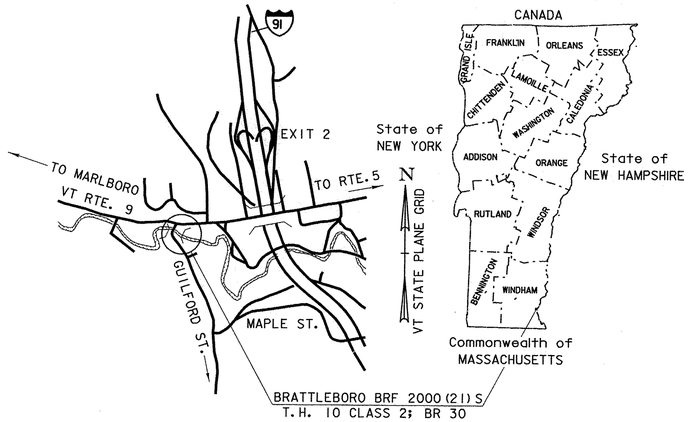
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LIST OF STANDARDS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



RECORD PLANS

CONTRACTOR: J. A. MCDONALD INC. – LYNDON CENTER, VT

RESIDENT ENGINEER: FRED ROSS

CONSTRUCTION BEGAN: AUGUST 4, 2009

CONSTRUCTION COMPLETE: MAY 19, 2011

RECORD PLANS BY: FRED ROSS & CHIP PIERCE

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

BY _____ RESIDENT ENGINEER

DATE 9-9-13

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.

PROPOSED IMPROVEMENT
BRIDGE PROJECT

TOWN OF BRATTLEBORO

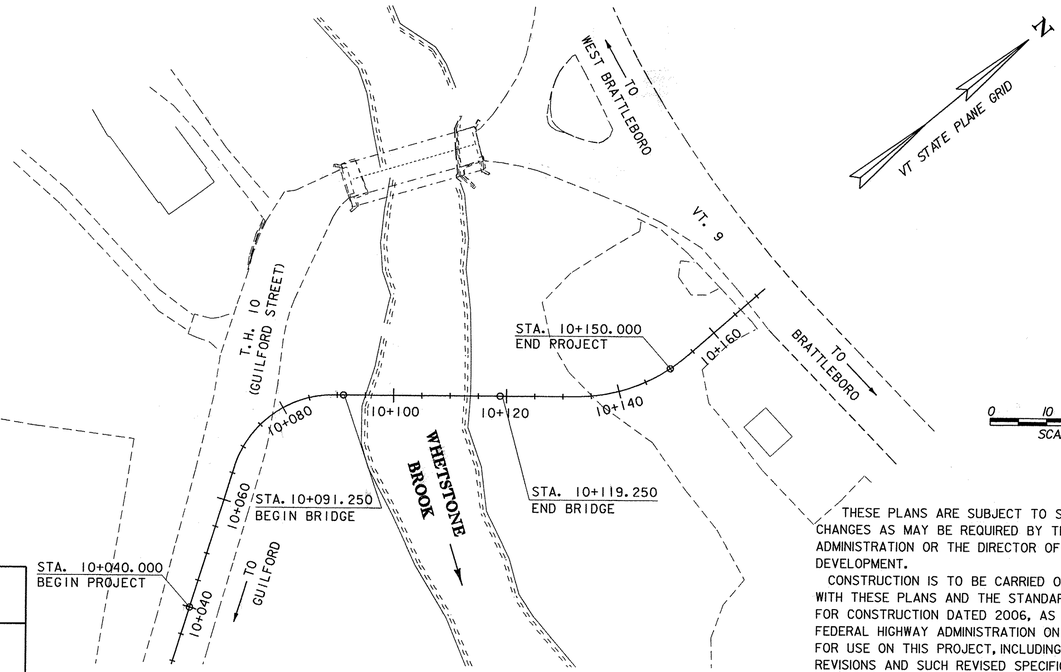
COUNTY OF WINDHAM

ROUTE NO : T.H. 10 CLASS 2 BRIDGE NO : 30

PROJECT LOCATION : BEGINNING AT A POINT ON EXISTING T.H. 10 APPROXIMATELY 0.11 KILOMETERS SOUTHEAST OF THE EXISTING INTERSECTION OF T.H. 10 AND VT. 9 AND PROCEEDING NORTHEASTERLY 110 METERS ALONG A NEW T.H. 10 ALIGNMENT.

PROJECT DESCRIPTION : CONSTRUCTION OF A NEW BRIDGE DOWNSTREAM FROM THE EXISTING COVERED BRIDGE, WITH RELATED CHANNEL AND ROADWAY APPROACH WORK.

LENGTH OF NEW STRUCTURE :	28.000 METERS.
LENGTH OF ROADWAY :	82.000 METERS.
LENGTH OF PROJECT :	110.000 METERS.



CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

SURVEYED BY : R.D. GILMAN
SURVEYED DATE : 9-17-97

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD-83 (92)

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 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

VAOT Metric

UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE 4-30-09

PROJECT MANAGER : R. WHITCOMB

PROJECT NAME : BRATTLEBORO
PROJECT NUMBER : BRF 2000(21)S

SHEET 1 OF 77 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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STANDARDS

B-5	SLOPE GRADING, EMBANKMENTS, MUCK	6/1/1994
B-71	RESIDENTIAL AND COMMERCIAL DRIVES	7/8/2005
C-2A	CEMENT CONCRETE SIDEWALK, CONCRETE CURB	10/14/2005
C-3A	SIDEWALK RAMPS	3/10/2008
C-3B	SIDEWALK RAMPS AND MEDIAN ISLANDS	3/10/2008
C-10	CURBING	2/11/2008
D-3	TREATED GUTTERS	6/1/1994
D-4	FLUSHING BASINS, END SECTION, ELBOWS TYPICAL, WATERFALL FOR CULVERTS UP TO AND INCLUDING 48" DIA EXTENSION SERVICE BOX AND CURB STOP CORRUGATED PIPE ELBOW GRANULAR BORROW AT CULVERT LOCATIONS CORRUGATED STEEL PIPE END SECTION CORRUGATE	8/13/2007
D-6	REINFORCED CONCRETE DROP INLET W/GRATE (DITCHES)	6/1/1994
D-8	REINFORCED CONCRETE DROP INLET WITH PRECAST COVER AND GRATE (BOTTOM SECTION) SEE SHEETS D-9, 10, 11 FOR TOP SECTION	1/3/2000
D-9	REINFORCED CONCRETE DROP INLET TOPS VERTICAL CURB & THROAT ADAPTOR	6/1/1994
D-11	GRATES & COVERS (TYPE A)	6/1/1994
D-15	PRECAST REINFORCED CONC. MH-GRATES (BICYCLE SAFE) CAST IRON GRATE WITH FRAME, TYPE D CAST IRON GRATE WITH FRAME, TYPE E	6/1/1994
D-30	UNDERDRAIN CONSTRUCTION DETAILS	8/13/2007
E-100	CONSTRUCTION APPROACH SIGNS	1/2/2004
E-100A	SIDE ROAD CONSTRUCTION - APPROACH SIGNS	1/2/2004
E-102	CONSTRUCTIONSIGN DETAILS	6/30/2003
E-102A	CONSTRUCTION SIGN DETAILS	5/1/2004
E-108	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS	12/8/2008
E-108A	CONSTRUCTION ZONE LONGITUDINAL DROP OFFS FOR PAVING	12/8/2008
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	8/8/1995
E-123	GUIDE SIGN PLACEMENT - MISCELLANEOUS DETAILS	3/16/2004
E-128A	DETAILING VILLAGE SIGNS (A-M)	8/8/1995
E-136B	STATE ROUTE MARKER SIGN DETAILS	8/8/1995
E-141	REGULATORY SIGN DETAILS	9/20/1995
E-143	REGULATORY SIGN DETAILS	6/15/2004
E-164	SQUARE STEEL SIGN POST	5/20/1999
E-191	PAVEMENT MARKING DETAILS	2/1/1999
E-193	PAVEMENT MARKING DETAILS	8/18/1995
G-4	MARKERS -GUIDE POSTS - PLANK GUARD RAIL PLANK RAIL GUIDE POSTS WOOD MARKER POSTS STEEL MARKER POSTS	6/1/1994

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 05/02/01

DRAINAGE AREA : 68 sq km
CHARACTER OF TERRAIN : Forested, rolling to hilly
STREAM CHARACTERISTICS : Straight with some moderate meandering
NATURE OF STREAMBED : gravel, cobbles, boulders, some ledge

PEAK FLOW DATA

Q 2.33 =	42 cms	Q 50 =	113 cms
Q 10 =	71 cms	Q 100 =	136 cms
Q 25 =	92 cms	Q 500 =	215 cms

DATE OF FLOOD OF RECORD : Unknown
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : @ Q25 = 4.0 mps
ICE CONDITIONS : Minor
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? yes
IS ORDINARY RISE RAPID? yes
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? no
IF YES, DESCRIBE: N/A

WATERSHED STORAGE: 10%
HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Single Span Wooden Covered Bridge
YEAR BUILT: 1879
CLEAR SPAN(NORMAL TO STREAM): 16.8 m
VERTICAL CLEARANCE ABOVE STREAMBED: 4.6m (avg low steel = 125.0m)
WATERWAY OF FULL OPENING: 74 sm
DISPOSITION OF STRUCTURE: Retain for Pedestrian use
TYPE OF MATERIAL UNDER SUBSTRUCTURE: Unknown

WATER SURFACE ELEVATIONS AT:

Q2.33 =	122.1 m	VELOCITY =	3.4 mps
Q10 =	122.7 m	"	4.3 mps
Q25 =	123.2 m	"	4.8 mps
Q50 =	123.5 m	"	5.2 mps
Q100 =	123.9 m	"	5.6 mps

LONG TERM STREAMBED CHANGES: 0.3m scour through bridge area

IS THE ROADWAY OVERTOPPED BELOW Q100: no
FREQUENCY: Greater than Q100
RELIEF ELEVATION: 126m
DISCHARGE OVER ROAD @Q100: N/A

UPSTREAM STRUCTURE

TOWN: Brattleboro — DISTANCE: 460m
HIGHWAY# : TH 372 — STRUCTURE #: BR 51
CLEAR SPAN: 15.2 m — CLEAR HEIGHT: 3.0 m
YEAR BUILT: 1994 — FULL WATERWAY: 44 sm
STRUCTURE TYPE: Concrete Slab Bridge

DOWNSTREAM STRUCTURE

TOWN: Brattleboro — DISTANCE: 1040m
HIGHWAY# : I 91 SB — STRUCTURE #: 6-S
CLEAR SPAN: 120.4 m — CLEAR HEIGHT: 24.4m
YEAR BUILT: 1960 — FULL WATERWAY: 2900 sm
STRUCTURE TYPE: 3 span plate girder bridge

LOAD FACTOR - LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	30	43					
POSTED	42	60	70		56	57	65
OPERATING		72	83	97	67	68	
COMMENTS:							

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2001	3660	505	57	4	115
2021	4750	645	57	3	130

20 year ESAL for flexible pavement from 2001 to 2021 : 1,687,000
40 year ESAL for flexible pavement from 2001 to 2041 : 3,881,000
Design Speed : 40 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Single Span Plate Girder Bridge on Integral Abutments

CLEAR SPAN(NORMAL TO STREAM): 26.5m
VERTICAL CLEARANCE ABOVE STREAMBED: 5.0 m
WATERWAY OF FULL OPENING: 103 sm

WATER SURFACE ELEVATIONS AT:

Q2.33 =	122.1 m	VELOCITY=	3.0 mps
Q10 =	122.7 m	"	3.7 mps
Q25 =	123.1 m	"	4.0 mps
Q50 =	123.5 m	"	4.3 mps
Q100 =	123.9 m	"	4.6 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: no
FREQUENCY: greater than Q100
RELIEF ELEVATION: 126.6 m
DISCHARGE OVER ROAD @Q100: N/A

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 124.9 m
VERTICAL CLEARANCE: @ Q25 = 1.8 m

SCOUR: No Contraction Scour @ Q100.

REQUIRED CHANNEL PROTECTION: Type IV

PERMIT INFORMATION

AVERAGE DAILY FLOW:	1.5 cms	DEPTH OR ELEVATION:	
ORDINARY LOW WATER:	0.7 cms		0.1 m
ORDINARY HIGH WATER:	18 cms		0.6 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: TRAFFIC WILL BE DETOURED
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

Water surface elevations are reported upstream of the existing covered bridge for both the existing and proposed structures. Velocities are reported at the indicated bridge.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 27.5 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING SEE GENERAL NOTES SHEET
   TYPE STEEL PILING, HP 310x125(HP 12 X 84) Fy=345 kPa (50 ksi)
   ESTIMATED LENGTH ABUT. NO. 1 = 16 m +/- ABUT. NO. 2 = 5 m +/-
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A, LOW CEMENT f'c: 30 Mpa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 Mpa
8. DESIGN SOIL UNIT WEIGHT 22.00 kN/m³
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? NO*
   IF YES, ON EXISTING STRUCTURE? NO
   OR ON TEMPORARY BRIDGE? N/A
   ONE OR TWO-WAY TRAVEL? N/A
2. TRAFFIC CONTROL SIGNALS REQUIRED? NO
3. ARE SIDEWALKS REQUIRED? NO
   IF SO, ON WHAT SIDE? N/A

***PEDESTRIAN/BICYCLE TRAFFIC WILL BE MAINTAINED ON EXISTING COVERED BRIDGE.**

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: \96j228\Structures\metpi.xls
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
PRELIMINARY INFORMATION SHEET

PLOT DATE: 4/27/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON

GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2006 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD DESIGN SPECIFICATIONS FOR HIGHWAY BRIDGES, DATED 2002, AND ITS LATEST REVISIONS.

2. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS.

TRAFFIC CONTROL

3. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL TEMPORARY ON PROJECT SIGNS, BARRICADES AND OFF-PROJECT SIGNS AS SHOWN ON SHEET 19 OR AS DIRECTED BY THE RESIDENT ENGINEER.

   THE COVERED BRIDGE AND ITS APPROACHES IN THE PROJECT AREA WILL BE CLOSED TO VEHICULAR TRAFFIC. THE TOWN WILL SIGN THE DETOUR EXCEPT FOR THE SIGNS MENTIONED ABOVE. PEDESTRIAN AND BICYCLE TRAFFIC SHALL BE MAINTAINED ON THE COVERED BRIDGE. THE TOWN WILL BE RESPONSIBLE FOR ROUTINE MAINTENANCE OF THE COVERED BRIDGE DURING THE CONSTRUCTION OF THIS PROJECT.

   THE TEMPORARY PAVEMENT MARKINGS, TRAFFIC CONTROL BARRIER FENCE, TEMPORARY TRAFFIC BARRIER, SIGNS, AND BARRICADES WILL BE PAID FOR UNDER ITEM 641.10, "TRAFFIC CONTROL". REPOSITIONING OF ANY TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE TRAFFIC CONTROL ITEM.

   FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. WHEN THE CONTRACTOR MUST TEMPORARILY RESTRICT ACCESS TO THE DRIVES, THE CONTACTOR SHALL NOTIFY THE PROPERTY OWNERS IN ADVANCE.

   IF THE PROJECT IS CLOSED DOWN FOR THE WINTER, TOWN HIGHWAY 10 SHALL BE RE-OPENED TO VEHICULAR TRAFFIC. THE CONTRACTOR MAY CLOSE IT AGAIN WHEN CONSTRUCTION RESUMES IN THE SPRING. BEFORE CLOSING FOR THE WINTER, THE CONTRACTOR SHALL RESTORE ANY DISTURBED ROADWAY AND GUARD RAIL TO THE CONDITION FOUND WHEN THE PROJECT BEGINS. PAYMENT FOR ANY COSTS INVOLVED IN OPENING AND CLOSING THE ROAD WILL BE CONSIDERED INCIDENTAL TO ITEM 641.10, TRAFFIC CONTROL."

EARTHWORK

4. AREAS LABELED "REMOVE EXISTING PAVEMENT" SHALL BE PAID FOR UNDER ITEM 203.28, "EXCAVATION OF SURFACES AND PAVEMENTS". AREAS OF REMOVAL SHALL BE TOPSOILED, SEEDED AND MULCHED.

5. BACKFILL ABUTMENTS BY SIMULTANEOUSLY RAISING THE ELEVATIONS OF THE BACKFILL IN FRONT OF AND BEHIND THE ABUTMENTS AND WINGWALLS.

6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 301.06 REGARDING THE COMPACTION OF SUBBASE MATERIAL FOR THIS PROJECT.

7. THE CONTRACTOR MAY SUBSTITUTE SUBBASE MATERIAL FOR THE SAND BORROW SHOWN ON THE PLANS. THE SUBBASE MATERIAL SHALL BE THE TYPE SPECIFIED IN THE CONTRACT AND SHALL BE PLACED TO MEET THE SUBBASE SPECIFICATIONS. IF SUBBASE IS PLACED IN LIEU OF SAND BORROW, A GEOTEXTITLE MEETING THE REQUIREMENTS OF ITEM 649.11 "GEOTEXTILE FOR ROAD BED SEPARATOR" SHALL BE PLACED BETWEEN THE SUBGRADE AND THE SUBBASE MATERIAL. ALL COSTS ASSOCIATED WITH THE SUBSTITUTION INCLUDING THE GEOTEXTILE SHALL BE INCIDENTAL TO 203.31 "SAND BORROW".

REINFORCED CONCRETE

8. ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)": USE FOR THE DECK, SIDEWALKS, AND INTEGRAL ABUTMENT CURTAIN WALL AND WING WALLS ABOVE THE PILE CAP CONSTRUCTION JOINT. PAYMENT FOR THIS ITEM SHALL INCLUDE INSTALLING THE BRIDGE PLAQUE PROVIDED BY THE AGENCY.

9. ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B": USE FOR THE APPROACH SLABS AND INTEGRAL ABUTMENT PILE CAPS AND WING WALLS BELOW THE PILE CAP CONSTRUCTION JOINT.

10. ITEM 507.17 "EPOXY COATED REINFORCING STEEL": ALL REINFORCING STEEL IN THE SUPERSTRUCTURE, SUBSTRUCTURE AND APPROACH SLABS SHALL BE EPOXY COATED REINFORCING STEEL. CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04 OF THE STANDARD SPECIFICATIONS.

11. CHAMFERS: CHAMFER ALL EXPOSED EDGES OF CONCRETE WITH 25 MM BY 25 MM CHAMFERS, UNLESS OTHERWISE NOTED. ROUND THE TOP CORNERS OF SIDEWALKS TO A 15 MM RADIUS.

12. SCORE MARKS: CONSTRUCT SCORE MARKS AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

13. ITEM 514.10 "WATER REPELLENT, SILANE": APPLY REPELLENT TO ALL EXPOSED SURFACES OF CONCRETE ON THE BRIDGE, EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES.

STRUCTURAL STEEL/PILES

14. NEW STRUCTURAL STEEL SHALL BE AASHTO M 270M, GRADE 345W UNLESS OTHERWISE NOTED.

15. CHARPY V-NOTCH TEST: TEST STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHOULD BE TESTED IN ACCORDANCE WITH SUBSECTION 714.01 OF THE STANDARD SPECIFICATIONS.

16. BOLTS FOR ALL BOLTED FIELD CONNECTIONS SHALL BE 22 MM DIAMETER HIGH STRENGTH BOLTS IN 24 MM DIAMETER HOLES UNLESS OTHERWISE NOTED.

17. CONNECTIONS NOT SHOWN IN THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

18. LIMITED SUBSURFACE INFORMATION INDICATES BEDROCK IS SHALLOW AT ABUTMENT NO. 2. THE H-PILES ARE EXPECTED TO BE SHORTER THAN FOUR METERS. HOWEVER, THE CONTRACTOR SHOULD BE PREPARED FOR LONGER PILE LENGTHS.

19. THE PILES SHALL BE DRIVEN TO AN ULTIMATE AXIAL PILE CAPACITY OF 2370 KN.

20. ITEM 505.45 "DYNAMIC PILE LOADING TEST". A MINIMUM OF ONE DYNAMIC PILE TEST SHALL BE CONDUCTED ON THE FIRST PILE DRIVEN IN ABUTMENT ONE AND PILE #1 IN ABUTMENT TWO. MORE TESTS MAY BE REQUIRED BY THE ENGINEER. PAYMENT FOR ADDITIONAL TEST(S), IF REQUIRED, WILL BE MADE AT THE UNIT PRICE BID FOR CONTRACT ITEM 505.45.

21. FOR ESTIMATING PURPOSES, THE H PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY.

23. GIRDER PROFILES: AFTER THE SUPERSTRUCTURE STEEL HAS BEEN SET ON THE ANCHOR BOLTS, TAKE ELEVATIONS ALONG THE TOP OF THE GIRDERS AS DIRECTED BY THE RESIDENT ENGINEER FOR DETERMINING HAUNCH DEPTHS.

23. FLEMING BRACKETS OR SIMILAR FALSEWORK: SPACE FLEMING BRACKETS OR SIMILAR FALSEWORK AS REQUIRED BY DESIGN WITH A MAXIMUM SPACING OF 1200 MILLIMETERS. THE DESIGN OF FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

24. HOLES IN WEB. FILL ANY BOLT HOLES IN THE WEBS OF FASCIA GIRDERS NOT OTHERWISE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS MEETING AASHTO M164M TYPE 3. TIGHTEN THE BOLTS IN ACCORDANCE WITH SUBSECTION 506.19 OF THE STANDARD SPECIFICATIONS.

UTILITIES

25. AN EXISTING SEWER LINE PASSES UNDER AND BEHIND ABUTMENT NO. 2. THE APPROXIMATE LOCATION OF THE LINE IS SHOWN IN THE PLANS. ITEM 204.22, "TRENCH EXCAVATION OF EARTH EXPLORATORY" HAS BEEN INCLUDED TO VERIFY THE LOCATION.

26. THE EXISTING FIRE HYDRANT LOCATED AT STATION 10+082.6 LT SHALL BE RELOCATED TO A LOCATION ON GUILFORD ST. (APPROXIMATELY STA 10 +060 LT) EXACT LOCATION TO BE DETERMINED BY THE "BRATTLEBOR0 UTILITIES DIVISION". THE CONTRACTOR SHALL CONTACT GARY KING, ENGINEERING TECHNICIAN OR SKIP FLETCHER, BRATTLEBORO UTILITIES SUPERVISOR AT (802) 254-4255 TO MEET ON THE PROJECT AND DETERMINE THE EXACT LOCATION OF THE RELOCATED HYDRANT.

MISCELLANEOUS

27. EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE OF 0.068 L/SM OR AS DIRECTED BY THE RESIDENT ENGINEER, ON COLD PLANED SURFACES AND BETWEEN ALL COURSES OF PAVEMENT.

28. THE CONTRACTOR SHALL REMOVE AND SALVAGE THE BUS SHELTER LOCATED AT STATION 10+162 RT. THE SHELTER WILL BE DISMANTLED AND STOCKPILED ON THE PROJECT SITE. ANY DAMAGE TO THE SHELTER DURING THE DISMANTLING SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT ENGINEER AT NO COST TO THE AGENCY. THE CONTRACTOR SHALL CONTACT THE BRATTLEBORO PUBLIC WORKS DIRECTOR, STEPHEN BARRETT AT (802) 254-4255 TO ARRANGE THE REMOVAL AND SALVAGE OF THESE ITEMS. THIS WORK WILL BE PAID FOR AS ITEM 900.645, "SPECIAL PROVISION (REMOVE AND SALVAGE EXISTING BUS SHELTER).

29. THE EXISTING SIGNS AND POSTS LISTED AS REMOVAL ON SHEETS 23 SHALL REMAIN THE PROPERTY OF THE TOWN. THE SIGNS AND POSTS SHALL BE STOCKPILED FOR THE TOWN TO REMOVE. CONTACT STEPHAN BARRETT AT (802) 254-4255.

30. SIX (6) EVERGREEN TREES ARE INCLUDED IN THIS PROJECT. THE LOCATION OF THE TREES SHALL BE DETERMINED BY THE RESIDENT ENGINEER AND PROPERTY OWNER ROB PROHASKA OF 46 GUILFORD STREET. THIS WORK WILL BE PAID FOR UNDER THE ITEM 656.20, "EVERGREEN TREES (PINUS STROBUS) (B&B) (2.5 M -4.0 M).

GENERAL NOTES

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

FILE NAME: 96J228\SJ228gen.dgn		PLOT DATE:	27-MAY-2009
PROJECT MANAGER:	R. WHITCOMB	DRAWN BY:	W. LAMMER
DESIGNED BY:	W. LAMMER	CHECKED BY:	C. CARLSON
		SHEET 3	OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

Metric

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	EROSION CONTROL	UTILITIES	BRIDGE	FULL E & C ITEMS	TOTALS GRAND TOTAL	TOTALS FINAL	UNIT	DESCRIPTIONS ITEMS	ITEM NUMBER	ROUND
1					1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
930					930		CM	COMMON EXCAVATION	203.15	
10					10		CM	SOLID ROCK EXCAVATION	203.16	
			670		670		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	
70					70		CM	EXCAVATION OF SURFACES AND PAVEMENTS	203.28	
170					170		CM	SAND BORROW	203.31	
330					330		CM	GRANULAR BORROW	203.32	
200					200		CM	TRENCH EXCAVATION OF EARTH	204.20	
10					10		CM	TRENCH EXCAVATION OF ROCK	204.21	
1					1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
			45		45		CM	STRUCTURE EXCAVATION	204.25	
			280		280		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	
150					150		SM	COLD PLANING, BITUMINOUS PAVEMENT	210.10	
930					930		CM	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25	
10					10		CM	AGGREGATE SURFACE COURSE	401.10	
160			26		186		KG	EMULSIFIED ASPHALT	404.65	
1					1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	
10			101		111		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	
			1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	
			105		105		M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 125	505.265	
			2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	
			45370		45370		KG	STRUCTURAL STEEL(PLATE GIRDER)	506.55	
840					840		KG	REINFORCING STEEL	507.15	
			29450		29450		KG	EPOXY COATED REINFORCING STEEL	507.17	
			1		1		LS	SHEAR CONNECTORS (1150 - 22 mm x 178 mm)	508.15	
			57		57		L	WATER REPELLENT, SILANE	514.10	
			8		8		M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10	
			222		222		SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	
			24.5		24.5		M	JOINT SEALER, HOT POURED	524.11	
								BEGIN OPTION AA		
57					57		M	450 CAAP 1.52 (68 X 12)	601.0215	
57					57		M	450 PCCSP 1.63 (68 X 12)	601.0415	
57					57		M	450 mm CPEP (SL)	601.2615	
								END OPTION AA		
	4				4		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42	
1					1		EACH	CAST IRON GRATE WITH FRAME, TYPE A	604.45	
4					4		EACH	CAST IRON GRATE WITH FRAME, TYPE D	604.47	
36					36		M	150 mm UNDERDRAIN	605.10	
1					1		M	150 mm UNDERDRAIN CARRIER PIPE	605.20	
1					1		EACH	UNDERDRAIN FLUSHING BASINS	605.95	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS
		EARTHWORKS SUMMARY
		FILL REQUIRED
399	CM	COMMON FILL (1.15*347 CM)
		FILL AVAILABLE
651	CM	203.15 COMMON EXCAVATION (0.7*930 CM)
60	CM	204.20 TRENCH EXCAVATION OF EARTH (0.3*200 CM)
14	CM	204.25 STRUCTURE EXCAVATION (0.3*45 CM)
201	CM	203.27 UNCLASSIFIED CHANNEL EXCAVATION (0.3*670 CM)
926	CM	TOTAL FILL AVAILABLE
399	CM	LESS TOTAL FILL REQUIRED
527	**CM**	**WASTE**
		TEMPORARY EROSION CONTROL ITEMS
10	CM	613.10 STONE FILL, TYPE I
35	SM	649.51 GEOTEXTILE FOR SILT FENCE
89	SM	649.515 GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
160	SM	649.61 GEOTEXTILE FOR FILTER CURTAIN
20	KG	651.17 SEED, WINTER RYE
1	LS	652.10 EPSC PLAN
30	HR	652.20 MONITORING EPSC PLAN
1	LU	652.30 MAINTENANCE OF EPSC PLAN (N.A.B.I.)
330	SM	653.20 TEMPORARY EROSION MATTING
30	CM	653.25 TEMPORARY STONE CHECK DAM, TYPE I
25	CM	653.35 VEHICLE TRACKING PAD
190	M	653.50 BARRIER FENCE
230	M	653.55 PROJECT DEMARCATION FENCE

N.A.B.I = NOT A BID ITEM

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96j228/structures/sj228qty.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
QUANTITY SHEET #1

PLOT DATE: 05/22/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 4 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

Metric

SUMMARY OF ESTIMATED QUANTITIES										TOTALS		DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
					ROADWAY	EROSION CONTROL	UTILITIES	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
					40	10				50		CM	STONE FILL, TYPE I	613.10				
								630		630		CM	STONE FILL, TYPE IV	613.13				
					255					255		M	CAST-IN PLACE CEMENT CONCRETE CURB, TYPE B	616.28				
					385					385		SM	PORTLAND CEMENT CONCRETE SIDEWALK,125 MM	618.10				
					6					6		SM	DETECTABLE WARNING SURFACE	618.30				
					4					4		EACH	YIELDING MARKER POSTS	619.17				
					17					17		M	PLANK RAIL	621.15				
					10					10		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80				
							2			2		EACH	ADJUST ELEVATION OF VALVE BOX	629.20				
							7			7		M	DUCTILE IRON PIPE, CEMENT-LINED (150 mm)	629.24				
							1			1		EACH	HYDRANT, RELOCATE	629.29				
							1			1		EACH	TAPPING SLEEVE AND VALVE WITH VALVE BOX (400 mm X 150 mm)	629.35				
					100					100		HR	UNIFORMED TRAFFIC OFFICERS	630.10				
					500					500		HR	FLAGGERS	630.15				
									1	1		LS	FIELD OFFICE-ENGINEERS	631.10				
									1	1		LS	TESTING EQUIPMENT - CONCRETE	631.16				
									1	1		LS	TESTING EQUIPMENT - BITUMINOUS	631.17				
									1	1		LU	FIELD OFFICE - TELEPHONE (N.A.B.I.)	631.25				
					1					1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
					1					1		LS	TRAFFIC CONTROL	641.10				
					250					250		M	100 MM WHITE LINE	646.20				
					272					272		M	100 MM YELLOW LINE	646.21				
					17					17		M	600 MM STOP BAR	646.26				
					16					16		EACH	LETTER OR SYMBOL	646.30				
					43					43		M	CROSSWALK MARKING	646.31				
					21					21		SM	REMOVAL OF EXISTING PAVEMENT MARKINGS	646.85				
					110			780		890		SM	GEOTEXTILE UNDER STONE FILL	649.31				
						35				35		SM	GEOTEXTILE FOR SILT FENCE	649.51				
						89				89		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515				
						160				160		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61				
						20				20		KG	SEED	651.15				
						20				20		KG	SEED-WINTER RYE	651.17				
						90				90		KG	FERTILIZER	651.18				
						1				1		T	AGRICULTURAL LIMESTONE	651.20				
						1				1		T	HAYMULCH	651.25				
						230				230		CM	TOPSOIL	651.35				
						580				580		SM	GRUBBING MATERIAL	651.40				
						1				1		LS	EPSC PLAN	652.10				N.A.B.I = NOT A BID ITEM
						30				30		HR	MONITORING EPSC PLAN	652.20				
						1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30				

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96j228/structures/sj228qty.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
QUANTITY SHEET #2

PLOT DATE: 05/22/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 5 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

Metric

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
ROADWAY	EROSION CONTROL	UTILITIES	BRIDGE	FULL E & C ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
	330				330		SM	TEMPORARY EROSION MATTING	653.20				
	30				30		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25				
	25				25		CM	VEHICLE TRACKING PAD	653.35				
	3				3		EACH	INLET PROTECTION DEVICE, TYPE I	653.40				
	190				190		M	BARRIER FENCE	653.50				
	230				230		M	PROJECT DEMARCATION FENCE	653.55				
6					6		EACH	EVERGREEN TREES (PINUS STROBUS)(B&B) (2.5M - 4.0M)	656.20				
4					4		SM	TRAFFIC SIGNS, TYPE A	675.20				
36					36		M	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
18					18		EACH	REMOVING SIGNS	675.50				
4					4		EACH	ERECTING SALVAGED SIGNS	675.60				
1					1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50				
			166		166		CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608				
69					69		M	SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)	900.640				
			57		57		M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)	900.640				
1					1		LS	SPECIAL PROVISION (REMOVE AND SALVAGE EXISTING BUS SHELTER)	900.645				
1					1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY) (N.A.B.I)	900.650				
1					1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT) (N.A.B.I)	900.650				
440			60		500		T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				
													N.A.B.I = NOT A BID ITEM

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96j228/structures/sj228qty.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
QUANTITY SHEET #3

PLOT DATE: 05/27/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 6 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

Metric

SUMMARY OF BRIDGE QUANTITIES									TOTALS	DESCRIPTIONS			DETAILED SUMMARY OF QUANTITIES		
CHANNEL	DECK	APPROACH SLAB NO.1	APPROACH SLAB NO.2	ABUTMENT NO.1	ABUTMENT NO.2	BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER	QUANTITIES	UNIT	ITEMS
				360	310	670	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27			
				10	35	45	CM	STRUCTURE EXCAVATION	204.25			
				140	140	280	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30			
	26					26	KG	EMULSIFIED ASPHALT	404.65			
		18	18	32	33	101	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34			
				1		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10			
				80	25	105	M	STEEL PILING FOR INTEGRAL ABUTMENTS, HP 310 X 125	505.265			
				1	1	2	EACH	DYNAMIC PILE LOADING TEST	505.45			
	45370					45370	KG	STRUCTURAL STEEL(PLATE GIRDER)	506.55			
	13700	1380	1320	6450	6600	29450	KG	EPOXY COATED REINFORCING STEEL	507.17			
	1					1	LS	SHEAR CONNECTORS (1150 - 22 mm x 178 mm)	508.15			
	39			9	9	57	L	WATER REPELLENT, SILANE	514.10			
			8			8	M	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	516.10			
	222					222	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20			
		8.5		8	8	24.5	M	JOINT SEALER, HOT POURED	524.11			
630						630	CM	STONE FILL, TYPE IV	613.13			
780						780	SM	GEOTEXTILE UNDER STONE FILL	649.31			
	116			24	26	166	CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT)	900.608			
	57					57	M	SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)	900.640			
	60					60	T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680			

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96j228/structures/sj228qty.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BRIDGE QUANTITY SHEET #1

PLOT DATE: 05/22/2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 7 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

VAOT Metric

DRAINAGE STRUCTURES

DRAINAGE FLAG NO.	STATION km + m	STATION km + m	POS.	ASKEW	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	PRCDI	DEPTH DI	HPC CONC CL B	REINF STEEL	DI GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		REMARKS
					INLET	OUTLET	IN	OUT	SPAN mm	RISE mm	L m	D mm	L m	PCCSP mm	CAAP mm	RCP CL	CSP mm	CPEP SL	PCCSP PI mm	NO. DEG	EA	EA		DI mm	m^3	kg	TYPE	EA	m^3	EARTH m^3	ROCK m^3	m^3	m^3	m^3	m^3	m^3	m^2	m^3	TYPE	LT ea	RT ea	
1	20+007.7		LT																																				REMOVE EXISTING RCDI (PAY FOR REMOVAL UNDER TRENCH
																																							EXCAVATION OF THE NEW RCDI)
2	20+007.7	20+009.6	LT/RT																																					REMOVE EXISTING 310mm PIPE (PAY FOR REMOVAL UNDER
																																							TRENCH EXCAVATION OF THE NEW PIPE)
3	10+030.0	10+078.9	LT			RCDI																									40						40	1			NEW STONE LINED DITCH
4	20+007.8		LT				X																	1850	1.63	122	I-A			1	2										NEW 1200 X 1200 RCDI
5	20+007.8	20+008.7	LT/RT		RCDI	RCDI						450	8.5	X	X			X												13											NEW 450mm OPTION PIPE
6	20+008.7		RT																					2450	2.13	156	I-D			6											NEW 1200 X 1200 RCDI
7	20+008.8	20+011.0	RT		RCDI	CHAN		X				450	14.0	X	X			X												11										X	NEW 450mm OPTION PIPE - OUTLET INTO WHETSTONE BROOK
8	10+076.0		RT																					2700	2.35	185	I-D			4											NEW 1200 X 1200 RCDI
9	10+076.1	10+095.2	RT		RCDI	CHAN		X				450	17.7	X	X			X												25										X	NEW 450mm OPTION PIPE - OUTLET INTO WHETSTONE BROOK
10	10+126.0		LT																					1950	1.71	185	I-D			1											NEW 1200 X 1200 RCDI
11	10+126.0	10+126.0	LT/RT		RCDI	RCDI		X				450	6.9	X	X			X												2											NEW 450mm OPTION PIPE
12	10+126.0		RT																					2290	2.00	185	I-D			2											NEW 1200 X 1200 RCDI
13	10+126.0	10+120.2	RT		RCDI	CHAN		X				450	9.3	X	X			X												0										X	NEW 450mm OPTION PIPE - OUTLET INTO WHETSTONE BROOK
					SUB-TOTALS							450	56.4	X	X			X							9.82	833	4-D			65	2	40					40	1		3EA	
					ROUNDING								0.6												0.18	7	I-A			5	8	0					0				
					TOTALS								57m												10CM	840KG				70CM	10CM	40CM					40CM				

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228\structures\sJ228dds.I
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
DRAINAGE DETAIL SHEET

PLOT DATE: 29-APR-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 8 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET (1)

VAOT Metric

KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	FLANGED CHANNEL kg/m 3.0	FLANGED CHANNEL kg/m 4.5	SQUARE STEEL (mm) kg/m 44 3.4	SQUARE STEEL (mm) kg/m 50 3.6	SQUARE STEEL (mm) kg/m 63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	TUBULAR ALUMINUM Ø (mm) kg/m 100 2.5	TUBULAR ALUMINUM Ø (mm) kg/m 100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	TUBULAR STEEL Ø (mm) kg/m 75 11.3	TUBULAR STEEL Ø (mm) kg/m 89 13.4	TUBULAR STEEL Ø (mm) kg/m 100 16.1	TUBULAR STEEL Ø (mm) kg/m 125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	W-SHAPE STEEL FTG. SIZE 750 mm	W-SHAPE STEEL WEIGHT	W-SHAPE STEEL POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	SIGN DETAIL STD. SHEET NUMBER
											OPTION ITEMS																									
10+063.2 RT.	STOP	1	750	750	0.56	·	·	·	·	·	1	·	·	·	·	X	·	X	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	R1-1	·	SHS
·	ALL WAY	1	300	150	0.05	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	R1-4	·	SHS
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
10+088.0 LT.	STOP	1	750	750	0.56	·	·	·	·	·	1	·	·	·	·	X	·	X	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	R1-1	·	SHS
·	ALL WAY	1	300	150	0.05	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	R1-4	·	SHS
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
10+155.0 LT.	LEGAL LOAD LIMIT 24,000 POUNDS	1	600	750	0.45	·	·	·	·	·	1	·	·	·	·	X	·	X	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	VR-017	·	E-141
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
20+006 LT	STOP	1	600	600	0.36	·	·	·	·	·	1	·	·	·	·	X	·	X	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	R1-1	·	SHS
·	ALL WAY	1	300	150	0.05	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	R1-4	·	SHS
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	SHS = STANDARD HIGHWAY SIGNS BOOK	·	·
												m ·	m ·	m ·	m ·	m 15.60	m ·		EA ·	kg ·	kg ·	kg ·		kg ·	kg ·	kg ·	kg ·								
	SUB-TOTALS		m² 2.08	m² ·	EA. ·	m² ·						m ·			m 15.60					kg ·			EA. ·	kg ·				EA. ·	EA. ·	kg ·					

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228\Structures\sj228tssl.1
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 26-MAY-2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 9 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET (2)

VAOT Metric

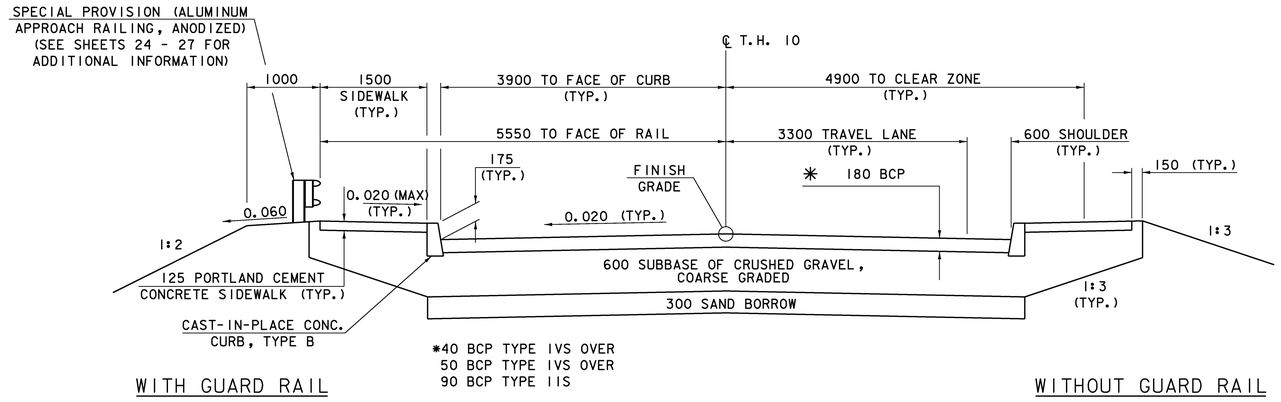
KILOMETER MARKER, STATION, OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS EA	WIDTH (mm)	HEIGHT (mm)	NEW & SALVAGED SIGNS "A"	"B"	SALV SIGN	SALV TIS	EXIST POST RETAIN	EXIST POST SALVAGE	NEW SIGN POSTS NO. OF POSTS	FLANGED CHANNEL kg/m 1.7	3.0	4.5	SQUARE STEEL (mm) kg/m 44 3.4	50 3.6	63 5.0	ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9	100 2.5	100 MOD 2.5	TUBULAR STEEL Ø (mm) FOUNDATION	kg/m 75 11.3	89 13.4	100 16.1	125 21.7	W-SHAPE STEEL FTG. SIZE 600 mm	750 mm	WEIGHT	POST SIZE	SIGN FRAME REQUIRED	REMARKS	SIGN DETAIL DETAIL ON SHEET NUMBER	STD. SHEET NUMBER
												OPTION ITEMS																										
10+160.7 LT.	GUILFORD ST.	1	1050	200	0.21						1					X		X																	D-3		SHS
	WESTERN AVE.	1	1050	200	0.21																													D-3		SHS
10+161.8 RT.	STOP	1	750	750	0.56						1					X		X																	R1-1		SHS
3+064.8 RT.							1				1					X		X																	SALVAGE SIGN FROM 3+046.9 RT.		
							1																											SALVAGE SIGN FROM 3+046.9 RT.		
3+124 RT.	EAST	1	600	300	0.18						1					X		X																	M3-2		E-136BM
	9	1	600	600	0.36																													M1-5		E-136BM
3+066.8 LT.							1				1					X		X																	SALVAGE SIGN FROM 3+041.62 LT.		
							1																											SALVAGE SIGN FROM 3+041.62 LT.		
																																		SHS = STANDARD HIGHWAY SIGNS BOOK		

TOTALS FROM THIS SHEET	1.52		4					m	m	m	m	m 19.46	m		EA	kg	kg	kg		kg	kg	kg	kg											
												19.46																								
TOTALS FROM SHEET 9	2.08											15.60																								
ROUNDING	m^2 0.40	m^2	EA.	m^2		m		m 0.94								kg			EA.	kg				EA.	EA.	kg										
TOTALS	4.00		4					36.00																												

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS.

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228\Structures\sj228tss2.1 PLOT DATE: 26-MAY-2009
PROJECT MANAGER: R. R. WHITCOMB DRAWN BY: D. PETERSON
DESIGNED BY: C. CARLSON CHECKED BY: C. CARLSON
SHEET 10 OF 77

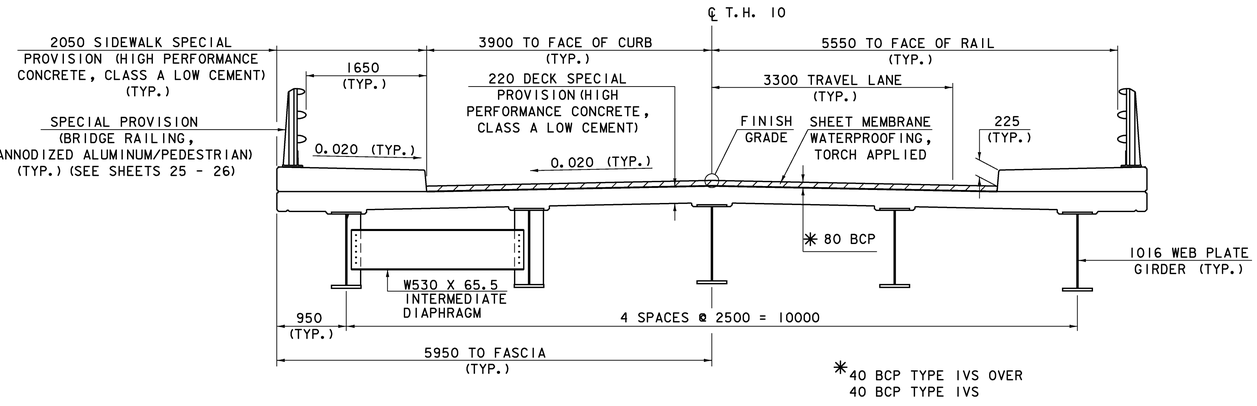


NOTE: UNDERDRAIN NOT SHOWN. SEE MAINLINE CROSS SECTIONS FOR ADDITIONAL INFORMATION

ROADWAY TYPICAL SECTION

0 1 2 3 4

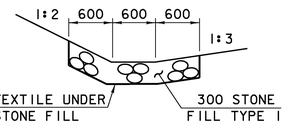
SCALE = 1:40



BRIDGE TYPICAL SECTION

0 1 2 3 4

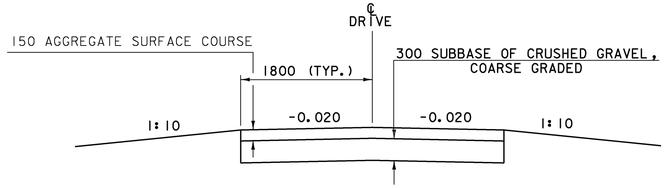
SCALE = 1:40



TYPICAL DITCH SECTION
STA. 10+030 LT - 10+078.9 LT

0 1 2 3 4

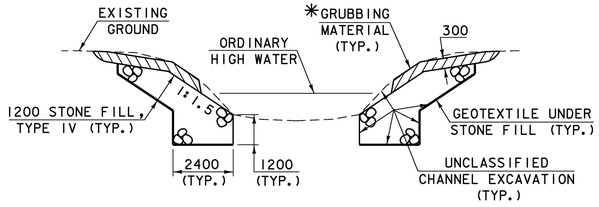
SCALE = 1:40



DRIVE @ STA. 10+145 RT.
TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40



CHANNEL TYPICAL SECTION

(NOT TO SCALE)

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

* BCP SHALL BE READ AS BITUMINOUS CONCRETE PAVEMENT AND SHALL BE PAID FOR UNDER ITEM 900.680, "SPECIAL PROVISION, BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY")

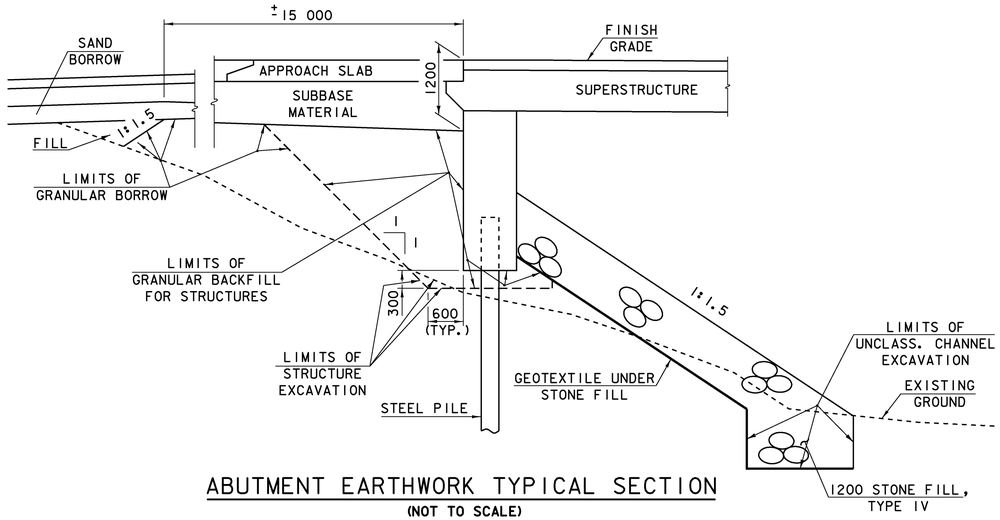
MATERIAL ITEM	TOLERANCE
PAVEMENT	±5 mm TOTAL THICKNESS
AGGREGATE SURFACE COURSE	±10 mm
BASE COURSE	±15 mm
SUBBASE	±30 mm
SAND BORROW	±30 mm
GRANULAR BORROW	±30 mm

PROJECT TYPICAL SECTIONS (1)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228\Str\sJ228typ.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON

PLOT DATE: 26-MAY-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 11 OF 77



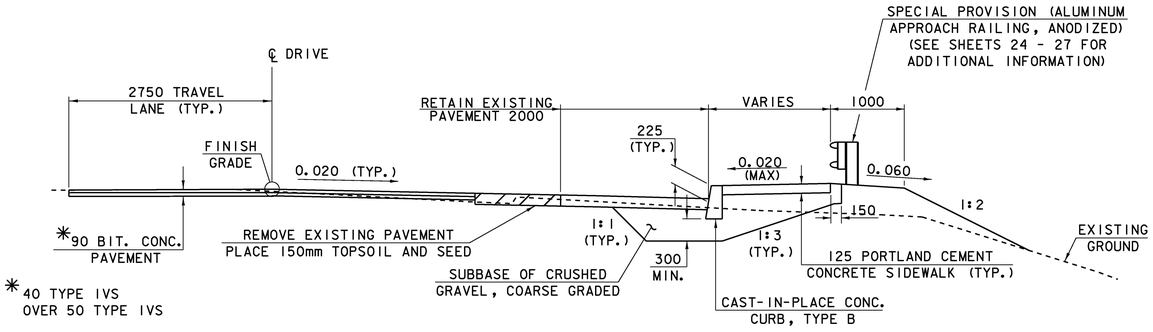
ABUTMENT EARTHWORK TYPICAL SECTION

(NOT TO SCALE)

NOTES

1. FOR THE PURPOSES OF ESTIMATING EARTHWORK QUANTITIES, THE LIMITS OF STRUCTURE EXCAVATION HAVE BEEN ASSUMED TO BE AS SHOWN ABOVE. ONLY THE EXCAVATION INCLUDED IN THESE LIMITS SHALL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION". EXCAVATION OUTSIDE THESE LIMITS WILL NOT BE COMPENSATED AND SHALL BE AT THE CONTRACTOR'S EXPENSE.

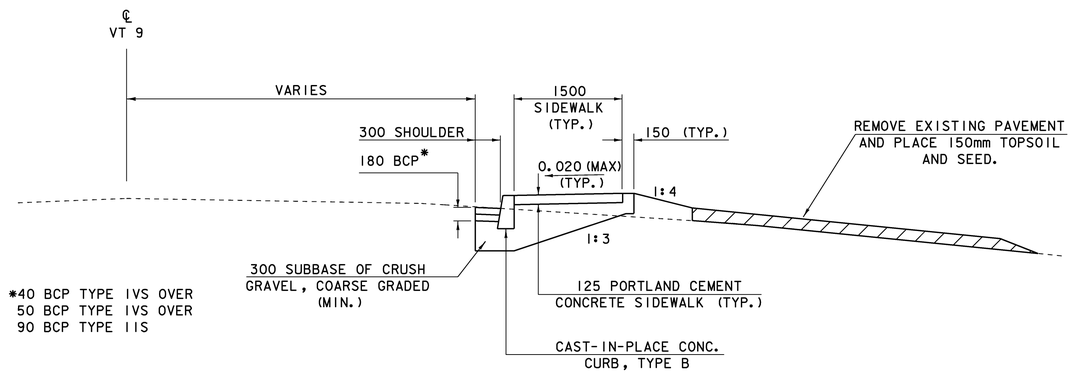
2. 300 UNDERCUT AS DETERMINED NECESSARY BY THE RESIDENT ENGINEER.



DRIVE TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40



VT9 TYPICAL SECTION

0 1 2 3 4

SCALE = 1:40

PROJECT TYPICAL SECTIONS (2)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228\Str\sJ228typ.dgn
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON

PLOT DATE: 26-MAY-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 12 OF 77

GPS CONTROL POINTS

HVCTRL #1

VT SURVEY DISK STAMPED
" B95065 "
N = 38968.9540
E = 493532.1120
ELEV. = 127.638

DESCRIBED BY VERMONT AGENCY OF TRANSPORTATION 1995 (CHR)
GENERAL LOCATION, BRATTLEBORO, VT. AT THE EAST END OF THE VT ROUTE 9 BRIDGE OVER I-91 IN BRATTLEBORO, SET IN THE TOP OF THE ABUTMENT AT THE NORTHEAST CORNER OF THE BRIDGE. THE MARK IS 9.8 M (32.2 FT) NORTH OF AND ABOUT LEVEL WITH THE CENTERLINE OF THE MEDIAN STRIP ON VT ROUTE 9, 0.4 M (1.3 FT) WEST OF THE EAST END OF THE BRIDGE DECK, 0.6 M (2.0 FT) NORTH OF THE FACE OF THE BRIDGE CURB, AND 3.1 M (10.2 FT) SOUTHWEST OF A FIBERGLASS WITNESS POST.

HVCTRL #2

VT SURVEY DISK STAMPED
" A 14 "
N = 38885.1910
E = 493003.3870
ELEV. = 127.763

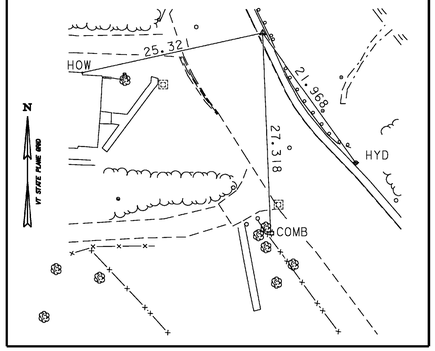
RECOVERY NOTE BY VERMONT AGENCY OF TRANSPORTATION 1995 (CHR)
GENERAL LOCATION, BRATTLEBORO, VT., ABOUT 1.5 MI (2.4 KM) WEST OF BRATTLEBORO, ABOUT 14.5 MI (23.3 KM) EAST OF WILMINGTON, AND ABOUT 8.5 MI (13.7 KM) NORTH OF THE MASSACHUSETTS/VERMONT STATE LINE. TO REACH FROM THE EAST END OF THE VT ROUTE 9 BRIDGE OVER I-91 IN BRATTLEBORO GO WEST ALONG VT ROUTE 9 FOR 0.3 MI (0.5 KM) THE INTERSECTION OF GUILFORD STREET LEFT AT THE CREAMERY COVERED BRIDGE, AND THE MARK ON THE LEFT IN THE EAST POINT OF THE MOWED TRIANGLE FORMED BY THE INTERSECTION. THE MARK IS SET IN THE TOP OF A 15 CM SQUARE CONCRETE MONUMENT 2 CM BELOW GROUND SURFACE. IT IS 7.0 M (23.0 FT) SOUTH OF AND ABOUT LEVEL WITH THE CENTERLINE OF VT ROUTE 9, 10.0 M (32.8 FT) WEST OF THE CENTERLINE OF THE EAST LEG OF GUILFORD STREET, 19.5 M (64.0 FT) EAST OF CENTERLINE OF THE WEST LEG OF GUILFORD STREET, 23.2 M (76.1 FT) NORTH OF THE NORTHWEST CORNER OF THE COVERED BRIDGE, 14.2 M (46.6 FT) NORTH OF A FIRE HYDRANT, 9.5 M (31.2 FT) EAST OF A SEWER MANHOLE, AND 0.4 M (1.3 FT) EAST OF A FIBERGLASS WITNESS POST AND ROAD SIGN.

* DESCRIPTION PROVIDED BY VERMONT AGENCY OF TRANSPORTATION GEODETIC SURVEY UNIT.

TRAVERSE TIES

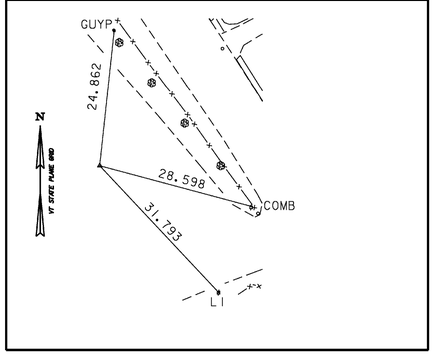
HVCTRL #3

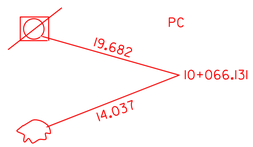
N = 38831.7501
E = 492988.4722
ELEV. = 125.763



HVCTRL #4

N = 38742.4297
E = 493011.8624
ELEV. = 128.675





* MAIN TRAVERSE COMPLETED SEP. 17 1997. SURVEYED BY R.GILMAN, P.C. & T.COMPANION

ALIGNMENT

Alignments Current as of 4/27/09

Existing VT 9

STATION	NORTHING	EASTING
POB 3+000.000	38901.9370	492963.6000
PC 3+024.473	38895.7303	492987.2731
PT 3+091.511	38889.8117	493053.7342

Radius: 200.000
Delta: 19°12'17.42" Left
Degree of Curvature(Arc): 8°43'54.82"
Length: 67.038
Tangent: 33.836
Chord: 66.724
Middle Ordinate: 2.802
External: 2.842

POE 3+142.701	38893.8400	493104.7660

Market Drive

STATION	NORTHING	EASTING
POB 20+000.000	38807.3311	493000.0152
PC 20+011.452	38814.6708	492991.2247
PT 20+021.099	38818.1360	492982.3988

Radius: 15.000
Delta: 36°50'58.32" Left
Degree of Curvature(Arc): 116°25'30.93"
Length: 9.647
Tangent: 4.997
Chord: 9.482
Middle Ordinate: 0.769
External: 0.810

POE (13) 20+031.111	38818.6619	492972.4010

Guilford St

STATION	NORTHING	EASTING
POB 10+000.000	38741.0840	493043.7950
PC 10+066.131	38796.5965	493007.8557
PT 10+089.376	38818.2707	493009.1702

Radius: 18.300
Delta: 72°46'49.32" Right
Degree of Curvature(Arc): 95°25'49.94"
Length: 23.246
Tangent: 13.487
Chord: 21.714
Middle Ordinate: 3.569
External: 4.433

PC 10+132.272	38851.1974	493036.6631
PT 10+153.917	38871.1991	493043.6250

Radius: 30.000
Delta: 41°20'21.08" Left
Degree of Curvature(Arc): 58°12'45.46"
Length: 21.645
Tangent: 11.318
Chord: 21.179
Middle Ordinate: 1.931
External: 2.064

POE 10+171.982	38889.2580	493043.1590

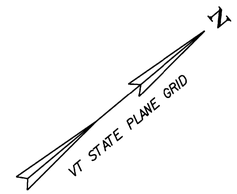
DATUM

VERTICAL	NAVD 88
HORIZONTAL	NAD-83 (92)
ADJUSTED	NO
TYPE	N/A

PROJECT NAME: Brattleboro
PROJECT NUMBER: BRF 2000 (21) S

FILE NAME: 96J228\survey\xJ228t1.dgn
PROJECT LEADER: Roger Whitcomb
DESIGNED BY: C. Carlson
PLOT DATE: 29-APR-2009
DRAWN BY: R. Bullock
CHECKED BY: C. Carlson
SHEET 13 OF 77

VAOT Metric



POB VT 9
STA. 3+000.000

3+000

S75°18'31"E

3+020

PC NO. 4
STA. 3+024.473

3+040

CURVE NO. 4 DATA
R = 200.00 m
T = 33.836 m
L = 67.038 m
E = 2.842 m
2T-L = 0.634 m

PI NO. 4
STA. 3+058.309 BK=
STA. 3+057.675 AH
Δ = 19°12'17" LT

3+060

POE MAINLINE
STA. 10+171.982

3+080

PT NO. 4
STA. 3+091.511

3+100

N85°29'12"E

3+120

3+140

POE VT 9
STA. 3+142.701

N1°28'42"W

10+160

PT NO. 2
STA. 10+153.917

10+140

PI NO. 2
STA. 10+143.590 BK=
STA. 10+142.599 AH
Δ = 41°20'21" LT

PC NO. 2
STA. 10+132.272

50+100

POE CHANNEL LINE
STA. 50+100.000

50+080

N60°28'21"W

50+060

50+040

50+020

50+000

POB CHANNEL LINE
STA. 50+000.000

30 — 030

29 — 970

MAINLINE STA. 10+125.000=
CHANNEL STA. 50+040.000
Δ = 100° LT

MAINLINE 10+107=
REV. CHANNEL 30+000 @ 90°
@ 90°

NEW T.H. 10
N39°51'39"E

10+120

10+100

PT NO. 1
STA. 10+089.376

10+080

PC NO. 1
STA. 10+066.131

10+060

CURVE NO. 1 DATA
R = 18.300 m
T = 13.487 m
L = 23.246 m
E = 4.433 m
2T-L = 3.729 m
BANKING = NORMAL

CURVE NO. 2 DATA
R = 30.000 m
T = 11.318 m
L = 21.645 m
E = 2.064 m
2T-L = 0.991 m
BANKING = NORMAL

STA. 30+000.780 =
DRIVE STA. 20+000.000
Δ = 90° RT

PI NO. 5
STA. 30+010.00

20+000

30+000

S39°51'38"W

PT NO. 3
STA. 20+021.099

20+020

PC NO. 3
STA. 20+011.452

PI NO. 3
STA. 20+016.449 BK=
STA. 20+016.102 AH
Δ = 36°50'58" LT

CURVE NO. 3 DATA
R = 15.00 m
T = 4.997 m
L = 9.647 m
E = 0.81 m
2T-L = 0.347
BANKING = NORMAL

STA. 30+000.000 = PI NO. 1=
STA. 10+079.618 BK=
STA. 10+075.889 AH
Δ = 72°46'49" RT

20+031

N3°00'40"E

POE DRIVE
STA. 20+031.111

N32°55'10"W

10+040

10+000

POB MAINLINE
STA. 10+000.000

0 10 20 30
SCALE = 1:250

ALIGNMENT PLAN

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: 96J228\Structures\sj228all.i	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 14 OF 77

Metric

CONSTRUCT PAVED APRON
10+025 RT.

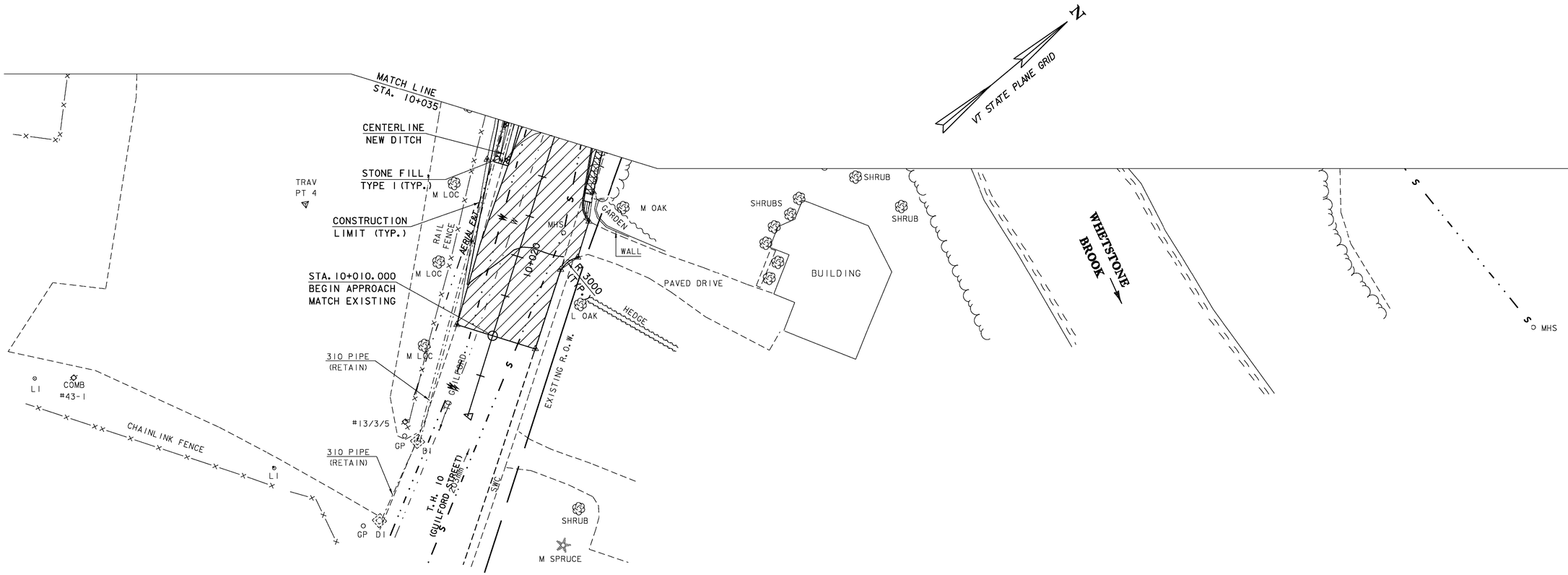
COLD PLANING, BITUMINOUS PAVEMENT
STA 10+010.0 - ~~10+035.0~~ 10+035

CAST-IN-PLACE CONCRETE CURB, TYPE B
MAINLINE 10+026.7 RT. - 10+035.0 RT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125mm
MAINLINE 10+026.7 RT. - 10+035.0 RT.

LEGEND

COLD PLANING AREA



0 10 20 30
SCALE = 1:250

LAYOUT SHEET 1

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME:96J228\Str\sJ228bdr.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON

PLOT DATE: 29-APR-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 15 OF 77

CONSTRUCT TELEPHONE BUILDING DRIVE
MAINLINE 10+145.0 RT.

CONSTRUCT PAVED APRON
DRIVE 20+011.25 LT. (2 m)

SPECIAL PROVISION (REMOVE AND SALVAGE EXISTING BUS SHELTER)
MAINLINE 10+161.2 RT. (BUS SHELTER)

REMOVE EXISTING PAVEMENT
SEE PROJECT NOTE 4 ON SHEET 3

SIDEWALK RAMP, TYPE 6
MAINLINE 10+074.9 RT. - 10+084.7 RT.
MAINLINE 10+082.3 LT. - 10+087.0 LT.
MAINLINE 10+163.6 RT. - 10+168.2 RT.
MAINLINE 10+164.5 LT. - 10+167.5 LT.
MAINLINE 10+164.3 LT. - 10+168.2 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
MAINLINE 10+091.13 LT. - 10+119.370 LT
MAINLINE 10+091.13 RT. - 10+119.370 RT.

CAST-IN-PLACE CONCRETE CURB, TYPE B
MAINLINE 10+035.0 RT. - 10+078.7 RT.
MAINLINE 10+080.9 RT. - 10+091.05 RT.
MAINLINE 10+119.45 RT. - 10+143.2 RT.
MAINLINE 10+146.6 RT. - 10+166.6 RT.
MAINLINE 10+167.4 RT. - 10+168.3 RT.
MAINLINE 10+084.5 LT. - 10+091.05 LT.
MAINLINE 10+119.45 LT. - 10+166.7 LT.
MAINLINE 10+167.5 LT. - 10+163.6 LT.
DRIVE 20+004.50 RT. - 20+014.60 RT.
VT 9 3+019.2 RT. - 3+055.8 RT.
~~VT 9 3+041.5 LT. - 3+047.5 LT.~~
~~VT 9 3+062.5 LT. - 3+068.4 LT.~~

DETECTABLE WARNING SURFACE (YELLOW)
MAINLINE 10+079.80 RT
MAINLINE 10+083.82 LT
MAINLINE 10+166.78 RT
MAINLINE 10+166.83 LT
VT 9 ~~3+065.4 LT.~~
3+045 RT

PORTLAND CEMENT CONCRETE SIDEWALK, 125mm
MAINLINE 10+035.0 RT. - 10+091.05 RT.
MAINLINE 10+119.450 RT. - 10+168.3 RT.
DRIVE 20+003.88 RT. - DRIVE 20+014.60 RT.
MAINLINE 10+119.450 LT. - 10+163.6 LT.
VT 9 3+019.2 RT. - 3+065.0 RT.
VT 9 3+041.5 LT. - 3+047.5 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

PLANK RAIL
MAINLINE 10+145.4 RT. - 10+152.9 RT.

SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)
MAINLINE 10+075.70 RT. - 10+091.13 RT.
DRIVE 20+013.53 RT. - MAINLINE 10+091.13 LT.
MAINLINE 10+119.37 LT. - 10+134.73 LT.
MAINLINE 10+119.37 RT. - 10+139.83 RT.

REMOVAL AND DISPOSAL OF GUARDRAIL
DRIVE 20+005.06 RT. - 20+014.24 RT.

NOTE:

SEE SHEETS 22-23 FOR TRAFFIC SIGNS AND PAVEMENT MARKINGS DETAILS. SEE SHEETS 20-21 FOR DRAINAGE AND UTILITIES DETAILS.

VT STATE PLANE GRID

EXISTING BRIDGE DATA

CREAMERY COVERED BRIDGE
24.4 m OVERALL LENGTH
19.2 m CLEAR SPAN
4.94 m ROADWAY WIDTH
2.90 m VERTICAL CLEAR
WOODEN DECK
CONCRETE CAPPED AND FACED STONE ABUTMENTS
CONSTRUCTED IN 1879

LEFT IN PLACE IN LINE WITH NEW RAMP, ACROSS THE ROAD.

LEFT AS IS
EXISTING SIDEWALK RAMP SHALL ~~BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW CONCRETE SIDEWALK~~

NEW CAST-IN-PLACE CONCRETE CURB, TYPE B

NEW SIDEWALK RAMP TYPE G

LEFT AS IS
EXISTING SIDEWALK SHALL ~~BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW SIDEWALK RAMP, TYPE 6~~

STA. 20+022.00
MATCH EXISTING
END NEW PAVEMENT

STA. 10+168.024
END APPROACH
MATCH EXISTING

STA. 10+119.000
℄ BRG. ABUT. 2
F.G. = 127.252

STA. 10+119.250
END BRIDGE
F.G. = 127.257

STA. 10+091.500
℄ BRG. ABUT. 1
F.G. = 126.729

STA. 10+091.250
BEGIN BRIDGE
F.G. = 126.724

STA. 10+040.000
END APPROACH
BEGIN PROJECT

STA. 10+150.000
END PROJECT
BEGIN APPROACH

SEE SHEET 14 FOR REV. CHANNEL LINE

ALL PLACED AT FULL WIDTH TO MATCH NEW SIDEWALK. TOWN HAD DONE LEADING TO OURS NEW SIDEWALK

BM NO. 1
RRSIP IN
GUY BRACE POLE
EL. 128.656

STONE FILL, TYPE I (TYP.) CENTERLINE NEW DITCH

1200 STONE FILL, TYPE IV (TYP.)

CONSTRUCTION LIMIT (TYP.)

NEW PLANK RAIL

TOPSOIL & SEED EXISTING GRAVEL PARKING AREA THIS SIDE

MAINLINE 10+107= CHANNEL 30+000 @ 90°

MATCH LINE STA. 10+035

T.H. 10 (GUILFORD STREET)

TO WEST BRATTLEBORO

TO BRATTLEBORO

VT RTE 9

WHETSTONE BROOK

EXISTING COVERED BRIDGE

RETAIN EXISTING PAVEMENT

RETAIN EXISTING SIDEWALK

REMOVE EXISTING PAVEMENT

REMOVE EXISTING PAVEMENT 2000

EXISTING RIGHT-OF-WAY

EXISTING WALKWAY

RIPRAP

STONE WALL

DITCH

BOUNDARY MARKER

TELEPHONE BUILDING

BUS SHELTER (REMOVE)

SHRUB (REMOVE)

310 PIPE (RETAIN)

200 PIPE

1200 PIPE

JCT BOX

PARK BENCH

RAIL FENCE

CHAINLINK FENCE

GRAVEL DR.

HOUSE

GARDEN

SIGN/ ELECTRIC METER

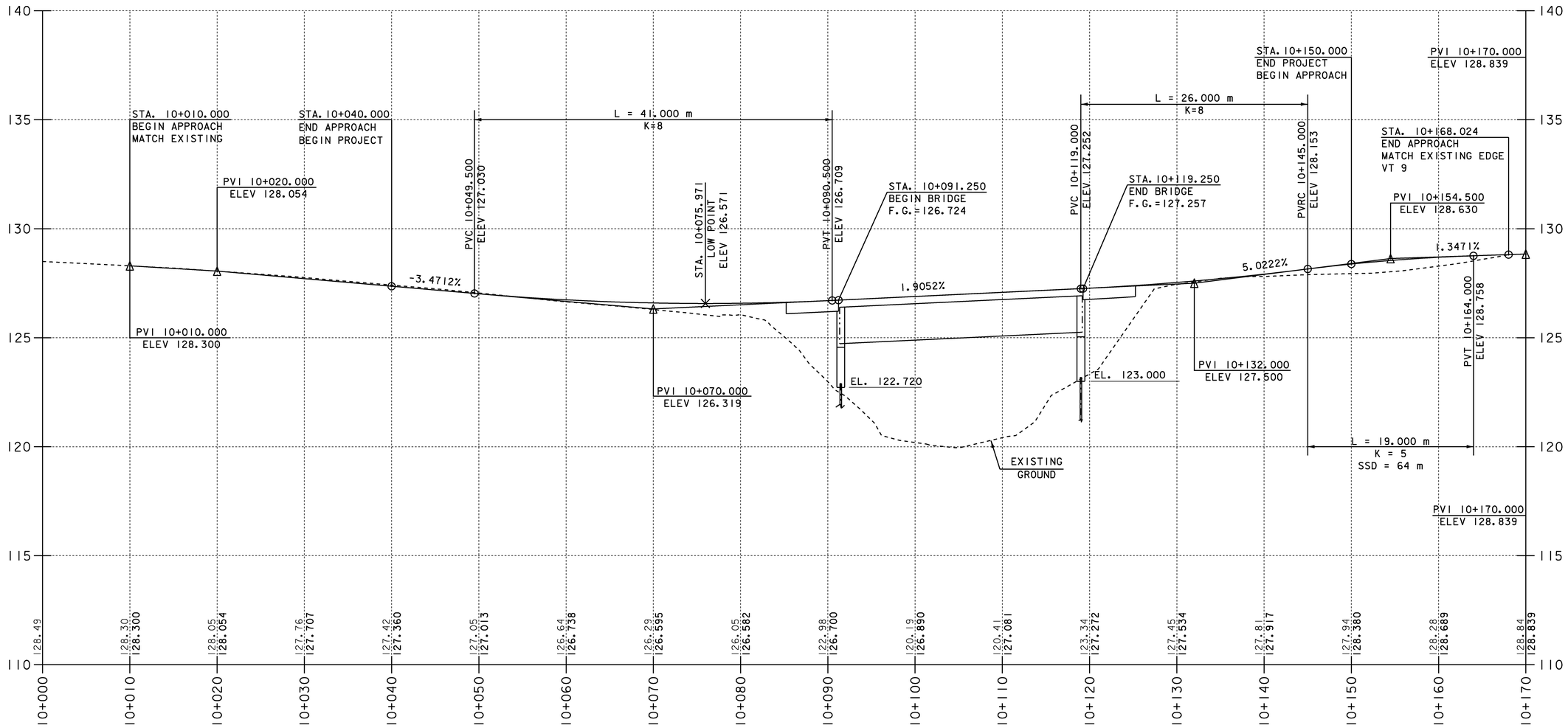
SCALE = 1:250

LAYOUT SHEET 2

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: 96J228\Str\sJ228bdr.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 16 OF 77

VAOT Metric

Profile Along New Centerline T.H. 10 (Guilford Street)



NOTE:
ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE EXISTING GROUND.
ELEVATIONS SHOWN TO THE NEAREST THOUSANDTH ARE FINISHED GRADE.

0 10 20
HORIZONTAL SCALE = 1:250
0 1 2 3 4 5
VERTICAL SCALE = 1:100

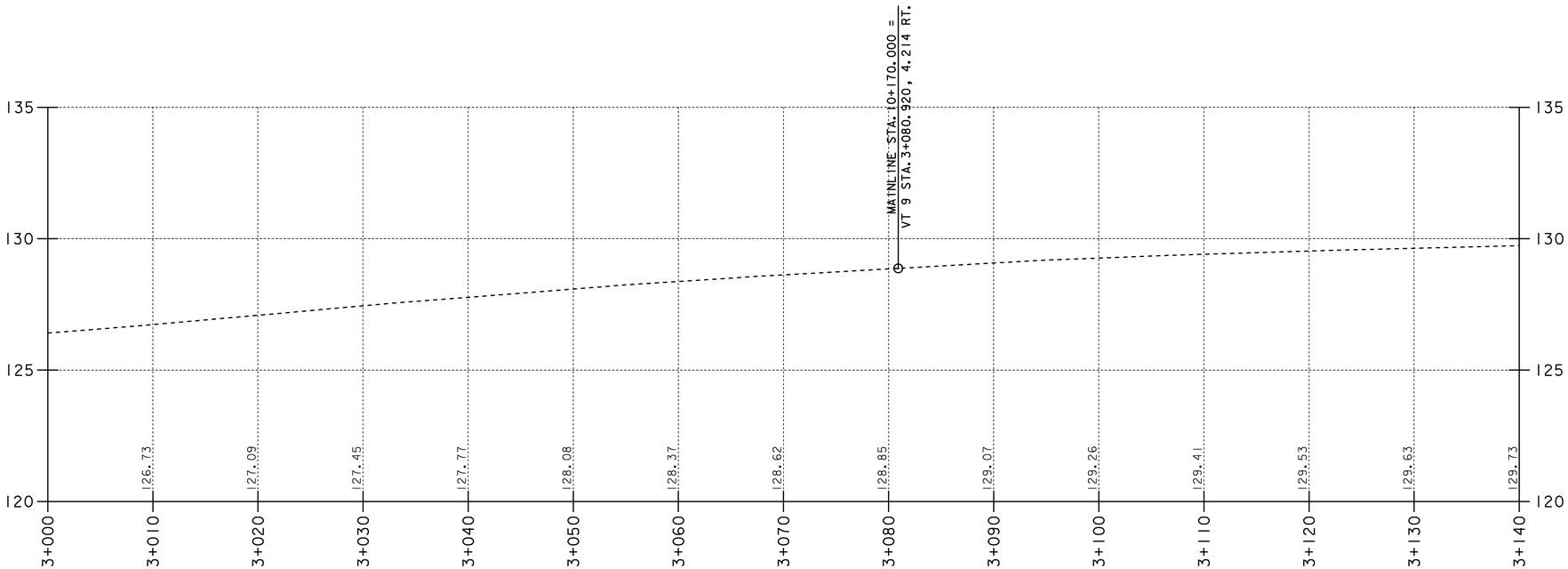
PROFILE SHEET 1

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

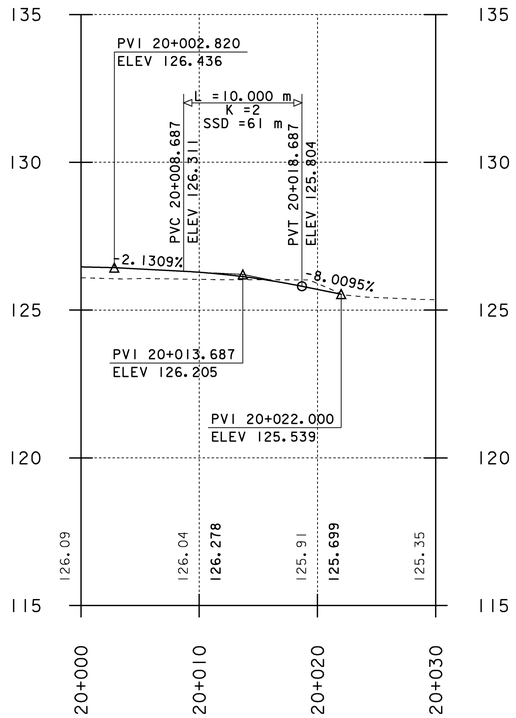
FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sj228pr1.i

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 17 OF 77

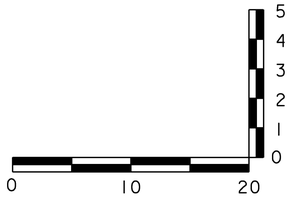
Profile Along Existing Centerline VT 9 (Western Ave.)



House Drive Profile



NOTE:
ELEVATIONS SHOWN TO THE NEAREST HUNDREDTH ARE EXISTING GROUND.
ELEVATIONS SHOWN TO THE NEAREST THOUSANDTH ARE FINISHED GRADE.



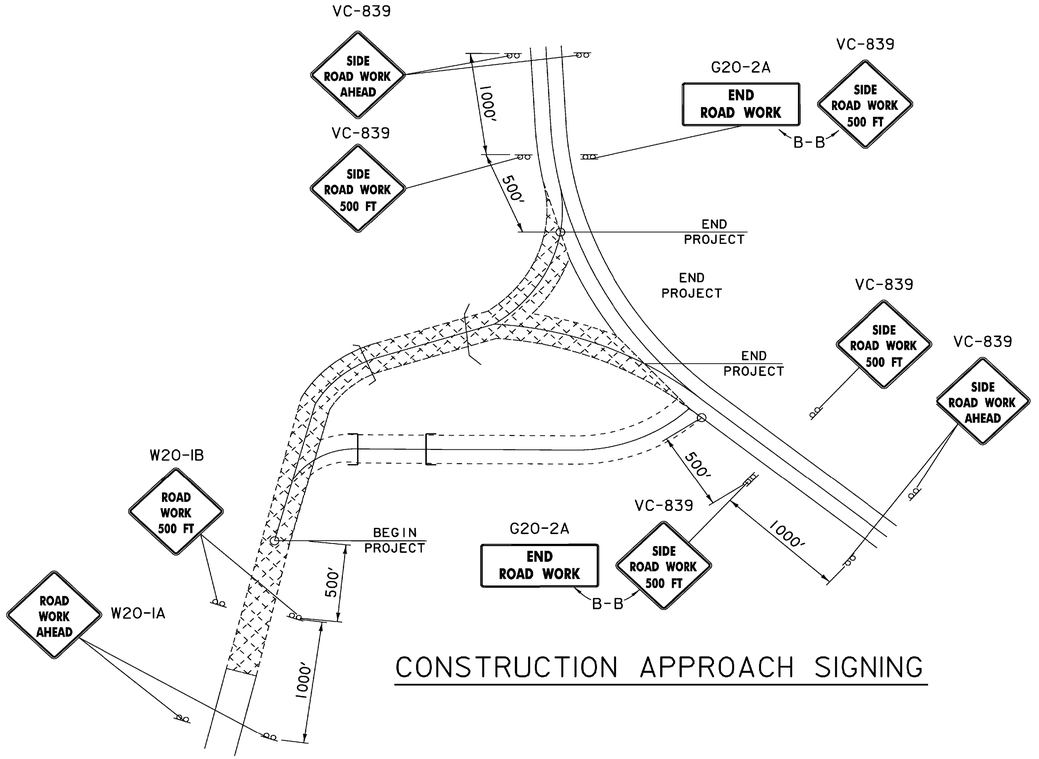
HORIZONTAL SCALE = 1:250
VERTICAL SCALE = 1:100

PROFILE SHEET 2

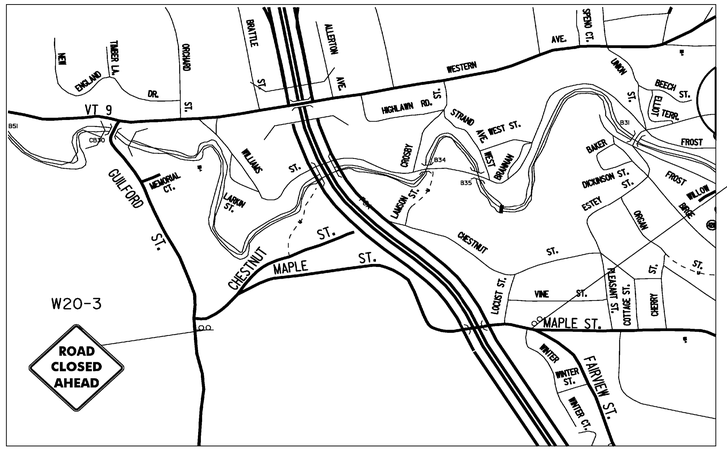
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228pr2.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 18 OF 77



CONSTRUCTION APPROACH SIGNING



TRAFFIC CONTROL SIGNING

ROAD CLOSED
R11-2

NOTE: TEMPORARY TRAFFIC BARRIER AND TEMPORARY PAVEMENT MARKINGS SHALL BE FURNISHED IN ACCORDANCE WITH SECTIONS 621 AND 646, RESPECTIVELY

Metric

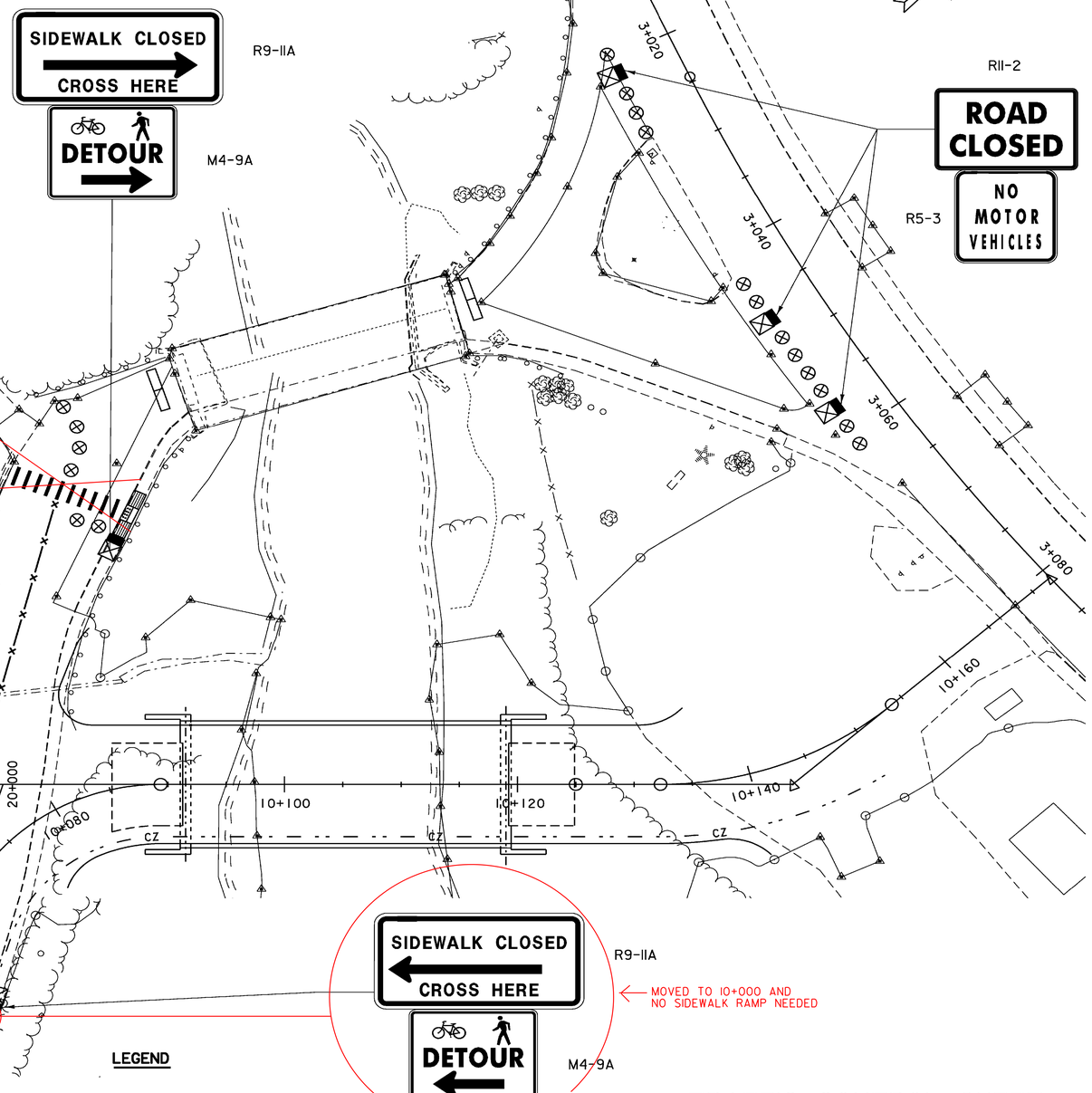
TEMPORARY CROSSWALK
ML. STA. 10+057.00
ML. STA. 10+085.00 LT.

TEMPORARY TRAFFIC BARRIER
ML. STA. 10+089.00 LT
ML. STA. 10+115.00 LT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125 mm
~~ML STA. 10+054.56 RT - 10+061.33 RT~~
~~DRIVE STA. 20+017.95 RT - 20+019.32 RT~~

SIDEWALK RAMP, TYPE 6
~~ML STA. 10+054.56 RT - 10+061.33 RT~~
~~DRIVE STA. 20+017.95 RT - 20+019.32 RT~~

N
VT STATE PLANE GRID



CONSTRUCTION APPROACH SIGNING

0 10 20 30
SCALE = 1:250

LEGEND

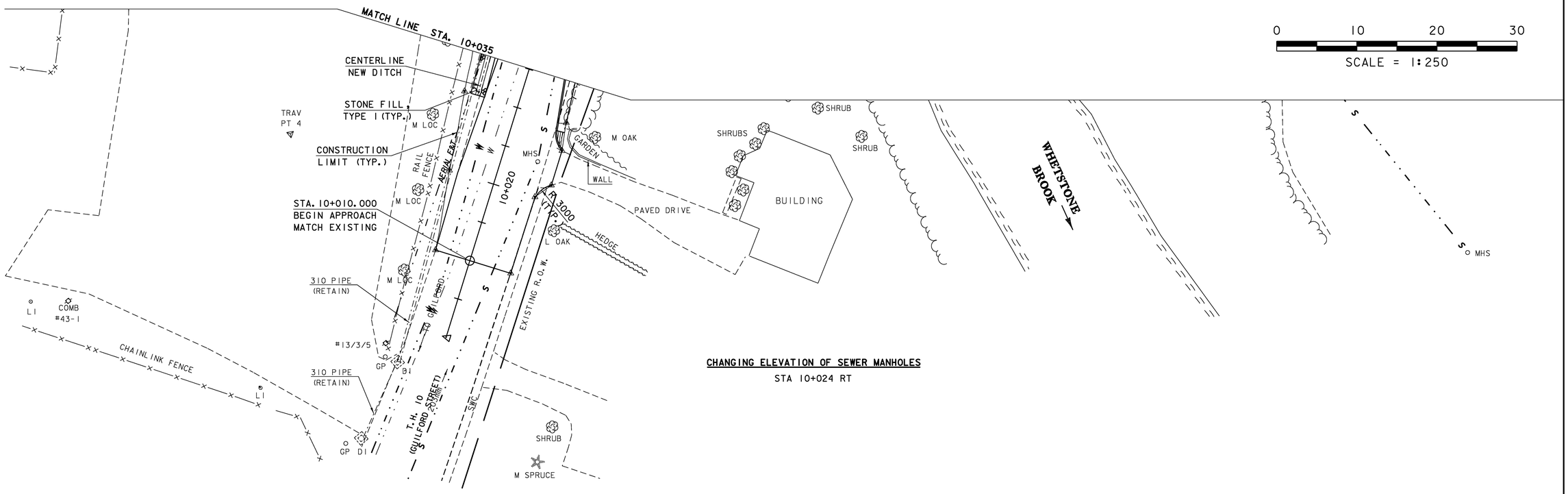
- TYPE III BARRICADE
- TYPE III BARRICADE MODIFIED
- REFLECTORIZED BARRELS
- TRAFFIC CONTROL BARRIER FENCE
- TEMPORARY TRAFFIC BARRIER
- TEMPORARY CROSSWALK

TRAFFIC CONTROL SHEET

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228\str\s96J228tc.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 29-APR-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 19 OF 77

VAOT Metric



0 10 20 30

SCALE = 1:250

CHANGING ELEVATION OF SEWER MANHOLES

STA 10+024 RT

DRAINAGE AND UTILITIES LAYOUT SHEET (1)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228\Str\s96J228drn.1	PLOT DATE: 26-MAY-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 20 OF 77

CHANGING ELEVATION OF SEWER MANHOLES
MAINLINE 10+118.70 LT.
DRIVE 20+011.50 RT.
~~DRIVE 20+024.90 RT.~~

CAST IRON GRATE WITH FRAME, TYPE D
MAINLINE 10+076.0 RT.
MAINLINE 10+126.0 LT/RT.
DRIVE 20+007.8 RT.

CAST IRON GRATE WITH FRAME, TYPE ~~A~~ D
DRIVE 20+007.8 LT.

~~150mm UNDERDRAIN~~
~~MAINLINE 10+040.0 RT. - 10+075.6 RT.~~

~~150mm UNDERDRAIN CARRIER PIPE~~
~~600 VERTICAL AT MAINLINE 10+040.0 RT.~~

~~UNDERDRAIN FLUSHING BASIN (FB)~~
~~MAINLINE 10+040.0 RT.~~

UNDERDRAIN WAS ELIMINATED

ADJUST ELEVATION OF VALVE BOX
MAINLINE ~~10+082.6 LT.~~ (WSO) 10+043.5 LT
MAINLINE 10+083.3 LT. (WSO)
RTE 9 3+048 RT

RELOCATE HYDRANT
FROM MAINLINE 10+082.6 LT. TO
~~10+060.00 LT.~~ 10+043.5 LT

YIELDING MARKER POSTS
~~10+040.00 RT~~
10+092.28 LT
10+095.30 RT
10+120.24 RT

TAPPING SLEEVE & VALVE WITH VALVE BOX (VB) (400 mm X 150 mm)
~~10+061.43 LT.~~
10+043.5 LT

LEGEND
- W — EXISTING ABANDONED WATER LINE
- W — EXISTING ACTIVE WATER LINE
- S — EXISTING ACTIVE SEWER LINE
- AERIAL E&T — EXISTING AERIAL ELECTRIC AND TELEPHONE LINES
- UT — EXISTING UNDERGROUND TELEPHONE

SEE DRAINAGE DETAIL SHEET 8
FOR DRAINAGE PIPE INFORMATION

VT STATE PLANE GRID

EXISTING BRIDGE DATA
CREAMERY COVERED BRIDGE
24.4 m OVERALL LENGTH
19.2 m CLEAR SPAN
4.94 m ROADWAY WIDTH
2.90 m VERTICAL CLEAR
WOODEN DECK
CONCRETE CAPPED AND
FACED STONE ABUTMENTS
CONSTRUCTED IN 1879

EXISTING SIDEWALK RAMP SHALL BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW CONCRETE SIDEWALK

NEW CAST-IN-PLACE CONCRETE CURB, TYPE B

EXISTING TELEPHONE 12-CONDUIT STRUCTURE (APPROX. 600mm COVER)

EXISTING SIDEWALK SHALL BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW SIDEWALK RAMP, TYPE 6

STA. 20+022.00
MATCH EXISTING
END NEW PAVEMENT

STA. 10+119.000
℄ BRG. ABUT. 2
F.G. = 127.252

STA. 10+119.250
END BRIDGE
F.G. = 127.257

STA. 10+168.024
END APPROACH
MATCH EXISTING

STA. 10+091.500
℄ BRG. ABUT. 1
F.G. = 126.729

STA. 10+091.250
BEGIN BRIDGE
F.G. = 126.724

STA. 10+150.000
END PROJECT
BEGIN APPROACH

STA. 10+040.000
END APPROACH
BEGIN PROJECT

NEW T.H. 10
℄ 10+100

BM NO. 1
RRSIP IN
GUY BRACE POLE
EL. 128.656

STONE FILL, TYPE I (TYP.) CENTERLINE NEW DITCH

NEW 150mm UNDERDRAIN

TOPSOIL & SEED EXISTING GRAVEL PARKING AREA THIS SIDE

CONSTRUCTION LIMIT (TYP.)

ELIMINATED
~~NEW PLANK RAIL~~

MATCH LINE STA. 10+035

0 10 20 30
SCALE = 1:250

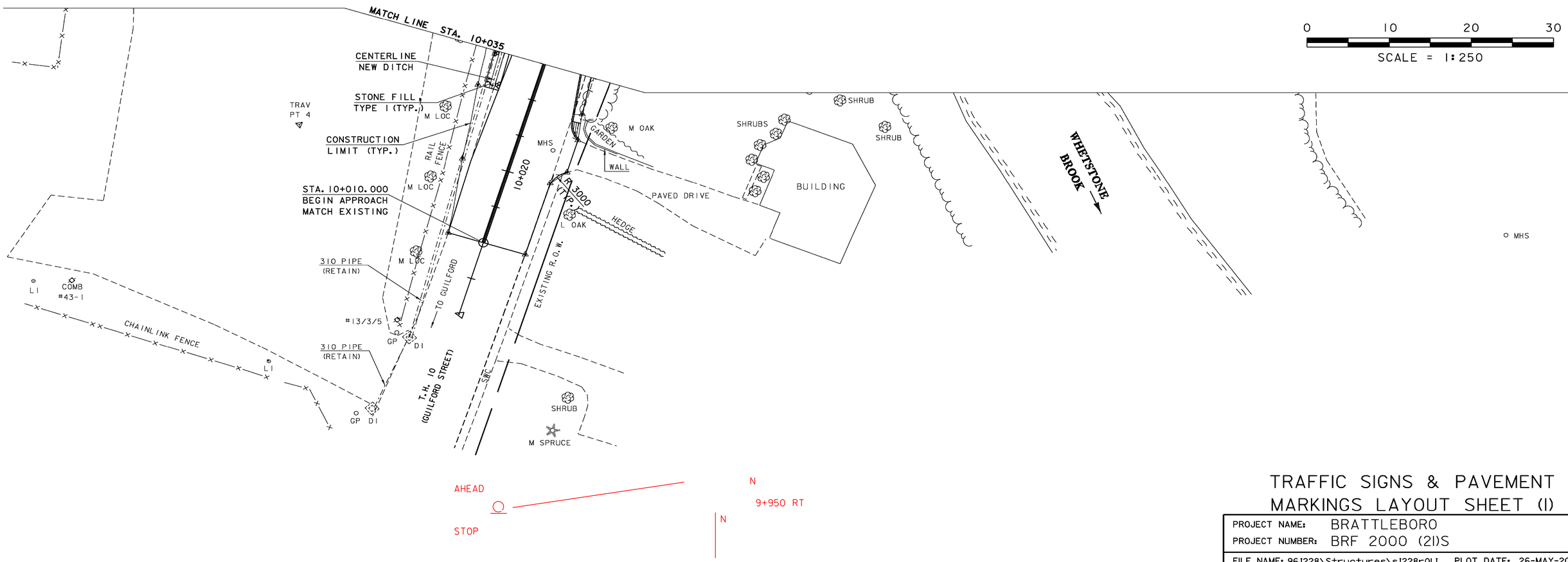
DRAINAGE AND UTILITIES LAYOUT SHEET (2)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: 96J228\Structures\sJ228drn.dgn	PLOT DATE: 26-MAY-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 21 OF 77

VAOT Metric

100mm YELLOW LINE

MAINLINE 10+010.0 CL. - 10+035.0 CL. (DOUBLE)



TRAFFIC SIGNS & PAVEMENT MARKINGS LAYOUT SHEET (1)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228\Structures\sJ228r01.1	PLOT DATE: 26-MAY-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 22 OF 77

100mm WHITE LINE
MAINLINE 10+081.8 RT. - 10+165.9 RT.
MAINLINE 10+084.4 LT. - 10+165.9 LT.
MAINLINE 10+168.2 RT. - 10+169.4 RT.
MAINLINE 10+168.8 LT. - 10+169.5 LT.
VT 9 3+000.0 RT. - 3+064.5 RT.

100mm YELLOW LINE
MAINLINE 10+035.0 CL. - 10+066.1 CL. (DOUBLE)
MAINLINE 10+084.5 CL. - 10+164.1 CL. (DOUBLE)

600mm STOP BAR
MAINLINE 10+065.8 CL. - 10+065.8 RT.
MAINLINE 10+084.8 CL. - 10+085.6 LT.
MAINLINE 10+164.1 CL. - 10+164.1 RT.
DRIVE STA 20+005.2 LT

LETTER OR SYMBOL
MAINLINE 10+063.2 RT. (4 EA.)
MAINLINE 10+087.7 LT. (4 EA.)
MAINLINE 10+161.7 RT. (4 EA.)
DRIVE STA 20+008 LT (4 EA.)

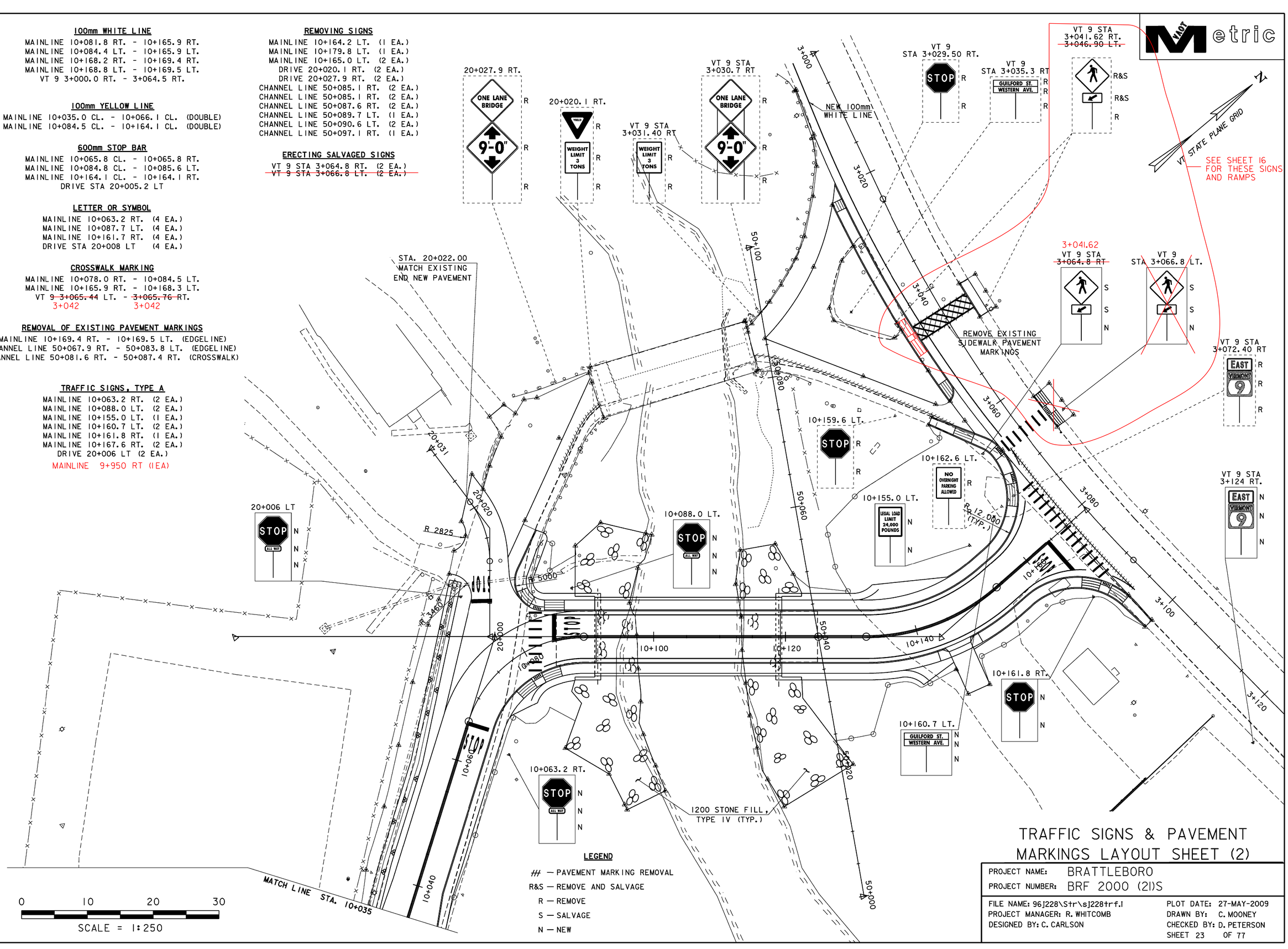
CROSSWALK MARKING
MAINLINE 10+078.0 RT. - 10+084.5 LT.
MAINLINE 10+165.9 RT. - 10+168.3 LT.
VT ~~9 3+065.44~~ LT. - ~~3+065.76~~ RT.
3+042 3+042

REMOVAL OF EXISTING PAVEMENT MARKINGS
MAINLINE 10+169.4 RT. - 10+169.5 LT. (EDGELINE)
CHANNEL LINE 50+067.9 RT. - 50+083.8 LT. (EDGELINE)
CHANNEL LINE 50+081.6 RT. - 50+087.4 RT. (CROSSWALK)

TRAFFIC SIGNS, TYPE A
MAINLINE 10+063.2 RT. (2 EA.)
MAINLINE 10+088.0 LT. (2 EA.)
MAINLINE 10+155.0 LT. (1 EA.)
MAINLINE 10+160.7 LT. (2 EA.)
MAINLINE 10+161.8 RT. (1 EA.)
MAINLINE 10+167.6 RT. (2 EA.)
DRIVE 20+006 LT (2 EA.)
MAINLINE 9+950 RT (1EA)

REMOVING SIGNS
MAINLINE 10+164.2 LT. (1 EA.)
MAINLINE 10+179.8 LT. (1 EA.)
MAINLINE 10+165.0 LT. (2 EA.)
DRIVE 20+020.1 RT. (2 EA.)
DRIVE 20+027.9 RT. (2 EA.)
CHANNEL LINE 50+085.1 RT. (2 EA.)
CHANNEL LINE 50+085.1 RT. (2 EA.)
CHANNEL LINE 50+087.6 RT. (2 EA.)
CHANNEL LINE 50+089.7 LT. (1 EA.)
CHANNEL LINE 50+090.6 LT. (2 EA.)
CHANNEL LINE 50+097.1 RT. (1 EA.)

ERECTING SALVAGED SIGNS
VT 9 STA 3+064.8 RT. (2 EA.)
~~VT 9 STA 3+066.8 LT. (2 EA.)~~

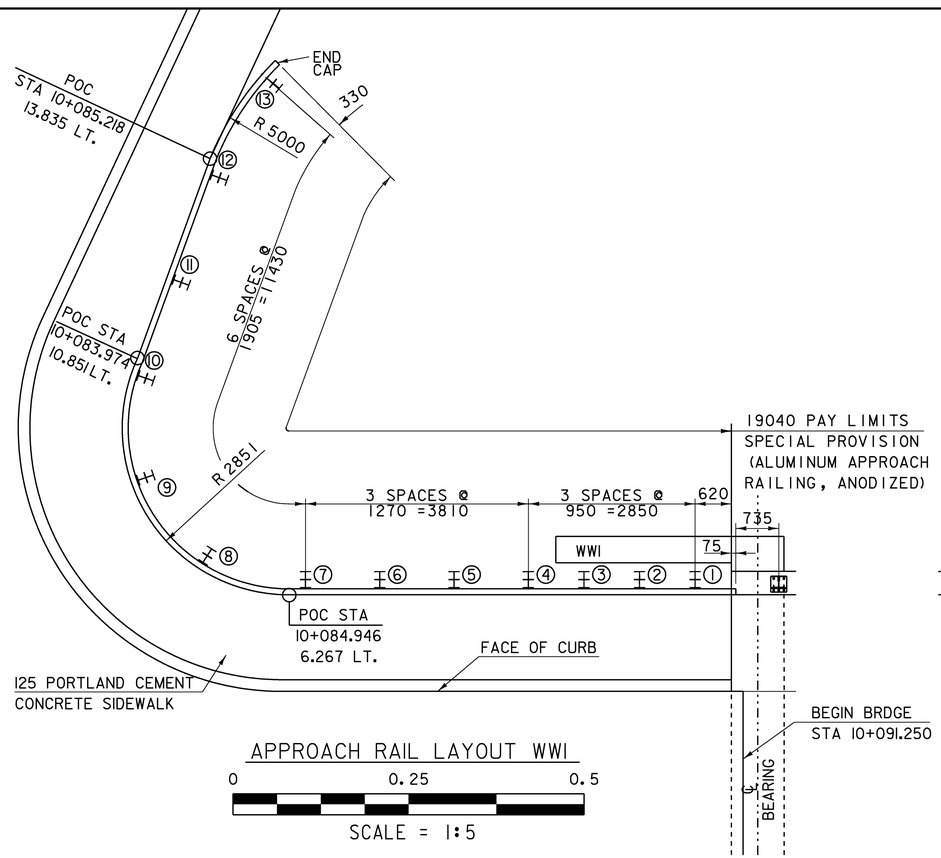


LEGEND
— PAVEMENT MARKING REMOVAL
R&S — REMOVE AND SALVAGE
R — REMOVE
S — SALVAGE
N — NEW

TRAFFIC SIGNS & PAVEMENT MARKINGS LAYOUT SHEET (2)

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

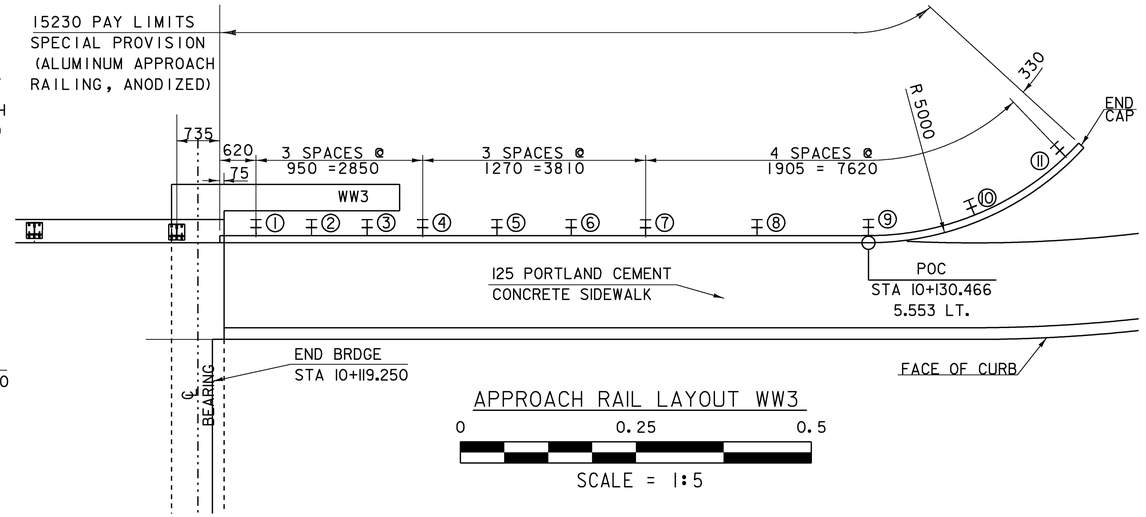
FILE NAME: 96J228\Str\sJ228trf.i
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 27-MAY-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 23 OF 77



APPROACH RAIL LAYOUT WW1

0 0.25 0.5

SCALE = 1:5

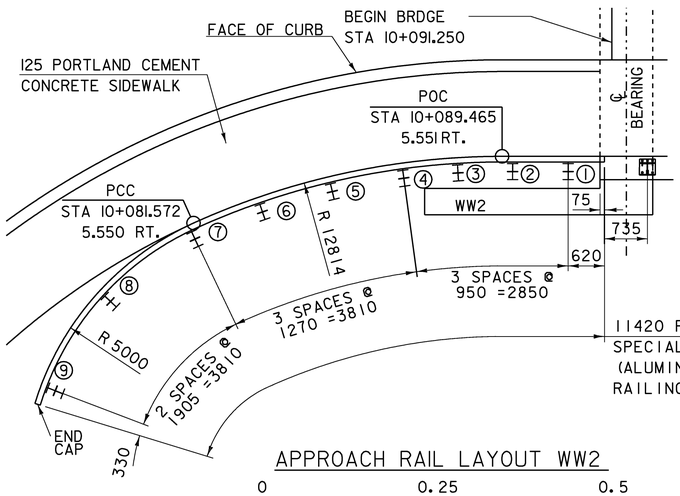


APPROACH RAIL LAYOUT WW3

0 0.25 0.5

SCALE = 1:5

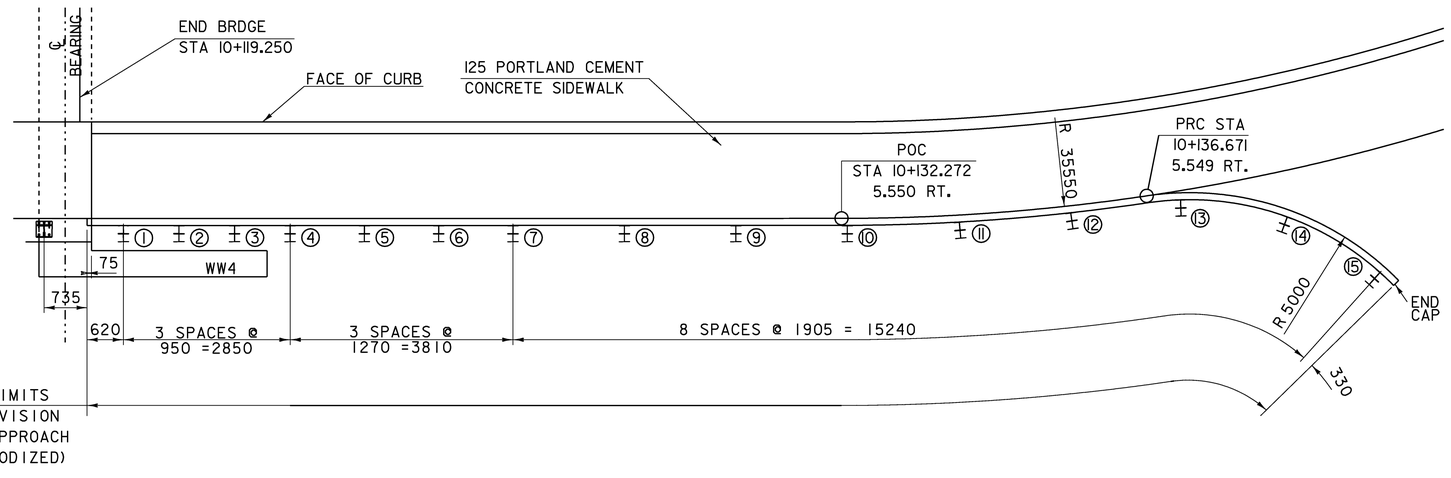
STATIONING →



APPROACH RAIL LAYOUT WW2

0 0.25 0.5

SCALE = 1:5



APPROACH RAIL LAYOUT WW4

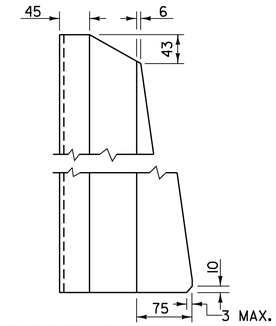
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SCALE = 1:5

ALUMINUM RAILING LAYOUT SHEET

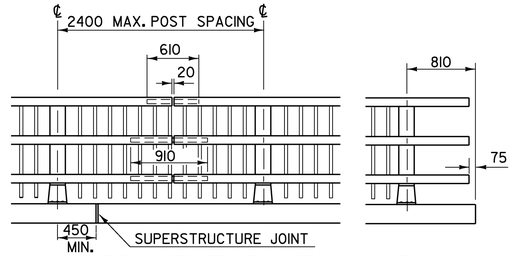
PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J288\str\sJ228rail.dgn		PLOT DATE:	29-APR-2009
PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	C.MOONEY
DESIGNED BY:	D. PETERSON	CHECKED BY:	C. CARLSON
		SHEET 24	OF 77



POST SIDE VIEW

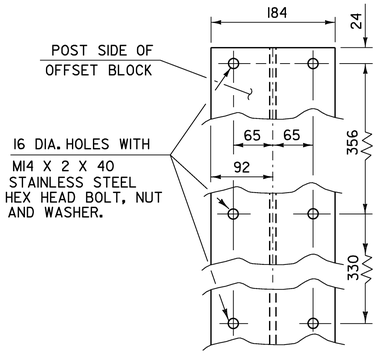
NTS



FRONT ELEVATION OF THREE RAIL WITH SPINDLES

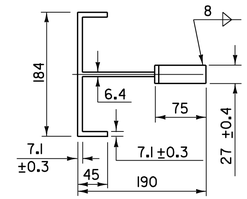
NOTE : RAIL POSTS ARE TO BE SET NORMAL TO GRADE UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS. ALL DIMENSIONS ARE TYPICAL UNLESS OTHERWISE DESIGNATED ON BRIDGE PLANS.

NTS



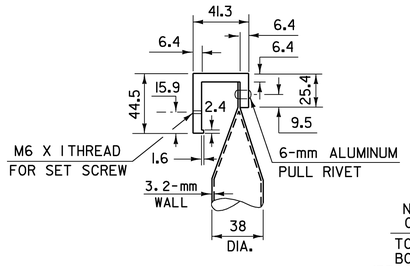
OFFSET BLOCK CONNECTION

NTS



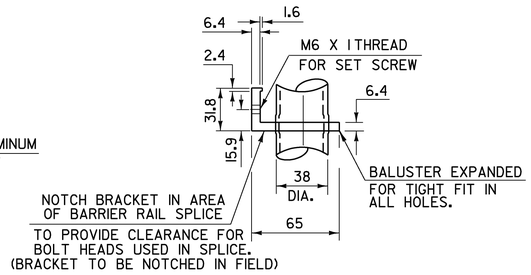
POST PLAN VIEW

NTS



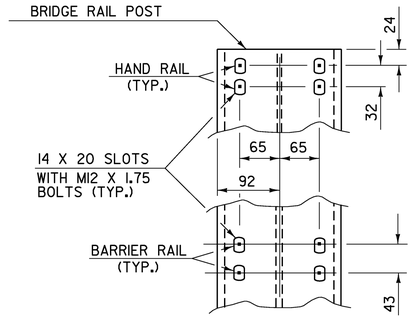
DETAIL A

NTS



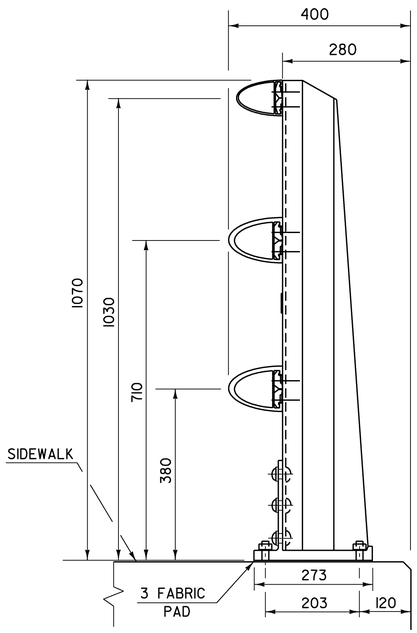
DETAIL B

NTS



RAIL CONNECTION

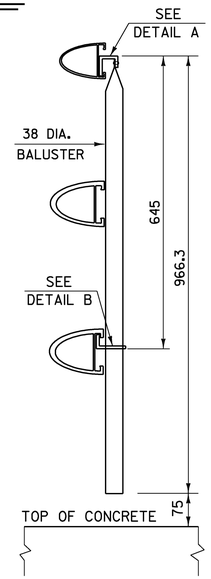
NTS



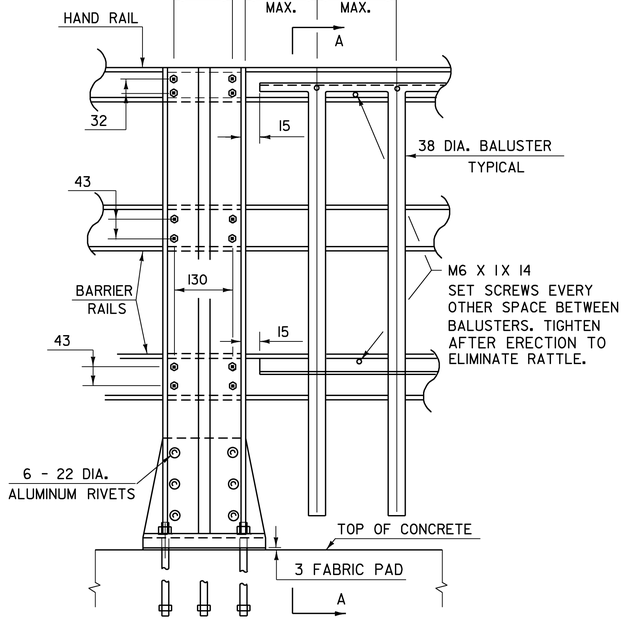
SIDE ELEVATION OF THREE RAIL TO BE USED ON SIDEWALK SIDES

RAIL POST DETAILS ON SUPERSTRUCTURE

NTS



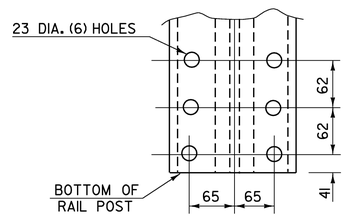
SECTION AA



OUTSIDE ELEVATION OF THREE RAIL POST & SPINDLES

DETAILS OF SPINDLES FOR ALUMINUM RAILING

NTS

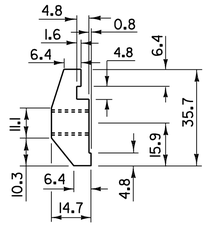


POST BASE BOLT HOLE DETAILS

NTS

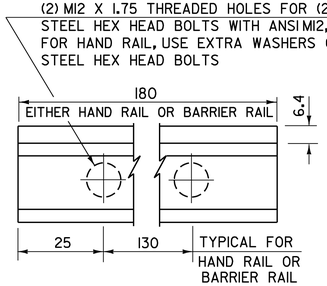
ALUMINUM RAILING DETAILS (SHEET 1)

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: 96J228\str\s96J228rail001.	PLOT DATE: 29-APR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C.MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
	SHEET 25 OF 77



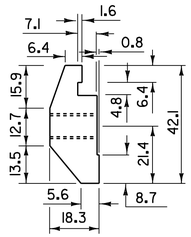
POST CONNECTION HAND RAIL SECTION

NTS



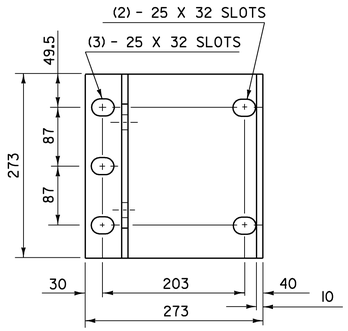
POST CONNECTION ELEVATION

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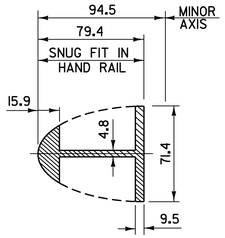
POST CONNECTION BARRIER RAIL SECTION

NTS



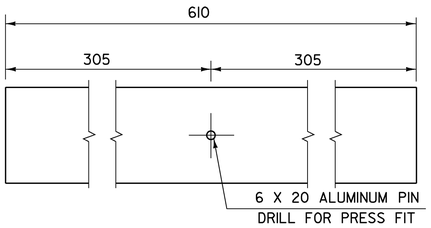
POST BASE PLAN

NTS



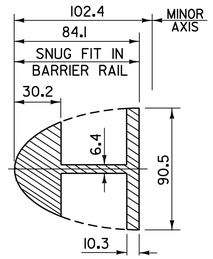
HAND RAIL SPLICE SECTION

NTS



ELEVATION OF HAND RAIL SPLICE BAR

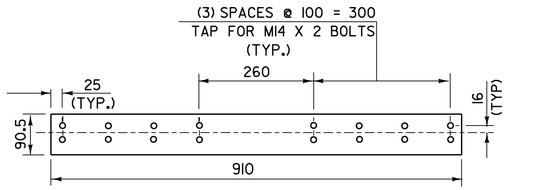
NTS



BARRIER RAIL SPLICE SECTION

(SEE SHEET 27 FOR ELEVATION OF BARRIER RAIL SPLICE BAR)

NTS

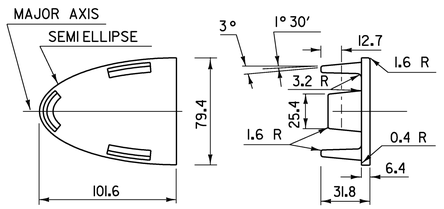


ELEVATION OF STD. BARRIER RAIL SPLICE BAR (FROM BACK)

NTS

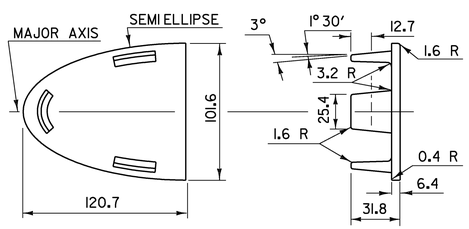
NOTES

1. ANCHOR BOLTS, WASHERS AND HEAVY HEX NUTS SHALL CONFORM TO SUBSECTION 714.07
2. ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B 221M ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM YIELD STRNGTH F = 240 MPa.
3. ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B 210M ALLOY 6061-T4 OR 6063-T4.
4. ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B 26/B 26M ALLOY 356-T6.
5. THE POST AND RAIL CONNECTION BOLTS AND WASHERS SHALL CONFORM TO SUBSECTION 732.02 (b)
6. SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL CONFORM TO SUBSECTION 732.02(b).
7. RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B 316/B 316M ALLOY 6061-T6.
8. THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE AASHTO M270M/M270 GRADE 250 OR HIGHER STRUCTURAL STEEL.
9. WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10
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 (12 m +) AND WHEN PRACTICAL 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 6 mm SHALL BE WITH 2-mm AND 3-mm SHIMS. CORRECTIONS EXCEEDING 6 mm SHALL BE WITH EPOXY MORTAR. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
14. SHIMS AND 3-mm FABRIC BEARING PADS SHALL BE 273 mm 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 209M 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 B209M ALLOY ACLAD 2024-T4.
17. THE BRIDGE RAILING SYSTEM AND RELATED HARDWARE SHALL BE ANODIZED TO A HARD BLACK (SATIN FINISH COLOR) EXCEPT AS NOTED. (SEE SPECIAL PROVISIONS.)



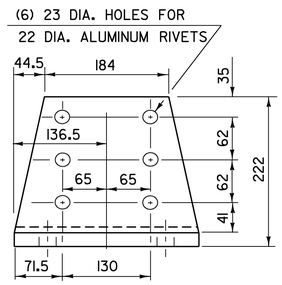
HAND RAIL END CAP

NTS



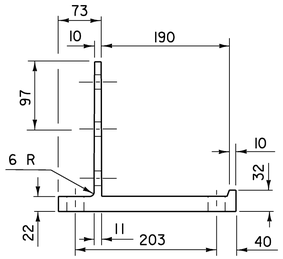
BARRIER RAIL END CAP

NTS



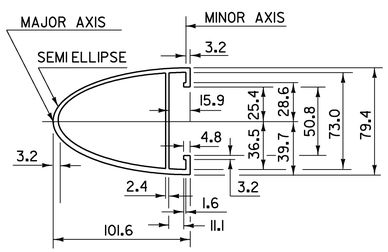
POST BASE FRONT ELEVATION

NTS



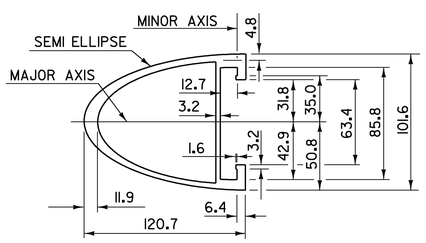
POST BASE SECTION

NTS



HAND RAIL SECTION

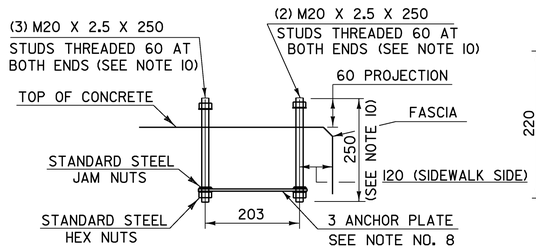
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BARRIER RAIL SECTION

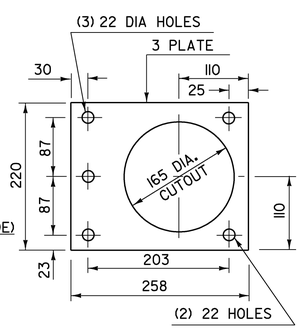
(SEE SHEET 27 FOR ELEVATION OF BARRIER RAIL)

NTS



POST ANCHOR ASSEMBLY

NTS



ANCHOR PLATE

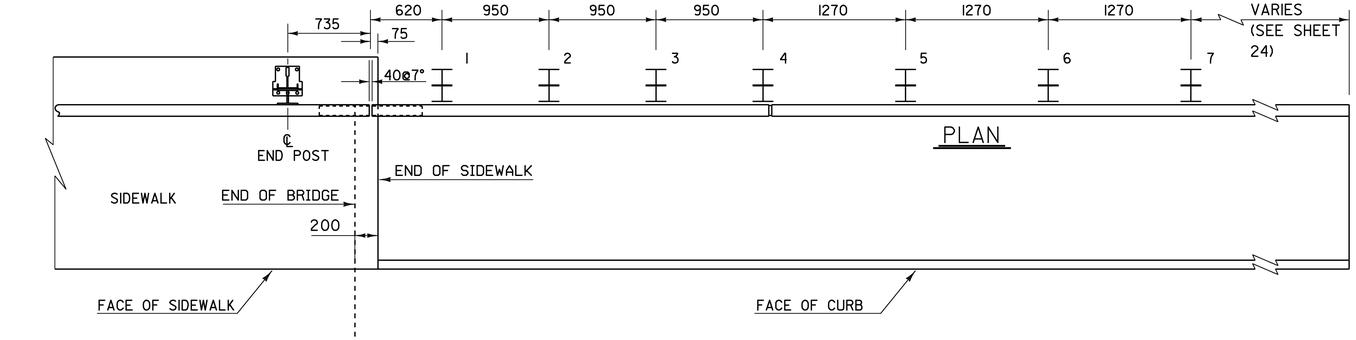
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NTS

ALUMINUM RAILING DETAILS (SHEET 2)

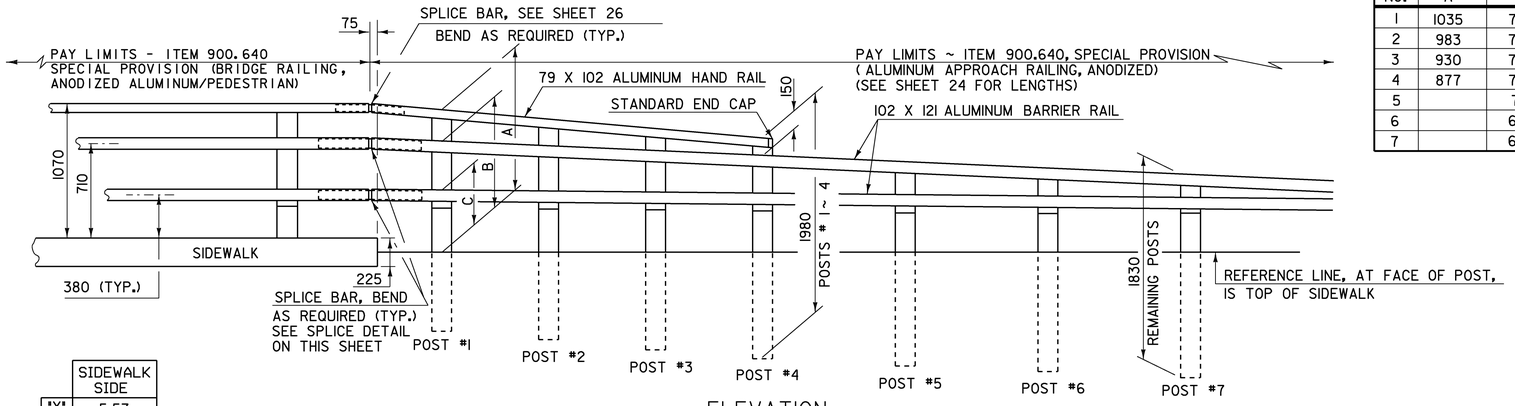
PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228\str\s96J228rail02.		PLOT DATE:	29-APR-2009
PROJECT LEADER:	R. WHITCOMB	DRAWN BY:	C.MOONEY
DESIGNED BY:	D. PETERSON	CHECKED BY:	C. CARLSON
		SHEET 26	OF 77

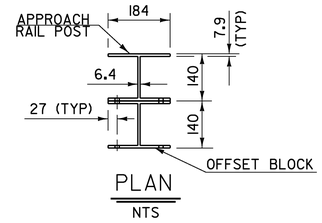


ALUMINUM APPROACH RAIL
RAIL DIMENSIONS FOR A SIDEWALK CONDITION

POST NO.	RAIL HEIGHT DIMENSIONS			OFFSET BLOCK DIMENSIONS			
	A	B	C	D	E	F	G
1	1035	755	368	292	329	736	
2	983	746		249	328	691	
3	930	736		205	326	646	
4	877	727		162	325	601	
5		712			323		449
6		699			321		447
7		686			319		445



ELEVATION
NTS

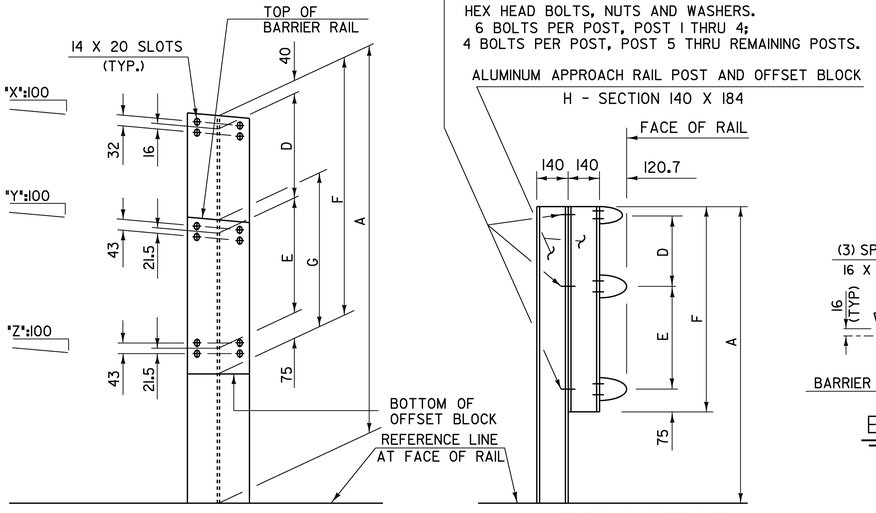


PLAN
NTS

	SIDEWALK SIDE
'X'	5.57
'Y'	0.99
'Z'	0.83

NOTES

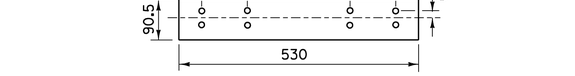
1. ALL POSTS SHALL BE EXTRUDED ALUMINUM.
2. DETAILS ARE SHOWN FOR TRANSITION TO A 3 RAIL ALUMINUM BRIDGE RAILING W/ SPINDLES.
3. DIMENSIONS SHOWN ARE FROM A REFERENCE LINE AT THE FACE OF POST FOR A NORMAL CROWNED SECTION. APPROPRIATE CORRECTIONS SHALL BE MADE FOR CROSS SLOPES OTHER THAN A NORMAL SECTION.
4. THE APPROACH RAILING SYSTEM AND RELATED HARDWARE SHALL BE ANODIZED TO A HARD BLACK SATIN FINISH. (SEE SPECIAL PROVISIONS.)



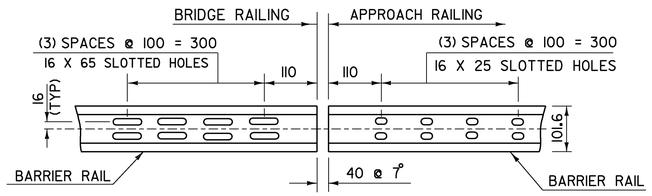
FRONT ELEVATION

SIDE ELEVATION

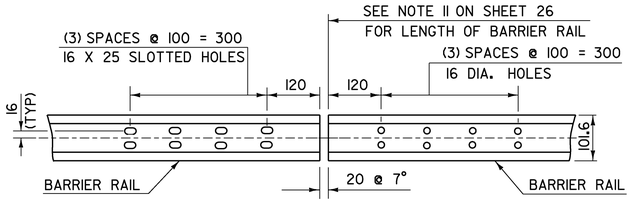
APPROACH RAIL DETAILS
NTS



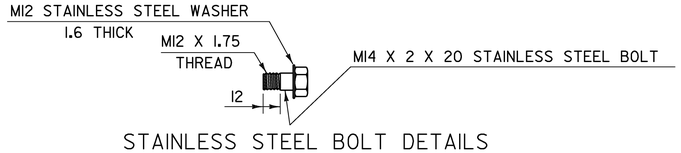
ELEVATION OF BARRIER RAIL SPLICE BAR TO BE USED AT TRANSITION BETWEEN APPROACH RAIL & GUARD RAIL (FROM BACK)
NTS



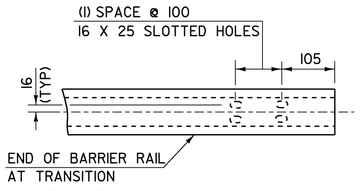
ELEVATION OF BARRIER RAIL (FROM BACK)
NTS



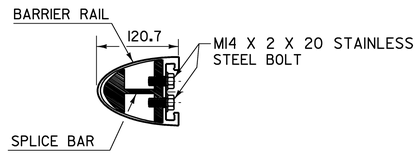
ELEVATION OF BARRIER RAIL (FROM BACK) AT ALL INTERMEDIATE RAIL SPLICES
NTS



STAINLESS STEEL BOLT DETAILS
(FOR SPLICE BARS)
NTS



ELEVATION OF BARRIER RAIL (FROM FRONT) AT TRANSITION
NTS



TYPICAL SECTION THROUGH BARRIER RAIL SPLICE
NTS

ALUMINUM RAILING DETAILS
(SHEET 3)

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: 96J228\str\s96J228ral11D03.	PLOT DATE: 26-MAY-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C.MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
	SHEET 27 OF 77

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 kPa	CONSISTENCY
<12	Very Soft
12-24	Soft
24-48	Med. Stiff
48-96	Stiff
96-192	Very Stiff
>192	Hard

CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

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

COMMONLY USED SYMBOLS

▼	Water Elevation
⊗	Standard Penetration Boring
⊕	Auger Boring
⊙	Rod Sounding
S	Sample
N	Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm
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 30.1mm
BX	Core Size 42.0 mm
NX	Core Size 54.7 mm
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 > 304.8 mm.

COBBLE - Rock fragments with an average dimension between 76.2 and 304.8 mm.

GRAVEL - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

SAND - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

SILT - Soil < 75 μm (#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.

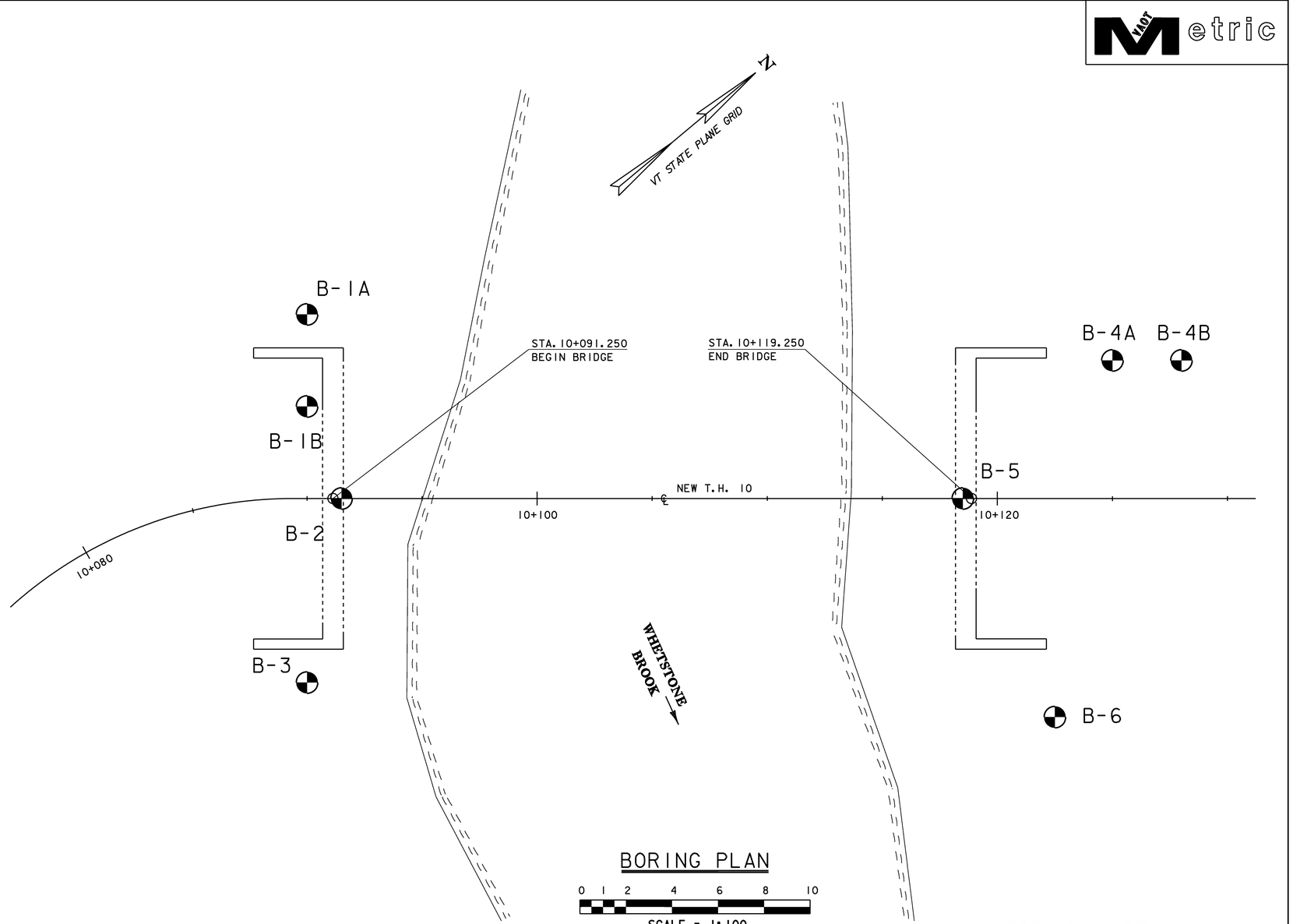
MUCK - Soft organic soil (containing > 10% organic material.

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 PLAN

0 1 2 4 6 8 10

SCALE = 1:100

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	TLOB ELEV.
B-1A	10+090.0	8.00 LT.	123.63	NLTD
B-1B	10+090.0	4.00 LT.	123.63	NLTD
B-2	10+091.5	0	121.98	NLTD
B-3	10+090.0	8.00 RT.	121.77	NLTD
B-4A	10+125.0	6.00 LT.	126.97	120.88
B-4B	10+128.0	6.00 LT.	126.97	NLTD
B-5	10+118.5	0	123.01	NLTD
B-6	10+122.5	9.50 RT.	122.93	120.03

GENERAL NOTES

1. The subsurface explorations shown herein were made between 10-22-2001 and 10-30-2001 by M&W Soils Engineering.
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.

BORING LAYOUT SHEET

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21) S

FILE NAME: 96J228\Structures\sJ228b01
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 29-APR-2009
DRAWN BY: G. ROY
CHECKED BY: D. PETERSON
SHEET 28 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BORING LOG INFORMATION

VAOT Metric

BORING LOG — B-1A

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

Project Name: Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-1A
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 24, 2001 Date Finished: Oct 24, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 123.63
Station: 100+90.0 Offset: 8.00 m L

	Casing:	Sampler:
Type:	H.S.A.	SS
I.D./O.D.:	11 cm	5 cm
Hammer Wt.:	NA	63.5 kg
Hammer Fall:	NA	76 cm
Rig Type:	Mobile Drill on tracks	
Other:		

Groundwater Observations	Depth (m)	Elevation (m)	Notes
Date and Time			
10/24/01 11:05 AM	2.74	120.88	mnk (2.74)

Sample Information											Sample Description	Symbol	Strata Description
Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min/0.3m)	PID Result	Classification System: Burmister		Elevation & Depth (meters)
0															Silty Gravelly Sand.
1		S-1	SS	61	23	1.22	13	5	5	8			S-1: Medium dense, brown, fine to coarse SAND and SILT, little fine Gravel, moist.		
2															121.19
3		S-2	SS	61	20	2.44	13	30	33	23			S-2: Very dense, brown, fine to coarse SAND and SILT, little fine Gravel, saturated.		2.44 Glacial Till.
4															120.55
5															3.08 Bottom of Borehole at 3.08 m
6															
7															
8															
9															

Remarks:
(0m): Ground surface elevation is determined by GeoDesign survey. Location is based on staked layout survey by VAOT.
(2.74m): Groundwater depth based on saturated soil conditions.
(3.08m: HSA auger refusal on possible cobble or boulder.

Notes:
1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Sa = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-1A

BOT ABUT I 122.720

APPROX PILE TIP 107.720

BORING LOG — B-1B

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

Project Name: Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-1B
Page No.: 1 of 2
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 24, 2001 Date Finished: Oct 25, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 123.63
Station: 100+90.0 Offset: 4.00 m L

	Casing:	Sampler:
Type:	FJ	SS
I.D./O.D.:	8 cm	5 cm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	76 cm	76 cm
Rig Type:	Mobile Drill on tracks	
Other:	BX core barrel	

Groundwater Observations	Depth (m)	Elevation (m)	Notes
Date and Time			
10/24/01 12:30 PM	2.74	120.88	mnk(2.74)

Sample Information											Sample Description	Symbol	Strata Description
Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min/0.3m)	PID Result	Classification System: Burmister		Elevation & Depth (meters)
0															Silty Gravelly Sand.
1															
2															121.13
3		S-1	SS	0	0	3.05	100						S-1: No recovery.		2.50 Glacial Till with Cobbles and Boulders.
4	18 24 58	S-2	SS	30	18	4.57	25	37					S-2: Very dense, gray, fine to coarse SAND and SILT, trace fine Gravel.		
5	88 30 58	S-3	SS	15	15	6.10	75						S-3: Same as above.		
6	47 62 88														
7	30 88 144	S-4	SS	23	8	7.62	27	30/0.07					S-4: Same as above.		
8	6/26 85 58														
9	55 65														

Remarks:
(0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT. Boring moved .91m east of B-1A. (2.74m) Groundwater depth based on saturated soil conditions.
(3.05m): SS refusal on possible cobble or boulder. Borehole advanced using roller bit.
(3.66m): Hard drilling resistance, on possible cobbles or boulders.
(4.42m): Hard drilling resistance, on possible cobbles or boulders.
(8.69m): Switched from 63.5 kg safety hammer to 136.1 kg hammer to continue hammering casing down.

Notes:
1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Sa = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-1B

BOT ABUT I 122.720

APPROX PILE TIP 107.720

BORING LOG — B-1B

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

Project Name: Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-1B
Page No.: 2 of 2
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 24, 2001 Date Finished: Oct 25, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 123.63
Station: 100+90.0 Offset: 4.00 m L

	Casing:	Sampler:
Type:	FJ	SS
I.D./O.D.:	8 cm	5 cm
Hammer Wt.:	136.1 kg	63.5 kg
Hammer Fall:	76 cm	76 cm
Rig Type:	Mobile Drill on tracks	
Other:	BX core barrel	

Groundwater Observations	Depth (m)	Elevation (m)	Notes
Date and Time			
10/24/01 12:30 PM	2.74	120.88	mnk(2.74)

Sample Information											Sample Description	Symbol	Strata Description
Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min/0.3m)	PID Result	Classification System: Burmister		Elevation & Depth (meters)
80															Glacial Till with Cobbles and Boulders. (Continued)
100		S-5	SS	20	8	9.14	13	50/0.05					S-5: Very dense, gray, fine to coarse SAND, some Silt and trace fine Gravel.		
110															
10	177														
11	60/2	C-1	C	152	0	10.27							C-1: No recovery.		
12		S-6	SS	10	0	11.89	50/0.1						S-6: Very dense, gray, fine to coarse SAND and SILT, little fine Gravel.		
13															
14		S-7	SS	20	15	13.72	50	50/0.05					S-7: Same as above.		
15															
16		C-8	SS	61	20	15.24	16	34	50	70			S-8: Very dense, gray, fine SAND, little Silt.		107.78
17															15.85 Bottom of Borehole at 15.85 m
18															

Remarks:
(10.27m): Refusal to roller bit.
(10.27-11.8m): Borehole advanced using core barrel and spinning diamond cutting shoe on casing. Cored from 10.7-11.8m, recovery was very dense glacial till.
(14.02-15.24m): Increased sand content in wash water return during roller bit advancement.

Notes:
1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Sa = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-1B

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: /96J228/Structures/sj228bo	PLOT DATE: 29-APR-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON	CHECKED BY: M. LOZIER
BORING LOG INFORMATION SHEET #1	SHEET 29 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BORING LOG INFORMATION

VAOT Metric

BOT ABUT 1 122.720

APPROX PILE TIP 107.720

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

BORING LOG
Project Name
Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-2
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 26, 2001 Date Finished: Oct 27, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 121.98
Station: 100+91.5 Offset: 8.00 m Cl.

Casing: Type: FJ I.D./O.D.: 8 cm Hammer Wt.: 136.1 kg Hammer Fall: 76 cm Rig Type: Mobile Drill on tracks Other: BX core barrel
Sampler: SS 5 cm 63.5 kg 76 cm

Groundwater Observations

Date and Time	Depth (m)	Elevation (m)	Notes
10/25/01 10:00 AM	1.31	120.67	mk (1.31)

Depth (m)	Casing Blows/0.3m	Sample Number	Sample Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min./0.3m)	PID Result	Classification System: Burmister	Symbol	Elevation & Depth (meters)	Strata Description
1		C-1	C	61	30	0.91							C-1: BOULDERS and fine to coarse SAND, some Silt and fine to coarse Gravel.			Silty Gravelly Sand (Possible Fill), with Cobbles and Boulders.
2		S-1	SS	61	38	1.52	29	16	23	16			S-1: Dense, brown, fine to coarse SAND, some Silt and fine Gravel, wet.		118.94	
3		S-2	SS	15	10	3.05	29	50/0.03					S-2: Very dense, gray brown, fine to coarse SAND, some Silt, trace fine Gravel.		3.05	Glacial Till.
4															117.87	
															4.11	Bottom of Borehole at 4.11 m
5																
6																
7																
8																
9																

Remarks:
(0m): Ground surface elevation is based on survey by GeoDesign. Locations is on staked layout survey by VAOT.
(.91m): Boulder. Borehole advanced using core barrel and diamond cutting shoe on casing.
(1.31m): Groundwater depth based on wet soil conditions.
(2.13m): Cobbles and boulders. Borehole advance using roller bit and casing cutting shoe.
(3.14m): SS refusal on possible cobble or boulder.
(4.11m): Cobbles and boulders. Roller bit and casing cutting shoe refusal.

Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Ss = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-2

BOT ABUT 1 122.720

APPROX PILE TIP 107.720

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

BORING LOG
Project Name
Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-3
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 23, 2001 Date Finished: Oct 24, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 121.27
Station: 100+90.0 Offset: 8.00 m R

Casing: Type: FJ I.D./O.D.: 8 cm Hammer Wt.: 136.1 kg Hammer Fall: 76 cm Rig Type: Mobile Drill on tracks Other: BX core barrel
Sampler: SS 5 cm 63.5 kg 76 cm

Groundwater Observations

Date and Time	Depth (m)	Elevation (m)	Notes
10/23/01 8:00 AM	1.22	120.55	mk (1.22)

Depth (m)	Casing Blows/0.3m	Sample Number	Sample Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min./0.3m)	PID Result	Classification System: Burmister	Symbol	Elevation & Depth (meters)	Strata Description
1																Silty Gravelly Sand.
2		S-1	SS	61	13	1.52	4	8	7	4			S-1: Medium dense, brown, fine to medium SAND and SILT, trace fine Gravel.		118.72	
3		S-2	SS	41	41	3.05	21	23	50/0.1				S-2: Very dense, grayish brown, fine SAND, some Silt, little fine Gravel.		3.05	Glacial Till.
4		S-3	SS	0	0	4.57	100						S-3: Refusal.			
5		C-1	C	61	51	5.27							C-1: Boulders.			
6		S-4	SS	61	20	8.10	10	13	14	25			S4: Medium dense, gray, fine to medium SAND, some Silt.		113.66	
															8.11	Bottom of Borehole at 8.11 m
7																
8																
9																

Remarks:
(0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT.
(1.22m): Groundwater depth is based on wet soil conditions. (3.41m): SS refusal on possible cobble or boulder.
(4.57m): SS refusal on possible cobble or boulder. (4.66-5.27m): High drilling resistance with roller bit. Roller bit refusal at 5.27m.
(5.27m): Borehole advanced using core barrel and spinning diamond cutting shoe on casing.
(8.11m): Roller bit refusal on possible boulder or bedrock.
Bottom 1.52-meter section of casing and cutting shoe spun off during casing removal. Casing section left in place, top of casing at 4.57m.

Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Ss = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-3

BOT ABUT 2 123.000

APPROX PILE TIP 120.600

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

BORING LOG
Project Name
Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-4A
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 29, 2001 Date Finished: Oct 30, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 126.97
Station: 101+25.0 Offset: 8.00 m L

Casing: Type: H.S.A. I.D./O.D.: 11 cm Hammer Wt.: NA Hammer Fall: NA Rig Type: Mobile Drill on tracks Other: BX core barrel
Sampler: SS 5 cm 63.5 kg 76 cm

Groundwater Observations

Date and Time	Depth (m)	Elevation (m)	Notes
10/30/01 12:00 PM			dry

Depth (m)	Casing Blows/0.3m	Sample Number	Sample Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min./0.3m)	PID Result	Classification System: Burmister	Symbol	Elevation & Depth (meters)	Strata Description
1																Silty Gravelly Sand.
2		S-1	SS	61	15	1.52	2	2	4	7			S-1: Loose, brown, fine to coarse SAND, some Silt, trace fine Gravel.			
3		S-2	SS	61	8	3.05	11	8	10	10			S-2: Same as above, except medium dense.		123.01	
4															3.96	Increased auger resistance.
															122.40	
5		C-1	C	152	127	4.57					13		C-1: Interbedded phyllite, phyllitic quartzite and biotite schist. The rock is very poor quality with numerous soft, highly weathered schist laminations. The rock is thinly laminated with close joint spacing. The dip of the foliation and weathering characteristics of this rock suggest it may be a boulder resting on bedrock (RQD=0%).		4.57	Boulder.
											14				120.88	
6		C-2	C	152	152	8.10					19				6.10	Bedrock.
											6					
7											9		C-2: Interbedded phyllite and phyllitic quartzite. The rock is fair quality and hard to moderately hard. Fractures are fresh to slightly weathered zone at 7.24 meters. The rock is thinly laminated and joints exhibit close to moderate spacing (RQD=62%).		119.35	
											9				7.62	Bottom of Borehole at 7.62 m
8											11					
											10					
9											21					
											10					

Remarks:
(0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT.
(3.96m): Drilling resistance increased, possible glacial till or weathered bedrock.
(4.57m): Roller bit refusal, on bedrock.
(4.57-7.62m): Cored possible boulder.
(6.1-7.62m): Cored bedrock

Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Ss = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-4A

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: /96J228/Structures/sJ228bo PLOT DATE: 29-APR-2009
PROJECT LEADER: R. WHITCOMB DRAWN BY: G. ROY
DESIGNED BY: C. CARLSON CHECKED BY: M. LOZIER
BORING LOG INFORMATION SHEET #2 SHEET 30 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BORING LOG INFORMATION

VAOT Metric

BOT ABUT 2 123.000

APPROX PILE TIP 119.000

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

BORING LOG

Project Name: Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-4B
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 29, 2001 Date Finished: Oct 29, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 126.87
Station: 101+28.0 Offset: 6.00 m L

Casing: Type: S.S.A. I.D./O.D.: 4" cm / cm Hammer Wt.: NA Hammer Fall: NA Rig Type: Mobile Drill on tracks Other:

Groundwater Observations: Date and Time | Depth (m) | Elevation (m) | Notes

Sample Information												Sample Description	Symbol	Strata Description
Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min/0.3m)	PID Result	Classification System: Burmister		Elevation & Depth (meters)
0															Silty Gravel Sand.
1															
2															
3															
4															
5		S-1	SS	23	15	4.88	5	7	7	8		0.0	S-1: Very dense, fine to coarse SAND, some Silt, trace fine to coarse Gravel.		121.87
															5.11 Bottom of Borehole at 5.11 m
6															
7															
8															
9															

Remarks: (0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT.
(0-5.11m): SSA without sampling to refusal. Stratum description based on auger cuttings.
(5.11m): SS refusal on possible bedrock.

Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Ss = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-4B

BOT ABUT 2 123.000

APPROX PILE TIP 119.000

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
Telephone: 802-674-2033 Fax: 802-674-5943

BORING LOG

Project Name: Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-5
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 27, 2001 Date Finished: Oct 27, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 123.01
Station: 101+18.5 Offset: 0.00 m CL

Casing: Type: S.S.A. I.D./O.D.: 4" cm / cm Hammer Wt.: NA Hammer Fall: NA Rig Type: Mobile Drill on tracks Other:

Groundwater Observations: Date and Time: 10/27/01 12:00 PM | Depth (m) | Elevation (m) | Notes: dry

Sample Information												Sample Description	Symbol	Strata Description
Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min/0.3m)	PID Result	Classification System: Burmister		Elevation & Depth (meters)
0															SILTY SAND
1															
2															120.72
															2.29 Increased auger resistance.
3															120.12
															2.90 Bottom of Borehole at 2.90 m
4															
5															
6															
7															
8															
9															

Remarks: (0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT.
(0-2.9m): SSA without sampling to refusal. Stratum description based on auger cuttings.
(2.26m): Drilling resistance increased, on possible glacial till or weathered bedrock.
(2.9m): SSA refusal on possible boulder or bedrock.

Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Ss = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-5

BOT ABUT 2 123.000

APPROX PILE TIP 119.800

GEODESIGN INCORPORATED
54 Main Street
Windsor, Vermont, 05089
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BORING LOG

Project Name: Brattleboro BRF 2000 (21) S
Brattleboro, Vermont

Boring No.: B-6
Page No.: 1 of 1
File No.: 750-03.4
Checked By: RSA

Boring Company: M&W Soils Engineering
Foreman: Mike Hitchcock
GeoDesign Rep.: Andy Elms
Date Started: October 22, 2001 Date Finished: Oct 22, 01
N. Coordinate: E. Coordinate:
Ground Surface Elevation (meters): 122.93
Station: 101+22.5 Offset: 9.50 m RT

Casing: Type: H.S.A. / SS I.D./O.D.: 11 cm / 5 cm Hammer Wt.: NA / 63.5 kg Hammer Fall: NA / 76 cm Rig Type: Mobile Drill on tracks Other: BX Core Barrel

Groundwater Observations: Date and Time: 10/28/01 10:00 AM | Depth (m): 2.19 | Elevation (m): 120.73 | Notes: mnk (2.19)

Sample Information												Sample Description	Symbol	Strata Description
Depth (m)	Casing Blows/0.3m	Number	Type	Penetration (cm)	Recovery (cm)	Depth (m)	Blows / 0.15 m Interval 0-0.15	0.15-0.30	0.30-0.45	0.45-0.60	Coring Time (min/0.3m)	PID Result	Classification System: Burmister		Elevation & Depth (meters)
0															Silty Sand (Possible fill).
1															
2		S-1	SS	61	41	1.52	1	3	3	4			S-1: Loose, brown fine SAND, some silt.		
3															120.03
															2.90 Bedrock.
4		C-1	C	152	147	2.90					9		C-1: Interbedded phyllite, and phyllitic quartzite. 254 mm thick quartz vein at 3.66 meters. The rock is good quality and hard to moderately hard. Fractures are mostly slightly weathered with several indicating a moderate to high degree of weathering. The rock is thinning laminated and joints exhibit close to moderate spacing (RQD=77%).		
											11				
											15				
5		C-2	C	152	145	4.42					13				
											16				
											12				
6											11		C-2: Interbedded phyllite and phyllitic quartzite. The rock is fair quality and hard to moderately hard. Fractures are slightly weathered to fresh. The rock is thinly laminated and joints exhibit close to moderate spacing (RQD=66%).		
											8				
											11				
7											12				
8															116.98
															5.94 Bottom of Borehole at 5.94 m
9															

Remarks: (0m): Ground surface elevation is based on survey by GeoDesign. Location is based on staked layout survey by VAOT.
(2.19m): Groundwater depth based on wet soil conditions.
(2.9m): SS refusal on possible bedrock, no recovery.
(2.9-5.94m): Cored bedrock.

Notes: 1) Stratification Lines Represent Approximate Boundary Between Material Types, Transitions May Be Gradual.
2) Water Level Readings Have Been Made At Times And Under Conditions Stated, Fluctuations Of Groundwater May Occur Due To Other Factors Than Those Present At The Time Measurements Were Made.
3) Sample Type Coding: A = Auger; C = Core; Ps = Piston Sampler; Ss = Split Barrel (split Spoon); St = Shelby Tube; V = Vane
4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: B-6

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: /96J228/Structures/sJ228bo
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
BORING LOG INFORMATION SHEET #3

PLOT DATE: 29-APR-2009
DRAWN BY: G. ROY
CHECKED BY: M. LOZIER

VAOT Metric

NEW 450mm X 8.5m PIPE CULVERT

NEW 450mm X 14.0m PIPE CULVERT

NEW DI

NEW DI

R 2850

1:2

1:1.5

1:2

WW 1

STA. 10+091.250
BEGIN BRIDGE
F.G. = 126.724

STA. 10+119.250
END BRIDGE
F.G. = 127.257

WW 3

1:2

1:9

1:3

CHANNEL LINE

50+050

MAINLINE STA. 10+125.000=
CHANNEL STA. 50+040.000
Δ = 100° LT.

PC NO. 2
STA. 10+132.272

POST STA. 10+085.250
BEGIN APPROACH SLAB NO. 1

PI NO. 1
STA. 10+079.618 BK. =
STA. 10+075.889 AH.
Δ = 72° 46' 49.3" RT.

℄ NEW T.H. 10

10+100

3300 TRAVEL LANE (TYP.)

90° TYP.)

10+120

50+040

STA. 10+125.250
END APPROACH SLAB NO. 2

EDGE OF SHOULDER (TYP.)

EDGE OF PAVEMENT (TYP.)

10+140

10+080

WW 2

WW 4

1:2

1:2

R 4000 (TYP.)

R 5000 (TYP.)

1:1.5

NEW DI

1:1.5

STA. 10+091.500
℄ BRG. ABUT. NO. 1
F.G. = 126.729
(FIXED)

STA. 10+119.000
℄ BRG. ABUT. NO. 2
F.G. = 127.252

1:1.5

1:1.5

50+030

PI NO. 2
STA. 10+143.590 BK. =
STA. 10+142.599 AH.
Δ = 41° 20' 21.1" LT.

PT NO. 1
STA. 10+089.376

1:3

PC NO. 1
STA. 10+066.131

1200 STONE FILL, TYPE IV (TYP.)

WHETSTONE BROOK

NEW 450mm X 17.68m PIPE CULVERT

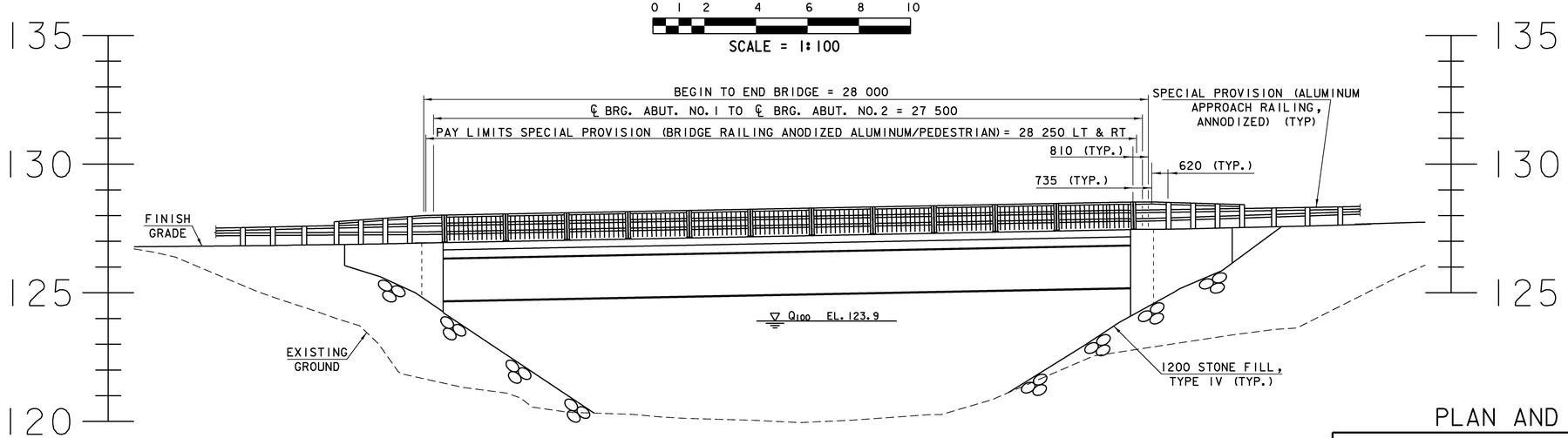
VT STATE PLANE GRID

N

PLAN

0 1 2 4 6 8 10

SCALE = 1:100



ELEVATION

0 1 2 4 6 8 10

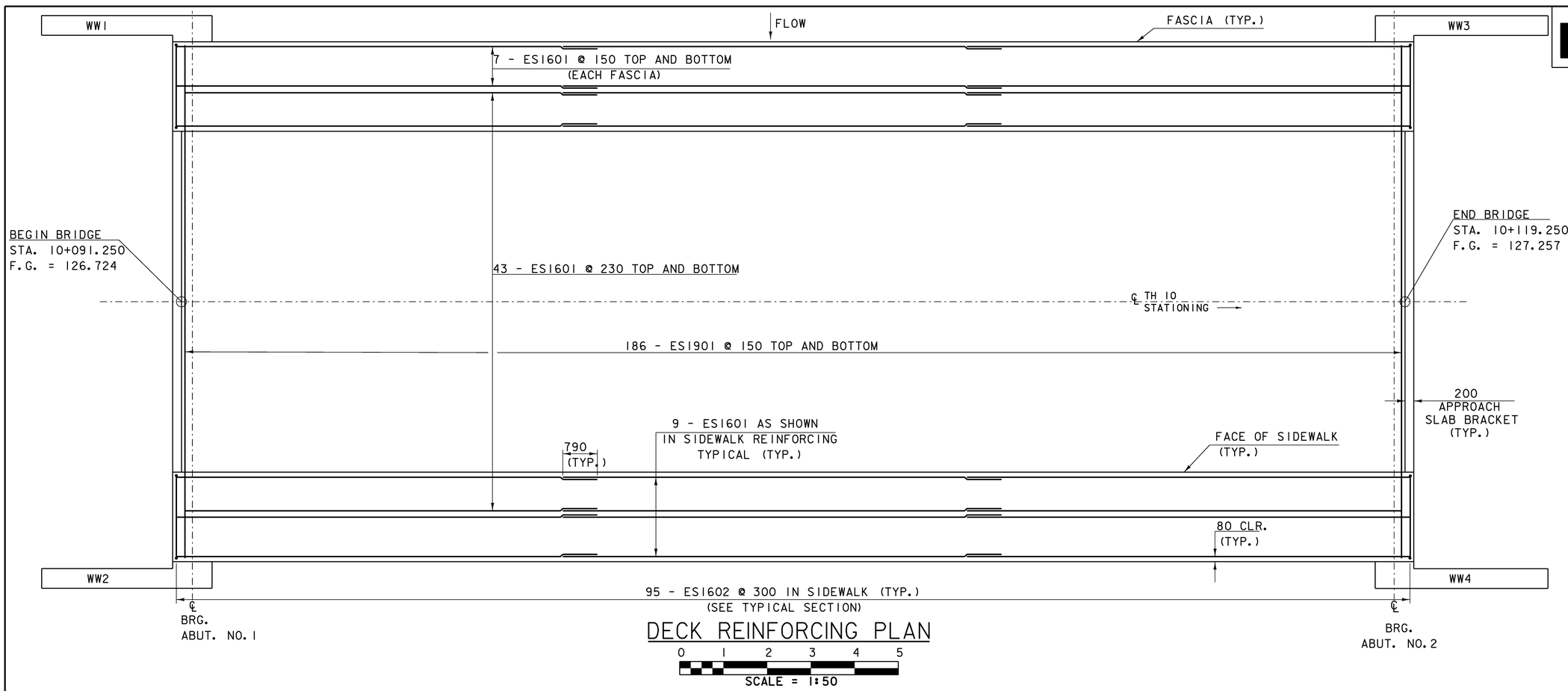
SCALE = 1:100

PLAN AND ELEVATION

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/s96J228pe.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228pe.i

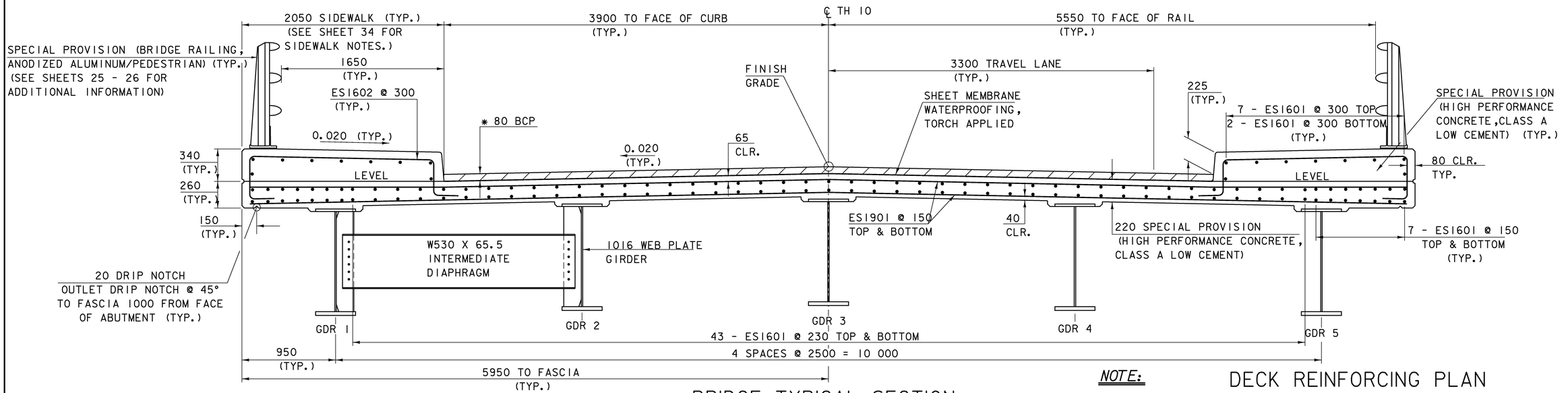
PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 32 OF 77



DECK REINFORCING PLAN

0 1 2 3 4 5

SCALE = 1:50



BRIDGE TYPICAL SECTION

0 1 2

SCALE = 1:20

* 2 LIFTS - BCP TYPE IVS

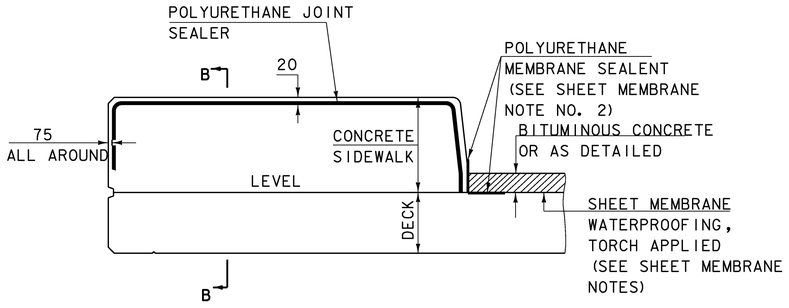
NOTE:

NF - NEAR FACE
FF - FAR FACE
EF - EACH FACE
▲ - CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN.LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS

DECK REINFORCING PLAN

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

FILE NAME: 96J228\str\sJ228sup.dgn	PLOT DATE: 26-MAY-2009
PROJECT LEADER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
s96J228supTYP.I	SHEET 33 OF 77



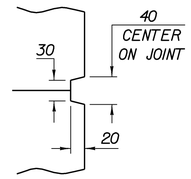
TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

SHEET MEMBRANE NOTES:

1. SUBSECTION 519.04 SURFACE PREPARATION:
   PREPARE THE SURFACE OF THE FACE OF THE SIDEWALK TO BE SEALED WITH POLYURETHANE LIQUID MEMBRANE IN THE SAME MANNER AS THE DECK.

2. POLYURETHANE LIQUID MEMBRANE:
   PAYMENT FOR ITEM 519.20 "SHEET MEMBRANE WATERPROOFING, TORCH APPLIED" INCLUDES POLYURETHANE MEMBRANE SEALENT.

3. SHEET MEMBRANE WATERPROOFING, TORCH APPLIED:
   EXTEND SHEET MEMBRANE WATERPROOFING TO FACE OF SIDEWALK.



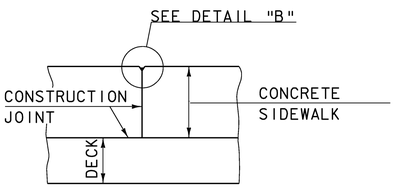
SCORE MARK DETAIL

SIDEWALK NOTES:

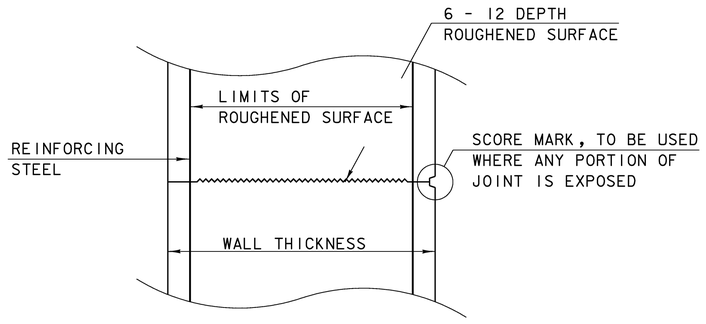
1. CONCRETE SIDEWALK MAY BE POURED IN ONE CONTINUOUS POUR IF ONE OF THE APPROVED SHRINKAGE REDUCING ADMIXTURES LISTED IN THE SPECIAL PROVISIONS IS USED. PAYMENT FOR ADMIXTURE WILL BE INCLUDED IN THE UNIT PRICE BID FOR PAY ITEM 900.608 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT).

2. IF CONTRACTOR CHOOSES TO USE CONSTRUCTION JOINTS IN SIDEWALK, THE JOINTS SHALL BE SPACED AT A MAXIMUM OF 4500 CENTER TO CENTER AND 550 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. PLACE CONCRETE SIDEWALKS IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.

3. PASS LONGITUDINAL REINFORCING THROUGH CONCRETE CONSTRUCTION JOINTS.



SECTION B-B

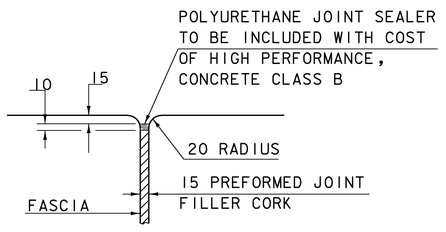


TYPICAL CONCRETE CONSTRUCTION JOINT

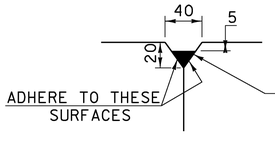
(NOT TO SCALE)

1. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND FREE OF LAITANCE.

2. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.



JOINT BETWEEN FASCIA AND WINGWALL



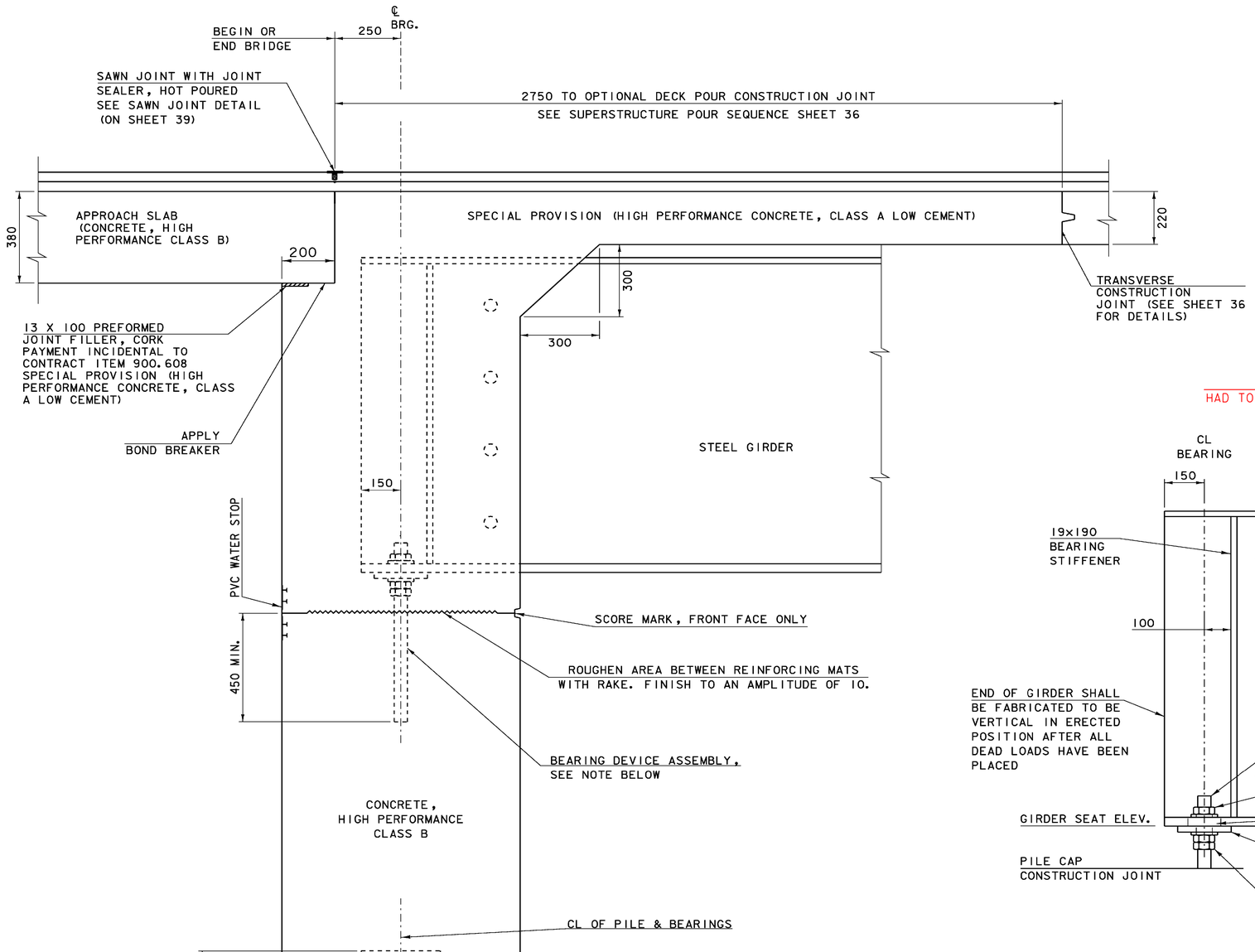
POLYURETHANE JOINT SEALER
PER SUBSECTION 524.06C
COLOR TO MATCH CONCRETE.
COST TO BE INCLUDED IN THE
UNIT PRICE BID FOR ITEM 900.608
SPECIAL PROVISION (HIGH PERFORMANCE
CONCRETE, CLASS A LOW CEMENT).

DETAIL "B"

SUPERSTRUCTURE DETAILS

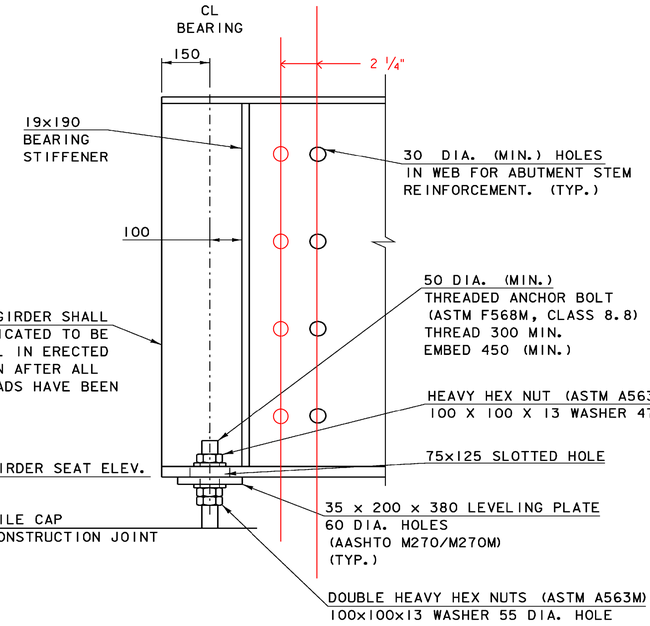
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

FILE NAME: 96J228\str\sJ228sup.dgn		PLOT DATE:	26-MAY-2009
PROJECT LEADER:	R.R. WHITCOMB	DRAWN BY:	D. PETERSON
DESIGNED BY:	C. CARLSON	CHECKED BY:	C. CARLSON
s96228supCRB.1		SHEET 34	OF 77



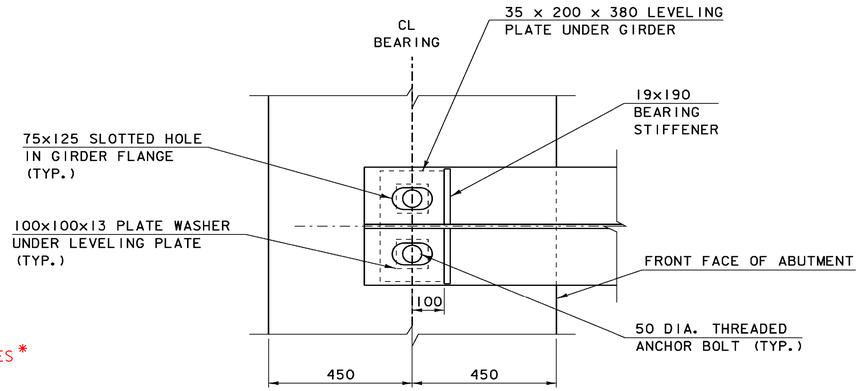
BRIDGE END DETAIL

NTS



ELEVATION VIEW
END OF STEEL MEMBER AT ABUTMENT

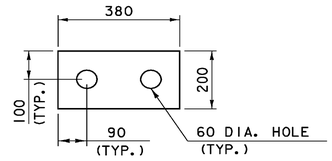
NTS



PLAN OF END GIRDER

0 0.5 1

SCALE = 1:10



LEVELING PLATE DETAIL

0 0.5 1

SCALE = 1:10

* HOLES IN GIRDER 1WERE OK. GIRDER 5 NEW HOLE LOCATIONS SHOWN. GIRDERS 4,3,2 ALSO HAD NEW HOLES DRILLED. THIS WAS DONE SO HORIZONTAL REBAR RUNNING THROUGH THESE HOLES WOULD BE ON THE INSIDE OF THE VERTICAL REBAR ALREADY POURED INTO THE ABUTMENT. STRUCTURES DIVISION WAS INFORMED.

BEARING DEVICE ASSEMBLY

1. ALL COMPONENTS OF BEARING ASSEMBLY, INCLUDING ANCHOR BOLTS, NUTS, WASHERS AND LEVELING PLATES SHALL BE PAID FOR UNDER ITEM 506.55, "STRUCTURAL STEEL (PLATE GIRDER)".
2. COMPONENTS DO NOT HAVE TO BE GALVANIZED OR METALIZED.

NOTE:

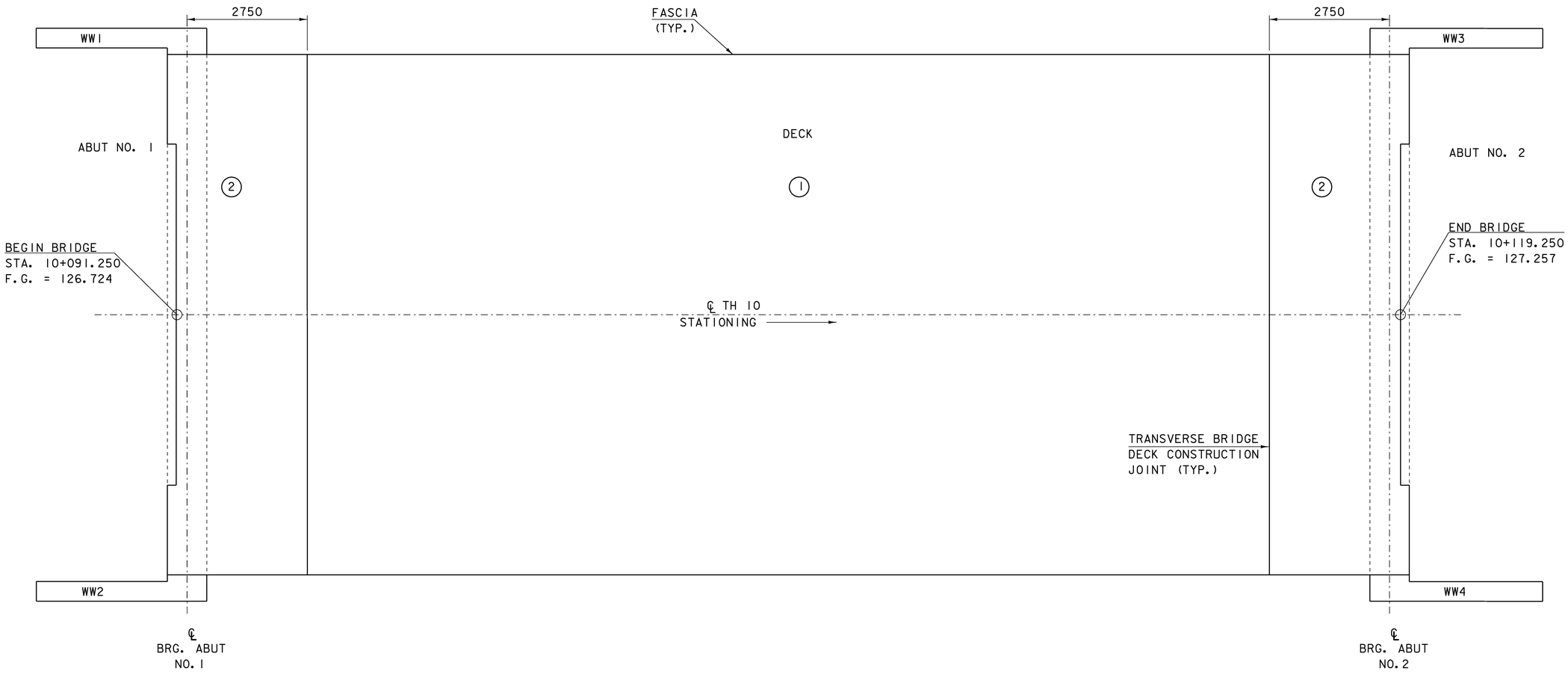
NF - NEAR FACE
FF - FAR FACE
EF - EACH FACE
▲ - CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS

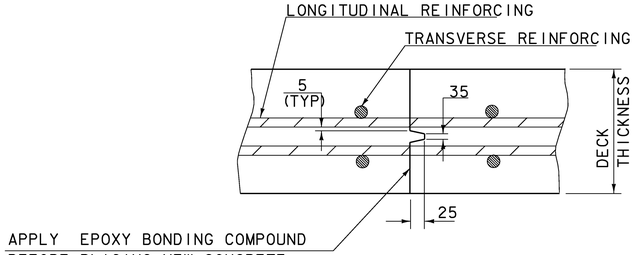
BRIDGE END DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228\str\sJ228sup.dgn
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
sJ228bed.I

PLOT DATE: 29-APR-2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 35 OF 77





TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

ALTERNATE POUR SEQUENCE

0 1 2 3 4 5

SCALE = 1:50

NOTES:

1. PLACE ALL OF THE BACKWALL, WINGWALL, AND DECK CONCRETE ABOVE THE PILE CAP CONSTRUCTION JOINTS IN ONE CONTINUOUS POUR WITHIN A MAXIMUM DURATION OF EIGHT HOURS.

2. OTHERWISE THE ALTERNATE POUR SEQUENCE SHOWN ABOVE MUST BE FOLLOWED. A MINIMUM NINETY-SIX HOUR DELAY MUST BE OBSERVED BETWEEN ADJACENT POURS.

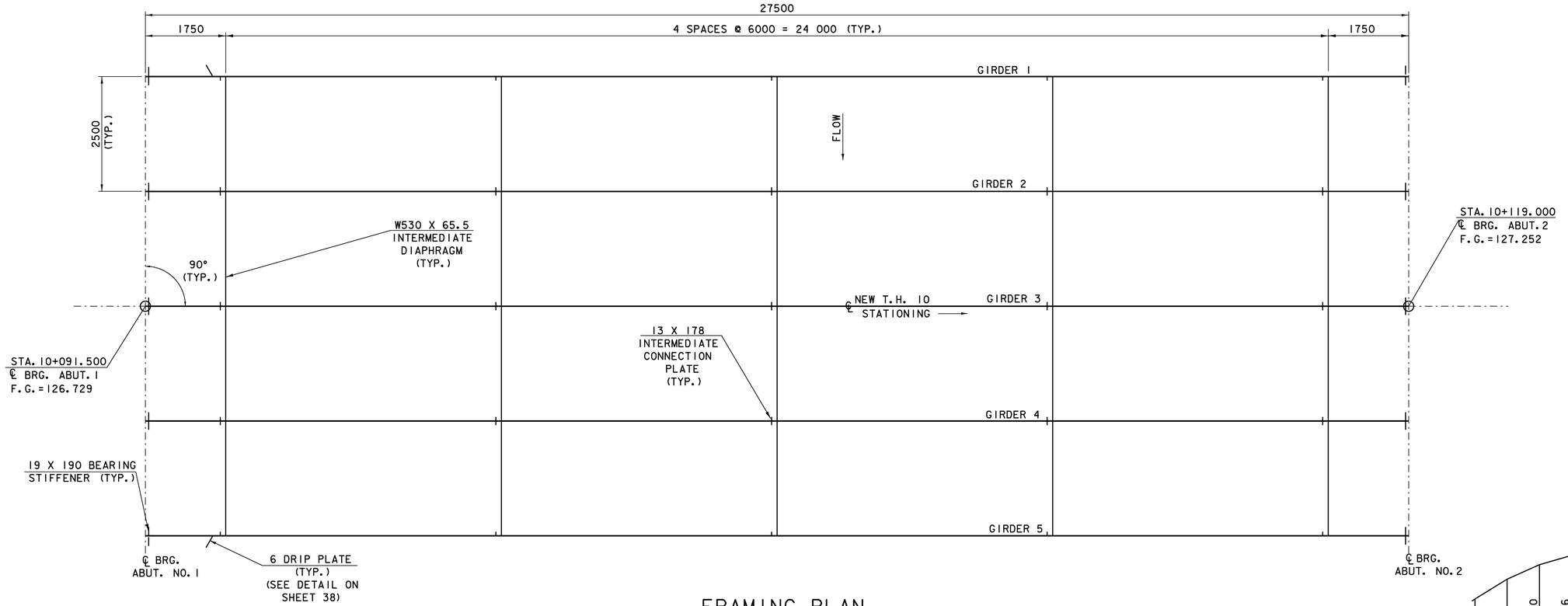
NOTE:

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▲ - CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS

POUR SEQUENCE DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

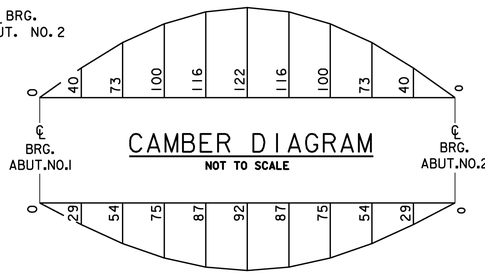
FILE NAME: 96J228\str\sJ228sup.dgn		PLOT DATE:	29-APR-2009
PROJECT LEADER:	R.R. WHITCOMB	DRAWN BY:	D. PETERSON
DESIGNED BY:	C. CARLSON	CHECKED BY:	C. CARLSON
sJ228supl.1		SHEET 36	OF 77



FRAMING PLAN

0 1 2 3 4 5

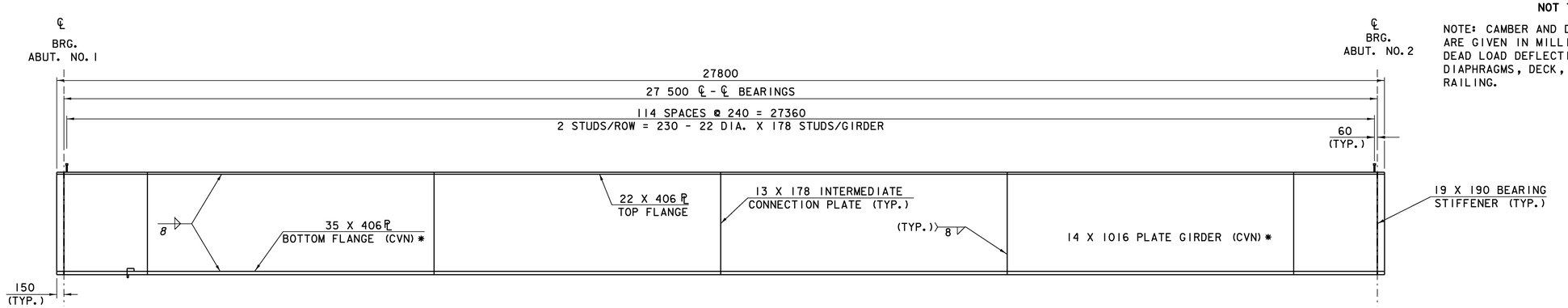
SCALE = 1:50



DEAD LOAD DEFLECTION DIAGRAM

NOT TO SCALE

NOTE: CAMBER AND DEFLECTION MEASUREMENTS ARE GIVEN IN MILLIMETERS AT TENTH POINTS. DEAD LOAD DEFLECTION IS DUE TO GIRDER, DIAPHRAGMS, DECK, SIDEWALK, PAVEMENT, AND RAILING.



* PLATE REQUIRES CHARPY V-NOTCH TESTING

FRAMING ELEVATION

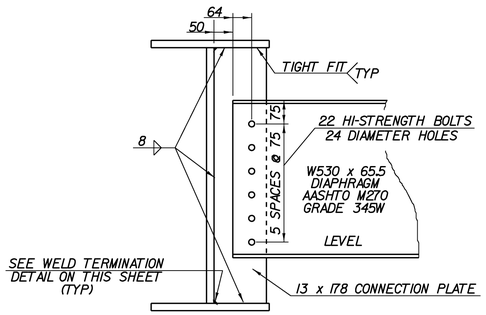
0 1 2 3 4 5

SCALE = 1:50

FRAMING PLAN

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

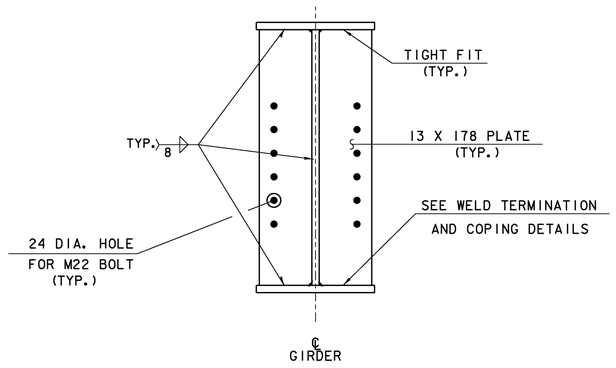
FILE NAME: 96J228\str\sj228fr.dgn		PLOT DATE:	29-APR-2009
PROJECT LEADER:	R.R. WHITCOMB	DRAWN BY:	str3
DESIGNED BY:	J. PERRIGO	CHECKED BY:	D. BONNEAU
sj228fr1.1		SHEET 37	OF 77



INTERMEDIATE DIAPHRAGMS

SCALE: 1:10

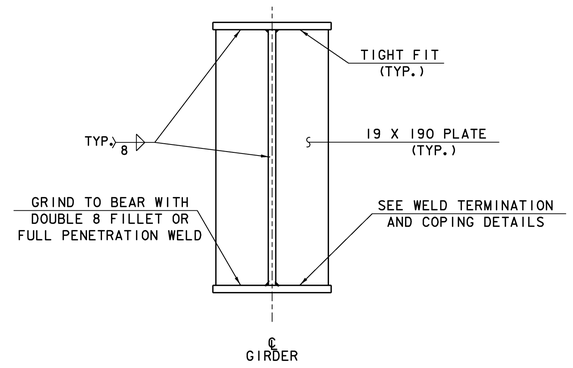
NOTE: HI-STRENGTH BOLTS, NUTS AND WASHERS SHALL CONFORM TO AASHTO DESIGNATION M 164.



INTERMEDIATE DIAPHRAGM CONNECTION PLATE DETAIL

0 0.5 1

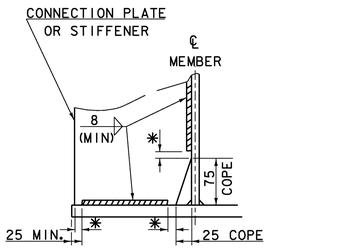
SCALE = 1:10



ABUTMENT BEARING STIFFENER DETAIL

0 0.5 1

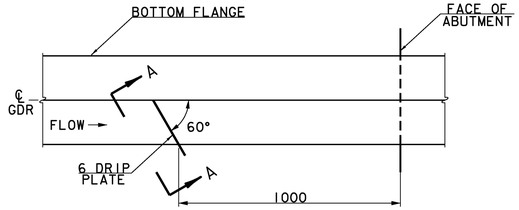
SCALE = 1:10



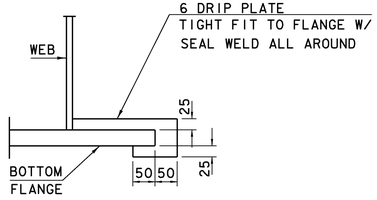
✱ NO WELD FOR 10 MIN. 13 MAX.
(EXCEPT MUST MAINTAIN 25 MINIMUM FROM EDGE OF FLANGE.)

WELD TERMINATION AND COPING DETAIL FOR WELDED PLATE GIRDERS

NTS



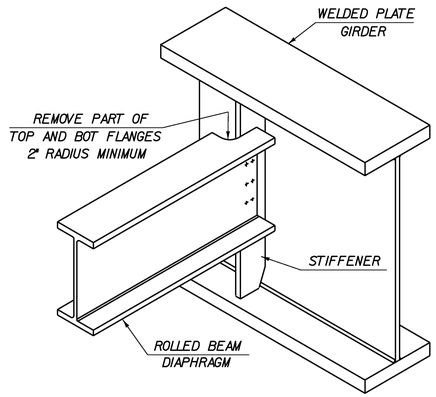
DRIP PLATE PLAN



SECTION A-A

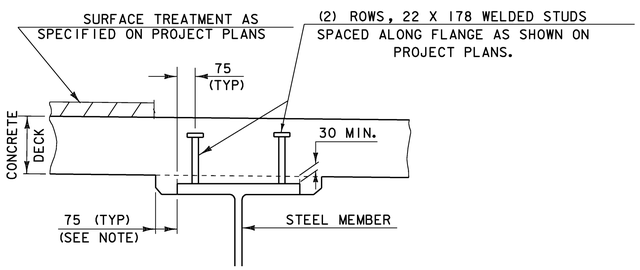
NOTES:

DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF BOTH ABUTMENTS OR AS INICATED ON THE PLANS



SEE CONTRACT DRAWINGS FOR SIZES OF MEMBERS AND CONNECTION DETAILS

ROLLED BEAM USED AS DIAPHRAGM



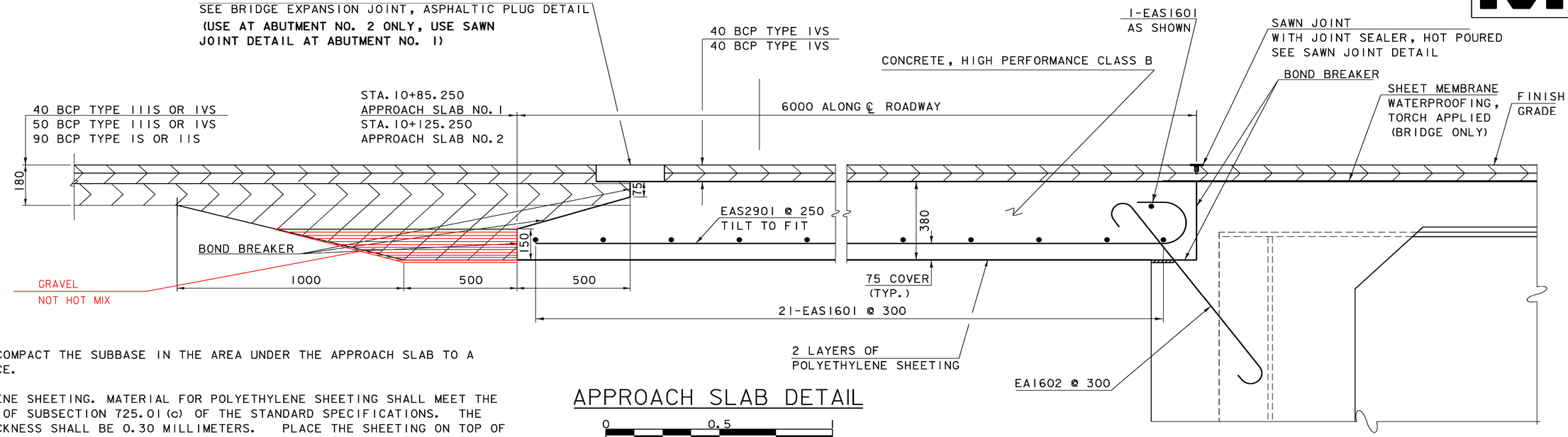
HAUNCH AND SHEAR CONNECTOR DETAILS

NOTE: THE 75 HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. SYSTEMS SHALL BE SUBMITTED FOR APPROVAL TO THE STRUCTURES ENGINEER. ALL VOIDS SHALL BE FILLED WITH POLYURETHANE JOINT SEALER OR AN EQUIVALENT PRODUCT FROM THE APPROVED PRODUCTS LIST. COST SHALL BE INCIDENTAL TO ADJACENT CONCRETE ITEM.

DIAPHRAGM DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

FILE NAME: 96J228\str\sJ228sup.dgn	PLOT DATE: 29-APR-2009
PROJECT LEADER: R.R. WHITCOMB	DRAWN BY: D. PETERSON
DESIGNED BY: C. CARLSON	CHECKED BY: C. CARLSON
sJ228supl.i	SHEET 38 OF 77



APPROACH SLAB DETAIL

0 0.5

SCALE = 1:10

NOTES:

1. SUBBASE. COMPACT THE SUBBASE IN THE AREA UNDER THE APPROACH SLAB TO A SMOOTH SURFACE.

2. POLYETHYLENE SHEETING. MATERIAL FOR POLYETHYLENE SHEETING SHALL MEET THE REQUIREMENTS OF SUBSECTION 725.01(c) OF THE STANDARD SPECIFICATIONS. THE SHEETING THICKNESS SHALL BE 0.30 MILLIMETERS. PLACE THE SHEETING ON TOP OF THE FINISHED SUBBASE FOR THE FULL LENGTH AND WIDTH OF THE APPROACH SLAB, EXCEPT IN THE BRACKET AREA AT THE ABUTMENT. LAP SHEETING AT LEAST 600 MILLIMETERS. PAYMENT FOR ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B" SHALL INCLUDE THIS SHEETING.

3. CONCRETE. POUR APPROACH SLAB CONCRETE IN THE EARLY MORNING BEFORE THE SUPERSTRUCTURE EXPANDS.

4. BOND BREAKER. APPLY 2 COATS TAR EMULSION. PAYMENT FOR ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B" SHALL INCLUDE THIS BOND BREAKER.

ASPHALTIC PLUG JOINT NOTES

1. INSTALLATION

A. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

B. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.

C. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

D. REPAIR SPALLED AND DEFECTIVE CONCRETE WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.

E. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 25 +/- OF BINDER ABOVE THE ROD.

F. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.

G. PLACE 7 THICK BY 200 WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.

H. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.

I. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

J. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TOREDUCE THE RISK OF TRACKING.

K. ONCE THE JOINT REACHES 82 DEG C(180 DEG F)+/-, WATER MAYBE USED TO EXPEDITE THE COOLING PROCESS.

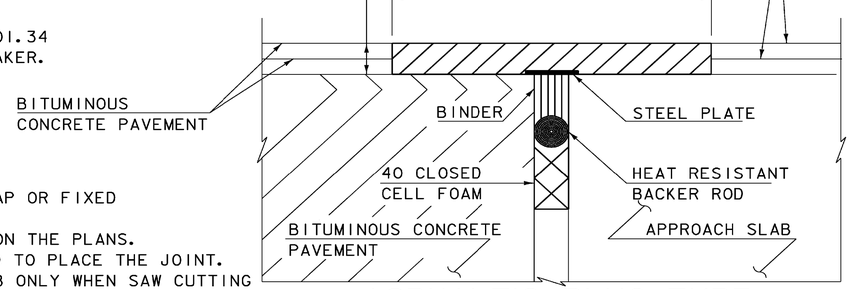
L. PROTECTED JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C(125 DEG F) +/-.

2. WEATHER LIMITATIONS. (APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTORER):

A. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.

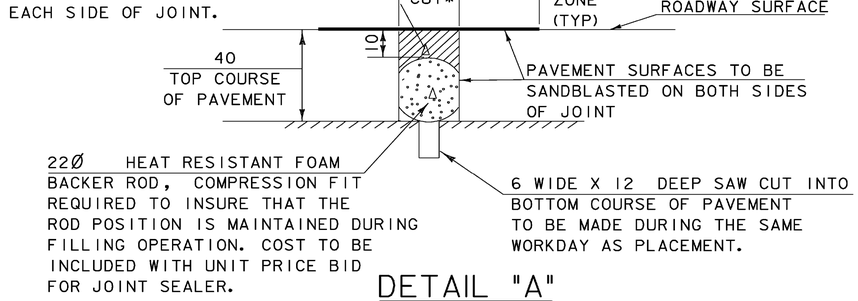
B. THE ROAD SURFACE IS DRY.

C. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.



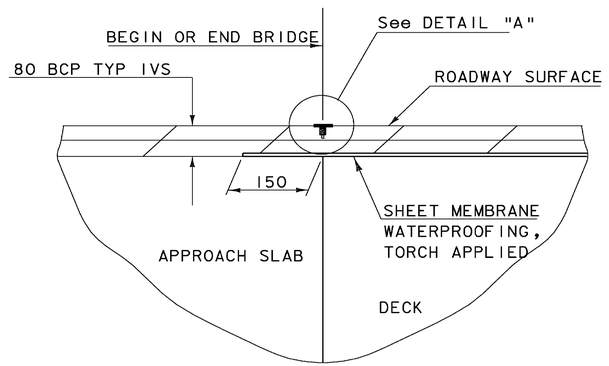
ASPHALTIC PLUG-TYPE JOINT DETAIL

(NOT TO SCALE)



DETAIL "A"

NTS



SAWN JOINT DETAIL

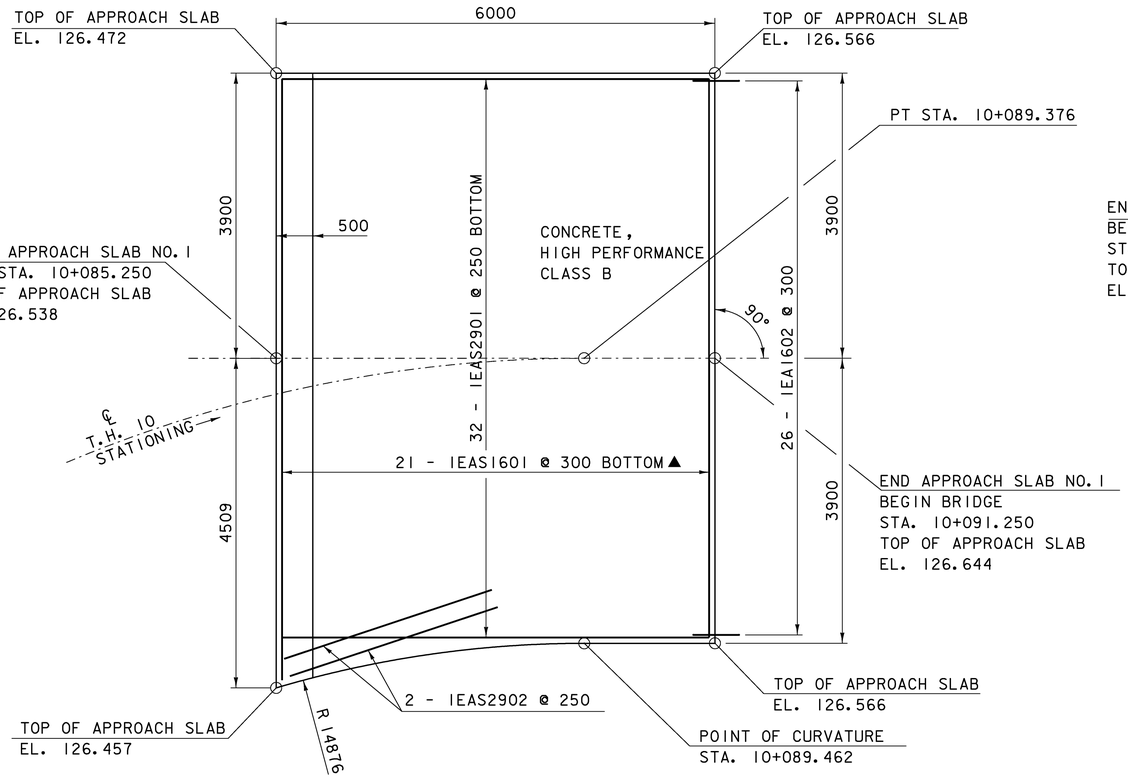
NTS

*JOINT IS TO BE LOCATED ACCURATELY BY STRING LINING, OR OTHER MEANS, PRIOR TO PAVING, SO THAT THE SAW CUTS WILL BE MADE DIRECTLY OVER THE END OF CONCRETE DECK. JOINT SHALL BE CUT DRY IN A SINGLE PASS AND BE SEALED WITHIN 24 HOURS OR PRIOR TO EXPOSURE TO TRAFFIC. JOINT SHALL BE CLEANED PRIOR TO APPLYING THE JOINT SEALER. SEE VT. SPECIFICATION SECTION 524.

APPROACH SLAB DETAILS

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

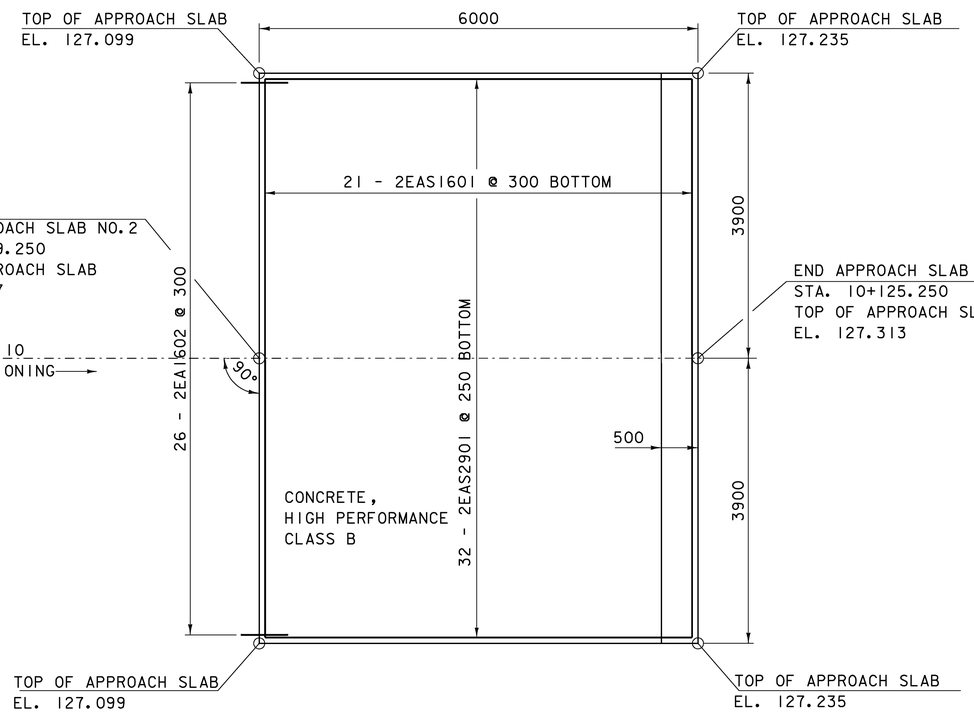
FILE NAME: 96J228\str\sJ228sup.dgn		PLOT DATE:	26-MAY-2009
PROJECT LEADER:	R.R. WHITCOMB	DRAWN BY:	C. MOONEY
DESIGNED BY:	C. CARLSON	CHECKED BY:	D. PETERSON
sJ228app.1		SHEET 39	OF 77



APPROACH SLAB NO.1 PLAN

0 1 2 3 4 5

SCALE = 1:50



APPROACH SLAB NO.2 PLAN

0 1 2 3 4 5

SCALE = 1:50

NOTES:

1. PLACE HOOKED ENDS OF BOTTOM STEEL RUNNING PARALLEL TO CENTERLINE AT ABUTMENT END OF SLAB.
2. ALL ELEVATIONS ARE AT THE TOP OF APPROACH SLAB, NOT THE FINISH GRADE.
3. APPLY 2 COATS OF TAR EMULSION BOND BREAKER BETWEEN APPROACH SLAB AND SIDEWALK. INCLUDE IN ITEM 501.34 "CONCRETE, HIGH PERFORMANCE CLASS B".

NOTE:

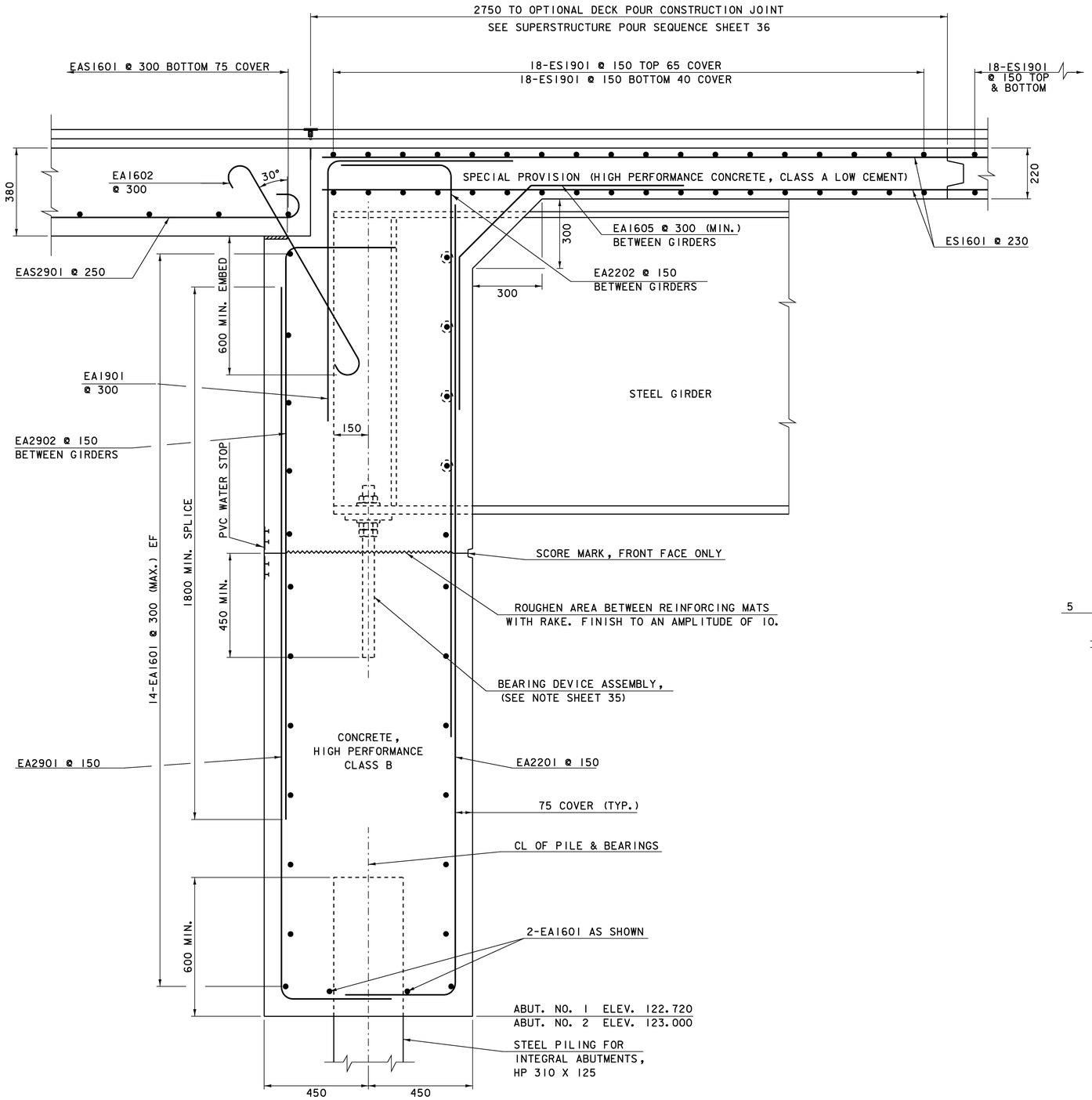
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS

APPROACH SLAB PLAN

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

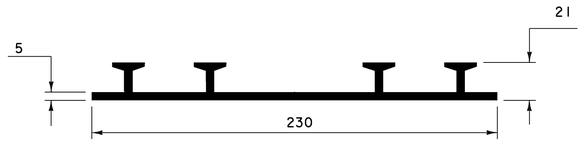
FILE NAME: 96J228\str\sJ228sup.dgn
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
sJ228app.1

PLOT DATE: 29-APR-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 40 OF 77



INTEGRAL ABUTMENT DETAIL

NTS



P.V.C. WATERSTOP FOR CONSTRUCTION JOINTS

(NOT TO SCALE)

PAYMENT FOR THE P.V.C. WATERSTOP SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR THE ADJACENT CONCRETE. OTHER CONFIGURATIONS OF WATERSTOP MAY BE USED UPON APPROVAL OF THE ENGINEER.

NOTE:

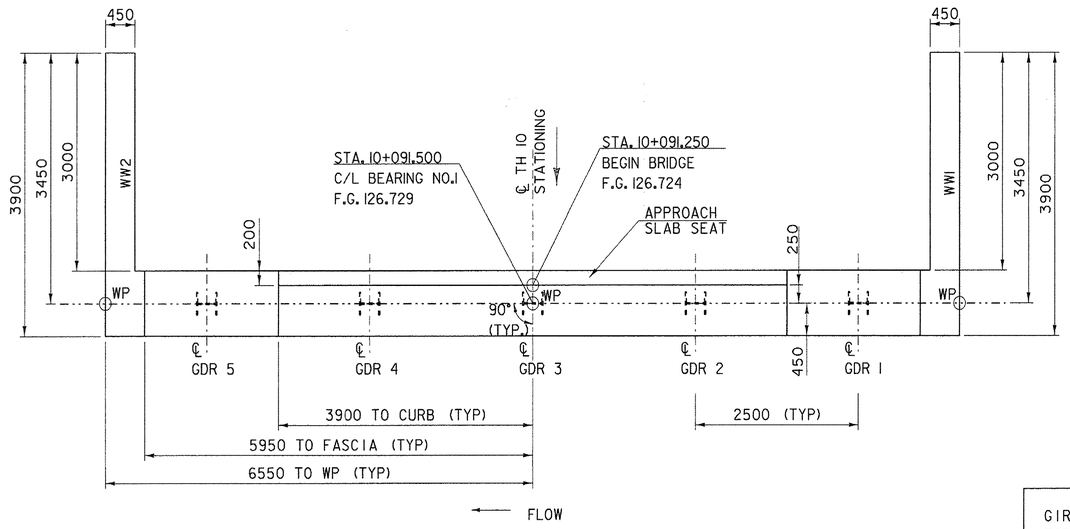
NF - NEAR FACE
FF - FAR FACE
EF - EACH FACE
▲ - CUT TO FIT IN FIELD
80 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN.LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS

ABUTMENT REINFORCEMENT DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228\str\sJ228sup.dgn
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
sJ228bed.i

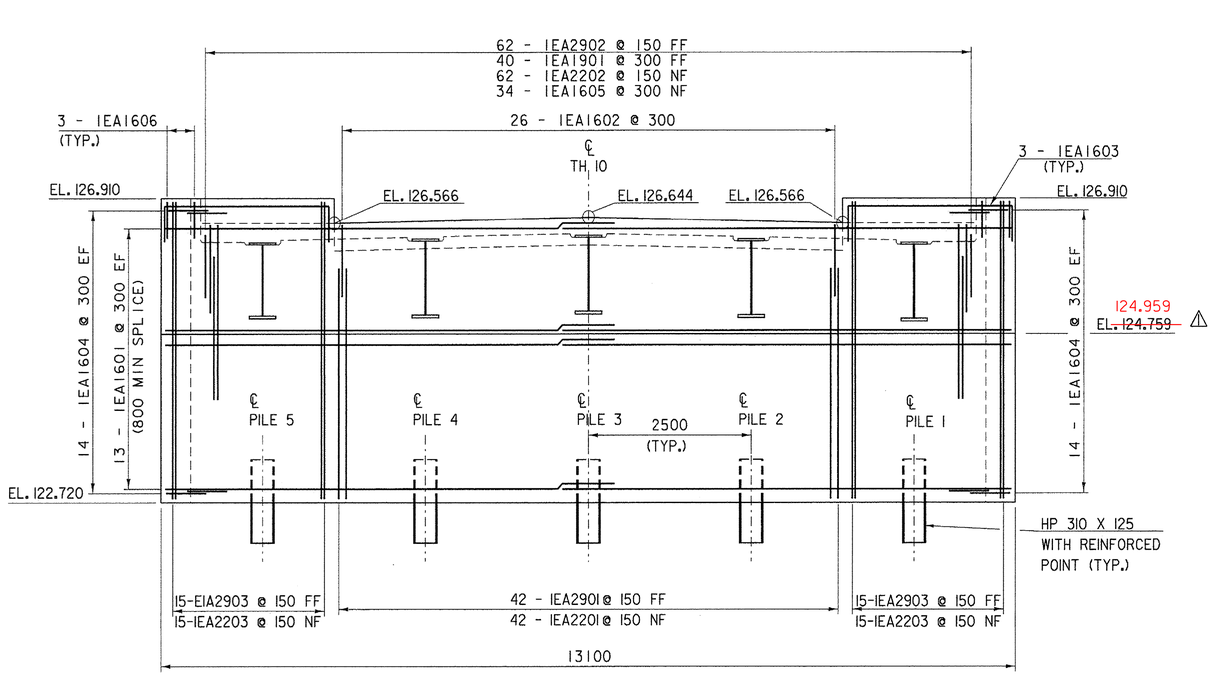
PLOT DATE: 27-MAY-2009
DRAWN BY: D. PETERSON
CHECKED BY: C. CARLSON
SHEET 41 OF 77



ABUTMENT NO. 1 PLAN

SCALE = 1:40

GIRDER SEAT ELEVATIONS TOP OF LEVELING PLATES		
GIRDER 5	124.158	⚠
GIRDER 4	125.208	⚠
GIRDER 3	125.258	⚠
GIRDER 2	125.208	⚠
GIRDER 1	124.158	⚠

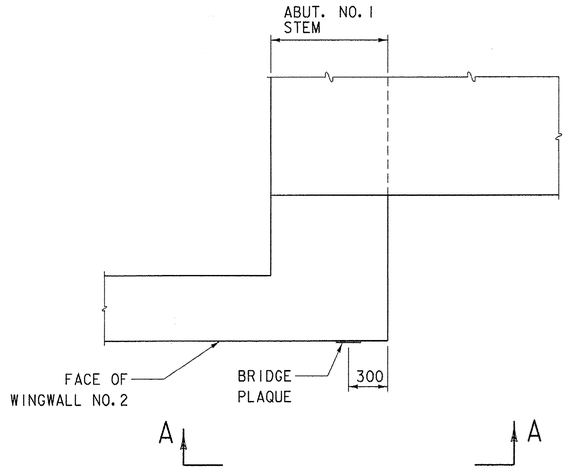


ABUTMENT NO. 1 ELEVATION

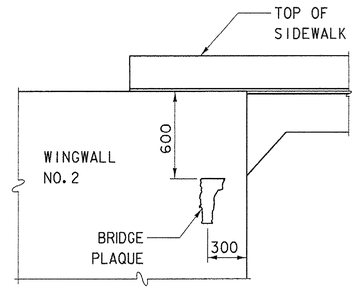
SCALE = 1:40

NOTE:

1. NF = NEAR FACE
2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS. 660 MIN. LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. SEE SHEET 41 FOR ADDITIONAL ABUTMENT DETAILS



BRIDGE PLAQUE PLAN
NOT TO SCALE



BRIDGE PLAQUE VIEW "A-A"
NOT TO SCALE

BRIDGE PLAQUE NOTES

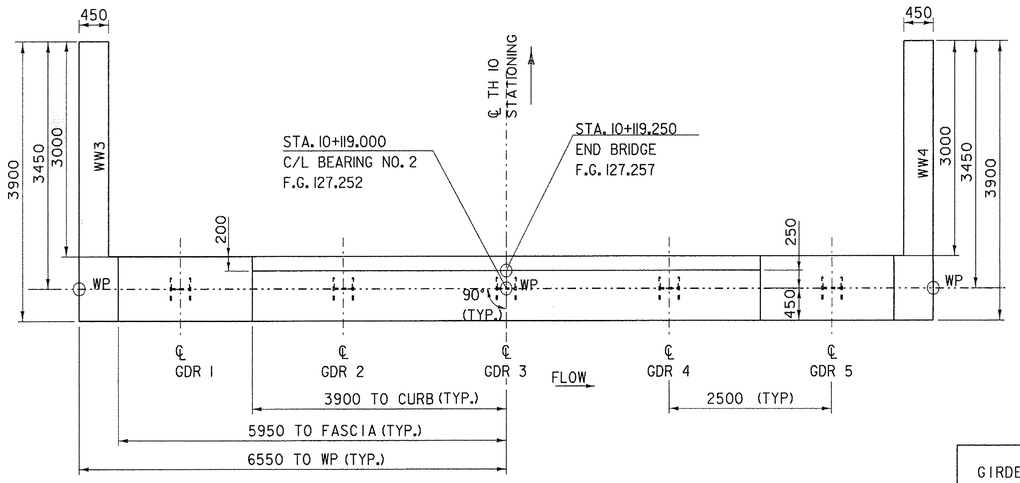
1. VTRANS WILL SUPPLY THE BRIDGE PLAQUE.
2. INSTALL THE PLAQUE AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. INCLUDE COST FOR INSTALLATION OF PLAQUE IN ITEM 900.608 SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT).

REVISION	BY	DATE	DESCRIPTION
⚠	CWC	7-8-09	GIRDER SEAT ELEVATIONS CORRECTED

ABUTMENT NO. 1 DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

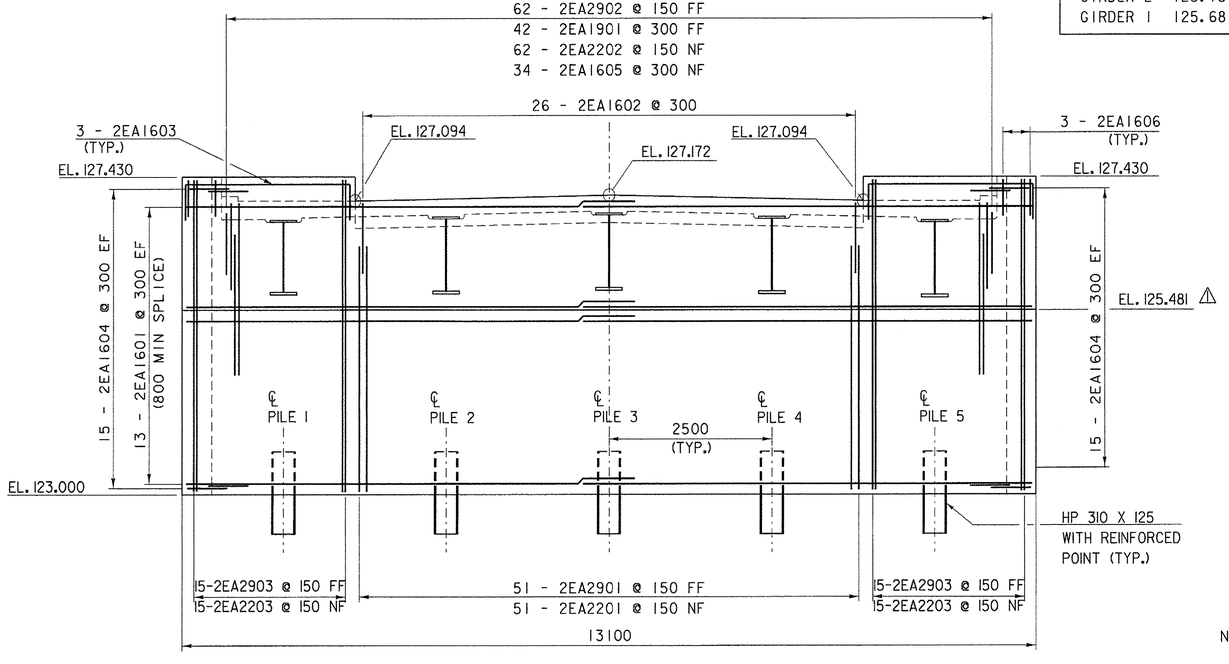
FILE NAME: 96J228/str/sj228sub.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
sj228abl.1
PLOT DATE: 24-AUG-2009
DRAWN BY: str3
CHECKED BY: C. CARLSON
SHEET 42 OF 77



ABUTMENT NO. 2 PLAN

0 1 2 3 4

SCALE = 1:40

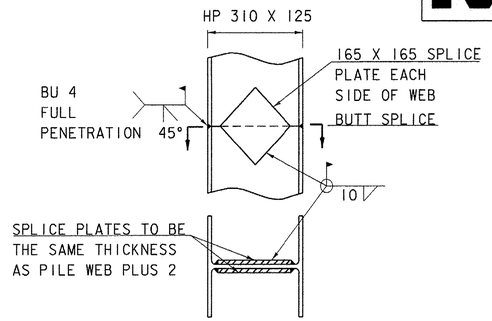


ABUTMENT NO. 2 PLAN

0 1 2 3 4

SCALE = 1:40

GIRDER SEAT ELEVATIONS TOP OF LEVELING PLATES		
GIRDER 5	125.681	⚠
GIRDER 4	125.731	⚠
GIRDER 3	125.781	⚠
GIRDER 2	125.731	⚠
GIRDER 1	125.681	⚠



PREFABRICATED PILE SPLICE PLATES MAY BE USED WITH THE APPROVAL OF THE RESIDENT ENGINEER.

PILE SPLICE DETAIL

NTS

NOTES

1. H - INDICATES LOCATION OF A VERTICAL PILE.
2. PILE SIZE: HP 310 X 125 (HP 12 X 84)
3. PILE STEEL: ASTM 572/A572M GR 345
4. WELD PROCEDURES TO BE APPROVED BY THE STRUCTURES ENGINEER PRIOR TO WELDING.

NOTE:

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2. FF = FAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS. 660 MIN. LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. SEE SHEET 41 FOR ADDITIONAL ABUTMENT DETAILS

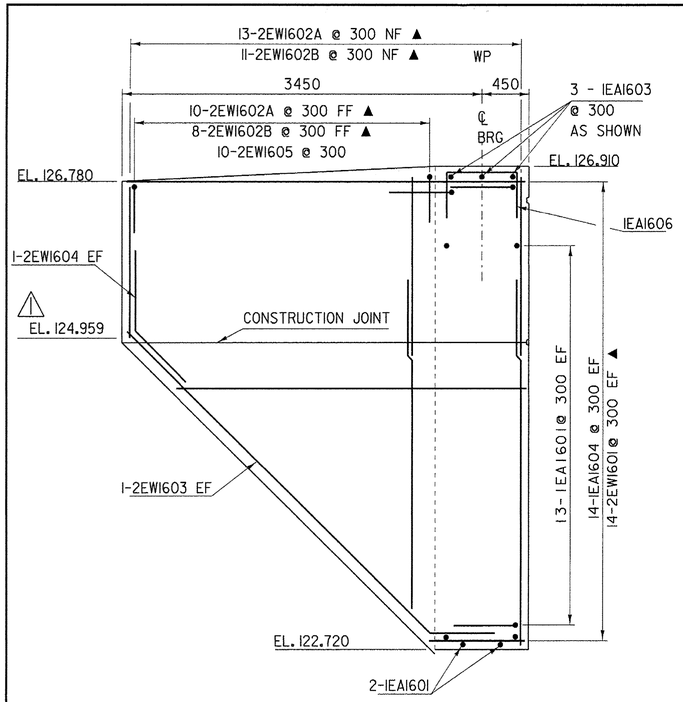
REVISION	BY	DATE	DESCRIPTION
⚠	CWC	7-8-09	GIRDER SEAT ELEVATIONS CORRECTED

ABUTMENT NO. 2 DETAILS

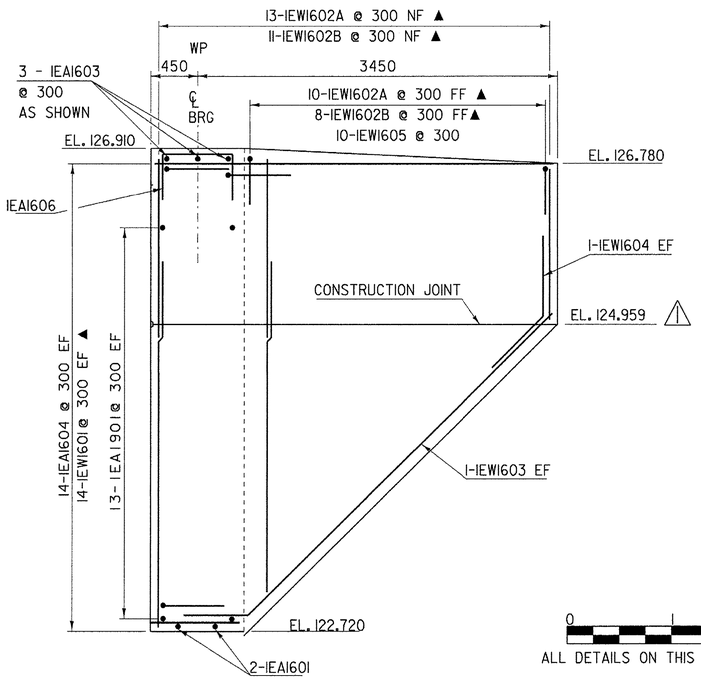
PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sj228sub.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
sj228abl.1

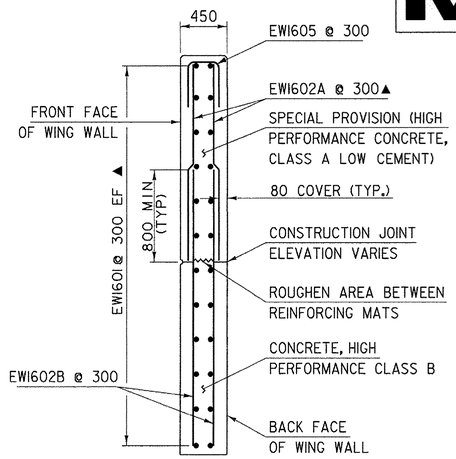
PLOT DATE: 24-AUG-2009
DRAWN BY: str3
CHECKED BY: C. CARLSON
SHEET 43 OF 77



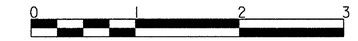
WINGWALL NO. 2 ELEVATION



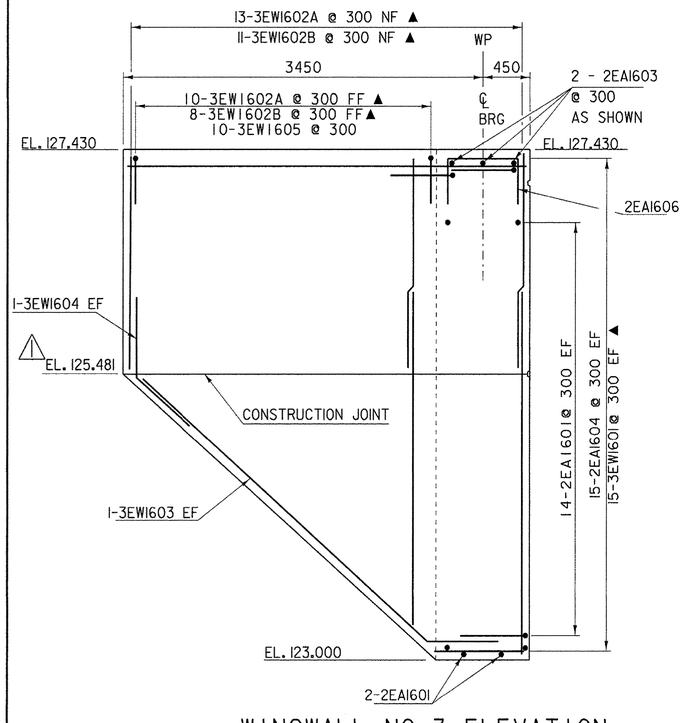
WINGWALL NO. 1 ELEVATION



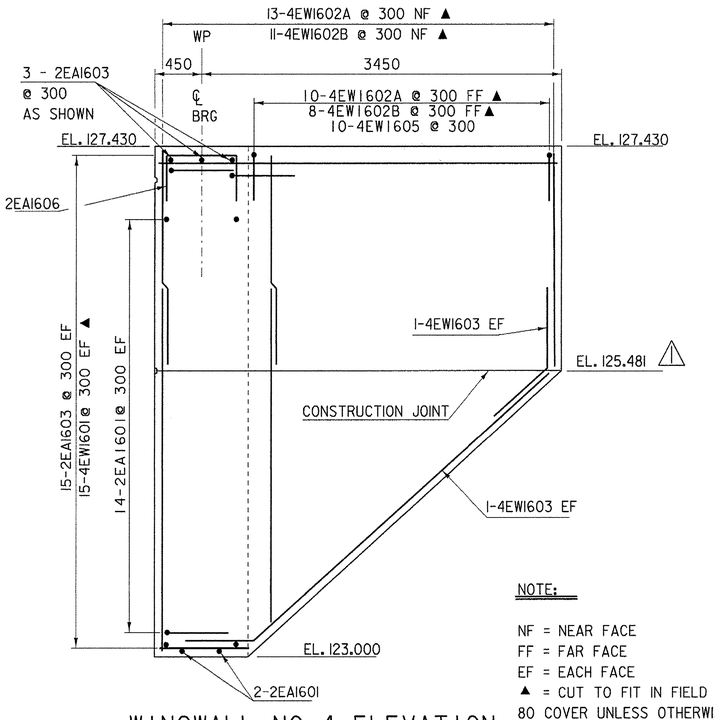
WINGWALL TYPICAL SECTION



ALL DETAILS ON THIS SHEET ARE AT SCALE = 1:25



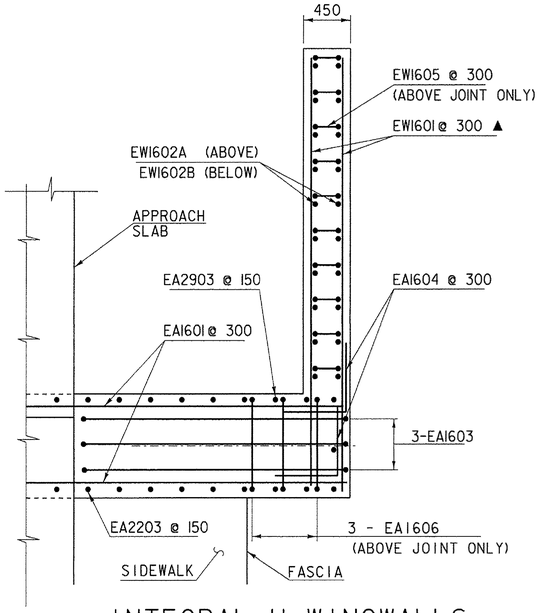
WINGWALL NO. 3 ELEVATION



WINGWALL NO. 4 ELEVATION

NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
80 COVER UNLESS OTHERWISE SPECIFIED ON THE PLANS.
660 MIN. LAP LENGTH UNLESS OTHERWISE SPECIFIED ON THE PLANS



INTEGRAL U-WINGWALLS

REVISION	BY	DATE	DESCRIPTION
⚠	CWC	7-8-09	GIRDER SEAT ELEVATIONS CORRECTED

WINGWALL DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sj228sub.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
sj228ab2.1

PLOT DATE: 24-AUG-2009
DRAWN BY: str3
CHECKED BY: C. CARLSON
SHEET 44 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

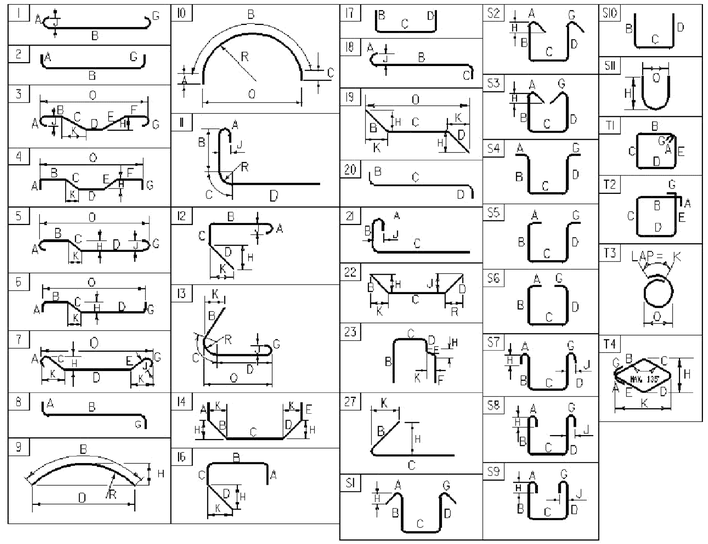
METRIC

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
DECK																	
✳	397	16	9810	ES1601	STR												
+	373	16	11740	ES1901	STR												
	190	16	2907	ES1602	S5	155	380	1872	345			155					
APPROACH SLAB NO. 1																	
+ ▲	23	16	8260	1EAS1601	STR												
	2	29	3000	1EAS2902	STR												
+	33	29	6225	1EAS2901	1	375	5850							300			
APPROACH SLAB NO. 2																	
△ ▲	24	16	7650	2EAS1601	STR												
+	33	29	6225	2EAS2901	1	375	5850							300			
ABUTMENT NO. 1																	
+	57	16	6805	1EA1601	STR												
	26	16	1530	1EA1602	1	250	1030					250					
	56	16	1200	1EA1604	17		600	600	---								
	40	19	1800	1EA1901	17		1000	800	---								
+	43	22	4380	1EA2201	17		3630	750	---								
	62	22	3730	1EA2202	17		2980	750	---								
+	31	22	4790	1EA2203	17		4040	750	---								
	42	29	4070	1EA2901	17		3320	750	---								
	62	29	4220	1EA2902	17		3000	1220	---								
+	31	29	4790	1EA2903	17		4040	750	---								
	34	16	1770	1EA1605	22		660	450	660				---	---	---	---	
	6	16	3000	1EA1603	S10		250	2500	250								
	6	16	2070	1EA1606	S10		660	750	660								
WINGWALL NO. 1																	
▲	28	16	3750	1EW1601	STR												
▲	23	16	2075	1EW1602A	STR												
▲	19	16	2625	1EW1602B	STR												
	2	16	4312	1EW1603	22		660	3652					488		445		
	2	16	1320	1EW1604	22		660	660					445		488		
	10	16	1620	1EW1605	S10		660	300	660								
WINGWALL NO. 2																	
▲	28	16	3750	2EW1601	STR												
▲	23	16	2075	2EW1602A	STR												
▲	19	16	2625	2EW1602B	STR												
	2	16	4312	2EW1603	22		660	3652					488		445		
	2	16	1320	2EW1604	22		660	660					445		488		
	10	16	1620	2EW1605	S10		660	300	660								

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO. 2																	
✳	57	16	6805	2EA1601	STR												
	26	16	1530	2EA1602	1	250	1030					250					
	60	16	1200	2EA1604	17		600	600	---								
	40	19	1800	2EA1901	17		1000	800	---								
+	43	22	4550	2EA2201	17		3800	750	---								
	62	22	3730	2EA2202	17		2980	750	---								
✳	31	22	5030	2EA2203	17		4280	750	---								
	42	29	4395	2EA2901	17		3645	750	---								
	62	29	4220	2EA2902	17		3000	1220	---								
✳	31	29	4790	2EA2903	17		4040	750	---								
	34	16	1770	2EA1605	22		660	450	660				---	---	---	---	
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	6	16	2070	2EA1606	S10		660	750	660								
WINGWALL NO. 3																	
▲	30	16	3750	3EW1601	STR												
▲	23	16	1975	3EW1602A	STR												
▲	19	16	2940	3EW1602B	STR												
	2	16	4340	3EW1603	22		660	3680					482		451		
	2	16	1320	3EW1604	22		660	660					451		482		
	10	16	1620	3EW1605	S10		660	300	660								
WINGWALL NO. 4																	
▲	28	16	3750	4EW1601	STR												
▲	23	16	1975	4EW1602A	STR												
▲	19	16	2940	4EW1602B	STR												
	2	16	4340	4EW1603	22		660	3680					482		451		
	2	16	1320	4EW1604	22		660	660					451		482		
	10	16	1620	4EW1605	S10		660	300	660								

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, 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 BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



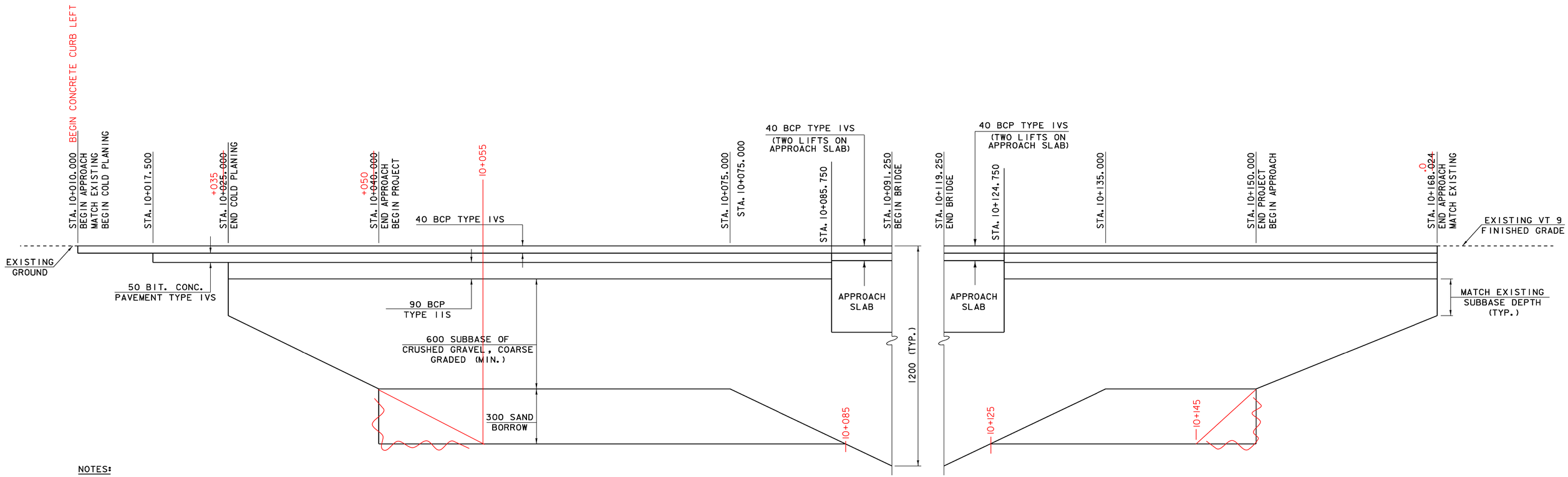
ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm²)	PERIMETER (mm)
#10	0.560	9.5	71	29.84
#13	0.994	12.7	129	39.90
#16	1.552	15.9	199	49.95
#19	2.235	19.1	284	60.00
#22	3.042	22.2	387	69.74
#25	3.973	25.4	510	79.80
#29	5.060	28.7	645	90.16
#32	6.404	32.3	819	101.47
#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

PROJECT NAME: **BRATTLEBORO**
PROJECT NUMBER: **BRF 2000(21)(S**

FILE NAME: s96j228rss.dgn
PROJECT MANAGER: R. WHITCOMB
DESIGNED BY: C. CARLSON
REINFORCING STEEL SCHEDULE

PLOT DATE: 5/26/2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 45 OF 77



NOTES:

1. SEE MAINLINE CROSS SECTIONS TO DETERMINE CUT OR FILL.
2. SEE SHEET 12 OF THE PLANS FOR ADDITIONAL ABUTMENT EARTHWORK DETAILS.
3. SEE APPROACH SLAB END DETAIL ON SHEET 39 OF THE PLANS FOR PAVEMENT TRANSITION DETAILS AT THE END OF APPROACH SLABS.
4. BANKING: TRANSITION FROM MATCH EXISTING AT STA. 10+010.000 TO NORMAL CROWN AT BEGIN PROJECT STA. 10+040.000. TRANSITION FROM NORMAL CROWN AT END PROJECT STA. 10+150.000 TO MATCH EXISTING AT STA. 10+168.024.

NEW T.H. 10 MATERIAL TRANSITION DETAIL

HORIZ.: 0 4 8 12 16 20
SCALE = 1:200

VERT.: 0 0.5 1
SCALE = 1:10

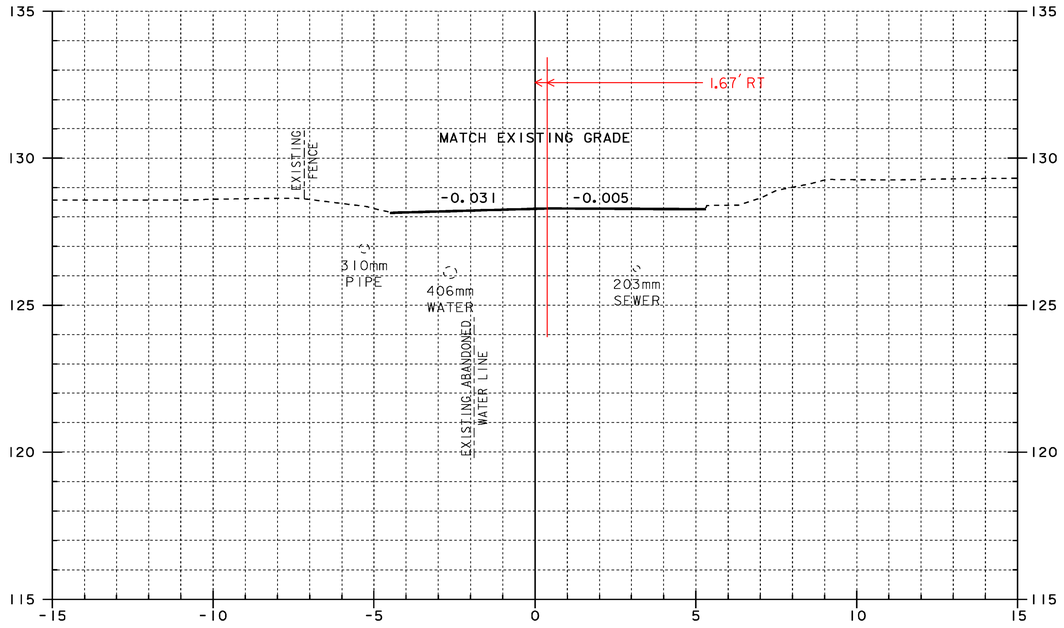
MATERIAL TRANSITION DETAILS

PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228mtd.1

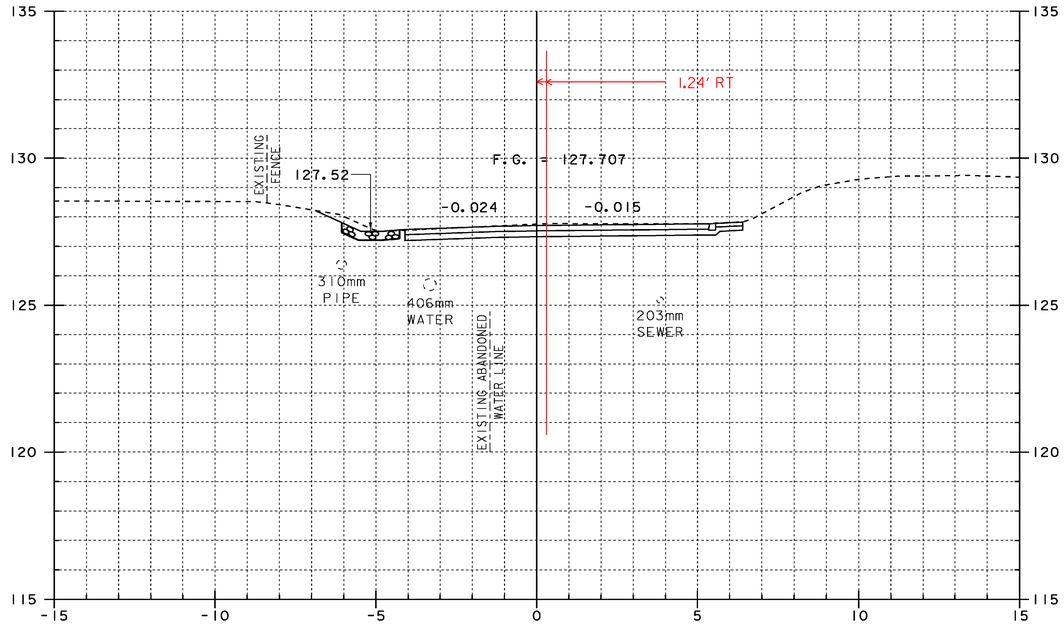
PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 46 OF 77

MOVE ℄ TO CROWN OF ROAD AS SHOWN



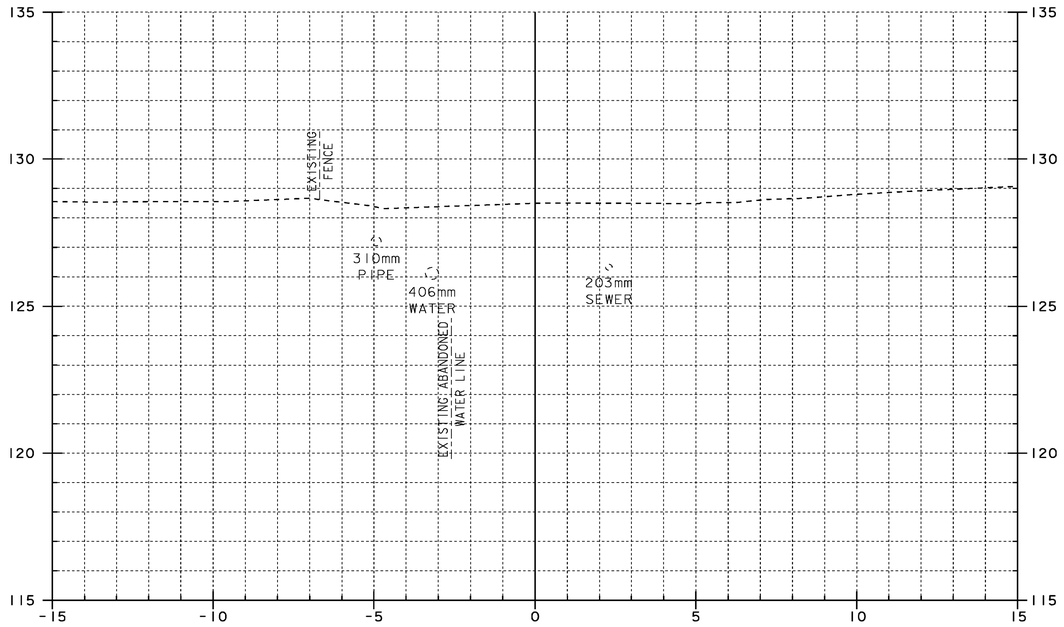
10+010

STA. 10+010.000
BEGIN APPROACH
MATCH EXISTING

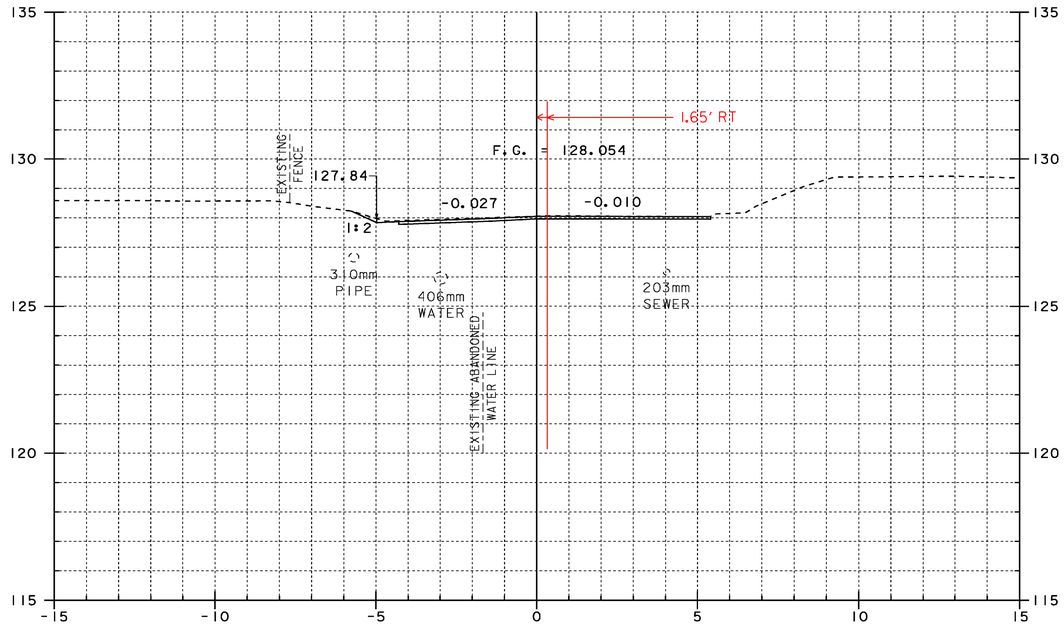


10+030

STA. 10+030.000
BEGIN STONE FILL, TYPE I
GEOTEXTILE UNDER STONE FILL



10+000



10+020

0 1 2 4 6 8 10

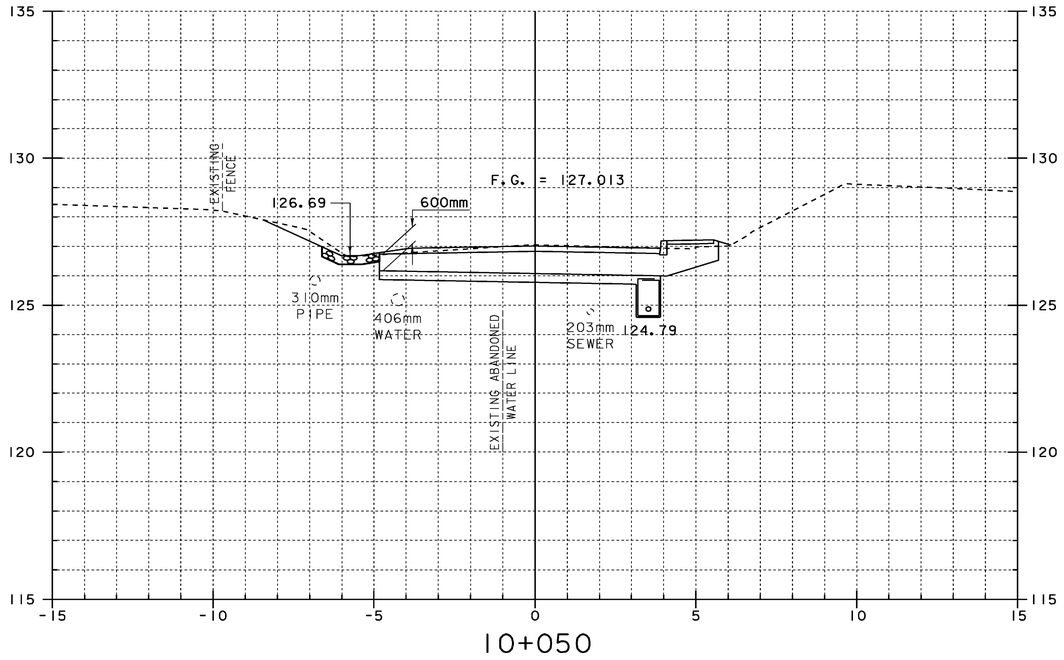
SCALE = 1:100

MAINLINE CROSS SECTIONS (1)

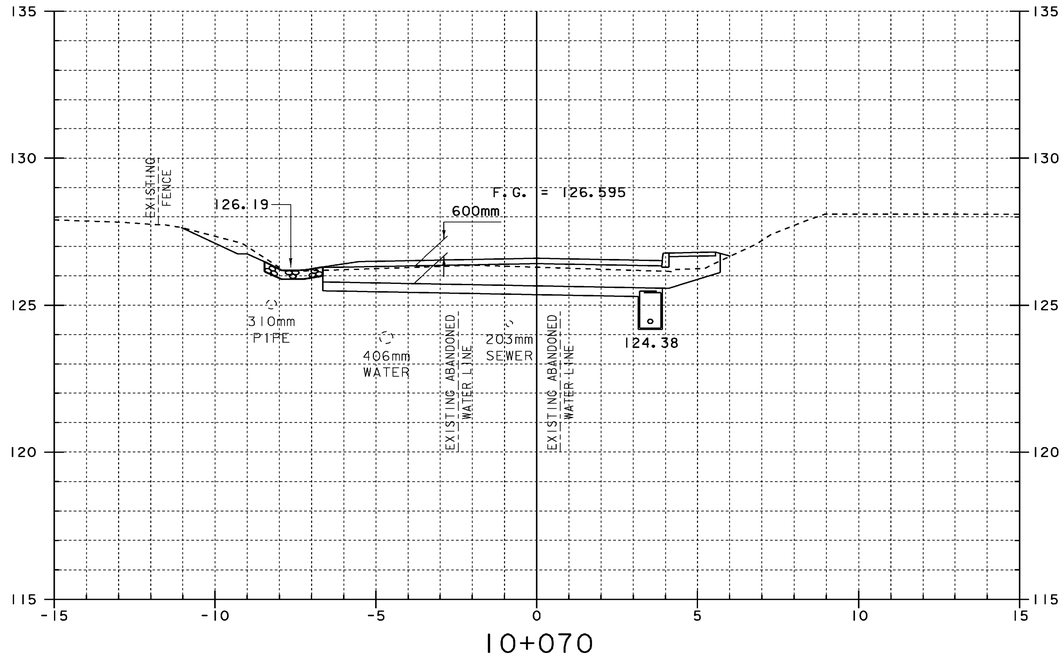
PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228m01.1

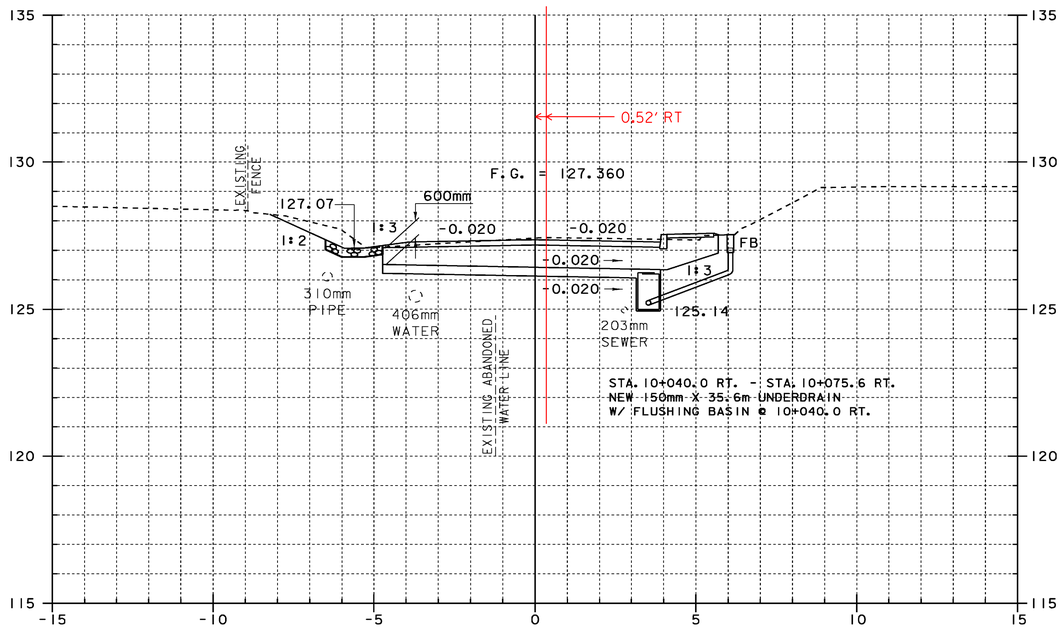
PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 47 OF 77



10+050

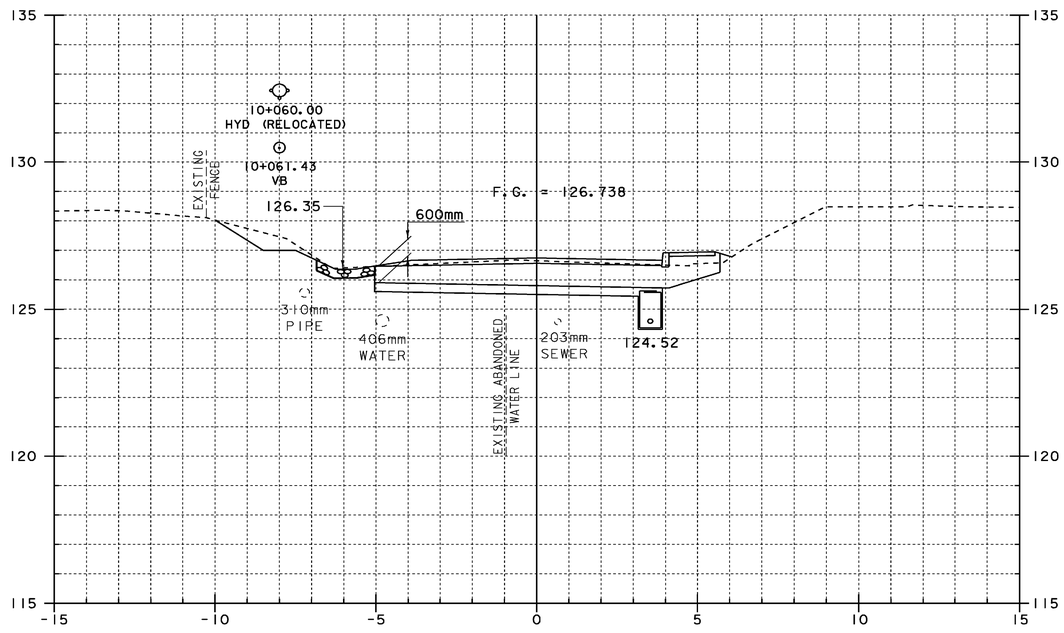


10+070



10+040

STA. 10+040.000
END APPROACH
BEGIN PROJECT



10+060

0 1 2 4 6 8 10

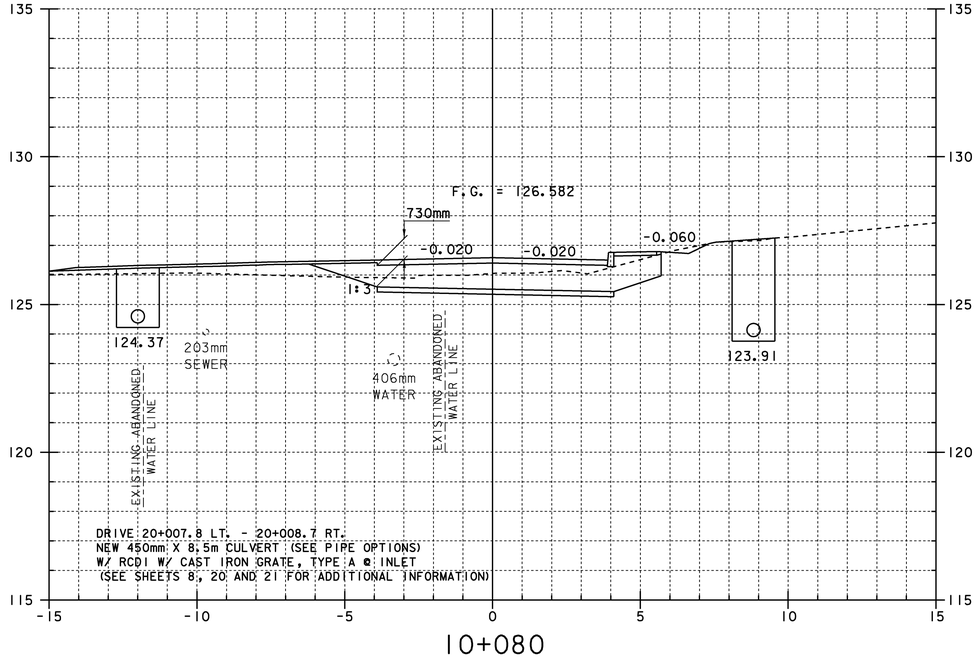
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MAINLINE CROSS SECTIONS (2)

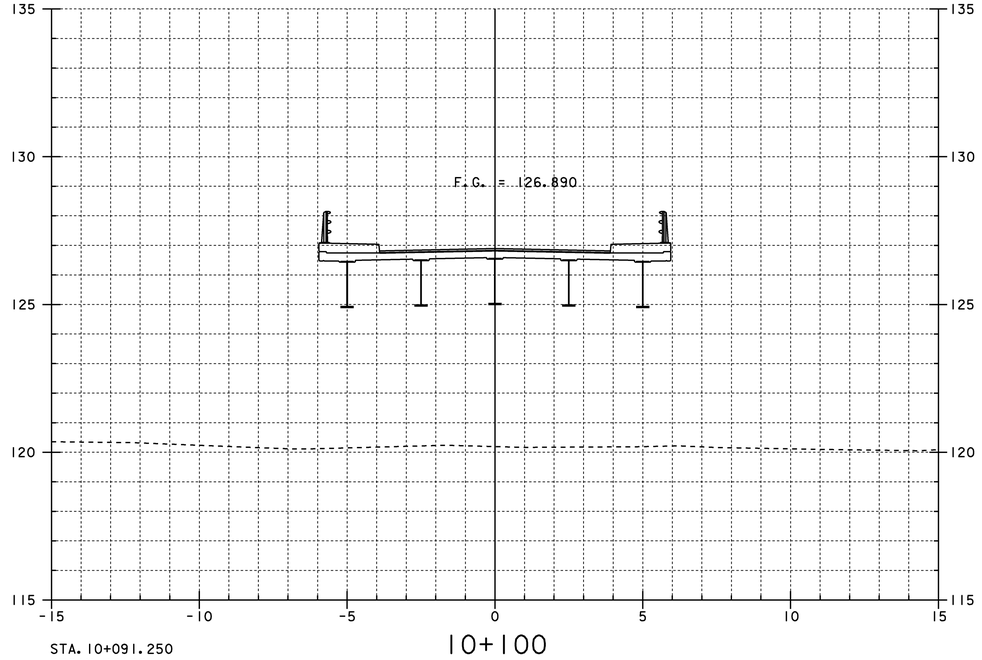
PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228mo2.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 48 OF 77

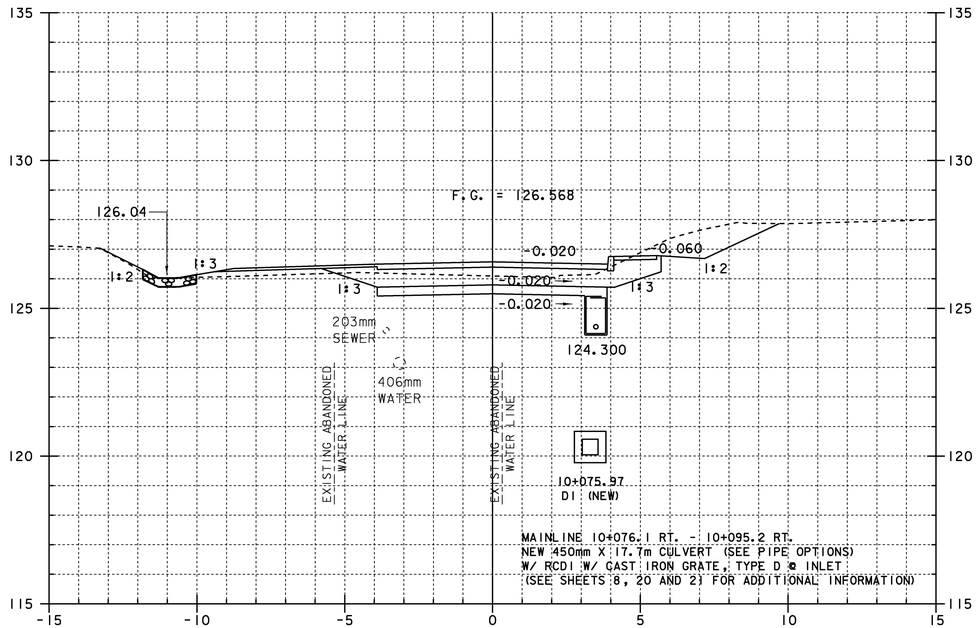


10+080



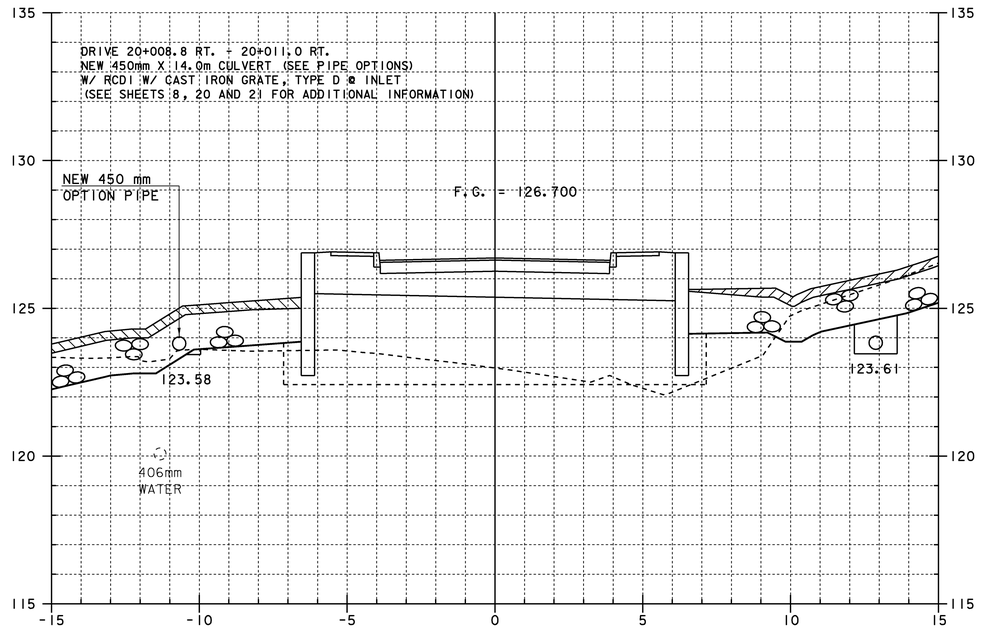
STA. 10+091.250
BEGIN BRIDGE

10+100



STA. 10+077.75
END STONE FILL, TYPE I
GEOTEXTILE UNDER STONE FILL

10+075



10+090

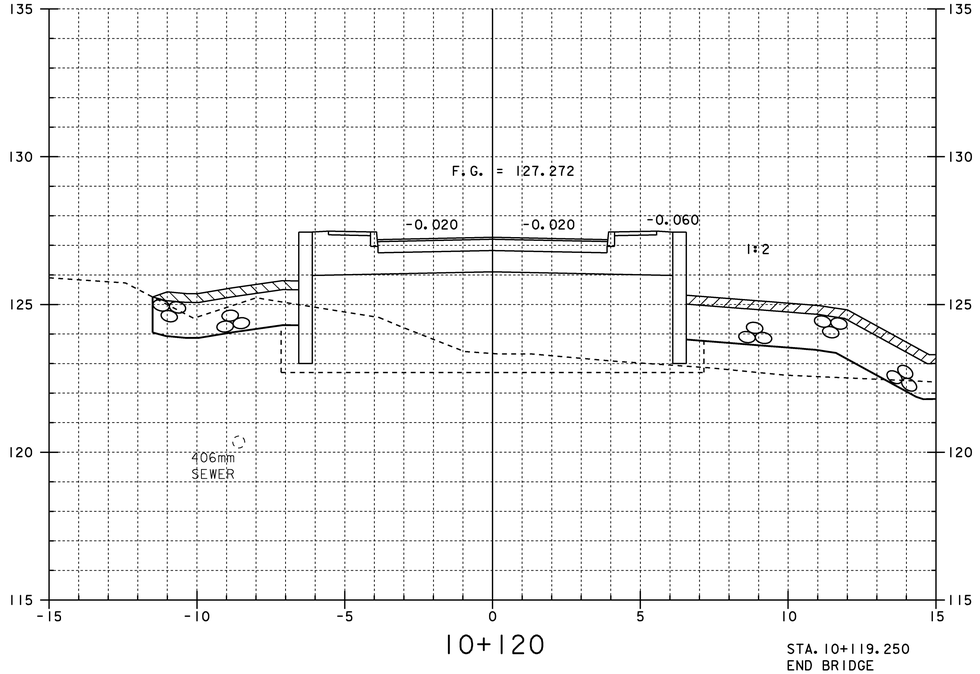
0 1 2 4 6 8 10

SCALE = 1:100

MAINLINE CROSS SECTIONS (3)

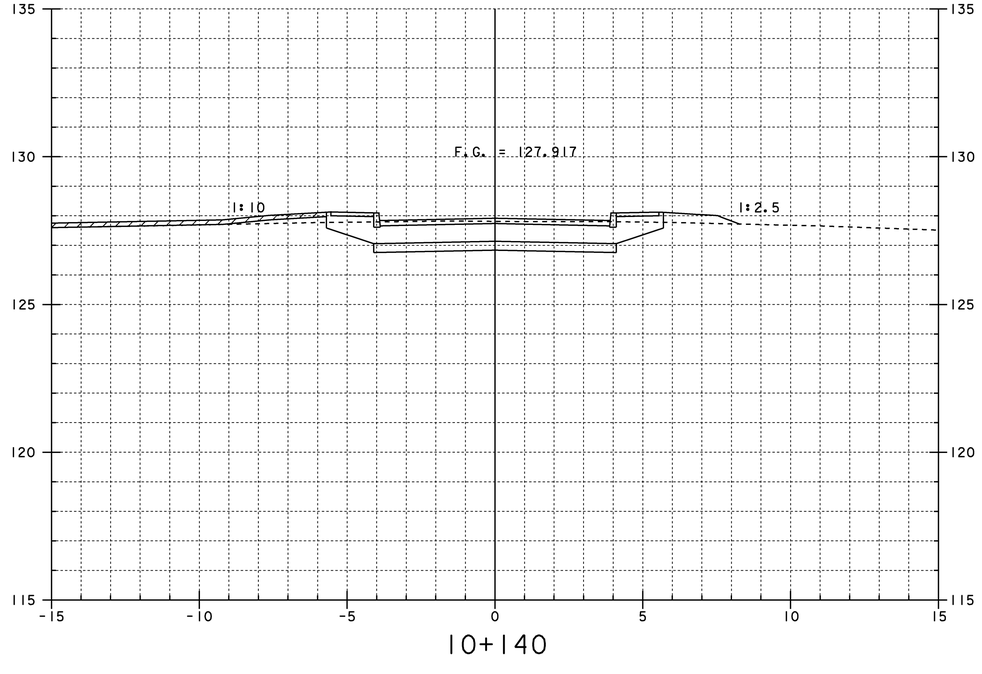
PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sJ228mo3.1	SHEET 49 OF 77

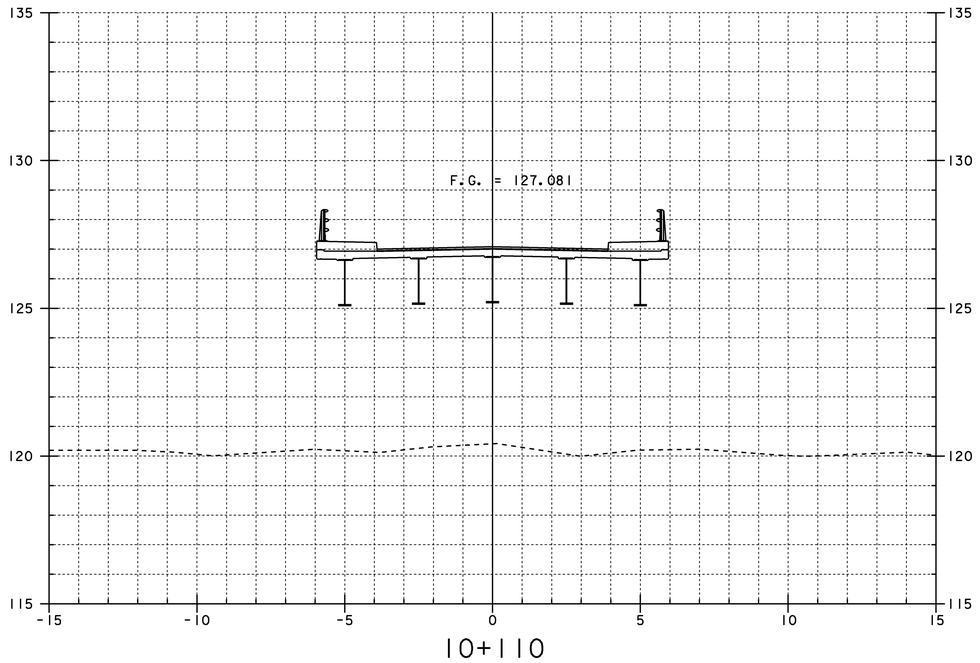


10+120

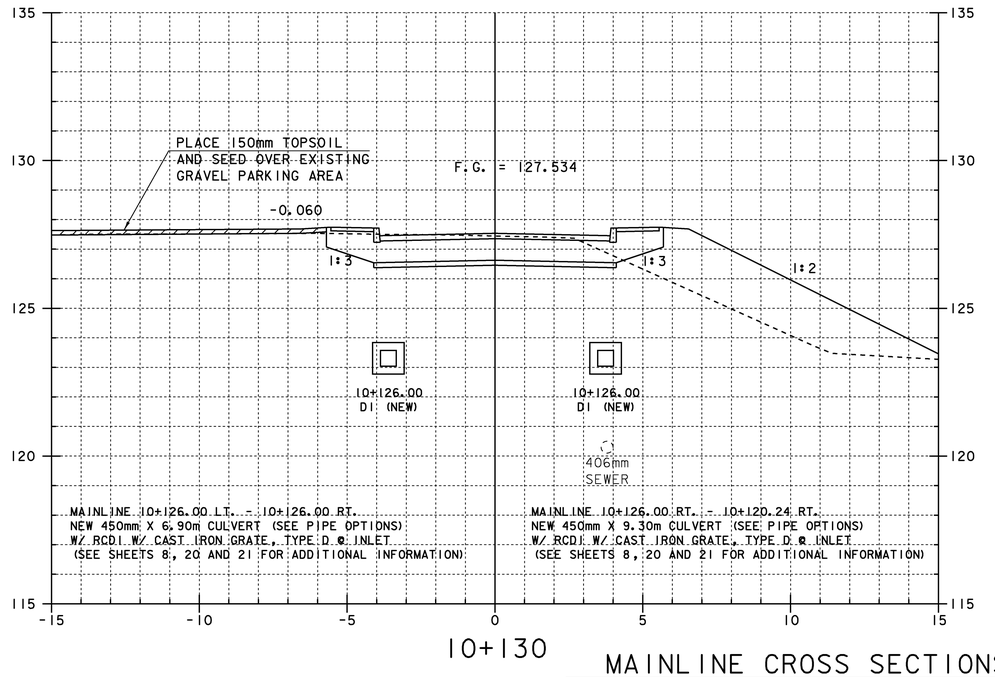
STA. 10+119.250
END BRIDGE



10+140



10+110



10+130

0 1 2 4 6 8 10

SCALE = 1:100

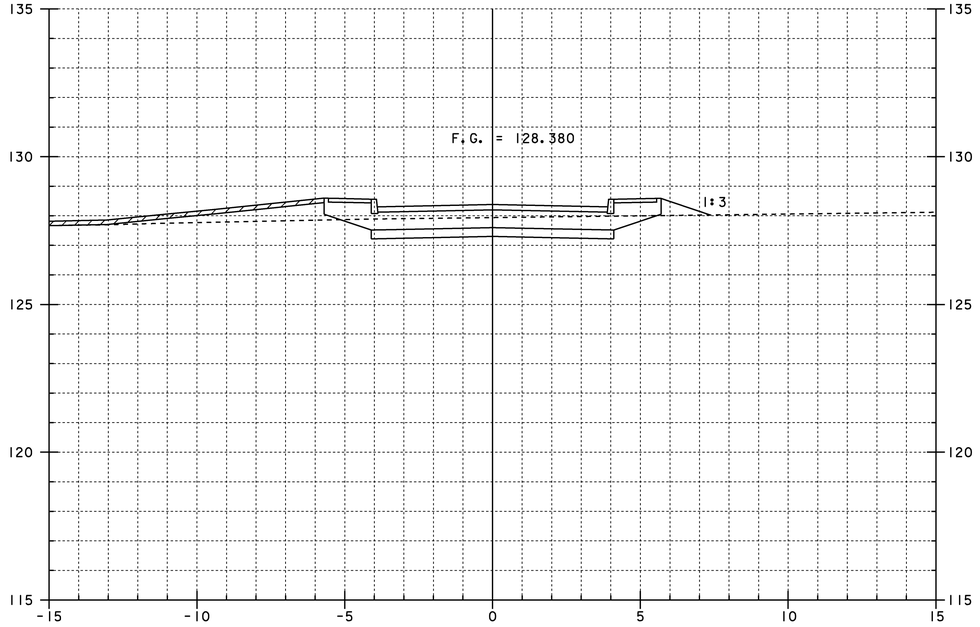
MAINLINE CROSS SECTIONS (4)

PROJECT NAME: BRATTLELBORO

PROJECT NUMBER: BRF 2000 (21)S

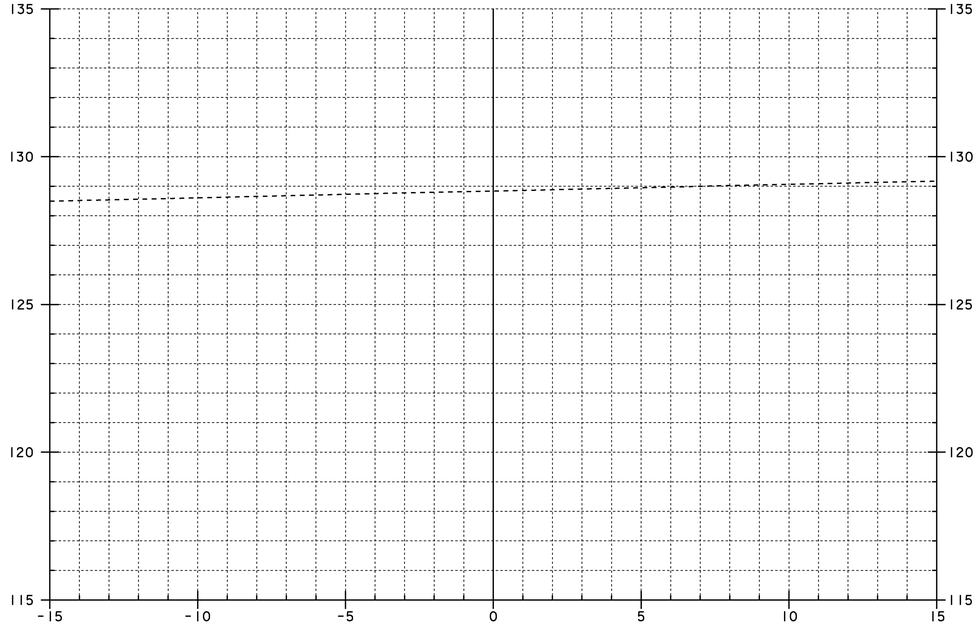
FILE NAME: 96J228/str/sj228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sj228m04.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU



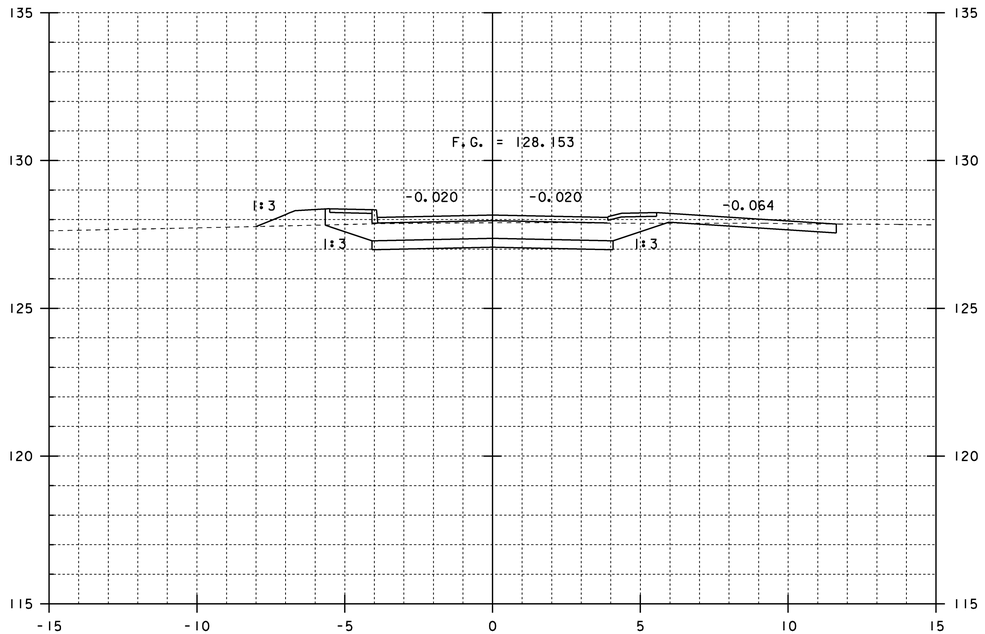
10+150

STA. 10+150.000
END PROJECT
BEGIN APPROACH



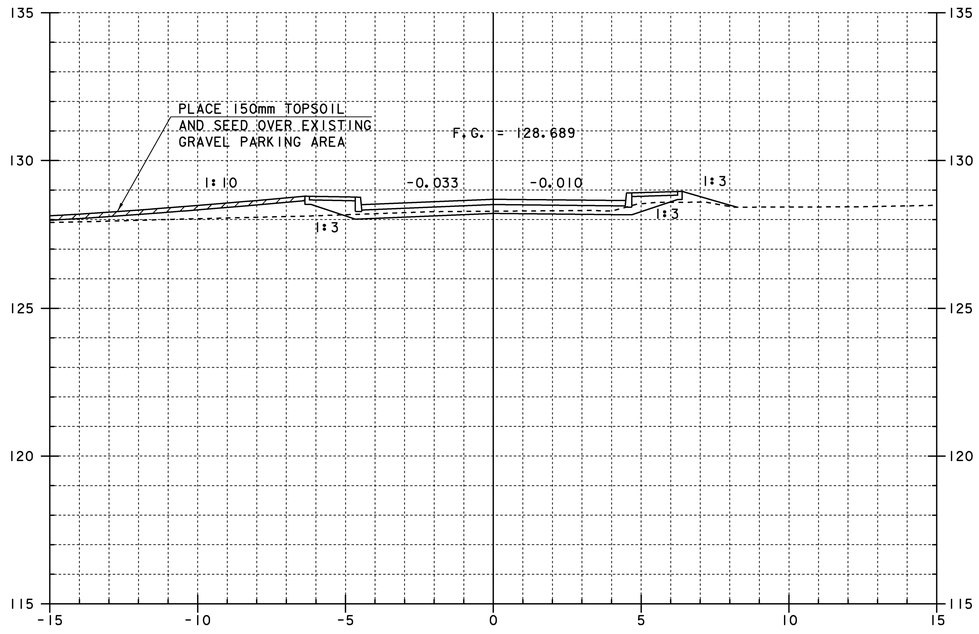
STA. 10+168.024
END APPROACH
MATCH EXISTING

10+170



10+145

STA. 10+145.000 RT
CONSTRUCT DRIVE



10+160

0 1 2 4 6 8 10

SCALE = 1:100

MAINLINE CROSS SECTIONS (5)

PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

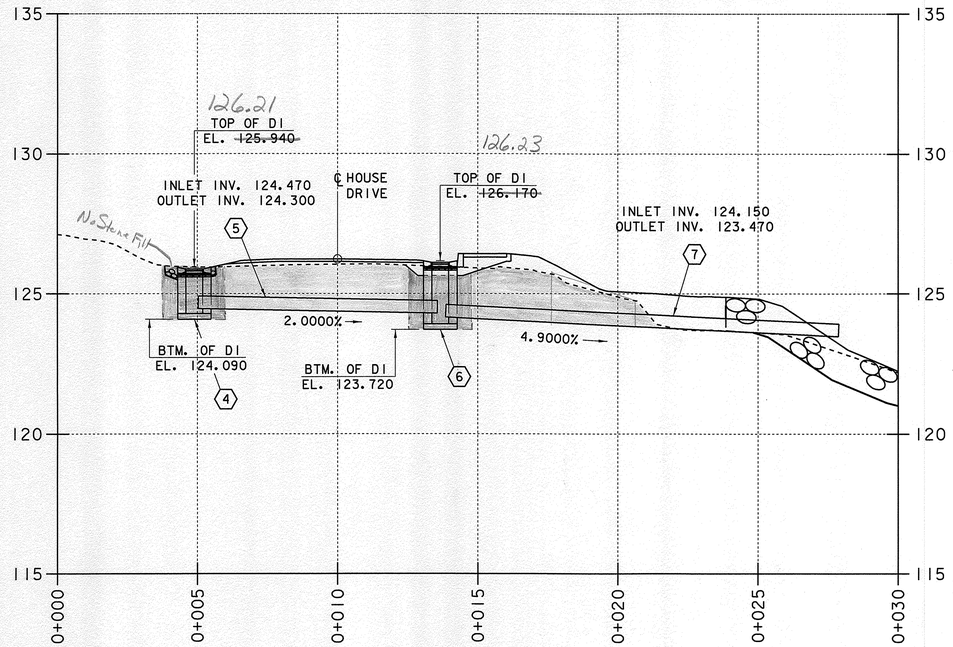
FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228mo5.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 51 OF 77

Brattleboro BRF 2000(21)S
—drainage sheet 1—

VAOT Metric

DRAINAGE PIPE PROFILE
STA. 10+075.08 LT. - STA. 10+~~094~~ 084.38 LT.



Trench Earth:

D1 left

D x W x H

2.3' x 2.3' x 1.85'(ave)

= 9.79' cm

Culvert

$\left(\frac{1.5' + 1.7'}{2}\right) \times 6.4' \times 1.46'$

= 14.95' cm

D1

2.3' x 2.3' x 2.0'(ave)

= 10.58' cm

Culvert

$(1.7' \times 2.8' \times 1.46') + \left[\left(\frac{1.7' + 0.9'}{2}\right) \times 3' \times 1.46'\right] + \left[\left(\frac{6.9' + 0}{2}\right) \times 1' \times 1.46'\right]$

6.95' 5.69' 0.62'

= 13.30' cm

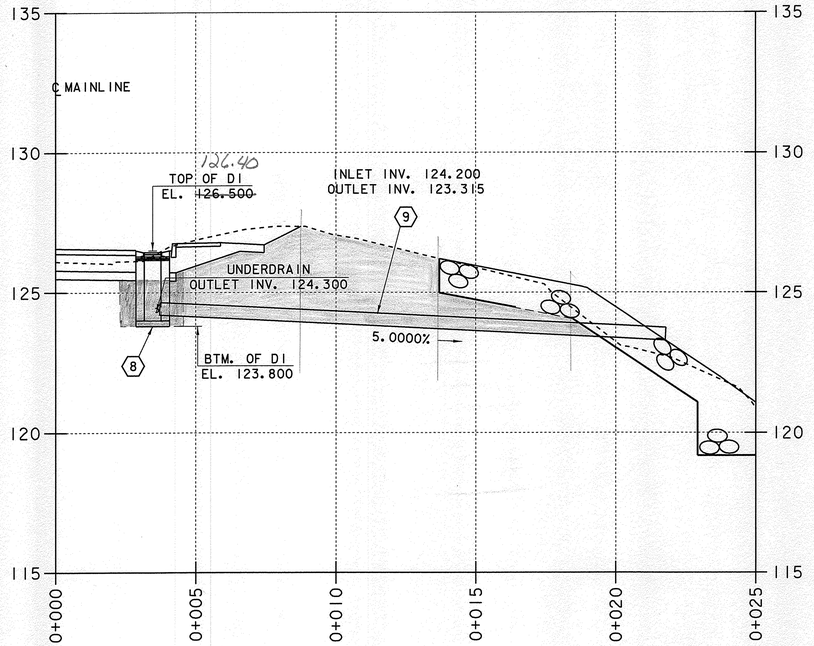
Total TE:

9.79'
10.58'
14.95'
13.30'
48.62' cm

Jwr 3-24-11

M.W.H. 12/11/12

DRAINAGE PIPE PROFILE
STA. 10+074.80 CL. - STA. 10+098.31 RT.



Trench Earth:

D1

2.3' x 2.3' x 1.7'(ave)

= 8.99' cm

Culvert

$\left(\frac{1.6' + 3.3'}{2}\right) + \left(\frac{3.3' + 2.9'}{2}\right) + \left(\frac{1.2' + 0.9'}{2}\right) + \left(\frac{0.6' + 0.3'}{2}\right)$

2.45

= 6.55' x 1.46

= 9.56' cm

Total TE 8.99'
9.56'
18.55' cm

Jwr 3-24-11 M.W.H. 12/11/12

SEE DRAINAGE DETAIL SHEET 8
FOR DRAINAGE PIPE INFORMATION

0 1 2 4 6 8 10
SCALE = 1:100

DRAINAGE PIPE PROFILES (1)

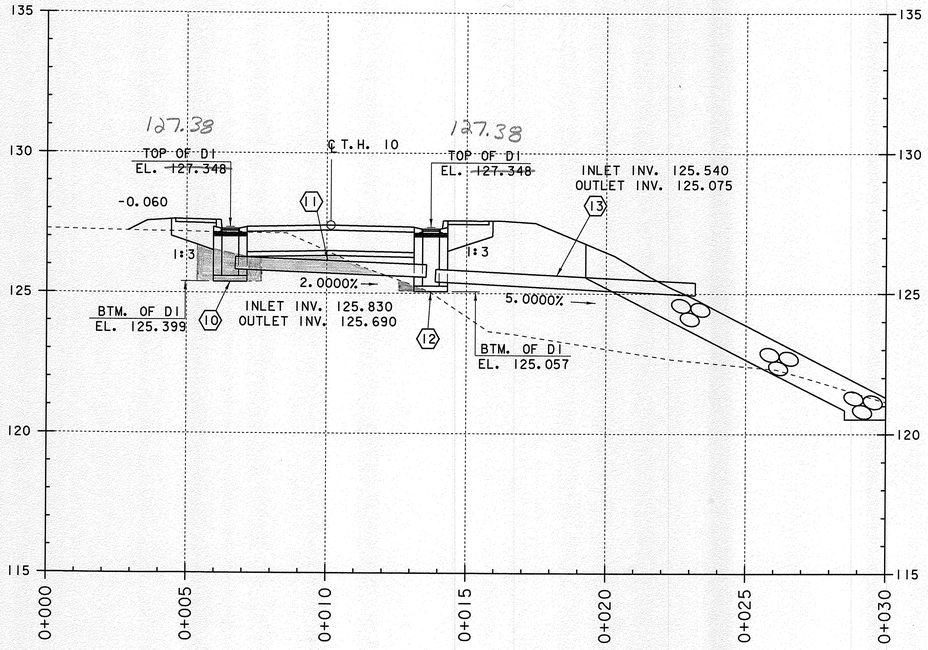
PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228/str/sJ288xsl.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sJ228dpp.1	SHEET 52 OF 77

Brattleboro BRF 2000(21)S
—drainage sheet 2—

VAOT Metric

DRAINAGE PIPE PROFILE
STA. 10+126.00 LT. - STA. 10+120.24 RT.



Trench Earth:

D1 left

$\left(\frac{1.3+0.9}{2}\right) \times 2.3' \times 2.3'$

$= 5.82'$

Culvert

$\left[\left(\frac{0.5+0.6}{2}\right) \times 2.65\right] + \left[\left(\frac{0.6+0}{2}\right) \times 2\right]$

$= 2.06' \times 1.46 (\text{width}) = 3.01'$

D1 right

$\left(\frac{1.0 \times 0.4}{2}\right) \times 2.3$

$= 0.46$ fm 12-14-12

Total TE: 5.82' 3.01' 0.46 = 9.29 cm ✓ M.W.H. 12/11/12 fm 3-24-11

fm 12-14-12

SEE DRAINAGE DETAIL SHEET 8
FOR DRAINAGE PIPE INFORMATION

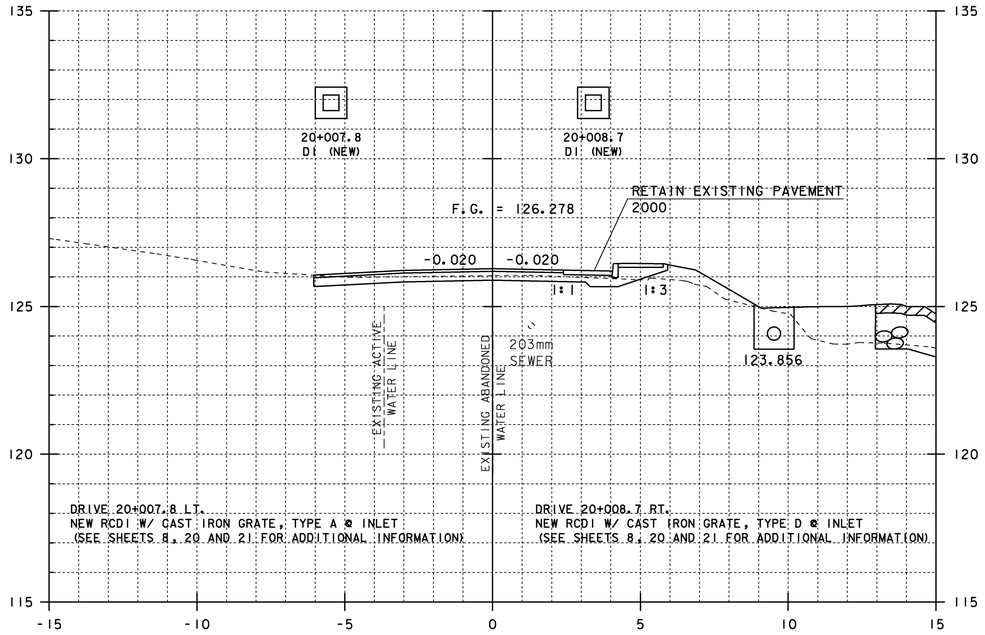
0 1 2 4 6 8 10
SCALE = 1:100

DRAINAGE PIPE PROFILES (2)

PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

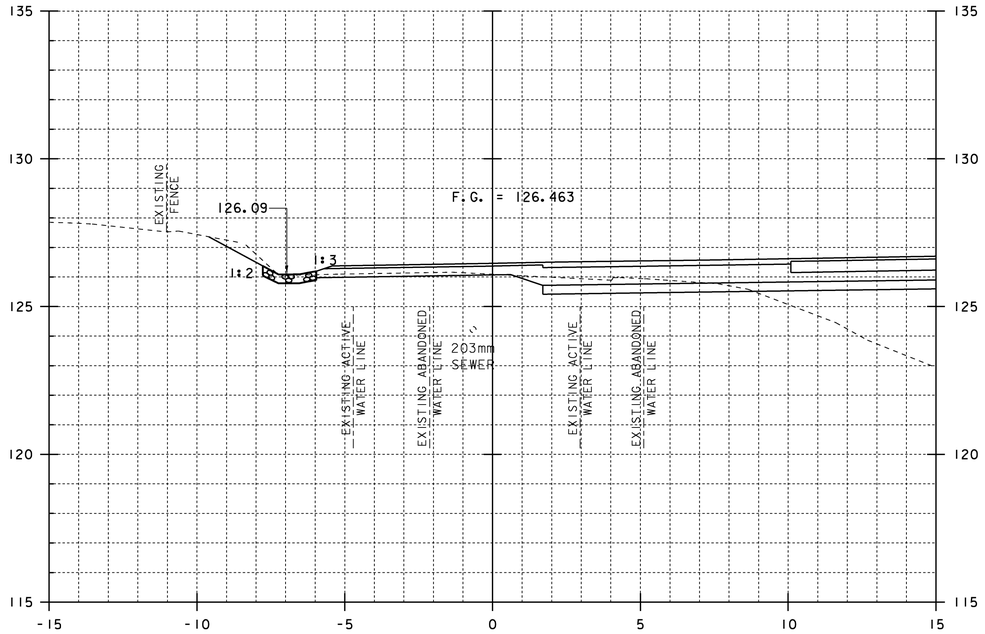
FILE NAME: 96J228/str/sJ288xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228dpp.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 53 OF 77

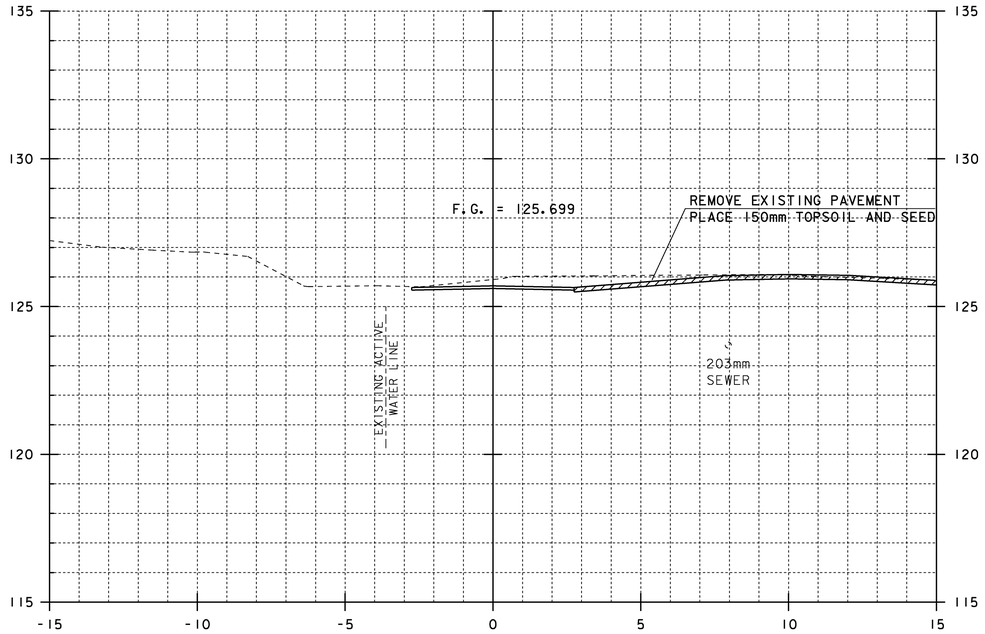


CONSTRUCT PAVED DRIVE
STA. 20+011.50 LT.

20+010.00



20+000.00



STA. 20+024.00, 2.5m RT.
END DRIVE CONSTRUCTION
MATCH EXISTING GRADE

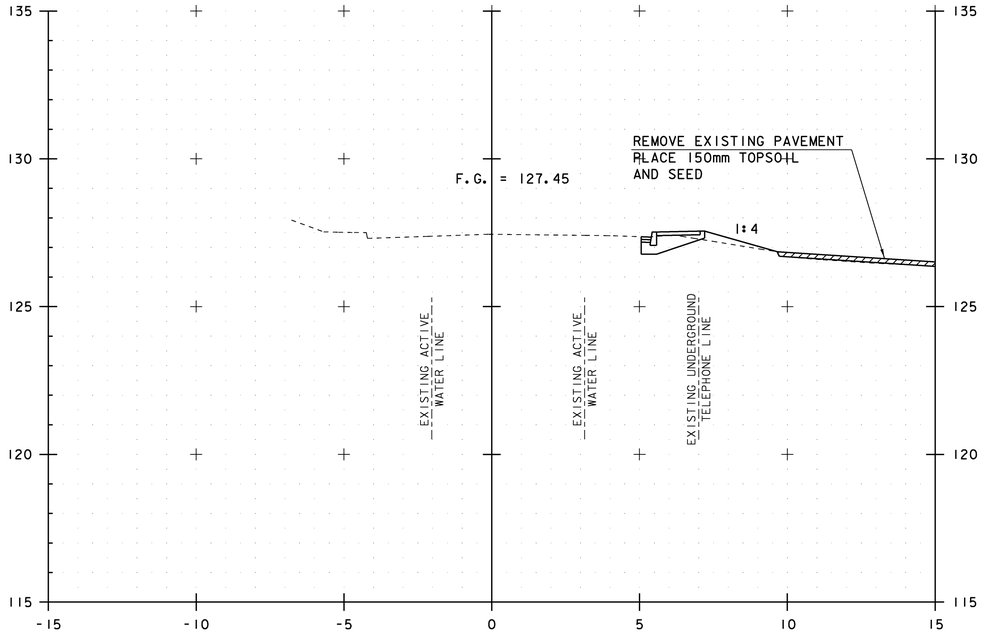
20+020.00

0 1 2 4 6 8 10
SCALE = 1:100

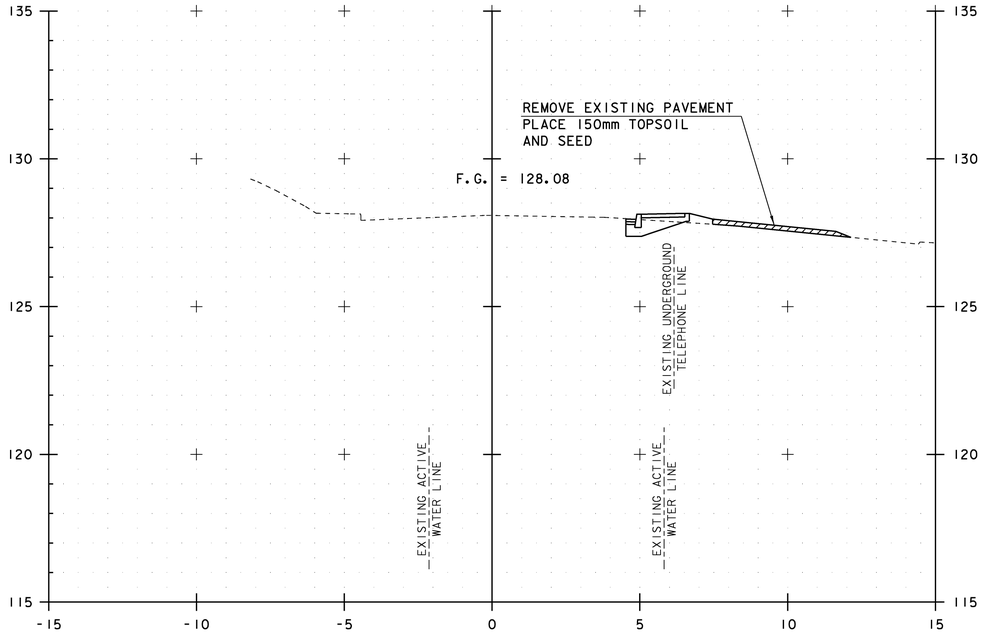
DRIVE CROSS SECTIONS

PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

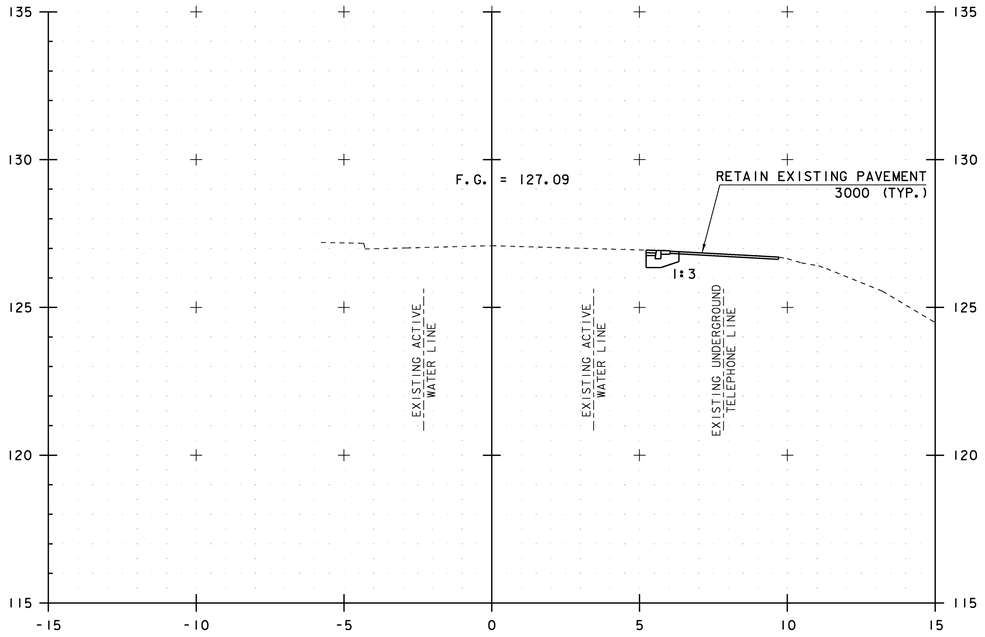
FILE NAME: 96J228/str/sj228xsl.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sj228h01.i	SHEET 54 OF 77



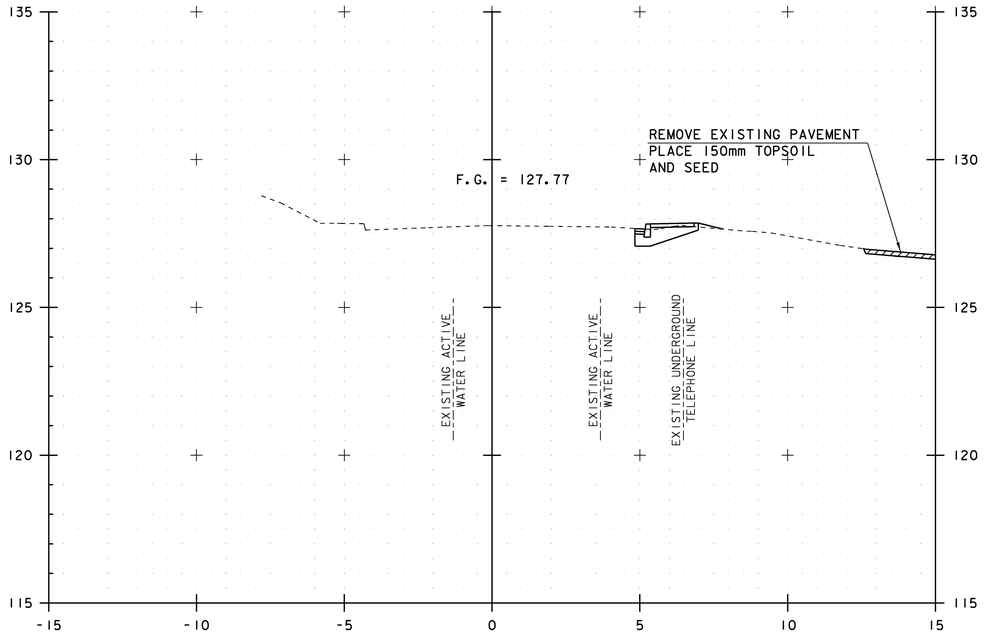
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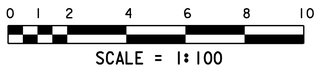
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3+020.00



3+040.00

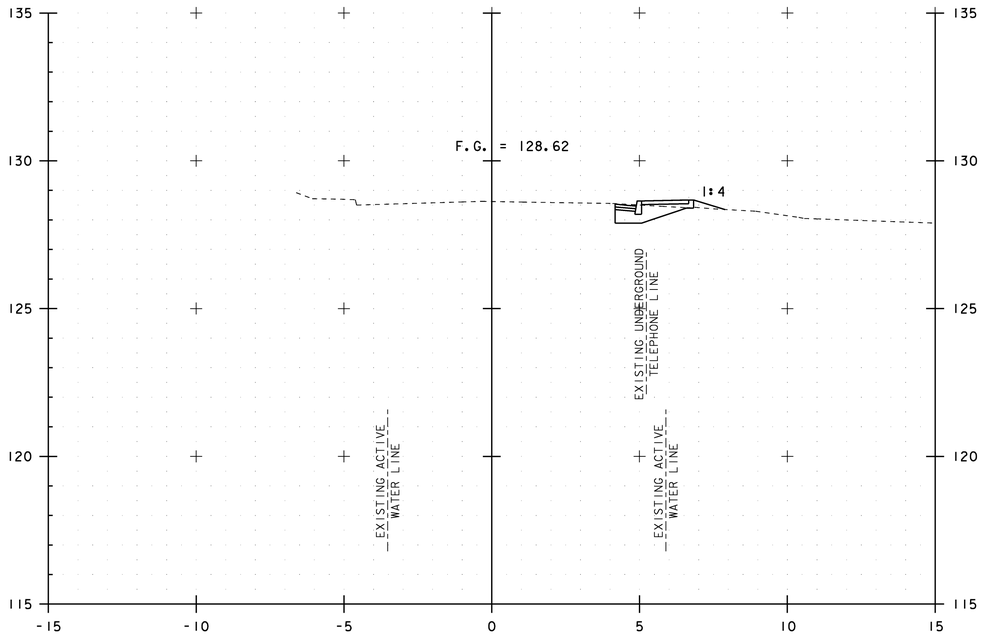


STA. 3+020 TO STA. 3+050

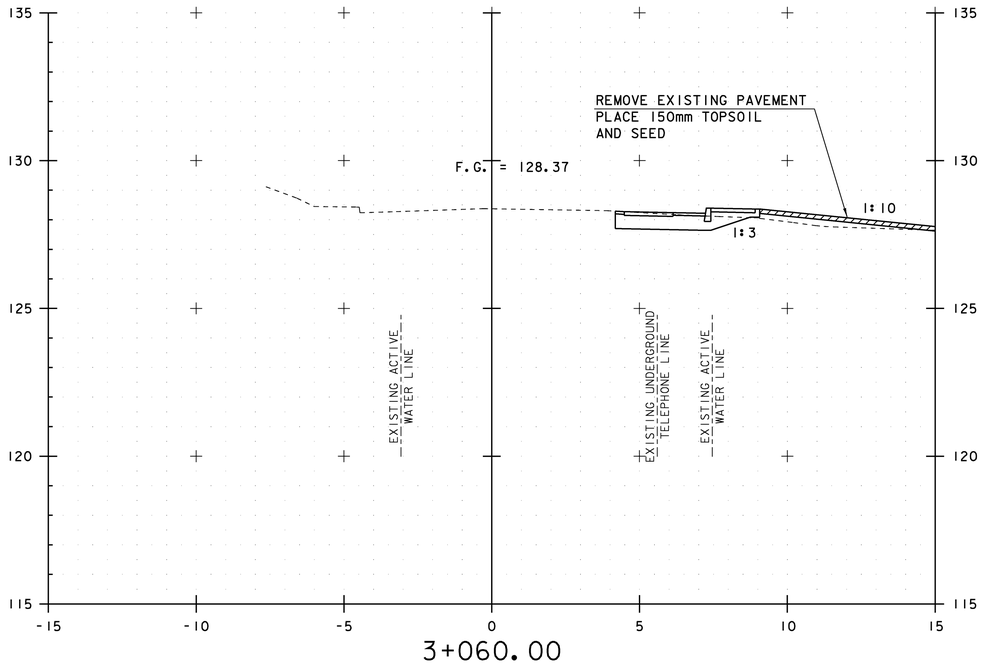
VT9 CROSS SECTIONS (1)

PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

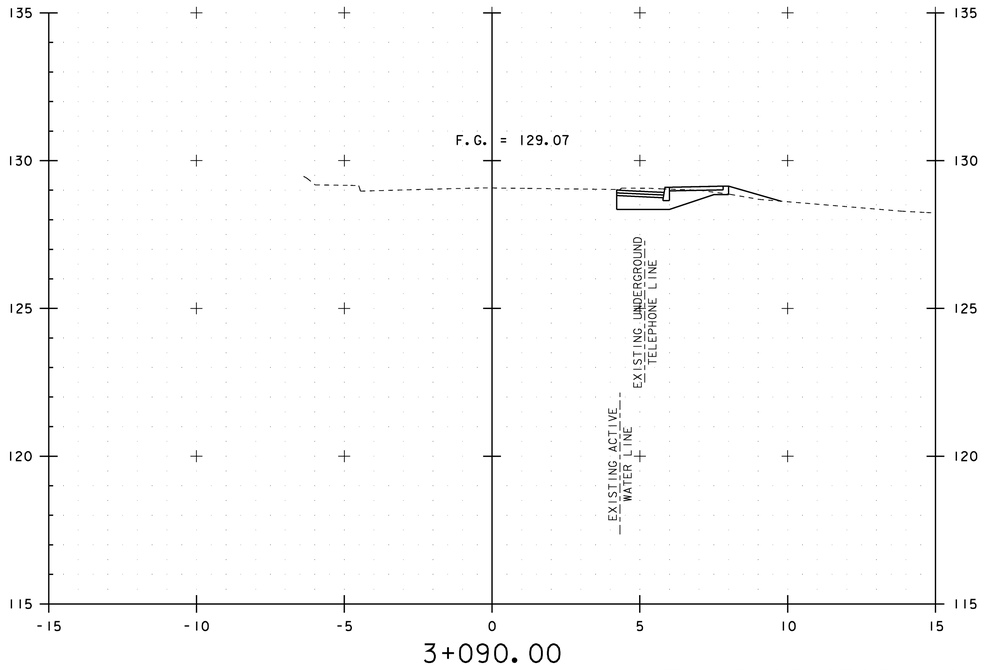
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sJ228c01.1	SHEET 55 OF 77



3+070.00



3+060.00



3+090.00

0 1 2 4 6 8 10

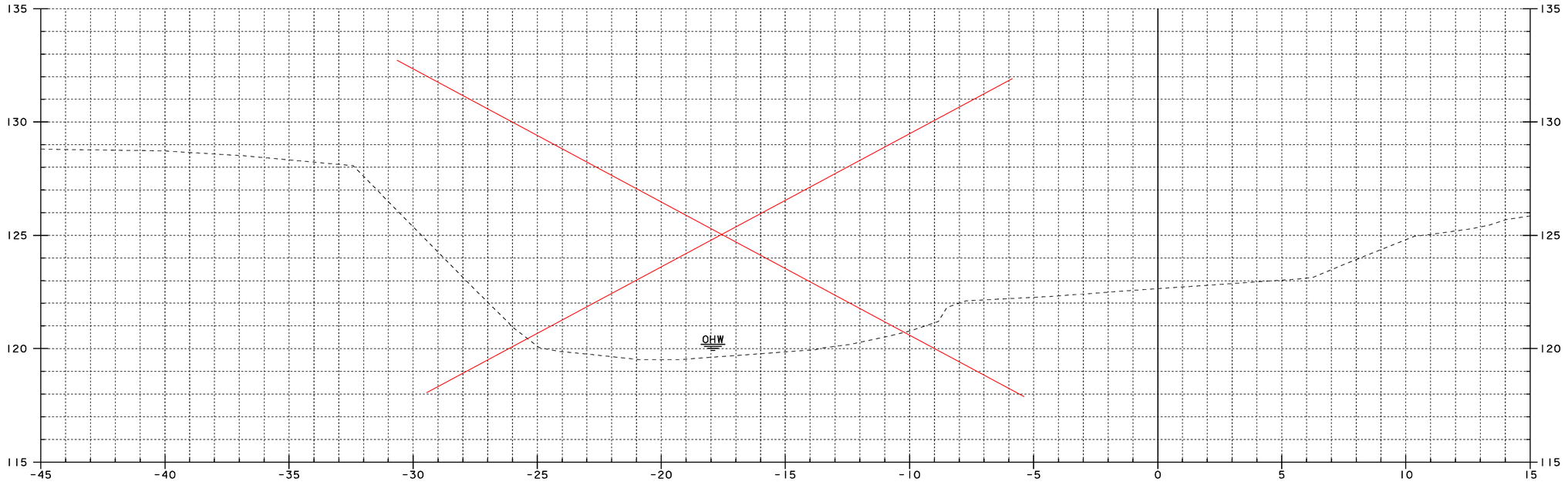
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STA. 3+060 TO STA. 3+090

VT9 CROSS SECTIONS (2)

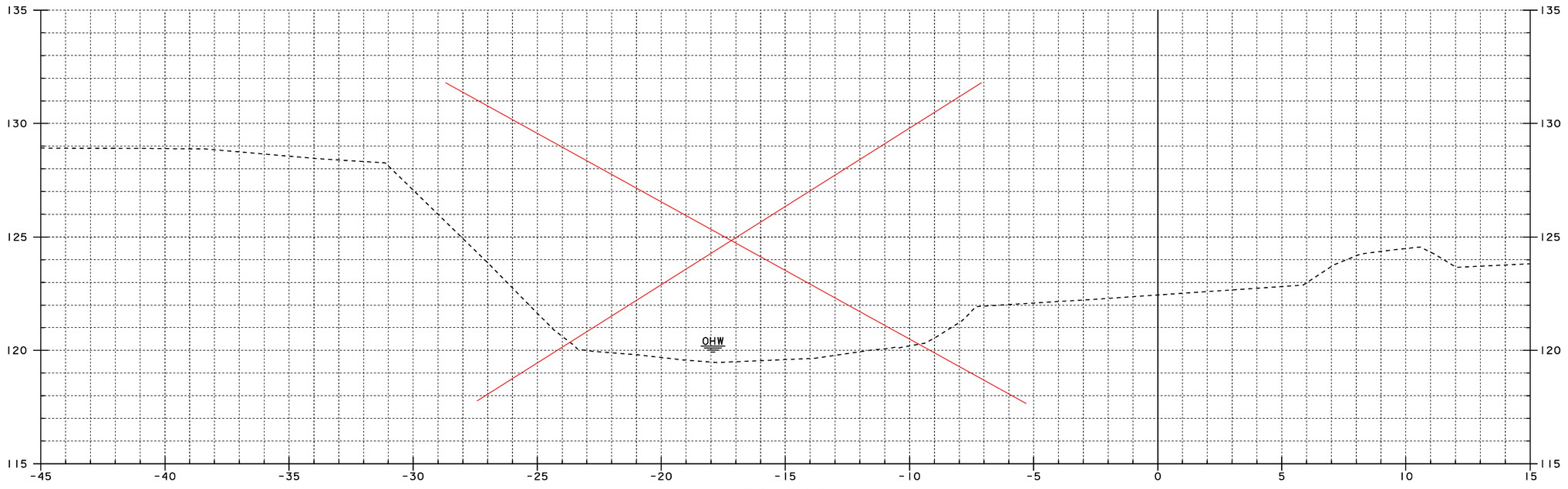
PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sJ228c01.1	SHEET 56 OF 77



50+015

SEE PAGE 14 OF 77 FOR NEW CHANNEL LINE
ALSO SEE NEW CHANNEL X SECTIONS ON FULL SIZE SHEETS



50+010

0 1 2 4 6 8 10

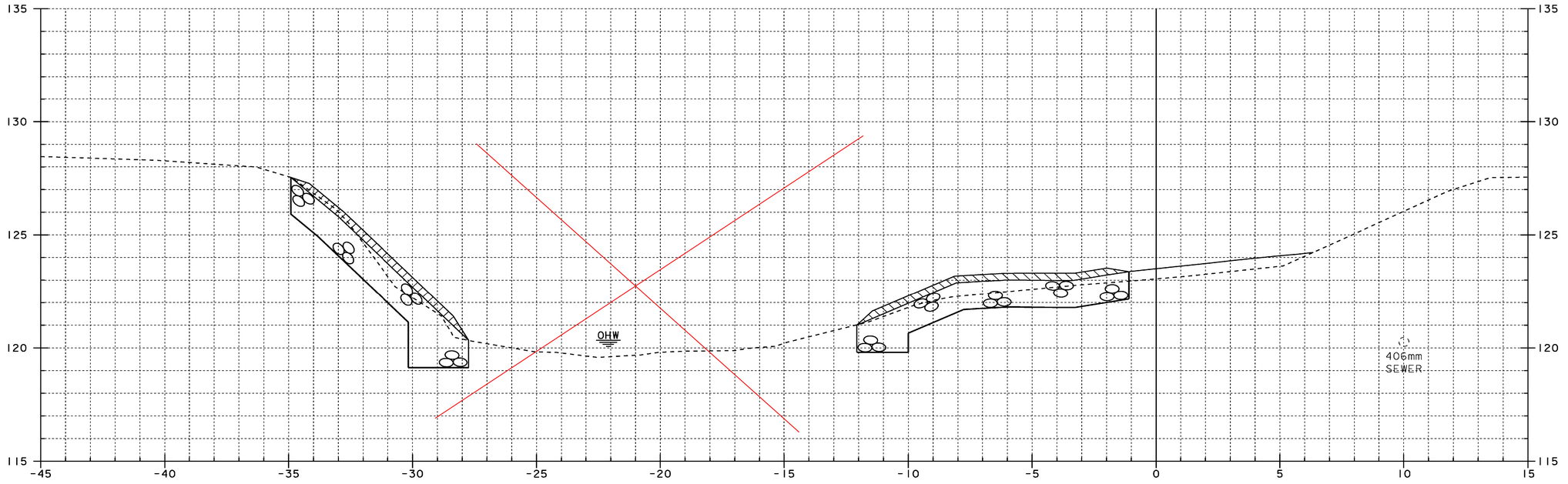
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CHANNEL CROSS SECTIONS (1)

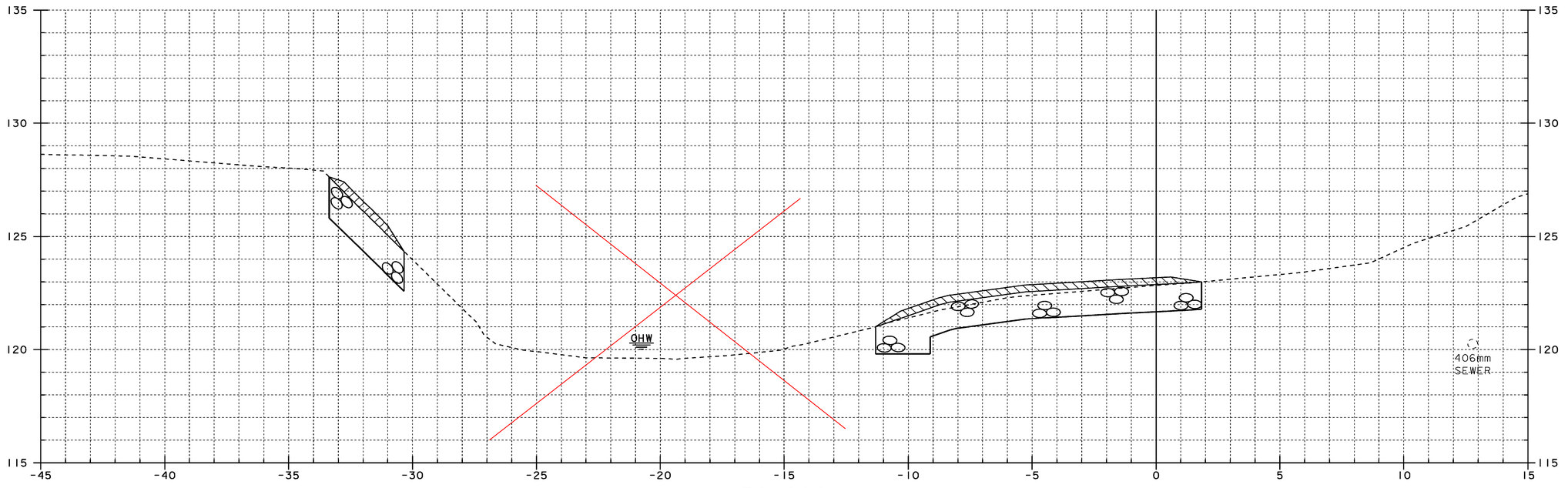
PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228c01.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 57 OF 77



50+025



50+020

STA. 50+019.18 FAR LT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

STA. 50+015.50 LT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

0 1 2 4 6 8 10

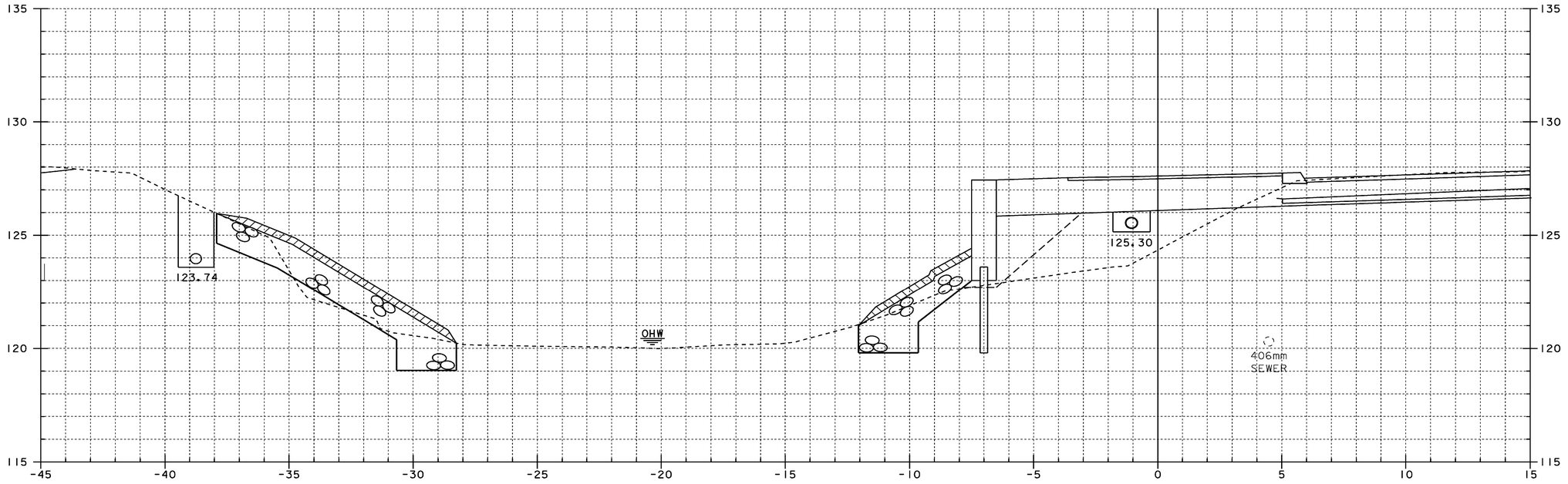
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CHANNEL CROSS SECTIONS (2)

PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

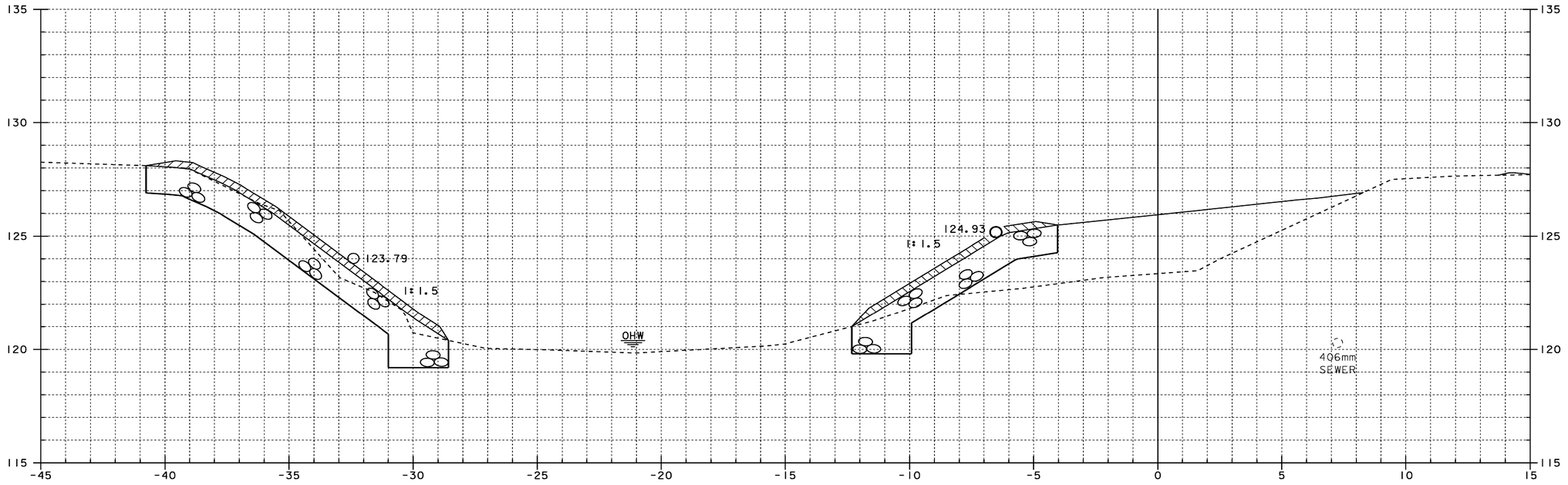
FILE NAME: 96J228/str/sj228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sj228c02.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 58 OF 77



50+035

STA. 50+028.60 LT.
BEGIN GRANULAR BACKFILL FOR STRUCTURES



50+030

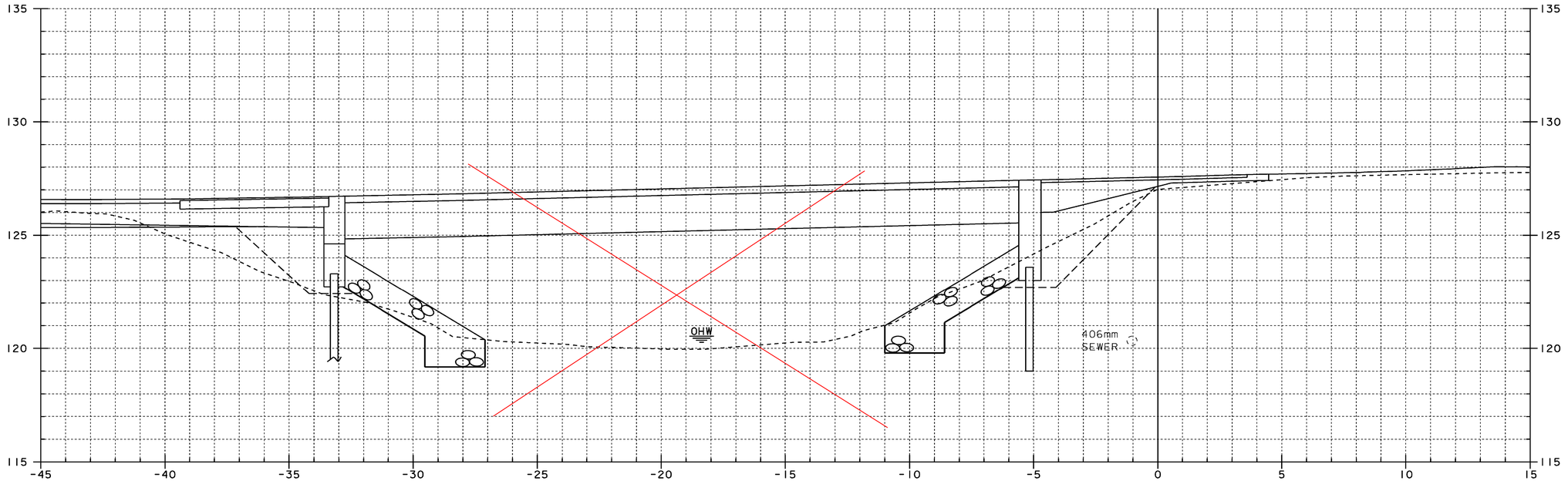
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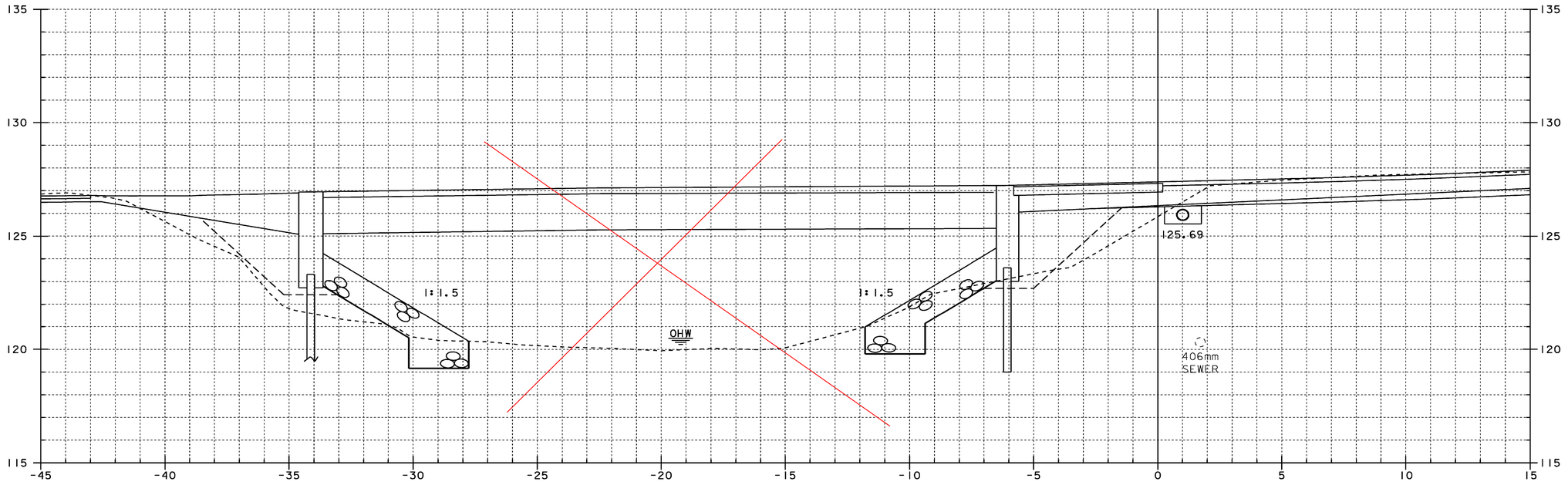
CHANNEL CROSS SECTIONS (3)

PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 26-MAY-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sJ228c03.1	SHEET 59 OF 77



50+045



50+040

0 1 2 4 6 8 10

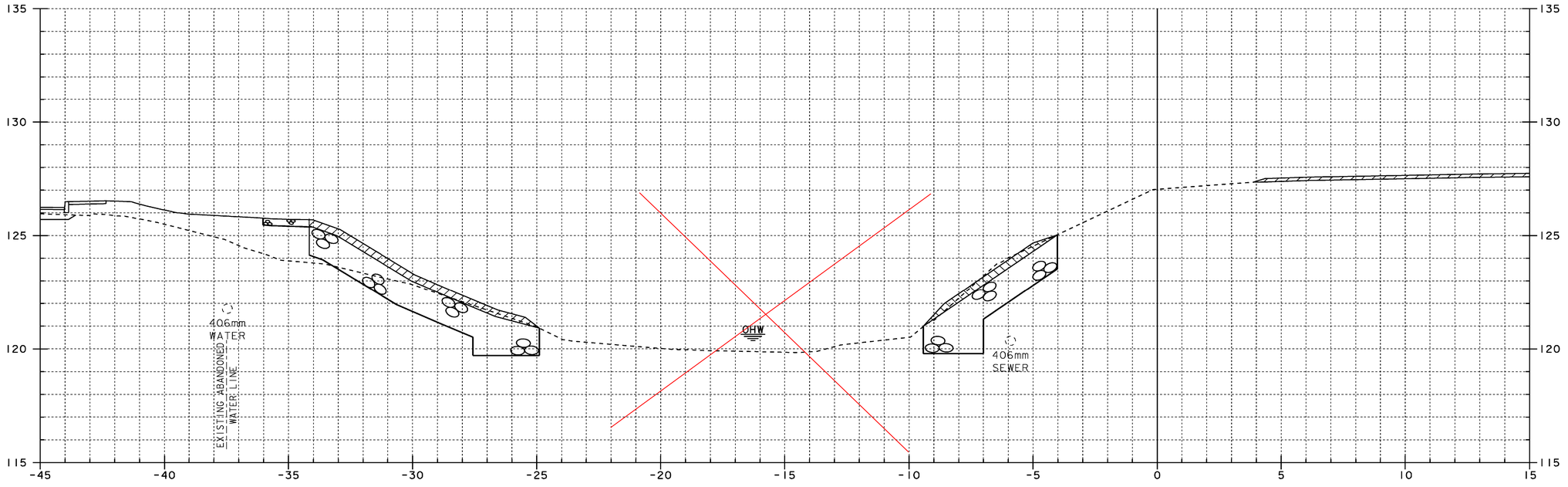
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CHANNEL CROSS SECTIONS (4)

PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228c04.I

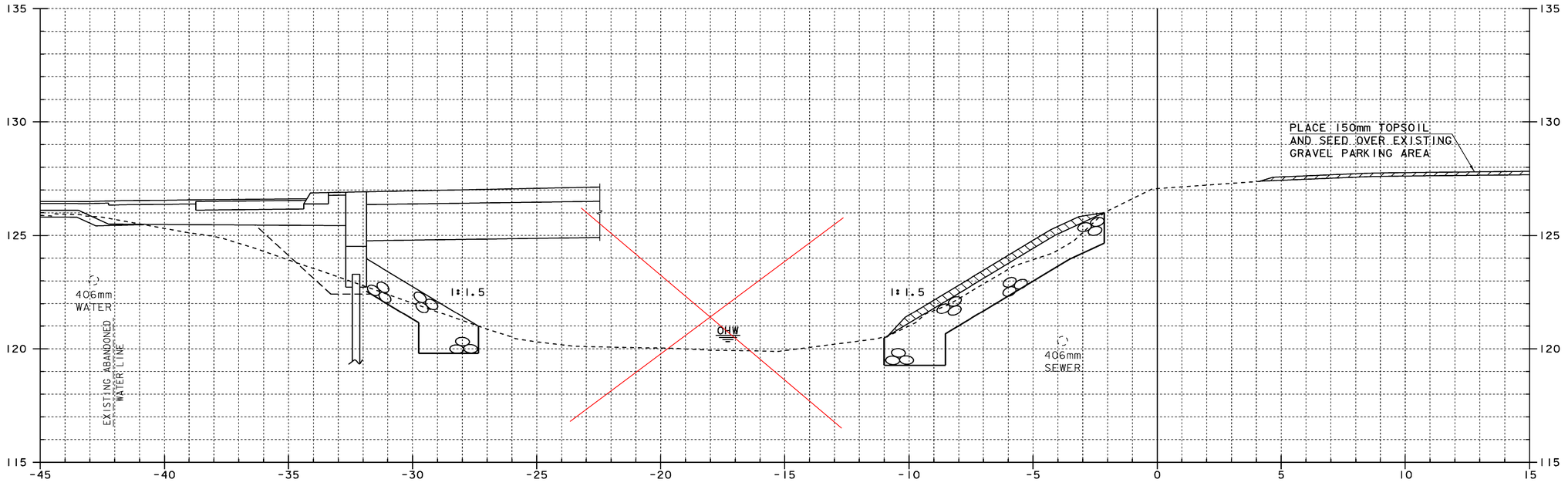
PLOT DATE: 26-MAY-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 60 OF 77



50+055

STA. 50+055.10 FAR LT.
END GRANULAR BACKFILL FOR STRUCTURES

STA. 50+055.00 LT.
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL



50+050

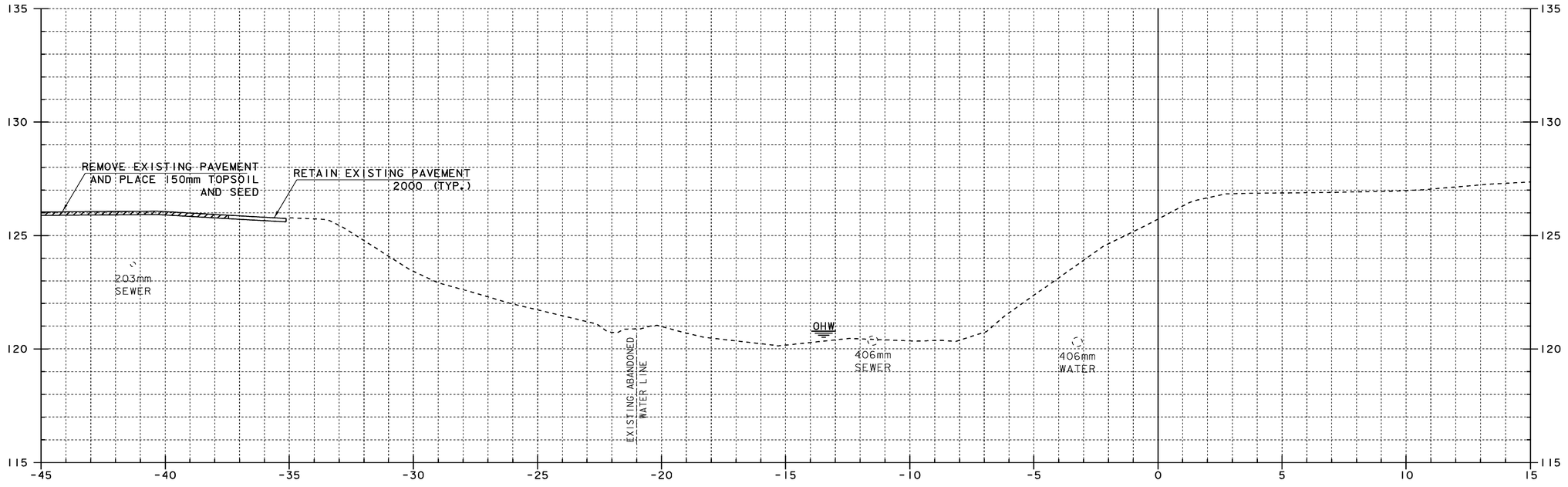
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SCALE = 1:100

CHANNEL CROSS SECTIONS (5)

PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

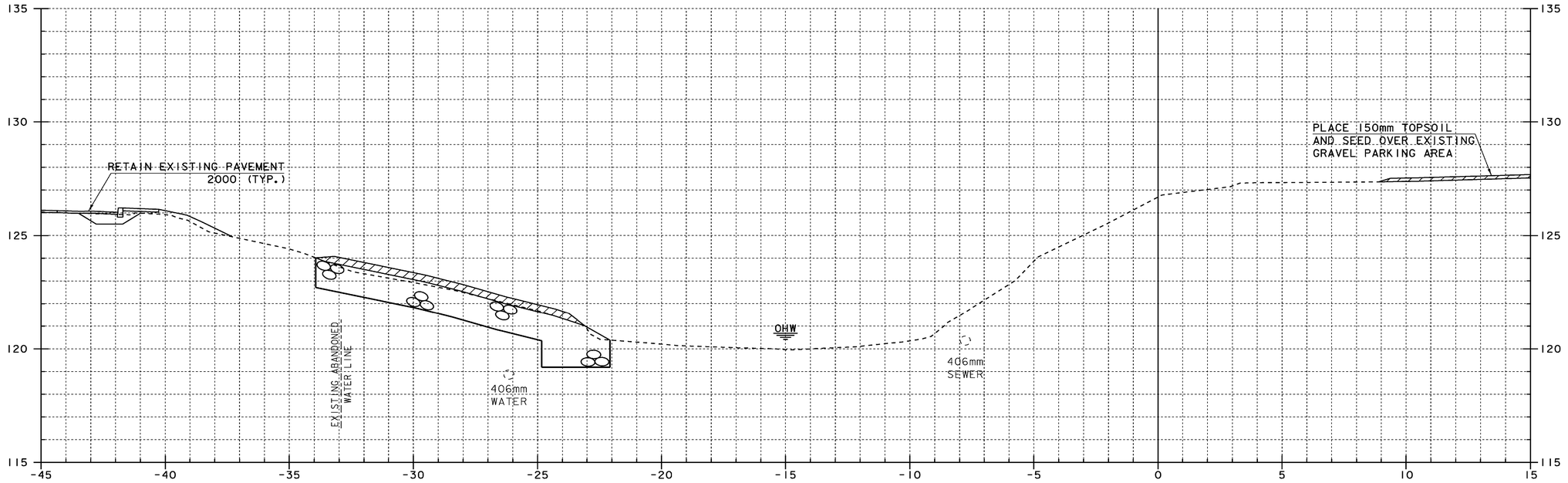
FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228c05.1

PLOT DATE: 26-MAY-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 61 OF 77



STA. 50+062.78 FAR LT.
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

50+070



50+060

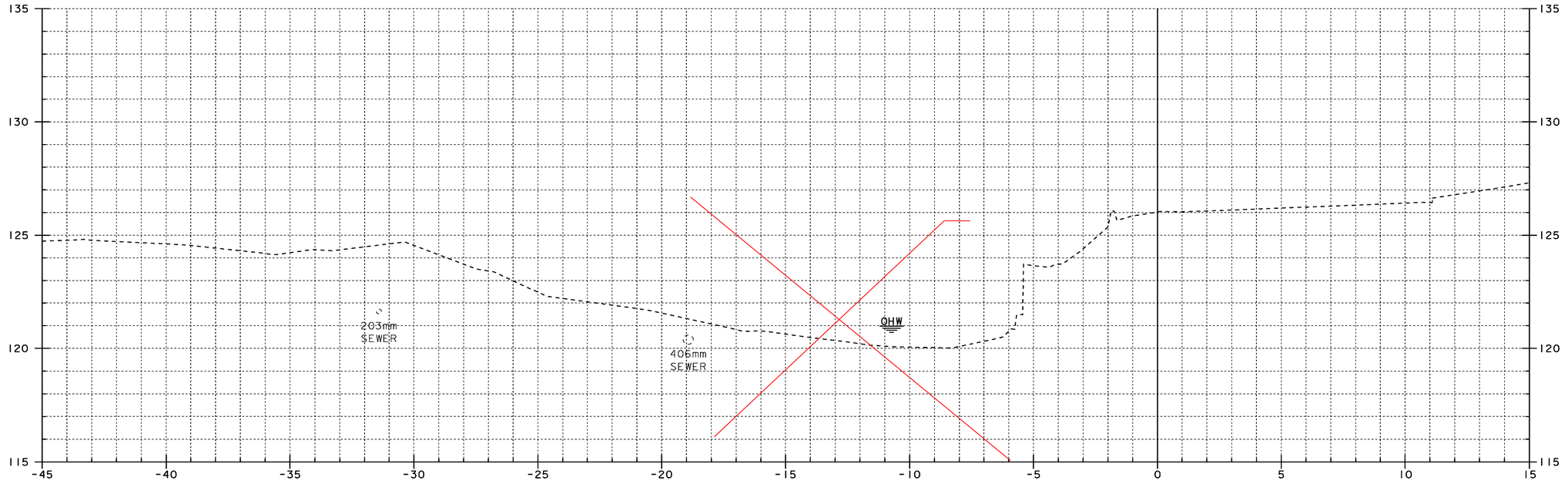
0 1 2 4 6 8 10
SCALE = 1:100

CHANNEL CROSS SECTIONS (6)

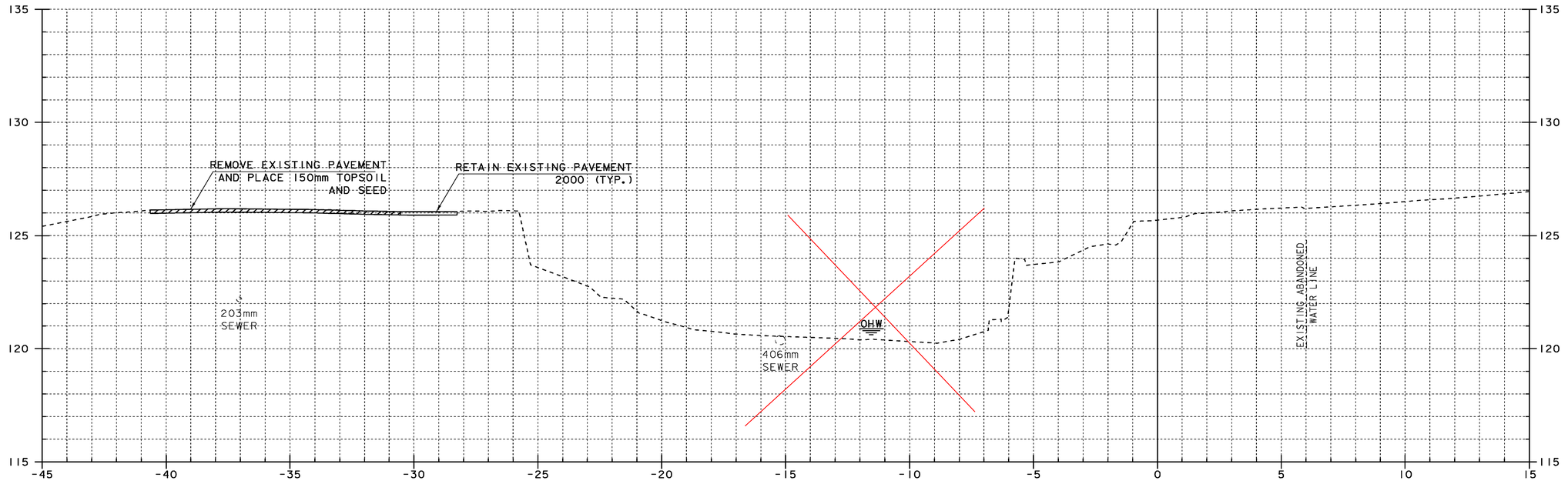
PROJECT NAME:	BRATTLELBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: str3
DESIGNED BY: J. PERRIGO	CHECKED BY: D. BONNEAU
sJ228c06.1	SHEET 62 OF 77

Metric



50+090



50+080

0 1 2 4 6 8 10

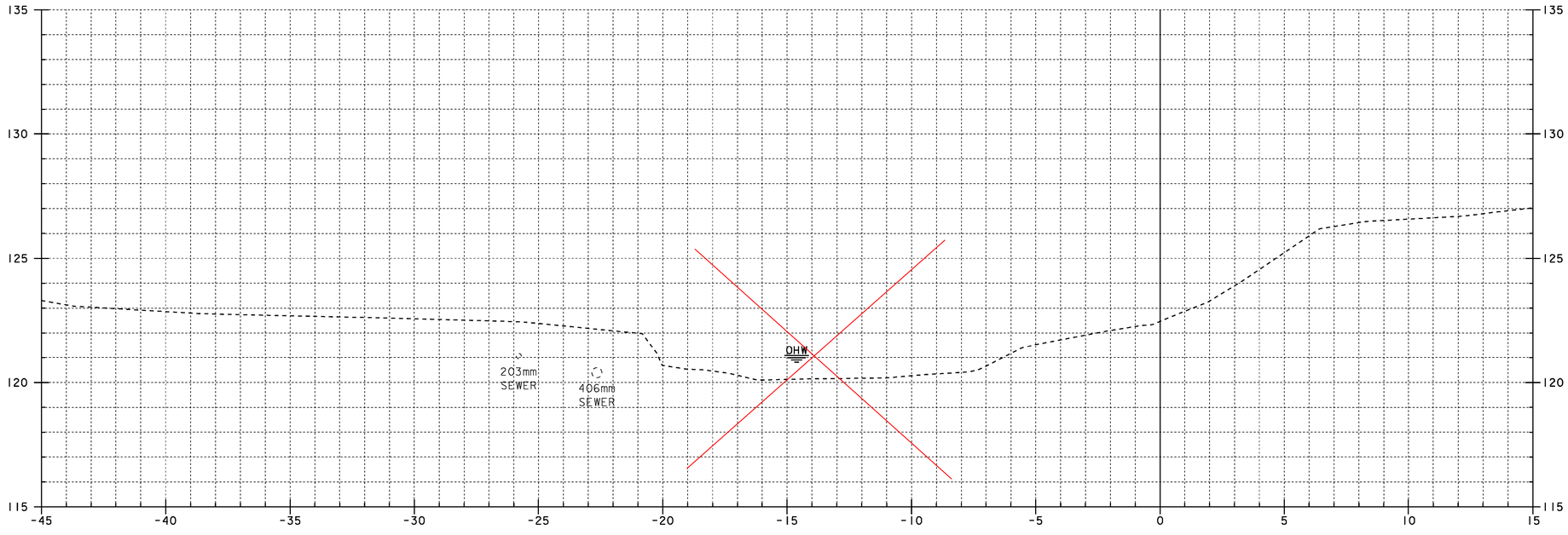
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CHANNEL CROSS SECTIONS (7)

PROJECT NAME: BRATTLELBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228c07.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 63 OF 77



50+100

0 1 2 4 6 8 10

SCALE = 1:100

CHANNEL CROSS SECTIONS (8)

PROJECT NAME: BRATTLELBORO

PROJECT NUMBER: BRF 2000 (21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: J. PERRIGO
sJ228c08.1

PLOT DATE: 29-APR-2009
DRAWN BY: str3
CHECKED BY: D. BONNEAU
SHEET 64 OF 77

EROSION CONTROL NARRATIVE

1.1 PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE CONSTRUCTION OF A NEW BRIDGE DOWNSTREAM OF AN EXISTING COVERED BRIDGE. THE COVERED BRIDGE WILL REMAIN AS A PEDESTRIAN BRIDGE. ASSOCIATED CHANNEL AND ROADWAY APPROACH WORK WILL BE COMPLETED. A PORTION OF THE EXISTING ROADWAY OVER THE COVERED BRIDGE WILL BE REMOVED, WITH THE SIDEWALK AND APPROXIMATELY 1600MM PAVEMENT LEFT IN PLACE FOR PEDESTRIAN ACCESS. THE NORTHERN APPROACH OF GUILFORD ROAD WILL BE NARROWED AND THE INTERSECTION WITH SEVERAL DRIVEWAYS WILL BE REALIGNED.

A STONE-LINED DITCH WILL BE CONSTRUCTED ALONG THE WESTERN SIDE OF GUILFORD ROAD AND THE NEW PARKING LOT ACCESS DRIVE. A STORM DRAIN SYSTEM OF 450MM PIPE AND FIVE (5) DROP INLETS WILL BE CONSTRUCTED AT THE NORTH END OF GUILFORD STREET.

TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.48 ACRES EXCLUDING ANY WASTE, BORROW, OR STAGING AREA TO BE IDENTIFIED BY THE CONTRACTOR.

IT IS ANTICIPATED THAT THIS PROJECT WILL LAST TWO CONSTRUCTION SEASONS.

1.2 SITE INVENTORY

1.2.1 OFF SITE DRAINAGE CHARACTERISTICS (UP AND DOWN-GRADIENT)

THE AREA SURROUNDING THE PROJECT SITE CONSISTS OF WELL ESTABLISHED FOREST WITH ROLLING TO HILLY SLOPES AT THE PROJECT SITE. THE PROJECT IS LOCATED IN A LOW DENSITY MIXED-USE AREA WEST OF I-91 IN THE TOWN OF BRATTLEBORO. THE PROJECT INCLUDES THE AREA OF THE EXISTING BRIDGE AND INTERSECTION, AND VEGETATED AREAS ADJACENT TO THE EXISTING INTERSECTION. PORTIONS OF PARKING LOTS ON THE NORTH AND SOUTH SIDE OF WHETSTONE BROOK WILL BE REDESIGNED AS PART OF THE NEW BRIDGE APPROACHES. THERE ARE A FEW HOUSES UP SLOPE WITH GRASS AND TREE BUFFERS.

1.2.2 DRAINAGE, WATERWAYS, BODIES OF WATER, AND PROXIMITY TO NATURAL OR MAN-MADE WATER FEATURES

THE WHETSTONE BROOK RUNS THROUGH THE PROJECT SITE. THE BROOK IS STRAIGHT WITH SOME MEANDERING AND A STREAMBED CONSISTING OF GRAVEL, COBBLES, BOULDERS AND SOME LEDGE.

THERE ARE FIVE (5) PROPOSED DROP INLETS ON SITE DRAINING FROM BOTH SIDES OF GUILFORD ST. TO THE WHETSTONE BROOK.

1.2.3 TOPOGRAPHY, EXISTING ROADS, BUILDINGS, UTILITIES

THE AREA SURROUNDING THE PROJECT SITE CONSISTS OF ROLLING TO HILLY SLOPES. THE PROJECT IS LOCATED IN A LOW DENSITY MIXED-USE AREA WEST OF I-91 IN THE TOWN OF BRATTLEBORO. THE PROJECT INCLUDES THE AREA OF THE EXISTING BRIDGE AND INTERSECTION, AND VEGETATED AREAS ADJACENT TO THE EXISTING INTERSECTION. THERE ARE A FEW HOUSES UP SLOPE WITH GRASS AND TREE BUFFERS.

1.2.4 VEGETATION

VEGETATION IN THE PROJECT AREA CONSISTS OF HARDWOOD TREES AND UNDERGROWTH. THE IMPACT TO VEGETATION WILL BE LIMITED TO THAT WHICH IS DIRECTLY AFFECTED BY CONSTRUCTION OF THE NEW BRIDGE AND ASSOCIATED INTERSECTION REALIGNMENT. 1,360 M^2 OF EXISTING PAVED ROAD ASSOCIATED WITH THE COVERED BRIDGE WILL BE REMOVED AND RESTORED TO PERVIOUS AREA. UPON PROJECT COMPLETION, THE CHANNEL WILL BE ARMORED WITH STONE FILL TYPE IV AS SPECIFIED ON THE PLANS. DISTURBED VEGETATION WILL BE REESTABLISHED WITH STANDARD SEED AND MULCH PRACTICES.

1.2.5 SOILS

SOIL DATA FROM THE U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE FOR THE COUNTY OF WINDHAM, VERMONT. SOILS ON THE PROJECT SITE ARE QUONSET AND WARWICK SOILS, 2 TO 8 PERCENT SLOPES, K FACTOR = 0.10 TO 0.32; ONDAWA FINE SANDY LOAM, K FACTOR = 0.20 TO 0.37; AND BERKSHIRE-TUNBRIDGE FINE SANDY LOAM, 15% TO 25% SLOPES, "K FACTOR" = 0.20 TO 0.37. NOTE: K-VALUES GENERALLY INDICATE THE FOLLOWING: 0.0-0.23 = LOW EROSION POTENTIAL; 0.24-0.36 = MODERATE EROSION POTENTIAL: 0.37 AND HIGHER = HIGH EROSION POTENTIAL.

1.2.6 SENSITIVE RESOURCE AREAS

CRITICAL HABITATS: NO
HISTORICAL OR ARCHEOLOGICAL AREAS: YES, SEE ATTACHED EPSC PLAN SHEETS
PRIME AGRICULTURAL LAND: NO
THREATENED AND ENDANGERED SPECIES: NO
WATER RESOURCE: WHETSTONE BROOK
WETLANDS: NO

1.3 RISK EVALUATION

RISK DETERMINATION/RE-EVALUATION
THIS PROJECT HAS BEEN DETERMINED TO BE LOW RISK. SHOULD CHANGES PRIOR TO OR DURING CONSTRUCTION RESULT IN A POTENTIAL CHANGE IN THE RISK, THEN THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR ADDITIONAL PERMITTING WITH THE DEC VIA FILING OF THE APPROPRIATE NOTICE OF INTENT UNDER THE CONSTRUCTION PERMIT PROCESS.

1.4 EROSION PREVENTION AND SEDIMENT CONTROL

THE EROSION CONTROL PLANS ARE MEANT AS A GUIDELINE FOR PREVENTING EROSION AND CONTROLLING SEDIMENT TRANSPORT. THE WORK OUTLINED IN THIS NARRATIVE CONSISTS OF APPLYING MEASURES THROUGHOUT THE LIFE OF THE PROJECT MINIMIZING SEDIMENT TRANSPORT TO THE RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORMWATER CONTROLS AND OTHER POLLUTION PREVENTION CONTROLS.

PREVENTING INITIAL SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. MAINTAINING VEGETATED BUFFERS ALONG STREAM BANKS, WETLANDS OR OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE ESTABLISHED WHEREVER POSSIBLE.

ALL MEASURES SHALL BE REGULARLY MAINTAINED AND SHALL BE CHECKED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE REMOVED FROM THE UPHILL SIDE OF SILT FENCE PRIOR TO REACHING 50% OF THE HEIGHT OF THE SILT FENCE. SEDIMENT SHALL BE DISPOSED AT AN APPROVED SITE WHERE IT WILL NOT BE SUBJECT TO EROSION.

(REFER TO THE LOW RISK SITE HANDBOOK AND APPROPRIATE DETAIL SHEETS FOR EACH PRACTICE REQUIRED ON THE PROJECT TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING.)

1.4.1 MARK SITE BOUNDARIES
PROJECT DEMARCATION FENCING, DENOTED –PDF- ON THE PLANS, IS USED TO DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. PDF FENCE WITHIN 30M OF THE WHETSTONE BROOK SHALL BE CONSTRUCTION BARRIER FENCE. PROJECT DEMARCATION FENCING SHALL BE UTILIZED IN OTHER AREAS TO DELINEATE PROJECT BOUNDARIES.

1.4.2 LIMIT DISTURBANCE AREA
EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES (PHASING) AS CONSTRUCTION PROCEEDS. ADDITIONAL MEASURES MAY BE NEEDED DUE TO THE PHASING OF THE PROJECT OR AS DIRECTED BY THE RESIDENT ENGINEER. LIMIT DISTURBANCE TO EXISTING VEGETATION, SHRUBS AND TREES WHEREVER POSSIBLE.

1.4.3 STABILIZE CONSTRUCTION EXIT
STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED TO PREVENT TRACKING OF SOIL OUTSIDE OF THE PROJECT AREA AS SHOWN ON THE ATTACHED PLANS.

1.4.4 INSTALL SILT FENCE
SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UP SLOPE WORK AS SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER. SILT FENCE PLACED WITHIN 30M OF THE WHETSTONE BROOK SHALL BE WOVEN WIRE-REINFORCED.

1.4.5 DIVERT UPLAND RUNOFF
CLEAN RUNOFF FROM OUTSIDE THE PROJECT SITE SHALL BE ROUTED AROUND THE PROJECT SITE USING UPSLOPE DIVERSION BERMS, DIVERSION CHANNELS AND TEMPORARY OR PERMANENT CULVERTS WHERE PRACTICAL.

1.4.6 SLOW DOWN CHANNELIZED RUNOFF
CHECK DAMS SHALL BE UTILIZED AS SHOWN ON THE PLANS.
CONSTRUCT ROCK OUTLET PROTECTION AS SHOWN ON THE PLANS.

1.4.7 CONSTRUCT PERMANENT CONTROLS
TYPE I STONE FOR LINING THE DITCH ON THE WEST SIDE OF GUILFORD ST.
Type IV STONE FOR CHANNEL PROTECTION
SEED AND MULCH – UTILIZE URBAN SEEDING FORMULA
DRAINAGE INLETS AND PIPING
SOIL RETENTION WALLS

STREAM BANK VEGETATION WILL BE INTRODUCED IN THE GRUBBING MATERIAL THAT IS TO BE PLACED OVER THE STREAM BANK STONE FILL.

1.4.8 STABILIZE EXPOSED SOILS
SEED AND MULCH
EROSION MATTING

TRACKING OF ALL EXPOSED SLOPES, COMBINED WITH TEMPORARY MULCHING, WILL BE UTILIZED ON A REGULAR BASIS. SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.
SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1:3. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING INTERMITTENT PHASES OF CONSTRUCTION.

1.4.9 WINTER STABILIZATION
THE CONTRACTOR SHALL PREPARE, AND SUBMIT FOR REVIEW, A WINTER EPSC PLAN IF SOILS ARE NOT TO BE STABILIZED PRIOR TO OCTOBER 15TH AND BEFORE APRIL 15TH.

1.4.10 STABILIZE SOIL AT FINAL GRADE
SEED AND MULCH
EROSION MATTING

SEEDING, MULCHING AND BIODEGRADABLE EROSION CONTROL MATTING OR AN EQUIVALENT SHALL BE USED TO STABILIZE ALL SLOPES STEEPER THAN 1H:3V AND LESS THAN 2H:3V. THESE SLOPES SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE.

1.4.11 DE-WATERING ACTIVITIES
N/A

1.4.12 INSPECT YOUR SITE
INSPECT SITE BASED ON PERMIT AUTHORIZATION OR SPECIAL PROVISION REQUIREMENTS.

ADDITIONAL NOTES

A TEMPORARY EROSION CONTROL PLAN MUST BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL BY THE RESIDENT ENGINEER.

THE CONTRACTOR WILL USE OTHER TEMPORARY OR PERMANENT EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE RESIDENT ENGINEER. SEE SUBSECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006.

CONTRACTOR TO DESIGN AND CONSTRUCT FILTER CURTAIN IN ACCORDANCE WITH SUBSECTION 649.04 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006.

USE THE EROSION CONTROL PLANS (SHEETS 66 - 71) IN CONJUNCTION WITH THE EROSION CONTROL DETAILS (SHEETS 72 – 74).

EPSC NARRATIVE

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228\SJ228ern.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R. WHITCOMB	DRAWN BY: W. LAMMER
DESIGNED BY: W. LAMMER	CHECKED BY: C. CARLSON
	SHEET 65 OF 77

LEGEND

ARCH ——— ARCH ——— ARCH — ARCHEOLOGICAL RESOURCE

4f ——— 4f 4f ——— PUBLIC LAND

6f ——— 6f 6f ——— LAND & WATER CONSERVATION FUND LAND

--------- OHW --------- ORDINARY HIGH WATER LINE

----- 15M RIPARIAN BUFFER ----- 15M RIPARIAN BUFFER

---------- NRCS SOIL BOUNDARY

VT STATE PLANE GRID

0 10 20 30

SCALE = 1:250

EPSC EXISTING CONDITIONS SITE PLAN 1

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228\Structures\sj228e01.1	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 66 OF 77

LEGEND

ARCH ——— ARCH ——— ARCH — ARCHEOLOGICAL RESOURCE

4f ——— 4f 4f ——— PUBLIC LAND

6f ——— 6f 6f ——— LAND & WATER CONSERVATION FUND LAND

--------- OHW --------- ORDINARY HIGH WATER LINE

----- 15M RIPARIAN BUFFER ----- 15M RIPARIAN BUFFER

---------- NRCS SOIL BOUNDARY

VAOT Metric

N

VT STATE PLANE GRID

EXISTING BRIDGE DATA

CREAMERY COVERED BRIDGE
24.4 m OVERALL LENGTH
19.2 m CLEAR SPAN
4.94 m ROADWAY WIDTH
2.90 m VERTICAL CLEAR
WOODEN DECK
CONCRETE CAPPED AND
FACED STONE ABUTMENTS
CONSTRUCTED IN 1879

Berkshire-Tunbridge fine sandy loams, 15 to 25 percent slopes

Ondawa fine sandy loam

Quonset and Warwick soils, 2 to 8 percent slopes

WHETSTONE BROOK

TO WEST BRATTLEBORO

TO BRATTLEBORO

VT RTE 9

10+110.27 LT. 46.69M(143') LT.

10+112.19 LT. 36.25m(118.9') LT.

EXISTING COVERED BRIDGE

10+072.30 RT. 7.54m(24.7')

10+069.63 CL

10+090.58 RT. 10.74m(35.2')

10+094.35 RT. 7.54m(24.7')

10+113.30 RT. 7.54m (24.7')

10+164.50 RT. 6.10m(20.01')

10+161.24 RT. 7.54m(24.7')

10+148.30 RT. 7.54m(24.7')

BM NO. 1
RRSIF IN
GUY BRACE POLE
EL. 128.656

MATCH LINE STA. 10+035

T.H. 10 (GUILFORD STREET)

0 10 20 30

SCALE = 1:250

EPSC EXISTING CONDITIONS SITE PLAN 2

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000 (21)S

FILE NAME:96J228\Str\sJ228bdr.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C. CARLSON
PLOT DATE: 29-APR-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 67 OF 77

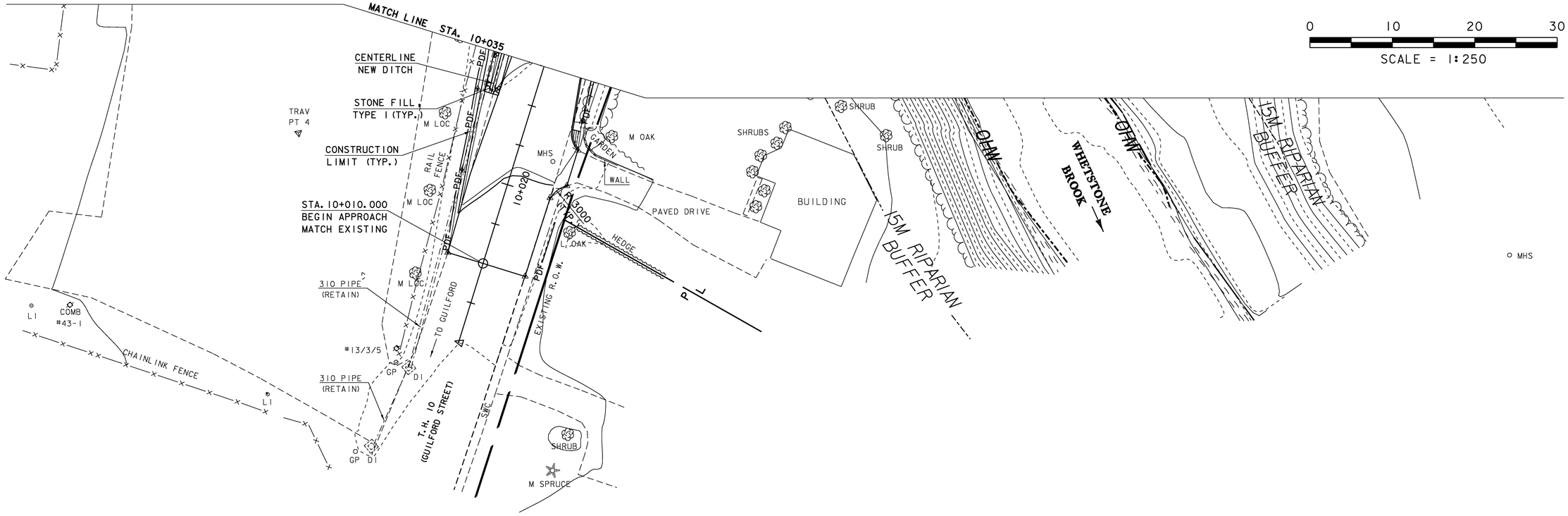
LEGEND

- CUT AND FILL LINE
- PROJECT DEMARCATION FENCE
- PROJECT DEMARCATION (BARRIER TYPE) FENCE
- SILT FENCE
- SILT FENCE (WIRE REINFORCED)
- TURBIDITY CURTAIN
- ROCK OUTLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- CHECK DAM
- INLET PROTECTION DEVICE
- OHW — ORDINARY HIGH WATER LINE
- 15M RIPARIAN BUFFER — 15M RIPARIAN BUFFER

VT STATE PLANE GRID

0 10 20 30

SCALE = 1:250



EPSC PLAN 1

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228\Structures\sJ228e01.i	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 68 OF 77

LEGEND

- CUT AND FILL LINE
- PDF PROJECT DEMARCATION FENCE
- PDF PROJECT DEMARCATION (BARRIER TYPE) FENCE
- SILT FENCE
- SILT FENCE (WIRE REINFORCED)
- TURBIDITY CURTAIN
- ROCK OUTLET PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- CHECK DAM
- INLET PROTECTION DEVICE
- OHW ORDINARY HIGH WATER LINE
- 15M RIPARIAN BUFFER 15M RIPARIAN BUFFER

VAOT Metric

N

VT STATE PLANE GRID

3+000
3+020 TO WEST BRATTLEBORO
3+040
3+060
VT RTE 9
3+080
TO BRATTLEBORO
3+100
3+120
10+140
10+160
5+000
5+020
5+040
5+060
5+080
5+100
5+120
20+031
20+020
20+000
10+060
10+040
10+020
10+000
9+980
9+960
9+940
9+920
9+900
9+880
9+860
9+840
9+820
9+800
9+780
9+760
9+740
9+720
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9+580
9+560
9+540
9+520
9+500
9+480
9+460
9+440
9+420
9+400
9+380
9+360
9+340
9+320
9+300
9+280
9+260
9+240
9+220
9+200
9+180
9+160
9+140
9+120
9+100
9+080
9+060
9+040
9+020
9+000

15M RIPARIAN BUFFER
OHW
PDF
CZ
R 2825
R 12.000 (TYP.)

END BRIDGE
STA. 10+119.250

END APPROACH
STA. 10+168.024

CONSTRUCTION LIMIT (TYP.)

SILT FENCE (TYP.)

END PROJECT
BEGIN APPROACH
STA. 10+150.000

BEGIN BRIDGE
STA. 10+091.250

1200 STONE FILL TYPE IV (TYP.)

TURBIDITY CURTAIN (TYP.)

EPSC EXISTING CONDITIONS SITE PLAN 2

TH 10 (GUILFORD STREET)

WHETSTONE BROOK

BEGIN PROJECT
END APPROACH
STA. 10+040.000

MATCH LINE STA. 10+035

0 10 20 30
SCALE = 1:250

EPSC PLAN 2

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME:96J228\Str\sJ228bdr.dgn
PROJECT MANAGER: R.R. WHITCOMB
DESIGNED BY: C.CARLSON

PLOT DATE: 29-APR-2009
DRAWN BY: C.MOONEY
CHECKED BY: D.PETERSON
SHEET 69 OF 77

LEGEND

CUT AND FILL LINE

15M RIPARIAN BUFFER

ORDINARY HIGH WATER LINE

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED, HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

BIODEGRADABLE EROSION CONTROL MATTING

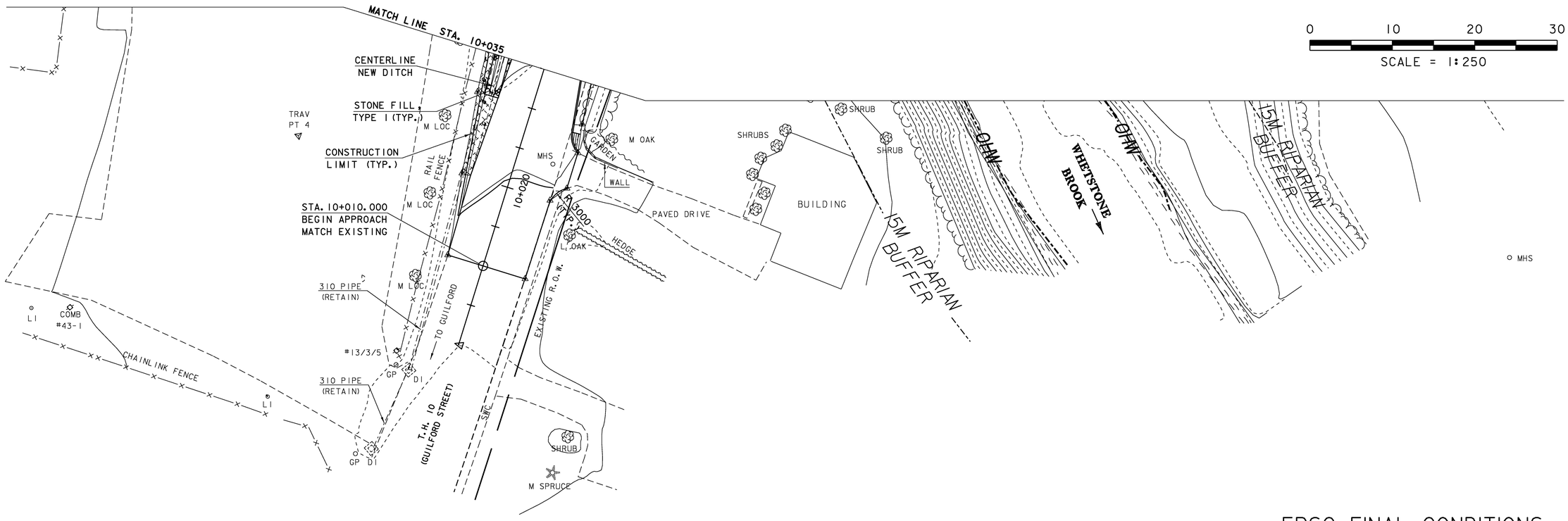
STONE FILL, TYPE I

STONE FILL, TYPE IV

VT STATE PLANE GRID

0 10 20 30

SCALE = 1:250



EPSC FINAL CONDITIONS
SITE PLAN 1

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME: 96J228\Structures\sJ228e01.1	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 70 OF 77

LEGEND

CUT AND FILL LINE

15M RIPARIAN BUFFER

15M RIPARIAN BUFFER

ORDINARY HIGH WATER LINE

FOR CLARITY, AREAS TO BE SEEDED AND MULCHED HAVE NOT BEEN INDICATED, HOWEVER, ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED AS APPLICABLE.

BIODEGRADABLE EROSION CONTROL MATTING

STONE FILL, TYPE I

STONE FILL, TYPE IV

VAOT Metric

N

VT STATE PLANE GRID

1200 STONE FILL TYPE IV (TYP.)

MATCH LINE STA. 10+035

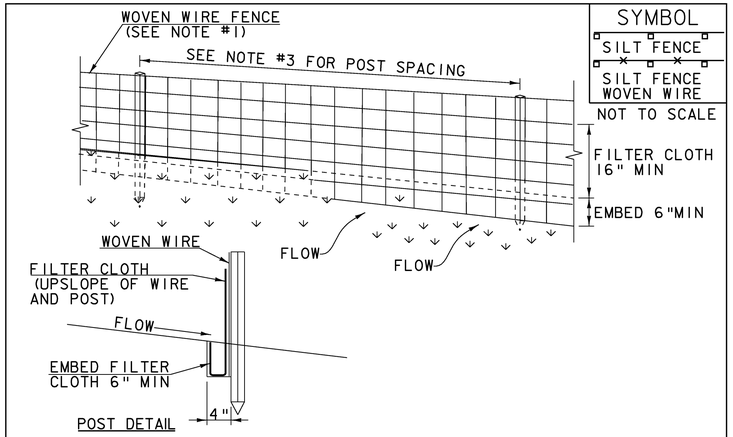
0 10 20 30

SCALE = 1:250

EPSC FINAL CONDITIONS SITE PLAN 2

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME:96J228\Str\sJ228bdr.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 71 OF 77



SYMBOL

SILT FENCE

SILT FENCE WOVEN WIRE

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE REINFORCED FENCE IS REQUIRED WITHIN 100' UPSLOPE OF RECEIVING WATERS WHEN THE PROJECT FALLS UNDER A CONSTRUCTION STORMWATER PERMIT. WOVEN WIRE SHALL BE A MIN. 14 GAUGE WITH A 6" MAX. MESH OPENING.
2. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI100X, STABILINKA T140N OR APPROVED EQUIVALENT.
3. POST SPACING FOR WIRE-BACKED FENCE SHALL BE 10' MAXIMUM. FOR FILTER-CLOTH FENCE, WHEN ELONGATION IS >50%, POST SPACING SHALL NOT EXCEED 4' AND WHEN ELONGATION IS <50%, POST SPACING SHALL NOT EXCEED 6'.
4. WOVEN WIRE FENCE IS TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES. FILTER CLOTH IS TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY 6" AND FOLDED.
6. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN SEDIMENT REACHES HALF OF FABRIC HEIGHT.

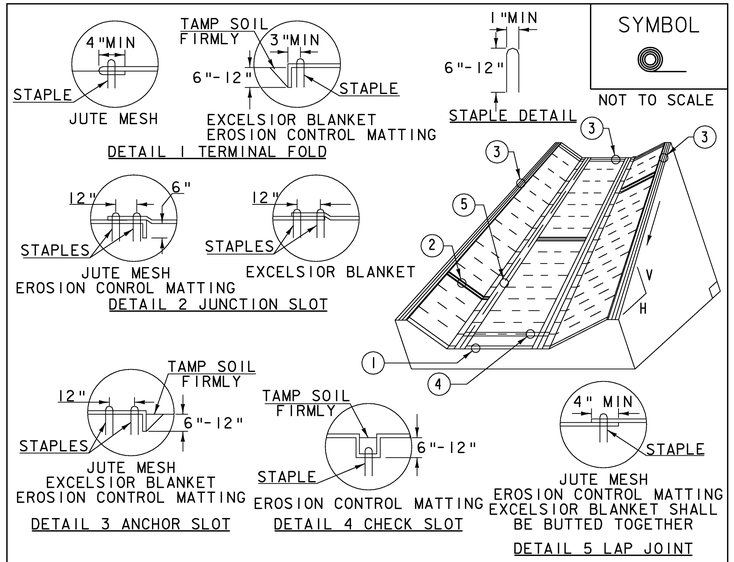
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SILT FENCE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 AND AS SHOWN IN THE PLANS FOR GEOTEXTILE FOR SILT FENCE (PAY ITEM 649.51) OR GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED (PAY ITEM 649.515).

REVISIONS	
MARCH 21, 2008	WHF
DECEMBER 11, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. EROSION MATTING, CHECK SLOTS, SHALL BE SPACED IN DITCH CHANNEL SO THAT ONE OCCURS WITHIN EACH 50' ON SLOPES OF MORE THAN 4% AND LESS THAN 6%. ON SLOPES OF 6% OR MORE, THEY SHALL BE SPACED SO THAT ONE OCCURS WITHIN EACH 25'.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

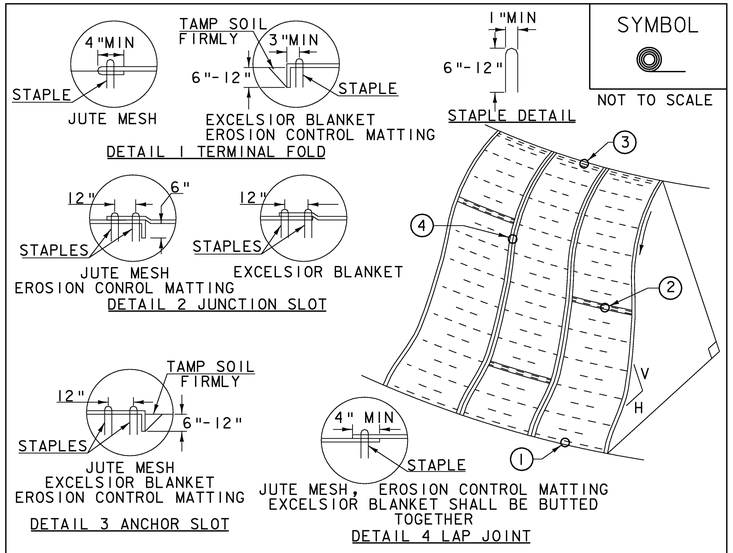
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) DITCH

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

REVISIONS	
MARCH 8, 2007	JMF
APRIL 16, 2007	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. APPLY TO SLOPES GREATER THAN 3H: 1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2' APART AND IN ROWS APPROXIMATELY 3' APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4'X225' ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4'X150' ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12" INTERVALS.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 AND AS SHOWN IN THE PLANS FOR TEMPORARY EROSION MATTING (PAY ITEM 653.20) OR PERMANENT EROSION MATTING (PAY ITEM 653.21).

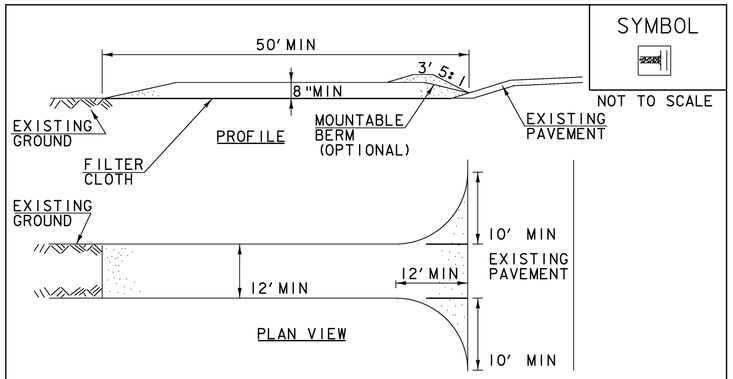
REVISIONS	
APRIL 16, 2007	JMF
JANUARY 13, 2009	WHF

EPSC DETAIL SHEET (1)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: PW/96J228/sJ228ecdl.1
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: W. LAMMER

PLOT DATE: 29-APR-2009
DRAWN BY: W. LAMMER
CHECKED BY: C. CARLSON
SHEET 72 OF 77



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE- USE 1-4" STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH- NOT LESS THAN 50' (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
3. THICKNESS- NOT LESS THAN 8".
4. WIDTH- 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER- ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. 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.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

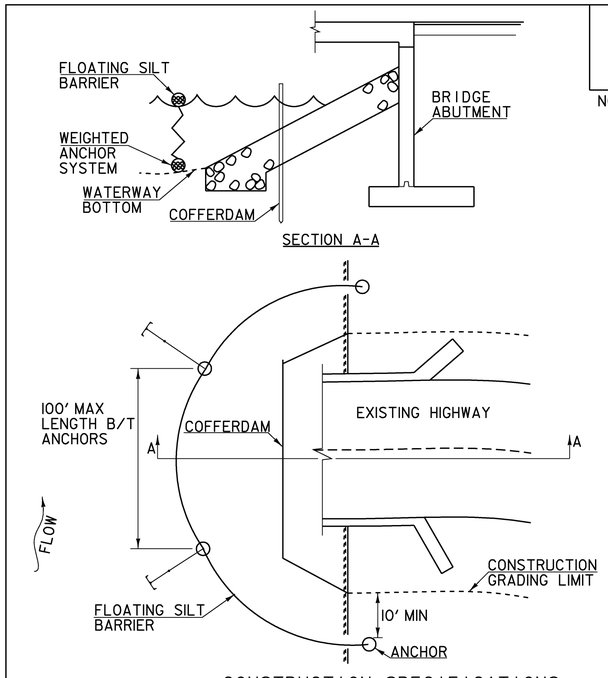
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

STABILIZED CONSTRUCTION ENTRANCE

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR VEHICLE TRACKING PAD (PAY ITEM 653.35) OR AS SPECIFIED IN THE CONTRACT.

REVISIONS	
MARCH 24, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

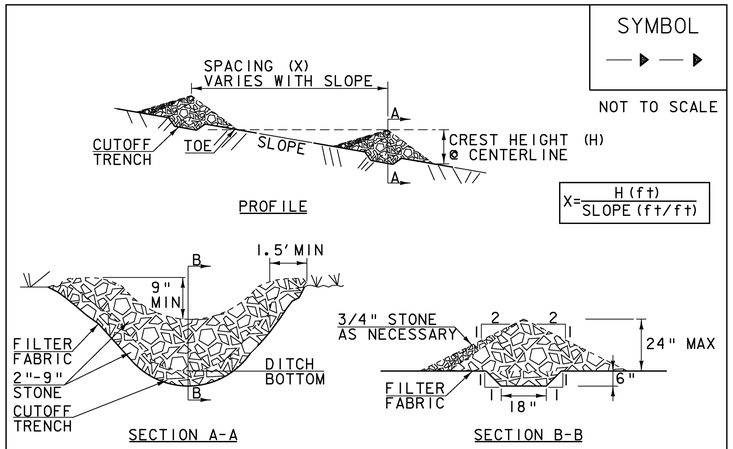
CONSTRUCTION SPECIFICATIONS

1. FILTER CURTAIN SHALL NOT BE PLACED ACROSS A FLOWING WATERWAY, OR IN A WATERWAY WITH STREAM VELOCITIES GREATER THAN 1.5 FEET/SECOND.
2. MAXIMUM 100 FOOT LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10 FEET BEYOND LIMIT OF DISTURBANCE.
4. THE WEIGHTED ANCHOR SYSTEM SHALL BE A TYPE WHICH ALLOWS THE CURTAIN TO CONFORM TO THE BOTTOM OF THE WATERWAY.
5. THE CURTAIN SHALL BE REMOVED BY SLOWLY PULLING TOWARD THE SHORE MINIMIZING THE ESCAPE OF SEDIMENTS INTO WATERWAY.

FILTER CURTAIN

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 649 FOR GEOTEXTILE FOR FILTER CURTAIN (PAY ITEM 649.61).

REVISIONS	
APRIL 1, 2008	WHF
JANUARY 13, 2009	WHF



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION.
2. CHECK DAMS SHALL BE SPACED SO THAT THE ELEVATION OF THE CREST OFTHE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. 3/4" FILTERING STONE MAY BE ADDED TO THE FACE OF THE CHECK DAM AS NECESSARY.
4. EXTEND THE STONE A MINIMUM OF 1.5 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
5. PROTECT CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
6. ENSURE THAT CHANNEL APPURTENANCES SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
7. MAXIMUM DRAINAGE AREA 2 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CHECK DAM

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR TEMPORARY STONE CHECK DAM, TYPE I (PAY ITEM 653.25)

REVISIONS	
MARCH 21, 2008	WHF
JANUARY 8, 2009	WHF

EPSC DETAIL SHEET (2)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: PW/96J228/sJ228ecd2.1
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: W. LAMMER

PLOT DATE: 29-APR-2009
DRAWN BY: W. LAMMER
CHECKED BY: C. CARLSON
SHEET 73 OF 77

SEEDING FORMULA
URBAN AREAS

% WT.	kg/ha	NAME	PUR %	GERM %
42.5	38.0	CREEPING RED FESCUE	98	85
10.0	9.0	PERENNIAL RYE GRASS	95	90
42.5	38.0	KENTUCKY BLUE GRASS	85	85
5.0	5.0	ANNUAL RYE GRASS	95	85
100.0	90.0			

GENERAL NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

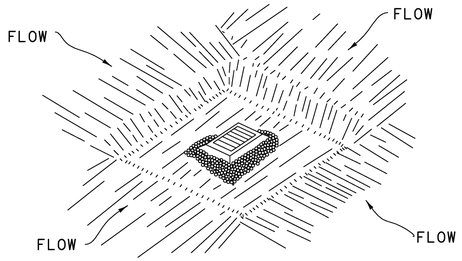
SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

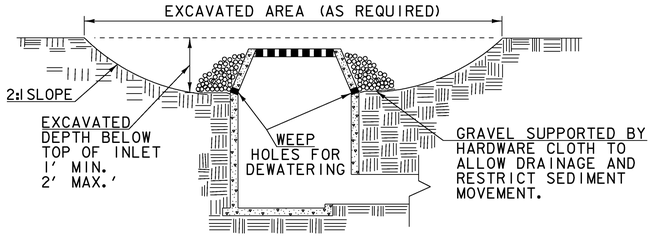
HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha, OR AS DIRECTED BY THE ENGINEER.

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



SYMBOL

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION.
2. GRADE APPROACH TO THE INLET UNIFORMLY AROUND THE BASIN.
3. WEEP HOLES SHALL BE PROTECTED BY GRAVEL.
4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL WEEP HOLES, FILL BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY AND STABILIZE WITH PERMANENT SEEDING.
5. MAXIMUM DRAINAGE AREA 1 ACRE

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

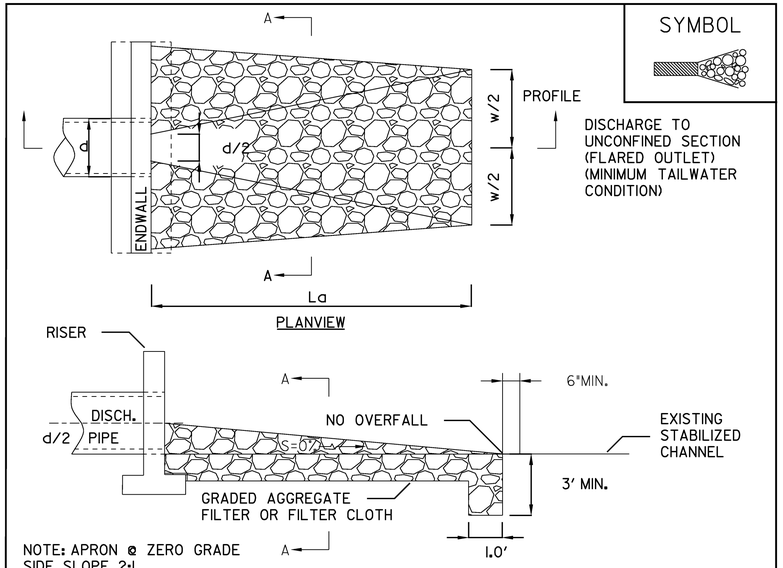
EXCAVATED DROP INLET PROTECTION

NOTES:
REFER TO 'THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- ' FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 653 FOR INLET PROTECTION DEVICE, TYPE I (PAY ITEM 653.40).

REVISIONS	
MARCH 6, 2008	WHF
JANUARY 13, 2009	WHF

SYMBOL



NOTE:
SEE RIPRAP STANDARDS AND SPECIFICATIONS
MINIMUM TAILWATER CONDITIONS

ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

RIPRAP OUTLET PROTECTION EXAMPLE

NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- " FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

THIS ITEM SHALL BE PAID FOR UNDER ITEM 613.10 STONE FILL, TYPE I

EPSC DETAIL SHEET (3)

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: PW/96J228/sJ228ecd2.1
PROJECT LEADER: R.R. WHITCOMB
DESIGNED BY: W. LAMMER
PLOT DATE: 29-APR-2009
DRAWN BY: W. LAMMER
CHECKED BY: C. CARLSON
SHEET 74 OF 77

STATE OF VERMONT
AGENCY OF TRANSPORTATION

RIGHT - OF - WAY DETAIL SHEET

Metric

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	MALLORY, NORMAN R. & MARY A.	14	PRK LOT DR 20+005.00 RT				DRIVE	(T)							GRAVEL 3.6M (11.8')
			HSE DRIVE 30+007.02 LT.	HSE DRIVE 30+013.74 LT.			SLOPE	(T)	22.8 SM						245 SF±; INCLUDES PDF & EROSION
															CONTROL
2A	WINCHESTER, RODNEY R. & DOREEN E.	14	10+072.30 RT.	10+113.30 RT.	0.12 HA					WDOE	2/14/2006	Brattleboro	346	407	0.29 A±
			10+067.93 RT.	10+101.95 RT.			CONST.	(T)	51.9 SM						559 SF± INCLUDES PDF & EROSION
															CONTROL
			10+070.28 RT.	10+088.05 RT.			SLOPE	(T)	3.3 SM						36 SF±
			10+070.28 RT.	10+101.77 RT.			CHANNEL	(P)	152.6 SM						1,643 SF±
			10+081.95 RT.	10+095.28 RT.			CUL. & DR.	(P)							
			10+101.25 RT.	10+103.67 RT.			INSTALL	(T)	26.9 SM						EROSION CONTROL, 290 SF±
			10+112.56 RT.	10+120.23 RT.			INSTALL	(T)	31.6 SM						EROSION CONTROL, 340 SF±
			10+113.30 RT.	10+117.98 RT.			CHANNEL	(P)	7.6 SM						81 SF±
2B		14	10+069.63 RT.	10+112.19 LT.	0.05 HA		ALL R.T. & I.								0.13 A± ; TH 374
3	NEW ENGLAND TELEPHONE &	14	10+148.30 RT.	10+164.70 RT.	22.6 SM					WDOE	11/8/2007	BRATTLEBORO	365	449	243 SF±
	TELEGRAPH, COMPANY		10+148.30 RT.	10+164.70 RT.			SLOPE	(T)	6.5 SM						70 SF±
	a/k/a VERIZON NEW ENGLAND, INC.		10+146.85 RT.	10+164.70 RT.			CONST.	(T)	92.1 SM						991 SF± INCLUDES PDF & EROSION
															CONTROL
			10+145.00 RT.				DRIVE	(T)							GRAVEL 3.6M (11.8')
			10+145.40 RT.	10+152.90 RT.			INSTALL	(T)							PLANK RAIL ON P/L
4	CENTRAL VERMONT PUBLIC SERVICE														UTILITY
	CORPORATION														
5	VERIZON NEW ENGLAND, INC.														UTILITY
6	TOWN OF BRATTLEBORO														UTILITY
	(WATER & SEWER)														

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
1	13	PARCEL NO. 2 WINCHESTER. CHANGE THE TAKING OF	7/14/2005
		PARCEL 2A FROM 0.27 HA±. TO 0.12 HA±; 0.29 A±	
		CHANGE THE TAKING OF PARCEL 2B FROM 0.52 HA±. TO	
		0.05 HA±; 0.13A±. PER C.O. 9431	
		MADE BY: MR APPROVED BY: RPD	
		ELECTRONIC FILES TO STRUCTURES	1/22/2009

PLAN LEGEND

EXISTING RIGHT-OF-WAY	TOE OF SLOPE	(P)	-PERMANENT
TAKING WITH ACCESS	TOP OF CUT	(T)	-TEMPORARY
TAKING WITHOUT ACCESS	SLOPE RIGHT	DR.	-DRAINAGE RIGHT
CZ CLEAR ZONE	CONST. (T) CONSTRUCTION RIGHT	DIT.	-DITCHING RIGHT
P/L PROPERTY LINE	PDF PDF PROJECT DEMARCATION FENCE	CH.	-CHANNEL RIGHT
		DRIVE	-DRIVE RIGHT
		CUL.	-CULVERT RIGHT
		C&T	-CLEARING & TRIMMING RIGHT
		SR	-SLOPE RIGHT
		UE	-UTILITY EASEMENT

PLOT DATE : 4/27/2009

APPROVED: ROGER P. DUMAS DATE 04-29-05
CHIEF, PLANS & TITLES

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228DET.XLS
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: 0
R.O.W. SHEET 13 OF 15

PLOT DATE: 04/14/09
DRAWN BY: MR
CHECKED BY: FJM
R.O.W. SHEET 75 OF 77

VAOT Metric

CONSTRUCT PAVED APRON
10+025 RT.

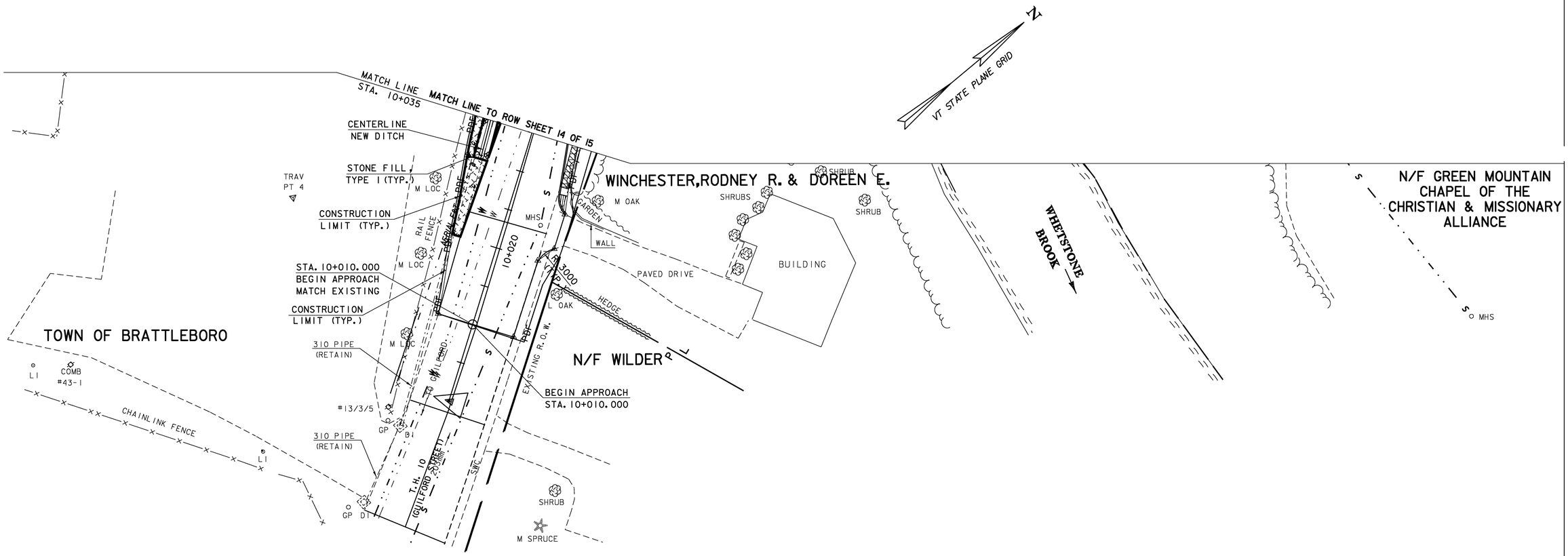
COLD PLANING, BITUMINOUS PAVEMENT
STA 10+010.0 - 10+035.0

CAST-IN-PLACE CONCRETE CURB, TYPE B
MAINLINE 10+026.7 RT. - 10+035.0 RT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125mm
MAINLINE 10+026.7 RT. - 10+035.0 RT.

LEGEND

COLD PLANING AREA



FOR R.O.W. USE ONLY

R.O.W. LAYOUT SHEET 1

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S

FILE NAME:96J228\Str\sJ228bdr.dgn	PLOT DATE: 29-APR-2009
PROJECT MANAGER: R.R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
R.O.W. SHEET 15 OF 15 SHEETS	SHEET 76 OF 77 SHEETS

CONSTRUCT TELEPHONE BUILDING DRIVE
MAINLINE 10+145.0 RT.

CONSTRUCT PAVED APRON
DRIVE 20+011.25 LT. (2 m)

SPECIAL PROVISION (REMOVE AND SALVAGE EXISTING BUS SHELTER)
MAINLINE 10+161.2 RT. (BUS SHELTER)

REMOVE EXISTING PAVEMENT
SEE PROJECT NOTE 4 ON SHEET 3

SIDEWALK RAMP, TYPE 6
MAINLINE 10+074.9 RT. - 10+084.7 RT.
MAINLINE 10+082.3 LT. - 10+087.0 LT.
MAINLINE 10+163.6 RT. - 10+168.2 RT.
MAINLINE 10+164.5 LT. - 10+167.5 LT.
MAINLINE 10+164.3 LT. - 10+168.2 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
MAINLINE 10+091.13 LT. - 10+119.370 LT
MAINLINE 10+091.13 RT. - 10+119.370 RT.

CAST-IN-PLACE CONCRETE CURB, TYPE B
MAINLINE 10+035.0 RT. - 10+078.7 RT.
MAINLINE 10+080.9 RT. - 10+091.05 RT.
MAINLINE 10+119.45 RT. - 10+143.2 RT.
MAINLINE 10+146.6 RT. - 10+166.6 RT.
MAINLINE 10+167.4 RT. - 10+168.3 RT.
MAINLINE 10+084.5 LT. - 10+091.05 LT.
MAINLINE 10+119.45 LT. - 10+166.7 LT.
MAINLINE 10+167.5 LT. - 10+163.6 LT.
DRIVE 20+004.50 RT. - 20+014.60 RT.
VT 9 3+019.2 RT. - 3+055.8 RT.
VT 9 3+041.5 LT. - 3+047.5 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

DETECTABLE WARNING SURFACE (YELLOW)
MAINLINE 10+079.80 RT
MAINLINE 10+083.82 LT
MAINLINE 10+166.78 RT
MAINLINE 10+166.83 LT
VT 9 3+065.4 LT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125mm
MAINLINE 10+035.0 RT. - 10+091.05 RT.
MAINLINE 10+119.450 RT. - 10+168.3 RT.
DRIVE 20+003.88 RT. - DRIVE 20+014.60 RT.
MAINLINE 10+119.450 LT. - 10+163.6 LT.
VT 9 3+019.2 RT. - 3+065.0 RT.
VT 9 3+041.5 LT. - 3+047.5 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

PLANK RAIL
MAINLINE 10+145.4 RT. - 10+152.9 RT.

SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)
MAINLINE 10+075.70 RT. - 10+091.13 RT.
DRIVE 20+013.53 RT. - MAINLINE 10+091.13 LT.
MAINLINE 10+119.37 LT. - 10+134.73 LT.
MAINLINE 10+119.37 RT. - 10+139.83 RT.

REMOVAL AND DISPOSAL OF GUARDRAIL
DRIVE 20+005.06 RT. - 20+014.24 RT.

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 BRATTLEBORO'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

NOTE:

SEE SHEETS 22-23 FOR TRAFFIC SIGNS AND PAVEMENT MARKINGS DETAILS. SEE SHEETS 20-21 FOR DRAINAGE AND UTILITIES DETAILS.

FOR DRAINAGE DETAIL SEE ROW SHEET 9 & 10A OF 15

FOR EROSION CONTROL DETAILS SEE ROW SHEETS 11 & 12 OF 15

NOTE: SEE ROW SHEET 10B FOR ALIGNMENT AND CURVE INFORMATION.

EXISTING SIDEWALK RAMP SHALL BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW CONCRETE SIDEWALK

NEW CAST-IN-PLACE CONCRETE CURB, TYPE B

EXISTING SIDEWALK (SHALL) BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW SIDEWALK RAMP, TYPE 6

VT STATE PLANE GRID

BEGIN ROW PROJECT BRF 2000(21)S
10+057.93RT.
26.93M(88.4') RT.

END ROW PROJECT BRF 2000(21)S
10+164.70
HORIZ.(36.25')RT.

MALLORY, NORMAN R. & MARY A.

TOWN OF BRATTLEBORO

WINCHESTER, RODNEY & DOREEN E.

N/F GREEN MOUNTAIN CHAPEL OF THE CHRISTIAN & MISSIONARY ALLIANCE

NEW ENGLAND TELEPHONE & TELEGRAPH CO. A/K/A VERIZON NEW ENGLAND, INC.

EASEMENT FOR N.F. CHASE FAMILY

STA. 20+022.00 MATCH EXISTING END NEW PAVEMENT

10+110.27 LT. 46.69M(143') LT.

10+112.19 LT. 36.25m(118.9') LT.

RETAIN EXISTING PAVEMENT

REMOVE EXISTING PAVEMENT

RETAIN EXISTING SIDEWALK

EXISTING RIGHT-OF-WAY

3 RODS

DRIVE (T)

75.22M 240'

STA. 10+168.024 END APPROACH MATCH EXISTING

R 12.000 (TYP.)

TOPSOIL & SEED EXISTING GRAVEL PARKING AREA THIS SIDE

10+164.50 RT. 3.10m(20.01')

4.95m(16')

3+100

3+120

3+140

3+160

3+180

3+200

3+220

3+240

3+260

3+280

3+300

3+320

3+340

3+360

3+380

3+400

3+420

3+440

3+460

3+480

3+500

3+520

3+540

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3+740

3+760

3+780

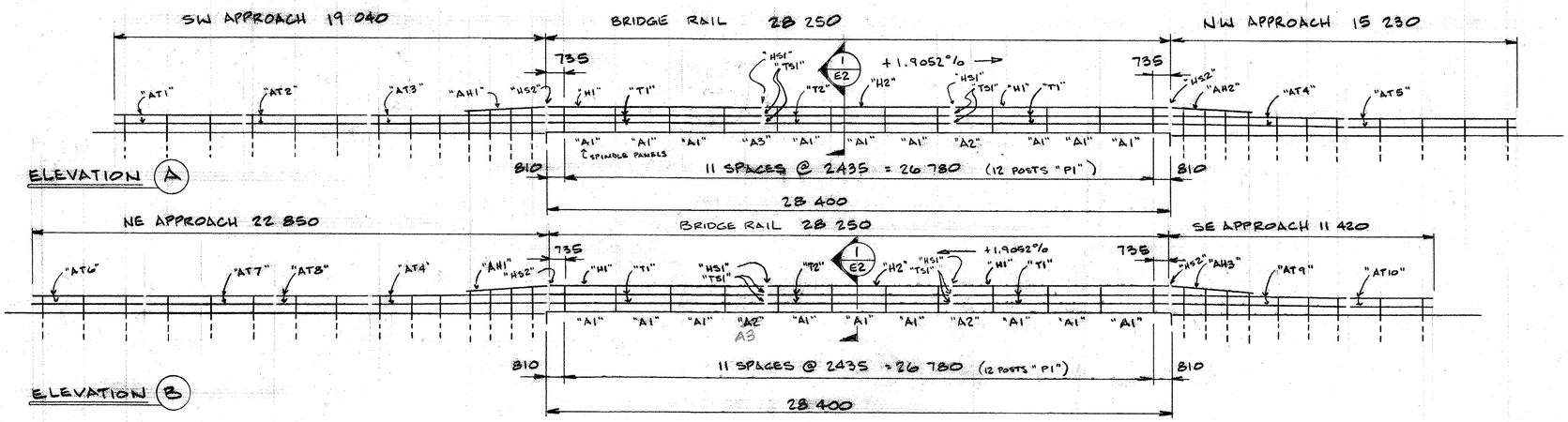
3+800

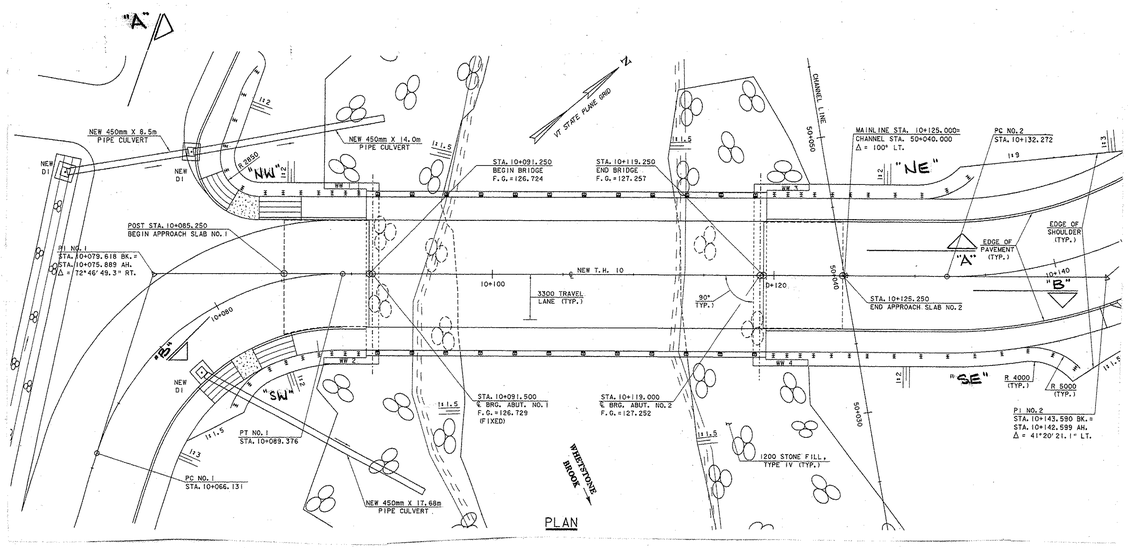
3+820

3+840

3+860

3+880





JOB NUMBER AB07025

QTY.	Pc.Mk.	DESCRIPTION
2	A1L	APPROACH POSTS
2	A2L	
2	A3L	
2	A4L	
2	A5L	
2	A6L	
2	A7L	
20	A8	
2	A1R	
2	A2R	
2	A3R	
2	A4R	
2	A5R	
2	A6R	
2	A7R	↓
2	SA1L	STAND OFF
2	SA2L	
2	SA3L	
2	SA4L	
2	SA5L	
2	SA6L	
2	SA7L	
20	SA8	
2	SA1R	
2	SA2R	
2	SA3R	
2	SA4R	
2	SA5R	
2	SA6R	
2	SA7R	↓

QTY.	Pc.Mk.	DESCRIPTION
24	P1	BRIDGE POST
18	A1	SPINDLE PANEL
2	A2	"
2	A3	"
4	HS1	HAND RAIL SPLICE
4	HS2	"
12	TS1	TRAFFIC RAIL SPLICE
14	TS2	"
0	TS3	"
2	TS4	"
2	TS5	"

160		
224		
224		
928		
480		
736		

HANDRAIL

QTY.	Pc.Mk.	LENGTH
4	H1	9540
2	H2	9135
2	AH1	3532
1	AH2	3532
1	AH3	3526

TRAFFIC RAIL

QTY	Pc.Mk.	LENGTH
8	T1	9540
4	T2	9135
2	AT1	5451
2	AT2	6820
2	AT3	6683
4	AT4	7777
2	AT5	7387
2	AT6	4725
2	AT7	5647
2	AT8	4585
2	AT9	6659
2	AT10	4695
24	ANCHOR BOLT ASSEM.	
120	M20 x 2.5 HDG HEX NUTS	
120	M20 HDG FLAT WASHERS	
80	#4 CLAMP BARS	
288	#1 CLAMP BARS	
336	M18 x 2 x 20 S.S. HEX HD CAP SCREWS	
576	M18 x 2 x 25 S.S. HEX HD CAP SCREWS	
368	M18 x 2 x 38 S.S. HEX HD CAP SCREWS	
368	M18 x 2 S.S. HEX NUTS	
672	M18 S.S. FLAT WASHER	
304	"C" BOLTS	
24	POST PADS	
8	M6 x 1 x 9 S.S. SET SCREWS	
912	M18 ALUMINUM FLAT WASHERS	
240	M6 x 1 x 14 SS SET SCREWS	

RECEIVED
CKD DEP DMV GRS
APR 06 2010
RESUBMIT____ APPROVED AS NOTED
BY [signature] DATE 4/23/10

ISSUE	DATE	DESCRIPTION	BY
1	4-5-10	FOR APPROVAL	

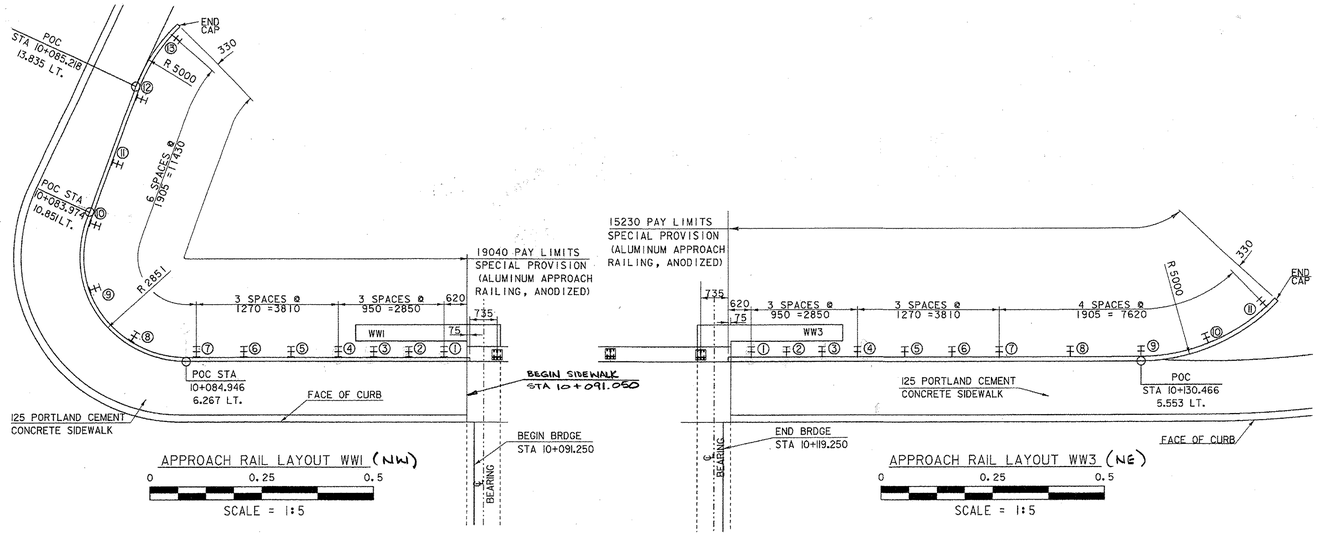
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
BRATTLEBORO # BRF 2000(21)S
BRIDGE # 30
T.H. 10 OVER WHETSTONE BROOK

ALUM. BRIDGE & APPROACH RAILING

SURFACE PREP: NONE
FINISH: BLACK ANODIZE
FOR: F.R. LAFAYETTE, INC.
DR: 2-3-2010
CHK: 4-5-10
DWG. NO. BR-2978
JOB NO. AB07025-1001
SHEET E1 OF 5

BL MAKEPEACE INC. 100616



✳ SEE SHEET E4 AND E5 FOR ELEVATIONS

RECEIVED
CK'D BY DRP CHKD BY GPS
APR 06 2010
RESUBMIT ____ APPROVED ✓
BY ave DATE 4/20/10

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000 (21) S
BRIDGE #30
T.H. 10 OVER WHETSTONE BROOK

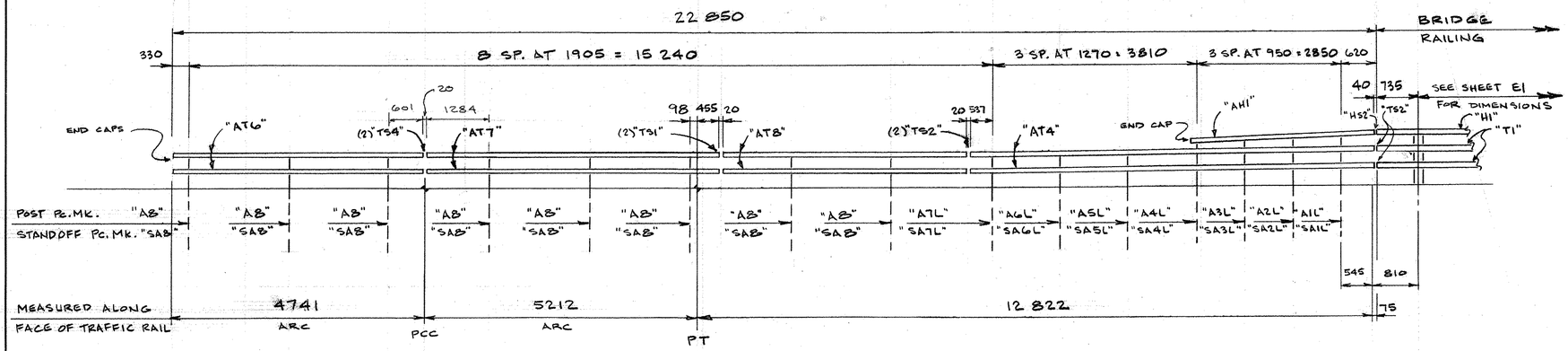
ALUM. APPROACH RAILING

SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

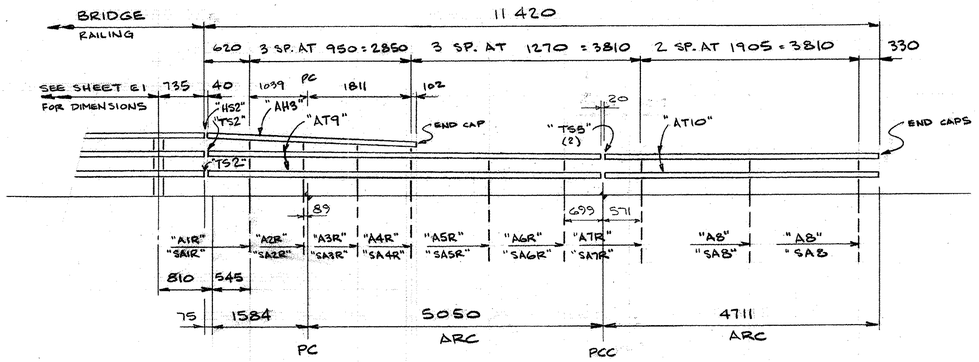
FOR: F.R. LAFAYETTE, INC.

DR: 2/4/2010 DWG. NO. BR-2978
CHK: 4/5/10
JOB NO. AB07025-1002 SHEET E3 OF 5

BL MANSPACE INC. 190616



ELEVATION - SE APPROACH RAIL



ELEVATION - SW APPROACH RAIL

RECEIVED
CREW: RRP ENTRY: RRS
APR 06 2010
RESUBMIT ____ APPROVED ✓
BY ____ DATE 4/20/10

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000(21)S
BRIDGE # 30
T.H. 10 OVER WHETSTONE BROOK

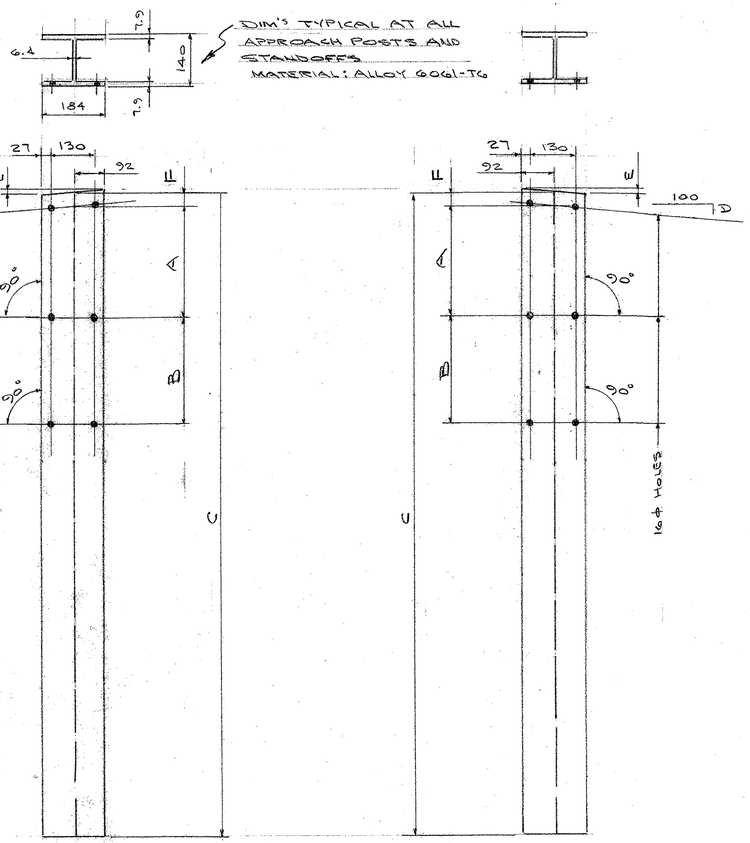
ALUM. APPROACH RAILING

SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

FOR: F.R. LAFAYETTE, INC

DR: RRP 2-5-2010	DWG. NO.
CHK: 4/5/10	BR-2978
JOB NO. AB07025-1002	SHEET E5 OF 5

B.L.MAKEPEACE INC. 195816

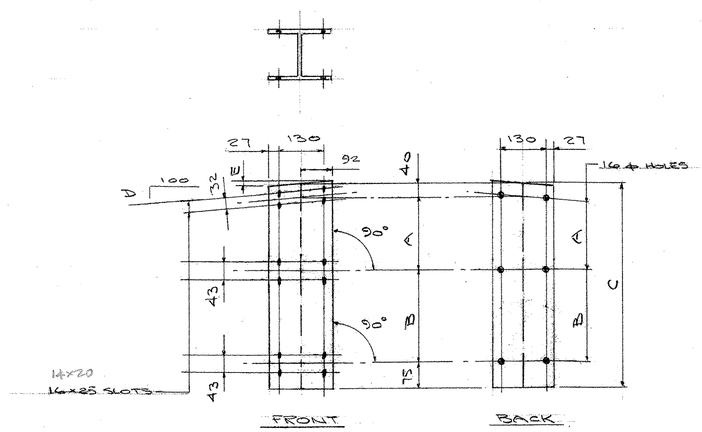


APPROACH POSTS

QUAN	MK	A	B	C	D	E	F
2	A1L	292	329	1980	5	10	40
2	A2L	249	328	1980	5	10	40
2	A3L	205	326	1980	5	10	40
2	A4L	162	325	1980	5	10	40
2	A5L	~~0~~	323	1830	1	2	51
2	A6L	~~0~~	321	1830	1	2	51
2	A7L	~~0~~	319	1830	1	2	51
20	A8	~~0~~	319	1830	~~0~~	~~0~~	51

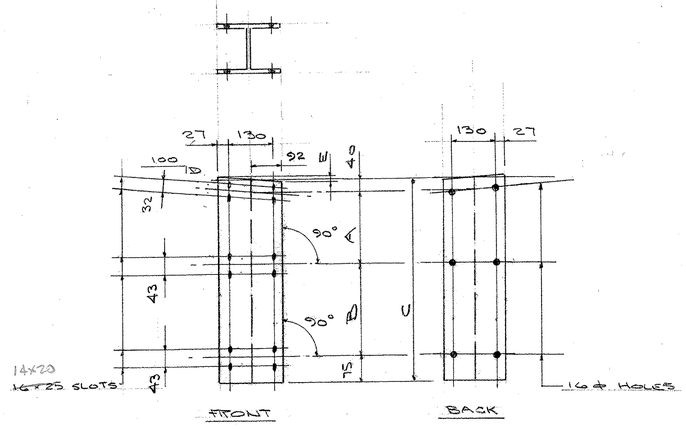
APPROACH POSTS

QUAN	MK	A	B	C	D	E	F
2	A1R	292	329	1980	5	10	40
2	A2R	249	328	1980	5	10	40
2	A3R	205	326	1980	5	10	40
2	A4R	162	325	1980	5	10	40
2	A5R	~~0~~	323	1830	1	2	51
2	A6R	~~0~~	321	1830	1	2	51
2	A7R	~~0~~	319	1830	1	2	51



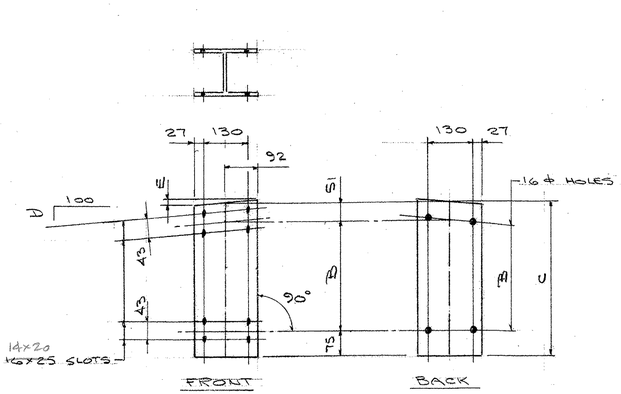
STANDOFFS

QUAN	MK	A	B	C	D	E
2	SA1L	292	329	736	5	10
2	SA2L	249	328	692	5	10
2	SA3L	205	326	646	5	10
2	SA4L	162	325	602	5	10



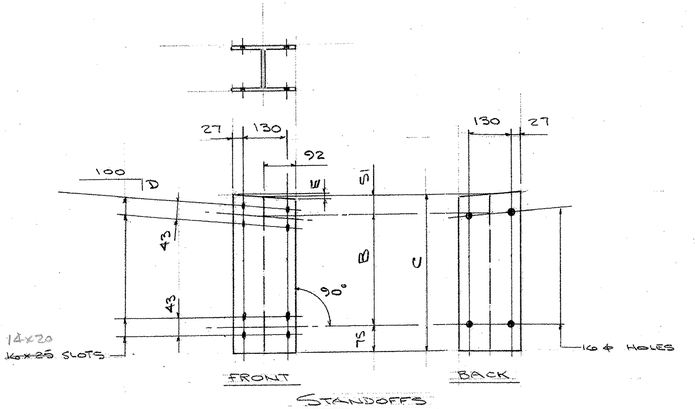
STANDOFFS

QUAN	MK	A	B	C	D	E
2	SA1R	292	329	736	5	10
2	SA2R	249	328	692	5	10
2	SA3R	205	326	646	5	10
2	SA4R	162	325	602	5	10



STANDOFFS

QUAN	MK	B	C	D	E
2	SA5L	323	449	1	2
2	SA6L	321	447	1	2
2	SA7L	319	445	1	2
20	SA8	319	445	—	—



STANDOFFS

QUAN	MK	B	C	D	E
2	SA5R	323	449	1	2
2	SA6R	321	447	1	2
2	SA7R	319	445	1	2

RECEIVED
CK'D BY DHP CHK'D BY GRS
APR 06 2010
RESUBMIT ____ APPROVED AS NOTED
BY [signature] DATE 4/20/10

DIM'S ARE GIVEN IN MILIMETERS

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000(21)S
BRIDGE #30
T.H. 10 OVER WHETSTONE BROOK

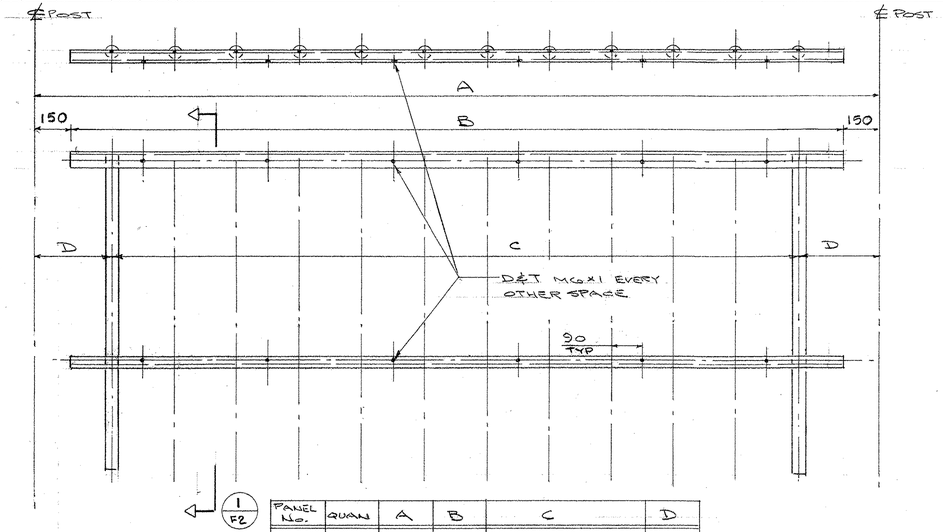
ALUM. APPROACH RAILING

SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

FOR: F.R. LAFAYETTE, INC.

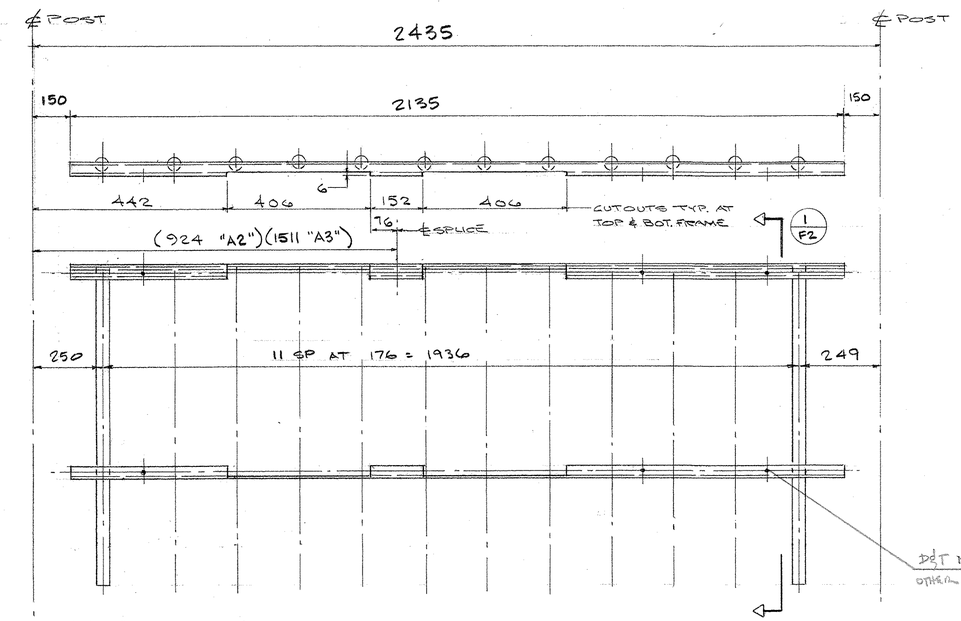
DR:	2-23-2010	DWG. NO.
CHK	4/5/10	BR-2978
JOB NO.	AB07025-1002	SHEET F5 OF 5

ELL MANUFACTURING 10/08/16

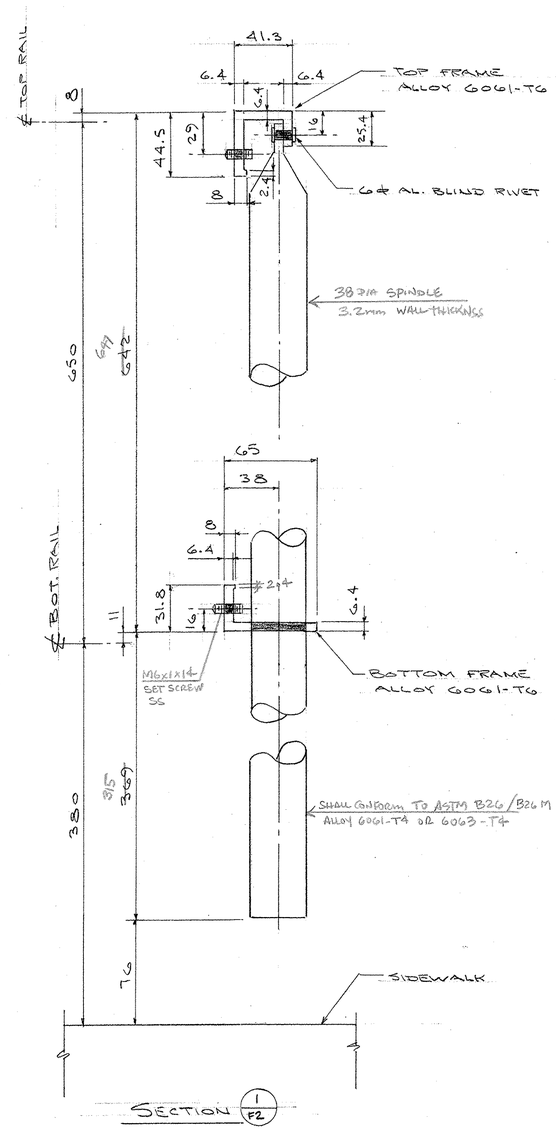


1/F2

PANEL No.	QUAN	A	B	C	D
A1	18	2435	2135	11 SP. AT 176 = 1936	250



SPINDLE PANEL "A2" (2 REQ'D.) "AS SHOWN"
"A3" (2 REQ'D.) "OPPOSITE HAND"



SECTION 1/F2

RECEIVED
CK'D BY DRP COPY GRS
APR 06 2010
RESUBMIT_____ APPROVED AS NOTED
BY CJC DATE 4/20/10

DIM'S ARE GIVEN IN MILIMETERS

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000(21)S
BRIDGE # 30
T.H. 10 OVER WHETSTONE BROOK

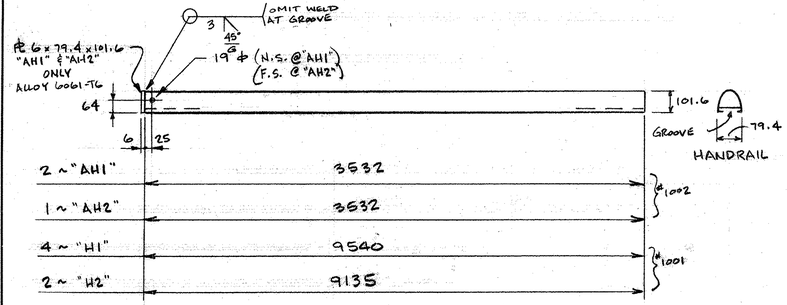
AL. BRIDGE & APPROACH RAILING

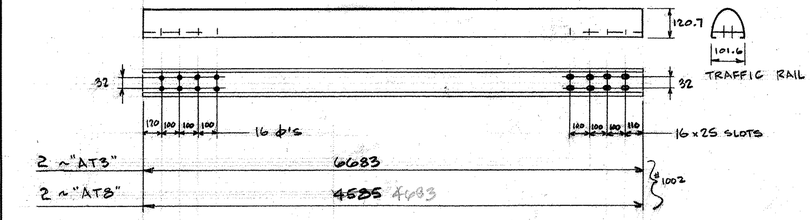
SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

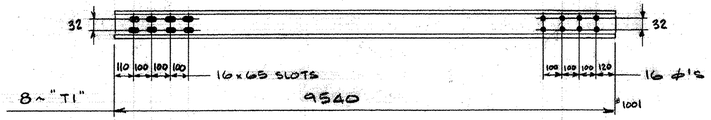
FOR: F.R. LAFAYETTE, INC

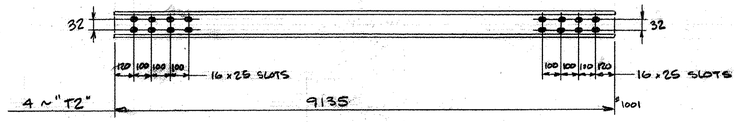
DR: DRP 2-3-2010	DWG. NO.
CHK: 4/5/10	BR-2978
JOB NO. AB07025-1001	SHEET F2 OF 5

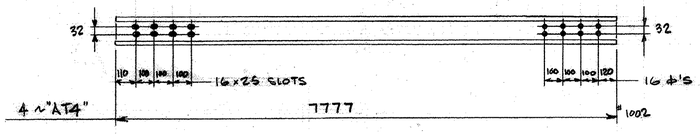
BL MAKEPEACE INC. 10/05/6

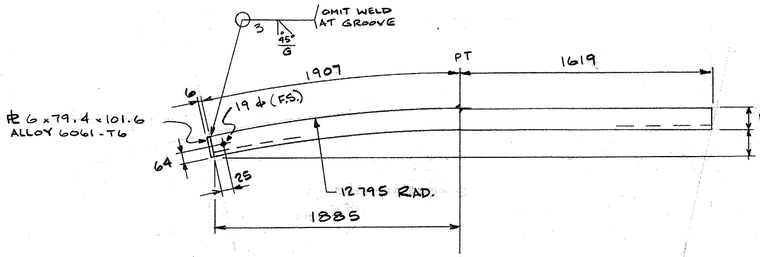




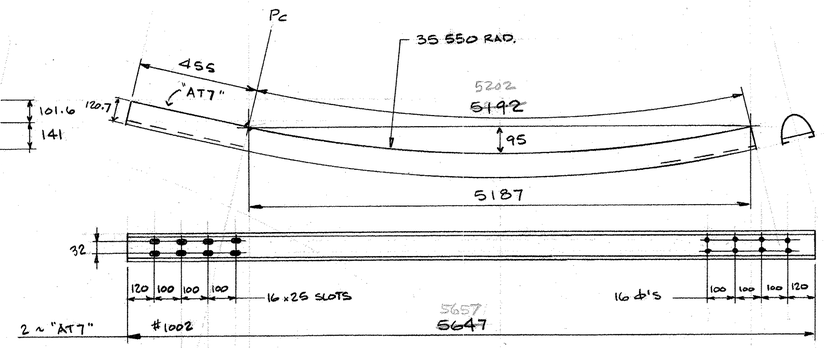


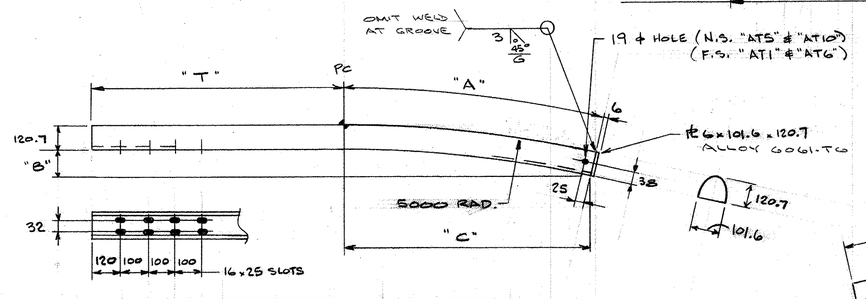






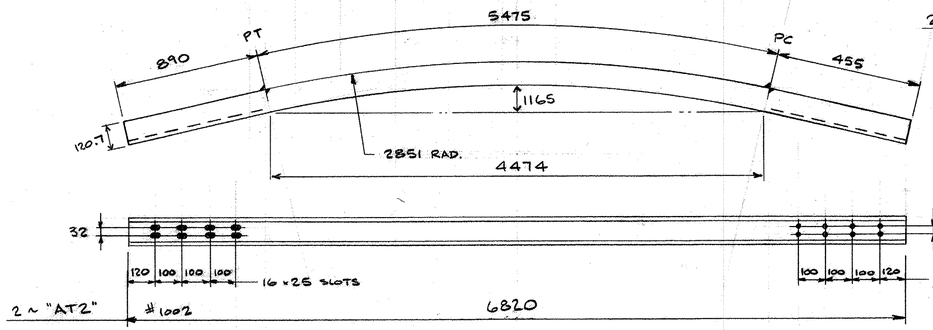
ONE ~ "AH3" HANDRAIL #1002 x 3526

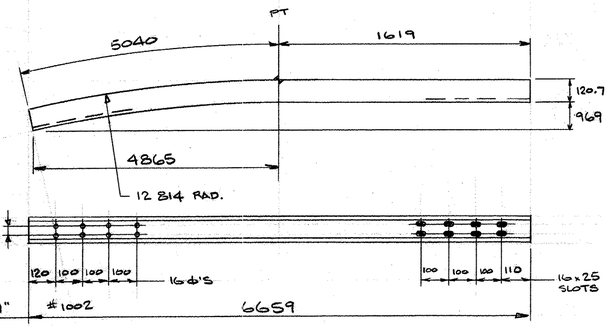




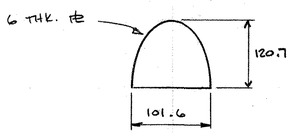
QTY.	MK.	"T"	"A"	"B"	"C"	HOLE	LENGTH
2	AT1	3391	2060	428	2000	F.S.	5451
2	AT5	3252	4135	1650	3658	N.S.	7387
2	AT6	0	4725	535	4441	F.S.	4725
2	AT10	0	4695	520	4415	N.S.	4695

#1002

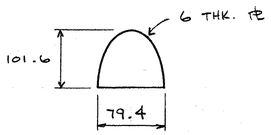




#1001 = BRIDGE RAILING
#1002 = APPROACH RAILING



TRAFFIC RAIL END CAP
(8 REQ'D.) ALLOY 6061-T6



HANDRAIL END CAP
(4 REQ'D.) ALLOY 6061-T6

RECEIVED
CK'D BY DRP DATE GRS
APR 06 2010
RESUBMIT APPROVED AS NOTED
BY DATE 4/20/10

DIMENSIONS ARE GIVEN IN MILIMETERS

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

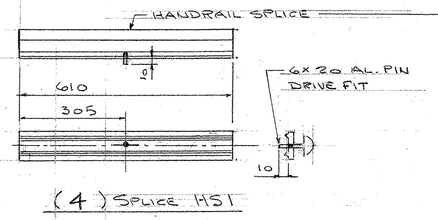
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000(21)S
BRIDGE #30
T.H. 10 OVER WHETSTONE BROOK

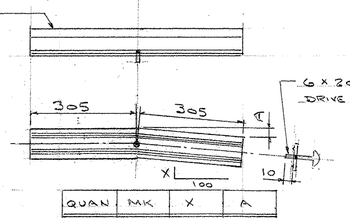
ALUM. BRIDGE & APPROACH RAILING

SURFACE PREP: NONE
FINISH: BLACK ANODIZE
FOR: F.R. LAFAYETTE, INC
DR: 2-15-2010
CHK: 4/5/10
JOB NO. AB07025-1001
DWG. NO. BR-2978
SHEET F3 OF 5

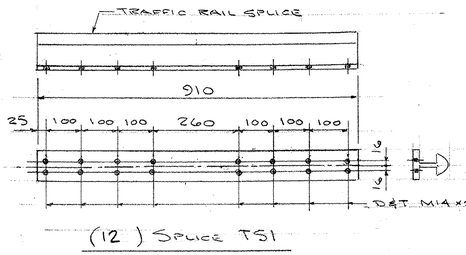
B.L. MAKEPEACE INC. 10/6/15



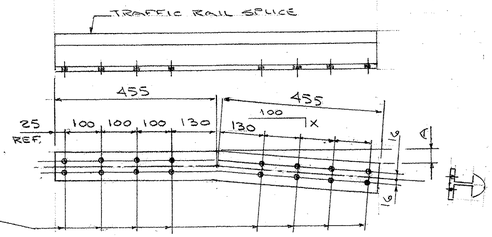
(4) SPLICE HS1



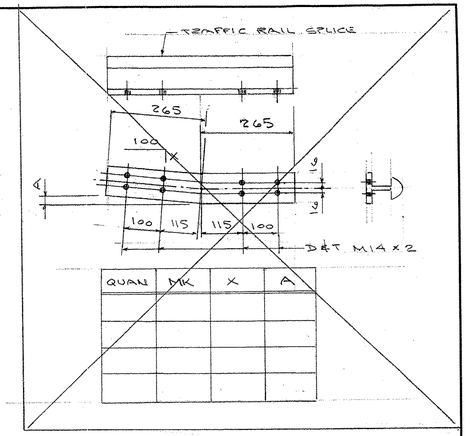
QUAN	MK	X	A
4	HS2	5.57	17



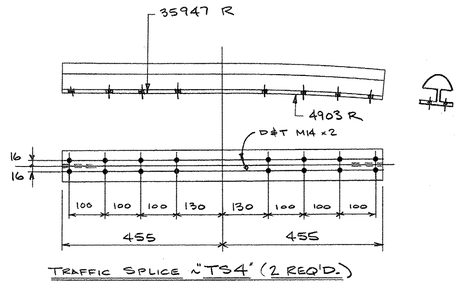
(12) SPLICE TS1



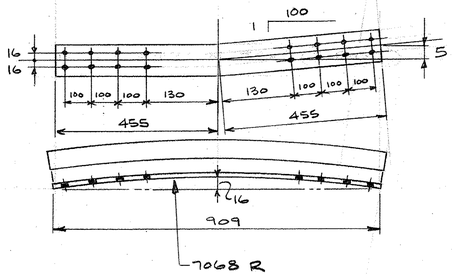
QUAN	MK	X	A
14	TS2	1	5



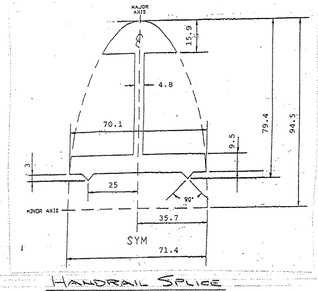
QUAN	MK	X	A



TRAFFIC SPLICE "TS4" (2 REQ'D.)

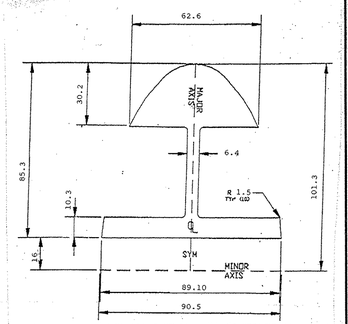


TRAFFIC SPLICE ~ "TS5" (2 REQ'D.)



HANDRAIL SPLICE EXTRUSION

ALLOY 6061-T6



TRAFFIC RAIL SPLICE EXTRUSION

ALLOY 6061-T6

RECEIVED
CK'D DRP APPV'D QRS
APR 05 2010
RESUBMIT APPROVED
BY DATE 4/20/10

DIM'S ARE GIVEN IN MILLIMETERS

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

V.T. AGENCY OF TRANSPORTATION
BRATTLEBORO
#BRF 2000(21)S
BRIDGE #30
T.H. 10 OVER WHETSTONE BROOK

AL. BRIDGE & APPROACH RAILING

SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

FOR: F.R. LAFAYETTE, INC.

DR: DRP 2-13-2010
CHK: QRS 4/5/10
JOB NO. AB07025-1001
DWG. NO. BR-2978
SHEET F4 OF 5

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

BL-MAKEPEACE INC. - 10/6/15

VERMONT

State of Vermont
PDD/Structures Design Section
One National Life Drive [phone] 802-828-2621
Montpelier, VT 05633-5001 [fax] 802-828-3566
www.aot.state.vt.us [ttd] 800-253-0191

Agency of Transportation

April 20, 2010

Auciello Iron Works, Inc.
560 Main Street
Hudson, Ma. 01749

Project Name: Brattleboro Project #: BRF 2000(21)S

Structure Identification: Bridge #30 T.H. 10 over Whetstone Brook

The following **"Special Provision (Bridge Railing – Anodized Aluminum/Pedestrian)" and "Special Provision (Aluminum Approach Railing, Anodized)" details and welding procedures** for the above project (Vendor's Job **#AB07025-1001)**, transmitted by F. R. Lafayette, and received by our office on January 26, 2010 (with revisions), have been reviewed and are being returned herewith.

Sheets: E3, E5 and F4 are approved.

Sheets: E1, E2, E4, F1, F2, F3, and F5 are approved "as noted". (Please make appropriate changes as indicated on the "as noted" drawings and submit white prints for our use in the record plans for this project.)

Welding Procedures are approved.

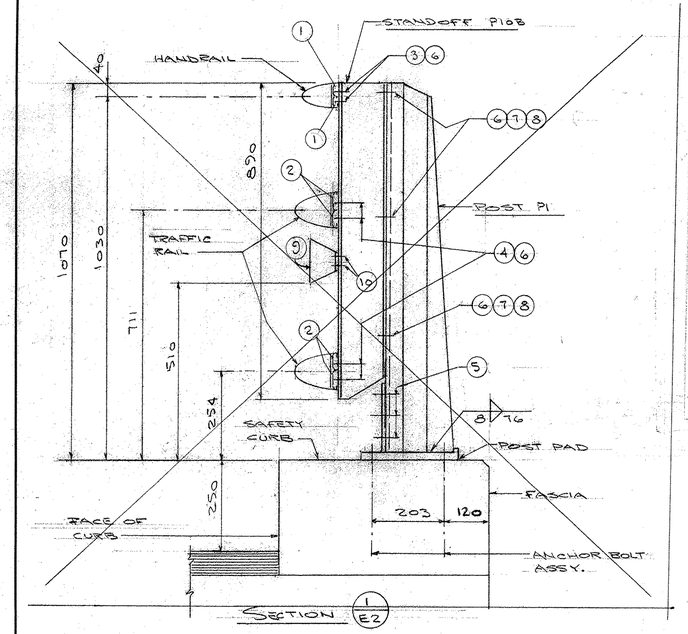
You must provide notice to our fabrication inspector Jeff Clark as to the date fabrication represented by these drawings will begin. Jeff may be contacted by phone at (802)828-0044 or email at jeff.clark@state.vt.us. That notice must be received at least seven days prior to that date, as per Specification 506.03. Any material fabricated prior to the notification date is subject to rejection without further cause.

Sincerely,

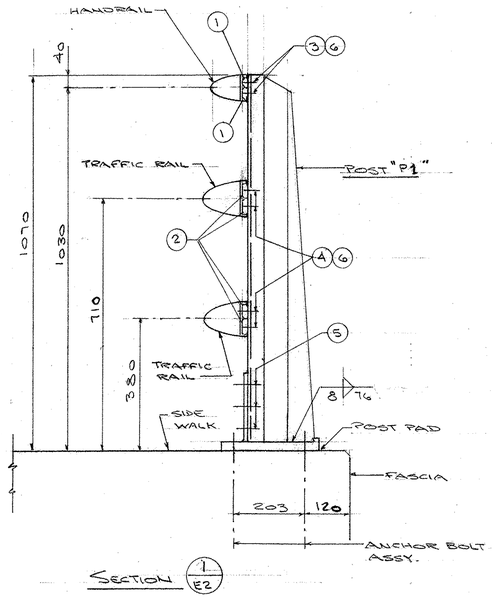
Carolyn W. Carlson
Project Manager

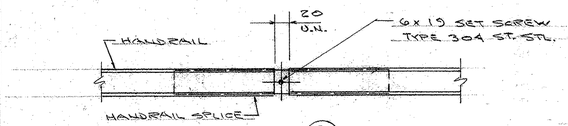
Attachments
cc: [X] Resident Engineer – Fred Ross – w/plans
[X] Shop Inspector - Jeff Clark w/prints
[X] Contractor – L.A. McDonald, Inc. – w/plans
[X] Materials & Research (C&IA Unit) - letter only
[X] F. R. Lafayette, Inc. - Doug Ford w/prints
[X] Construction Division - letter only
[X] Files (CWC)

VTrans Working to Get You There! Vermont Agency of Transportation

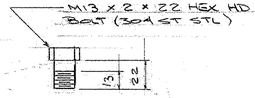


1. #4 CLAMP BAR
2. #1 CLAMP BAR
3. M13 x 2 x 20 HEX HD CAP SCREW (A193, GRADE B8)
4. M13 x 2 x 25 HEX HD CAP SCREW (A193, GRADE B8)
5. 22 DIA. ALUM. RIVET (6061-T6), BUTTON HD., CONE POINT, COLD DRIVEN.
6. ALUM. WASHER 27 O.D. x 14 I.D. x 2.3 THK. (ALCLAD 2024-T4)
7. M13 x 2 x 38 HEX HD CAP SCREW (304 ST. STL.)
8. M13 x 2 HEX NUT (304 ST. STL.)
9. REFLECTORIZED DELINIATOR (WHITE) PER SPECS. LOCATE EVERY 9M, OR CLOSEST POST. TYPICAL AT BRIDGE RAIL & APPROACH RAIL
10. #8 x 19 ST STL SELF-TAPPING SCREW. DRILL POSTS IN FIELD.

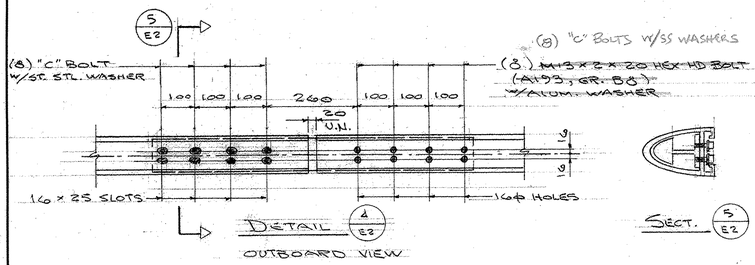




DETAIL 3/E2
OUTBOARD VIEW

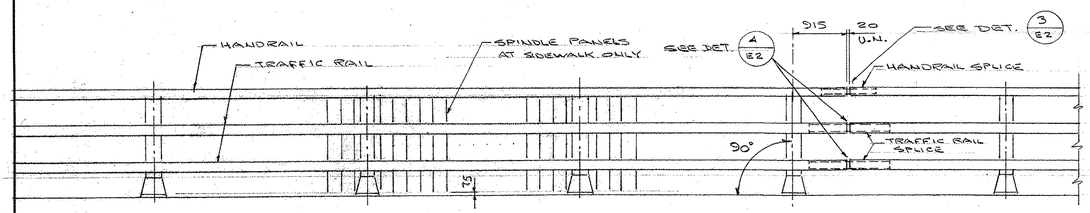


"C" BOLT

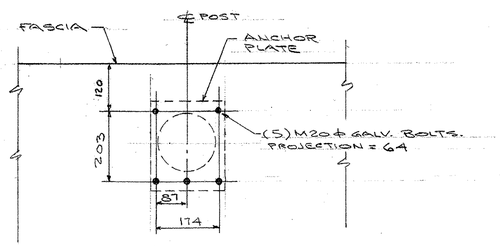


DETAIL 4/E2
OUTBOARD VIEW

SECT. 5/E2



TYP. DETAILS AT BRIDGE RAILING



PLAN AT ANCHOR BOTLS

RECEIVED
CK'D BY DAP DATE'D SRS
APR 06 2010
RESUBMIT ____ APPROVED AS NOTED
BY Cue DATE 4/20/10

DIM'S. ARE GIVEN IN MILIMETER'S

ISSUE	DATE	DESCRIPTION	BY
1	4-5-10	FOR APPROVAL	

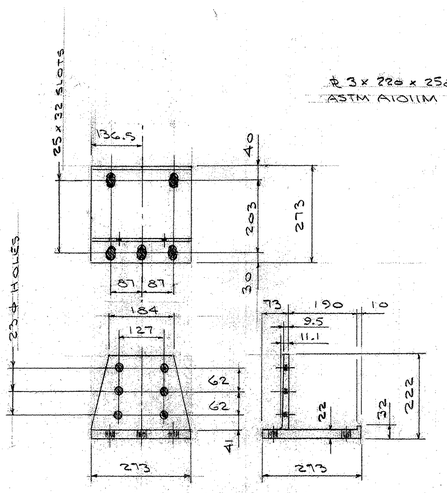
AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000(21)S
BRIDGE #30
T.H. 10 OVER WHETSTONE BROOK

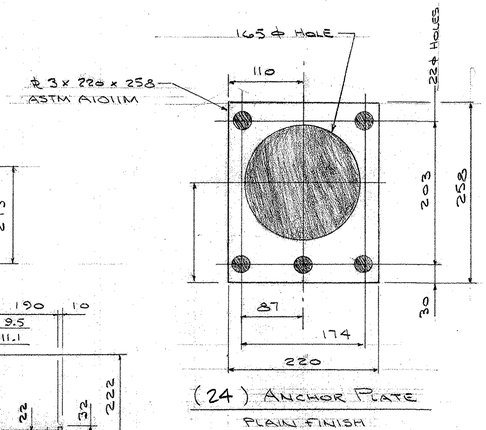
ALUM. BRIDGE RAILING

SURFACE PREP: NONE	FINISH: BLACK ANODIZE
FOR: F.R. LAFAYETTE, INC.	
DR: 2-3-2010 CHK: 4-5-10	DWG. NO. BR-2978
JOB NO. AB07025-1001	SHEET E2 OF 5

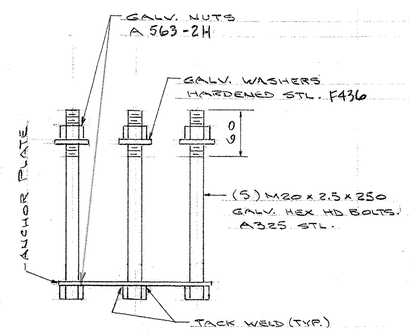
BLUMAPEPAGE INC. 100616



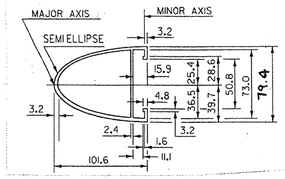
(24) POST BASE
ALLOY 6061-T6



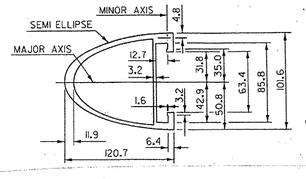
(24) ANCHOR PLATE
PLAIN FINISH



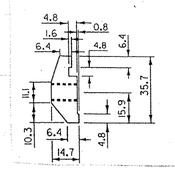
(24) ANCHOR BOLT ASSY.



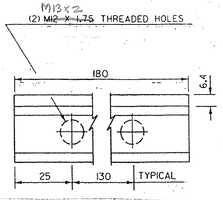
HANDRAIL EXTRUSION
ALLOY 6061-T6



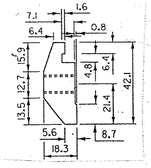
TRAFFIC RAIL EXTRUSION
ALLOY 6061-T6



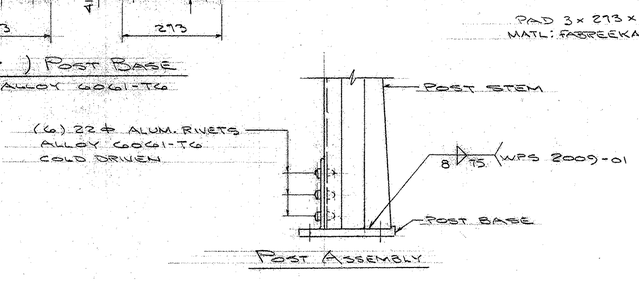
#4 CLAMP BAR
(80 REQ'D.)



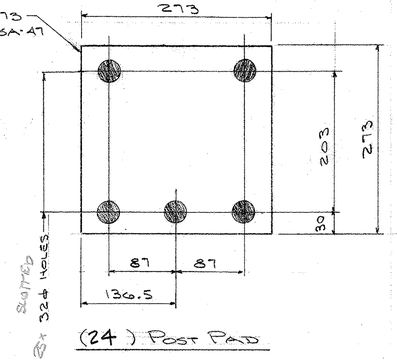
TYP. CLAMP BAR
DETAIL
ALLOY 6061-T6



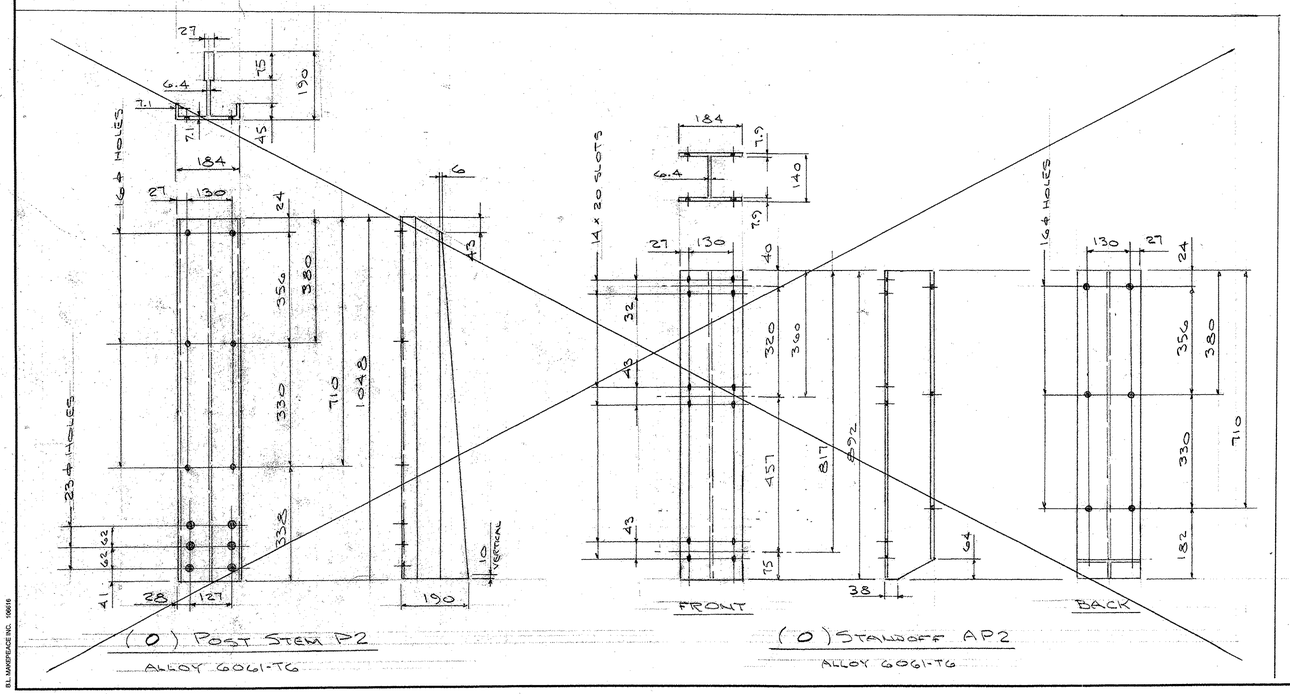
#1 CLAMP BAR
(288 REQ'D.)



POST ASSEMBLY

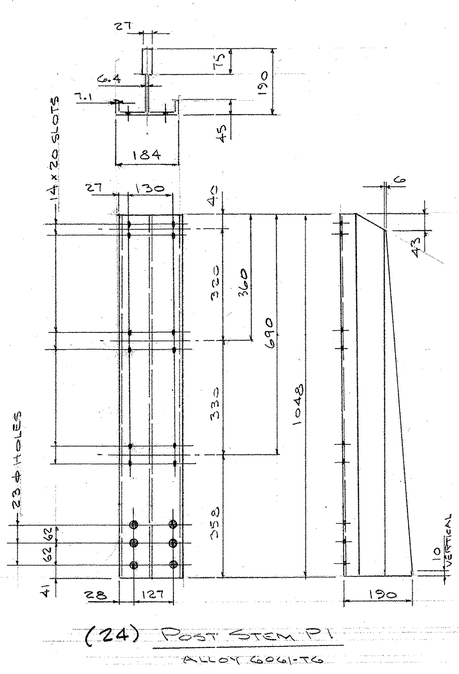


(24) POST PAD



(0) POST STEM P2
ALLOY 6061-T6

(0) STANDOFF AP2
ALLOY 6061-T6



(24) POST STEM P1
ALLOY 6061-T6

RECEIVED
CK'D DRF APPV'D GAS
APR 06 2010
RESUBMIT ____ APPROVED AS NOTED
BY ____ DATE 4/20/10

DIM'S ARE GIVEN IN MILIMETERS

AUCIELLO IRON WORKS INC
560 MAIN ST. HUDSON, MA (978) 568-8382

VT. AGENCY OF TRANSPORTATION
BRATTLEBORO #BRF 2000(21)3
BRIDGE # 30
T.H. 10 over WHETSTONE BROOK

ALUM. BRIDGE RAILING

SURFACE PREP:	FINISH:
NONE	BLACK ANODIZE

FOR: F.R. LAFAYETTE, INC.
DR: KBF 2-3-2010
CHK: 4/5/10
DWG. NO. BR-2978
JOB NO. AB07025-1001
SHEET F1 OF 5

ISSUE	DATE	DESCRIPTION	BY
1	4/5/10	FOR APPROVAL	

B.L. MAKEPEACE INC. 10/6/16

CONSTRUCT TELEPHONE BUILDING DRIVE
MAINLINE 10+145.0 RT.

CONSTRUCT PAVED APRON
DRIVE 20+011.25 LT. (2 m)

SPECIAL PROVISION (REMOVE AND SALVAGE EXISTING BUS SHELTER)
MAINLINE 10+161.2 RT. (BUS SHELTER)

REMOVE EXISTING PAVEMENT
SEE PROJECT NOTE 4 ON SHEET 3

SIDEWALK RAMP, TYPE 6
MAINLINE 10+074.9 RT. - 10+084.7 RT.
MAINLINE 10+082.3 LT. - 10+087.0 LT.
MAINLINE 10+163.6 RT. - 10+168.2 RT.
MAINLINE 10+164.5 LT. - 10+167.5 LT.
MAINLINE 10+164.3 LT. - 10+168.2 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

SPECIAL PROVISION (BRIDGE RAILING, ANODIZED ALUMINUM/PEDESTRIAN)
MAINLINE 10+091.13 LT. - 10+119.370 LT
MAINLINE 10+091.13 RT. - 10+119.370 RT.

CAST-IN-PLACE CONCRETE CURB, TYPE B
MAINLINE 10+035.0 RT. - 10+078.7 RT.
MAINLINE 10+080.9 RT. - 10+091.05 RT.
MAINLINE 10+119.45 RT. - 10+143.2 RT.
MAINLINE 10+146.6 RT. - 10+166.6 RT.
MAINLINE 10+167.4 RT. - 10+168.3 RT.
MAINLINE 10+084.5 LT. - 10+091.05 LT.
MAINLINE 10+119.45 LT. - 10+166.7 LT.
MAINLINE 10+167.5 LT. - 10+163.6 LT.
DRIVE 20+004.50 RT. - 20+014.60 RT.
VT 9 3+019.2 RT. - 3+055.8 RT.
VT 9 3+041.5 LT. - 3+047.5 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

DETECTABLE WARNING SURFACE (YELLOW)
MAINLINE 10+079.80 RT
MAINLINE 10+083.82 LT
MAINLINE 10+166.78 RT
MAINLINE 10+166.83 LT
VT 9 3+065.4 LT.

PORTLAND CEMENT CONCRETE SIDEWALK, 125mm
MAINLINE 10+035.0 RT. - 10+091.05 RT.
MAINLINE 10+119.450 RT. - 10+168.3 RT.
DRIVE 20+003.88 RT. - DRIVE 20+014.60 RT.
MAINLINE 10+119.450 LT. - 10+163.6 LT.
VT 9 3+019.2 RT. - 3+065.0 RT.
VT 9 3+041.5 LT. - 3+047.5 LT.
VT 9 3+062.5 LT. - 3+068.4 LT.

PLANK RAIL
MAINLINE 10+145.4 RT. - 10+152.9 RT.

SPECIAL PROVISION (ALUMINUM APPROACH RAILING, ANODIZED)
MAINLINE 10+075.70 RT. - 10+091.13 RT.
DRIVE 20+013.53 RT. - MAINLINE 10+091.13 LT.
MAINLINE 10+119.37 LT. - 10+134.73 LT.
MAINLINE 10+119.37 RT. - 10+139.83 RT.

REMOVAL AND DISPOSAL OF GUARDRAIL
DRIVE 20+005.06 RT. - 20+014.24 RT.

NOTE:

SEE SHEETS 22-23 FOR TRAFFIC SIGNS AND PAVEMENT MARKINGS DETAILS. SEE SHEETS 20-21 FOR DRAINAGE AND UTILITIES DETAILS.

VT STATE PLANE GRID

EXISTING BRIDGE DATA

CREAMERY COVERED BRIDGE
24.4 m OVERALL LENGTH
19.2 m CLEAR SPAN
4.94 m ROADWAY WIDTH
2.90 m VERTICAL CLEAR
WOODEN DECK
CONCRETE CAPPED AND FACED STONE ABUTMENTS
CONSTRUCTED IN 1879

EXISTING SIDEWALK RAMP SHALL BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW CONCRETE SIDEWALK

NEW CAST-IN-PLACE CONCRETE CURB, TYPE B

EXISTING SIDEWALK SHALL BE REMOVED UNDER ITEM 203.16 "SOLID ROCK EXCAVATION AND REPLACED WITH NEW SIDEWALK RAMP, TYPE 6

STA. 20+022.00
MATCH EXISTING END NEW PAVEMENT

STA. 10+091.500
℄ BRG. ABUT. 1
F.G. = 126.729

STA. 10+119.000
℄ BRG. ABUT. 2
F.G. = 127.252

STA. 10+091.250
BEGIN BRIDGE
F.G. = 126.724

STA. 10+040.000
END APPROACH
BEGIN PROJECT

STA. 10+119.250
END BRIDGE
F.G. = 127.257

TOPSOIL & SEED EXISTING GRAVEL PARKING AREA THIS SIDE

STA. 10+168.024
END APPROACH
MATCH EXISTING

STA. 10+150.000
END PROJECT
BEGIN APPROACH

MAINLINE STA. 10+107 = CHANNEL STA. 30+000
Δ = 90°

BM NO. 1
RRSIP IN GUY BRACE POLE
EL. 128.656

STONE FILL, TYPE I (TYP.)
CENTERLINE NEW DITCH

1200 STONE FILL, TYPE IV (TYP.)

NEW PLANK RAIL

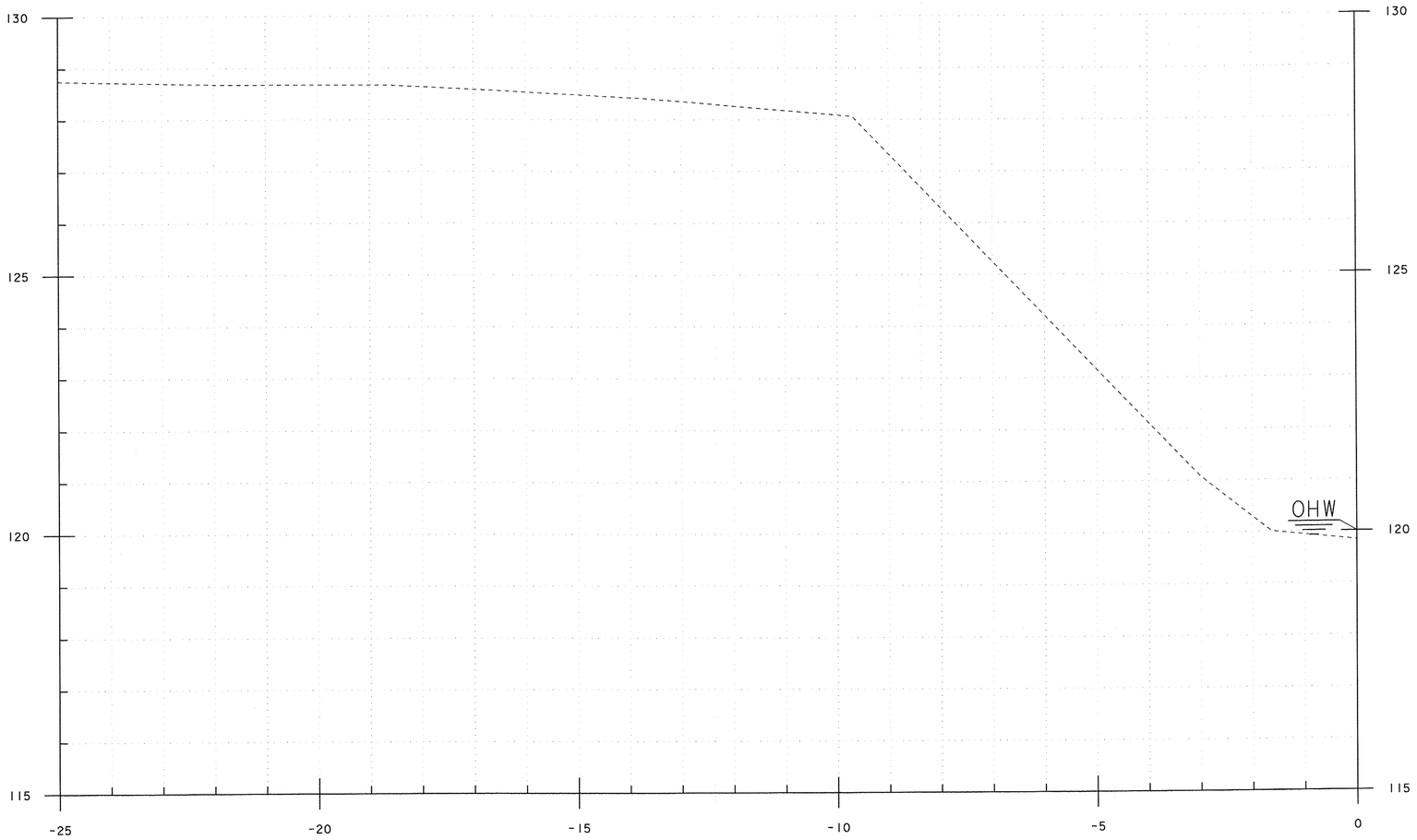
MATCH LINE STA. 10+035

SCALE = 1:250

LAYOUT SHEET 2

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000 (21)S
FILE NAME: 96J228\Str\sJ228bdr.dgn	PLOT DATE: 13-AUG-2009
PROJECT MANAGER: R. R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
	SHEET 5 OF 27

Cxs1

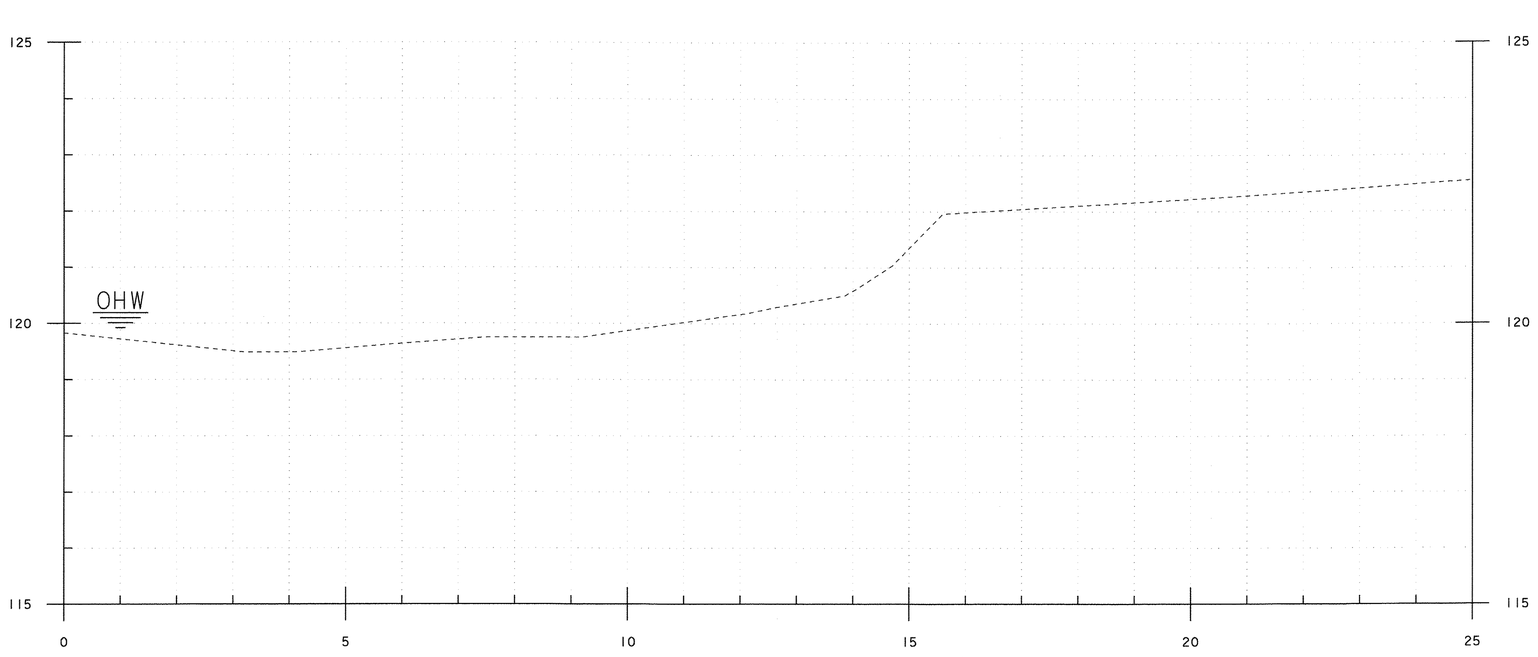


29+970.00

STA. 29+970 TO STA. 29+970

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET xs 2 OF 27



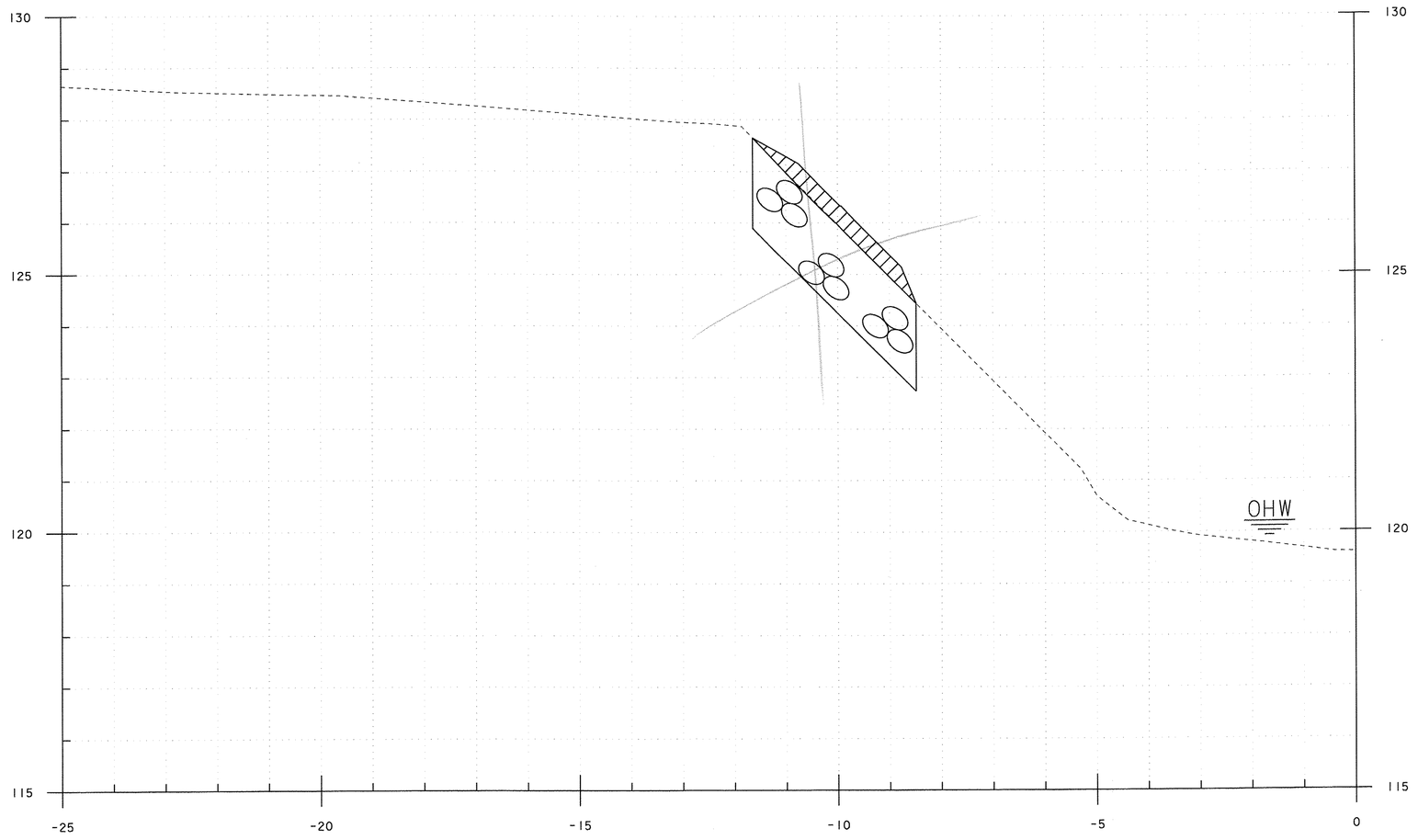
29+970.00

STA. 29+970 TO STA. 29+970

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET exs 3 OF 27



STA. ~~29+973.74~~ +980 LT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

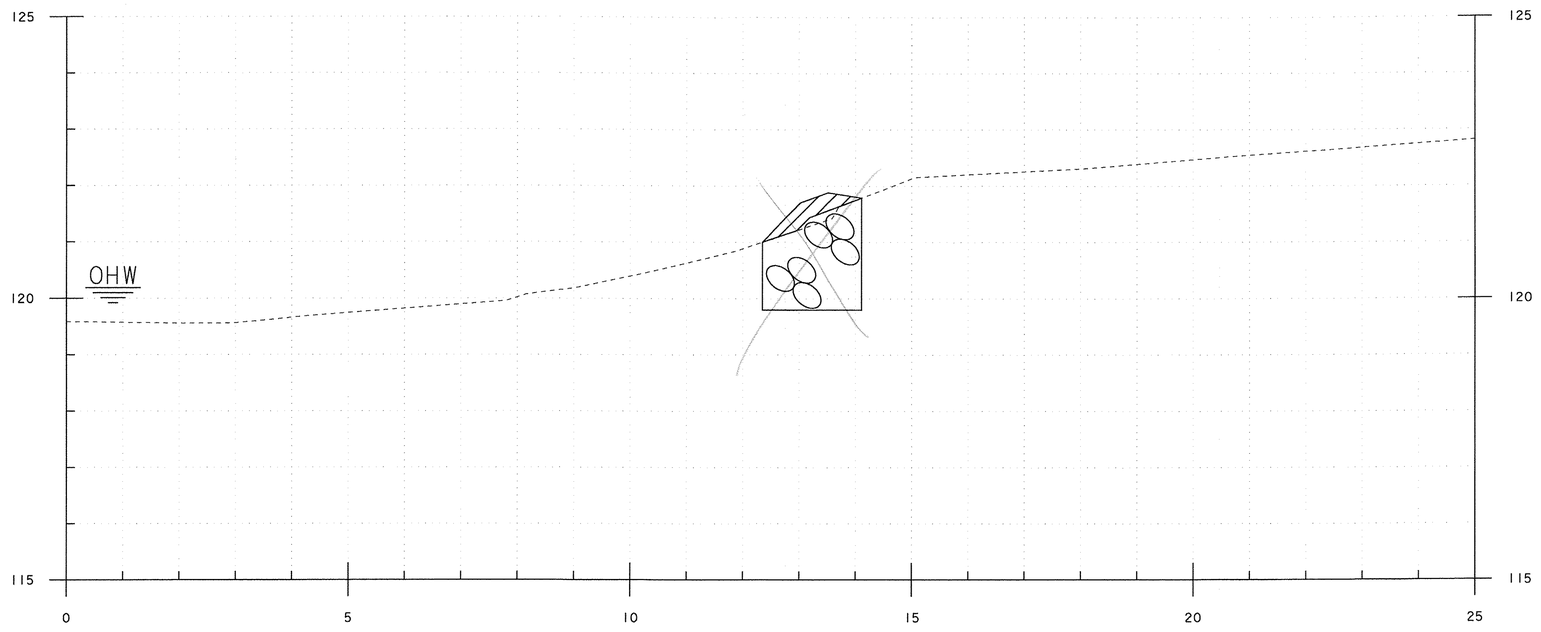
29+975.00

STA. 29+975 TO STA. 29+975

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET Cxs 4 OF 27

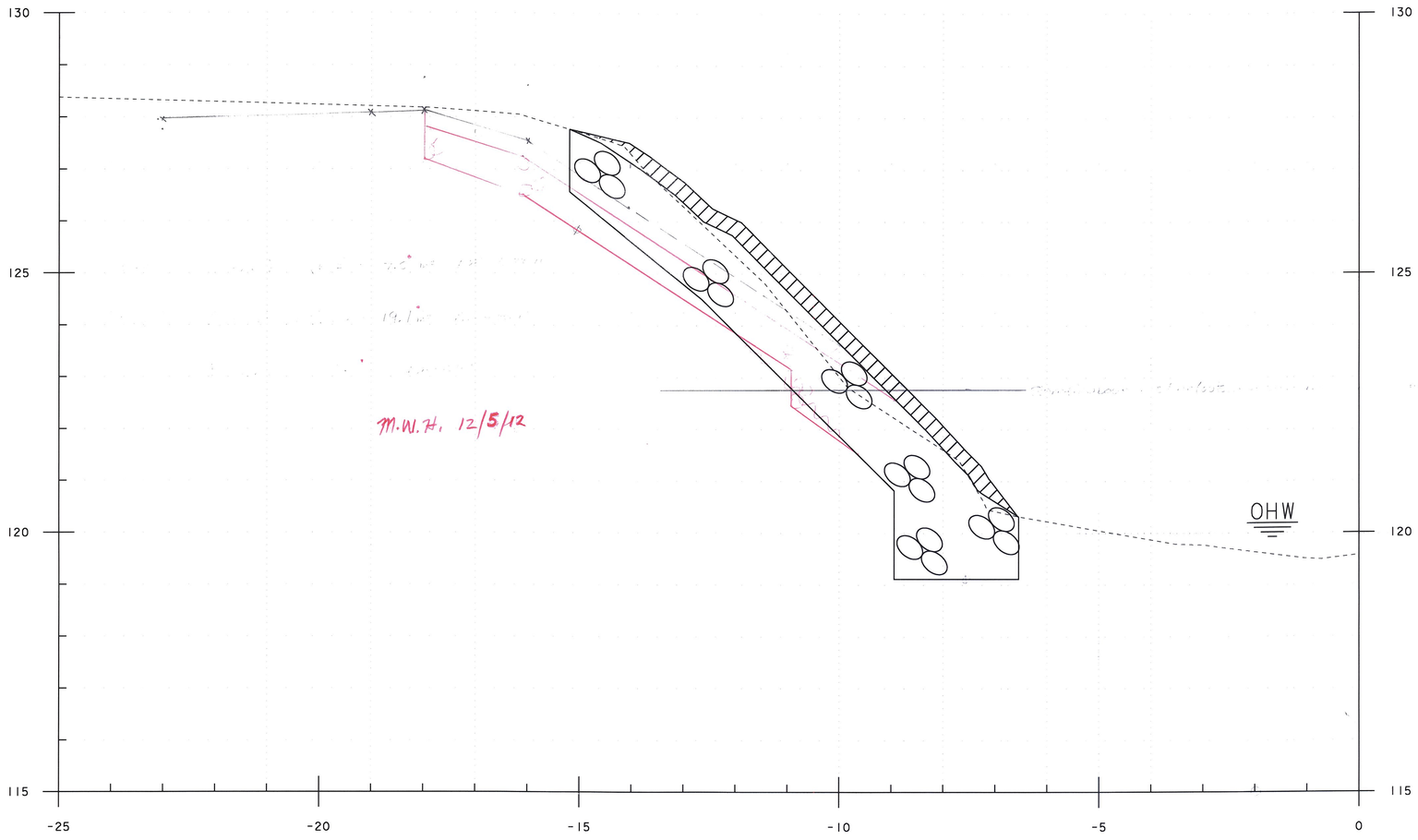


29+975.00

STA. 29+974.21 RT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

STA. 29+975 TO STA. 29+975

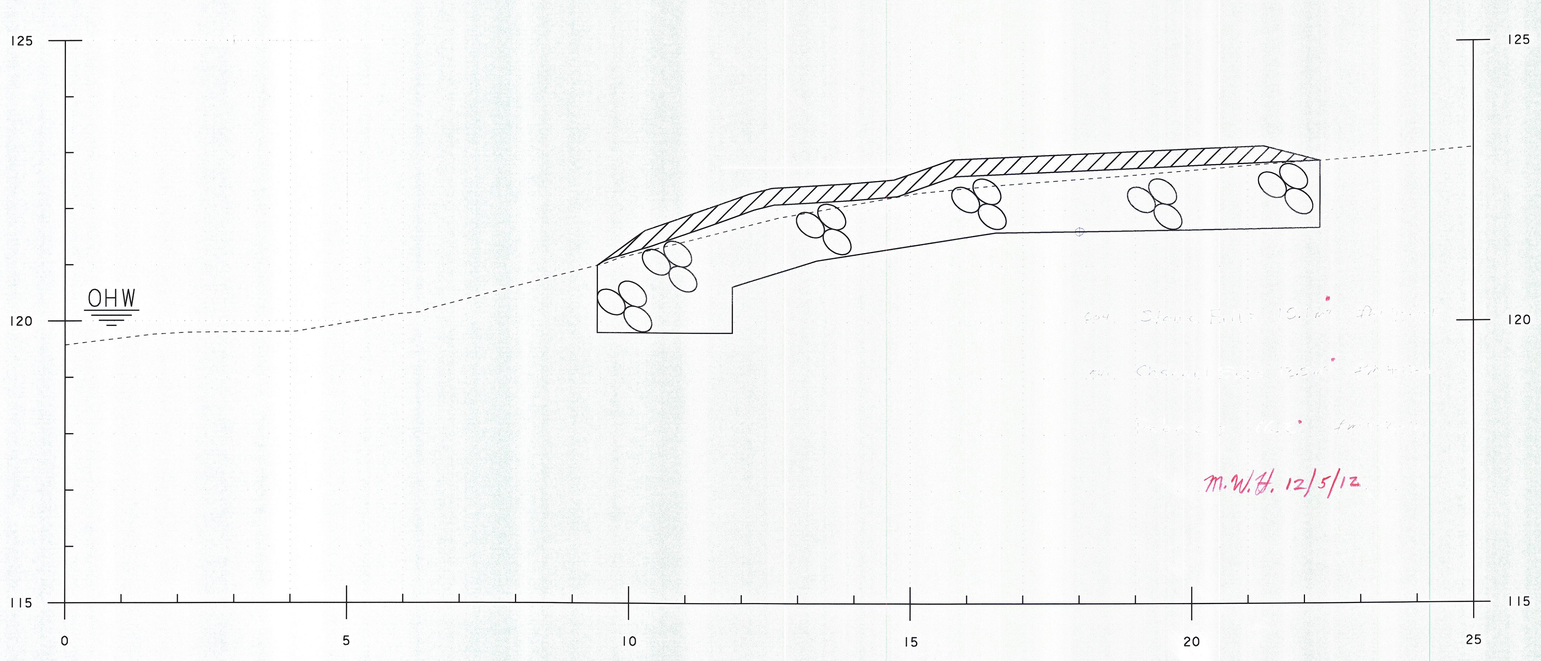
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET CXS 5 OF 27



29+980.00

STA. 29+980 TO STA. 29+980

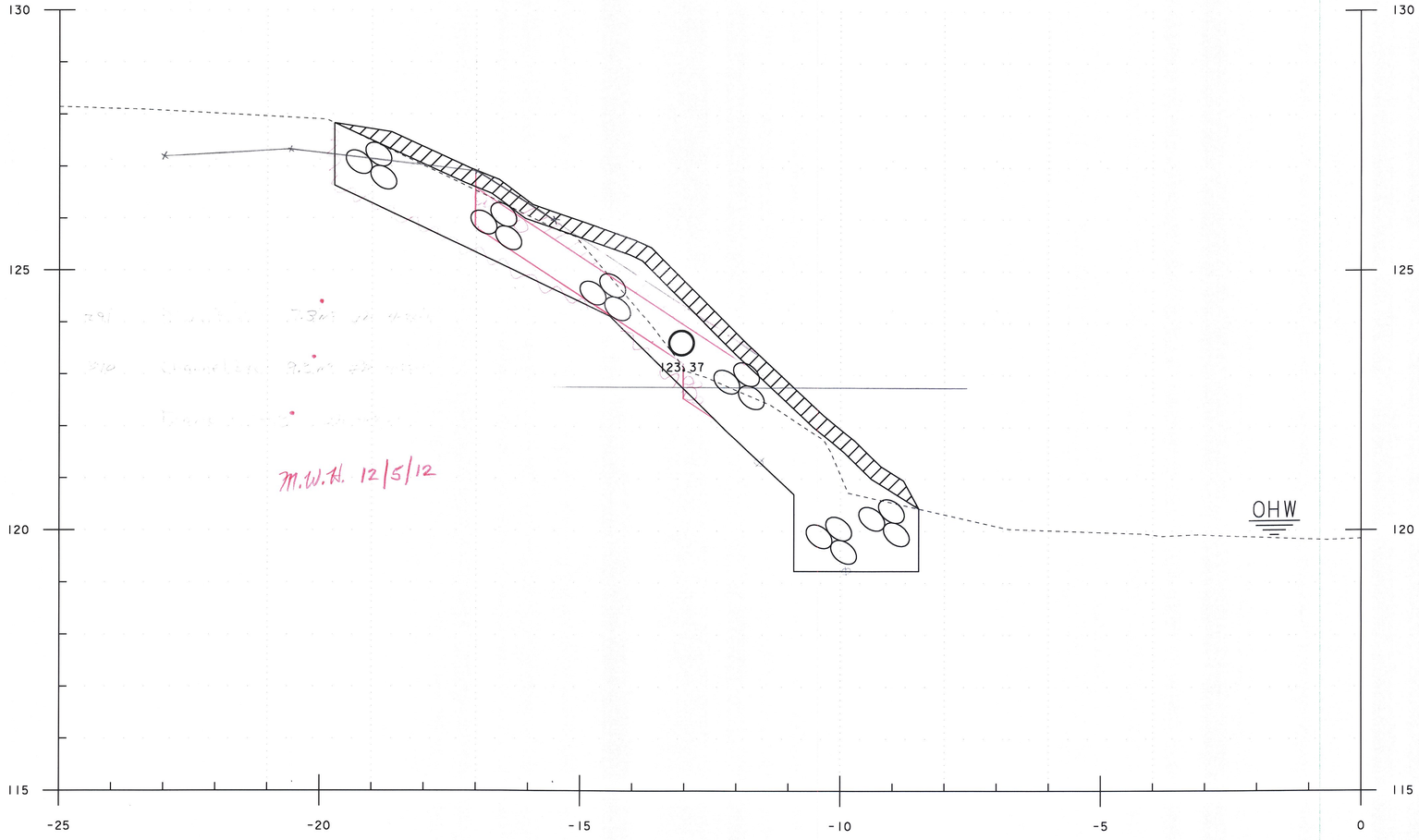
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET CX5 6 OF 27



29+980.00

STA. 29+980 TO STA. 29+980

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET ex57 OF 27

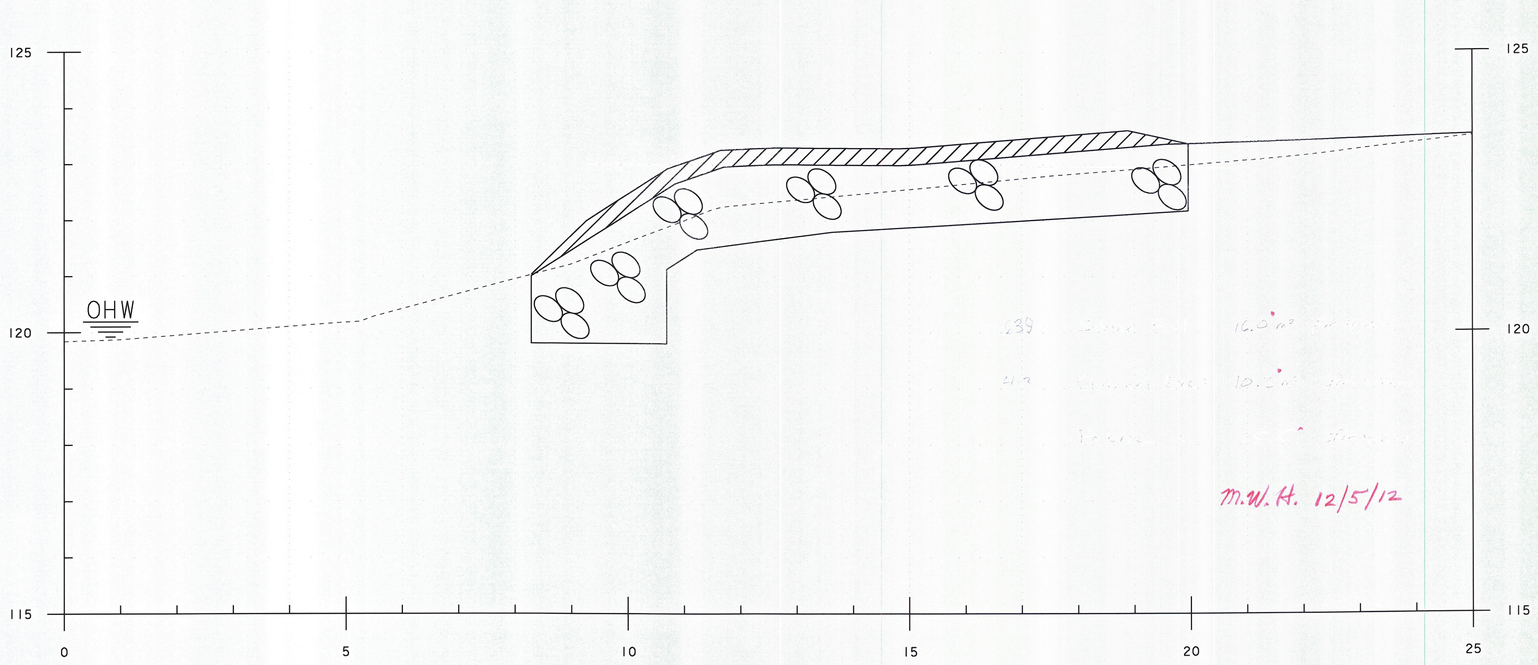


M.W.H. 12/5/12

29+985.00

STA. 29+985 TO STA. 29+985

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 28 OF 27

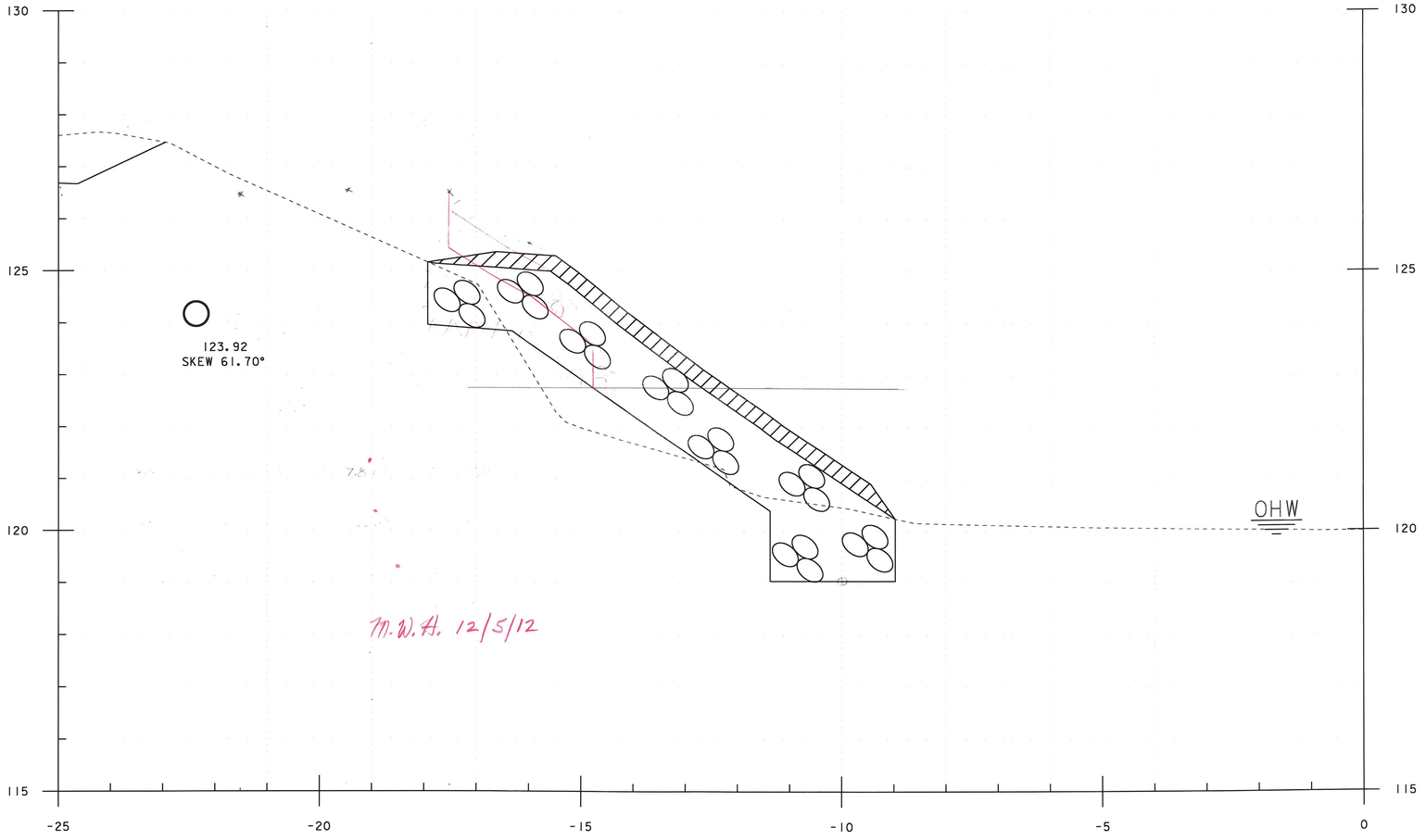


29+985.00

M.W.H. 12/5/12

STA. 29+985 TO STA. 29+985

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET cxs 9 OF 27



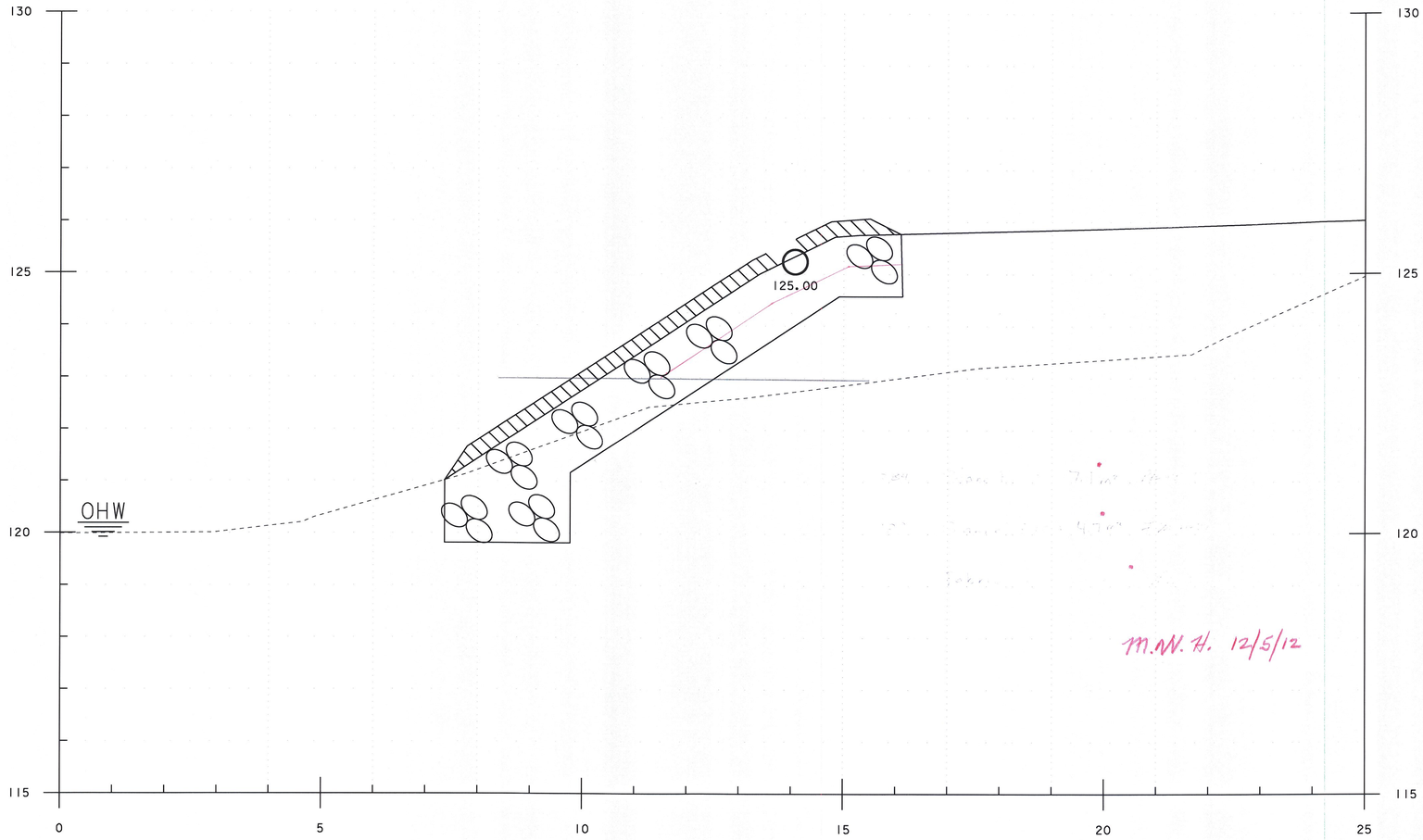
29+990.00

STA. 29+990 TO STA. 29+990

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 10 OF 27

Metric



M.W.H. 12/5/12

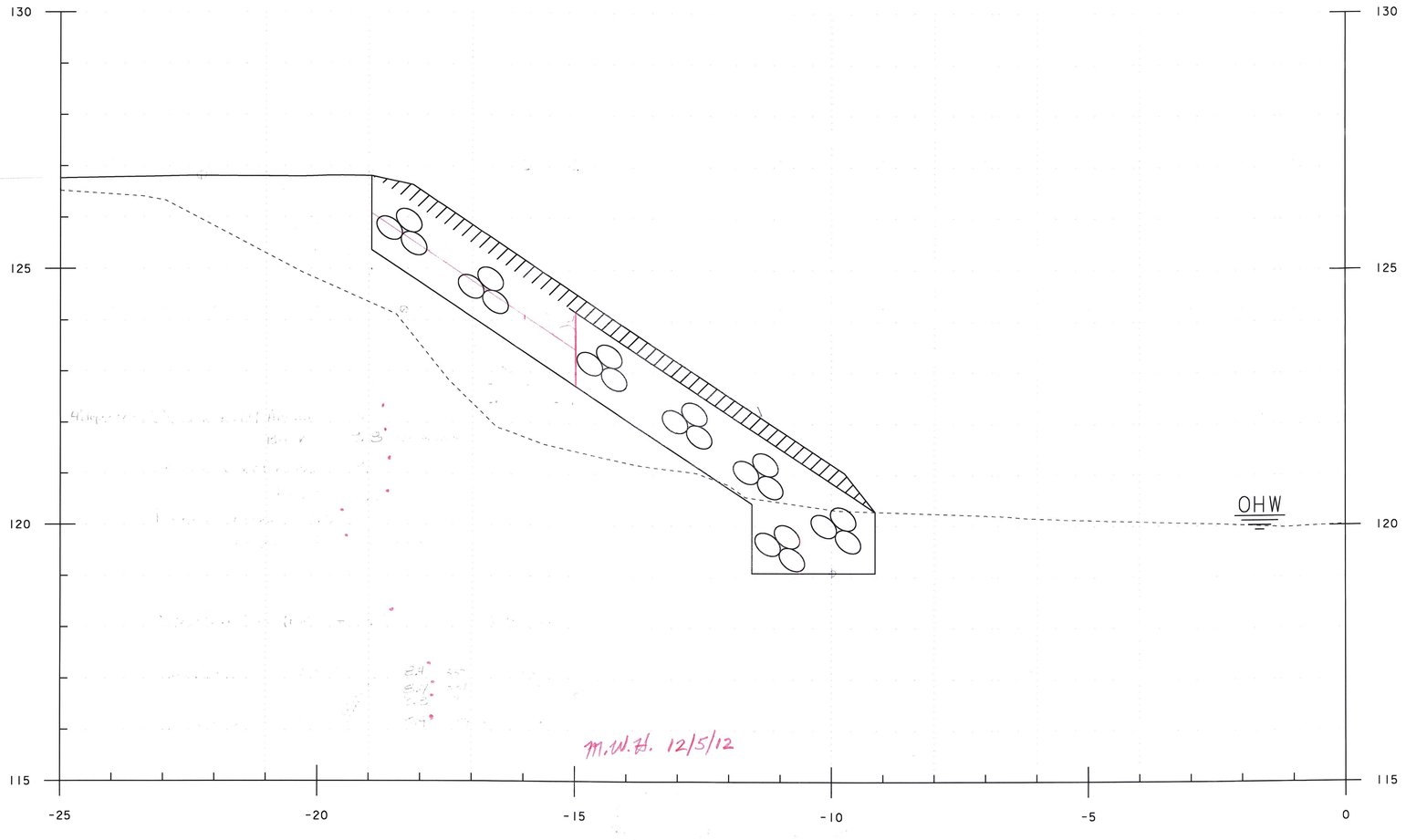
29+990.00

STA. 29+990 TO STA. 29+990

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET C+S 11 OF 27

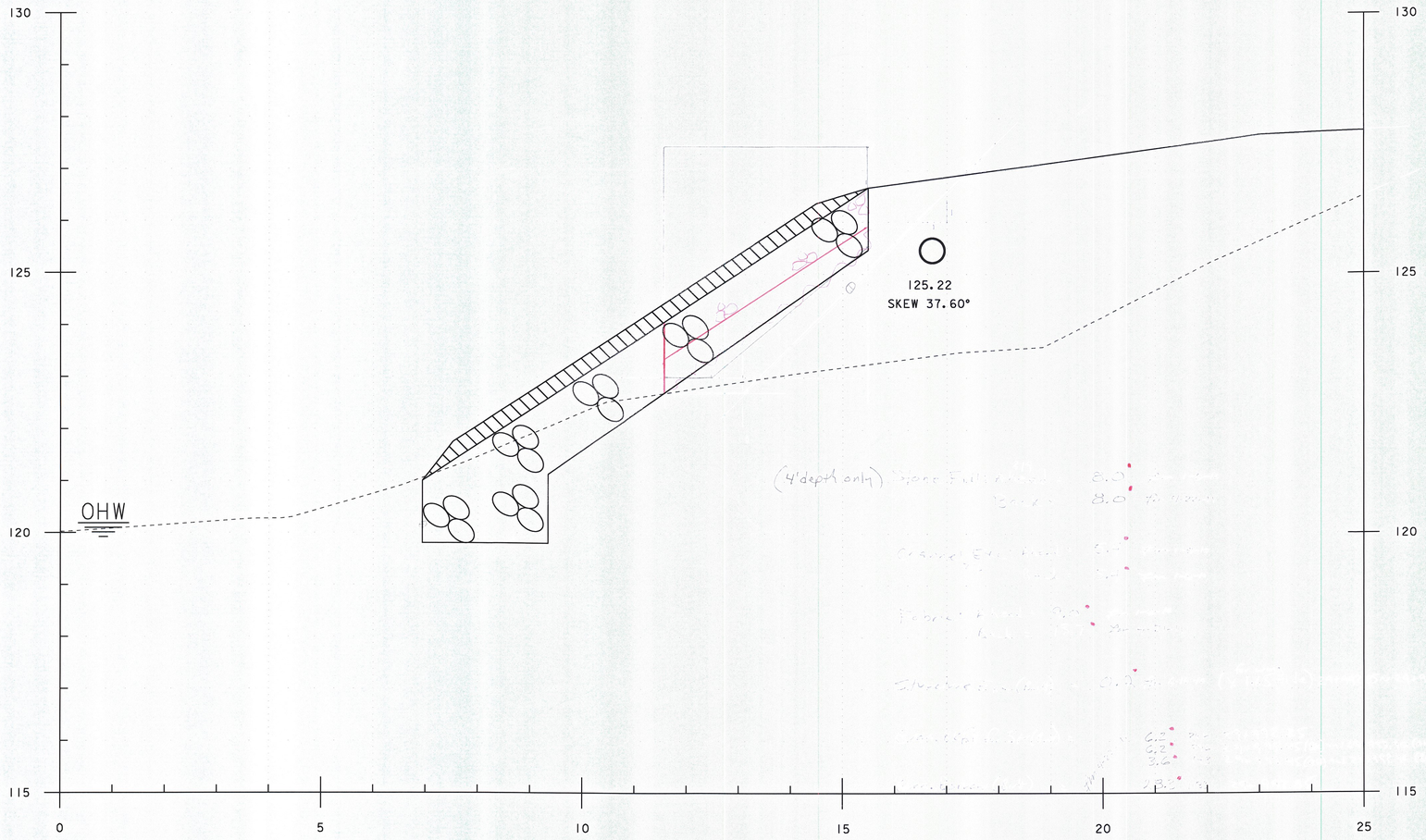


STA. 29+993.45 LT.
BEGIN GRANULAR BACKFILL FOR STRUCTURES

29+993.45

STA. 29+993 TO STA. 29+993

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET CXS12 OF 27

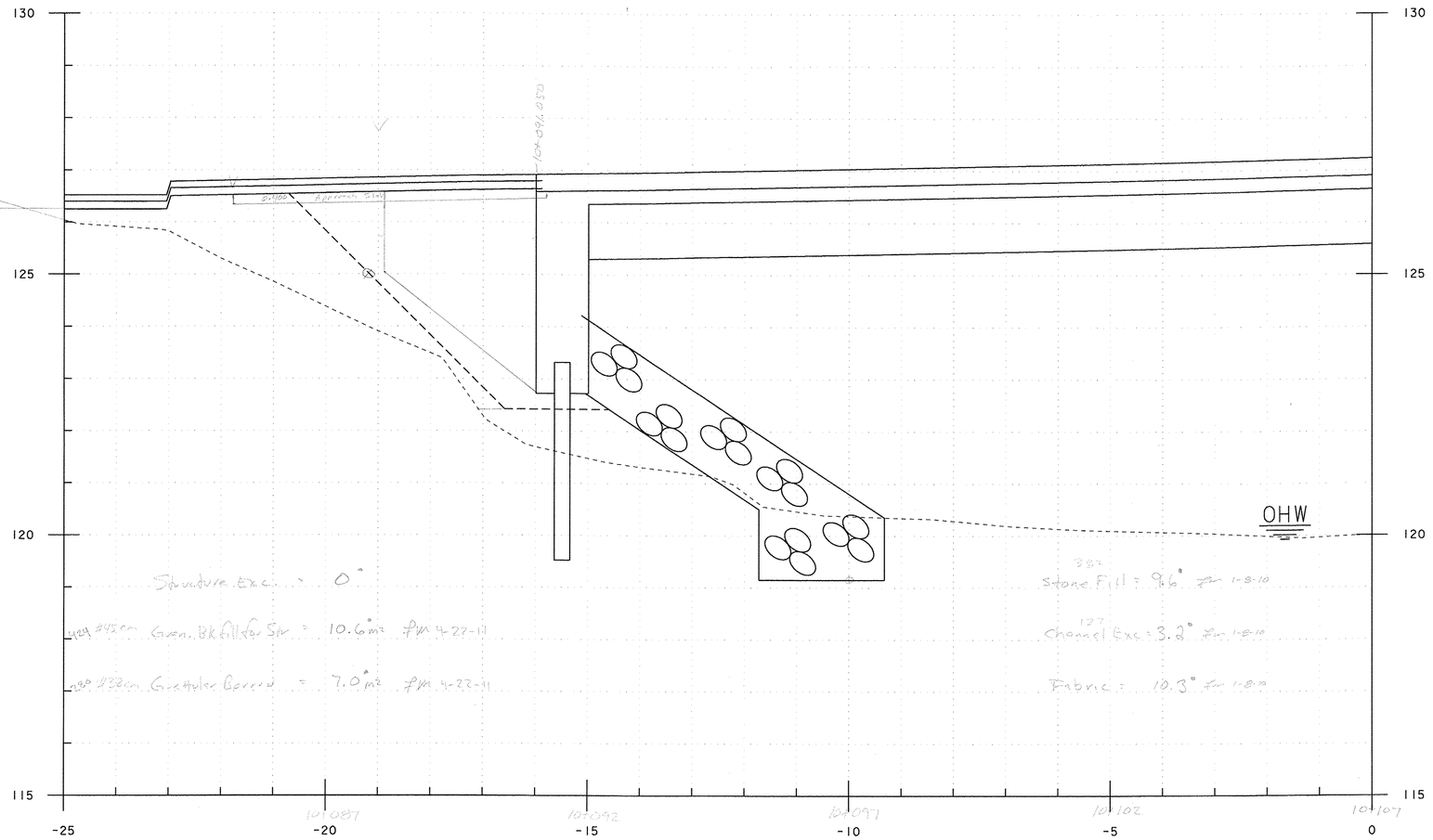


29+993.45

STA. 29+993 TO STA. 29+993

M.W.H. 12/5/12

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 13 OF 27

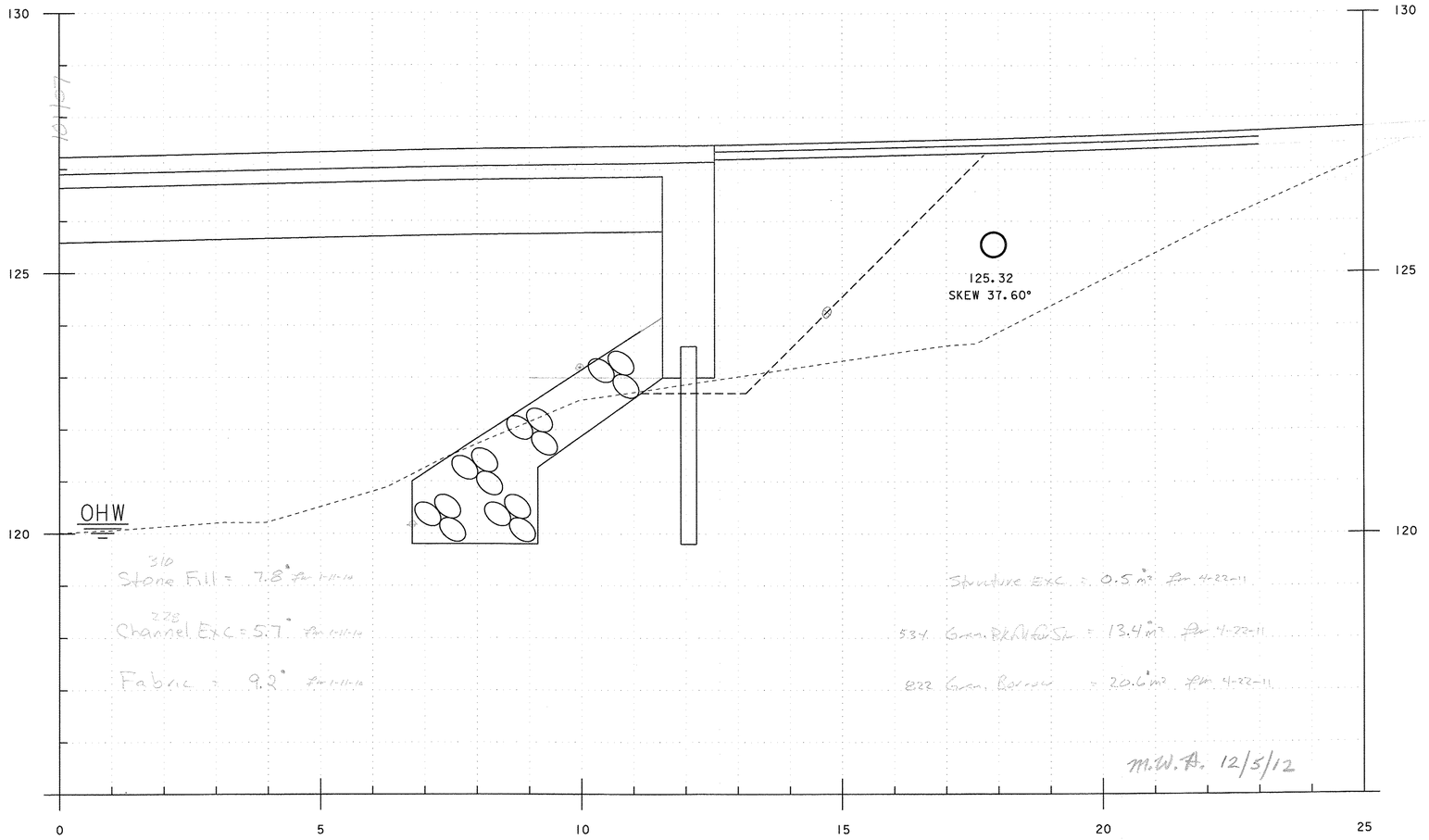


M.W.H. 12/5/12

use 29+995.00 for 29+993.96 bk fsh

STA. 29+995 TO STA. 29+995

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 14 OF 27



310 Stone Fill = 7.8 m³ for 1-11-12

228 Channel Exc = 5.7 m³ for 1-11-12

Fabric = 9.2 m² for 1-11-12

Structure Exc. = 0.5 m³ for 4-22-11

534 Gran. Bkfl w/ Sil = 13.4 m³ for 4-22-11

822 Gran. Borrow = 20.6 m³ for 4-22-11

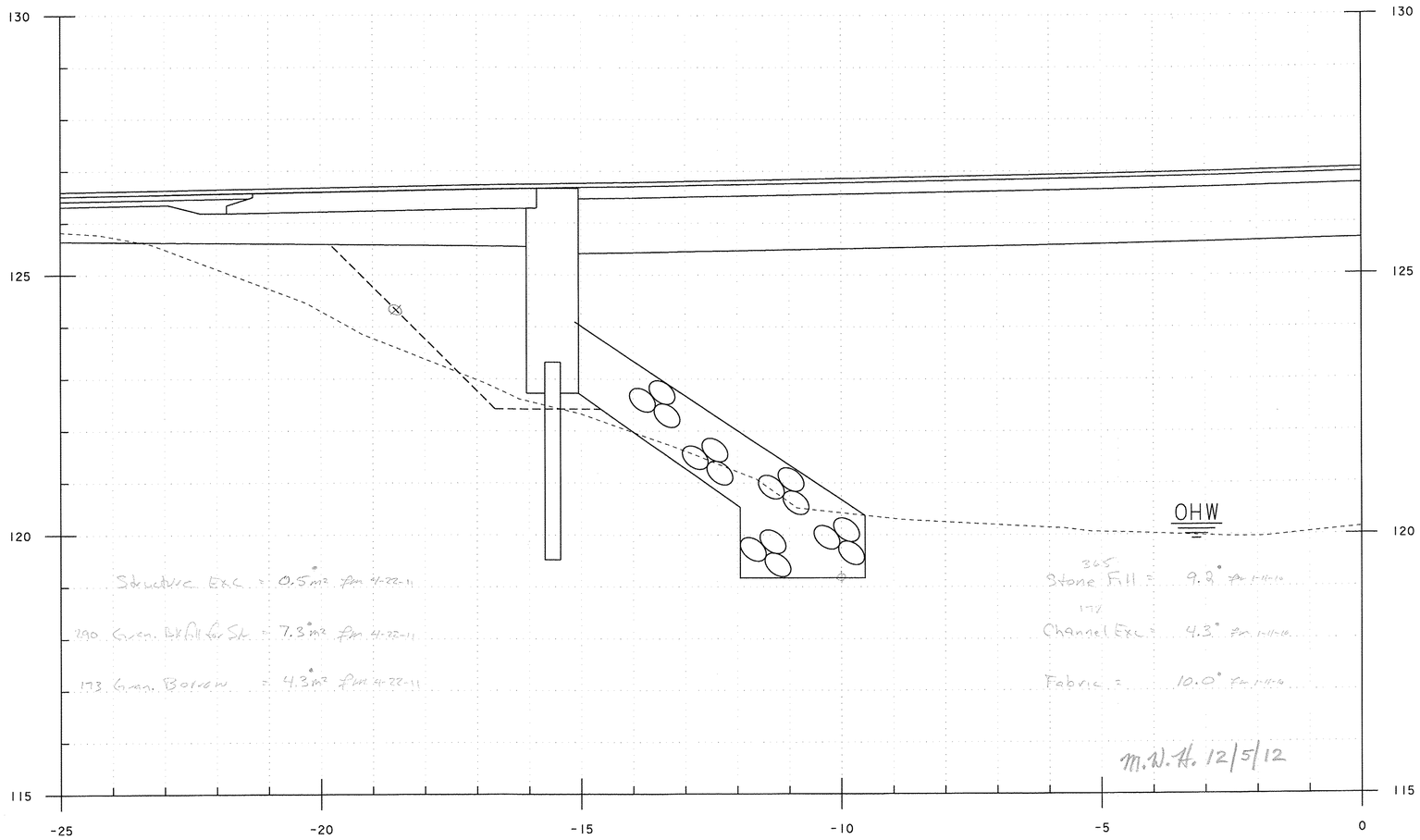
M.W.A. 12/5/12

29+995.00

STA. 29+993.45 RT.
BEGIN GRANULAR BACKFILL FOR STRUCTURES

STA. 29+995 TO STA. 29+995

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 15 OF 27



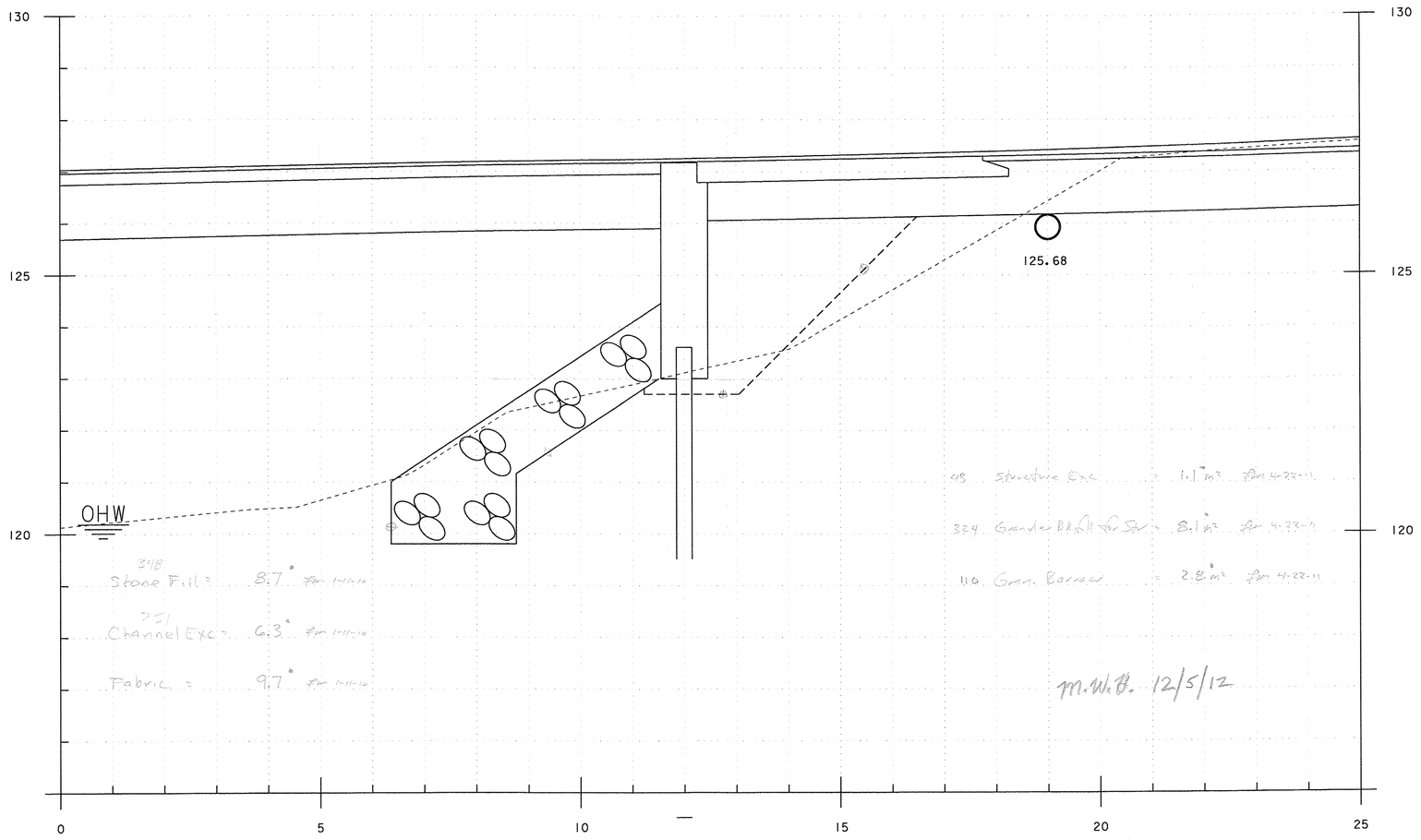
30+000.00

STA. 30+000 TO STA. 30+000

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

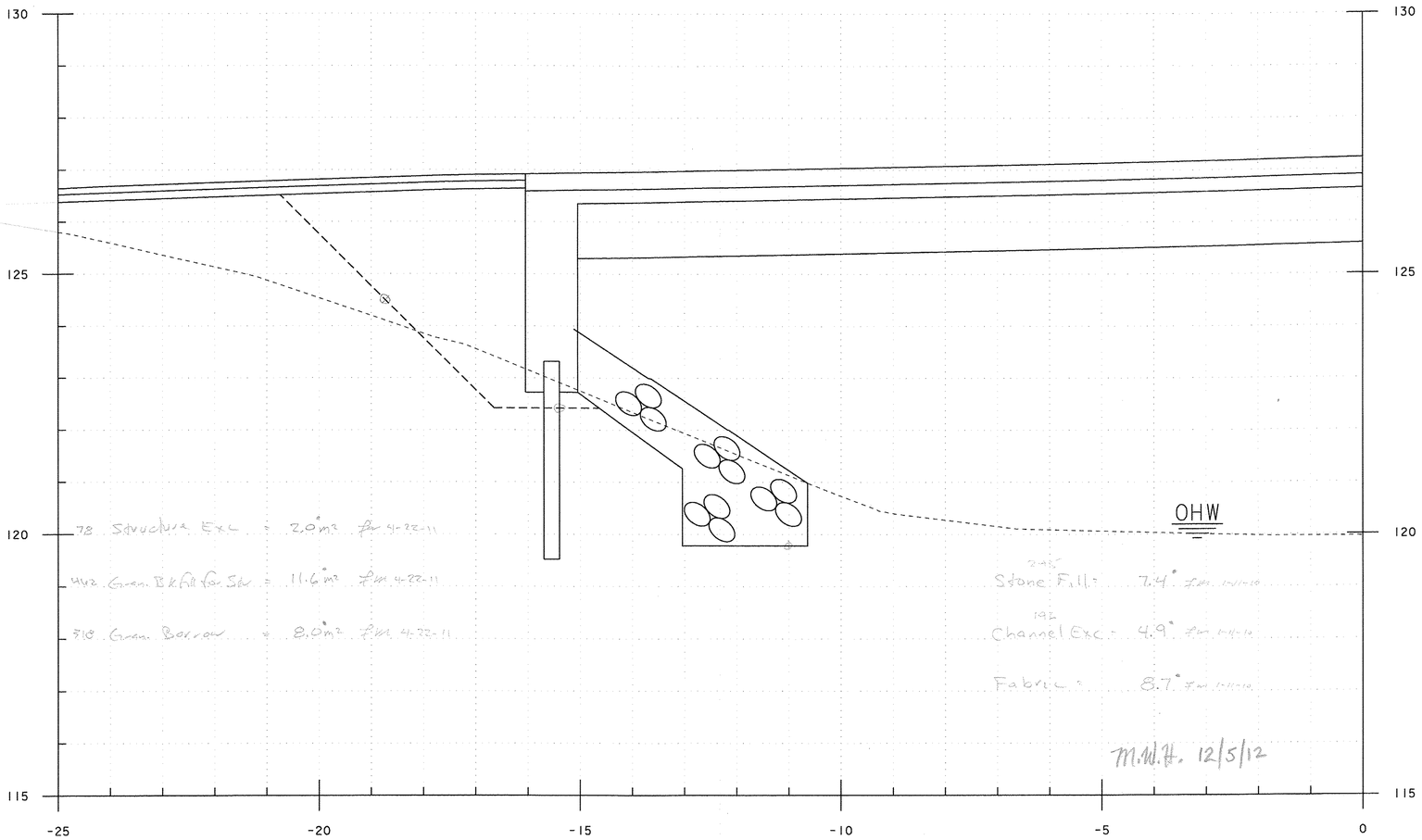
PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET 16 OF 27



30+000.00

STA. 30+000 TO STA. 30+000

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 17 OF 27



STA. 30+006.55 LT.
END GRANULAR BACKFILL FOR STRUCTURES

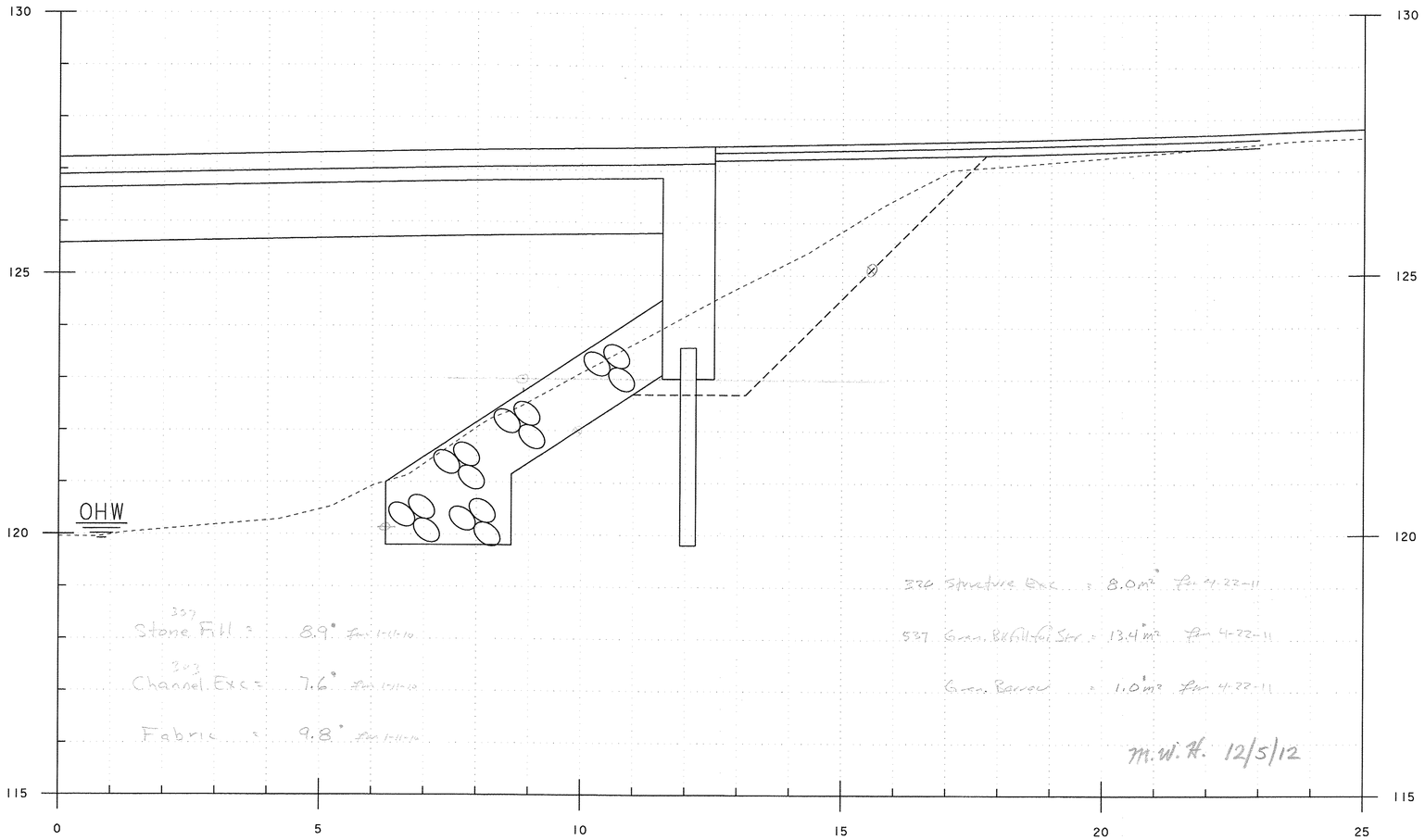
30+005.00

STA. 30+005 TO STA. 30+005

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET ~~S~~ 18 OF 27

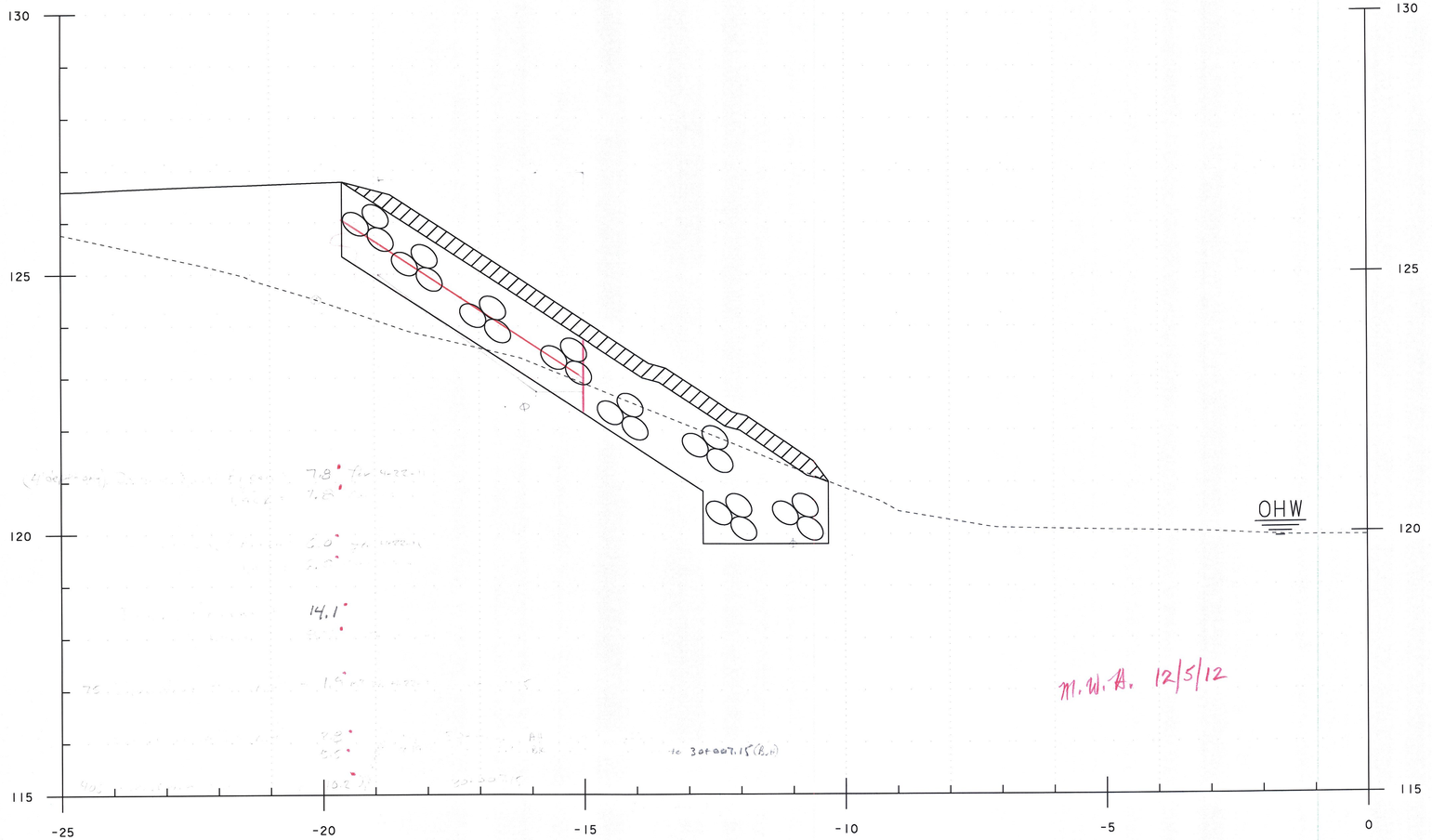


30+005.00

STA. 30+006.55 RT.
END GRANULAR BACKFILL FOR STRUCTURES

STA. 30+005 TO STA. 30+005

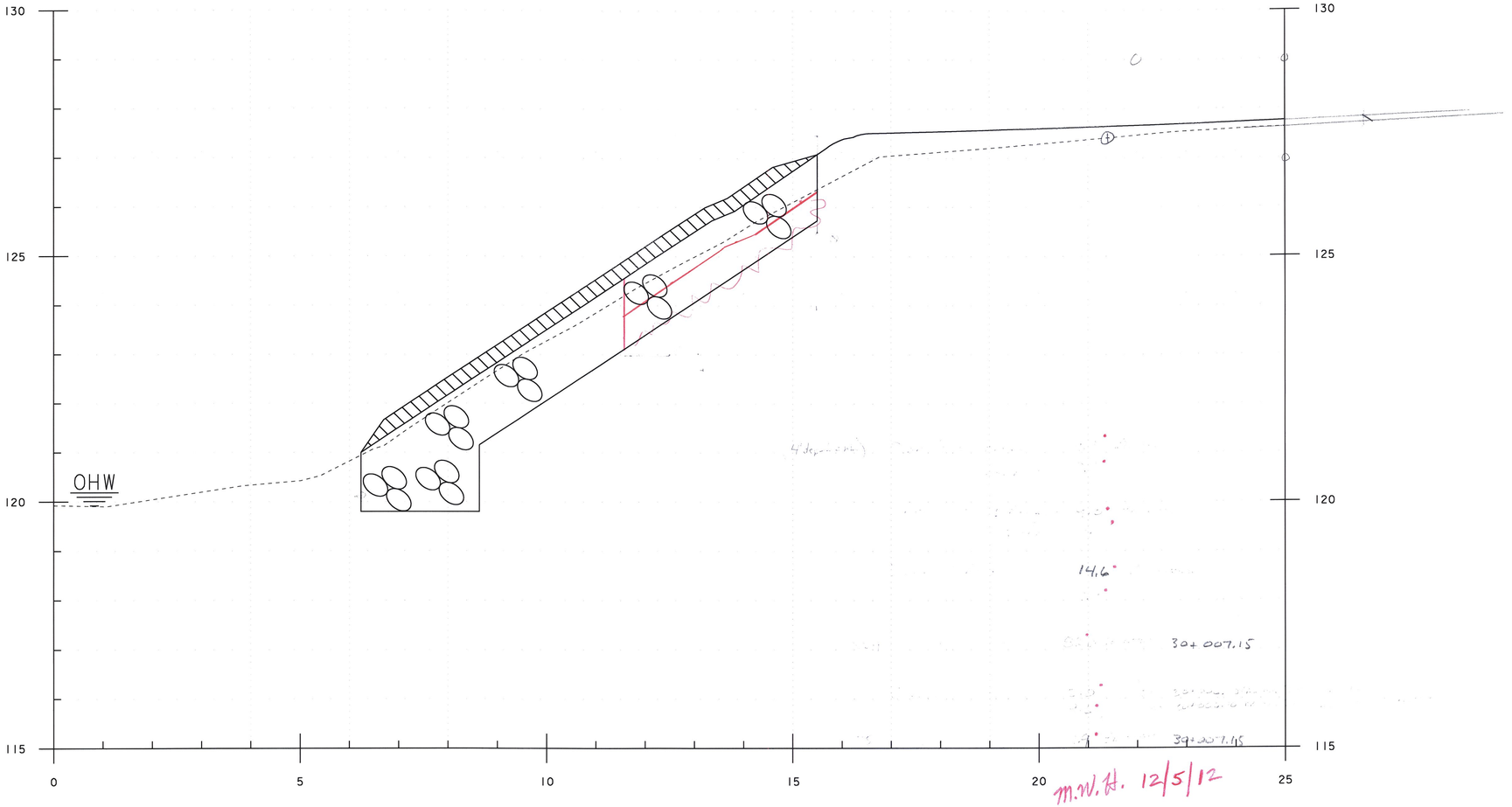
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET ~~19~~ 20 OF 27



30+006.55

STA. 30+007 TO STA. 30+007

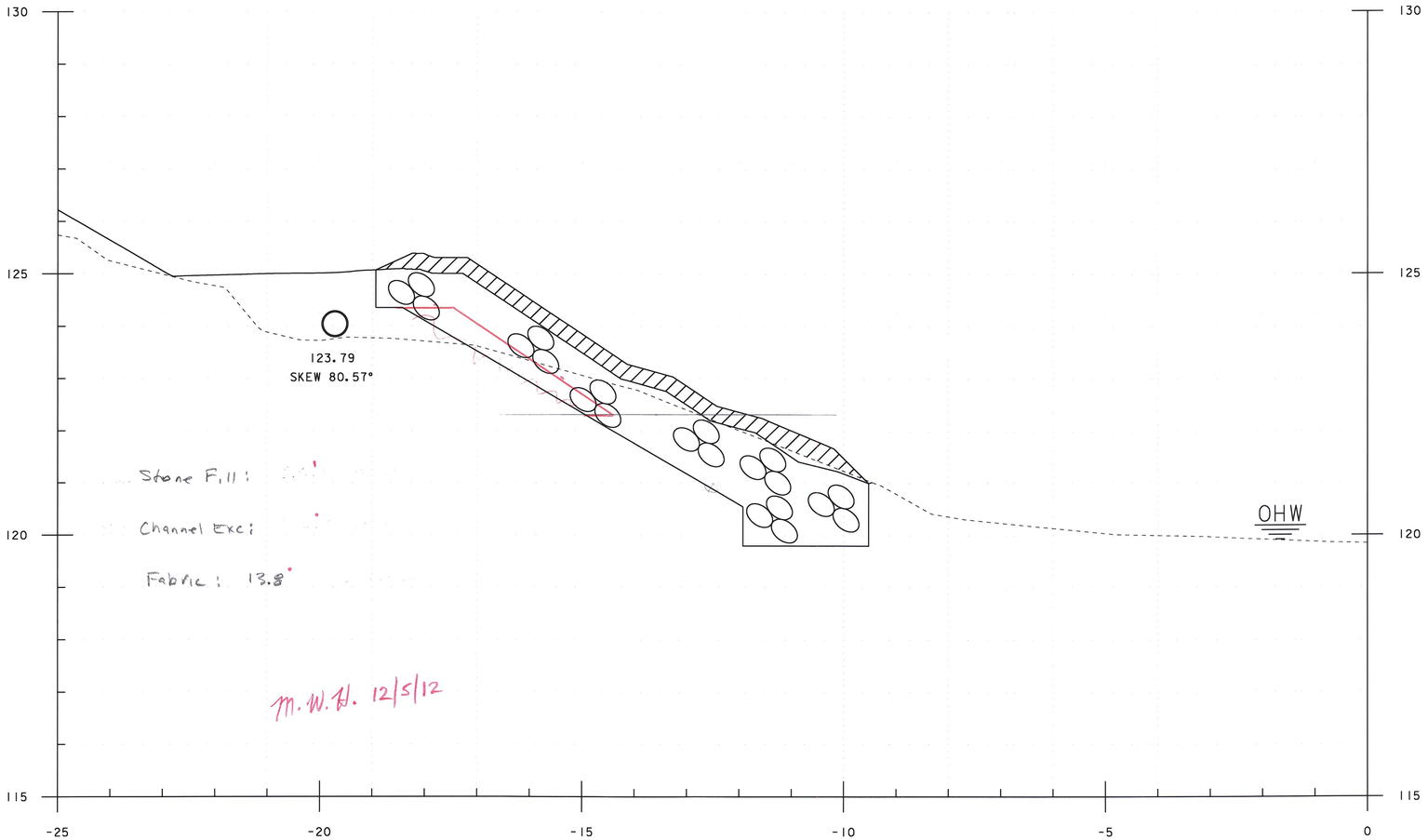
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 20 OF 27



30+006.55

STA. 30+007 TO STA. 30+007

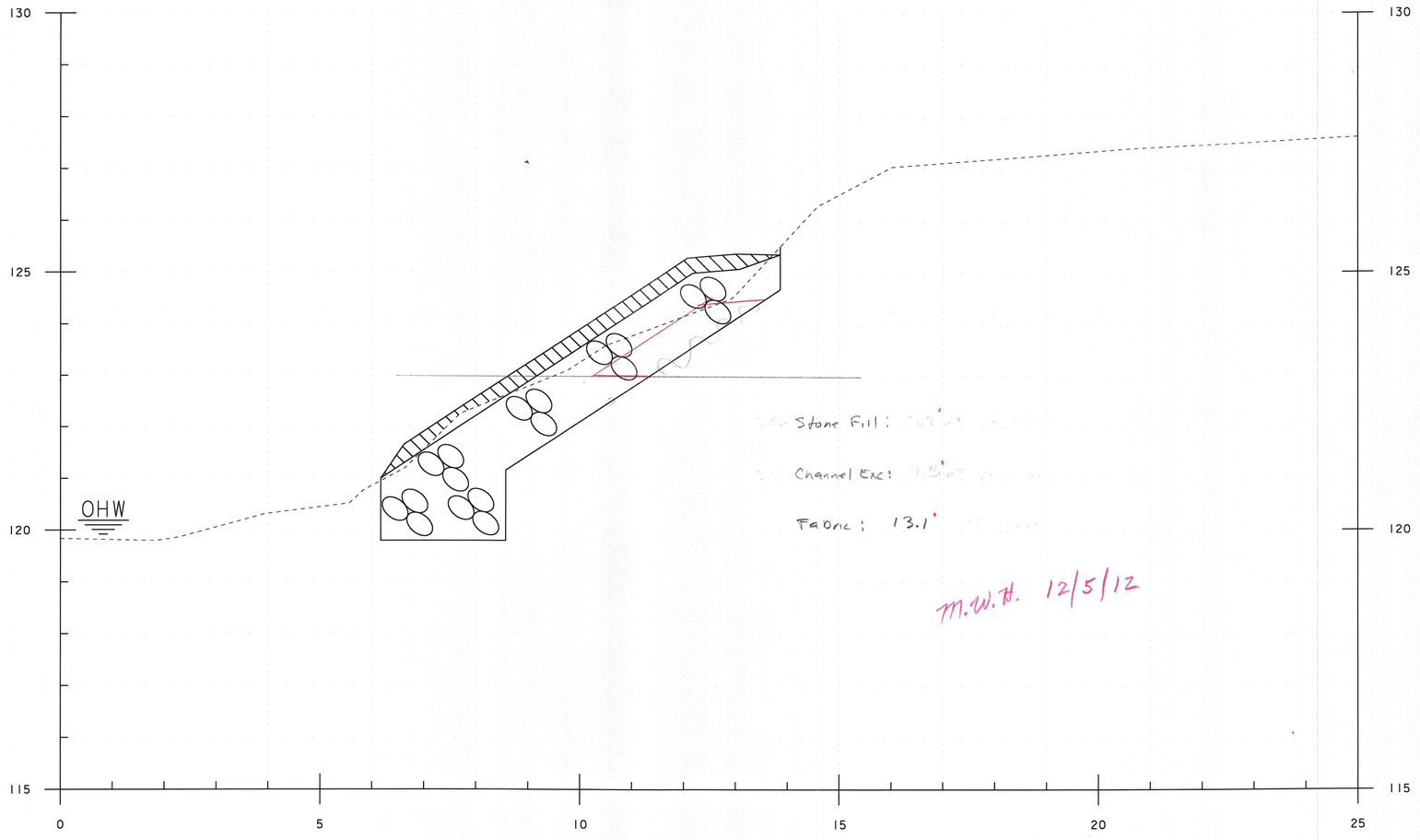
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET 21 OF 27



30+010.00

STA. 30+010 TO STA. 30+010

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET ~~cxs~~ 22 OF 27



30+010.00

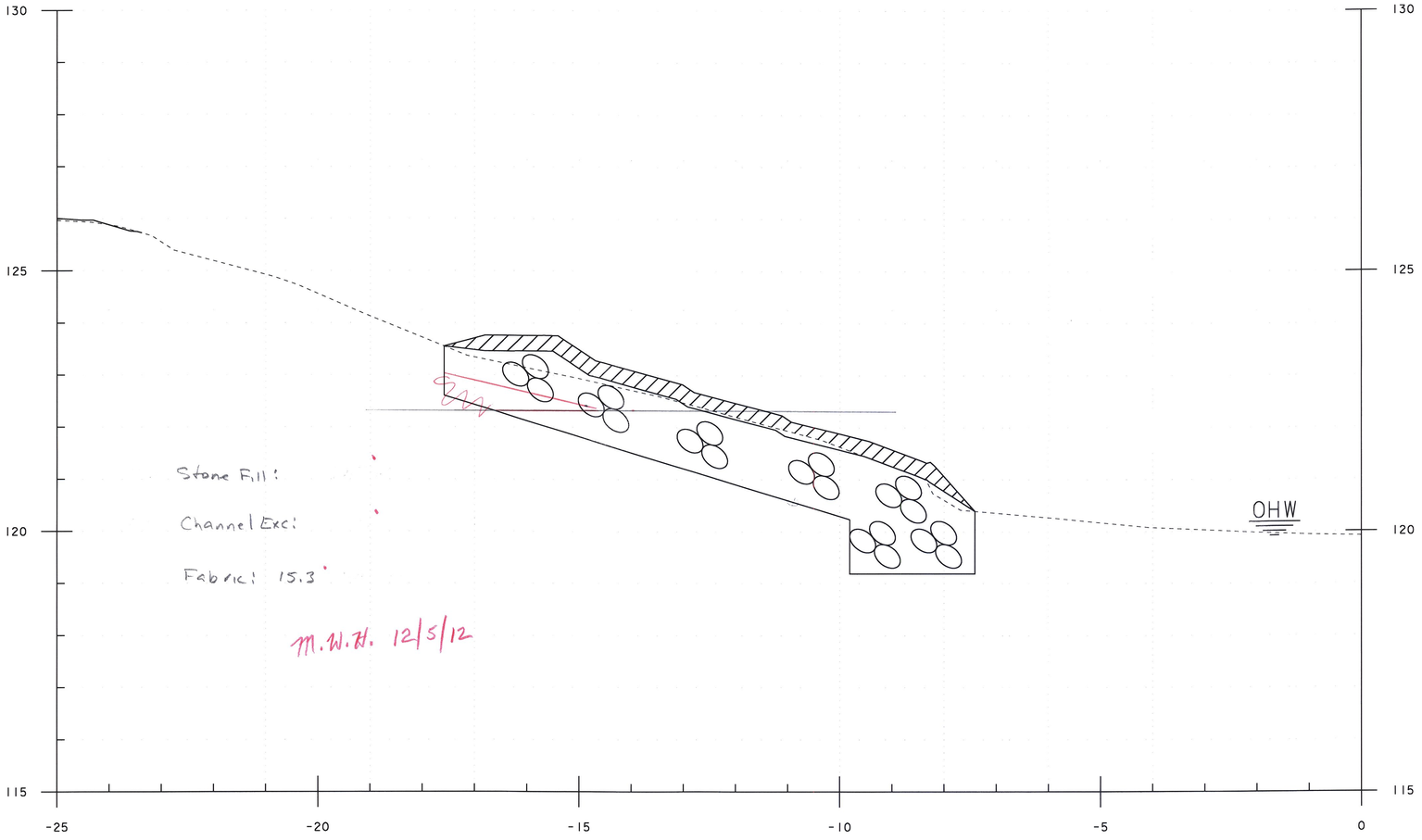
STA. 30+014.08 RT.
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

STA. 30+010 TO STA. 30+010

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEETers 23 OF 27



STA. 30+~~017~~015.30 LT.
END UNCLASSIFIED CHANNEL EXCAVATION
GEOTEXTILE UNDER STONE FILL
STONE FILL, TYPE IV
GRUBBING MATERIAL

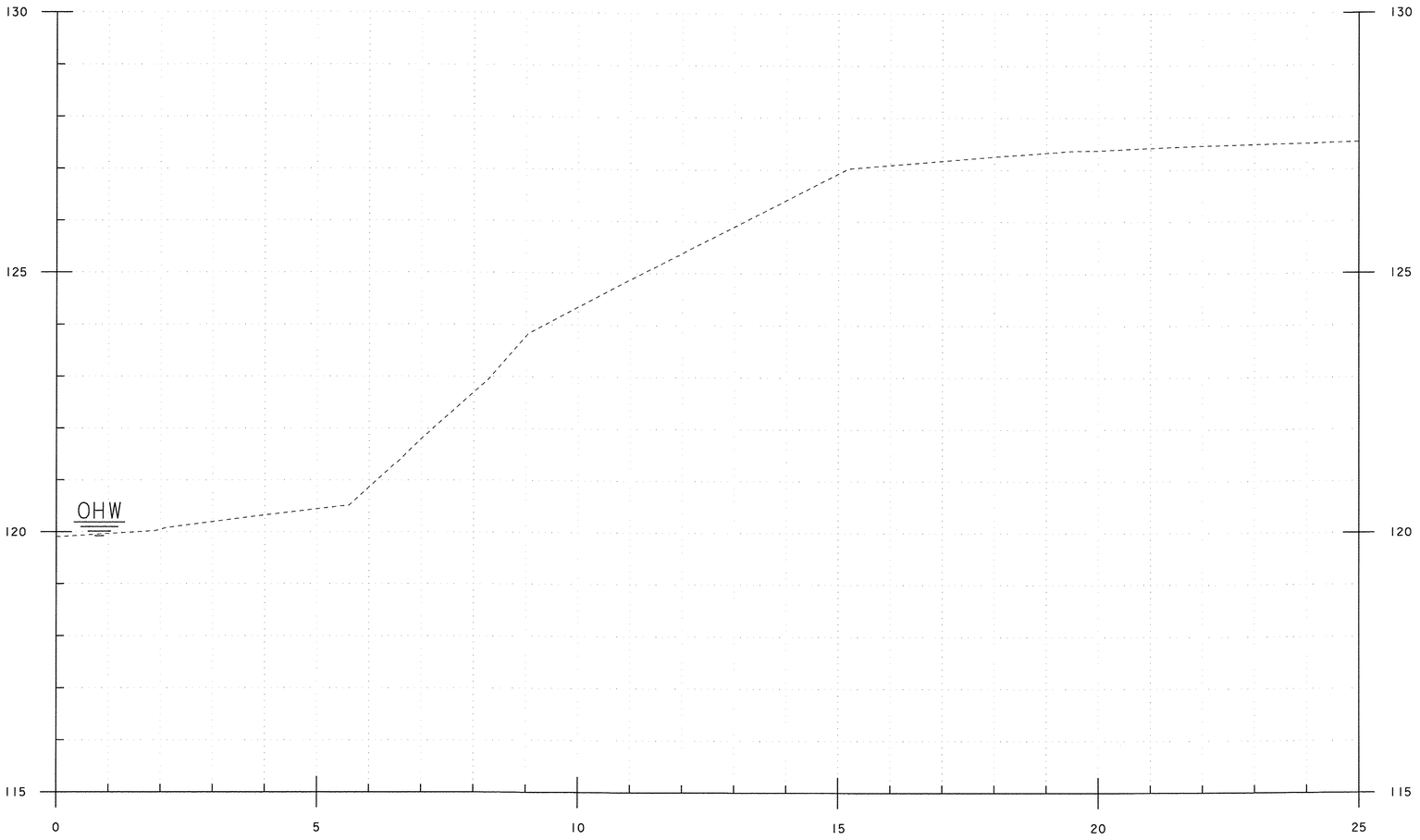
30+015.00

STA. 30+015 TO STA. 30+015

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

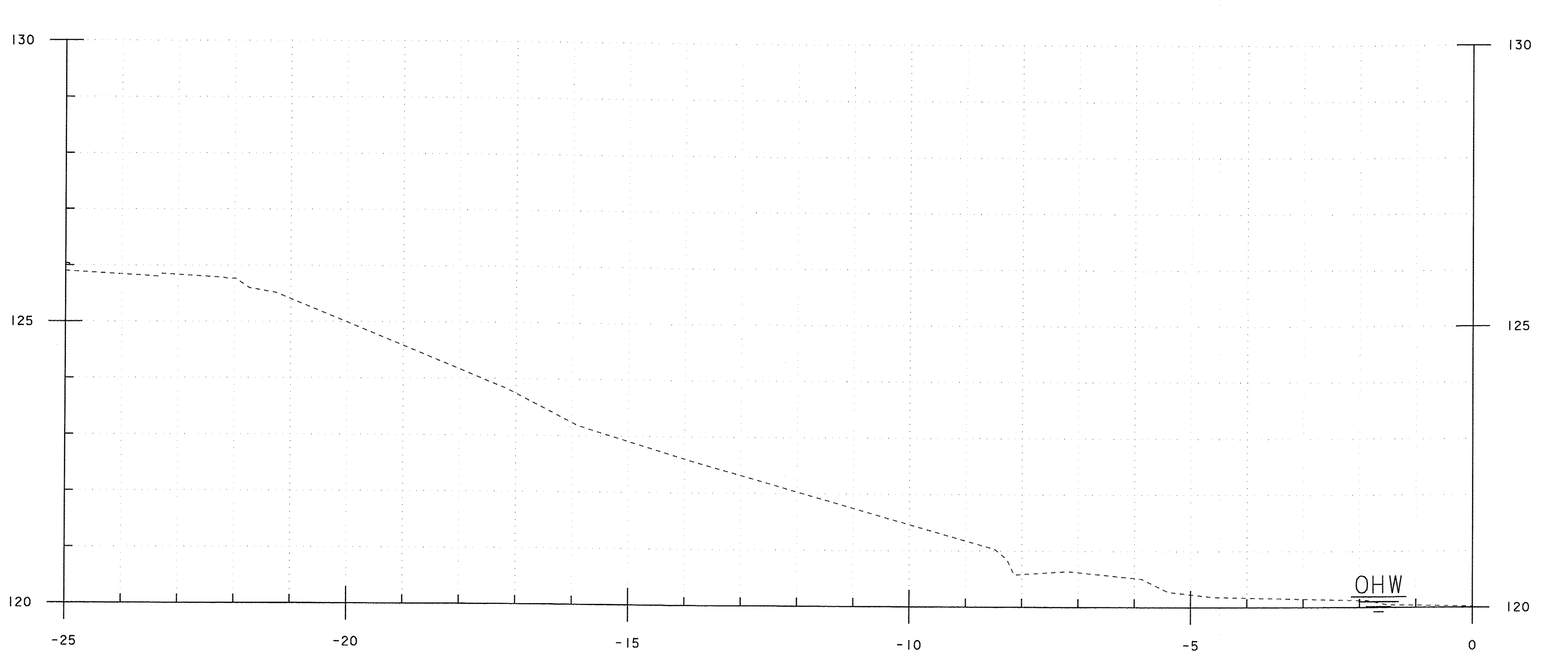
PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET ~~23~~ 24 OF 27



30+015.00

STA. 30+015 TO STA. 30+015

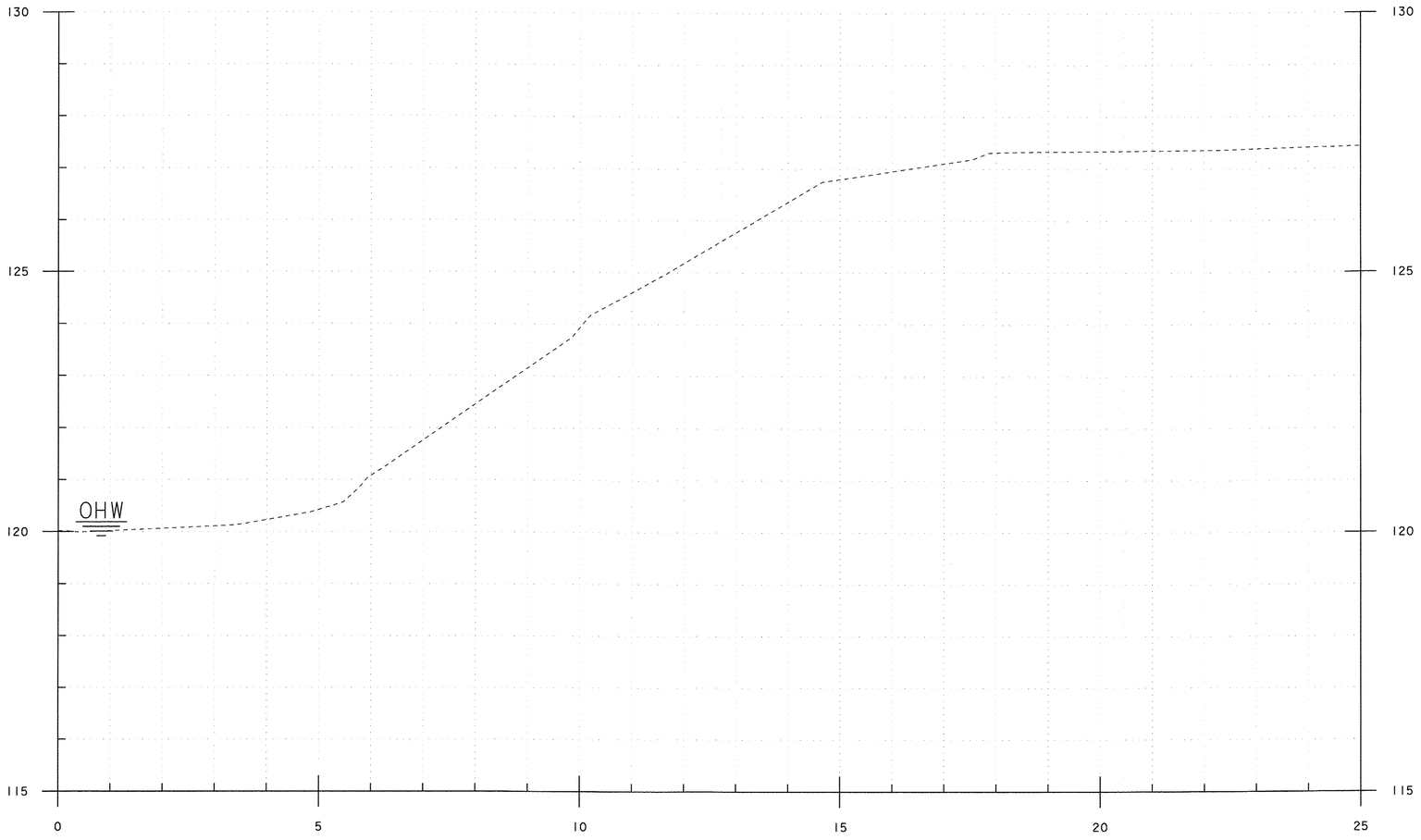
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET ex-5 25 OF 27



30+020.00

STA. 30+020 TO STA. 30+020

PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xsl.dgn	PLOT DATE: 13-AUG-2009
PROJECT LEADER: R. WHITCOMB	DRAWN BY: C. MOONEY
DESIGNED BY: C. CARLSON	CHECKED BY: D. PETERSON
------ ------	SHEET CXS 26 OF 27



30+020.00

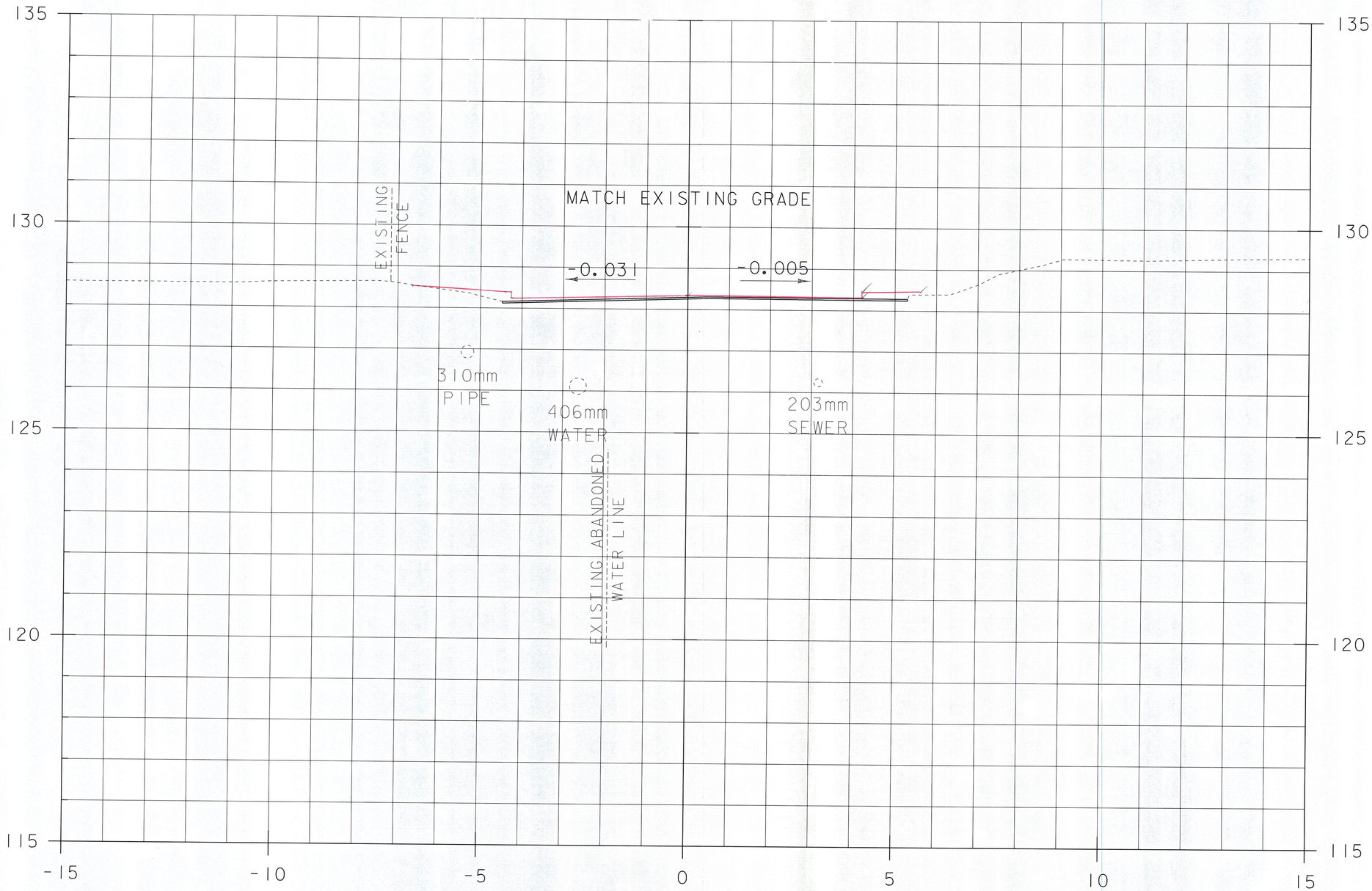
STA. 30+020 TO STA. 30+020

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xsl.dgn
PROJECT LEADER: R. WHITCOMB
DESIGNED BY: C. CARLSON
------ ------

PLOT DATE: 13-AUG-2009
DRAWN BY: C. MOONEY
CHECKED BY: D. PETERSON
SHEET cxs 27 OF 27

Metric



STA. 10+010.000
BEGIN APPROACH
MATCH EXISTING

10+010.00

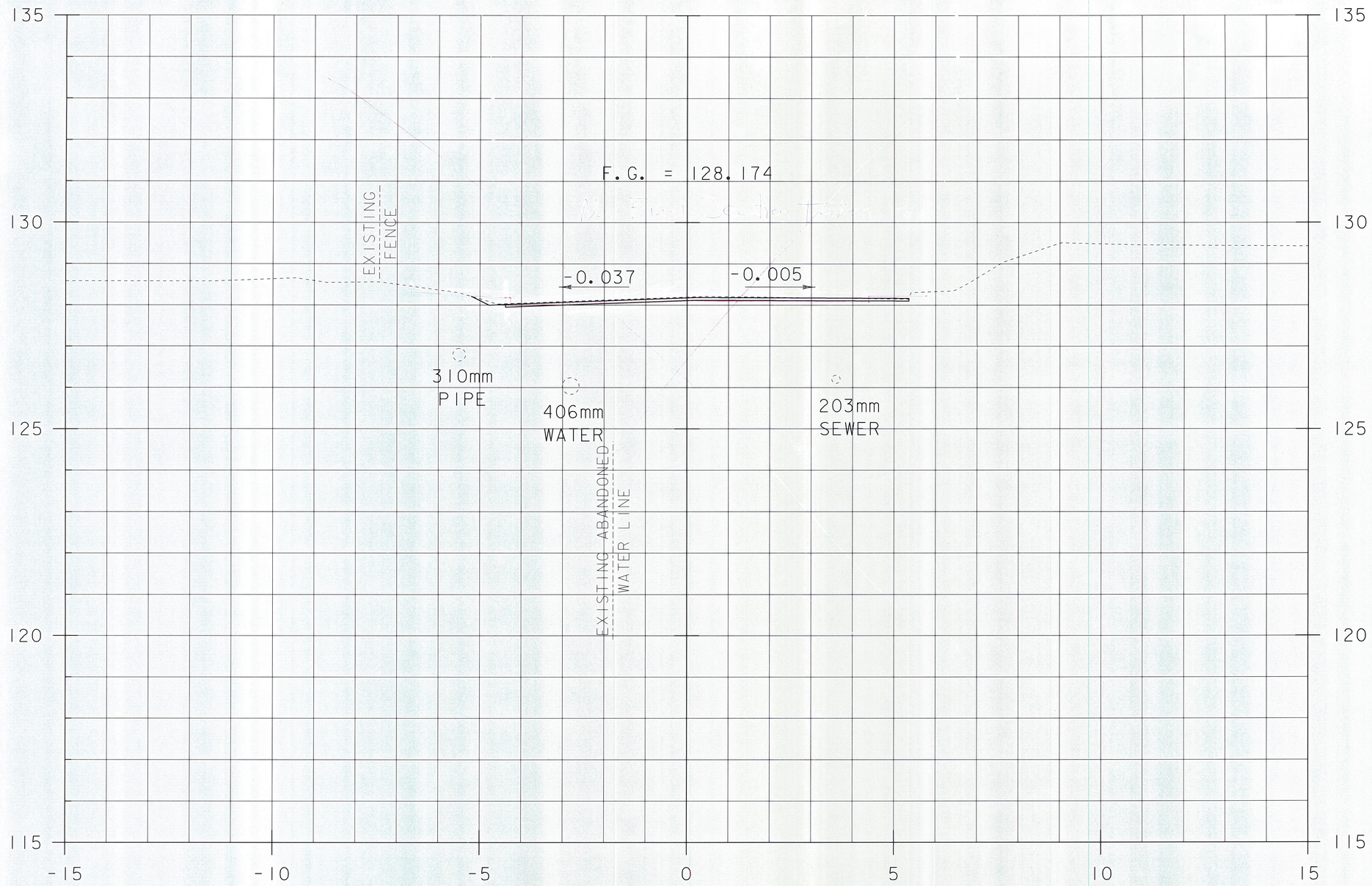
Begin Cold Plane

0 1 2 3 4 5
SCALE = 1:50

STA. 10+010 TO STA. 10+010

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 01 - (MOD.)	SHEET xs 1 OF 33

Metric



10+015.00

0 1 2 3 4 5

SCALE = 1:50

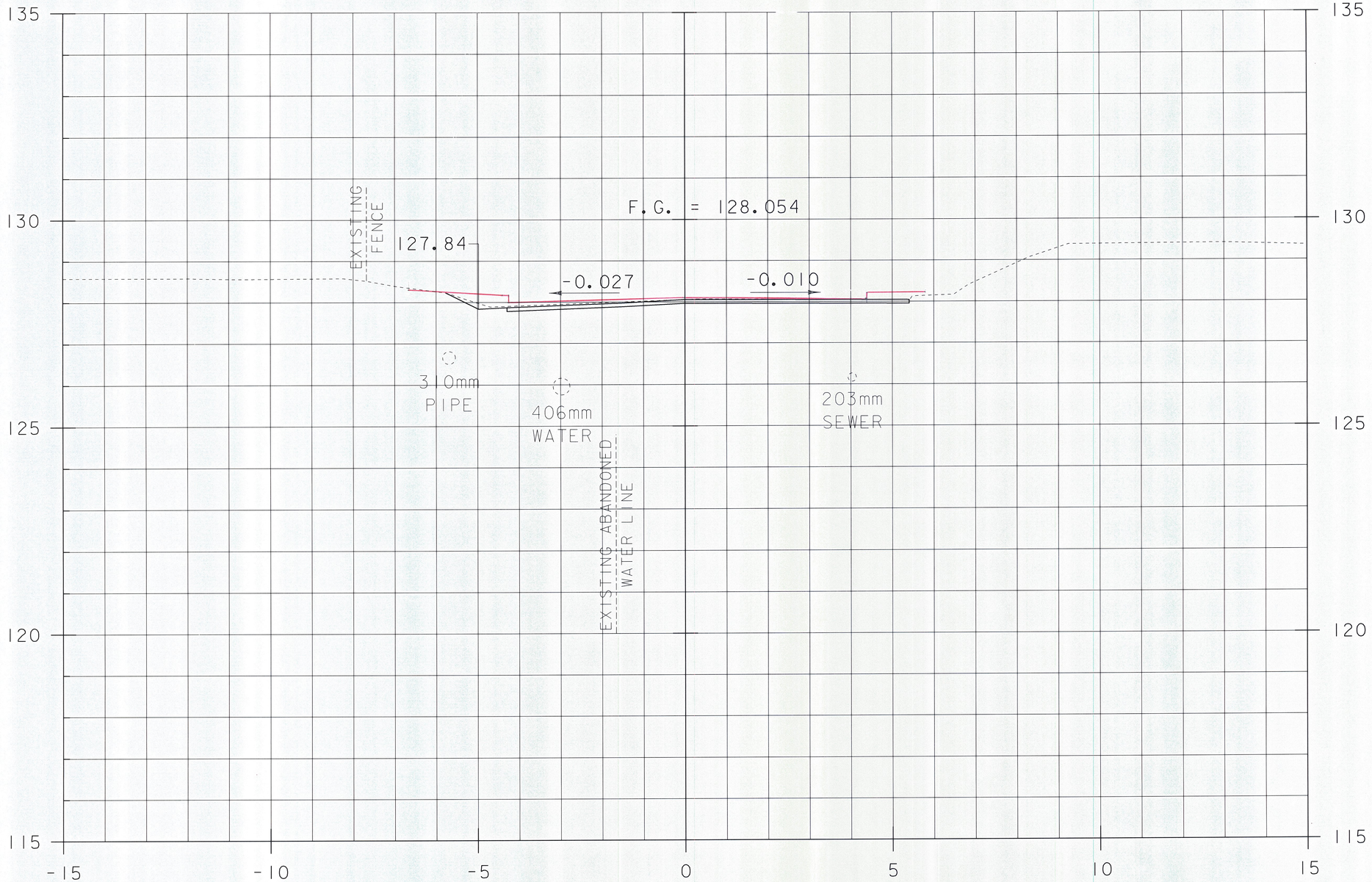
STA. 10+015 TO STA. 10+015

PROJECT NAME: BRATTLEBORRO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xs_const.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: D. PETERSON
ML X-SECTION 02 - (MOD.)

PLOT DATE: 16-FEB-2010
DRAWN BY: C. MOONEY
CHECKED BY: C. CARLSON
SHEET 32 OF 33

Metric

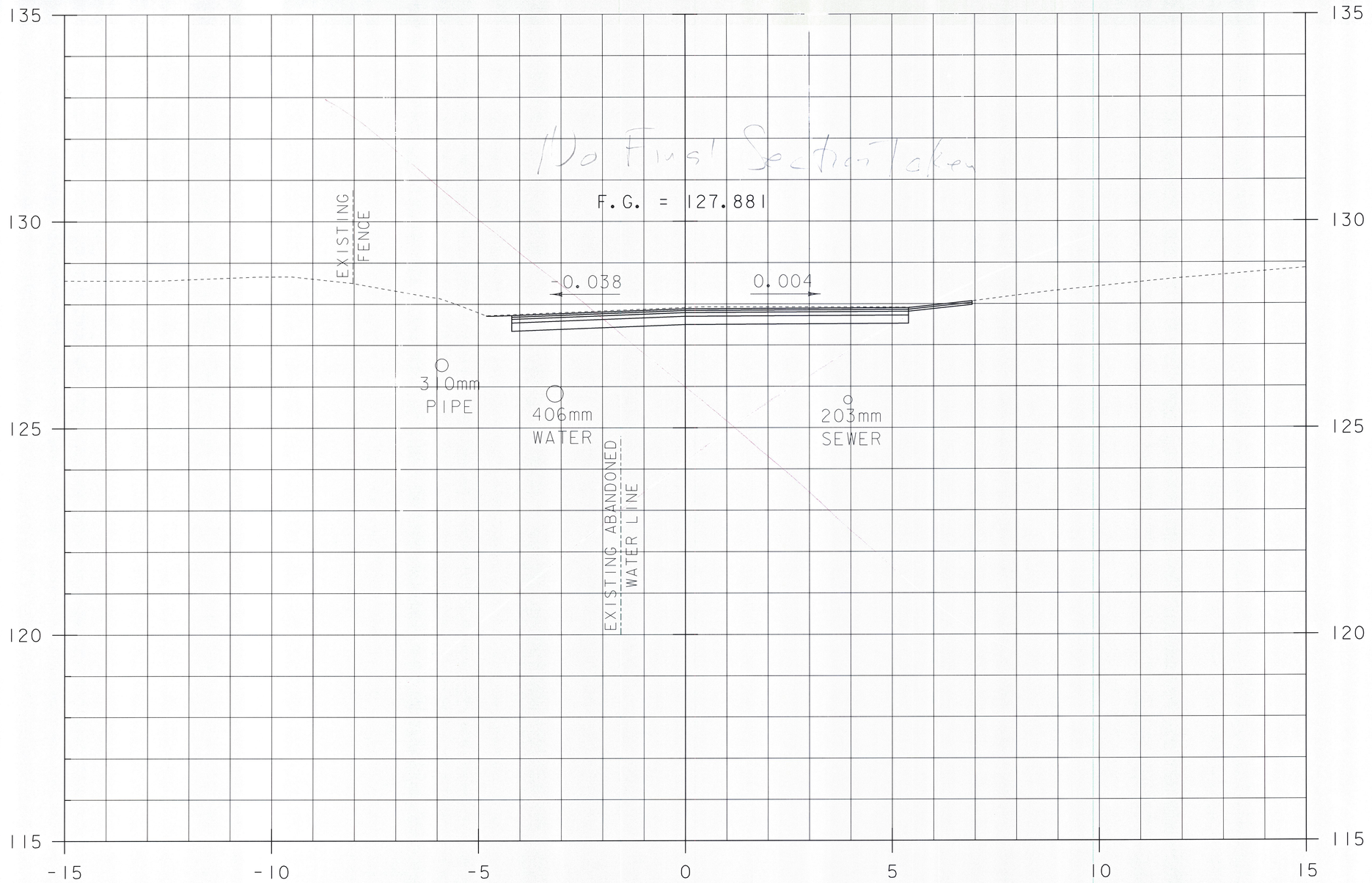


10+020.00

SCALE = 1:50

STA. 10+020 TO STA. 10+020

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 03 - (MOD.)	SHEET XS 3 OF 33



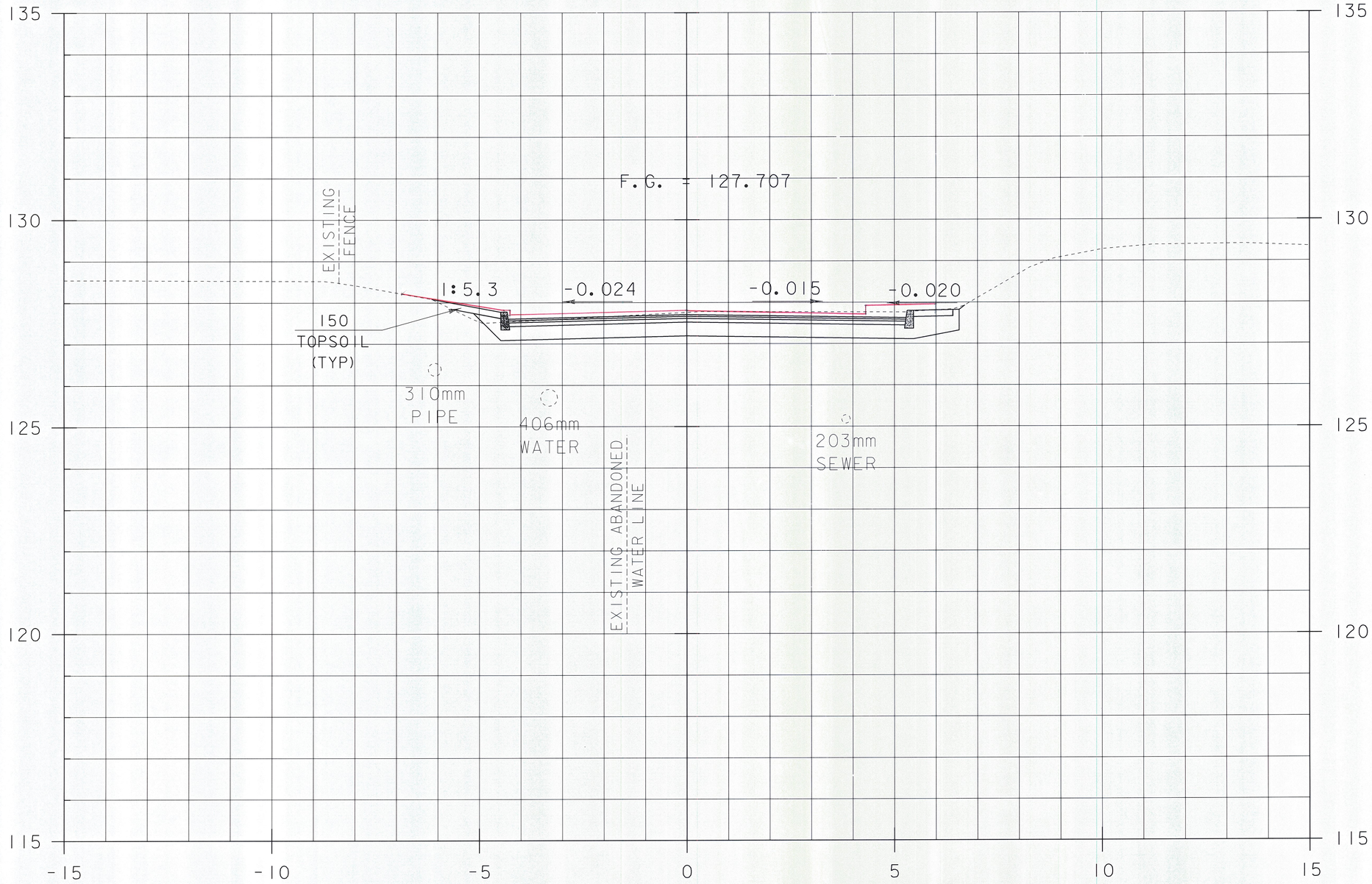
10+025.00

SCALE = 1:50

STA. 10+025 TO STA. 10+025

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 04 - (MOD.)	SHEET 4 OF 33

Metric



STA. 10+030.000
BEGIN CONCRETE CURB LT.

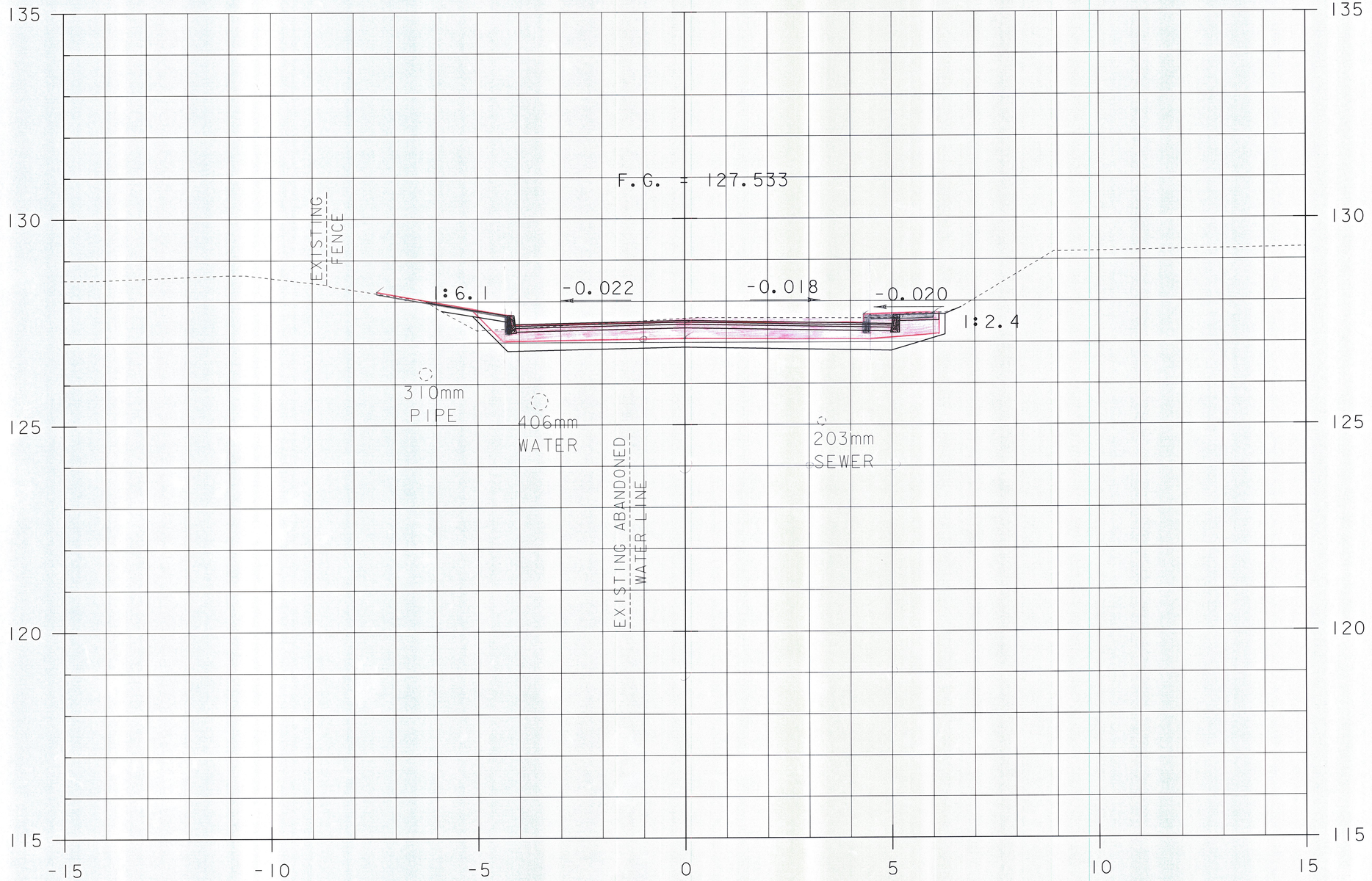
10+030.00

SCALE = 1:50

STA. 10+030 TO STA. 10+030

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 05 - (MOD.)	SHEET 5 OF 33

VAOT Metric



10+035.00

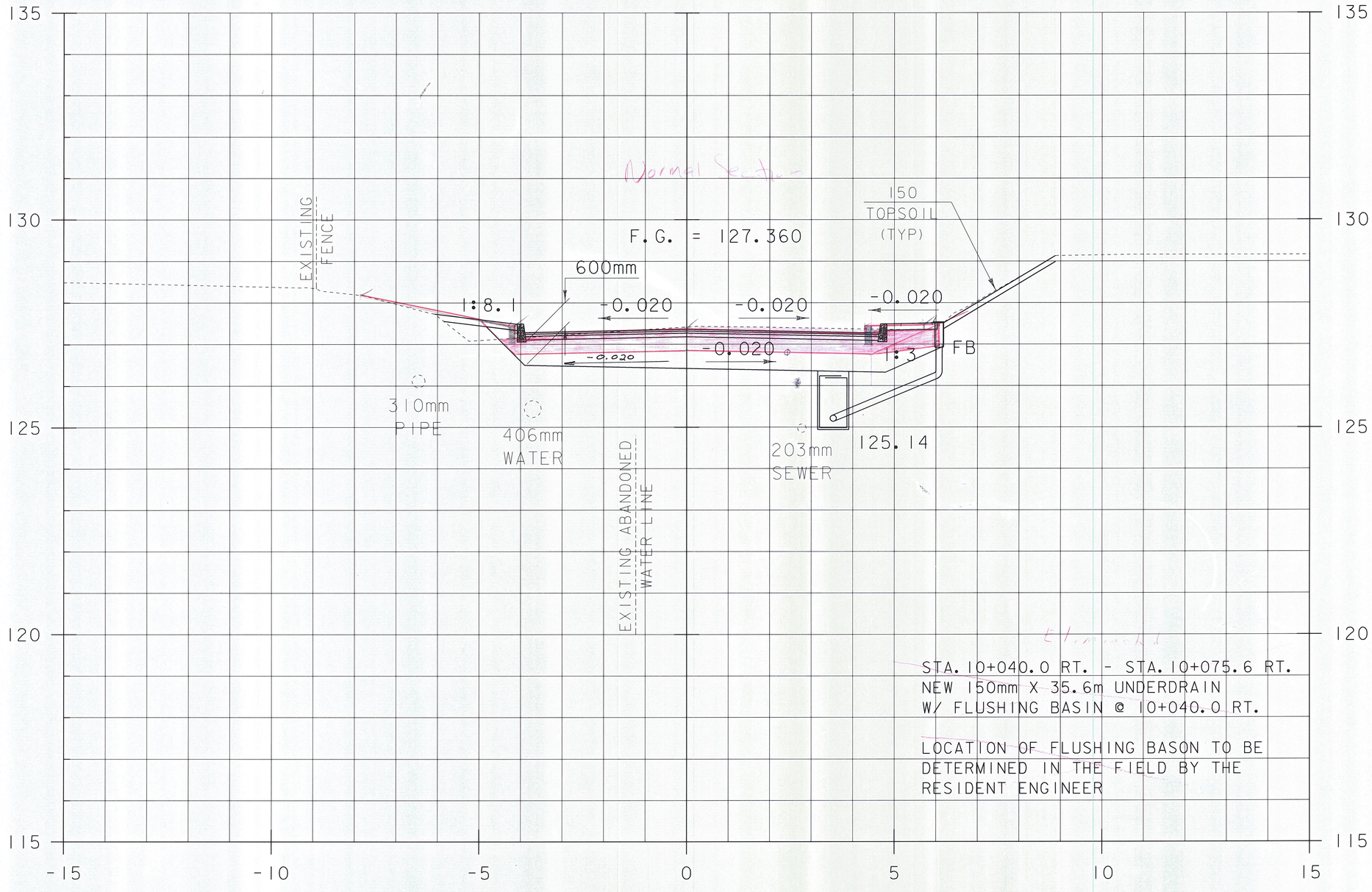
Start Excavation (Both)
End Cold Plane
Start Gravel (Both)

SCALE = 1:50

STA. 10+035 TO STA. 10+035

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 06 - (MOD.)	SHEET 6 OF 33

VAOT Metric



Normal Section

STA. 10+040.0 RT. - STA. 10+075.6 RT.
NEW 150mm X 35.6m UNDERDRAIN
W/ FLUSHING BASIN @ 10+040.0 RT.

LOCATION OF FLUSHING BASON TO BE DETERMINED IN THE FIELD BY THE RESIDENT ENGINEER

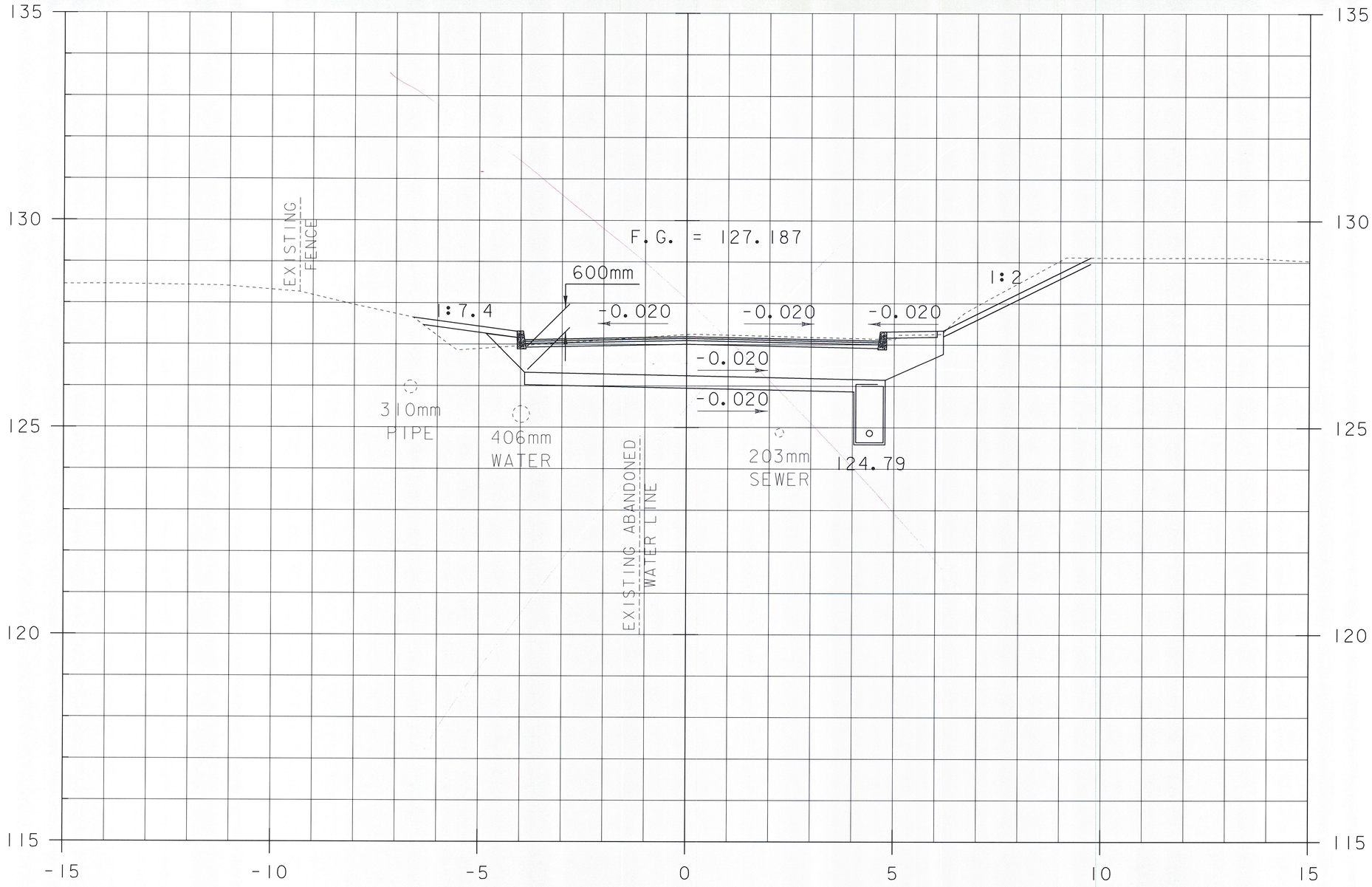
STA. 10+040.000
END APPROACH
BEGIN PROJECT

10+040.00

SCALE = 1:50

STA. 10+040 TO STA. 10+040

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 07 - (MOD.)	SHEET 7 OF 33



10+045.00

SCALE = 1:50

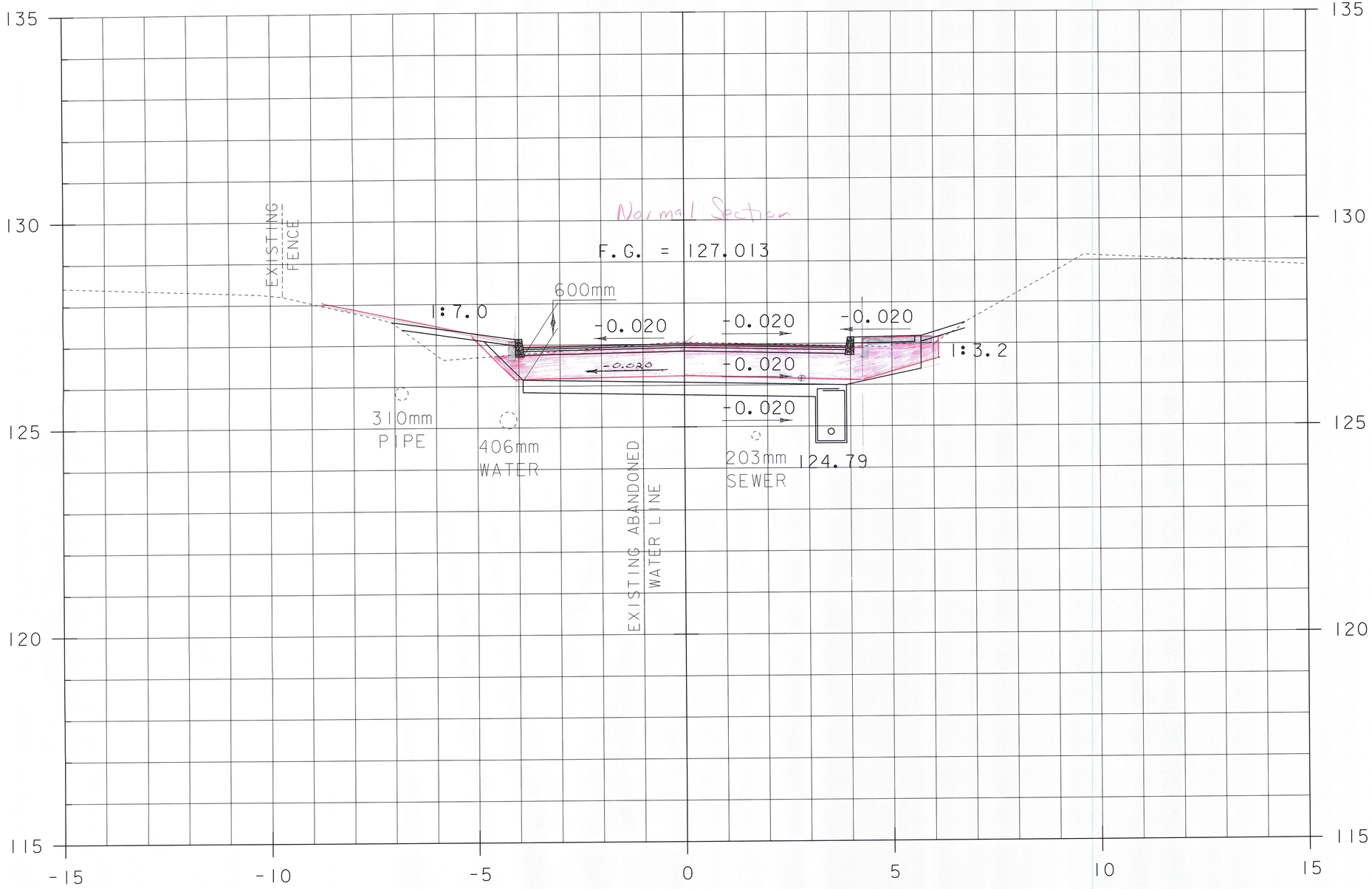
STA. 10+045 TO STA. 10+045

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 08 - (MOD.)	SHEET 8 OF 33

VAOT Metric

Comment = 307 = 7.7
Gravel = 259 = 6.5
Sand = 0
PRS 10-13-10

Normal Section



10+050.00
Begin Sand Taper
Gravel Full Depth

SCALE = 1:50

STA. 10+050 TO STA. 10+050

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 09 - (MOD.)	SHEET 9 OF 33

Metric

Normal Section

F.G. = 126.859

EXISTING FENCE

600mm

1:6.0

-0.020

-0.020

-0.020

1:3.2

-0.020

-0.020

-0.020

310mm PIPE

406mm WATER

EXISTING ABANDONED WATER LINE

203mm SEWER

124.66

4.1

4.4

135

130

125

120

115

-15

-10

-5

0

5

10

15

Comm = 403 = 10.1

Gravel = 282 = 7.1

Sand (4.4+4.1)x0.5 = 2.6

XRD 10-13-10

1.8
.6
.3
1.08

126.88
- 1.08
125.80

10+055.00

Sand Full Depth

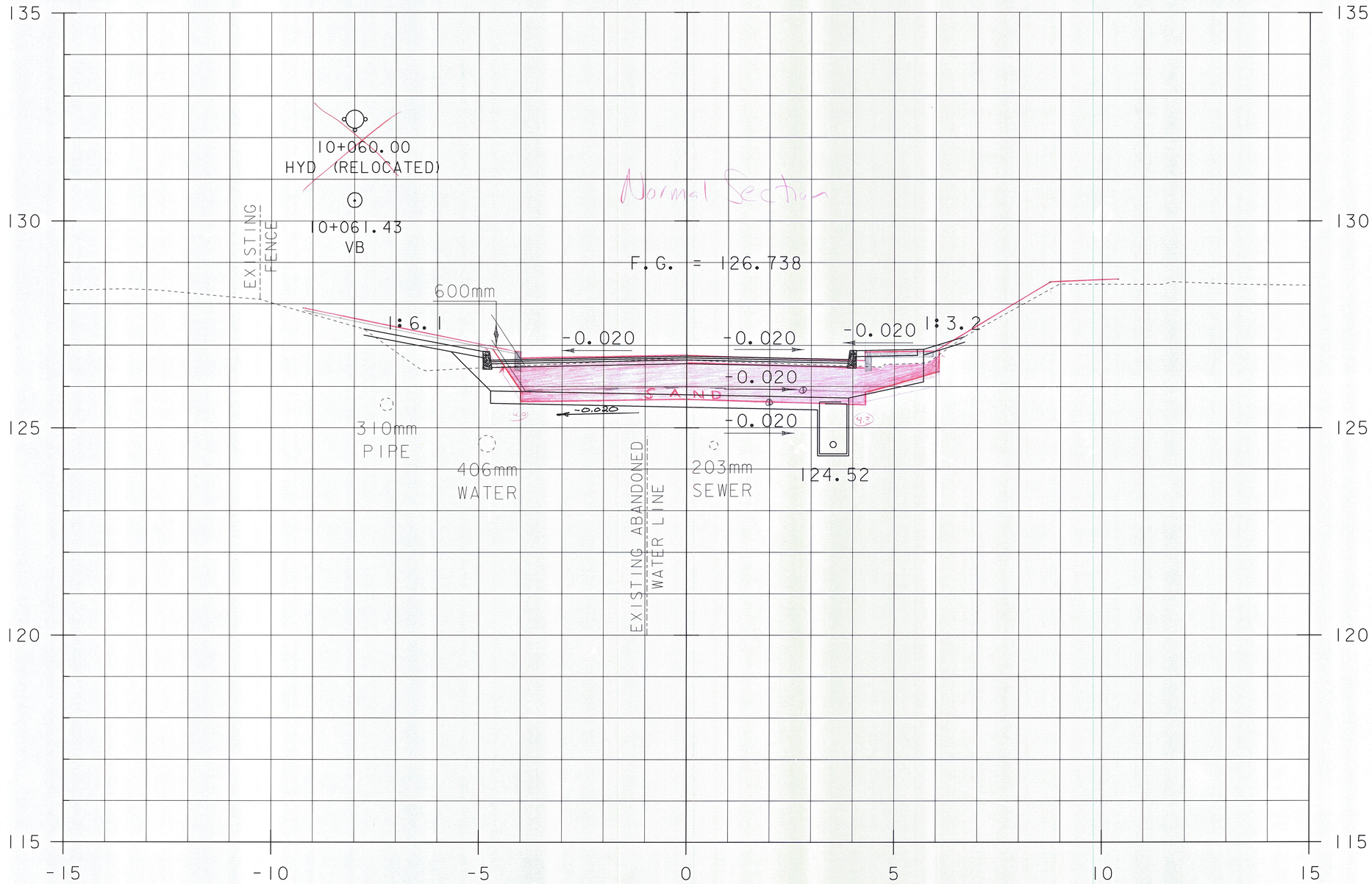
0 1 2 3 4 5

SCALE = 1:50

STA. 10+055 TO STA. 10+055

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 10 - (MOD.)	SHEET 10 OF 33

VAOT Metric



Common 344 = 8.6 ✓

Gravel 249 6.2 ✓ flw 10/13/10

Sand 0.3x(4.9+4.3) = 2.5 ✓

✓ RFW 10-13-10

.12
.6
.9
1.62
126.76
- 1.62
125.62

10+060.00

SCALE = 1:50

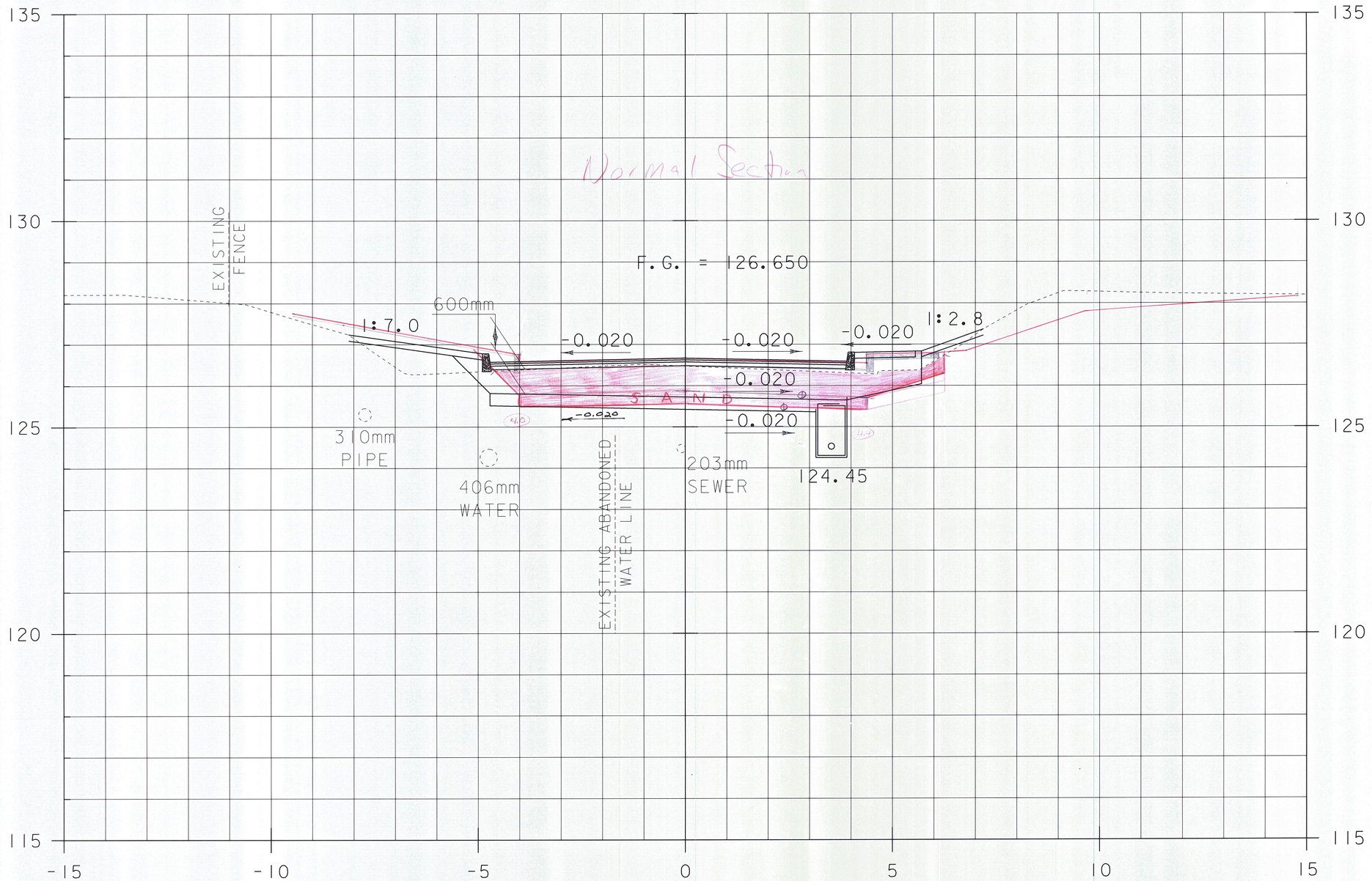
0 1 2 3 4 5

STA. 10+060 TO STA. 10+060

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION II - (MOD.)	SHEET II OF 33

VAOT Metric

Common 341 = 8.5 ✓
Gravel 267 = 4.7
Sand 0.3 x (4.0+4.4) = 2.5 ✓
(REV.) 10-13-10



10+065.00

SCALE = 1:50

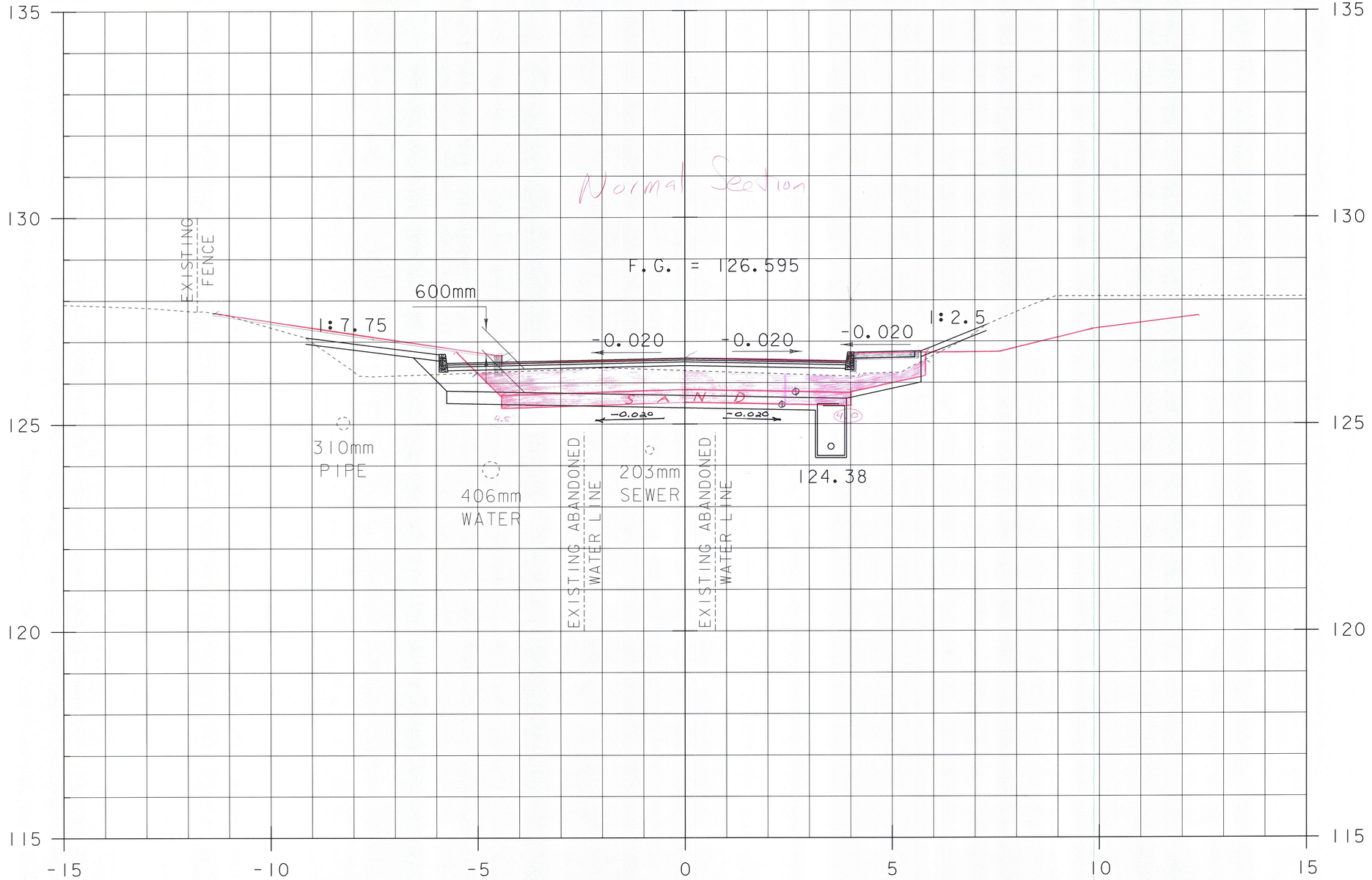
STA. 10+065 TO STA. 10+065

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 12 - (MOD.)	SHEET 12 OF 33

Metric

Common 298 = 7.5
Gravel 248 = 6.2
Sand 5.3 × (4.5 + 4.9) = 2.9

Normal Section



10+070.00

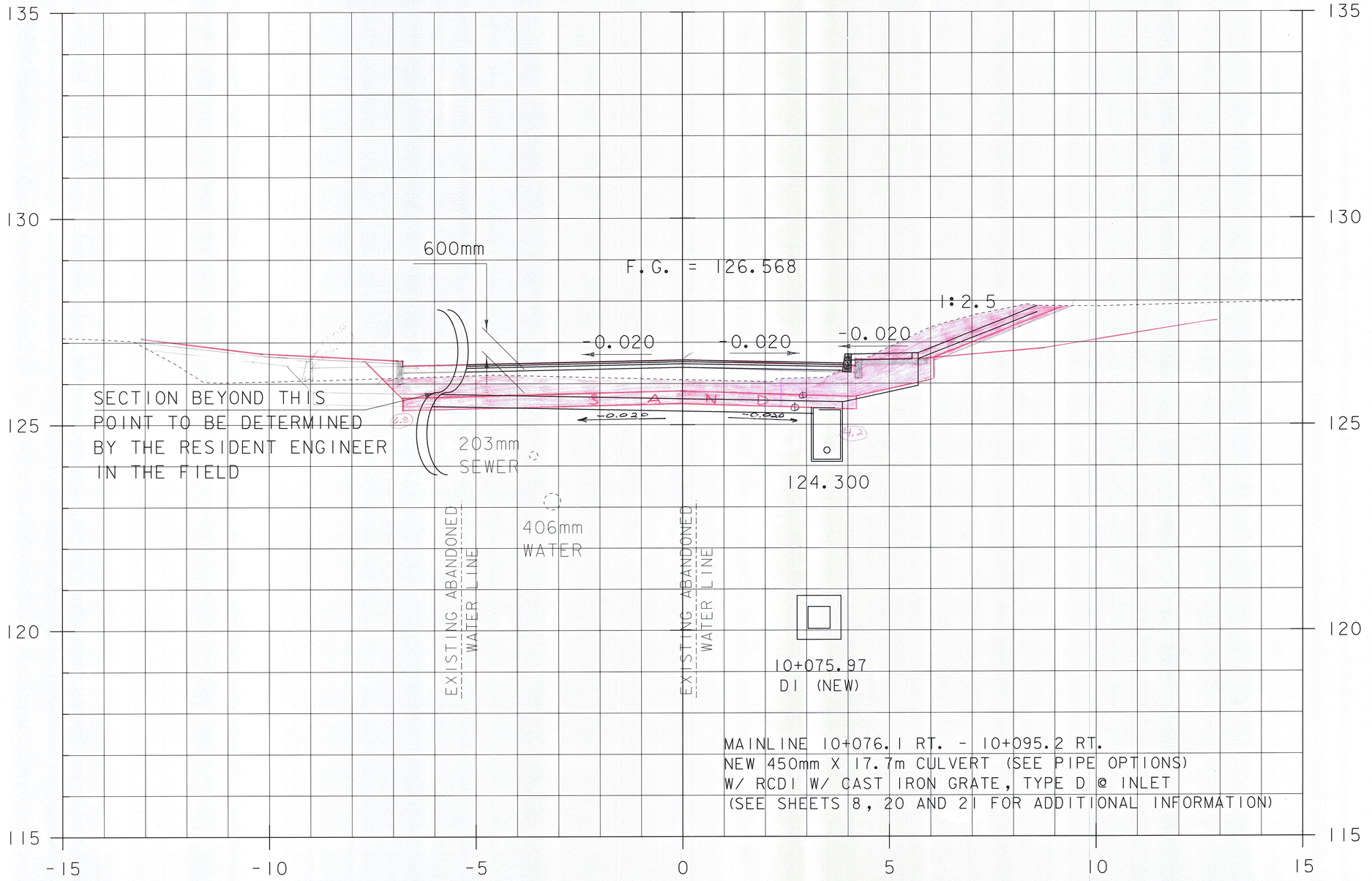
SCALE = 1:50

STA. 10+070 TO STA. 10+070

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 13 - (MOD.)	SHEET 13 OF 33

Metric

common 475 = 11.9 ✓
gravel 3.13 = 7.8 ✓
Sand 0.3v(6.8+4.2) = 3.3 ✓
✓ BRW 10-13-10



STA. 10+078.900 LT
END CONCRETE CURB

10+075.00

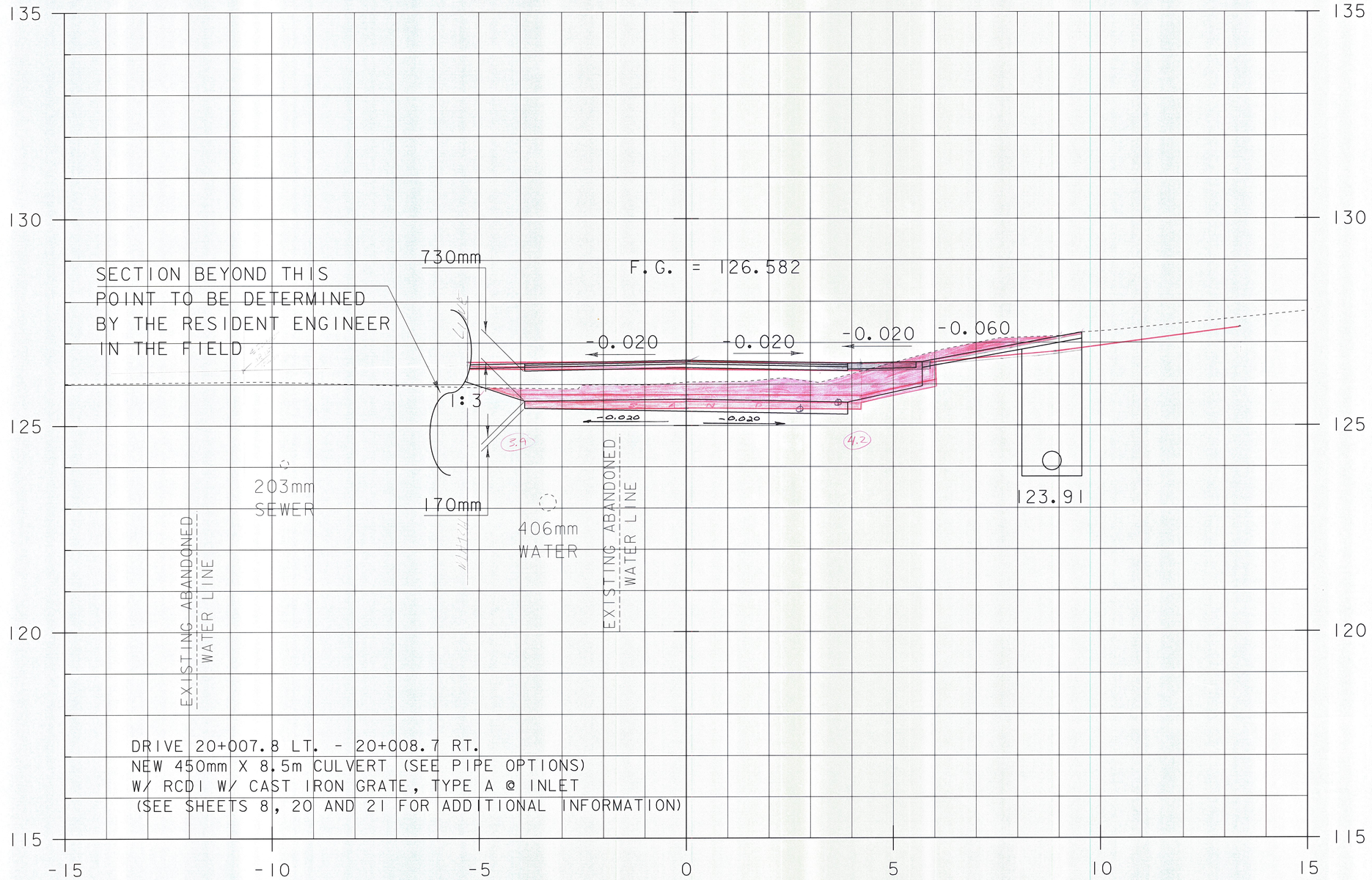
Sand: last full depth

0 1 2 3 4 5
SCALE = 1:50

STA. 10+075 TO STA. 10+075

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 14 - (MOD.)	SHEET 14 OF 33

VAOT Metric



DRIVE 20+007.8 LT. - 20+008.7 RT.
NEW 450mm X 8.5m CULVERT (SEE PIPE OPTIONS)
W/ RCDI W/ CAST IRON GRATE, TYPE A @ INLET
(SEE SHEETS 8, 20 AND 21 FOR ADDITIONAL INFORMATION)

10+080.00

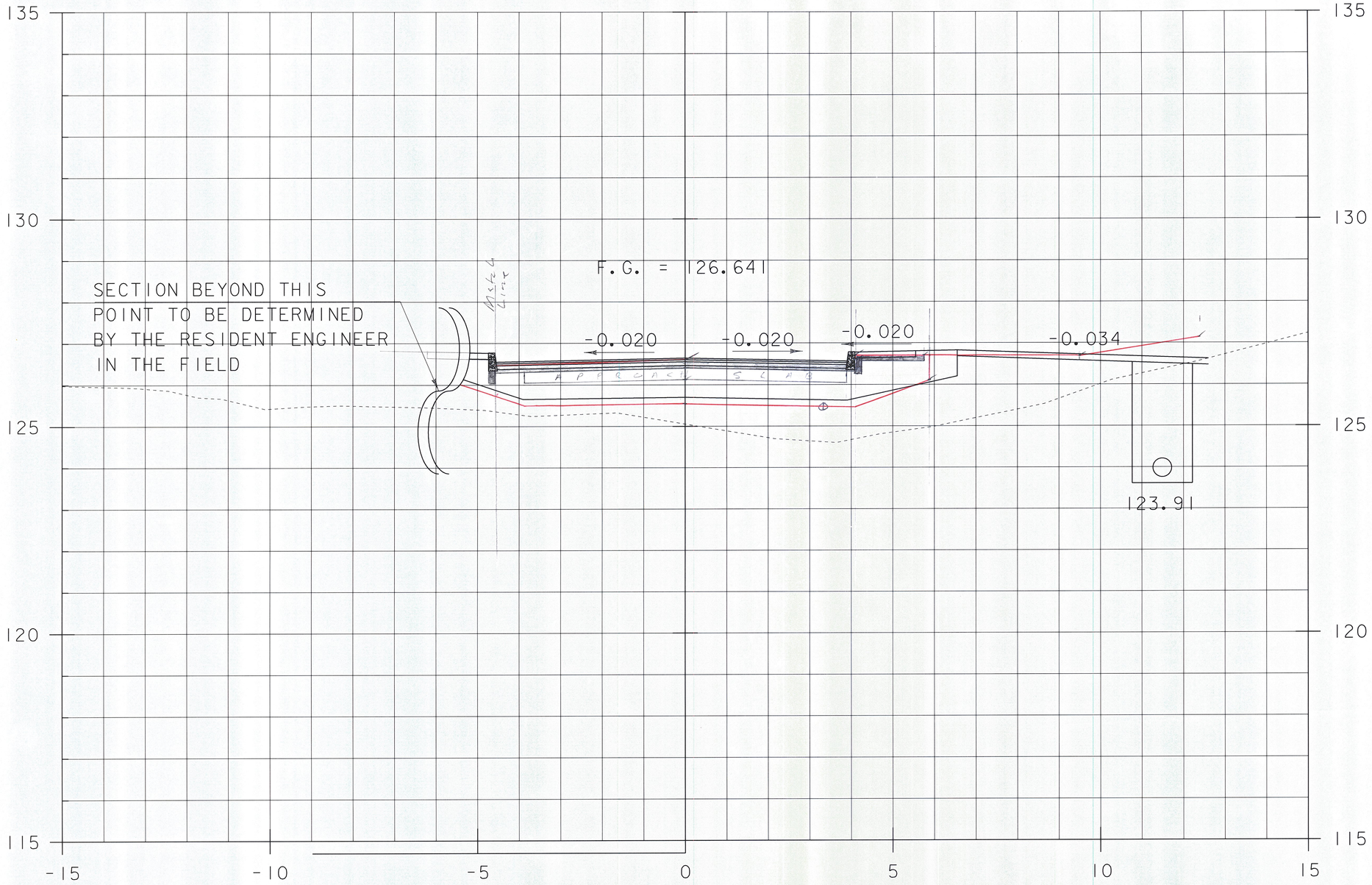
SCALE = 1:50

STA. 10+080 TO STA. 10+080

Common 296=7.4
Gravel 328=8.2
Sand 0.15x(3.9+4.2)=1.2
FRW 10-13-10

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 15 - (MOD.)	SHEET 15 OF 33

VAOT Metric



Common 0'

Gravel (back) 373' = 9.3 for 1:1 slope
336' = 8.4

(ahead) 249' = 6.2'

Sand = 0'

RRW 10-13-10

1.120
.865
1.045

126.60
- 1.05
125.55

126.60
0.38
126.22
-0.09
126.13

10+085.00 (use for 10+085.75)

Zero Sand Barrel
Begin Approach Slab Ahead

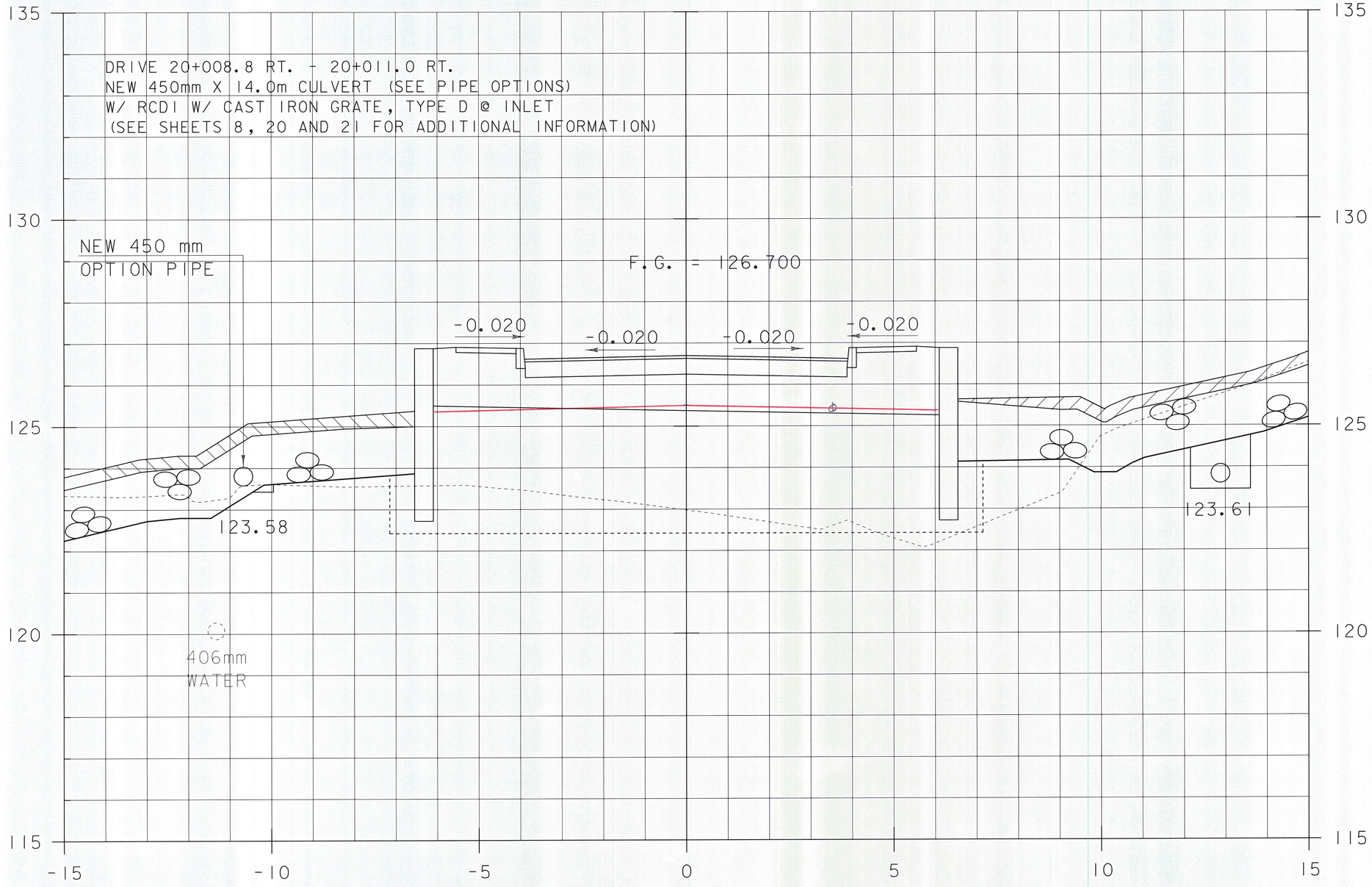
SCALE = 1:50

STA. 10+085 TO STA. 10+085

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 16 - (MOD.)	SHEET 16 OF 33

Metric

DRIVE 20+008.8 RT. - 20+011.0 RT.
NEW 450mm X 14.0m CULVERT (SEE PIPE OPTIONS)
W/ RCDI W/ CAST IRON GRATE, TYPE D @ INLET
(SEE SHEETS 8, 20 AND 21 FOR ADDITIONAL INFORMATION)



10+090.00 use for 10+091.05

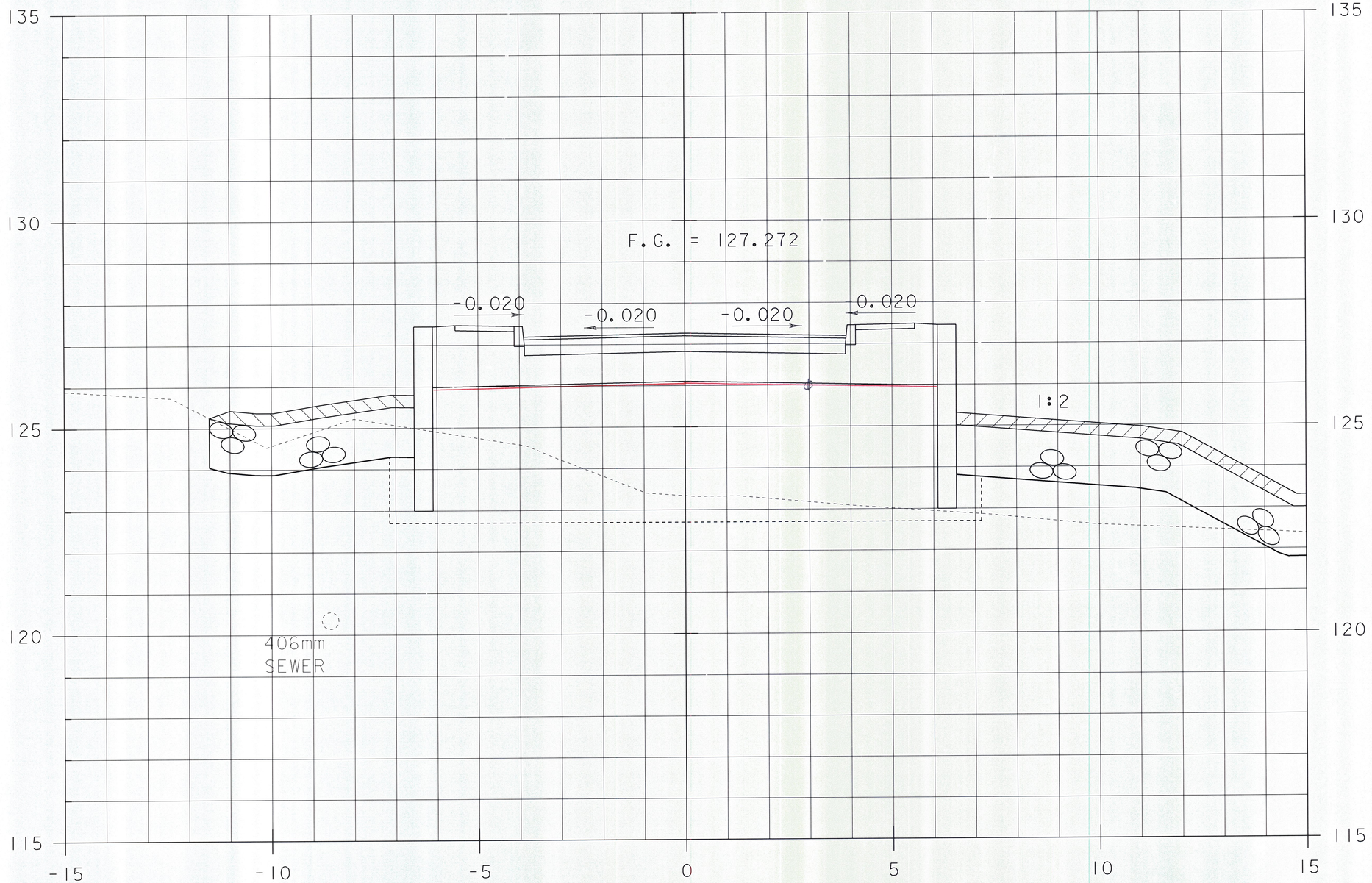
SCALE = 1:50

STA. 10+090 TO STA. 10+090

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 17 - (MOD.)	SHEET 17 OF 33

Common 0
Gravel 469 (B.A.) = 12.2 Fin 10/14/10

Metric



Common 0
Gravel (B.H) 473 = 11.8
Sand 0
✓ (Rw) 10-14-10

STA. 10+119.250
END BRIDGE

10+120.00 use for 10+119.45

0 1 2 3 4 5
SCALE = 1:50

STA. 10+120 TO STA. 10+120

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 18 - (MOD.)	SHEET 18 OF 33

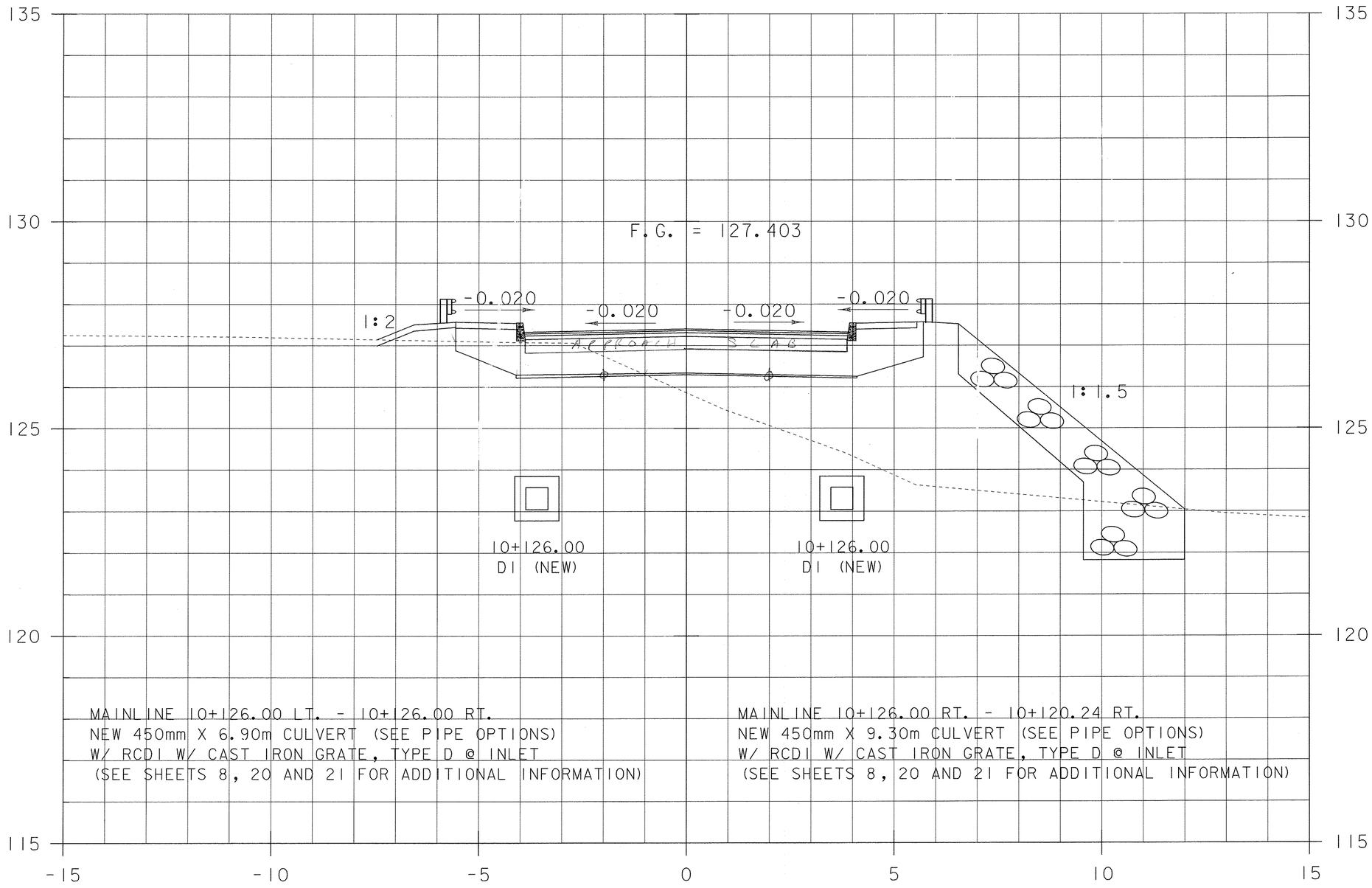
Metric

Concrete 105' = 2.6 ✓

Gravel (back) 306' = 7.7 ✓
(ahead) 390' = 9.8

Sand 0

✓ 10-14-10



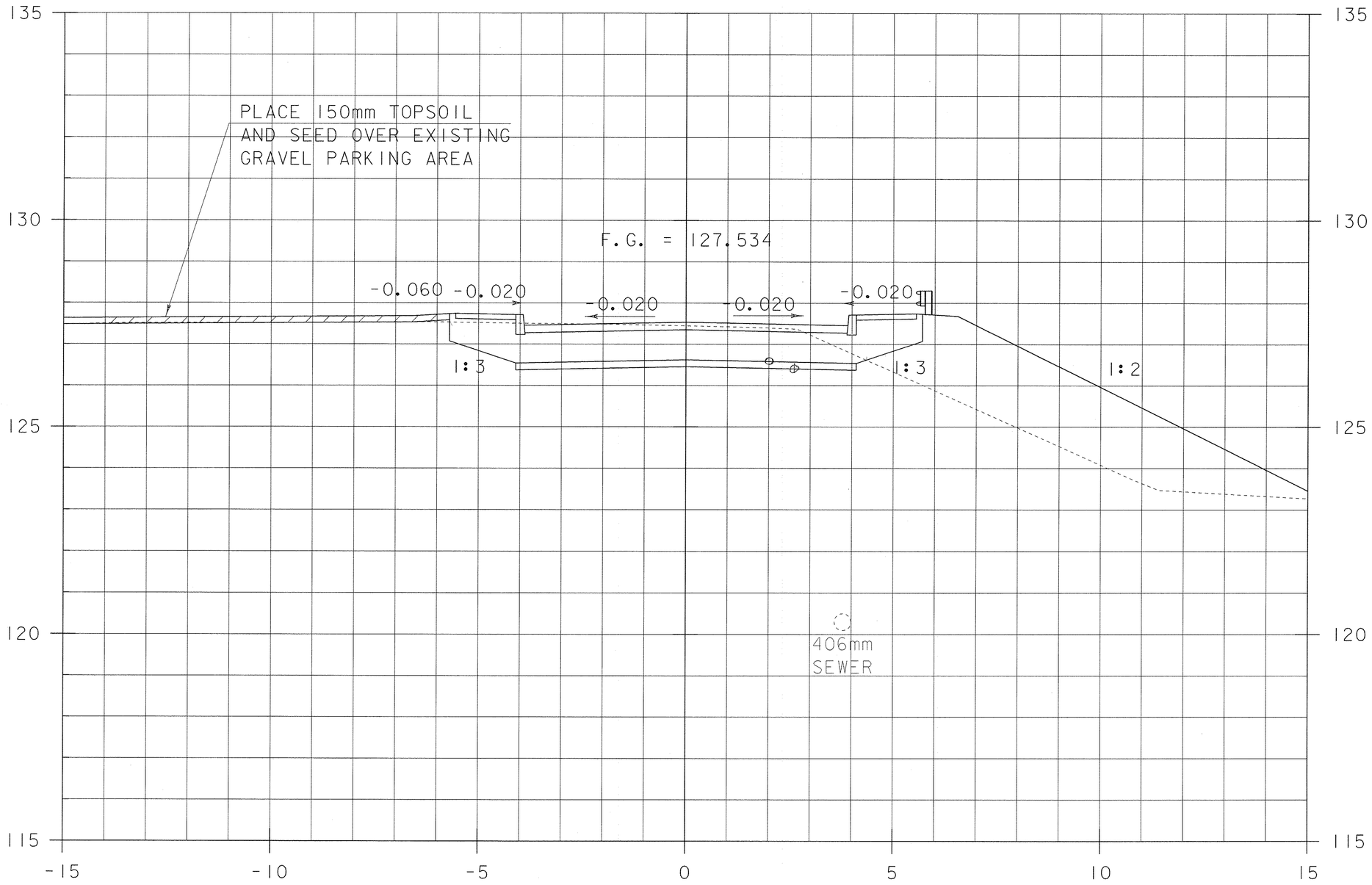
10+125.00 use for 10+124.75
End Approach Slab Back
Begin Sand Berrow

0 1 2 3 4 5
SCALE = 1:50

STA. 10+125 TO STA. 10+125

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 19 - (MOD.)	SHEET 19 OF 33

Metric



Common 382' = 9.6'

Gravel 348' = 8.7'

Sand 0.15 x 8.3 = 1.2'

RKJ 10-14-10

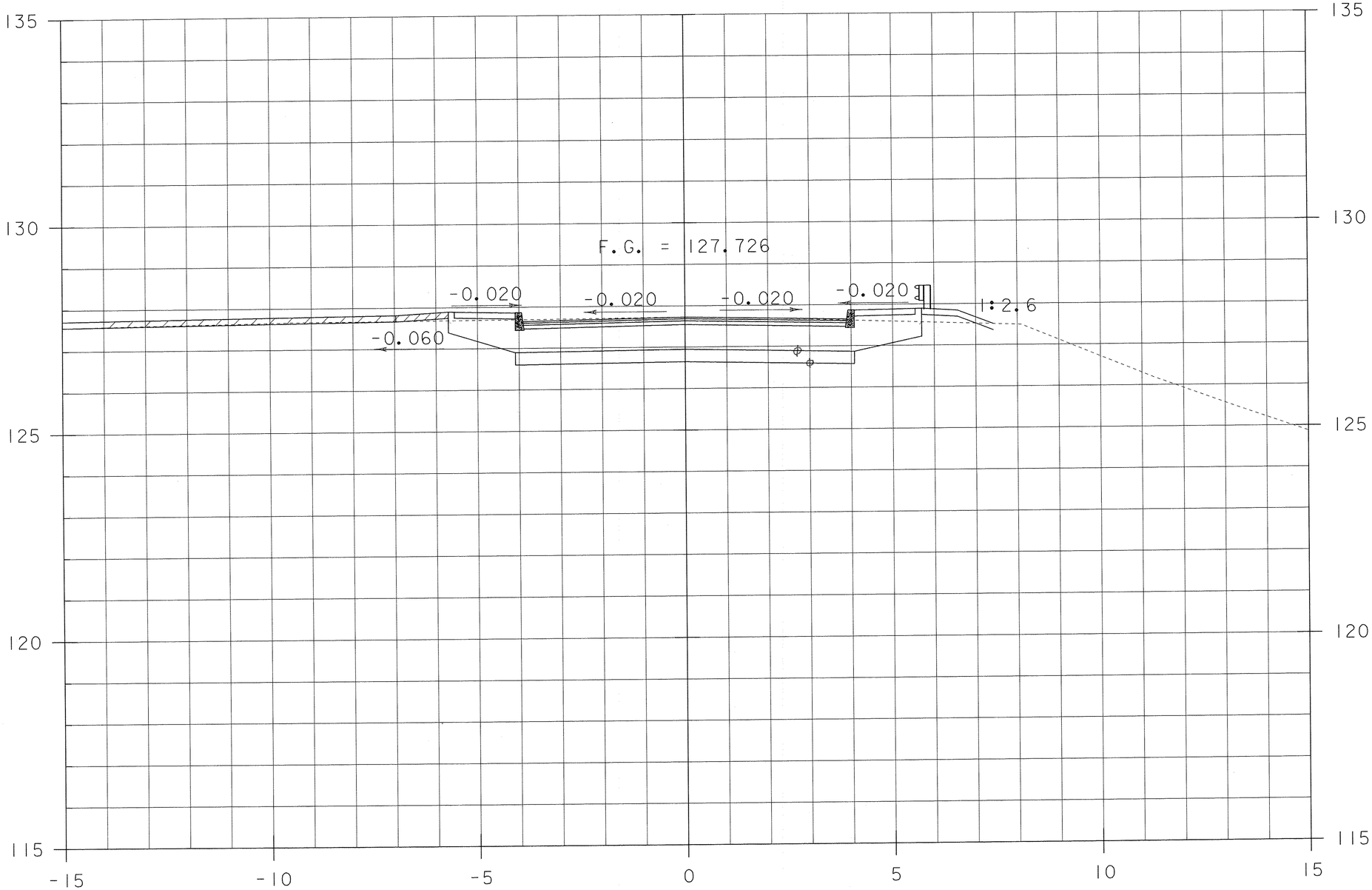
10+130.00

SCALE = 1:50

STA. 10+130 TO STA. 10+130

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 20 - (MOD.)	SHEET 20 OF 33

Metric



Common 411 = 10.3

Gravel 269 = 6.7

Sand 0.3×8.3 = 2.5

RRW 10-14-10
fw 3-25-11

10+135.00

Sand Fill Depth

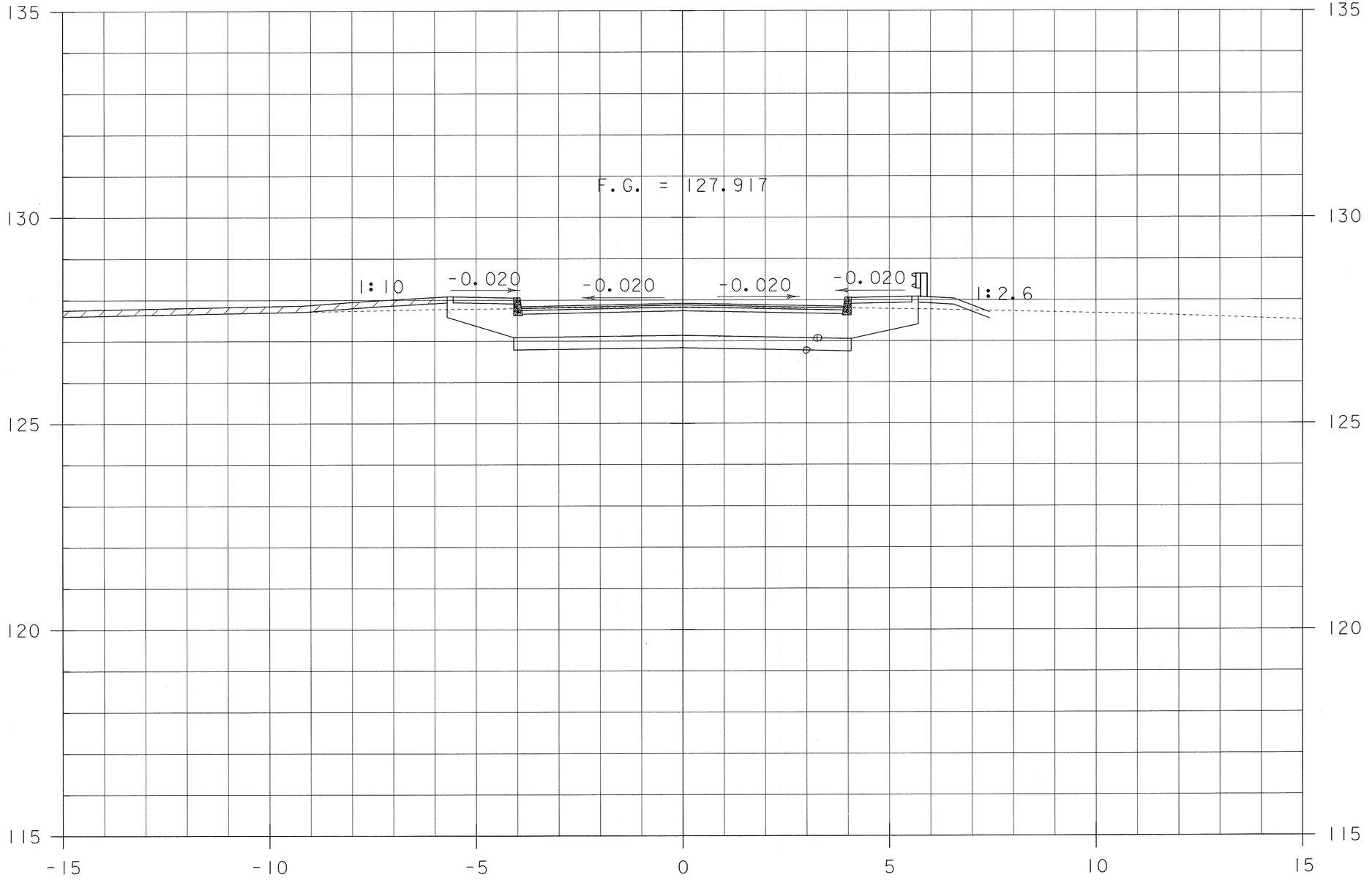
0 1 2 3 4 5

SCALE = 1:50

STA. 10+135 TO STA. 10+135

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 21- (MOD.)	SHEET 21 OF 33

Metric



Common 395' = 9.9'

Gravel 274' = 6.9'

Sand 0.3 x 8.3 = 2.5'

(RRW 10-4-10)

10+140.00

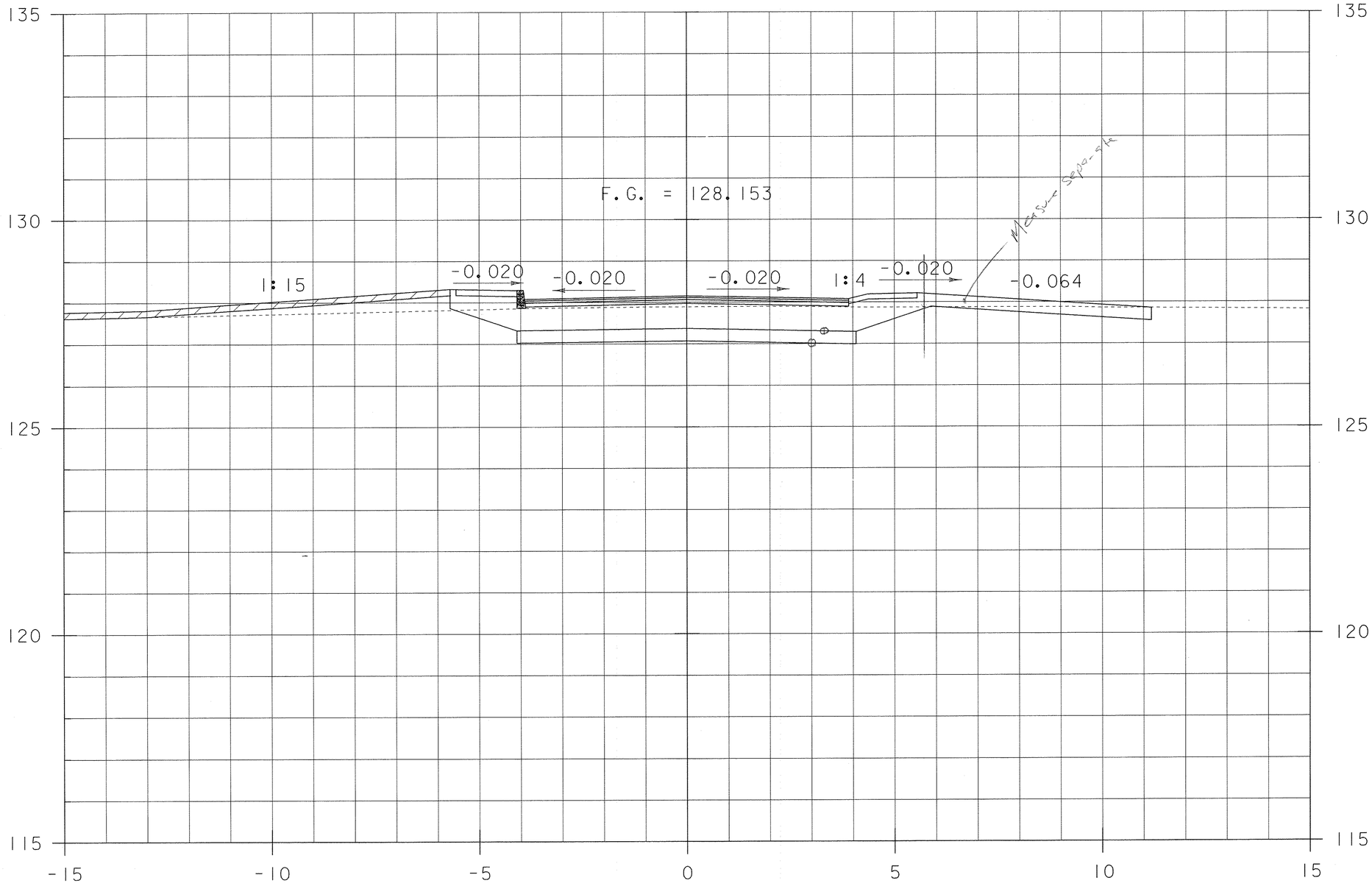
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SCALE = 1:50

STA. 10+140 TO STA. 10+140

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 22 - (MOD.)	SHEET 22 OF 33

VAOT Metric



Common 336 × 8.4

Gravel 288 × 7.2

Sand 0.3 × 8.3 = 2.5

KBJ 10-14-10

STA. 10+145.000 RT
CONSTRUCT DRIVE

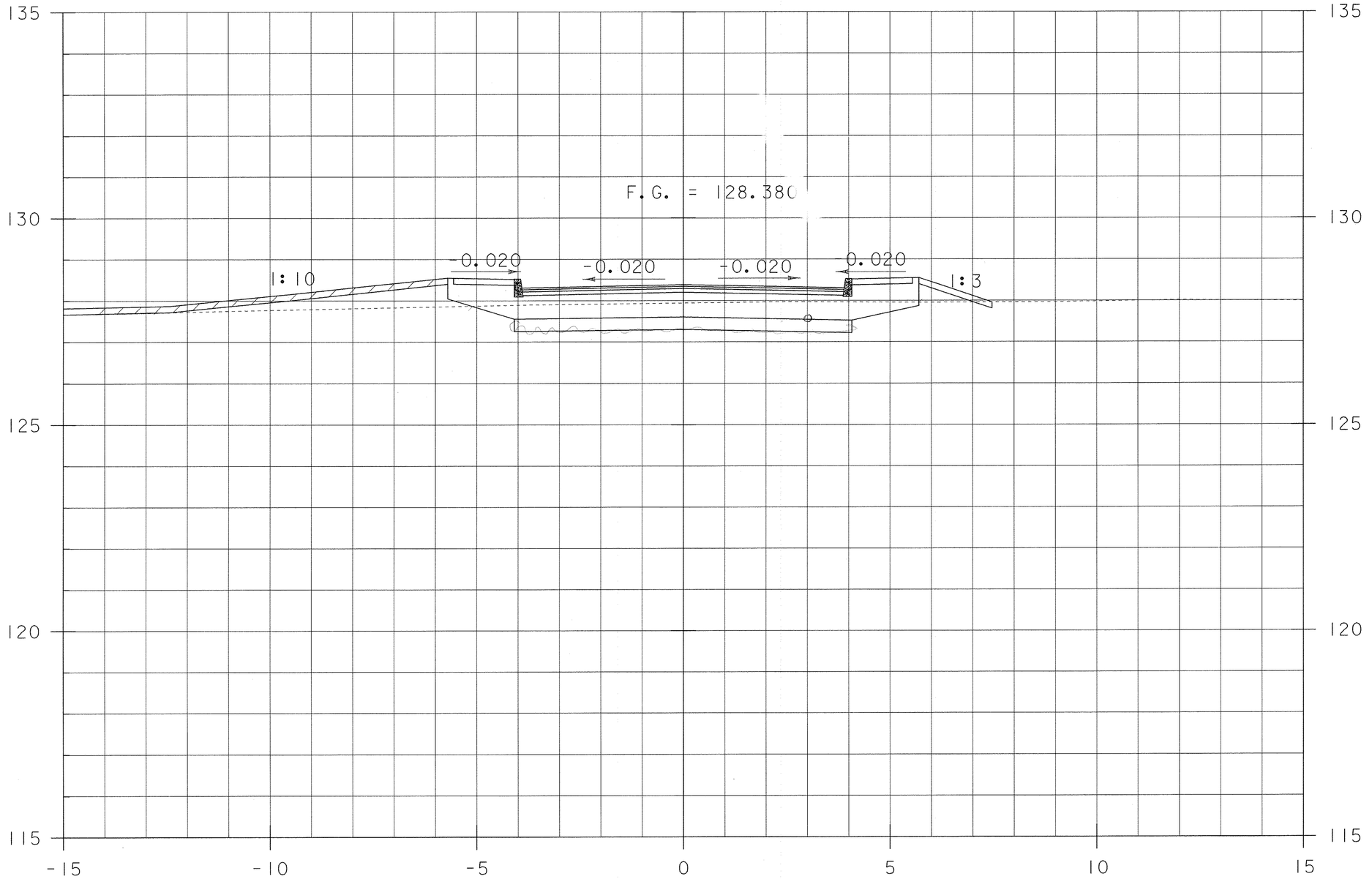
10+145.00
End Full Depth Sand-Begin Tapering Up

SCALE = 1:50

STA. 10+145 TO STA. 10+145

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 23 - (MOD.)	SHEET 23 OF 33

VAOT Metric



Common 146' = 3.7
166' = 4.2
3-29-11

Gravel 292' = 7.3

Sand 0'

ERRED 10-14-10

141
-7.0

STA. 10+150.000
END PROJECT
BEGIN APPROACH

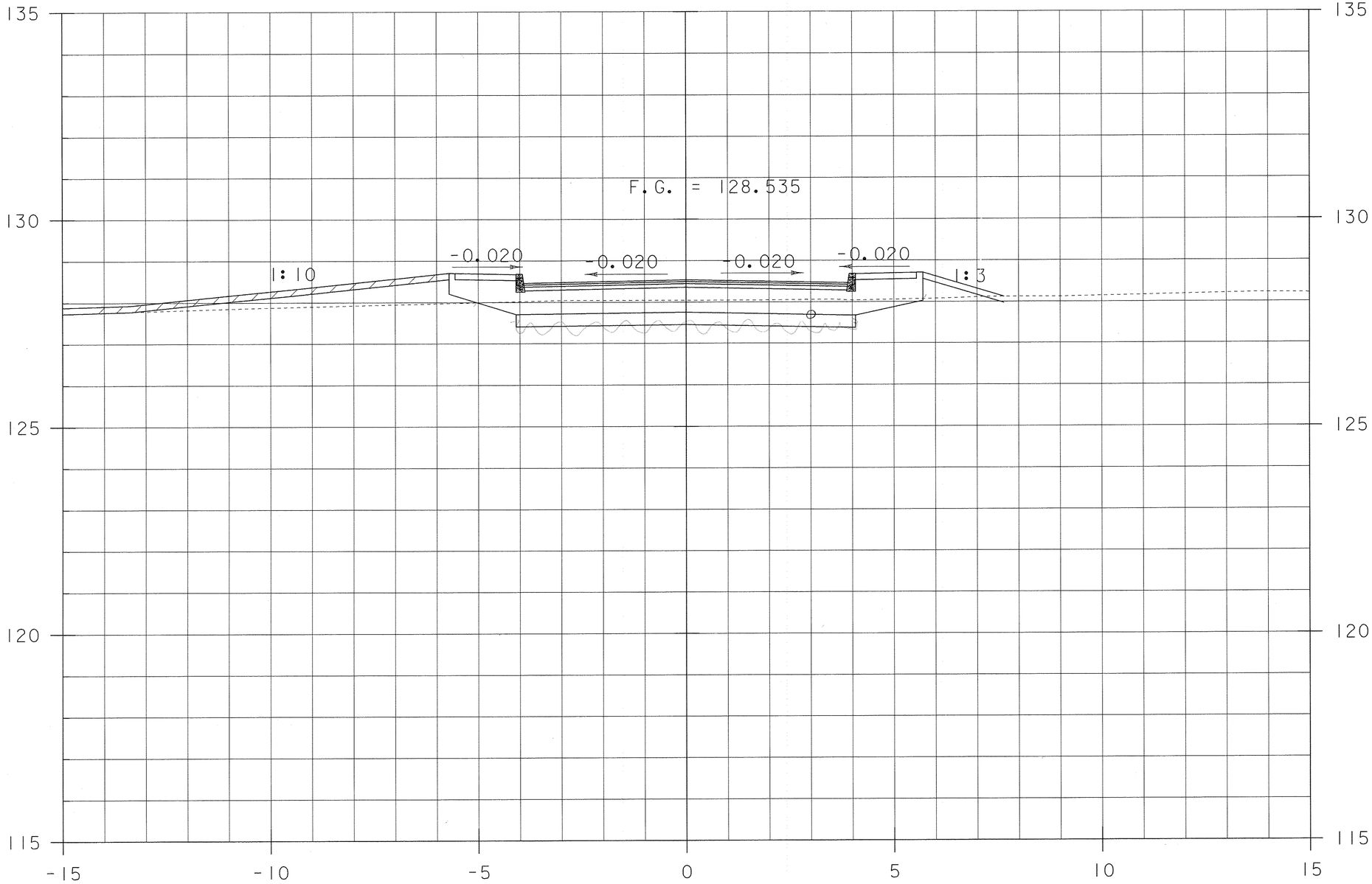
10+150.00
Zero Sand Borrow

0 1 2 3 4 5
SCALE = 1:50

STA. 10+150 TO STA. 10+150

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 24 - (MOD.)	SHEET 24 OF 33

Metric



Common 126' = 3.2

Gravel 278' = 7.0

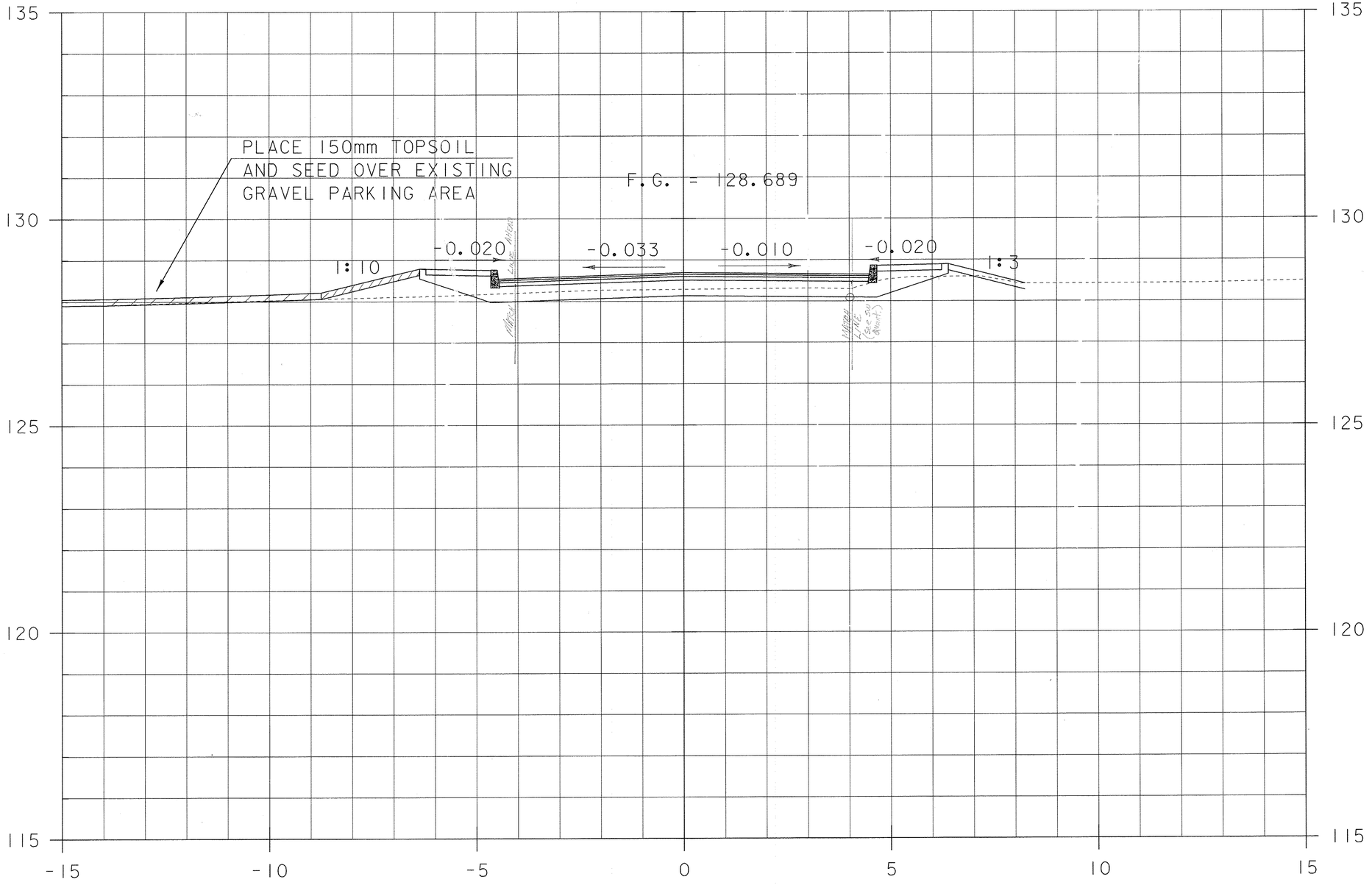
10+155.00

SCALE = 1:50

STA. 10+155 TO STA. 10+155

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 25 - (MOD.)	SHEET 25 OF 33

VAOT Metric



Common (BACK) 94' = 2.4'
(AHEAD) 63 = 1.6'

Gravel (BK) 212' = 5.3'
(AH) 124 = 3.1'
Ref. J 10-14-10

FOR SW QUANTITIES
SEE PAGE #

10+160.00

SCALE = 1:50

STA. 10+160 TO STA. 10+160

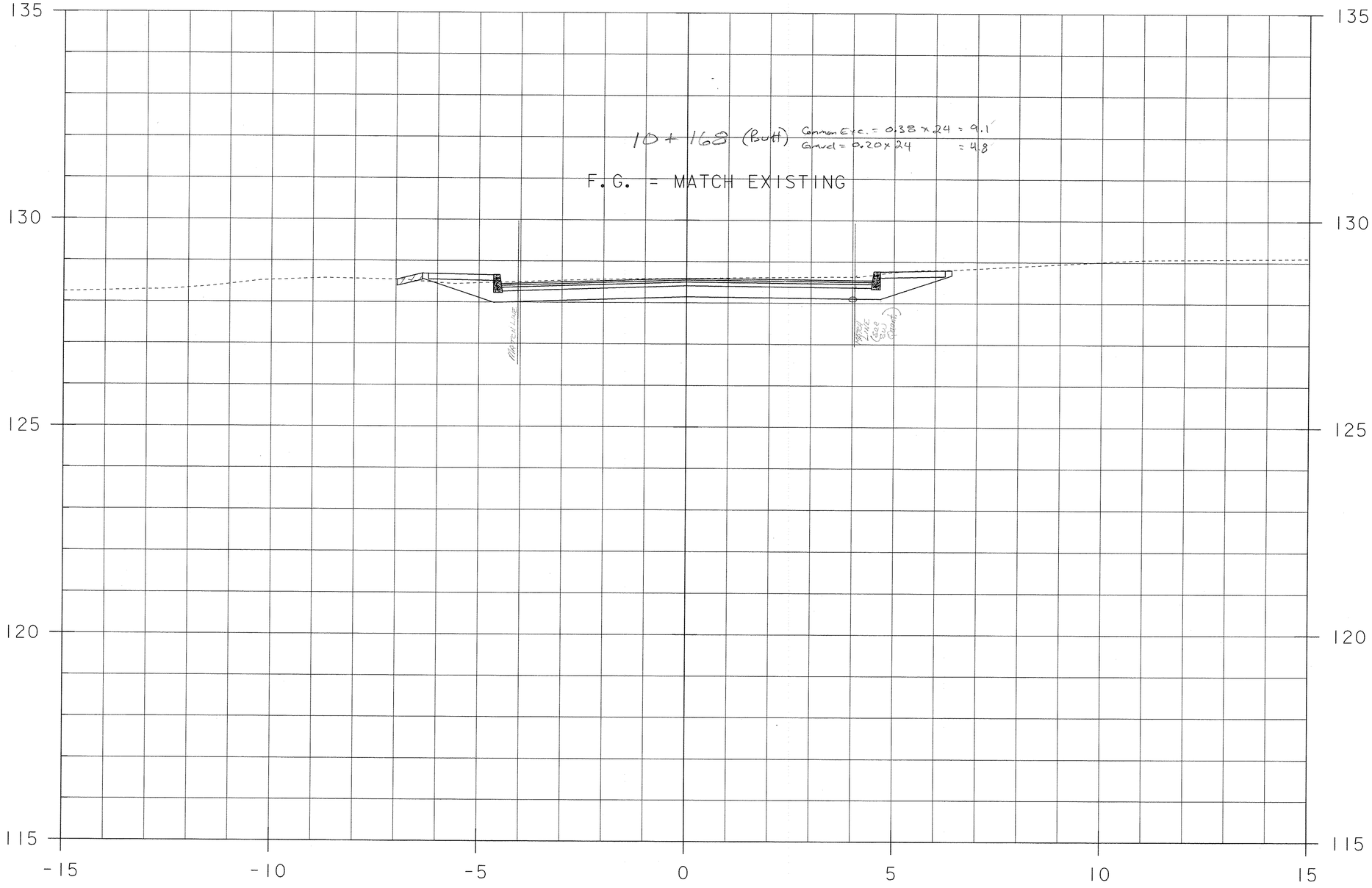
PROJECT NAME:	BRATTLEBORO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 26 - (MOD.)	SHEET 26 OF 33

Metric

Common 158' = 4.0
Gravel 85' = 2.1
Rev 10-14-10
for 3-29-11

10+168 (Both) Common Exc. = 0.38 x 24 = 9.1
Gravel = 0.20 x 24 = 4.8

F.G. = MATCH EXISTING



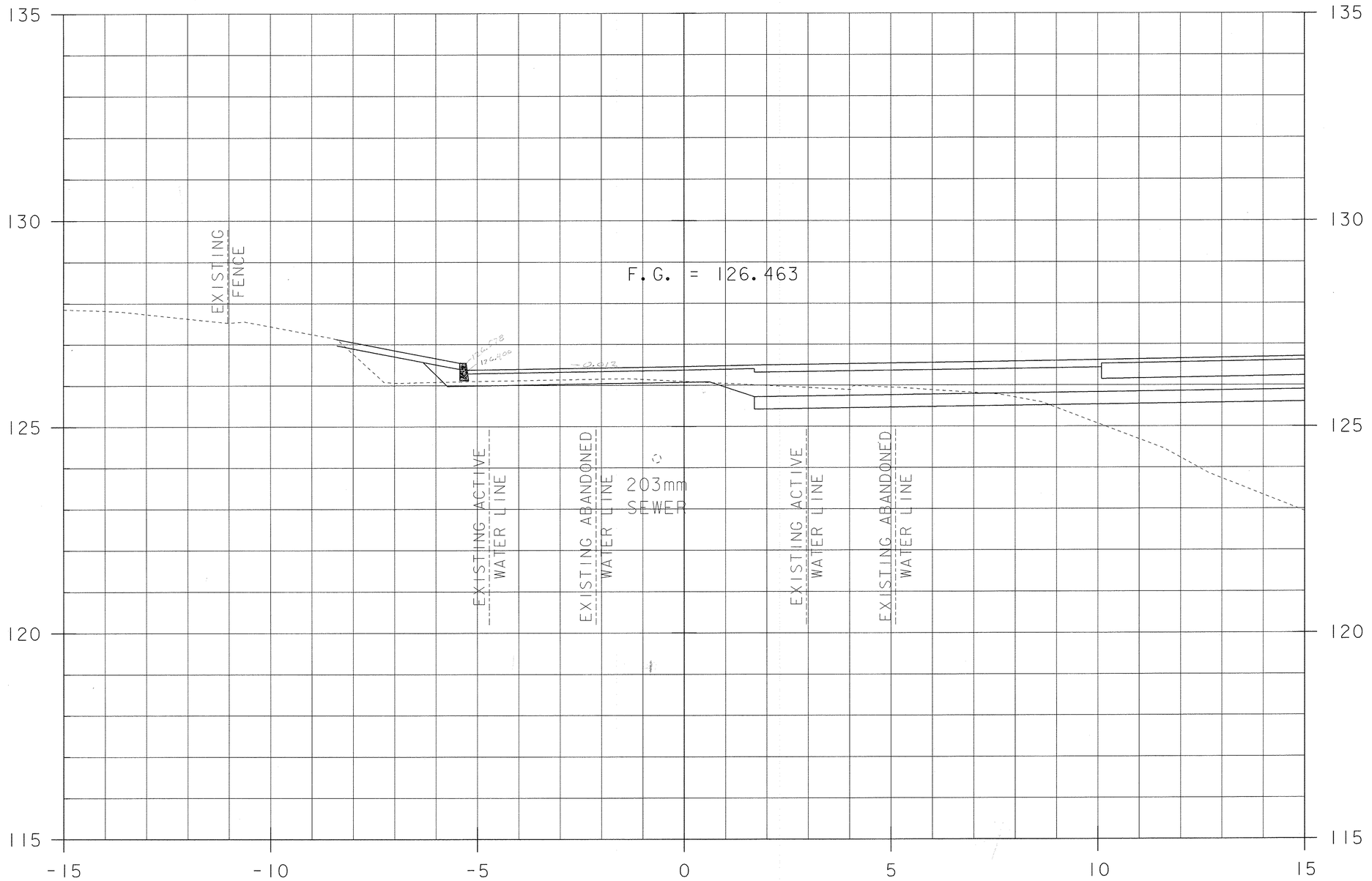
STA. 10+168.024
END APPROACH
MATCH EXISTING

10+165.00

SCALE = 1:50

STA. 10+165 TO STA. 10+165

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
ML X-SECTION 27 - (MOD.)	SHEET 27 OF 33



20+000.00

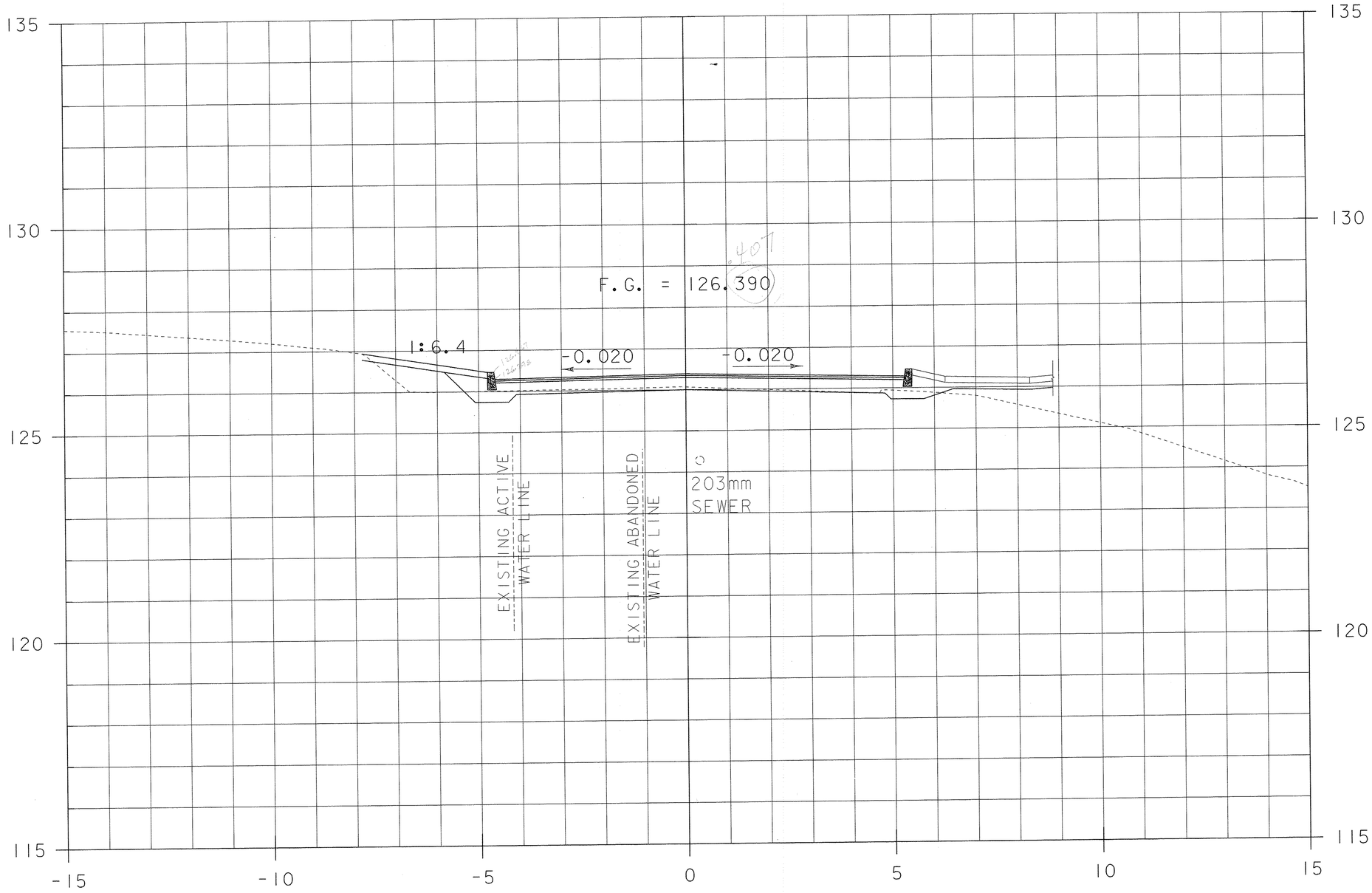
0 1 2 3 4 5

SCALE = 1:50

STA. 20+000 TO STA. 20+000

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
DRIVE X-SECTION 01 - (MOD.)	SHEET 28 OF 33

Metric



20+005.00

SCALE = 1:50

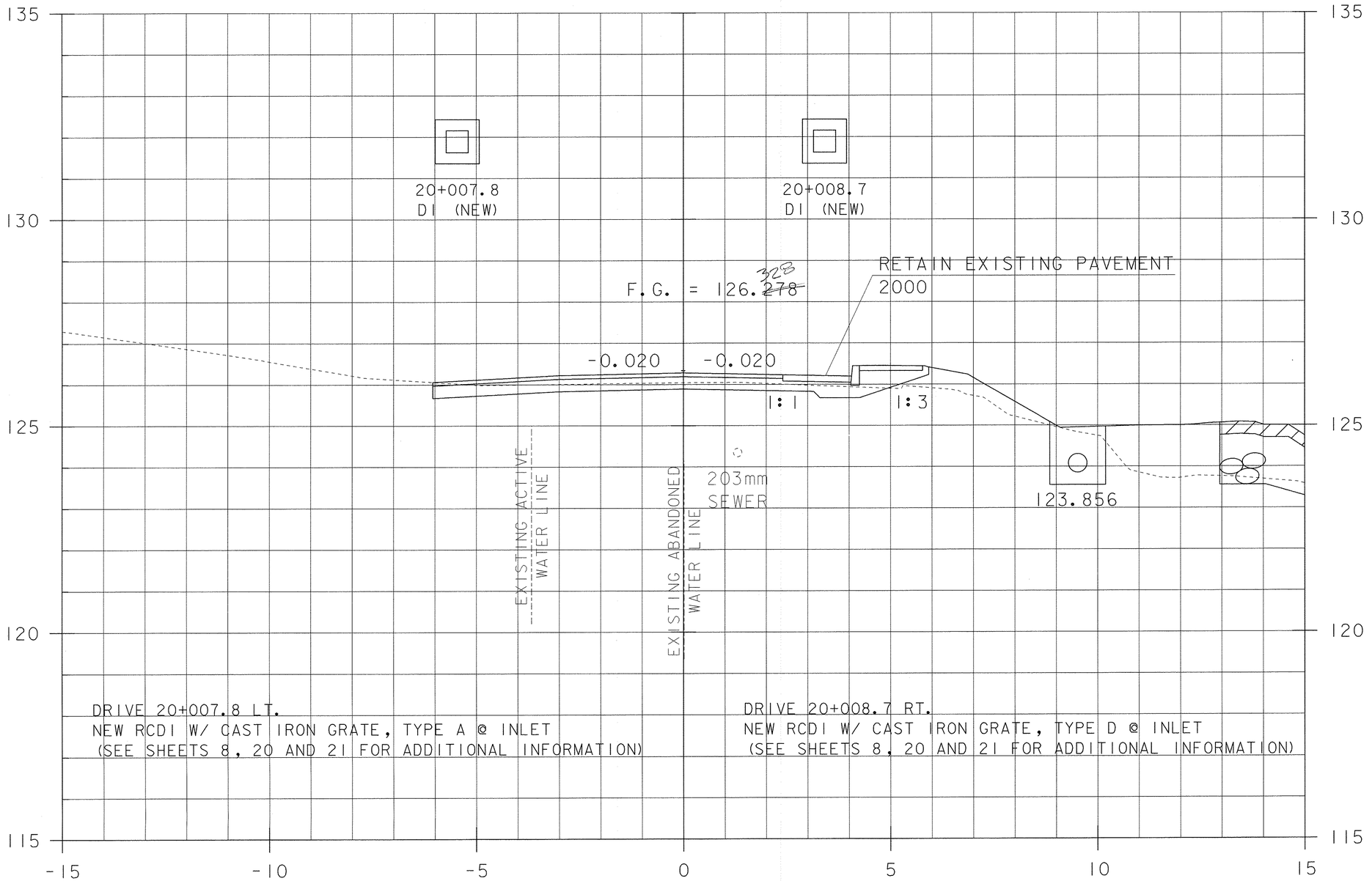
STA. 20+005 TO STA. 20+005

PROJECT NAME: BRATTLEBORRO
PROJECT NUMBER: BRF 2000(21)S

FILE NAME: 96J228/str/sJ228xs_const.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: D. PETERSON
DRIVE X-SECTION 02 - (MOD.)

PLOT DATE: 16-FEB-2010
DRAWN BY: C. MOONEY
CHECKED BY: C. CARLSON
SHEET 29 OF 33

Metric



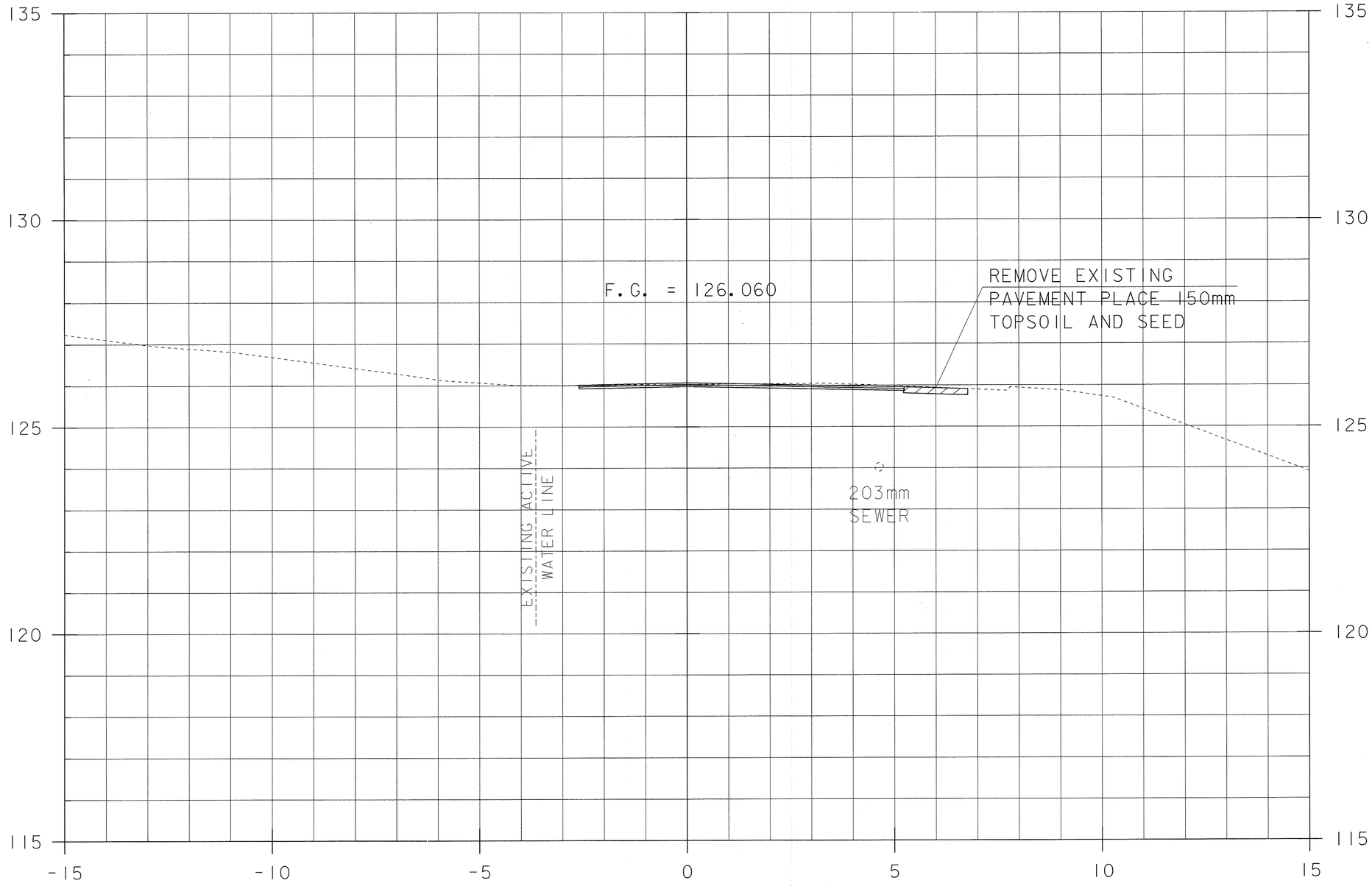
CONSTRUCT PAVED DRIVE
STA. 20+011.50 LT.

20+010.00

0 1 2 3 4 5
SCALE = 1:50

STA. 20+010 TO STA. 20+010

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
DRIVE X-SECTION 03 - (MOD.)	SHEET 30 OF 33



20+015.00

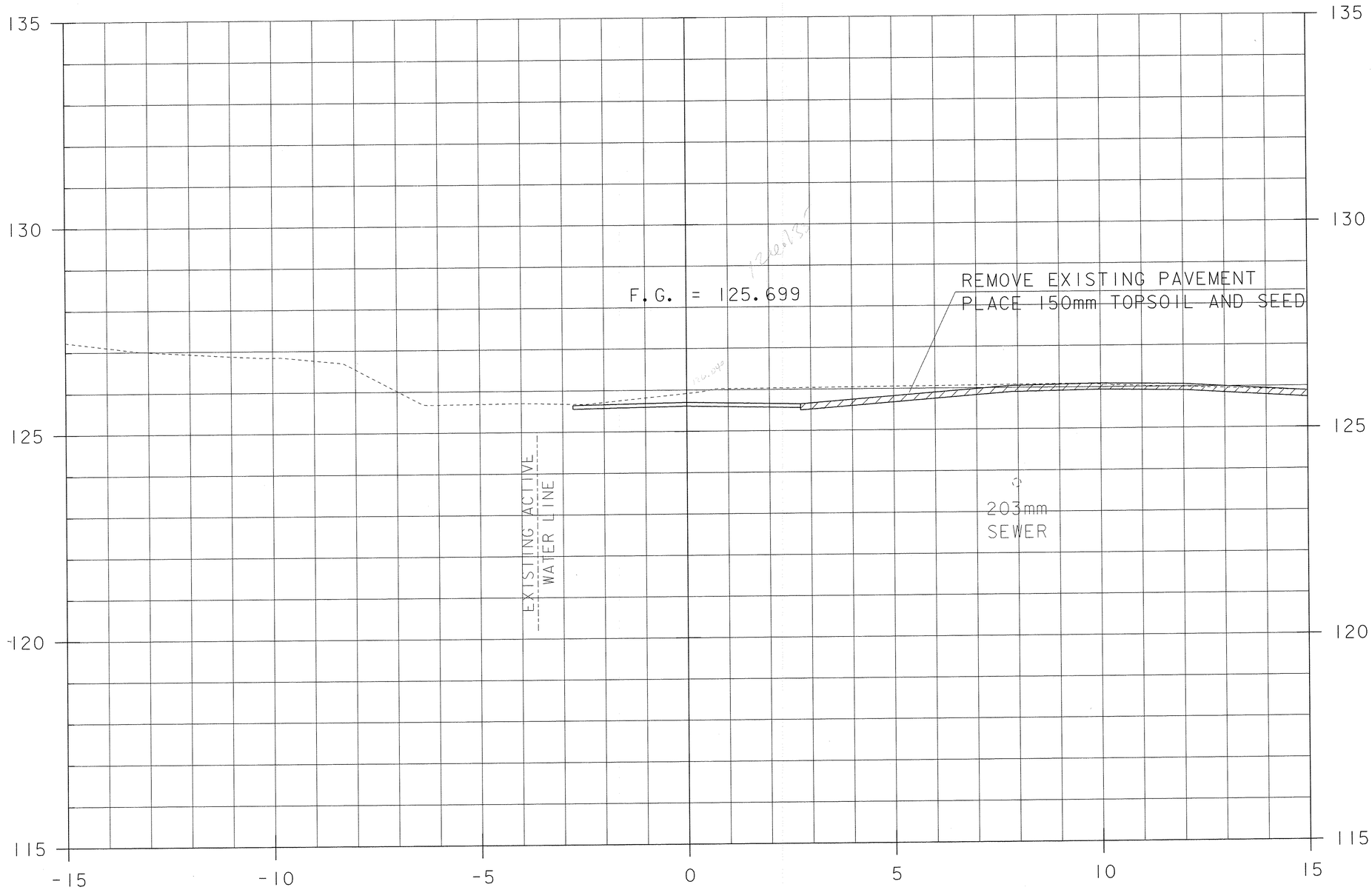
0 1 2 3 4 5

SCALE = 1:50

STA. 20+015 TO STA. 20+015

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sj228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
DRIVE X-SECTION 04 - (MOD.)	SHEET 31 OF 33

Metric



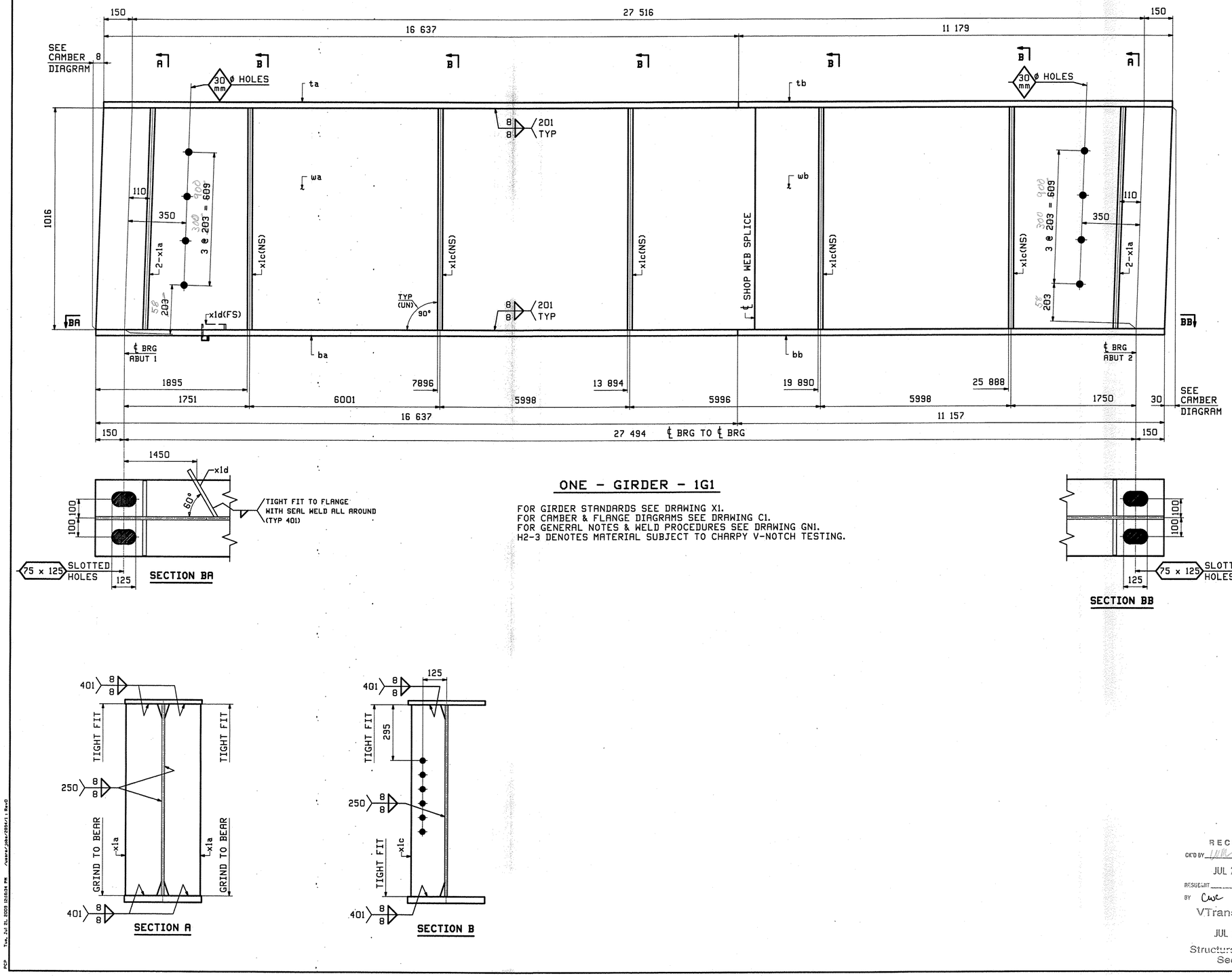
STA. 20+024.00, 2.5m RT.
END DRIVE CONSTRUCTION
MATCH EXISTING GRADE

20+020.00

SCALE = 1:50

STA. 20+020 TO STA. 20+020

PROJECT NAME:	BRATTLEBORRO
PROJECT NUMBER:	BRF 2000(21)S
FILE NAME: 96J228/str/sJ228xs_const.dgn	PLOT DATE: 16-FEB-2010
PROJECT LEADER: C. CARLSON	DRAWN BY: C. MOONEY
DESIGNED BY: D. PETERSON	CHECKED BY: C. CARLSON
DRIVE X-SECTION 05 - (MOD.)	SHEET 32 OF 33



ONE - GIRDER - 1G1

FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1	1		GIRDER				8367 kg 18446 lbs	
1	E		1	wa	PL 14x1016	16	949	M270M-345WT2 (H2-3)		
1	G		1	wb	PL 14x1016	10	883	M270M-345WT2 (H2-3)		
1	J		1	ta	PL 22x406	16	637			
1	L		1	tb	PL 22x406	11	179			
1	A		1	ba	PL 35x406	16	637	M270M-345WT2 (H2-3)		
1	C		1	bb	PL 35x406	11	157	M270M-345WT2 (H2-3)		
2	B		4	x1a	PL 19x190	1	016	MIE		
2	C		5	x1c	PL 13x178	1	016			
2	D		1	x1d	PL 6x85	0	279			

JOB NO. 418 | DRAWING NO. 1 | REV.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 2 2 2009	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16 ø (UN)	NONE

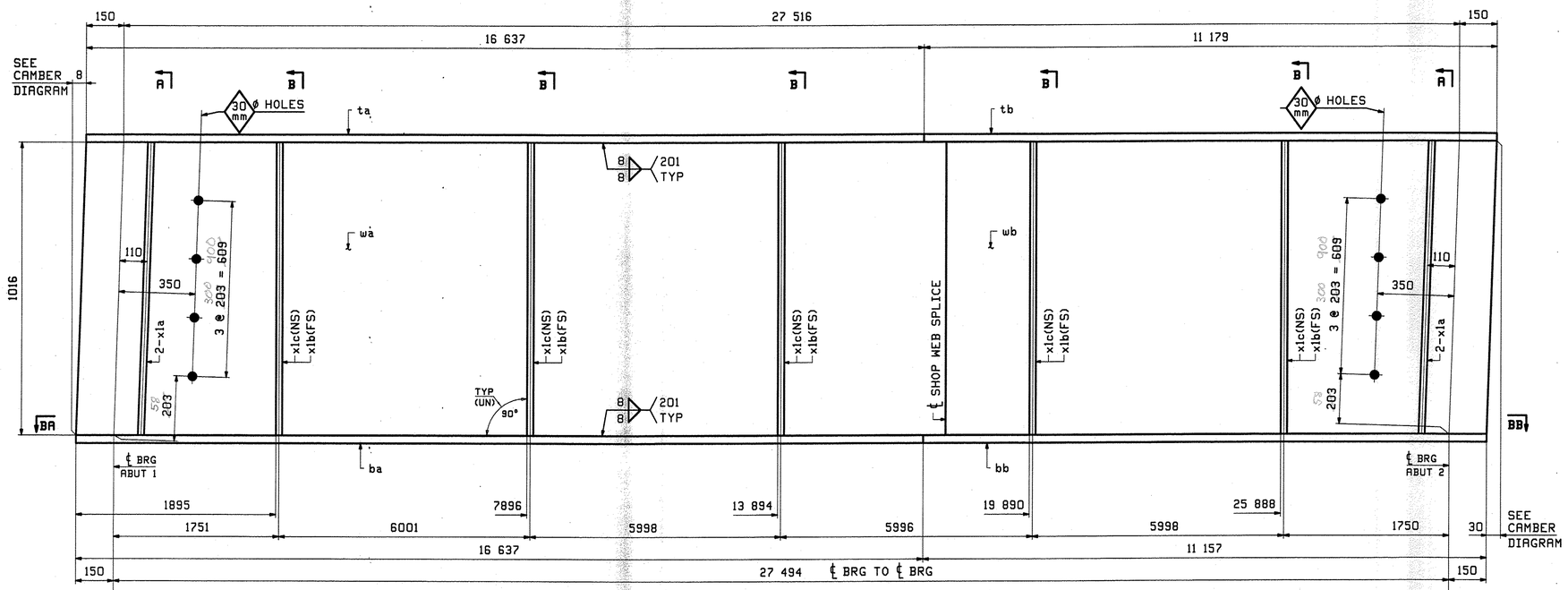
DESCRIPTION: GIRDER - 1G1

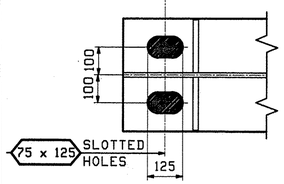
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

STRUCTURE: T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16	
	CHK'D: PCP	DATE: 07/21	
LOCATION: Town of Brattleboro, VERMONT	JOB NO. 418	DWG NO. 1	
PROJ NO. BRF 2000(21)S			
CUSTOMER: VT AOT		REV. 0	

RECEIVED
CK'D BY LWK OK'D BY DRB
JUL 29 2009
RESUBMIT ____ APPROVED AS NOTED
BY Cwc DATE 8.14.09
VTrans - PDD
JUL 29 2009
Structures Design Section

PCP Tue, Jul 21, 2009 03:53:24 PM //users/jobs/2894/1 Rev0

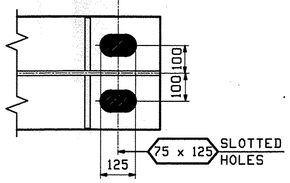




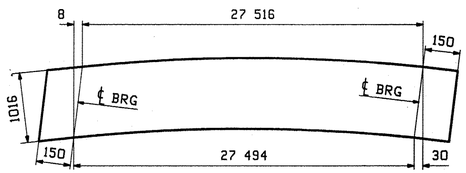
SECTION BA

ONE - GIRDER - 2G2

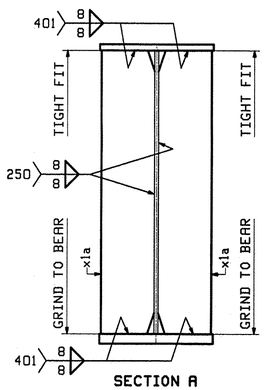
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



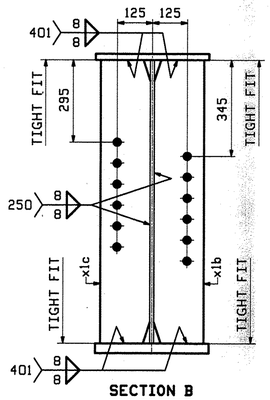
SECTION BB



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1



SECTION A



SECTION B

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2	1		GIRDER				8458 kg 18646 lb	
1	E		1	wa	PL 14x1016	16	949	M270M-345WT2 (H2-3)		
1	G		1	wb	PL 14x1016	10	883	M270M-345WT2 (H2-3)		
1	J		1	ta	PL 22x406	16	637			
1	L		1	tb	PL 22x406	11	179			
1	A		1	ba	PL 35x406	16	637	M270M-345WT2 (H2-3)		
1	C		1	bb	PL 35x406	11	157	M270M-345WT2 (H2-3)		
2	B		4	x1a	PL 19x190	1	016	MIE		
2	C		5	x1b	PL 13x178	1	016			
2	C		5	x1c	PL 13x178	1	016			

RECEIVED
OK'D BY WM OK'D BY DRP
JUL 22 2009
RESUBMIT ___ APPROVED AS NOTED
BY cwc DATE 8.11.09
VTrans - PDD
JUL 29 2009
Structures Design Section

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 22 2009	

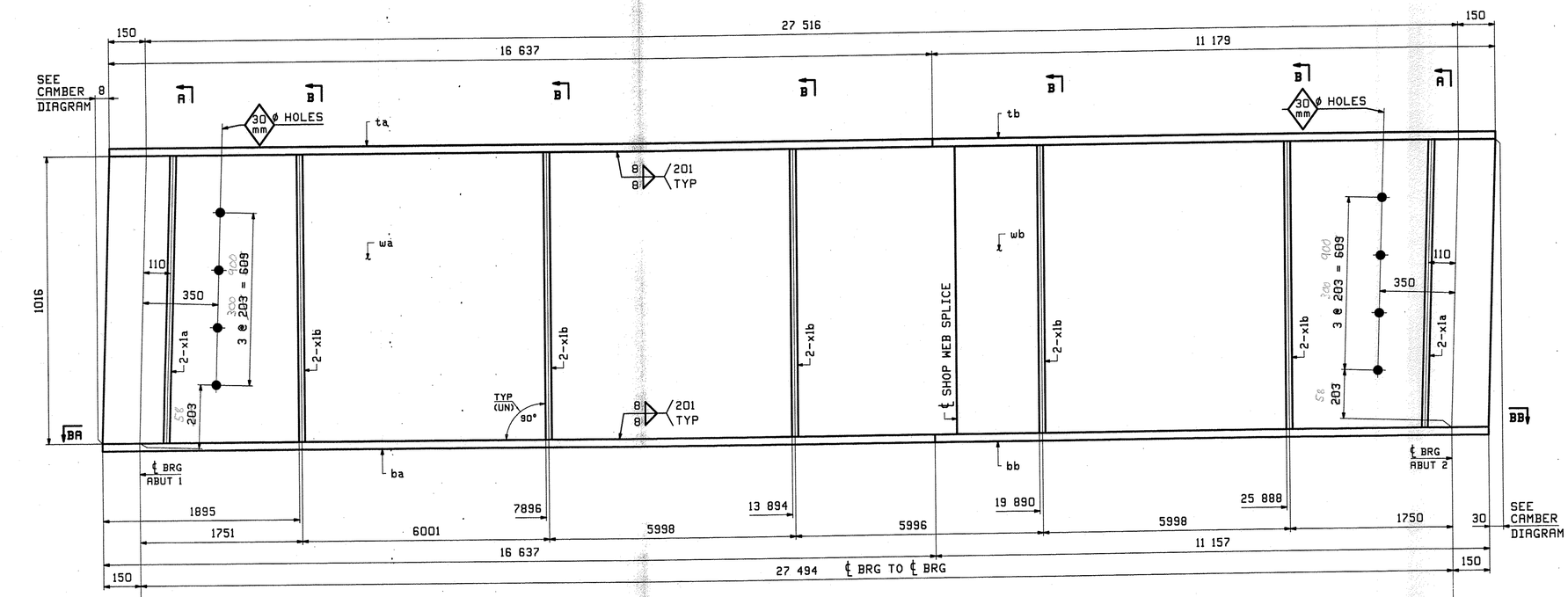
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16" Ø (UN)	NONE

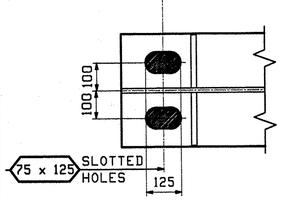
DESCRIPTION: GIRDER - 2G2

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2694

STRUCTURE: T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16	
	CHKD: PCP	DATE: 07/21	
LOCATION: Town of Brattleboro, VERMONT	JOB NO. 418	DWG NO. 2	
PROJ NO. BRF 2000(21)S		REV. △	
CUSTOMER: VT AOT			

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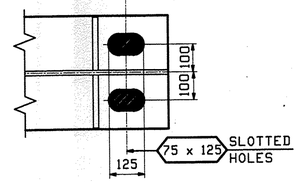




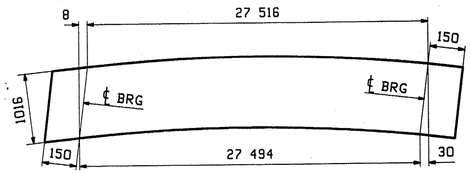
SECTION BA

ONE - GIRDER - 3G3

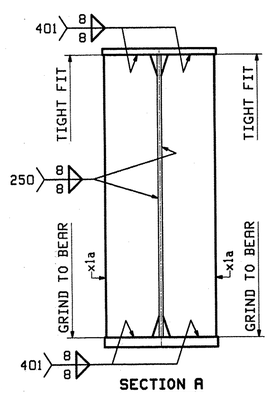
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



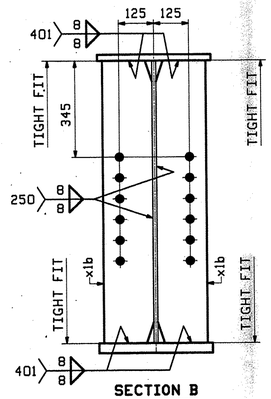
SECTION BB



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1



SECTION A



SECTION B

ABM INFO PAGE	ABM INFO LINE	SHIP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G3	1		GIRDER				8458 kg 18646 lb	
1	E		1	wa	PL 14x1016	16	949	M270M-345WT2 (H2-3)		
1	G		1	wb	PL 14x1016	10	883	M270M-345WT2 (H2-3)		
1	J		1	ta	PL 22x406	16	637			
1	L		1	tb	PL 22x406	11	179			
1	A		1	ba	PL 35x406	16	637	M270M-345WT2 (H2-3)		
1	C		1	bb	PL 35x406	11	157	M270M-345WT2 (H2-3)		
2	B		4	x1a	PL 19x190	1	016	MIE		
2	C		10	x1b	PL 13x178	1	016			

BILL OF MATERIAL — JOB NO. 418 — DRAWING NO. 3 — REV.

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JUL 29 2009
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BY Cwc DATE 8-11-09
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JUL 29 2009
Structures Design Section

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
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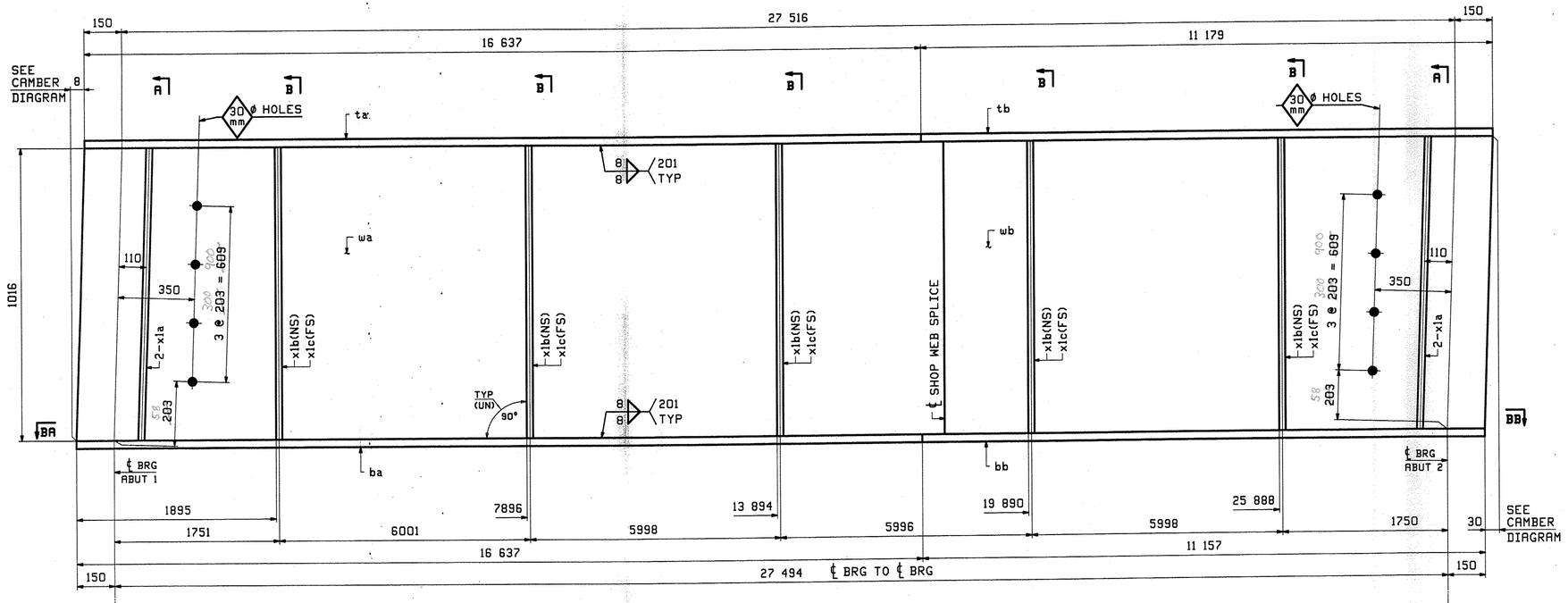
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16" ϕ (UN)	NONE

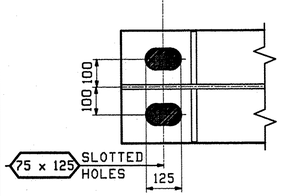
DESCRIPTION: GIRDER - 3G3

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

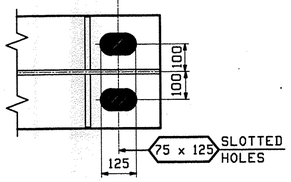
STRUCTURE: T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16	
	CHKD: PCP	DATE: 07/21	
LOCATION: Town of Brattleboro, VERMONT	JOB NO. 418	DWG NO. 3	
PROJ NO. BRF 2000(21)S		REV. △	
CUSTOMER: VT AOT			

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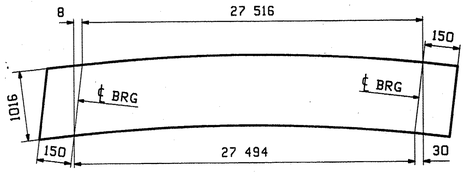
SECTION BA



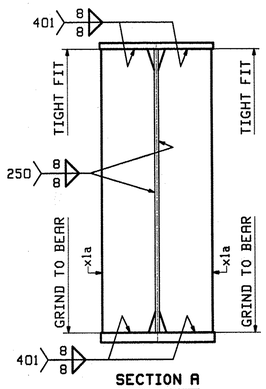
SECTION BB

ONE - GIRDER - 4G4

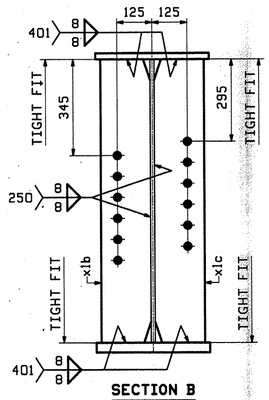
FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1



SECTION A



SECTION B

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		4G4	1		GIRDER				8458 kg 18646 lbs	
1	E		1	wa	PL 14x1016	16	949	M270M-345WT2 (H2-3)		
1	G		1	wb	PL 14x1016	10	883	M270M-345WT2 (H2-3)		
1	J		1	ta	PL 22x406	16	637			
1	L		1	tb	PL 22x406	11	179			
1	A		1	ba	PL 35x406	16	637	M270M-345WT2 (H2-3)		
1	C		1	bb	PL 35x406	11	157	M270M-345WT2 (H2-3)		
2	B		4	x1a	PL 19x190	1	016	MIE		
2	C		5	x1b	PL 13x178	1	016			
2	C		5	x1c	PL 13x178	1	016			

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JUL 29 2009
RESUBMIT ____ APPROVED AS NOTED
BY ____ DATE 8.14.09
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JUL 29 2009
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REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
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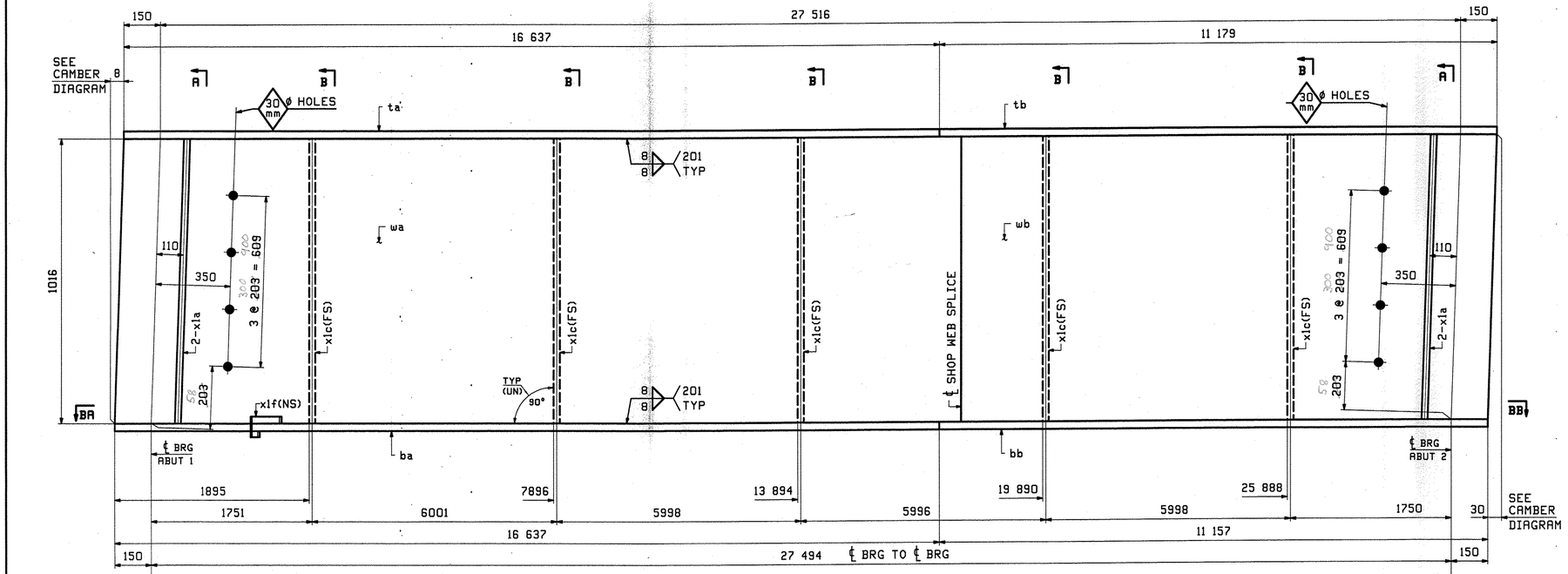
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16"ø (UN)	NONE

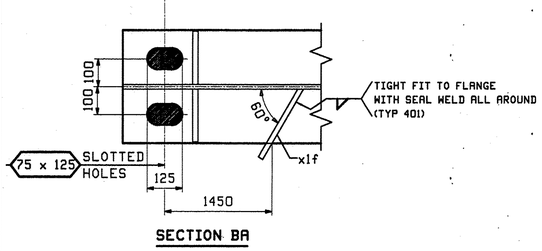
DESCRIPTION: GIRDER - 4G4

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2694

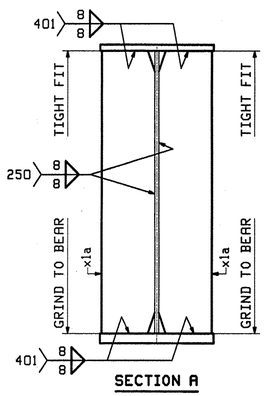
STRUCTURE:	T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16
		CHK'D: PCP	DATE: 07/21
LOCATION:	Town of Brattleboro, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRF 2000(21)S	418	4
CUSTOMER:	VT AOT		REV. △

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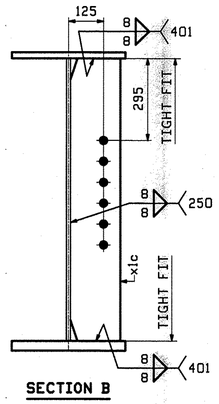




SECTION BA



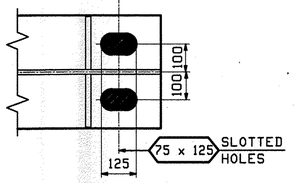
SECTION A



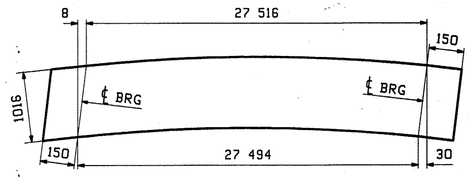
SECTION B

ONE - GIRDER - 5G5

FOR GIRDER STANDARDS SEE DRAWING X1.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BB



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG C1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								418	5	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5	1		GIRDER				8367 kg 8446 lbs	
1	E		1	wa	PL 14x1016	16	949	M270M-345WT2 (H2-3)		
1	G		1	wb	PL 14x1016	10	883	M270M-345WT2 (H2-3)		
1	J		1	ta	PL 22x406	16	637			
1	L		1	tb	PL 22x406	11	179			
1	A		1	ba	PL 35x406	16	637	M270M-345WT2 (H2-3)		
1	C		1	bb	PL 35x406	11	157	M270M-345WT2 (H2-3)		
2	B		4	x1a	PL 19x190	1	016	MIE		
2	C		5	x1c	PL 13x178	1	016			
2	D		1	x1f	PL 6x85	0	279			

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BY [signature] DATE 8.14.09
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JUL 29 2009
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REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 22 2009	

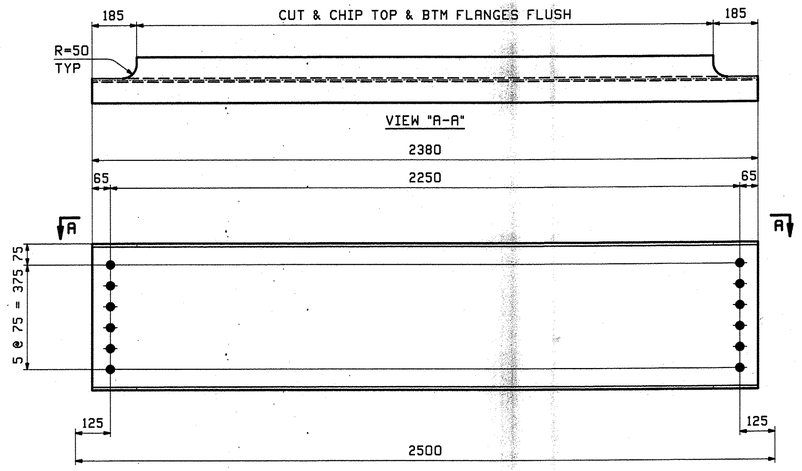
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	SEE DWG GN1	15/16" ø (UN)	NONE

DESCRIPTION: GIRDER - 5G5

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2694

STRUCTURE:	T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16
		CHKD: PCP	DATE: 07/21
LOCATION:	Town of Brattleboro, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRF 2000(21)S	418	5
CUSTOMER:	VT AOT		REV. △

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20~ INT. DIAPHRAGMS - 6D1

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								418	6	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					INT DIAPHRAGMS					
2	G	6D1	20		W 530x65.5	2	380		156 kg 343 lbs	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 22 2009	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	$\frac{15}{16}$" ø	NONE

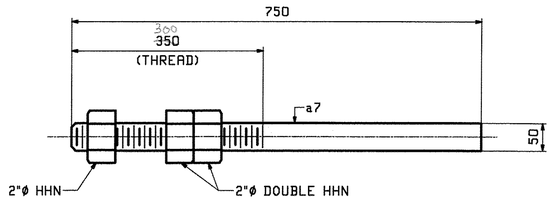
DESCRIPTION: DIAPHRAGMS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

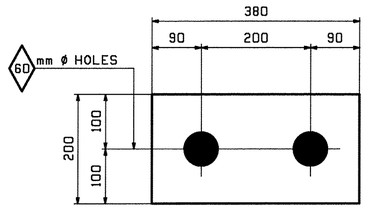
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	CHKD: PCP	DATE: 07/21
LOCATION: Town of Brattleboro, VERMONT	JOB NO.	DWG NO.
PROJ NO. BRF 2000(21)S	418	6
CUSTOMER: VT AOT		REV. △

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JUL 29 2009
RESUBMIT ____ APPROVED ____
BY ____ DATE 8-11-09
VTrans - PDD
JUL 29 2009
Structures Design Section

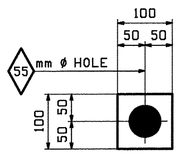
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20 - ANCHOR BOLTS - 7AB1



10 - LEVELING PLATES - 7P1



40 - PLATE WASHERS - 7P2

ABM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
									7	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		7AB1	20		ANCHOR BOLTS				12 kg 26 lbs	
3	B		20	a7	ROD 30	0	750	CLASS 8.8 A568M		
3	F		20		2"DIA HHN			A563M		
3	G		40		2"DIA DBL HHN			A563M		
		7P1	10		LEVELING PLATES				21 kg 46 lbs	
3	C		10		PL 35x200	0	380			
		7P2	40		PLATE WASHERS				1 kg 2 lbs	
3	D		40		PL 13x100	0	100			

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AUG 11 2009
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BY CWC DATE 8.14.09

NEW DRAWING PER EXTRA-TEC-2894001-F

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
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MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
AS NOTED	SEE DWG GN1	AS NOTED	NONE

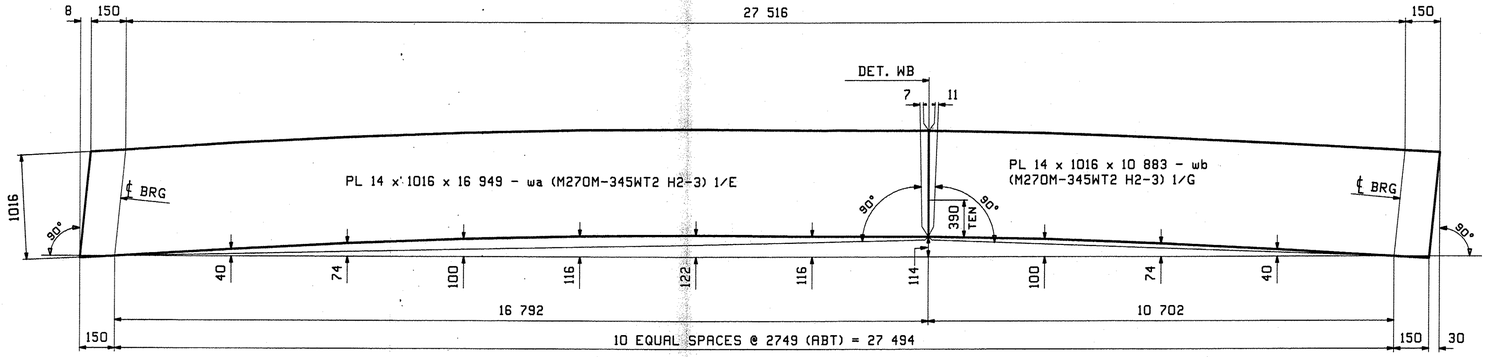
DESCRIPTION: LEVELING PLATES, PLATE WASHERS & ANCHOR BOLTS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

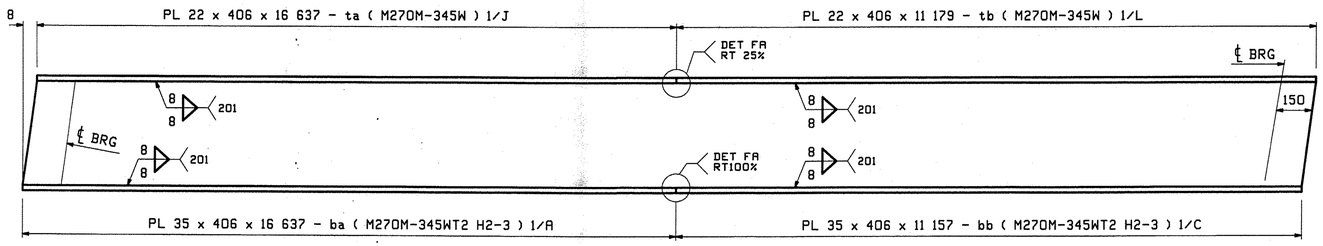
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T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	WJF	08/07
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LOCATION: Town of Brattleboro, VERMONT	JOB NO. 418	DWG NO. 7
PROJ NO. BRF 2000(21)S		REV. △
CUSTOMER: VT AOT		

ALL MATERIAL TO BE 270 U.N.

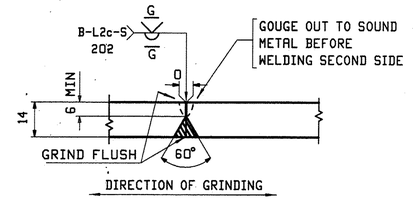
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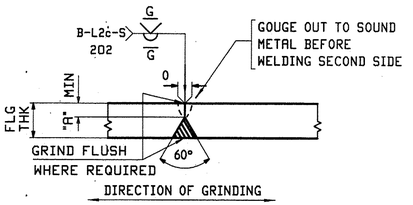
CAMBER DIAGRAM FOR 1G1 THRU 5G5



FLANGE DIAGRAM FOR 1G1 THRU 5G5



WEB PLATE SPLICE DETAIL "WA"



FLANGE PLATE SPLICE DETAIL "FA"

FLG THK	"A"
22	6
35	10

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 22 2009	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W(UN)	AS NOTED ON GN1		

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

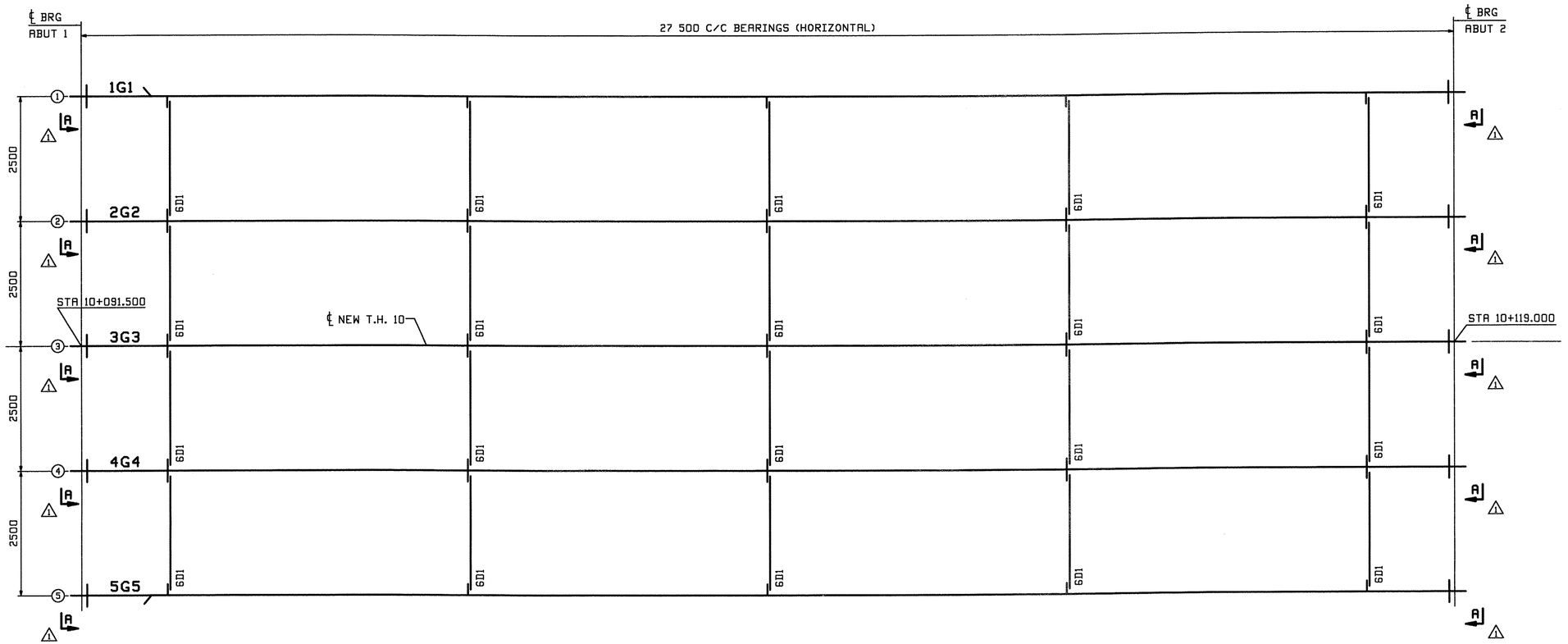
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

TENSOR 2894

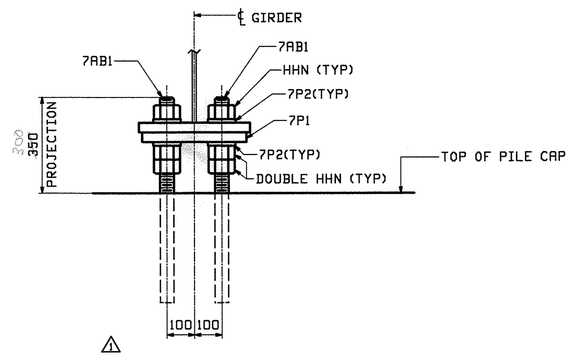
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	CHKD: PCP	DATE: 07/21
LOCATION: Town of Brattleboro, VERMONT	JOB NO. 418	DWG NO. C1
PROJ NO. BRF 2000(21)S		REV. △
CUSTOMER: VT AOT		

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FRAMING PLAN



1 SECTION - A

FIELD BOLT LIST							A325 Type 3 BOLTS							
LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS / CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														**INT. DIAPHRAGMS**
2	240	7/8	2 1/4	6	40	22	9	13					1	DIAPHRAGM WEB TO CONN. PLATE

WASHER CODES

1: 1 Hard Flat Washer

FIELD BOLT SUMMARY		EXACT COUNT - NONE EXTRA				
LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	240	7/8	A325 Type 3	2 1/4	240	
2						
3	240	Hard Flat Washers for 7/8 ϕ BOLT			F436-3	
4						
5						
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RECEIVED
OK'D BY WBL OK'D BY DRB
AUG 11 2009
RESUBMIT ____ APPROVED AS NOTED
BY CuC DATE 8.14.09

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	08/07/2009	ADDED ANCHOR BOLTS (EXTRA-TEC-2894001-F)	WJF	PCP		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: | SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

STRUCTURE:	T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16
		CHK'D: PCP	DATE: 07/21
LOCATION:	Town of Brattleboro, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRF 2000(21)S	418	E1
CUSTOMER:	VT AOT		REV. 1

WJF Mon, Aug 10, 2009 08:14 PM J:\steel\jobs\2894\E1.dwg

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006 WITH LATEST REVISIONS AND THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS FOR HIGHWAY BRIDGES DATED 2007 AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1). UNLESS OTHERWISE NOTED, ALL STEEL TO BE AASHTO M270M (ASTM A709M) GRADE 345W.

2). MATERIAL NOTED "CVN", "H2-3" ON DETAIL DRAWINGS SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF VERMONT STANDARD SPECIFICATIONS SECTION 714.01.

3). HIGH STRENGTH BOLTS: $\frac{7}{8}$"ø ASTM A325 (AASHTO M164) TYPE 3 IN $\frac{15}{16}$"ø HOLES.
NUTS SHALL BE A563 (AASHTO M291) GRADE C3.
BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.
DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE.

WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 08 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

4). SEE DETAIL "WS1" ON THIS DRAWING FOR WELD TERMINATION DETAIL.

CLEANING

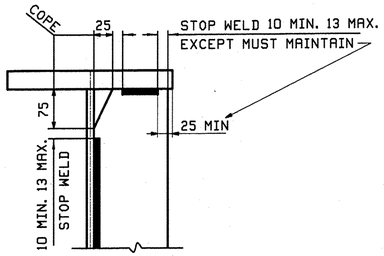
1. ALL STEEL SHALL BE BLAST CLEANED IN ACCORDANCE WITH SSPC SP-10.
2. STRUCTURAL STEEL SHALL NOT BE PAINTED.

FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 TYPE 3 BOLTS (UN), INSTALLED PER SECTION 506.19(c). SEE DWG E1 FOR FIELD BOLT SIZES.

2). BOLTS SHALL HAVE HEAVY HEX NUT, HEAVY HEX HEAD, AND AT LEAST ONE FLAT WASHER EACH. WASHER TO BE PLACED UNDER TURNED ELEMENT.

3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.



DETAIL "WS1"

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BY CWC DATE 8.14.09
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JUL 29 2009
Structures Design Section

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 22 2009	

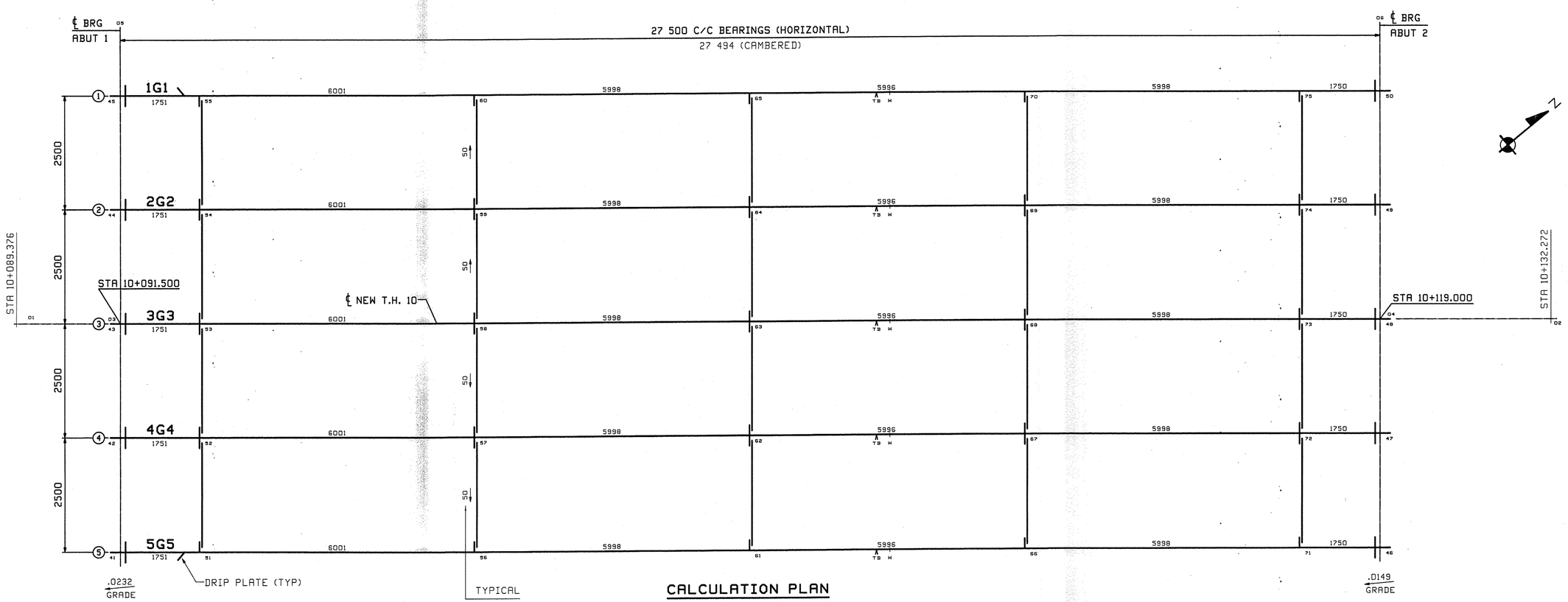
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

STRUCTURE: T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/15	
	CHK'D: PCP	DATE: 07/21	
LOCATION: Town of Brattleboro, VERMONT	JOB NO.	DWG NO.	
PROJ NO. BRF 2000(21)S	418	GN1	
CUSTOMER: VT AOT		REV. △	

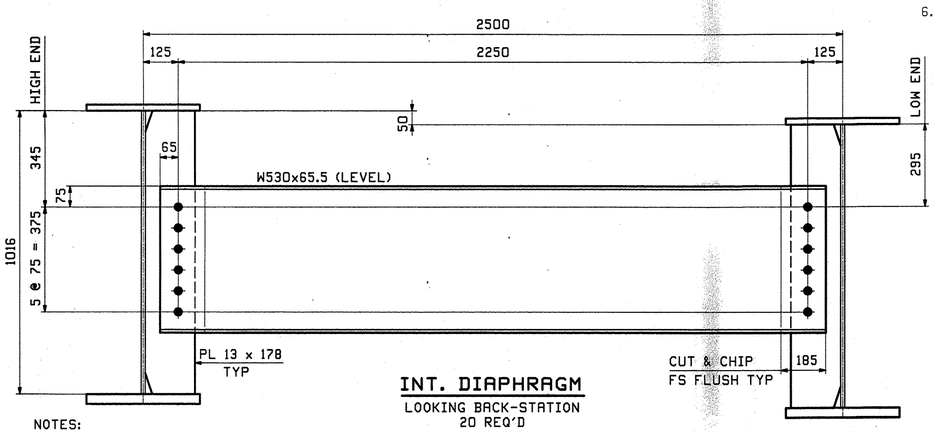
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CALCULATION PLAN

CALCULATION PLAN NOTES:

1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTTOM OF WEB WITH CORRECTIONS MADE FOR DL CAMBER, V.C. & GRADE (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZONTAL PLANE (UN).
3. ARROW POINTS TOWARD LOW END OF MEMBER.
4. ENDS OF GIRDERS ARE VERTICAL AFTER DL ROTATION.
5. DIAPHRAGM STIFFENERS ARE NORMAL TO GRADE.
6. BOTTOM POINT NUMBERS = TOP POINT NUMBERS + 100



INT. DIAPHRAGM

LOOKING BACK-STATION
20 REQ'D

NOTES:

1. MATERIAL SHALL BE ASTM M270 GRADE 345W.
2. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"Ø FOR $\frac{7}{8}$"Ø HSB.

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JUL 29 2009
Structures Design Section

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 22 2009	

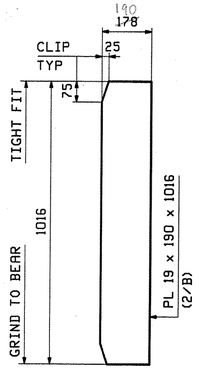
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CALCULATION PLAN & LAYOUTS

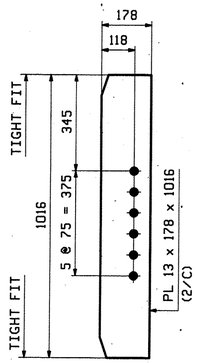
CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

STRUCTURE: T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/15
	CHK'D: PCP	DATE: 07/21
LOCATION: Town of Brattleboro, VERMONT	JOB NO.	DWG NO.
PROJ NO. BRF 2000(21)S	418	WS1
CUSTOMER: VT AOT		REV. △

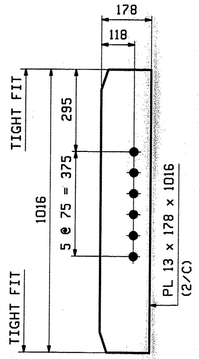
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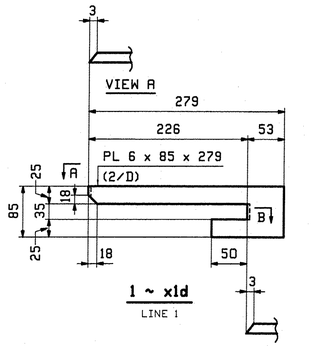
20 ~ x1a
BRG STIFF



20 ~ x1b
INT DIAPH CONN
(HIGH END)

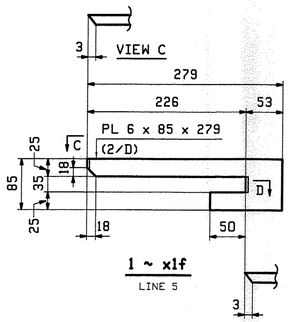


20 ~ x1c
INT DIAPH CONN
(LOW END)



1 ~ x1d
LINE 1

SECTION B



1 ~ x1f
LINE 5

SECTION D

NOTES:
ALL MATERIAL SHALL BE M270M-345W.
ALL BOLT HOLES SHALL BE $\frac{15}{16}$"Ø FOR $\frac{7}{8}$"Ø HSB.
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0					JUL 2 2 2009	

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	$\frac{15}{16}$"Ø	NONE

DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
TENSOR 2894

STRUCTURE:	T.H. 10 over Whetstone Brook BRIDGE NO 30 Brattleboro Windham County	DRAWN: JTB	DATE: 07/16
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LOCATION:	Town of Brattleboro, VERMONT	JOB NO.	DWG NO.
PROJ NO.	BRF 2000(21)S	418	X1
CUSTOMER:	VT AOT		REV. △

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BY Cwc DATE 8.14.09
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JUL 29 2009
Structures Design Section

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AUCIELLO IRON WORKS, INC.
560 Main Street
Hudson , MA 01749
Phone: 978-568-8382
Fax: 978-562-9982

Aluminum Production Joint Welding Procedure Specification

Procedure No: 2010-02 **Date Issued: 04/05/2010**

Revision No: ___ Rev. Date: _____ **D1.2-2003**

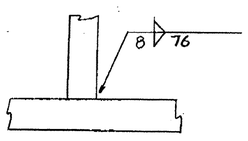
1. Referenced PQR No(s). 2007-03
2. Base Metal M Num. & Alloy M23 Temper 6061-T6
3. Base Metal M Num. & Alloy _____ Temper _____
4. Base Metal Thickness: 19 MM To 25.4 MM
5. Welding process: GMAW X GTAW _____
6. Manual, machine, or semiautomatic SEMI AUTO
7. Position(s) of welding 2F
8. Filler metal F number F22
9. Filler metal classification ER5356 ALCOTEC/HARRIS
10. Shielding gas 75% HELIUM – 25% ARGON Flow rate _____
11. Single or multiple pass SINGLE
12. Polarity DCEP
13. Welding progression FOREHAND
14. Stringer X Weave _____ Backing Type _____
15. Root treatment _____
16. Posthest treatment _____
    Original Temper _____ Final Temper _____ Temperature _____
    Time _____ Quench _____
17. AWS A5.12 Tungsten Electrode Class _____
18. Initial Cleaning: Oxide SS WIRE BRUSH Oil & Dirt SOLVENT
19. Interpass Cleaning: Oxide SS WIRE BRUSH

Additional Shop Notes:

V FRANS
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APR 06 2010
APPROVED
DATE 4/20/10

Weld size	Pass No(s).	Electrode Ext.	Electrode Size	Welding Process Variables AMPS	VOLTS	Travel Speed
8	ALL	1/2	.035	221-299	24-33	29-43
8	ALL	1/2	.045	221-299	24-33	29-43

Joint Detail



Preparer's Signature:

Preheat and Interpass Temperature Chart		
Minimum preheat (°)	Max Preheat & Interpass (°)	Maximum Heat Exposure Time
150	250	

AUCIELLO IRON WORKS, INC.
560 Main Street
Hudson , MA 01749
Phone: 978-568-8382
Fax: 978-562-9982

Aluminum Production Joint Welding Procedure Specification

Procedure No: 2010-01 **Date Issued: 04/05/2010**

Revision No: ___ Rev. Date: _____ **D1.2-2003**

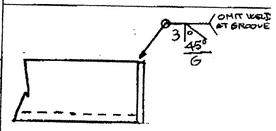
1. Referenced PQR No(s). 2007-03
2. Base Metal M Num. & Alloy M23 Temper 6061-T6
3. Base Metal M Num. & Alloy _____ Temper _____
4. Base Metal Thickness: 6 MM To 12.7 MM
5. Welding process: GMAW X GTAW
6. Manual, machine, or semiautomatic SEMI AUTO
7. Position(s) of welding 1G
8. Filler metal F number F22
9. Filler metal classification ER5356 ALCOTEC/HARRIS
10. Shielding gas 75% HELIUM – 25% ARGON Flow rate _____
11. Single or multiple pass MULTIPLE
12. Polarity DCEP
13. Welding progression FOREHAND CKD BY _____ DRAWN BY JWC
14. Stringer X Weave _____ Backing Type _____
15. Root treatment _____
16. Postheat treatment _____ RESUBMIT _____ APPROVED V
    Original Temper _____ Final Temper _____ Temperature _____ BY _____
    Time _____ Quench _____ DATE 4/2/10
17. AWS A5.12 Tungsten Electrode Class _____
18. Initial Cleaning: Oxide SS WIRE BRUSH Oil & Dirt SOLVENT
19. Interpass Cleaning: Oxide SS WIRE BRUSH

Additional Shop Notes:

VTRANS
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APR 08 2010

Weld size	Pass No(s).	Electrode Ext.	Electrode Size	Welding Process Variables AMPS	VOLTS	Travel Speed
.13	ALL	1/2	.035	221-299	24-33	29-43
.23	ALL	1/2	.045	221-299	24-33	29-43

Joint Detail



Preparer's Signature:

Preheat and Interpass Temperature Chart

Minimum preheat (°)	Max Preheat & Interpass (°)	Maximum Heat Exposure Time
150	250	