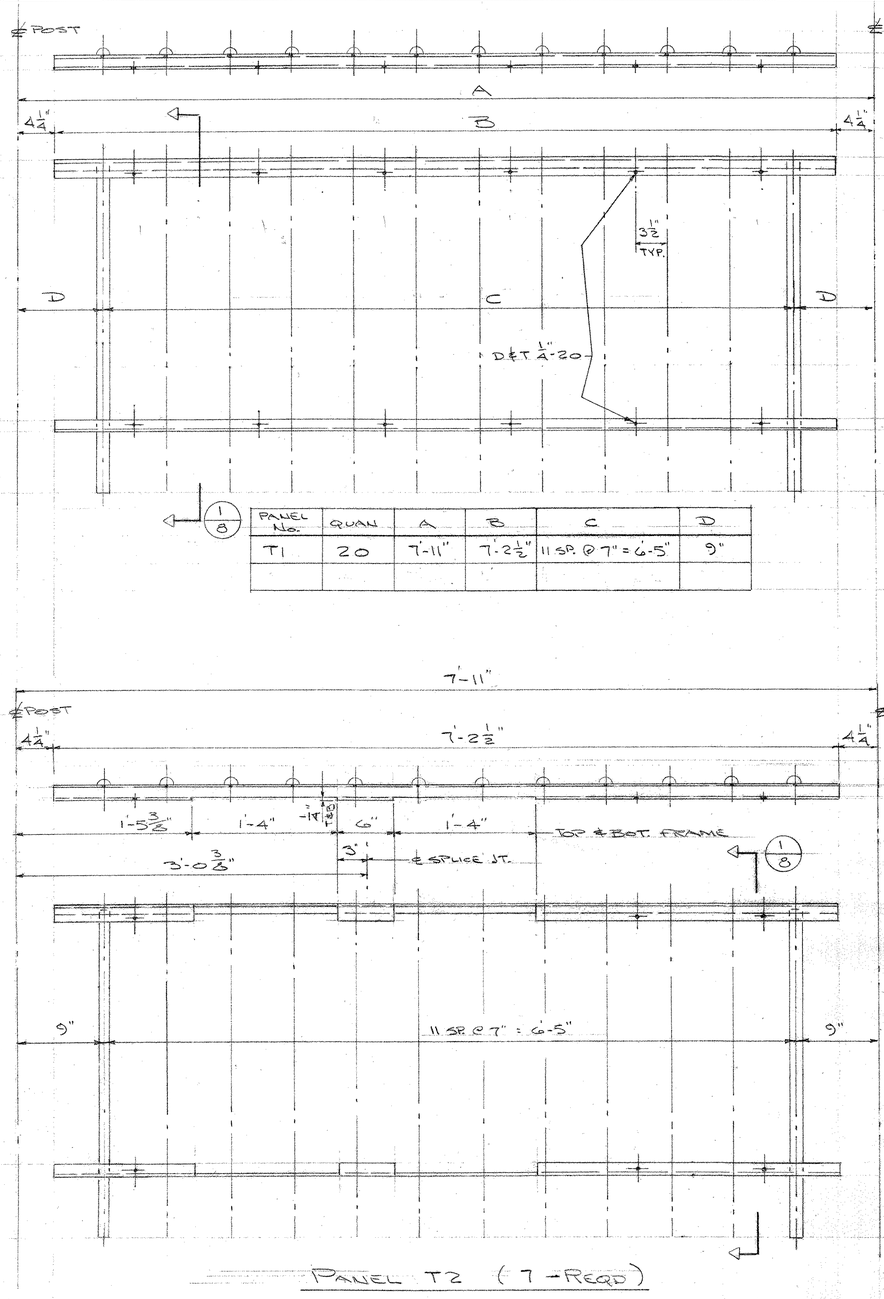
EAST ST. OVER HUNTINGTON RIVER

AL. APPROACH RAILING

SURFACE PREP: NONE
FINISH: MILL FINISH
FOR: A.D. ROSSI CORP.
DR: WM 02.14.07
CHK: 3 02-17-07
JOB NO. AB70002-1001
DWG. NO. BR-2898
SHEET 7 OF 8

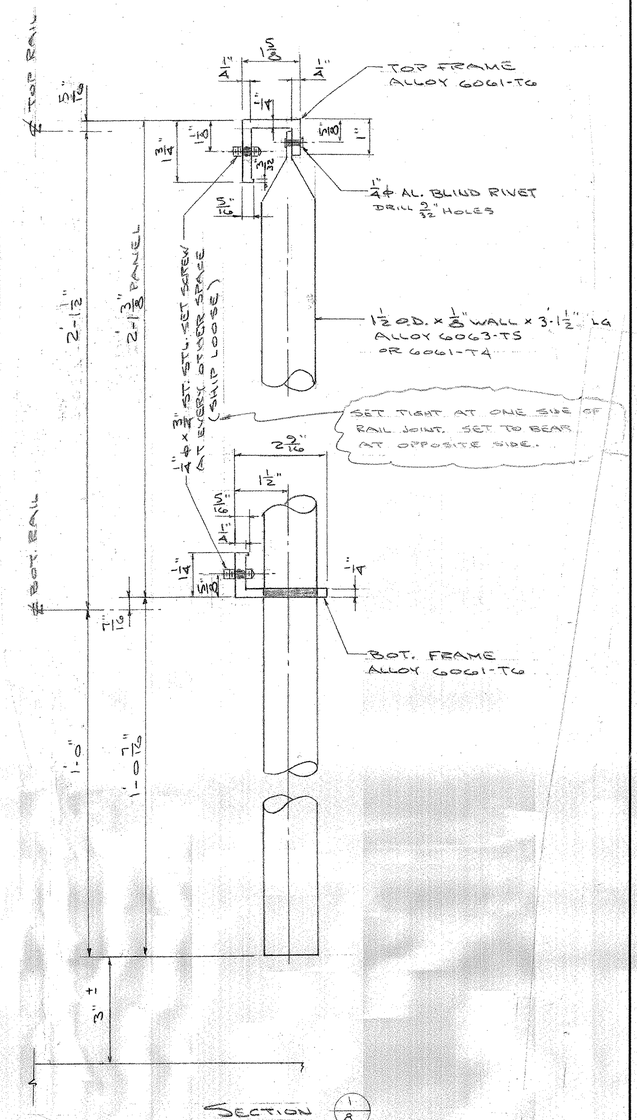
127 BR

B.L. MAKEPEACE INC. 106616



PANEL No.	QUAN	A	B	C	D
T1	20	7'-11"	7'-2 1/2"	11 SP. @ 7" = 6'-5"	9"

PANEL T2 (7 → REQD)



BSHOP DRAWINGS ARE REVIEWED UNLESS NOTED OTHERWISE	
NO EXCEPTION TAKEN	
REVISE AS NOTED RESUBMISSION NOT REQUIRED	
REVISE AS NOTED RESUBMISSION REQUIRED	
REJECTED	

Stantec

DATE 3/26/07

SIGNATURE Michael Chmielewski

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RECEIVED
CK'D BY ____ O.K.'D BY ____
FEB 28 2007
RESUBMIT ____ APPROVED ____
BY ____ DATE ____

ISSUE	DATE	DESCRIPTION	BY
1	2-22-07	FOR APPROVAL	RJL

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
HUNTINGTON PROJ. BRO 1145(29)
BRIDGE #42
EAST ST. OVER HUNTINGTON RIVER

ALUM. PICKET PANELS

SURFACE PREP: NONE	FINISH: MILL FINISH
FOR: A.D. ROSSI CORP.	
DR: WM 02-12-07 CHK: BS 02-17-07	DWG. NO. BR-2898
JOB NO. AB70002-1001	SHEET 8 OF 8

128 BR