STATE OF VERMONT
AGENCY OF TRANSPORTATION

RECORD PLANS

CONTRACTOR: WINTERSET, INC. – LYNDONVILLE, VT

RESIDENT ENGINEER: ROBERT SUCKERT

CONSTRUCTION BEGAN: JULY 30, 2012

CONSTRUCTION COMPLETE: OCTOBER 3, 2014

RECORD PLANS BY: ROBERT SUCKERT & KEVIN KING

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

BY _____ RESIDENT ENGINEER

DATE 12-6-17

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.

BITUMINOUS CONCRETE PAVEMENT SUPERPAVE MIXTURE DESIGN CRITERIA	
DESIGN LIFE ESALS (DESIGN LANE) (20 YR)	3,868,000
DESIGN NUMBER OF GYRATIONS	75
PERFORMANCE GRADED ASPHALT BINDER	SEE SECTION 490 OF THE GENERAL SPECIAL PROVISIONS AND SPECIAL PROVISIONS

PROPOSED IMPROVEMENT
TOWN OF MORRISTOWN
COUNTY OF LAMOILLE

PROPOSED VERMONT 100

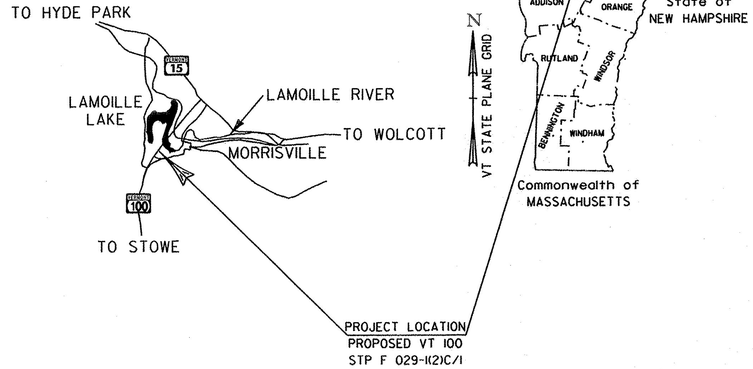
MINOR ARTERIAL

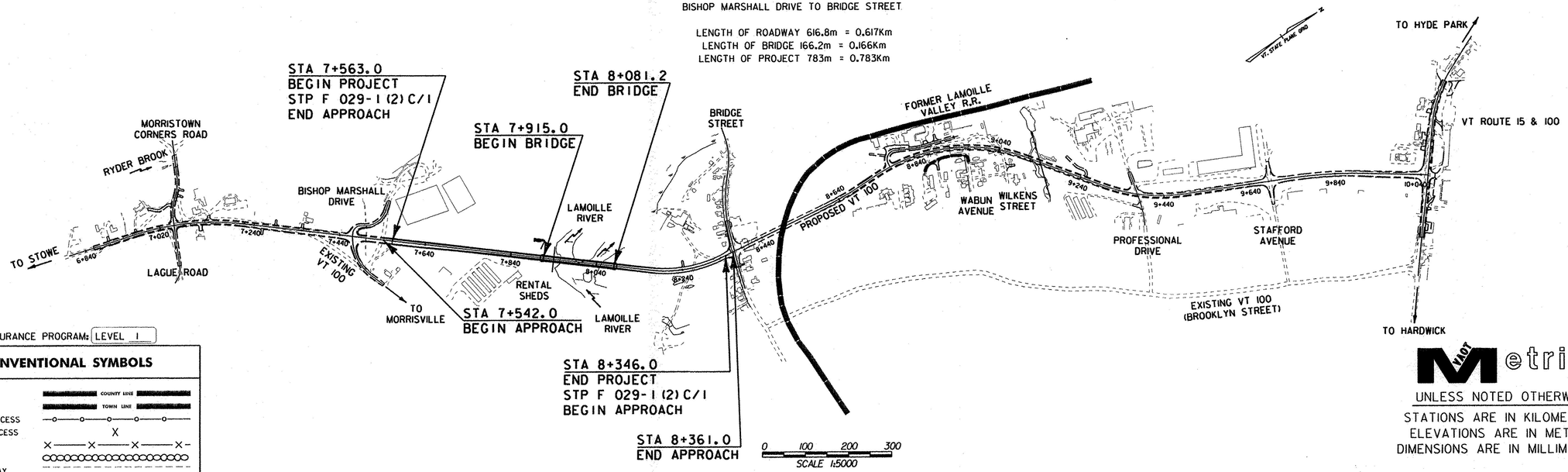
STP F 029-1(2)C/1

PROJECT LOCATION: BEGINNING AT A POINT, IN THE TOWN OF MORRISTOWN, ON NEW ALIGNMENT, APPROXIMATELY 7.542 Km FROM THE STOWE-MORRISTOWN TOWN LINE, AND EXTENDING NORTHERLY APPROXIMATELY 0.783 Km TO A POINT JUST SOUTHERLY OF THE NEW BRIDGE STREET INTERSECTION AND PROPOSED VT 100.

PROJECT DESCRIPTION: PROJECT CONSISTS OF CONSTRUCTING A BRIDGE OVER LAMOILLE RIVER ALONG WITH APPROACH WORK FROM THE EXISTING BISHOP MARSHALL DRIVE TO BRIDGE STREET

LENGTH OF ROADWAY 616.8m = 0.617Km
LENGTH OF BRIDGE 166.2m = 0.166Km
LENGTH OF PROJECT 783m = 0.783Km





QUALITY ASSURANCE PROGRAM: LEVEL I

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 :	V.A.O.T.
SURVEYED DATE :	VARIES
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD83 (92)

ROADWAY DESIGN

McFarland Johnson
53 REGIONAL DRIVE
CONCORD, NH 03301-5022
PHONE (603) 225-2978
FAX (603) 225-0095

STATE OF VERMONT DARREN M. BENOIT NO. 7324 REGISTERED PROFESSIONAL ENGINEER

Darren M. Benoit
MARCH 30, 2012

BRIDGE DESIGN

McFarland Johnson
53 REGIONAL DRIVE
CONCORD, NH 03301-5022
PHONE (603) 225-2978
FAX (603) 225-0095

STATE OF VERMONT RONALD L. HOY NO. 46225 CIVIL LICENSED PROFESSIONAL ENGINEER

Ronald L. Hoy
MARCH 30, 2012

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 Richard Patenaude DATE 4/3/12

PROJECT MANAGER : J. HARRIS

PROJECT NAME : MORRISTOWN
PROJECT NUMBER : STP F 029-1(2)C/1

SHEET 1 OF 123 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

Metric

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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: April 2009

DRAINAGE AREA : Approx. 620 km2
CHARACTER OF TERRAIN : Upstream=Narrow rock gorge/Downstream=wide flood plain
STREAM CHARACTERISTICS : Mountainous to Rolling

NATURE OF STREAMBED : Sandy/Gravel with grass covered, low shrub overbanks

PEAK FLOW DATA

Q 2.33 =	154 cms	Q 50 =	406 cms
Q 10 =	273 cms	Q 100 =	479 cms
Q 25 =	342 cms	Q 500 =	690 cms

DATE OF FLOOD OF RECORD : November, 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : Q100 = 1.3 mps
ICE CONDITIONS : Light
DEBRIS: Light
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Morrisville Dam approx. 0.48 km Upstream
Cadys Falls Dam approx. 2.01 km Downstream

WATERSHED STORAGE: < 2% HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: No exist. structure at this location
YEAR BUILT:
CLEAR SPAN(NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING:
DISPOSITION OF STRUCTURE:
TYPE OF MATERIAL UNDER SUBSTRUCTURE:

WATER SURFACE ELEVATIONS AT:

Q2.33 = VELOCITY =
Q10 = "
Q25 = "
Q50 = "
Q100 = "

LONG TERM STREAMBED CHANGES:

IS THE ROADWAY OVERTOPPED BELOW Q100:
FREQUENCY:
RELIEF ELEVATION:
DISCHARGE OVER ROAD @Q100:

UPSTREAM STRUCTURE

TOWN: Morrisville DISTANCE: 376 m
HIGHWAY #: "B" Street STRUCTURE #: B53
CLEAR SPAN: 29.6 m CLEAR HEIGHT: 8.5 m
YEAR BUILT: 2006 FULL WATERWAY: 165.4 m2
STRUCTURE TYPE: Single Span Plate Girder

DOWNSTREAM STRUCTURE

TOWN: Morristown DISTANCE: 503 m
HIGHWAY # : TH3MHS STRUCTURE #: B9
CLEAR SPAN: 82.3 m CLEAR HEIGHT: 6.5 m
YEAR BUILT: 1981 FULL WATERWAY: 294 m2
STRUCTURE TYPE: Two Span Continuous Plate Girder

LOAD FACTOR LOAD RATING (METRIC TONS)

LOADING LEVELS	TRUCK						
	M	MS	3S2	6 AXLE	3A STR.	4A STR.	5A SEMI
INVENTORY	26	48					
POSTED	37	68	117		106	107	117
OPERATING		81	139	166	127	127	

COMMENTS: Lane Load on Frame Leg Controls Design. Inventory (A=2.17) Posted (A=1.55) Operating (A=1.3)

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2014	9200	1000	58	9.1	930
2034	11300	1300	58	13.7	1700

20 year ESAL for flexible pavement from 2014 to 2034 : 6,668,000
40 year ESAL for flexible pavement from 2014 to 2054 : 16,136,000
Design Speed : 80 km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Continuous Steel Plate Girder Slant Legged Frame

CLEAR SPAN(NORMAL TO STREAM): 163.0 m

VERTICAL CLEARANCE ABOVE STREAMBED: 16.0 m @ center
WATERWAY OF FULL OPENING: 2149 m2

WATER SURFACE ELEVATIONS AT:

Q2.33 =	178.15 m	VELOCITY=	0.6 mps
Q10 =	178.40 m	"	1.0 mps
Q25 =	178.64 m	"	1.1 mps
Q50 =	178.96 m	"	1.2 mps
Q100 =	179.24 m	"	1.3 mps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY:
RELIEF ELEVATION:
DISCHARGE OVER ROAD @Q100:

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 192.0 m
VERTICAL CLEARANCI @ Q100 12.9 m

SCOUR: to ledge at approx. 4.3 m

REQUIRED CHANNEL PROTECTION: Stone Fill Type II around slant leg foundations

PERMIT INFORMATION

AVERAGE DAILY FLOW:	15.0 cms	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	6.0 cms	Elev. 175.9 m
ORDINARY HIGH WATER:	61.0 cms	Elev. 177.1 m

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

1.Peak discharges for 10 - year, 100 - year and 500 - year events were obtained from 1987 FIS and Cadys Falls Dam

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 42.900 - 78.000 - 42.900 (meters)
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE 950 KPa
4. ULTIMATE PILE CAPACITY 1400 kN
   TYPE HP 310x79
   ESTIMATED LENGTH Abut. No. 1 Avg. = 11M Abut. No. 2 Avg. = 12M
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 345W & HPS 485W
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: 30 MPa
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 25 MPa
   CONCRETE, CLASS C f'c: 20 Mpa
8. DESIGN SOIL UNIT WEIGHT 22 Kn/m3
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? N/A
   IF YES, ON EXISTING STRUCTURE? N/A
   OR ON TEMPORARY BRIDGE? N/A
   ONE OR TWO-WAY TRAVEL? N/A
2. TRAFFIC CONTROL SIGNALS REQUIRED? N/A
3. ARE SIDEWALKS REQUIRED? N/A
   IF SO, ON WHAT SIDE? N/A

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)C/1**

FILE NAME: **z10b194api.xls**
PROJECT MANAGER: **DMB**
DESIGNED BY: **D. Kull/B.Bennett**
PRELIMINARY INFORMATION SHEET

PLOT DATE: **1/8/2010**
DRAWN BY: **S. Merkwan**
CHECKED BY: **R. Joy**
SHEET **2** OF **123**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROJECT NOTES

GENERAL NOTES

1. THE INTENT OF THIS CONTRACT IS TO CONSTRUCT THE PROPOSED BRIDGE STRUCTURE AND THE ROADWAY SUBGRADE TO THE LIMITS SHOWN ON THE TYPICAL SECTIONS, PROFILES AND CROSS SECTIONS. SOME SELECT MATERIALS WILL BE INSTALLED ON THE BRIDGE APPROACHES TO THE LIMITS SHOWN ON THE PLANS AND DETAILS.

2. ALL STATIONS ARE IN KILOMETERS, ALL ELEVATIONS ARE IN METERS, AND ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 20 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.

4. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION,DATED 2002, AND ITS LATEST REVISIONS.

5. DESIGN CRITERIA:
DESIGN LIVE LOAD FOR NEW SUPERSTRUCTURE: MS22.5
SEISMIC PERFORMANCE CATEGORY: A
INCLUDES 1.82 KN/M LOAD FOR FUTURE UTILITIES

6. THE FOLLOWING MATERIAL CRITERIA, DESIGNATIONS AND UNIT WEIGHTS APPLY TO THESE PLANS FOR DESIGN PURPOSES:

STRUCTURAL STEEL:	AASHTO M 270M GRADE 345W AASHTO M 270M GRADE HPS 485W
REINFORCING STEEL:	AASHTO M 31M GRADE 420 (PLAIN AND EPOXY COATED) ASTM A955M GRADE 420 (SOLID STAINLESS)
UNIT WEIGHT OF SOIL:	2243 kg/m3

7. STANDARD DRAWINGS ARE IN ENGLISH UNITS.

GENERAL TRAFFIC CONTROL NOTES

1. TRAFFIC ON BRIDGE STREET SHALL BE MAINTAINED ON THE EXISTING ROADWAY DURING THE PROPOSED WATERLINE AND SANITARY SEWER CONSTRUCTION. ALTERNATING ONE WAY TRAFFIC WITH FLAGGER CONTROL SHALL BE UTILIZED DURING CONSTRUCTION. TRAFFIC MUST BE RETURNED TO TWO LANE TWO WAY OPERATION AT THE CLOSE OF DAILY CONSTRUCTION ACTIVITIES.

2. ALL TEMPORARY TRAFFIC LANES SHALL BE A MINIMUM OF 3.6M IN WIDTH.

3. ACCESS TO EXISTING DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES. SEE LAYOUT SHEETS FOR EXISTING DRIVEWAY LOCATIONS. NOTE THAT THE SEWER PLANT AND POWER PLANT DRIVEWAYS HAVE BEEN ABANDONED.

4. FLAGGERS SHALL BE UTILIZED AT THE CONSTRUCTION ENTRANCE ON BISHOP MARSHALL DRIVE TO ASSIST CONSTRUCTION VEHICLES ACCESSING THE SCHOOL DRIVEWAY DURING SCHOOL HOURS OR AS DIRECTED BY THE RESIDENT ENGINEER.

5. FLAGGERS SHALL BE UTILIZED AT THE CONSTRUCTION ENTRANCE ON BRIDGE STREET TO ASSIST CONSTRUCTION VEHICLES ACCESSING THE ROADWAY DURING PEAK TRAFFIC HOURS AS DIRECTED BY THE RESIDENT ENGINEER.

6. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL PRIOR TO THE START OF CONSTRUCTION.

7. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, A SITE SPECIFIC TRAFFIC CONTROL PLAN AT LEAST 30 DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. THE TRAFFIC CONTROL PLAN SHALL INCLUDE ALL PROPOSED SIGNAGE AND SHALL COMPLY WITH THE LATEST VERSION OF THE MUTCD.

8. IT IS NOT THE INTENTION OF THIS PHASE OF THE CONSTRUCTION TO ALLOW THE VEHICLE TRAFFIC TO UTILIZE THE ROADWAY OR BRIDGE STRUCTURE. THEREFORE IF THE NEXT PHASE OF CONSTRUCTION HAS NOT STARTED PRIOR TO THE END OF THE CONSTRUCTION ON THIS PHASE, THE CONTRACTOR SHALL MAKE THE PROVISIONS TO PREVENT THE TRAVELING PUBLIC FROM UTILIZING THE ROADWAY OR BRIDGE STRUCTURE. AT A MINIMUM THIS SHALL INCLUDE POSTING "BRIDGE CLOSED" SIGNS AND PROVIDE IMMOVABLE BARRIERS AT THE PROJECT LIMITS.

9. THE CONTRACTOR SHALL BE AWARE THAT THE USE OF THE BISHOP MARSHALL SCHOOL DRIVEWAY FOR CONSTRUCTION ACCESS MAY BE RESTRICTED DURING THE MORNING STUDENT DROP-OFFS AND AFTERNOON STUDENT PICK-UP TIMES AND DURING SPECIAL EVENTS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL COORDINATE THE USE OF BISHOP MARSHALL SCHOOL DRIVEWAY WITH THE ENGINEER. IN ADDITION, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE SAFE ACCESS TO PEDESTRIAN TRAFFIC ALONG THE BISHOP MARSHALL SCHOOL DRIVEWAY ADJACENT TO THE PROJECT AREA.

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL CALL "DIG-SAFE" (1-888-344-7233) PRIOR TO PERFORMING ANY EXCAVATION, IN ACCORDANCE WITH "DIG-SAFE'S" RULES OF NOTIFICATION. LOCAL UTILITY OWNERS NOT SUBSCRIBED TO DIG SAFE SHALL ALSO BE MADE AWARE.

2. ITEM 204.25, STRUCTURE EXCAVATION SHALL BE USED TO EXCAVATE TO THE LIMITS SHOWN ON THE PLANS UNLESS NOTED OTHERWISE. SEE EARTHWORK TYPICALS ON SHEETS 6 & 7 AND RETAINING WALL SHEETS 56 - 63.

3. THE BRIDGE PLAQUE SHALL BE FURNISHED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AS SHOWN ON SHEET 91, ALL COSTS SHALL BE INCLUDED IN ITEM 501.34, CONCRETE HIGH PERFORMANCE CLASS B.

4. GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE.

5. STAY-IN-PLACE CORRUGATED METAL FORMS (SIPCMF) FOR SUPERSTRUCTURE DECK SLAB MAY BE USED ON THIS PROJECT.

6. FOR PROJECT PERMITTING PURPOSES, WATERWAY IMPACT AREAS TO FACILITATE TEMPORARY ACCESS ROAD AND TEMPORARY SHORING FOR BRIDGE CONSTRUCTION HAVE BEEN ESTIMATED AND ARE SHOWN ON LAYOUT SHEET-2, SHEET 20. SHORING COST SHALL BE INCLUDED IN ITEM 506.55, STRUCTURAL STEEL (PLATE GIRDER).

7. MARKER POSTS SHALL BE PLACED AS INDICATED OR AS DIRECTED BY THE ENGINEER.

8. SLOPE ROUNDING: ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD DRAWING B-5.

9. PAY LIMITS OF SAND BORROW: WHEN USED IN CONJUNCTION WITH UNDERDRAIN, SEE STANDARD DRAWING D-30.

10. IT IS NOT THE INTENT OF THIS PHASE OF THE CONSTRUCTION TO INSTALL THE TOP LAYER OF PAVEMENT AND ALLOW VEHICLES TO USE THE COMPLETED BRIDGE STRUCTURE.

11. ALL COMPONENTS FOR ITEM 620.12 CHAIN-LINK FENCE, 1.8m VINYL COATED AND ITEM 620.21 BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.8m VINYL COATED NEED TO BE COLORED GREEN.

STRUCTURAL STEEL NOTES (SEE SHEETS 73 - 80)

1. NEW STRUCTURAL STEEL SHALL BE AASHTO M 270M, GRADE 345W AND AASHTO M 270M, GRADE HPS 485W AS NOTED.

2. ITEM 506.55, STRUCTURAL STEEL (PLATE GIRDER), SHALL INCLUDE ALL FABRICATED STRUCTURAL STEEL NOT LISTED IN ITEM 900.635, SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE 485W).

3. ITEM 900.635, SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE 485W), SHALL INCLUDE WEB PLATES, TOP AND BOTTOM FLANGE PLATES DESIGNATED AASHTO M270M, GRADE HPS 485W, ALL INTERMEDIATE STIFFENERS AND WELD TESTING AS SPECIFIED ON SHEETS 74 AND 75.

4. ALL BOLTED FIELD CONNECTIONS SHALL BE MADE WITH 22 MILLIMETER DIAMETER A325 HIGH STRENGTH BOLTS IN 24 MILLIMETER DIAMETER HOLES UNLESS OTHERWISE NOTED.

5. SHEAR STUD CONNECTORS SHALL BE FIELD WELDED IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.5 AND SHALL BE PAID UNDER ITEM 508.15, SHEAR CONNECTORS.

6. IF FRAMES CANNOT BE SHIPPED IN THE LENGTHS SHOWN ON THE PLANS, FIELD SPLICE(S) WILL BE PERMITTED AT THE REQUEST OF THE CONTRACTOR. REQUESTS FOR ALTERNATE SPLICE LOCATIONS SHOULD BE FORWARDED TO THE STRUCTURES ENGINEER FOR REVIEW. ALTERNATE FIELD SPLICE DESIGN LOADS TO BE PROVIDED TO THE CONTRACTOR. ALTERNATE FIELD SPLICES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF VERMONT AND DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL. NO COMPENSATION WILL BE ALLOWED FOR SPLICES.

7. THE STABILITY OF PARTIAL FRAMES AND COMPLETE FRAMES SHALL BE MAINTAINED BY THE CONTRACTOR DURING ERECTION, UNTIL ALL FRAMES AND DIAPHRAGMS ARE IN PLACE AND ALL BOLTS ARE PROPERLY INSTALLED. A DETAILED ERECTION PLAN SHALL BE SUBMITTED TO THE STRUCTURES ENGINEER FOR REVIEW. THE PLAN SHALL DETAIL THE ERECTION LOADS INCLUDING, BUT NOT LIMITED TO, SELF WEIGHT OF THE STEEL MEMBERS, WIND LOADING AND CONSTRUCTION LIVE LOAD. LOADS ARE TO BE EVALUATED BY THE CONTRACTOR FOR STABILITY, STRESSES AND DEFLECTION ON THE STEEL MEMBERS DURING ALL STAGES OF ERECTION. SLANT LEG FOUNDATION ANCHOR BOLTS SHALL NOT BE ALLOWED TO GO INTO TENSION DURING ANY STAGE OF ERECTION.

8. AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE FRAME SHALL BE TAKEN, AS DIRECTED BY THE ENGINEER, FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS. COST SHALL BE INCLUDED IN ITEM 506.55.

9. PROVIDE CHARPY V-NOTCH TESTING CONFORMING TO SECTION 714.

10. THE ENDS OF FRAMES AT THE ABUTMENTS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.

11. A CLASS B CONTACT SURFACE IS REQUIRED AT ALL BOLTED FIELD SPLICE CONNECTIONS.

12. ALL STRUCTURAL STEEL WITHIN 3050 MILLIMETERS OF THE END OF FRAMES AT BOTH ABUTMENTS AND 1850 mm WITHIN THE ENDS OF THE LEGS AT BOTH FOUNDATIONS ALONG WITH TOP SURFACE OF STEEL BEARING ASSEMBLIES SHALL BE PAINTED BROWN, COLOR CHIP 20059. ALL COSTS WILL BE INCLUDED IN THE SECTION 513 CONTRACT ITEMS.

13. IF 7/8" DIA. BOLTS ARE ALLOWED BY THE AGENCY IN LIEU OF 22 MILLIMETER DIA. THEN THE HOLES SHALL BE 15/16" DIA.

14. WELDING OF SHEAR CONNECTORS TO FLANGE SPLICE PLATES IS NOT PERMITTED.

REINFORCING STEEL NOTES

1. REINFORCING STEEL IN THE DECK, BACKWALL, APPROACH SLABS, AND BRUSH CURBS SHALL BE EPOXY COATED AND PAID AS ITEM 507.17, EPOXY COATED REINFORCING STEEL. REINFORCING STEEL DOWELS INTO LEDGE AT SLANT LEG FOUNDATIONS SHALL BE STAINLESS STEEL AND PAID AS ITEM 900.635 SPECIAL PROVISION (STAINLESS STEEL REINFORCING). ALL OTHER REINFORCING STEEL SHALL BE PAID AS ITEM 507.15, REINFORCING STEEL.

2. DRILLING AND GROUTING DOWELS SHALL BE PAID AS ITEM 507.16, DRILLING AND GROUTING DOWELS. ALL DRILLED HOLES SHALL HAVE A MINIMUM OF 150 MILLIMETERS CLEAR COVER.

3. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

ALONG BACK FACES OF WALLS AGAINST EARTH: FIFTY (50) MILLIMETERS
ALONG TOP SURFACE OF DECK SLAB: SIXTY-FIVE (65) MILLIMETERS
ALONG BOTTOM SURFACE OF DECK SLAB: FORTY (40) MILLIMETERS
ELSEWHERE UNLESS OTHERWISE INDICATED: EIGHTY (80) MILLIMETERS

4. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:

SPACING: +/- 25 MILLIMETERS
CLEARANCE: +/- 5 MILLIMETERS

5. WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.

CONCRETE NOTES

1. CONCRETE PAYMENT AND CLASSIFICATION SHALL BE AS FOLLOWS:

ITEM 900.608, SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS AA LOW CEMENT):	DECK, CURBS AND WINGWALL CURBS
ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B:	ABUTMENTS AND SLANTLEG FOUNDATIONS
ITEM 541.30, CONCRETE, CLASS C:	NORTH SLANT LEG FOOTING

2. ITEM 514.10, WATER REPELLENT, SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BRIDGE SUPERSTRUCTURE EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES. WATER REPELLENT SHALL ALSO BE APPLIED TO THE EXPOSED CONCRETE ON SUBSTRUCTURES.

3. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 MILLIMETERS BY 25 MILLIMETERS, UNLESS OTHERWISE NOTED. A 15 MILLIMETER RADIUS SHALL BE USED ON THE TOP INSIDE CORNER OF CURBS.

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

5. PAYMENT FOR WATERSTOPS SHALL BE INCLUDED IN ITEM 501.34, CONCRETE HIGH PERFORMANCE CLASS B. OTHER CONFIGURATIONS THAN THOSE SHOWN MAY BE USED UPON APPROVAL OF THE ENGINEER.

6. SEE SHEET 71 FOR DECK PLACEMENT SEQUENCE AND NOTES.

FOUNDATION NOTES (SEE SHEETS 88 TO 93)

1. THE SOILS AND FOUNDATIONS ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO DRILLING AND GROUTING AND PLACEMENT OF CONCRETE TO VERIFY COMPETENT BEDROCK HAS BEEN REACHED.

2. SLANT LEG FOUNDATION PEDESTAL DETAILS SHOWN ON THE PLANS REPRESENT THE FINAL MINIMUM DIMENSIONS PERMITTED AFTER ALL DEAD LOAD HAS BEEN APPLIED. THE CONTRACTOR IS PERMITTED TO DEVELOP AN ALTERNATIVE PEDESTAL SCHEME THAT SATISFIES THESE DIMENSION REQUIREMENTS IN ORDER TO FACILITATE HIS/HER ERECTION PLAN.

3. THE CONTRACTOR'S PLAN TO CONSTRUCT PEDESTALS AND PLACE STEEL BEARING ASSEMBLIES SHALL BE SUBMITTED IN CONJUNCTION WITH THE ERECTION PLAN FOR REVIEW CONFORMING TO SECTION 506.

4. FIELD VERIFICATION OF APPROVED PEDESTAL ELEVATIONS BY THE RESIDENT ENGINEER IS REQUIRED PRIOR TO ERECTION OF THE STEEL.

5. THE HP 310:79 SHALL BE DRIVEN TO LEDGE AND SHALL ATTAIN AN ULTIMATE PILE CAPACITY OF 1400 KN. A MINIMUM OF ONE DYNAMIC PILE LOADING TEST SHALL BE CONDUCTED FOR EACH ABUTMENT.

6. SEE SPECIAL PROVISIONS FOR BLASTING AND ROCK EXCAVATION REQUIREMENTS.

7. ALL PILES SHALL HAVE PILE POINTS. THE PILE SHOES SHALL BE CAST STEEL POINTS.

PROJECT NAME:	**MORRISTOWN**		
PROJECT NUMBER:	**STP F 029-1(2)C/1**		
FILE NAME:	**z10b194agn.xls**	PLOT DATE:	**8/11/2011**
PROJECT LEADER:	**DMB**	DRAWN BY:	**P. Dustin**
DESIGNED BY:	**D. Kull/J. Santacruce**	CHECKED BY:	**R. Joy**
PROJECT NOTES SHEET #1		SHEET **3**	OF **123**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PROJECT NOTES

PREFORMED FABRIC BEARING NOTES (SEE SHEET 81)

1. PREFORMED FABRIC PAD BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.

2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10, BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD.

3. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL AND CLEAR OF DIRT AND DEBRIS. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 6 MILLIMETERS PER 300 MILLIMETERS TOWARD CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH A FLOAT FINISH.

4. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION.

5. ALL THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 714.08. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 380 mm EMBEDMENT INTO THE CONCRETE. ALL WASHERS SHALL BE 10 mm PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 531.10, BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD.

6. DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 380 MILLIMETERS EMBEDMENT INTO CONCRETE.HOLES SHALL BE AS SHOWN ON THE PLANS AND BOLTS SHALL BE SET IN A TYPE IV MORTAR.ALL COSTS TO BE INCLUDED UNDER ITEM 531.10, BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD.

7. ANCHOR BOLTS SHALL BE SWEDGED WITH 300 MILLIMETERS OF THREAD. NUTS ARE TO BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF FIVE (5) MILLIMETERS. THREADS SHALL BE BURRED ABOVE NUT TO PREVENT NUT REMOVAL.

8. FABRICATION DRAWINGS CONFORMING TO APPLICABLE SUBSECTIONS OF SECTION 531 SHALL BE SUBMITTED AND INCLUDE ANY NECESSARY WELDING PROCEDURES.

STEEL BEARING NOTES (SEE SHEET 82)

1. STEEL BEARING DEVICE ASSEMBLY SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731.

2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.13 BEARING DEVICE ASSEMBLY, STEEL.

3. FABRICATION DRAWINGS CONFORMING TO SECTION 531 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.

4. NO FIELD WELDING OF STEEL BEARING ASSEMBLIES WILL BE PERMITTED.

5. SETTING OF BEARING DEVICES IS NOT PERMITTED PRIOR TO VERIFICATION AND WRITTEN APPROVAL OF FOUNDATION PEDESTAL ELEVATIONS BY THE ENGINEER.

6. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTION 531.04(B) AND 506.15(A) &(B), EXCEPT TOP SURFACE WHICH IS WELDED TO STEEL FRAME. METALIZED SURFACES ARE TO BE COATED WITH AN APPROVED SEALANT PER SUBSECTION 531.04(B). AREAS OF DAMAGED METALLIZING ORGALVANIZING SHOULD BE REPAIRED PER SECTION 513. SEE STRUCTURAL STEEL NOTE 12 FOR PAINTING REQUIREMENTS.

7. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS), SHALL BE AASHTO M270M GRADE 345, EXCEPT ANCHOR BOLTS WHICH SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 164M.

8. ALL PINS SHALL BE ASTM 276 2205 STAINLESS STEEL WITH POLISHED FINISH.

9. PROVIDE 2 ADDITIONAL PINS TO THE RESIDENT ENGINEER. COST SHALL BE INCLUDED IN ITEM 513.13. THE SLANT LEG BEARINGSHALL HAVE A FINE MACHINE FINISH FOR FUTURE USE.

10. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA, AND SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN.

11. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION.

12. ALL THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 714.08. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 380 EMBEDMENT INTO THE CONCRETE. ALL WASHERS SHALL BE 10 MILLIMETER PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 531.13, "BEARING DEVICE ASSEMBLY, STEEL".

13. DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 380 MILLIMETER EMBEDMENT INTO CONCRETE.HOLES SHALL BE 60 MILLIMETERS IN DIAMETER AND BOLTS SHALL BE SET IN A TYPE IV MORTAR. ALL COSTS TO BE INCLUDED UNDER ITEM 531.13, BEARING DEVICE ASSEMBLY, STEEL.

14. ANCHOR BOLTS SHALL BE SWEDGED WITH 100 MILLIMETERS OF THREAD. EXPANSION BEARING NUTS ARE TO BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF 5 MILLIMETERS. THREADS SHALL BE BURRED ABOVE NUT TO PREVENT NUT REMOVAL.

DOWNSPOUT NOTES (SEE SHEET 86)

1. PAYMENT FOR ALL MATERIALS AND LABOR RELATED TO THE HOPPER AND DOWNSPOUT ASSEMBLY SHALL BE INCLUDED IN ITEM 506.55, STRUCTURAL STEEL PLATE GIRDER.

2. ALL PLATES, BARS AND ANGLES SHALL CONFORM TO AASHTO M270M, GRADE 250.

3. BOLTS AND RELATED HARDWARE SHALL CONFORM TO ASTM A 307 GRADE A.

4. THE HOPPER AND DOWNSPOUT ASSEMBLY SHALL BE INSTALLED AFTER THE BRIDGE EXPANSION JOINT IS IN PLACE.

5. ALL HOPPER AND DOWNSPOUT COMPONENTS AND HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.

EXPANSION JOINT NOTES (SEE SHEETS 83 - 85)

1. BRIDGE EXPANSION JOINT SHALL BE PAID AS ITEM 516.12, BRIDGE EXPANSION JOINT, FINGER PLATE. THIS ITEM SHALL INCLUDE, BUT NOT LIMITED TO, THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL, PLATES, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL.

2. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M 198, TYPE B. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07. ALL STEEL COMPONENTS SHALL BE AASHTO M 270M GRADE 250 GALVANIZED OR METALIZED AS PER SUBSECTION 506.12 (a) OR (b) UNLESS OTHERWISE NOTED.

3. CONSTRUCT EXPANSION JOINT TO MATCH ROADWAY GRADE AND CROSS SLOPE

4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED AND PROTECTED DURING THE PLACING OF CONCRETE.

5. EXPANSION JOINTS SHALL BE SHOP ASSEMBLED AND SHIPPED AS ONE UNIT FOR EACH BRIDGE.

6. THE ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE. THE FINGER PLATES ON EACH SIDE OF THE JOINT SHALL BE PROVIDED IN TWO EQUAL LENGTHS, EACH SIDE (4 TOTAL).

7. FILL COUNTER BORED HOLES WITH HOT POURED JOINT SEALER AFTER BOLT INSTALLATION. ALL COSTS SHALL BE INCLUDED IN ITEM 516.12, BRIDGE EXPANSION JOINT, - FINGER PLATE. COAT CONCRETE SURFACES WITH EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02 . PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.12, "BRIDGE EXPANSION JOINT, FINGER PLATE".

8. FABRIC TROUGH SHALL BE THOROUGHLY CLEANED AND FLUSHED AFTER PAVING OPERATIONS.

9. GRIND ALL EDGES EXPOSED TO TRAFFIC OR PEDESTRIANS TO 5 MILLIMETERS RADIUS

10. A DRIP BEAD OF 8 MILLIMETERS BY 150 MILLIMETERS OF PREFORMED MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE 25 MILLIMETERS WIDE STARTING FROM THE DOWNSPOUT END OF THE TROUGH. ALL COSTS SHALL BE INCLUDED IN ITEM 516.12, BRIDGE EXPANSION JOINT - FINGER PLATE.

11. THE DRAIN TUBES SHALL BE EXTENDED BELOW THE BOTTOM OF THE ADJACENT FRAME AND FASTENED TO THE FRAMES USING A METHOD APPROVED BY THE ENGINEER AND SHALL BE INCLUDED IN ITEM 506.55, STRUCTURAL STEEL PLATE GIRDER.

12. FINAL JOINT PROFILE SHALL MATCH THE DECK AND CURB PROFILE.

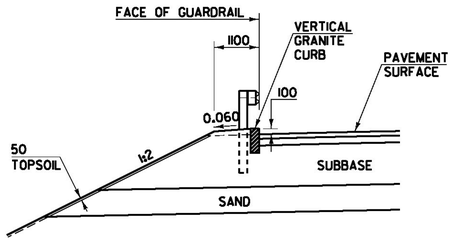
PROJECT NAME:	**MORRISTOWN**
PROJECT NUMBER:	**STP F 029-1(2)C/1**
FILE NAME: **z10b194agn.xls**	PLOT DATE: **8/11/2011**
PROJECT LEADER: **DMB**	DRAWN BY: **P. Dustin**
DESIGNED BY: **D. Kull/J. Santacruce**	CHECKED BY: **R. Joy**
PROJECT NOTES SHEET #2	SHEET **4** OF **123**

PROPOSED VT 100: 110 BITUMINOUS CONCRETE PAVEMENT (40 TYPE IIIS, OVER 70 TYPE IIS) (TWO LIFTS)
95 BITUMINOUS CONCRETE PAVEMENT, (95 TYPE IS)
600 SUBBASE OF DENSE GRADED CRUSHED STONE
450 SAND BORROW

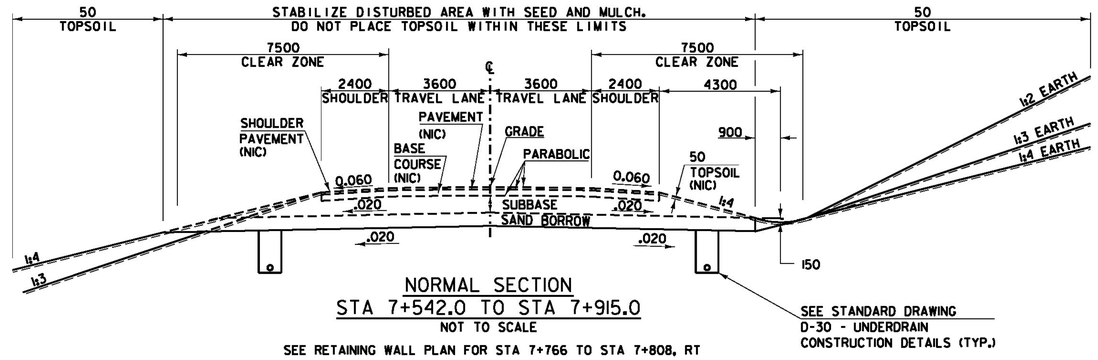
SHOULDERS: 110 BITUMINOUS CONCRETE PAVEMENT (40 TYPE IIIS, OVER 70 TYPE IIS) (TWO LIFTS)
600 SUBBASE OF DENSE GRADED CRUSHED STONE
450 SAND BORROW
(AS INDICATED ON PLANS OR BY THE ENGINEER)

SELECT MATERIALS AND PAVEMENT SHOWN FOR REFERENCE ONLY. NO SELECT MATERIALS OR PAVEMENT WILL BE PLACED FOR THIS CONTRACT, OTHER THAN ON BRIDGE DECK AS NOTED ON THE TYPICAL BRIDGE SECTION ON SHEET 7. SEE PROFILES, DETAILS, AND CROSS SECTIONS FOR LIMITS OF CONSTRUCTION. TYPICAL SECTION REFLECTS ULTIMATE CONSTRUCTION BY OTHERS.

AREA BELOW FUTURE SELECT MATERIAL SHALL BE STABILIZED WITH ITEM 651.17 - SEED, WINTER RYE APPLIED AT A RATE OF 68 KG/HA.

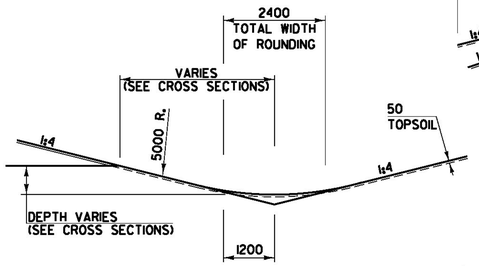


GUARDRAIL DETAIL WITH VERTICAL GRANITE CURB
STA 8+100 TO STA 8+200
NOT TO SCALE
(NIC)

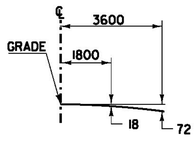


NORMAL SECTION
STA 7+542.0 TO STA 7+915.0
NOT TO SCALE
SEE RETAINING WALL PLAN FOR STA 7+766 TO STA 7+808, RT
SEE NOTE 1

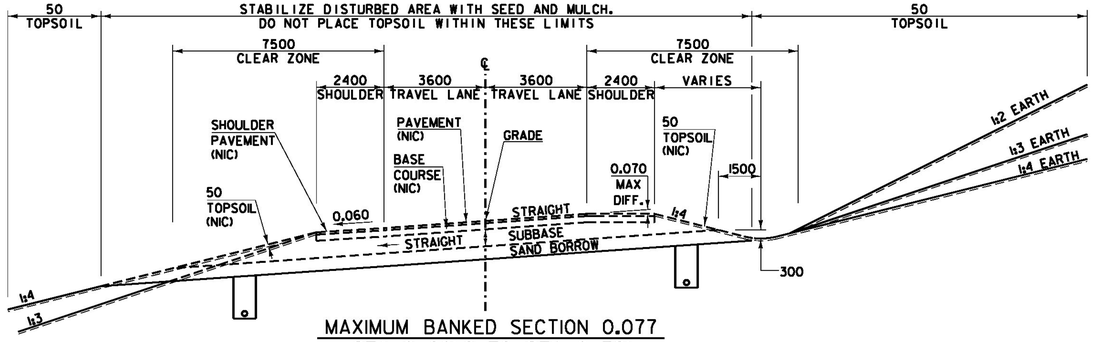
SEE STANDARD DRAWING
D-30 - UNDERDRAIN
CONSTRUCTION DETAILS (TYP.)



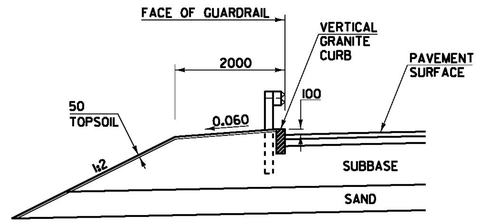
TYPICAL DITCH DETAILS
NOT TO SCALE



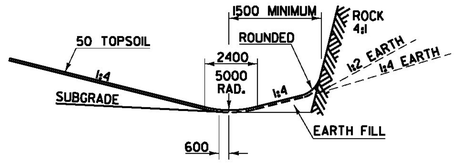
PARABOLIC DETAIL
NOT TO SCALE



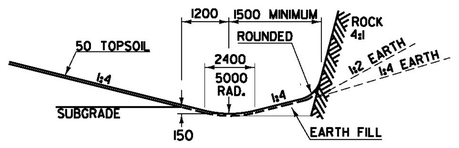
MAXIMUM BANKED SECTION 0.077
STA 8+081.2 TO STA 8+361
NOT TO SCALE
SEE CROSS SECTIONS FOR LIMITS OF DRILLING AND BLASTING OF SOLID ROCK.
SEE NOTE 1



PLANTING SHELF DETAIL IN GUARDRAIL SECTION
STA 8+220 TO STA 8+260, LT & RT
STA 8+260 TO STA 8+340, RT
NOT TO SCALE
(NIC)



DETAILS OF DITCH AND BACKSLOPE FOR
LOW SIDE 4.0% BANK OR MORE.
NOT TO SCALE



DETAILS OF DITCH AND BACKSLOPE FOR
LOW SIDE OF BANK LESS THAN 4.0%.
NOT TO SCALE

LEGEND

---- DASHED LINES INDICATE WORK NOT INCLUDED IN THIS CONTRACT

——— SOLID LINES REPRESENT WORK INCLUDED IN THIS CONTRACT UNLESS OTHERWISE NOTED

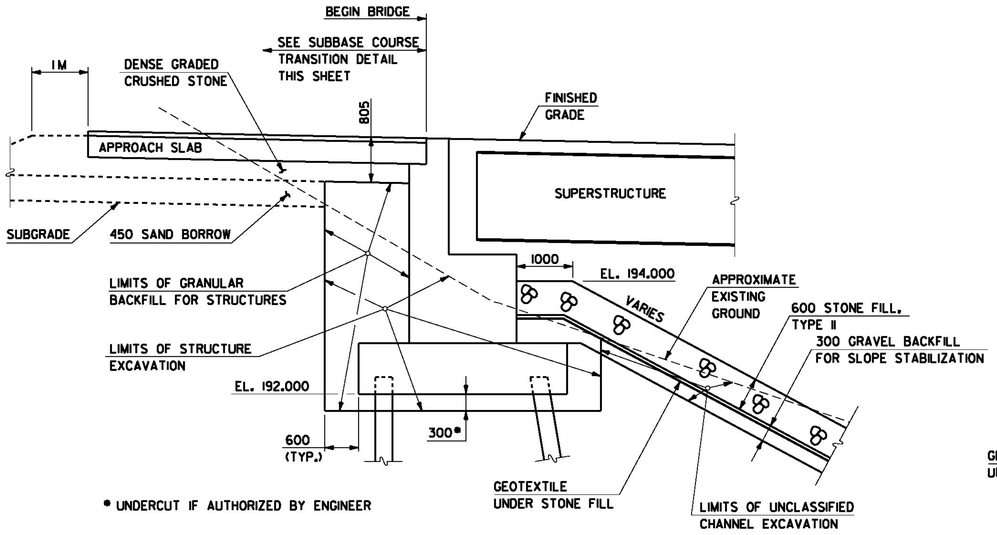
NOTES

1. SEE DETAIL ON SHEET 6 FOR LIMITS OF SUBBASE COURSE CONSTRUCTION AS PART OF THIS PROJECT.
2. WORK NOT INCLUDED IN THIS CONTRACT IS LABELED (NIC).

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194typl.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
TYPICAL SECTIONS - 1	SHEET 5 OF 123

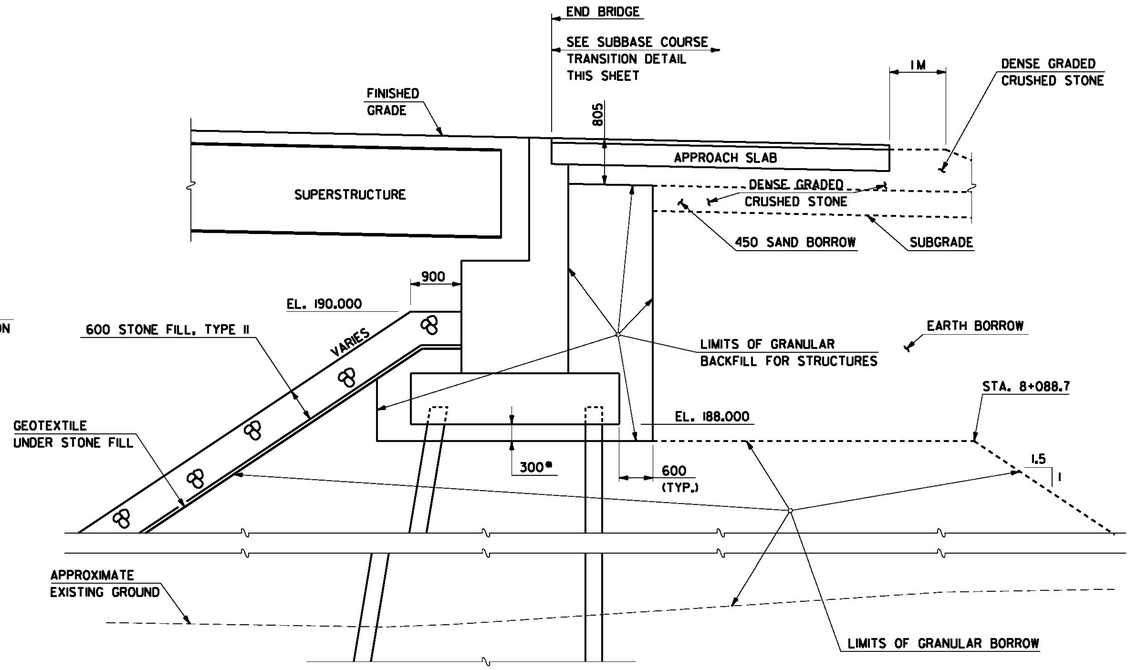
McFarland Johnson



* UNDERCUT IF AUTHORIZED BY ENGINEER

ABUTMENT NO. 1 EARTHWORK SECTION

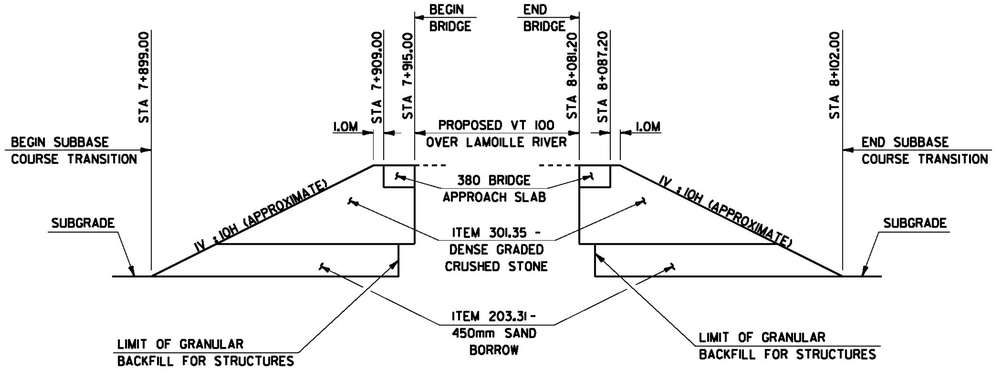
SCALE: 1:50



* UNDERCUT IF AUTHORIZED BY ENGINEER

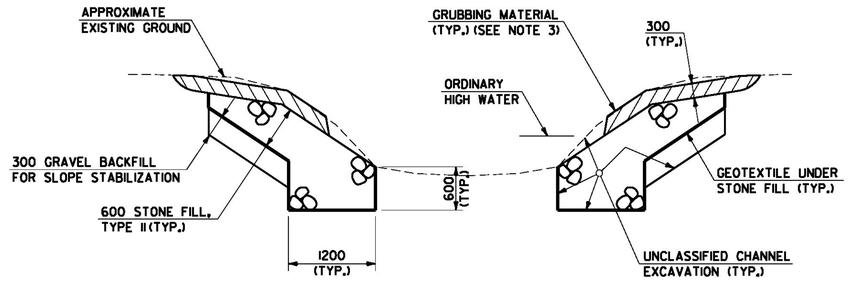
ABUTMENT NO. 2 EARTHWORK SECTION

SCALE: 1:50



SUBBASE COURSE TRANSITION DETAIL

NOT TO SCALE



TYPICAL CHANNEL SECTION

NOT TO SCALE

NOTES

1. FOR EARTHWORK SLOPE LIMITS AROUND THE BRIDGE, SEE GRADING PLAN ON SHEET 70.
2. FOR ADDITIONAL TYPICAL SECTIONS, SEE SHEETS 5 AND 7.
3. GRUBBING MATERIAL SHALL NOT BE PLACED ON THE STONE FILL IN THE AREA UNDER THE BRIDGE, EXCEPT WHERE DESIGNATED ON THE PLANS. WHENEVER CHANNEL SLOPE INTERSECTS ROADWAY SUBBASE, GRUBBING MATERIAL SHALL BEGIN AT THE BOTTOM OF SUBBASE.

0 1 2 3 4 5

SCALE = 1:50

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

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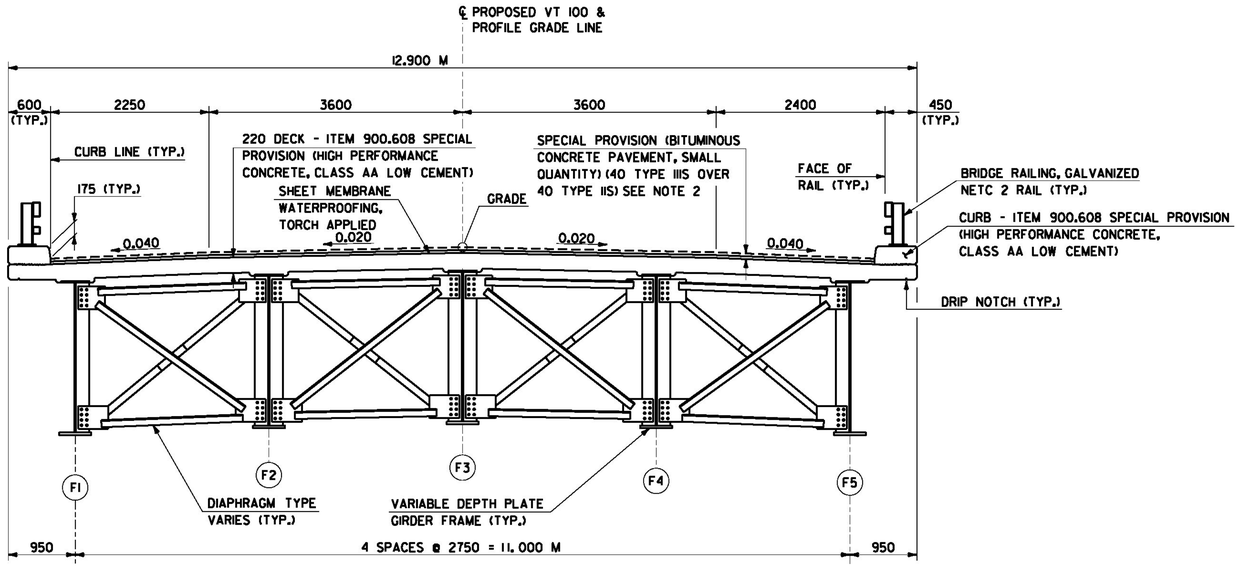
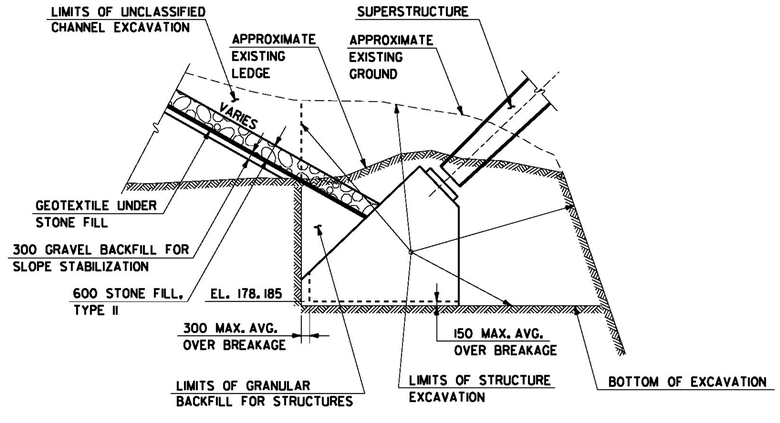
PROJECT NAME:	MORRISTOWN		
PROJECT NUMBER:	STP F 029-1(2)C/1		
FILE NAME:	z10b194ats.dgn	PLOT DATE:	29-MAR-2012
PROJECT LEADER:	DMB	DRAWN BY:	S. Merkwan
DESIGNED BY:	D. Kull / B. Colburn	CHECKED BY:	R. Joy
TYPICAL SECTIONS - 2		SHEET	6 OF 123

Metric



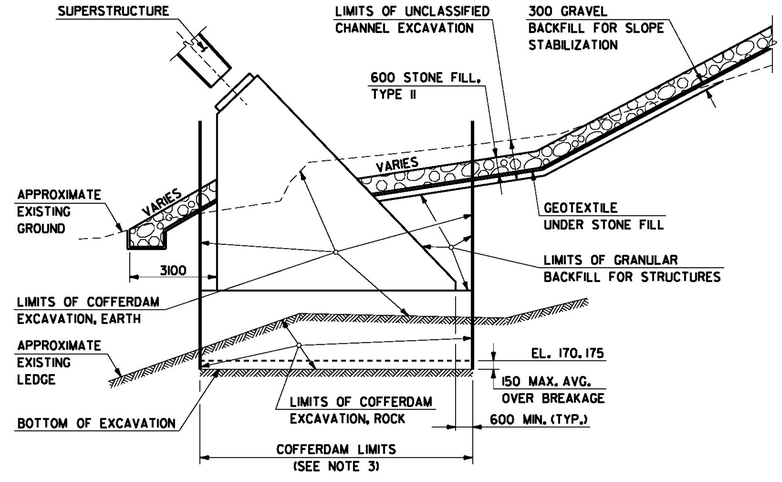
TYPICAL BRIDGE SECTION

SCALE: 1:40



SOUTH SLANT LEG FOOTING EARTHWORK SECTION

SCALE: 1:100



NORTH SLANT LEG FOOTING EARTHWORK SECTION

SCALE: 1:100

0 1 2 3 4

SCALE = 1:40

0 1 2 4 6 8 10

SCALE = 1:100

NOTES

1. FOR ADDITIONAL TYPICAL SECTIONS, SEE SHEETS 5 & 6.
2. SECOND LIFT OF BITUMINOUS CONCRETE PAVEMENT TYPE IIIS NOT INCLUDED IN THIS CONTRACT.
3. THE CONTRACTOR MAY CUT OFF TOPS OF COFFERDAM AND LEAVE IN PLACE TO THE SATISFACTION OF THE RESIDENT ENGINEER.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194ots.dgn	PLOT DATE: 11-APR-2012
PROJECT LEADER: DMB	DRAWN BY: S. Merkwan
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
TYPICAL SECTIONS - 3	SHEET 7 OF 123

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				ROADWAY	TRAINING	EROSION CONTROL	UTILITIES BID ITEMS	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				1						1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	-			SEE SHEET 15 FOR EARTHWORK SUMMARY
				34000						34000		CM	COMMON EXCAVATION	203.15	221			
				700						700		CM	SOLID ROCK EXCAVATION	203.16	EST			
				1350				2580		3930		CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27	41			
				12						12		CM	EXCAVATION OF SURFACES AND PAVEMENTS	203.28	-			
				30959						30959		CM	EARTH BORROW	203.30	37			
				280						280		CM	SAND BORROW	203.31	10.8			
				4654						4654		CM	GRANULAR BORROW	203.32	-			
								620		620		CM	GRAVEL BACKFILL FOR SLOPE STABILIZATION	203.35	-			
				3600						3600		CM	TRENCH EXCAVATION OF EARTH	204.20	3.7			ITEM 204.20 - TRENCH EXCAVATION OF EARTH
				20						20		CM	TRENCH EXCAVATION OF ROCK	204.21		1731	CM	DRAINAGE DETAIL SHEET
				1						1		CM	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	EST	607	CM	ITEM DETAIL SHEET(UNDERDRAIN SUMMARY)
				240				920		1160		CM	STRUCTURE EXCAVATION	204.25	11.8	1253	CM	UTILITY CALCULATION
								510		510		CM	GRANULAR BACKFILL FOR STRUCTURES	204.30	5	9	CM	ROUNDING
				940						940		SM	DRILLING AND BLASTING OF SOLID ROCK SUBGRADE	205.20	-	3600	CM	TOTAL
								780		780		CM	COFFERDAM EXCAVATION, EARTH	208.30	6			
								260		260		CM	COFFERDAM EXCAVATION, ROCK	208.35	4			
								1		1		LS	COFFERDAM (NORTH SLANT LEG FOOTING)	208.40				
				45						45		CM	SUBBASE OF GRAVEL	301.15	3			
				167						167		CM	SUBBASE OF DENSE GRADED CRUSHED STONE	301.35	-			
				11						11		CM	AGGREGATE SURFACE COURSE	401.10	0.5			
				1						1		LU	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	406.50	-			
								1099		1099		CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34	1			
								1		1		LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10	-			
								648		648		M	STEEL PILING, HP 310 X 79	505.15	-			
								2		2		EACH	DYNAMIC PILE LOADING TEST	505.45	-			
								482880		482880		KG	STRUCTURAL STEEL, PLATE GIRDER	506.55	-			
								20260		20260		KG	REINFORCING STEEL	507.15	-			
								319		319		M	DRILLING AND GROUTING DOWELS	507.16	-			
								115855		115855		KG	EPOXY COATED REINFORCING STEEL	507.17	-			
								1		1		LS	SHEAR CONNECTORS (6,520 - 22MM X 175MM)	508.15	-			
								1		1		LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25	-			
								1		1		LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, SHOP	513.35	-			
								1		1		LS	SURFACE PREPARATION, SHOP	513.40	-			
								290		290		L	WATER REPELLENT, SILANE	514.10	-			
								24		24		M	BRIDGE EXPANSION JOINT, FINGER PLATE	516.12	-			
								1912		1912		SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20	-			
								350		350		M	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33	-			
								10		10		EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10	-			
								12		12		EACH	BEARING DEVICE ASSEMBLY, STEEL	531.13	-			

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b1940TY01.dgn
PROJECT LEADER: DMB
DESIGNED BY: JWS
QUANTITY SHEET - 1

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 8 OF 123

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				ROADWAY	TRAINING	EROSION CONTROL	UTILITIES BID ITEMS	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
								383		383		CM	CONCRETE, CLASS C	541.30	1			
													BEGIN OPTION AA					
				23						23		M	375 CAAP 1.52 (68 X 12)	601.0210	-			
				23						23		M	375 PCCSP 1.63 (68 X 12)	601.0410	-			
													END OPTION AA					
													BEGIN OPTION BB					
				38.2						38.2		M	450 CAAP 1.52 (68 X 12)	601.0215	-			
				38.2						38.2		M	450 PCCSP 1.63 (68 X 12)	601.0415	-			
				38.2						38.2		M	450 PCCSP(PI) 1.63 (68 X 12)	601.0615	-			
													END OPTION BB					
													BEGIN OPTION CC					
				381.2						381.2		M	450 RCP CLASS III	601.0815	-			
				381.2						381.2		M	450 CPEP(SL)	601.2615	-			
													END OPTION CC					
													BEGIN OPTION DD					
				48						48		M	750 RCP CLASS III	601.0835	-			
				48						48		M	750 CPEP(SL)	601.2625	-			
													END OPTION DD					
													BEGIN OPTION EE					
				14.5						14.5		M	900 RCP CLASS III	601.0845	-			
				14.5						14.5		M	900 CPEP(SL)	601.2630	-			
													END OPTION EE					
				15.7						15.7		M	450 CPEP(SL)	601.2615	-			
				18						18		M	750 CPEP(SL)	601.2625	-			
													BEGIN OPTION FF					
				2						2		EACH	450 CAAP ELBOW 1.52 (68 X 12)	601.5215	-			
				2						2		EACH	450 PCCSP ELBOW 1.63 (68 X 12)	601.5415	-			
													END OPTION FF					
				2						2		EACH	450 CPEP ELBOW (SL)	601.5814	-			
													BEGIN OPTION GG					
				1						1		EACH	375 CSPES 1.63 (68 X 12)	601.6010	-			
				1						1		EACH	375 CAAPES 1.52 (68 X 12)	601.6210	-			
													END OPTION GG					
													BEGIN OPTION HH					
				2						2		EACH	450 CSPES 1.63 (68 X 12)	601.6015	-			
				2						2		EACH	450 CAAPES 1.52 (68 X 12)	601.6215	-			
				2						2		EACH	450 RCPES CLASS III	601.6815	-			
				2						2		EACH	450 CPEPES	601.7015	-			
													END OPTION HH					
				12						12		EACH	PRECAST REINFORCED CONCRETE DROP INLET WITH CAST IRON GRATE	604.18	-			

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b1940TY02.dgn
PROJECT LEADER: DMB
DESIGNED BY: JWS
QUANTITY SHEET - 2

PLOT DATE: 11-APR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 9 OF 123

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 3

SUMMARY OF ESTIMATED QUANTITIES									TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
				ROADWAY	TRAINING	EROSION CONTROL	UTILITIES BID ITEMS	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
				1						1		EACH	PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE	604.20	-			
							2			2		EACH	SANITARY SEWER MANHOLE	604.22	-			
							1			1		EACH	CHANGING ELEVATION OF SEWER MANHOLES	604.42	-			
				500						500		M	200 MM UNDERDRAIN PIPE	605.11	5			
				15						15		M	200 MM UNDERDRAIN CARRIER PIPE	605.21	3			
				6						6		EACH	UNDERDRAIN FLUSHING BASIN	605.95	-			
				50						50		HR	POWER GRADER RENTAL	608.15	EST			
				100						100		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	EST			
				200						200		HR	POWER BROOM RENTAL, TYPE I	608.30	EST			
				100						100		HR	TRUCK RENTAL	608.37	EST			
				1200						1200		CM	DUST CONTROL WITH WATER	609.10	116.9			ITEM 619.17 - YIELDING MARKER POST
				35						35		CM	STONE FILL, TYPE I	613.10	0.8	17	EA	DRAINAGE DETAIL SHEET
				24				1970		1994		CM	STONE FILL, TYPE II	613.11	0.4	6	EA	ITEM DETAIL SHEET (UNDERDRAIN SUMMARY)
				29						29		EACH	YIELDING MARKER POSTS	619.17	-	6	EA	UTILITY SLEEVE CALCULATION
				245						245		M	CHAIN-LINK FENCE, 1.8 M (VINYL COATED)	620.12	1.1	0	EA	ROUNDING
				3						3		EACH	BRACING ASSEMBLY FOR CHAIN-LINK FENCE, 1.8 M	620.21	-	29	EA	TOTAL
				30						30		M	STEEL BEAM GUARDRAIL, GALVANIZED	621.20	1			
				2						2		EACH	ANCHOR FOR STEEL BEAM RAIL	621.60	-			
				130						130		M	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	3.5			
							1			1		CM	INSULATION BOARD	622.10	EST			
							25			25		M	SLEEVES FOR UTILITIES (1 X 300MM)(C900)	625.10	0.8			
							66			66		M	SLEEVES FOR UTILITIES (1 X 450MM)(C905)	625.10	0.2			
							18			18		M	SLEEVES FOR UTILITIES (1 X 600MM)(C905)	625.10	-			
							85			85		M	PVC SEWER PIPE (375MM)	628.35	-			
							1			1		LS	TRANSFER TO NEW SYSTEM, SANITARY SEWER	628.42	-			
							16			16		M	SEAMLESS COPPER WATER TUBE (25MM)	629.23	0.8			
							4			4		M	DUCTILE IRON PIPE, CEMENT-LINED (100MM)	629.24	-			
							90			90		M	DUCTILE IRON PIPE, CEMENT-LINED (200MM)	629.24	1			
							2			2		EACH	GATE VALVE WITH VALVE BOX (100MM)	629.27	-			
							2			2		EACH	GATE VALVE WITH VALVE BOX (200MM)	629.27	-			
							2			2		EACH	TAPPING SLEEVE AND VALVE WITH VALVE BOX (100MM)	629.35	-			
							1			1		EACH	CORPORATION STOP (25MM)	629.39	-			
							1			1		LS	TRANSFER TO NEW SYSTEM, WATER SYSTEM	629.42	-			
				2100						2100		HR	FLAGGERS	630.15	21.6			
									1	1		LS	FIELD OFFICE, ENGINEERS	631.10	-			
									1	1		LS	TESTING EQUIPMENT, CONCRETE	631.16	-			
									3000	3000		DL	FIELD OFFICE TELEPHONE (N.A.B.I.)	631.26	-			
					1040					1040		HR	EMPLOYEE TRAINEESHIP	634.10	-			
				1						1		LS	MOBILIZATION/DEMOBILIZATION	635.11	-			
				1						1		LS	TRAFFIC CONTROL	641.10	-			

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b1940TY03.dgn
PROJECT LEADER: DMB
DESIGNED BY: JWS
QUANTITY SHEET - 3

PLOT DATE: 11-APR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 10 OF 123

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 4

SUMMARY OF ESTIMATED QUANTITIES

ROADWAY	TRAINING	EROSION CONTROL	UTILITIES BID ITEMS	BRIDGE	FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
75				3280		3355		SM	GEOTEXTILE UNDER STONE FILL	649.31	7
		555				555		SM	GEOTEXTILE FOR SILT FENCE	649.51	-
		230				230		SM	GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED	649.515	2.8
		290				290		SM	GEOTEXTILE FOR FILTER CURTAIN	649.61	2.5
		195				195		KG	SEED	651.15	0.4
		63				63		KG	SEED, WINTER RYE	651.17	0.6
		1250				1250		KG	FERTILIZER	651.18	39.5
		10				10		T	AGRICULTURAL LIMESTONE	651.20	0.3
		14				14		T	HAY MULCH	651.25	0.1
		1100				1100		CM	TOPSOIL	651.35	19.2
				1300		1300		SM	GRUBBING MATERIAL	651.40	79
		1				1		LS	EPSC PLAN	652.10	-
		675				675		HR	MONITORING EPSC PLAN	652.20	4
		1				1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	652.30	-
		9450				9450		SM	TEMPORARY EROSION MATTING	653.20	14.1
		49				49		CM	TEMPORARY STONE CHECK DAM, TYPE I	653.25	0.3
		26				26		CM	VEHICLE TRACKING PAD	653.35	0.8
		7				7		EACH	INLET PROTECTION DEVICE, TYPE I	653.40	-
		420				420		M	BARRIER FENCE	653.50	2.5
		1250				1250		M	PROJECT DEMARCATION FENCE	653.55	48.7
1						1		LU	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	690.50	-
280						280		CM	SPECIAL PROVISION (CLAY BORROW)	900.608	9.6
10						10		CM	SPECIAL PROVISION (CONTROLLED DENSITY (FLOWABLE) FILL)	900.608	0.5
				564		564		CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS AA LOW CEMENT)	900.608	1
				265730		265730		KG	SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE HPS 485W)	900.635	4
				2525		2525		KG	SPECIAL PROVISION (STAINLESS STEEL REINFORCING)	900.635	-
1						1		LS	SPECIAL PROVISION (TEMPORARY ACCESS ROAD AND STAGING AREAS, BRIDGE)	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	-
140						140		SM	SPECIAL PROVISION (MECHANICALLY STABILIZED EARTH RETAINING WALL, RECON)	900.675	
26				200		226		T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680	-

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b1940TY04.dgn
PROJECT LEADER: DMB
DESIGNED BY: JWS
QUANTITY SHEET - 4

PLOT DATE: 11-APR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 11 OF 123

Metric

STATE OF VERMONT
AGENCY OF TRANSPORTATION

BRIDGE QUANTITY SHEET 1

SUMMARY OF BRIDGE QUANTITIES

SUPER STRUCTURE	CHANNEL	APPROACH SLAB 1	APPROACH SLAB 2	ABUTMENT 1	ABUTMENT 2	S. LEG FOUNDATION	N. LEG FOUNDATION	TOTALS BRIDGE TOTAL	UNIT	ITEMS	ITEM NUMBER
	2580							2580	CM	UNCLASSIFIED CHANNEL EXCAVATION	203.27
				410	210			620	CM	GRAVEL BACKFILL FOR SLOPE STABILIZATION	203.35
				365		555		920	CM	STRUCTURE EXCAVATION	204.25
				150	185	10	165	510	CM	GRANULAR BACKFILL FOR STRUCTURES	204.30
							780	780	CM	COFFERDAM EXCAVATION, EARTH	208.30
							260	260	CM	COFFERDAM EXCAVATION, ROCK	208.35
							1	1	LS	COFFERDAM (NORTH SLANT LEG FOOTING)	208.40
		27	27	138	154	242	511	1099	CM	CONCRETE, HIGH PERFORMANCE CLASS B	501.34
					0.5	0.5		1	LS	FURNISHING EQUIPMENT FOR DRIVING PILING	504.10
					318	330		648	M	STEEL PILING, HP 310 X 79	505.15
					1	1		2	EACH	DYNAMIC PILE LOADING TEST	505.45
482880								482880	KG	STRUCTURAL STEEL, PLATE GIRDER	506.55
				3105	3505	5420	8230	20260	KG	REINFORCING STEEL	507.15
						76	243	319	M	DRILLING AND GROUTING DOWELS	507.16
108775		1875	1920	1601	1684			115855	KG	EPOXY COATED REINFORCING STEEL	507.17
1								1	LS	SHEAR CONNECTORS (6,520 - 22MM X 175MM)	508.15
1								1	LS	STRUCTURAL PAINTING, SHOP APPLIED	513.25
1								1	LS	CONTAINMENT & ENVIRONMENTAL PROTECTION, SHOP	513.35
1								1	LS	SURFACE PREPARATION, SHOP	513.40
167				20	22	38	43	290	L	WATER REPELLENT, SILANE	514.10
24								24	M	BRIDGE EXPANSION JOINT, FINGER PLATE	516.12
1912								1912	SM	SHEET MEMBRANE WATERPROOFING, TORCH APPLIED	519.20
350								350	M	BRIDGE RAILING, GALVANIZED NETC 2 RAIL	525.33
				5	5			10	EACH	BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD	531.10
						6	6	12	EACH	BEARING DEVICE ASSEMBLY, STEEL	531.13
							383	383	CM	CONCRETE, CLASS C	541.30
				910	1060			1970	CM	STONE FILL, TYPE II	613.11
				1500	1780			3280	SM	GEOTEXTILE UNDER STONE FILL	649.31
	1300							1300	SM	GRUBBING MATERIAL	651.40
560				2	2			564	CM	SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS AA LOW CEMENT)	900.608
265730								265730	KG	SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE HPS 485W)	900.635
						600	1925	2525	KG	SPECIAL PROVISION (STAINLESS STEEL REINFORCING)	900.635
200								200	T	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194BQTY01.dgn
PROJECT LEADER: DMB
DESIGNED BY: JWS
BRIDGE QUANTITY SHEET

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 12 OF 123

STATE OF VERMONT
AGENCY OF TRANSPORTATION

ITEM DETAIL SHEET

Metric

CURB

BEGIN STATION	END STATION	POSITION		REMARKS
		LEFT	RIGHT	
km + m	km + m	m	m	

SIDEWALK

BEGIN STATION	END STATION	POSITION		REMARKS
		LEFT	RIGHT	
km + m	km + m	m^2	m^2	

GUARD RAIL

BEGIN STATION	END STATION	POSITION		END TREATMENT	
		LEFT	RIGHT	BEGIN	END
km + m	km + m	m	m	ea	ea
	STEEL BEAM GUARDRAIL, GALVANIZED				
VT 100					
7+774.5	7+800.3		29.0	ANCHOR	ANCHOR
	GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL				
7+915.0	7+922.6	1 ea			
7+915.0	7+922.6		1 ea		
8+082.4	8+090.0	1 ea			
8+082.4	8+090.0		1 ea		
	REMOVAL AND DISPOSAL OF GUARDRAIL				
VT 100					
8+290.0	8+345.0	66.5			
8+290.0	8+340.0		60.0		
	ITEM 621.20 STEEL BEAM GUARDRAIL , GALVANIZED				
	SUB-TOTAL=	29	m		
	ROUNDING=	1	m		
	ITEM TOTAL=	30	m		
	ITEM 621.60 ANCHOR FOR STEEL BEAM RAIL				
	SUB-TOTAL=	2	ea		
	ROUNDING=	0	ea		
	ITEM TOTAL=	2	ea		
	ITEM 621.72 GUARDRAIL APPROACH SECTION, GALVANIZED NETC 2 RAIL				
	SUB-TOTAL=	4	ea		
	ROUNDING=	0	ea		
	ITEM TOTAL=	4	ea		
	ITEM 621.80 REMOVAL AND DISPOSAL OF GUARDRAIL				
	SUB-TOTAL=	126.5	m		
	ROUNDING=	3.5	m		
	ITEM TOTAL=	130	m		

UNDERDRAIN

BEGIN STATION	END STATION	TYPE	POSITION	DIA.	LENGTH	TRENCH		GRAN BKFILL	FB	MKR PST
						EARTH	ROCK			
km + m	km + m			mm	m	m^3	m^3	m^3	ea	ea
7+662	7+750	U1	RT	200	89	109.8		2	1	1
7+662	7+750	U2	LT	200	89	109.8		2	1	1
7+752	7+840	U3	LT	200	89	109.8		2	1	1
7+752	7+840	U4	RT	200	89	109.8		2	1	1
7+842	7+905	U5	LT	200	63	77.7		2	1	1
7+842	7+905	U6	RT	200	63	77.7		2	1	1
8+282	8+285	U	LT	200	13	12.5				
TOTALS					495	607.1		12	6	6
	ITEM 605.11 - 200mm UNDERDRAIN PIPE									
	SUB-TOTAL=					495	m			
	ROUNDING=					5	m			
	ITEM TOTAL=					500	m			
	ITEM 204.20 - TRENCH EXCAVATION OF EARTH									
	SUB-TOTAL=					607.1	m3			
	ROUNDING=					*	m3			
	ITEM TOTAL=					*	m3			
	* SEE QUANTITY SUMMARY SHEET 1									
	ITEM 605.21 - 200mm UNDERDRAIN CARRIER PIPE									
	SUB-TOTAL=					12	m			
	ROUNDING=					3	m			
	ITEM TOTAL=					15	m			
	ITEM 605.95 - UNDERDRAIN FLUSHING BASIN									
	SUB-TOTAL=					6	ea			
	ROUNDING=					0	ea			
	ITEM TOTAL=					6	ea			
	ITEM 619.17 - YIELDING MARKER POSTS									
	SUB-TOTAL=					6	ea			
	ROUNDING=					*	ea			
	ITEM TOTAL=					*	ea			
	* SEE QUANTITY SUMMARY SHEET 3									

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F029 - 1(2) C/1**

FILE NAME: **z10b194ids.xls**
PROJECT LEADER: **DMB**
DESIGNED BY: **JWS**
ITEM DETAIL SHEET

PLOT DATE: **3/29/2012**
DRAWN BY: **MJF**
CHECKED BY: **BRC**
SHEET **13** OF **123**

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE DETAIL SHEET

Metric

STATION	STATION	POS.	NOTE #	INLET/OUTLET TYPE		DITCH		PIPE ARCH			PIPE		ALLOWABLE OPTIONS						PIPE ELBOW	ES	CB	PRCDI	DEPTH DI	CONC CLASS B	REINF STEEL	GRATE	CHAN ELEV	CRM	TRENCH EXCAVATION		COMM EXC	UNC CHAN EXC	STRUCT EXCAV	GRAN BKFILL STRUCT	GRAN BORR	EROS MATT	STONE FILL		MARKER POSTS		GEOT. UNDER STONE FILL		REMARKS
				INLET	OUTLET	IN	OUT	SPAN	RISE	L	D	L	PCCSP	CAAP	RCP CL	CSP	CPEP SL	PCCSP PI										EARTH	ROCK									LT	RT			
km + m	km + m							mm	mm	m	mm	m	mm	mm		mm	mm	mm	no. deg.	ea	ea		m	m^3	kg	type	ea	m^3	m^3	m^3	m^3	m^3	m^3	m^3	m^2	m^3	type	ea	ea	m^2		
7+560	7+660	LT/LT	DN 1	PRCDI-A							450	99.0			III		X				1	1.75			B			259.2										1				
7+660	7+660	RT/LT	DN 3	PRCDI-A							450	22.0			III		X				1	1.83			B			64.2											1			
7+660	7+750	LT/LT	DN 2	PCCDI-A							450	89.0			III		X				1	1.92			B			252.9										1				
7+750	7+750	RT/LT	DN 4	PRCDI-A							450	20.0			III		X				1	1.84			B			60.3											1			
7+750	7+840	LT/LT	DN 5	PRCDI-A							450	89.0			III		X				1	2.03			B			268.1										1				
7+840	7+840	RT/LT	DN 6	PRCDI-A							450	21.0			III		X				1	1.74			B			63.1											1			
7+840	7+860	LT/LT	DN 7	PRCDI-A	E.S.						450	21.0			III		X			1	1	1.97			B			58.2		1.0						1.0	II	2		4.9		
7+905	7+944	LT/LT	DN 8	E.S.	E.S.						450	38.2	1.63	1.52				X	2-45	2								113.6										2				
7+905	7+905	LT/RT	DN 9	PRCDI-A							450	10.2			III		X				1	2.30			E			53.6														
7+905	7+915	RT/RT	DN 10	PRCDI-A	E.S.						450	10			III		X			1	1	2.40			E			51.4											1			SPECIAL DITCH 7+915 TO 7+939 (SEE BRIDGE PLAN)
8+270	8+277.8	LT/LT	DN 11	PRCDI-A							450	15.7					X		2-45			2.17			D					2.9						2.9	II	1		10.8		PROVIDE 1m STUBS FOR FUTURE CONNECTIONS
8+290		LT	DN 17																																						PLUG AND ABANDON EXISTING 600 mm RCP WITH CONTROLLED DENSITY (FLOWABLE) FILL
8+284.9	8+300.5	LT/LT	DN 14	PRCDI-B							900	14.5			III		X				1	2.90			BX2			78.8		11.6						11.6	II	2		31.3		SEE DETENTION BASIN GRADING PLANS
8+349	8+300	LT/LT	DN 13	PRCDI-C							750	48			III		X				1	3.80			E			405.3														PROVIDE 1m STUBS FOR FUTURE CONNECTIONS
8+300	8+289.3	LT/LT	DN 12	PRCDI-B							750	18					X				1	4.23			E			7.0		8.1						8.1	II	1		23.4		SEE DETENTION BASIN GRADING PLANS
8+232.5	8+256.0	LT/LT	DN 16	E.S.							375	23	1.63	1.52						1																		2			
SHEET TOTALS											375	23	1.63	1.52					4-45	5	1	12					9	TYPE B	1735.7		23.6						23.6	II	13	4	70.4		
											450	381.2			III		X										1	TYPE D														
											450	15.7					X																										
											450	38.2	1.63	1.52				X									4	TYPE E															
											750	18					X																										
											750	48			III		X			1	375mm																						
											900	14.5			III		X			4	450mm																						

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	z10b194dds.xls
PROJECT LEADER:	DMB
DESIGNED BY:	RPH
DRAINAGE DETAIL SHEET	
PLOT DATE:	11/2/2011
DRAWN BY:	MJF
CHECKED BY:	JWS
SHEET	14 OF 123

STATE OF VERMONT
AGENCY OF TRANSPORTATION

EARTHWORKS

Metric

STATION km + m	DIST m	TOTAL EXCAVATION EARTH AND ROCK AREA m^2	TOTAL EXCAVATION EARTH AND ROCK VOLUME m^3	ROCK EXCAVATION AREA m^2	ROCK EXCAVATION VOLUME m^3	EMBANKMENT AREA m^2	EMBANKMENT VOLUME m^3	AREA m^2	VOLUME m^3
VT 100								CUT	72
7+540								R.CUT	0
7+560		0.3	3.0			5.4	54.0	FILL	190
7+580	20	1.7	20.0			3.8	92.0	FAC	1.15
7+600	20	3.2	49.0			0.6	44.0	EXF	147
7+620	20	9.2	124.0				6.0		
7+640	20	27.6	368.0						
7+660	20	42.5	701.0					CUT	13306
7+680	20	54.4	969.0					R.CUT	0
7+700	20	66.8	1212.0					FILL	6
7+720	20	83.0	1498.0					FAC	1.15
7+740	20	97.7	1807.0					EXC	13299
7+760	20	112.5	2102.0						
7+780	20	112.1	1569.0						
7+800	20	116.1	2282.0						
7+820	20	91.5	1246.0						
7+840	20	103.8	1953.0					CUT	19779
7+860	20	243.8	3476.0					R.CUT	0
7+880	20	289.6	5334.0					FILL	138
7+900	20	218.2	5078.0					FAC	1.15
7+912	12	75.6	1763.0			1.5	11.0	EXC	19620
8+081			BRIDGE			186.7			
8+084	3					186.7	560.0		
8+084		38.4				309.0		CUT	320
8+100	16		307.0			381.4	5523.0	R.CUT	0
8+120	20					251.8	6332.0	FILL	27351
8+140	20					180.3	4321.0	FAC	1.15
8+160	20					129.2	3095.0	EXF	31134
8+180	20					192.2	3214.0		
8+200	20	1.3	13.0			238.4	4306.0		
8+220	20		13.0			283.9	5223.0		
8+240	20					266.8	5507.0		
8+260	20					200.1	4669.0	CUT	221
8+280	20					335.6	5357.0	R.CUT	0
8+300	20					263.8	5994.0	FILL	31723
8+320	20					107.2	3710.0	FAC	1.15
8+340	20	8.3	83.0			8.3	1155.0	EXF	36260
8+346	6	8.3	50.0			8.3	50.0		
8+360	14	2.3	74.0			0.0	58.0		
8+361	1		1.0						

SUMMARY AND BALANCES

STATION TO STATION km + m		TOT EXC. EARTH & ROCK m^3	ROCK EXCAV m^3	EMBANK m^3	EXCESSES CUT	EXCESSES FILL	ACUMULATIVE EXCESSES CUT	ACUMULATIVE EXCESSES FILL
7+540	7+600	72	0	190	0	147		147
7+620	7+800	13306	0	6	13299	0	13153	
7+808	7+912	19779	0	138	19620	0	32773	
8+081	8+200	320	0	27351	0	31134	1639	
8+220	8+361	221	0	31723	0	36260		34621
DRIVEWAY								
8+243				57		66		34687
DET. BASIN								
8+288		291	0	256		3		34691
STONE PADS		24	0		24			34667
DITCH BERM				4		4		34671
CLAY BORROW		280	0		280			34391
CUT/FILL TRANSITION		175	0	175		26		34417

REMARKS

EARTH AND ROCK EXCAVATION	34468
SOLID ROCK EXCAVATION (ASSUME 2% OF EARTH EXC	689
EARTH EXCAVATION	33779
PLANIMETERED FILL	59900
LESS FACTORED SOLID ROCK	896
LESS DISPLACEMENT OF ANY LARGE STRUCTURES	0
NET PLANIMETERED FILL	59004
FACTOR QUANT X (0.15) =	8851
PLANIMETERED FILL INCLUDING FACTOR	67855
MATERIALS AVAILABLE FOR FILLS	
EARTH EXCAVATION	33779
UNCLASSIFIED CHANNEL EXCAVATION	1350
UNDERDRAIN EXCAVATION	607
STRUCTURE EXCAVATION	1160
TOTAL MATERIAL AVAILABLE FOR FILL	36896
TOTAL FILL INCLUDING FACTOR	67855
TOTAL MATERIAL FOR FILL	36896
BORROW	30959
EXCESS EXCAVATION	

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F-029-1(2) C/1**

FILE NAME: **z10b194ew3.xls**
PROJECT LEADER: **DMB**
DESIGNED BY: **JWS**
EARTHWORK DETAIL SHEET

PLOT DATE: **3/29/2012**
DRAWN BY: **MJF**
CHECKED BY: **BRC**
SHEET **15** OF **123**

GPS CONTROL POINTS

HVCTRL 16

Standard Disk Stamped

Langdell
NORTH = 230524.176
EAST = 492970.012
ELEV. = 240.692

TO REACH FROM THE INTERSECTION OF ROUTES 15 AND 100 IN MORRISVILLE GO EAST ALONG ROUTE 15 FOR 0.1 MI (0.2 KM) TO OLD FARM BUILDINGS ON THE LEFT, TURN LEFT INTO FARM YARD AND PARK VEHICLE, WALK NORTHEAST THROUGH BARNYARD AND PASTURE FOR ABOUT 170 M (557.7 FT) TO THE SITE OF THE MARK IN A LANE BETWEEN 2.5 M (8.2 FT) HIGH WOVEN WIRE FENCES FOR FALLOW DEER, IN THE TOP OF A 0.15 M (0.49 FT) SQUARE CONCRETE MONUMENT WHICH PROJECTS 0.1 M (0.3 FT) ABOVE THE GROUND, 19.2 M (63.0 FT) NORTH OF THE CENTER OF A STEEL GATE AT THE SOUTH END OF THE LANE, 34.5 M (113.2 FT) SOUTH OF THE SOUTHEAST CORNER OF A PATCH OF WOODS, 1.9 M (6.2 FT) WEST OF THE FENCE ON THE EAST SIDE OF THE LANE, 2.3 M (7.5 FT) EAST OF THE FENCE ON THE WEST SIDE OF THE LANE.

HVCTRL 10812

Standard Disk Stamped

A94020
NORTH = 229452.595
EAST = 491506.585
ELEV. = 182.680

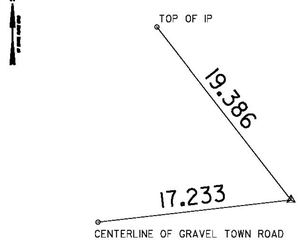
GENERAL LOCATION, MORRISTOWN, VT. TO REACH FROM THE CIVIL WAR MONUMENT AT THE INTERSECTION OF MAIN ST, ROUTE 12 AND 15A GO WEST ALONG MAIN ST FOR 0.15 MI (0.24 KM) TO THE TRAFFIC LIGHT AT THE INTERSECTION OF ROUTE 100, TURN RIGHT AND GO NORTH ALONG ROUTE 100 FOR 0.3 MI (0.5 KM) TO THE INTERSECTION OF BRIDGE ST CONTINUE STRAIGHT AHEAD AND GO WEST ALONG BRIDGE ST FOR 0.25 MI (0.40 KM) TO THE EAST END OF THE BRIDGE ST BRIDGE OVER THE LAMOILLE RIVER AND THE MARK ON THE RIGHT IN THE TOP OF THE WINGWALL AT THE NORTHEAST CORNER OF THE BRIDGE. THE MARK IS 5.2 M (17.1 FT) NORTH OF AND ABOUT LEVEL WITH THE CENTERLINE OF BRIDGE STREET.

• Description provided by Vermont Agency of Transportation Geodetic Survey Unit

TRAVERSE TIES

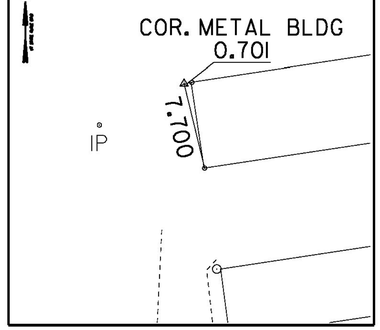
HVCTRL 30

NORTH = 228337.8183
EAST = 490528.2694
ELEV. = 222.085



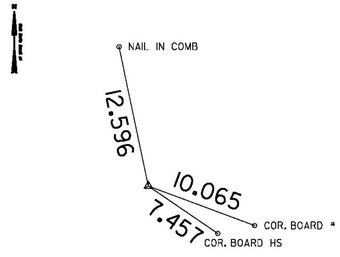
HVCTRL 31

NORTH = 228823.9222
EAST = 491426.9866
ELEV. = 202.518



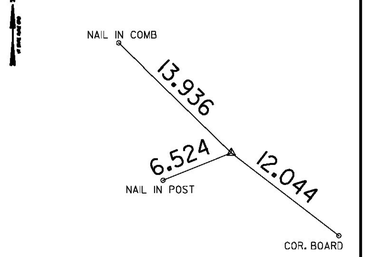
HVCTRL 32

NORTH = 228627.7495
EAST = 491453.0774
ELEV. = 203.173



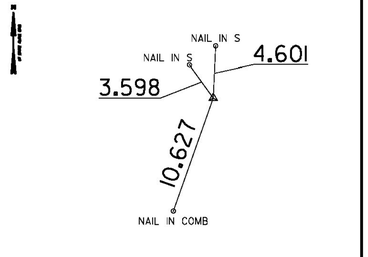
HVCTRL 33

NORTH = 228669.6604
EAST = 491628.6888
ELEV. = 202.033



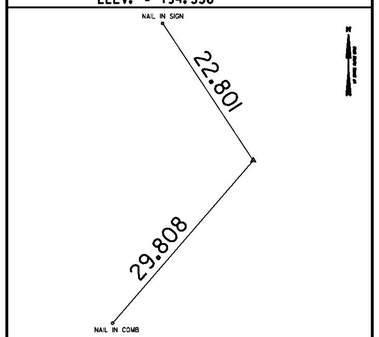
HVCTRL 34

NORTH = 228733.0271
EAST = 491756.4678
ELEV. = 196.146



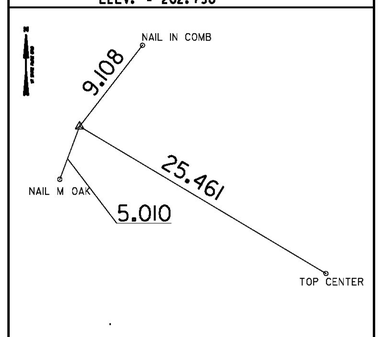
HVCTRL 35

NORTH = 228863.5664
EAST = 491976.4461
ELEV. = 194.536



HVCTRL 36

NORTH = 229035.9460
EAST = 492007.8454
ELEV. = 202.790



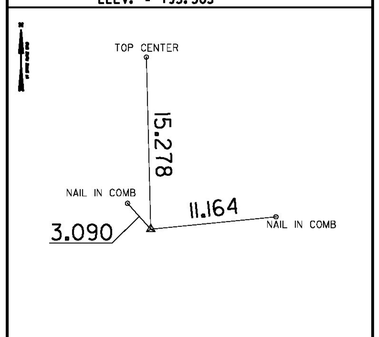
HVCTRL 37

NORTH = 229043.4144
EAST = 491875.8192
ELEV. = 190.483

NOT TIED

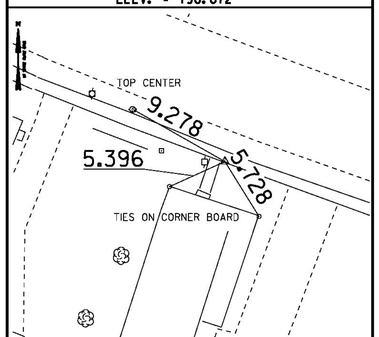
HVCTRL 38

NORTH = 229271.5712
EAST = 491905.6603
ELEV. = 195.505



HVCTRL 39

NORTH = 229329.4201
EAST = 491683.9349
ELEV. = 190.072



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Least Squares

NOTE: TRAVERSE TIES 31 & 39 ARE WITHIN THE LIMITS OF THIS PROJECT. OTHER TRAVERSE TIES ARE SHOWN FOR REFERENCE ONLY.

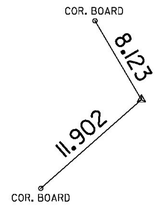
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

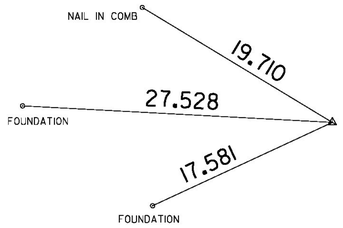
FILE NAME: z10b194tie01.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
TIE INFORMATION SHEET - 1
PLOT DATE: 29-MAR-2012
DRAWN BY: C. CYR
CHECKED BY: DMB
SHEET 16 OF 123

TRAVERSE TIES

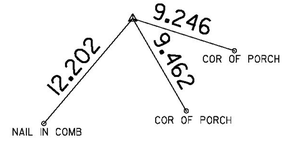
HVCTRL 50
NORTH = 229502.9708
EAST = 491954.8185
ELEV. = 205.165



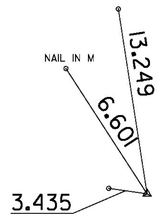
HVCTRL 51
NORTH = 229771.1344
EAST = 492083.4966
ELEV. = 206.337



HVCTRL 52
NORTH = 229844.5142
EAST = 492191.7505
ELEV. = 205.739

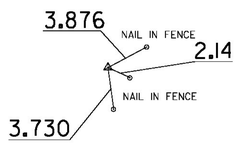


HVCTRL 53
NORTH = 230071.0947
EAST = 492352.4538
ELEV. = 207.347

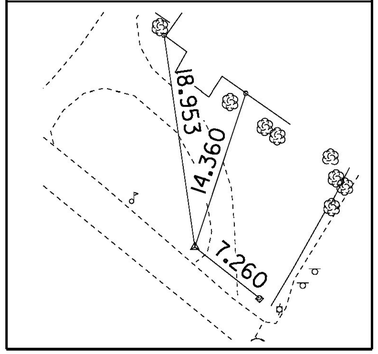


TRAVERSE TIES

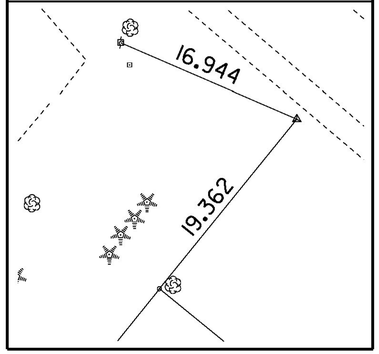
HVCTRL 54
NORTH = 230337.9111
EAST = 492524.4426
ELEV. = 212.613



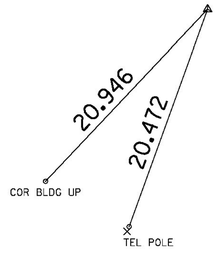
HVCTRL 55
NORTH = 230626.3780
EAST = 492649.6447
ELEV. = 221.602



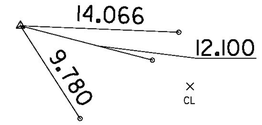
HVCTRL 56
NORTH = 230815.6126
EAST = 492394.8515
ELEV. = 221.660



HVCTRL 57
NORTH = 230443.8052
EAST = 492263.5615
ELEV. = 209.593

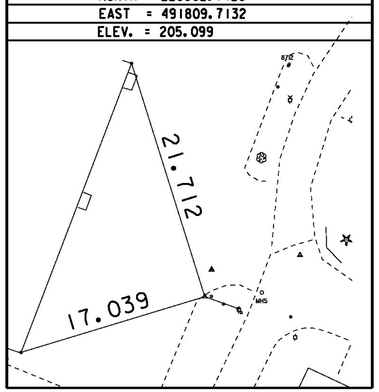


HVCTRL 58
NORTH = 230156.0285
EAST = 492141.9354
ELEV. = 205.630



TRAVERSE TIES

HVCTRL 59
NORTH = 229902.7429
EAST = 491809.7132
ELEV. = 205.099



HVCTRL 60
NORTH =
EAST =
ELEV. =

HVCTRL 61
NORTH =
EAST =
ELEV. =

HVCTRL 62
NORTH =
EAST =
ELEV. =

HVCTRL 63
NORTH =
EAST =
ELEV. =

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

DATUM
VERTICAL NAVD 88
HORIZONTAL NAD 83 (92)
ADJUSTMENT Least Squares

NOTE: TRAVERSE TIES 31 & 39 ARE WITHIN THE LIMITS OF THIS PROJECT. OTHER TRAVERSE TIES ARE SHOWN FOR REFERENCE ONLY.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

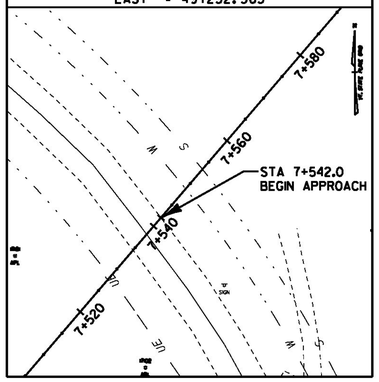
FILE NAME: z10b194tie02.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
TIE INFORMATION SHEET - 2

PLOT DATE: 29-MAR-2012
DRAWN BY: C.CYR
CHECKED BY: DMB
SHEET 17 OF 123

ALIGNMENT TIES

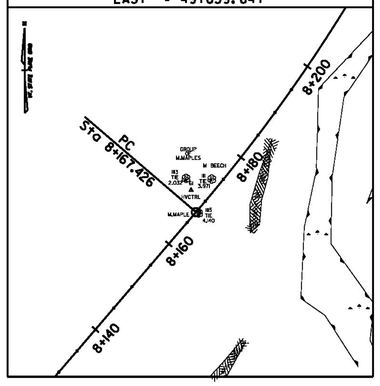
BEGIN APPROACH

NORTH = 228659.382
EAST = 491252.563



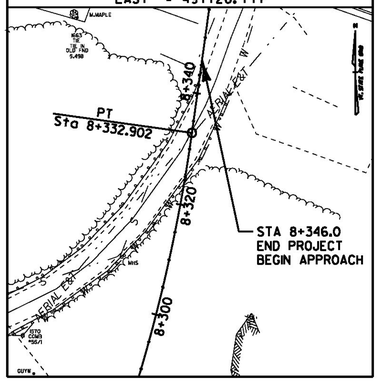
PC 8+167.426

NORTH = 229134.193
EAST = 491659.641



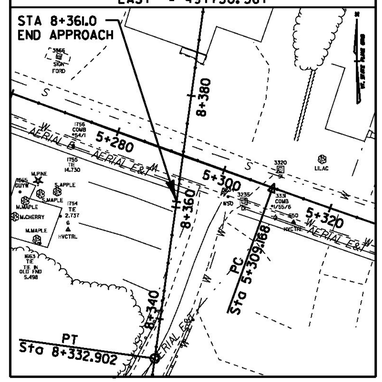
PT 8+332.902

NORTH = 229283.016
EAST = 491726.717



END APPROACH

NORTH = 229310.846
EAST = 491730.587



DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (92)
ADJUSTMENT	Least Squares

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10bl94tie03.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
TIE INFORMATION SHEET - 3

PLOT DATE: 29-MAR-2012
DRAWN BY: MJF
CHECKED BY: DMB
SHEET 18 OF 123

McFarland Johnson

VTrans Metric

DITCH BERM			
STA	W (mm)	H (mm)	L (m)
7+562.0, LT	300	300	3.6
7+662.0, LT	300	300	3.6
7+662.0, RT	300	300	3.6
7+752.0, LT	300	300	3.6
7+752.0, RT	300	300	3.6

SEE MISCELLANEOUS DETAIL SHEET

CHAIN LINK FENCE, 1.8m
VINYL COATED, GREEN
7+562.0, LT TO 7+760.0, LT

DRILLED WELL

EXISTING SOCCER FIELD

DO NOT DISTURB
EXISTING DRIVEWAY
TO BISHOP MARSHALL
SCHOOL.

FUTURE ROADWAY TO BE BUILT
IN A LATER CONTRACT (TYP)

BISHOP MARSHALL DRIVE

STA ~~7+542.5~~ 7+542.3, 14.3 RT TO STA 7+547.3, 13.1 LT
CONSTRUCT 450mm x ~~27.8m~~ 28.0m C905 PVC SLEEVE
CONSTRUCT YIELDING MARKER POSTS AT SLEEVE ENDS

STA 7+553.8, 12.7 RT TO STA 7+557.9, ~~11.1~~ 11.25 LT
CONSTRUCT 300mm x ~~24.2m~~ 24.4m C900 PVC SLEEVE
CONSTRUCT YIELDING MARKER POSTS AT SLEEVE ENDS

STA 7+560.0, 15.0 LT TO STA 7+660.0, 10.7 LT (1)
CONSTRUCT 450mm x 99.0m OPTION PIPE
RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+560.0

STA 7+660.0, 10.7 LT TO STA 7+750.0, 10.5 LT (2)
CONSTRUCT 450mm x 89.0m OPTION PIPE
RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+660.0

STA 7+563.0
END APPROACH
BEGIN PROJECT

STA 7+662.0, 7.5 LT TO STA 7+750.0, 7.5 LT (U2)
CONSTRUCT 200mm x 89.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+662.0

PROPOSED VT 100

N40° 36' 29.0"E

MATCHLINE STA 7+760

STA 7+662.0, 9.0 RT TO STA 7+750.0, 7.5 RT (U1)
CONSTRUCT 200mm x 89.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+662.0

STA 7+750.0, 10.5 RT TO STA 7+750.0, 10.5 LT (4)
CONSTRUCT 450mm x 20.0m OPTION PIPE
RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+750.0, 10.5 RT

STA 7+660.0, 12.0 RT TO STA 7+660.0, 10.7 LT (3)
CONSTRUCT 450mm x 22.0m OPTION PIPE
RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+660.0, 12.0 RT

STA 7+542.0
BEGIN APPROACH

EXISTING VT 100 (OLD)

FUTURE VT 100

EXISTING BISHOP MARSHALL DRIVE

PAVED DRIVE

ISTY WOOD FR. HOUSE

GARAGE

STONE SIDEWALK

WALL

SHRUB

BUILDING

STORAGE UNITS

IRON PIN

BOUND

GUYWIRE

SIGN

COMBINATION POLE

AERIAL E&T

DITCH

300mm HDPE

MH

GUIDEPOST

PROJECT MARKER

PIPE

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

VT. STATE PLANE GRID

N

0 10 20 30
SCALE 1:500

NOTES:

1. SEE RIGHT-OF-WAY PLANS FOR PERMANENT AND TEMPORARY RIGHT-OF-WAY INFORMATION.
2. SEE MISCELLANEOUS DETAIL SHEET FOR DITCH BERM DETAILS.

LEGEND

- DITCH BERM
- (3) DRAINAGE NOTE (SEE DRAINAGE DETAIL SHEET)
- (UI) UNDERDRAIN NOTE (SEE ITEM DETAIL SHEET)

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194103.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
LAYOUT SHEET - 1	SHEET 19 OF 123

VTrans Metric

DITCH BERM			
STA	W (mm)	H (mm)	L(m)
7+842.0, LT	300	300	2.7
7+842.0, RT	300	300	2.7
7+908.0, LT	300	600	10.0

SEE MISCELLANEOUS DETAIL SHEET

CHAIN LINK FENCE, 1.8m VINYL COATED, GREEN
7+760.0, LT TO 7+805.9, LT

(7) STA 7+840.0, 10.5 LT TO STA 7+860.0, 18.9 LT
CONSTRUCT 450mm x 21.0m OPTION PIPE RCP (CLASS III, CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE AT STA. 7+840.0, 10.5 LT
CONSTRUCT 450mm END SECTION WITH 0.9m x 1.8m x 600mm TYPE II STONE PAD AT OUTLET

STA 7+842.0, 7.5 LT TO STA 7+905.0, 7.5 LT (U5)
CONSTRUCT 200mm x 63.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+842.0

STA 7+902.6, 4.125 RT TO STA 7+916.6, 4.125 RT
450 mm SLEEVE (PVC)

STA 7+903.6, 4.125 LT TO STA 7+916.6, 4.125 LT
600 mm SLEEVE (PVC)

STA 7+905.0, 5.4 LT TO STA 7+905.0, 5.4 RT (9)
CONSTRUCT 450mm x 10.2m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE E GRATE AT STA 7+905.0, 6.0 LT

STA 7+905.0, 17.10 LT TO STA 7+944.0, 17.10 LT (8)
CONSTRUCT 450mm x 38.2m OPTION PIPE PCCSP (1.6), CAAP (1.5), PCCSP WITH TWO 45° ELBOWS, 450mm METAL END SECTION AT INLET, AND 450mm METAL END SECTION AT OUTLET

VT. STATE PLANE GRID N

STA 7+752.0, 7.5 LT TO STA 7+840.0, 7.5 LT (U3)
CONSTRUCT 200mm x 89.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+752.0

STA 7+750.0, 10.5 LT TO STA 7+840.0, 10.3 LT (5)
CONSTRUCT 450mm x 89.0m OPTION PIPE RCP (CLASS III, CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+750.0

(6) STA 7+840.0, 11.6 RT TO STA 7+840.0, 10.3 LT
CONSTRUCT 450mm x 21.0m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+840.0, 11.6 RT

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

PROPOSED VT 100 STA 7+940.000 = CHANNEL STA 1+030.000

CONTRACTOR MAY CONSTRUCT TEMPORARY BRIDGE OR CAUSEWAY. MAXIMUM ALLOWABLE LIMITS OF IMPACT TO RIVER AND ISLAND ARE SHOWN. (PAID UNDER ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ACCESS ROAD AND STAGING AREAS, BRIDGE)

TEMPORARY BRIDGE OR CAUSEWAY

STA 8+079.6, 4.125 LT TO STA 8+091.945, 4.126 LT
600 mm SLEEVE (PVC)

TEMPORARY CRANE LOCATION

STA 8+102.0, LT
CONSTRUCT 1.2m x 33.7m x 300mm STONE PAD, TYPE I

OPENING OR PIPE TO BE SIZED TO SAFELY CONVEY THE Q2.33YR FLOOD EVENT

WOODS
DITCH BERM (TYP.) (SEE MISCELLANEOUS DETAIL SHEET)
LAMOILLE RIVER
ISLAND
STA 7+899.0 BEGIN BASE COURSE TRANSITION
MATCHLINE STA 7+760
N40° 36' 29.0"E
PROPOSED VT 100
7+760 7+780 7+800 7+820 7+840 7+860 7+880 7+900 7+920 7+940 7+960 7+980 8+000 8+020 8+040 8+060 8+080 8+100 8+120
MATCHLINE STA 8+120
+1060 +1040 +1020 +1000
IRON PIN
WOODS
STA 7+909.00 LIMITS OF PAVEMENT 7+916.29
STA 7+915.00 END ROADWAY BEGIN BRIDGE
TEMPORARY SHORING (MAXIMUM ALLOWABLE LIMITS OF IMPACT TO RIVER SHOWN)
STA 8+081.20 END BRIDGE BEGIN ROADWAY
8+079.91
STA 8+087.20 LIMITS OF PAVEMENT
STA 8+102.0 END BASE COURSE TRANSITION
STA 8+102.0, RT
~~CONSTRUCT 1.2m x 28.0m x 300mm STONE PAD, TYPE I~~
DRAINAGE STRUCTURES NORTH OF THE BRIDGE SHALL NOT BE CONSTRUCTED IN THIS CONTRACT EXCEPT WHERE NOTED.
STA 8+079.6, 4.125 RT TO STA 8+091.895, 4.275 RT
450 mm SLEVE (PVC)

•SEE DETAILED SKETCH FOR ADDED UNDERDRAIN, SHEET 20A

GRAVEL DRIVE
~~7+865.9~~, 25.1 RT
STA ~~7+796.2, 19.0 RT~~ TO STA ~~7+800.3, 18.8 RT~~ 7+870, 25.1 RT
APPROACH END TERMINAL (SEE STD. G-10)
STA 7+777.0, 18.2 RT TO STA ~~7+800.3, 18.8 RT~~ CONSTRUCT STEEL BEAM GUARDRAIL 7+870, 25.1 RT
TEMPORARY IMPACTS DURING RETAINING WALL CONSTRUCTION
STA 7+766 RT TO 7+808 RT
CONSTRUCT RETAINING WALL. SEE RETAINING WALL PLAN SHEET.
PERMANENT IMPACT LINE
STORAGE UNITS
TOWN OF MORRISTOWN VILLAGE OF MORRISVILLE
STA 7+774.5, 21.0 RT TO STA 7+777.0, 18.2 RT
APPROACH END TERMINAL (SEE STD. G-10)
RECONSTRUCT GRAVEL DRIVE WITHIN THE IMPACTED LIMITS WITH SUBBASE OF GRAVEL (300mm DEEP) AND 75mm AGGREGATE SURFACE COURSE

+939, 20.1 RT 185.00
+922, 9.0 RT 193.50
+915, 9.0 RT 194.25

STA 7+905.0, 6.0 RT TO STA 7+915.0, 9.0 RT (10)
CONSTRUCT 450mm x 10.0m OPTION PIPE RCP (CLASS III), CPEP (SL) WITH 450mm END SECTION AT OUTLET
CONSTRUCT PRCDI-A WITH TYPE E GRATE AT STA 7+905.0, 6.0 RT
OUTLET INTO STONE LINED DITCH (SEE MISCELLANEOUS DETAIL SHEET FOR DITCH TYPICAL. SEE SPOT ELEVATIONS ON THIS PLAN FOR DITCH PROFILE.)

STA 7+842.0, 7.5 RT TO STA 7+905.0, 7.5 RT (U6)
CONSTRUCT 200mm x 63.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+842.0

STA 7+752.0, 7.5 RT TO STA 7+840.0, 7.5 RT (U4)
CONSTRUCT 200mm x 89.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+752.0

SEE BRIDGE PLANS FOR LOCATION AND SIZE OF UTILITY SLEEVES IN BACKWALL

SPECIAL DITCH WITH STONE FILL TYPE II
7+915.0, RT TO STA 7+939.0, RT

SEE MISCELLANEOUS DETAIL SHEET

SPECIAL DITCH - VEGETATED SWALE
7+860.0, LT TO STA 7+905.0, LT

SEE CROSS SECTIONS FOR SWALE GEOMETRY

LEGEND
- DITCH BERM
- STONE CHECK DAM
- (3) DRAINAGE NOTE (SEE DRAINAGE DETAIL SHEET)
- (UI) UNDERDRAIN NOTE (SEE ITEM DETAIL SHEET)

NOTES:
1. SEE RIGHT-OF-WAY PLANS FOR PERMANENT AND TEMPORARY RIGHT-OF-WAY INFORMATION.
2. SEE MISCELLANEOUS DETAIL SHEET FOR DITCH BERM DETAILS.

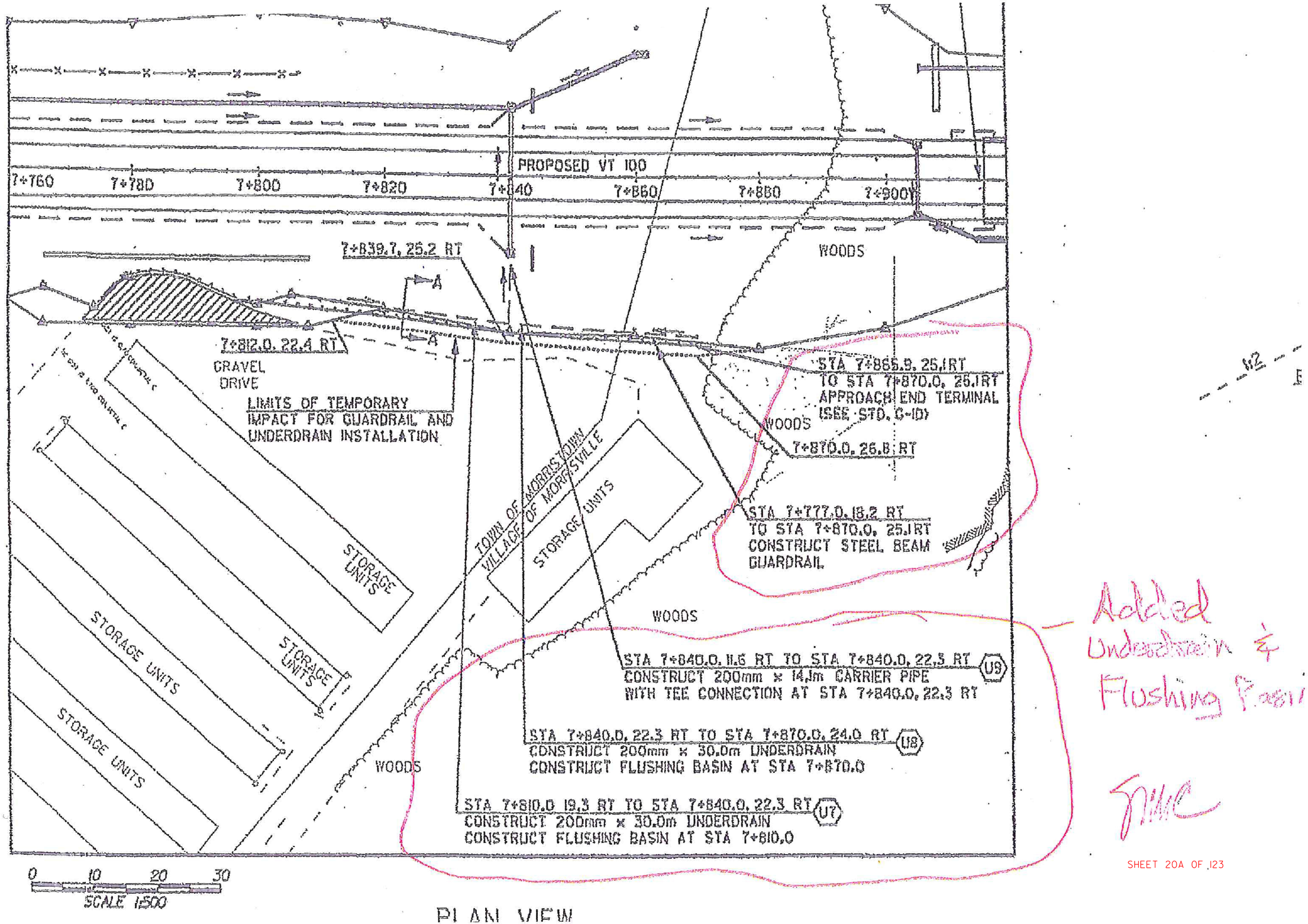
0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194104.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
LAYOUT SHEET - 2
PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 20 OF 123

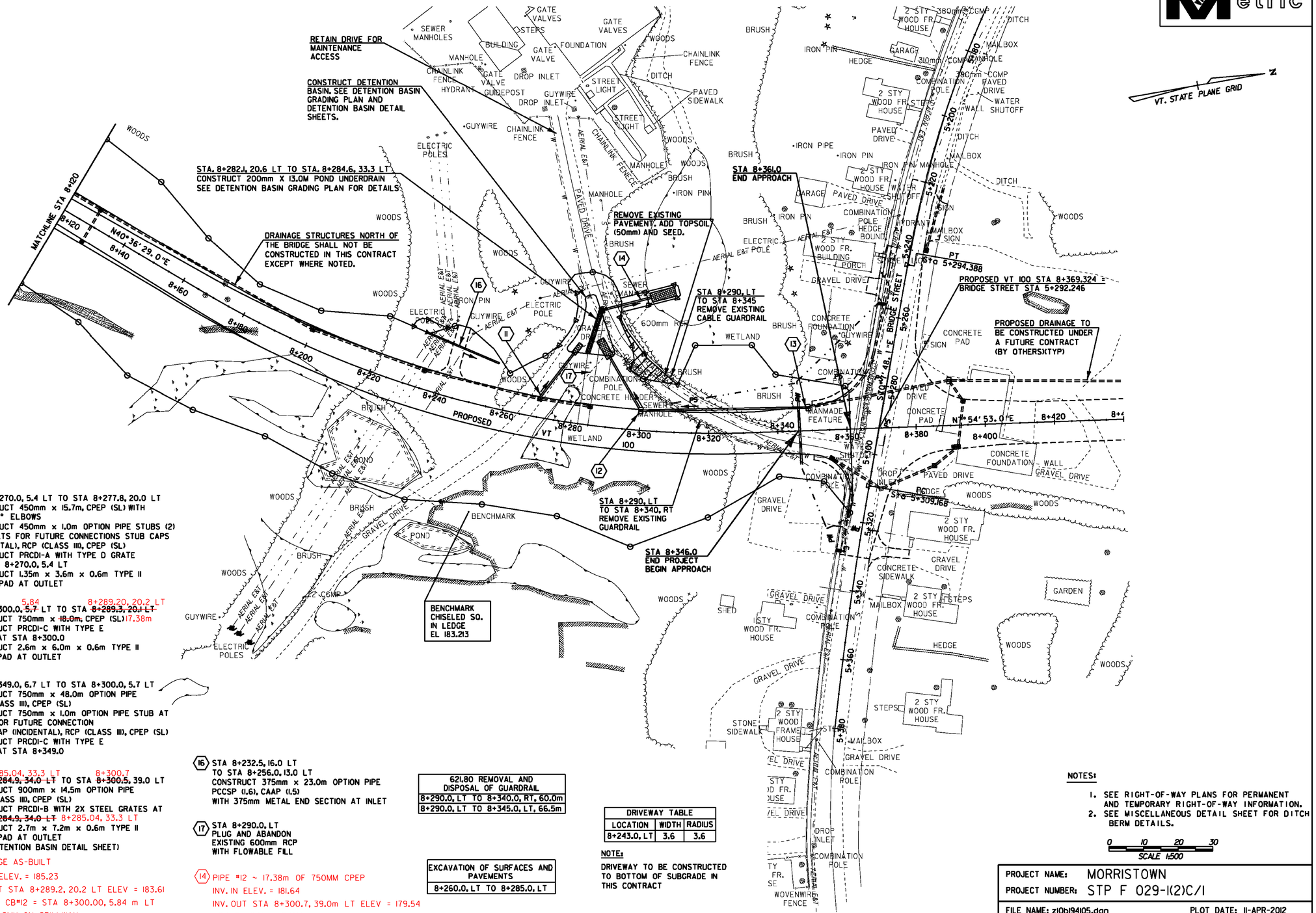


PLAN VIEW

Added Underdrain & Flushing Basin

SHEET 20A OF 123

VAOT Metric



11 STA 8+270.0, 5.4 LT TO STA 8+277.8, 20.0 LT
CONSTRUCT 450mm x 15.7m, CPEP (SL) WITH TWO 45° ELBOWS
CONSTRUCT 450mm x 1.0m OPTION PIPE STUBS (2) AT INLETS FOR FUTURE CONNECTIONS STUB CAPS (INCIDENTAL), RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE D GRATE AT STA 8+270.0, 5.4 LT
CONSTRUCT 1.35m x 3.6m x 0.6m TYPE II STONE PAD AT OUTLET

12 STA 8+300.0, ~~5.7~~ 5.84 LT TO STA ~~8+289.3, 20.1 LT~~ 8+289.20, 20.2 LT
CONSTRUCT 750mm x ~~18.0m~~ 17.38m CPEP (SL)
CONSTRUCT PRCDI-C WITH TYPE E GRATE AT STA 8+300.0
CONSTRUCT 2.6m x 6.0m x 0.6m TYPE II STONE PAD AT OUTLET

13 STA 8+349.0, 6.7 LT TO STA 8+300.0, 5.7 LT
CONSTRUCT 750mm x 48.0m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT 750mm x 1.0m OPTION PIPE STUB AT INLET FOR FUTURE CONNECTION
STUB CAP (INCIDENTAL), RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-C WITH TYPE E GRATE AT STA 8+349.0

14 STA ~~8+284.9, 34.0 LT~~ 8+285.04, 33.3 LT TO STA ~~8+300.5~~, 8+300.7, 39.0 LT
CONSTRUCT 900mm x 14.5m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-B WITH 2X STEEL GRATES AT STA ~~8+284.9, 34.0 LT~~ 8+285.04, 33.3 LT
CONSTRUCT 2.7m x 7.2m x 0.6m TYPE II STONE PAD AT OUTLET
(SEE DETENTION BASIN DETAIL SHEET)
DRAINAGE AS-BUILT
12 INV. IN ELEV. = 185.23
INV. OUT STA 8+289.2, 20.2 LT ELEV = 183.61
CTR. OF CB#12 = STA 8+300.00, 5.84 m LT
RAISED SMH ON SPILLWAY
STA 8+287.15, 33.44m LT

16 STA 8+232.5, 16.0 LT TO STA 8+256.0, 13.0 LT
CONSTRUCT 375mm x 23.0m OPTION PIPE PCCSP (1.6), CAAP (1.5) WITH 375mm METAL END SECTION AT INLET

17 STA 8+290.0, LT
PLUG AND ABANDON EXISTING 600mm RCP WITH FLOWABLE FILL

14 PIPE #12 ~ 17.38m OF 750MM CPEP
INV. IN ELEV. = 181.64
INV. OUT STA 8+300.7, 39.0m LT ELEV = 179.54
TOP OF GRATE CB#14 =
STA 8+285.04, 33.3m LT ELEV = 184.36
UD INTO CB#14 ELEV. = 182.61

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
8+290.0, LT TO 8+340.0, RT, 60.0m
8+290.0, LT TO 8+345.0, LT, 66.5m

EXCAVATION OF SURFACES AND PAVEMENTS
8+260.0, LT TO 8+285.0, LT

DRIVEWAY TABLE		
LOCATION	WIDTH	RADIUS
8+243.0, LT	3.6	3.6

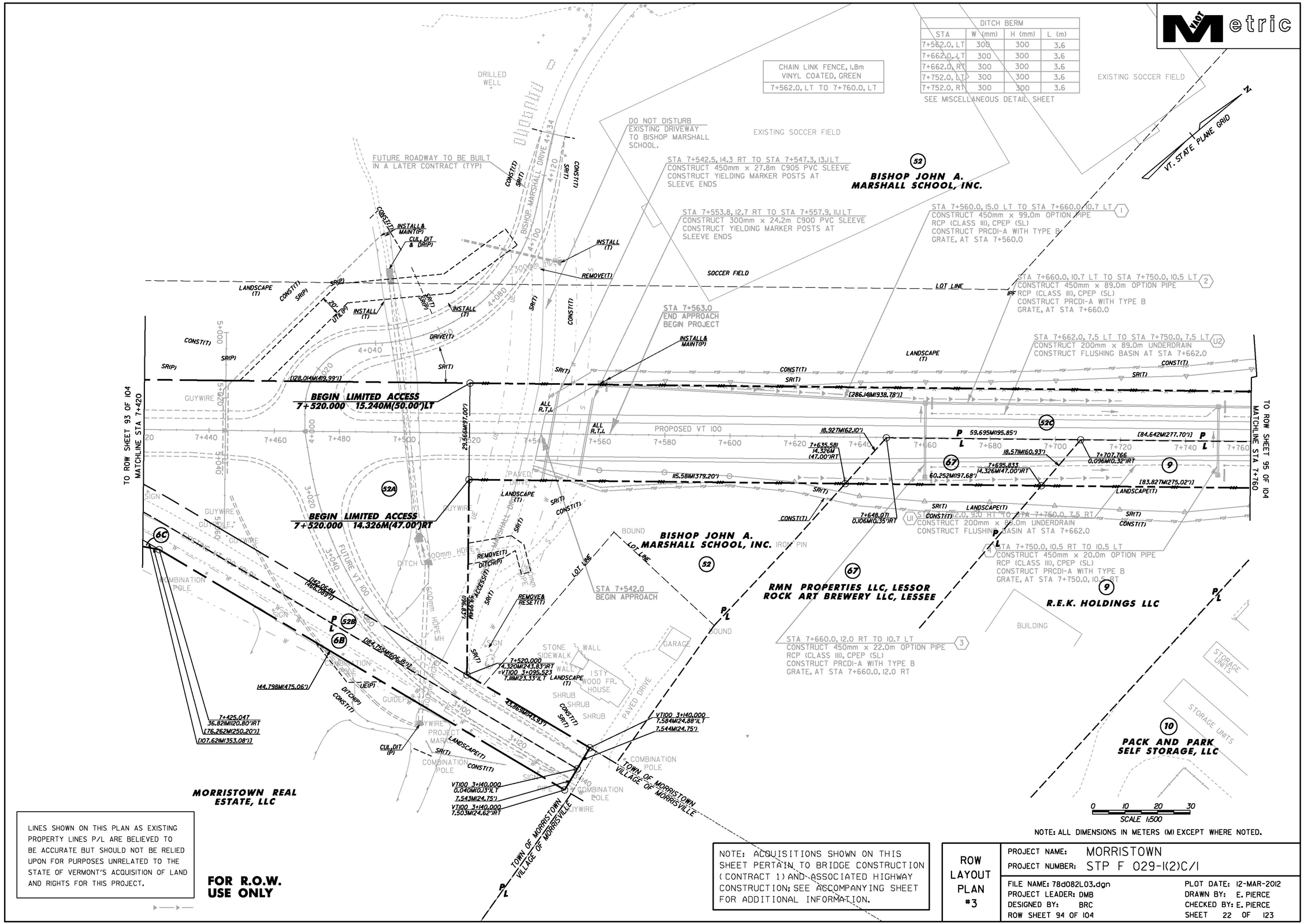
NOTE:
DRIVEWAY TO BE CONSTRUCTED TO BOTTOM OF SUBGRADE IN THIS CONTRACT

NOTES:
1. SEE RIGHT-OF-WAY PLANS FOR PERMANENT AND TEMPORARY RIGHT-OF-WAY INFORMATION.
2. SEE MISCELLANEOUS DETAIL SHEET FOR DITCH BERM DETAILS.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194105.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
LAYOUT SHEET - 3
PLOT DATE: 11-APR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 21 OF 123



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

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 STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

NOTE: ACQUISITIONS SHOWN ON THIS SHEET PERTAIN TO BRIDGE CONSTRUCTION (CONTRACT 1) AND ASSOCIATED HIGHWAY CONSTRUCTION; SEE ACCOMPANYING SHEET FOR ADDITIONAL INFORMATION.

ROW LAYOUT PLAN #3

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: 78d082L03.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROW SHEET 94 OF 104

PLOT DATE: 12-MAR-2012
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 22 OF 123

VTrans Metric

28 STA 4+087.7, 17.4 LT TO STA 4+097.5, 12.5 RT
CONSTRUCT 375mm x 30.1m OPTION PIPE
PCCSP (1.6).0, CAAP (1.5), CPEP
WITH 375mm END SECTION AT INLET

23 STA 7+501.0 ℄ SKEW 83° RT
CONSTRUCT 1200mm x 77.0m OPTION PIPE
PCCSP (2.8), CAAP (2.7) WITH
1200mm END SECTION AT INLET
CONSTRUCT CONCRETE HEADWALL AT OUTLET
WITH 1.8m x 4.8m x 300mm TYPE I
STONE PAD AT OUTLET

STA 7+444.0, LT TO STA 4+041.0, LT
CONSTRUCT 200mm x 68.0m CARRIER PIPE
CONSTRUCT HEADWALL AT OUTLET

STA 7+444.0
CONSTRUCT 200mm x 28.0m UNDERDRAIN
UNDER PEDESTRIAN CULVERT (SEE BRIDGE
PLANS FOR LOCATIONS)
CONSTRUCT FLUSHING BASIN AT
STA. 7+466.0, RT

PROPOSED VT 100 STA 7+445.00 =
PEDESTRIAN CULVERT STA 5+030.00

APPROXIMATE IMPACTS FOR CONDUIT
AND UNDERDRAIN CONSTRUCTION

STA 4+133.000
END BISHOP MARSHALL
DRIVE APPROACH

DRIVEWAY TABLE		
LOCATION	WIDTH	RADIUS
7+470.0, LT	SEE PLANS	

CHAIN LINK FENCE
7+562.0,LT TO 7+760.0, LT
7+520.0, RT TO 7+760.0, RT

BITUMINOUS SIDEWALK
EXISTING VT 100 STA 3+060.0, RT TO
BISHOP MARSHALL DRIVE STA 4+092.0, LT

52 BISHOP JOHN A. MARSHALL SCHOOL, INC.

VT. STATE PLANE GRID N

DRILLED WELL

SOCCER FIELD

LOT LINE

IPF

STA 4+090.0, RT
REMOVE 300mm HDPE 29
REMOVE EXISTING PAVEMENT
ADD TOPSOIL (50mm) AND SEED

STA 4+087.0, LT TO 7.0
TO STA 4+090.0, LT 7.0
APPROACH AND TERMINAL
(SEE STD. B-71)

BEGIN LIMITED ACCESS
7+520.000 15.240M(50.00')LT

[128.014M(419.99')]

[286.141M(938.78')]

52A BEGIN LIMITED ACCESS
7+520.000 14.326M(47.00')RT

115.581M(379.20')

STA 3+064.5, LT 35.1
REMOVE 300mm HDPE 26
CONSTRUCT DITCH THROUGH
EMBANKMENT. GRADE TO DRAIN.

BISHOP JOHN A. MARSHALL SCHOOL, INC.

STA 3+083.9, LT 45.6
REMOVE 300mm HDPE 27

REMOVE EXISTING
PAVEMENT. ADD TOPSOIL
(50mm) AND SEED.

STA 3+070, LT
REMOVE 600mm HDPE 25

STA 3+085
REMOVE 600mm RCP AND MH 24

REMOVE EXISTING
PAVEMENT. ADD TOPSOIL
(50mm) AND SEED.

STA 3+446.0
CONSTRUCT 200mm x 29.0m
UNDERDRAIN UNDER PEDESTRIAN
CULVERT (SEE BRIDGE PLANS
FOR LOCATIONS)
STA 3+020.0, RT TO STA 3+023.8, RT
APPROACH AND TERMINAL
(SEE STD. B-71)

PROPOSED VT 100 STA 7+469.402 =
EXISTING VT 100 STA 3+000.000 =
BISHOP MARSHALL DRIVE STA 4+000.000

[84.758M(606.15')]

144.798M(475.06')

7+425.047
36.821M(120.80')RT
[76.262M(250.20')]
[107.621M(353.08')]

21 STA 3+082.0 ℄ SKEW 50°, RT
CONSTRUCT 1200mm x 48.0m OPTION PIPE
PCCSP (2.8), CAAP (2.7)
WITH 1200mm END SECTION AT INLET

MORRISTOWN REAL ESTATE, LLC

7+520.000
74.320M(243.83')RT
=VT100 3+095.523
7.111M(23.33')LT

43.369M(142.33')

VT100 3+140.000
7.584M(24.88')LT
7.541M(24.75')

STA 3+140.000
END EXISTING VT 100
APPROACH

VT100 3+140.000
0.040M(0.13')LT
7.543M(24.75')

VT100 3+140.000
7.503M(24.62')RT

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

PROPOSED VT 100

ALL R.T.L.

52C

18.927M(62.10')

7+635.581
14.326M
(47.00')RT

59.695M(195.85')

[84.642M(277.70')]

18.571M(60.93')

7+707.766
0.096M(0.32')RT

67 7+695.833
14.326M(47.00')RT
60.252M(197.68')

9 [83.827M(275.02')]

7+648.071
0.106M(0.35')RT

67 RMN PROPERTIES LLC, LESSOR
ROCK ART BREWERY LLC, LESSEE

9 R.E.K. HOLDINGS LLC

10 PACK AND PARK SELF STORAGE, LLC

REMOVAL OF SURFACES AND PAVEMENTS
7+420.0 TO 7+451.0, RT
3+056.0 TO 3+092.0, LT
4+073.0 TO 4+105.0, RT

SPECIAL DITCH WITH STONE FILL TYPE II
3+046.0 TO 3+059.0, LT

SPECIAL DITCH
3+015.0 to 3+092.0, RT

0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

TO ROW SHEET 93 OF 104
MATCHLINE STA 7+420

TO ROW SHEET 95 OF 104
MATCHLINE STA 7+760

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 STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

NOTE: ACQUISITIONS SHOWN ON THIS SHEET PERTAIN TO BRIDGE CONSTRUCTION (CONTRACT 1) AND ASSOCIATED HIGHWAY CONSTRUCTION; SEE ACCOMPANYING SHEET FOR ADDITIONAL INFORMATION.

ROW LAYOUT PLAN #3A

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: 78d082L03A.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROW SHEET 94A OF 104

PLOT DATE: 12-MAR-2012
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 23 OF 123

VTrans Metric

DITCH BERM			
STA	W (mm)	H (mm)	L(m)
7+842.0, LT	300	300	2.7
7+842.0, RT	300	300	2.7
7+908.0, LT	300	600	10.0

SEE MISCELLANEOUS DETAIL SHEET

CHAIN LINK FENCE, 1.8m VINYL COATED, GREEN
7+760.0, LT TO 7+805.9, LT

7 STA 7+840.0, 10.5 LT TO STA 7+860.0, 18.9 LT
CONSTRUCT 450mm x 21.0m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE AT STA. 7+840.0, 10.5 LT
CONSTRUCT 450mm END SECTION WITH 0.9m x 1.8m x 600mm TYPE II STONE PAD AT OUTLET

STA 7+842.0, 7.5 LT TO STA 7+905.0, 7.5 LT U5
CONSTRUCT 200mm x 63.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+842.0

STA 7+905.0, 5.4 LT TO STA 7+905.0, 5.4 RT 9
CONSTRUCT 450mm x 10.2m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE E GRATE AT STA 7+905.0, 6.0 LT

STA 7+905.0, 17.10 LT TO STA 7+944.0, 17.10 LT 8
CONSTRUCT 450mm x 38.2m OPTION PIPE PCCSP (1.6), CAAP (1.5), PCCSP WITH TWO 45° ELBOWS, 450mm METAL END SECTION AT INLET, AND 450mm METAL END SECTION AT OUTLET

NOTE: ACQUISITIONS SHOWN ON THIS SHEET PERTAIN TO BRIDGE CONSTRUCTION (CONTRACT 1) AND ASSOCIATED HIGHWAY CONSTRUCTION; SEE ACCOMPANYING SHEET FOR ADDITIONAL INFORMATION.

VT. STATE PLANE GRID N

BISHOP JOHN A. MARSHALL SCHOOL, INC. 52
BISHOP JOHN A. MARSHALL SCHOOL, INC.
TOWN OF MORRISTOWN / VILLAGE OF MORRISVILLE
VILLAGE OF MORRISVILLE
PACK AND PARK SELF STORAGE, LLC 10B
R.E.K. HOLDINGS LLC 9
PACK AND PARK SELF STORAGE, LLC 10
10A 52C 57A

STA 7+752.0, 7.5 LT TO STA 7+840.0, 7.5 LT U3
CONSTRUCT 200mm x 89.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+752.0

STA 7+750.0, 10.5 LT TO STA 7+840.0, 10.3 LT 5
CONSTRUCT 450mm x 89.0m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+750.0

6 STA 7+840.0, 11.6 RT TO STA 7+840.0, 10.3 LT
CONSTRUCT 450mm x 21.0m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-A WITH TYPE B GRATE, AT STA 7+840.0, 11.6 RT

7+883.383 101.430M(332.78')LT I.P.
26.803M(87.94')
7+884.955 74.673M(244.99')LT I.P.
49.249M (161.58')
7+933.579 82.501M(270.67')LT P.I.
46.278M (151.83')
7+979.372 89.180M(292.59')LT
65.465M (214.75')
7+992.227 80.583M(264.38')LT
105.505M(346.15')
67.340M(220')
115.644M(379.41')
7+965.000 22.860M(75.00')LT
7+806.141 15.240M(50.00')LT
50.001M(164.05')
7+812.970 22.860M(75.00')LT
[286.141M(938.78')]
10.232M(33.57')
[84.642M(277.70')]
7+792.408 0.083M(0.27')RT
7+779.660 14.326M (47.00')RT
(83.827M (275.02'))
19.126M(62.75')
7+800.000 14.326M(47.00')RT
20.340M (66.73')
24.745M (12.34')
7+820.000 22.860M(75.00')RT
152.031M(498.79')
160.000M (524.93')
7+980.000 22.860M(75.00')RT
80.740M(330.51')
[87.426M (286.83')]
8+080.000 35.052M(115.00')LT
8+080.000 35.052M(115.00')RT

STA 7+796.2, 19.0 RT TO STA 7+800.3, 18.8 RT APPROACH END TERMINAL (SEE STD. G-ID)
STA 7+777.0, 18.2 RT TO STA 7+800.3, 18.8 RT CONSTRUCT STEEL BEAM GUARDRAIL
STA 7+774.5, 21.0 RT TO STA 7+777.0, 18.2 RT APPROACH END TERMINAL (SEE STD. G-ID)
STA 7+766 RT TO 7+808 RT CONSTRUCT RETAINING WALL. SEE RETAINING WALL PLAN SHEET.
STA 7+899.0 BEGIN BASE COURSE TRANSITION
STA 7+909.00 LIMITS OF PAVEMENT
STA 7+915.00 END ROADWAY BEGIN BRIDGE
STA 8+081.20 END BRIDGE BEGIN ROADWAY
STA 8+087.20 LIMITS OF PAVEMENT
STA 8+102.0 END BASE COURSE TRANSITION
STA 8+102.0, RT CONSTRUCT 1.2m x 28.0m x 300mm STONE PAD, TYPE I
STA 8+102.0, LT CONSTRUCT 1.2m x 33.7m x 300mm STONE PAD, TYPE I

PROPOSED VT 100 STA 7+940.000 = CHANNEL STA 1+030.000

CONTRACTOR MAY CONSTRUCT TEMPORARY BRIDGE OR CAUSEWAY. MAXIMUM ALLOWABLE LIMITS OF IMPACT TO RIVER AND ISLAND ARE SHOWN. (PAID UNDER ITEM 900.645 - SPECIAL PROVISION (TEMPORARY ACCESS ROAD AND STAGING AREAS, BRIDGE)

TEMPORARY BRIDGE OR CAUSEWAY

TEMPORARY CRANE CONST(T) LOCATION

OPENING OR PIPE TO BE SIZED TO SAFELY CONVEY THE 02.33YR FLOOD EVENT

TEMPORARY SHORING (MAXIMUM ALLOWABLE LIMITS OF IMPACT TO RIVER SHOWN)

TEMPORARY IMPACTS DURING RETAINING WALL CONSTRUCTION

PERMANENT IMPACT LINE

RECONSTRUCT GRAVEL DRIVE WITHIN THE IMPACTED LIMITS WITH SUBBASE OF GRAVEL (300mm DEEP) AND 75mm AGGREGATE SURFACE COURSE

DRAINAGE STRUCTURES NORTH OF THE BRIDGE SHALL NOT BE CONSTRUCTED IN THIS CONTRACT EXCEPT WHERE NOTED.

SEE BRIDGE PLANS FOR LOCATION AND SIZE OF UTILITY SLEEVES IN BACKWALL

REMOVE & REPLACE PROPERTY MARKERS	
EXISTING	PROPOSED
I.P. 7+772.771 21.996RT	I.P. 7+779.660 14.326RT
I.P. 7+874.378 21.893RT	NONE
I.P. 7+935.298 21.822RT	NONE

STA 7+905.0, 6.0 RT TO STA 7+915.0, 9.0 RT 7
CONSTRUCT 450mm x 10.0m OPTION PIPE RCP (CLASS III), CPEP (SL) WITH 450mm END SECTION AT OUTLET
CONSTRUCT PRCDI-A WITH TYPE E GRATE AT STA 7+905.0, 6.0 RT
OUTLET INTO STONE LINED DITCH (SEE MISCELLANEOUS DETAIL SHEET FOR DITCH TYPICAL. SEE SPOT ELEVATIONS ON THIS PLAN FOR DITCH PROFILE.)

STA 7+842.0, 7.5 RT TO STA 7+905.0, 7.5 RT U6
CONSTRUCT 200mm x 63.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+842.0

STA 7+752.0, 7.5 RT TO STA 7+840.0, 7.5 RT U4
CONSTRUCT 200mm x 89.0m UNDERDRAIN
CONSTRUCT FLUSHING BASIN AT STA 7+752.0

SPECIAL DITCH WITH STONE FILL TYPE II
7+915.0, RT TO STA 7+939.0, RT

SEE MISCELLANEOUS DETAIL SHEET

SPECIAL DITCH - VEGETATED SWALE
7+860.0, LT TO STA 7+905.0, LT

SEE CROSS SECTIONS FOR SWALE GEOMETRY

+939, 20.1 RT 185.00
+922, 9.0 RT 193.50
+915, 9.0 RT 194.25

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 STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

TO ROW SHEET 94 OF 104 MATCHLINE STA 7+760
TO ROW SHEET 96 OF 104 MATCHLINE STA 8+120

ROW LAYOUT PLAN #4

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: 78d082L04.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROW SHEET 95 OF 104
PLOT DATE: 12-MAR-2012
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 24 OF 123

VTrans Metric

CHAIN LINK FENCE
7+760.0, LT TO 7+805.9, LT
7+760.0, RT TO 7+766.0, RT

VERTICAL GRANITE CURB TABLE	
LOCATION	TYPE
8+085.6.0, LT TO STA 8+120.0, LT	100mm
8+085.6.0, RT TO STA 8+120.0, RT	100mm

TREATED TIMBER CURB TABLE	
LOCATION	TYPE
STA 7+847.0, RT TO STA 7+915.4, RT	100mm
STA 7+890.0, LT TO STA 7+915.4, LT	100mm

N

VT. STATE PLANE GRID

TO ROW SHEET 94 OF 104
MATCHLINE STA 7+760

TO ROW SHEET 96 OF 104
MATCHLINE STA 8+120

BISHOP JOHN A. MARSHALL SCHOOL, INC.

52

7+883.383
101.430M(332.78')LT

I.P.

26.803M(87.94')

P L

7+884.955
74.673M(244.99')LT

I.P.

105.505M(346.15')

BISHOP JOHN A. MARSHALL SCHOOL, INC.

STA 7+878.6, LT TO STA 7+890.0, LT
MANUFACTURED TERMINAL SECTION (FLARED)

STA 7+890.0, LT TO STA 7+908.8, LT
STEEL BEAM GUARDRAIL

7+933.579
82.501M(270.67')LT

P L

49.249M
(161.58')

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

46.278M
(151.83')

7+979.372
89.180M(292.59')LT

55.465M
(182.0')

VILLAGE OF MORRISVILLE

STA 8+092.1, LT TO STA 8+120.0, LT
STEEL BEAM GUARDRAIL

29A STA 8+090.0, LT 6.0 TO STA 8+090.0, LT 6.0
CONSTRUCT 450mm x 10.0m OPTION PIPE
RCP (CLASS III).0, CPEP (SL)
CONSTRUCT RCDI-A WITH TYPE E
GRATE AT STA 8+090.0, RT 6.0

7+992.227
80.583M(264.38')LT

29B STA 8+090.0, LT 6.0 TO STA 8+129.0, LT 6.0
CONSTRUCT 450mm x 38.0m OPTION PIPE
RCP (CLASS III), CPEP (SL)
CONSTRUCT RCDI-A WITH TYPE E
GRATE AT STA 8+090.0, LT 6.0

67.3M(220')

CONST(T)

ISLAND

10B

PACK AND PARK SELF STORAGE, LLC

WOODS

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

LANDSCAPE (T)
CONST(T)
SR(T)

7+806.141
15.240M(50.00')LT
50.001M(164.05')

7+812.970
22.860M(75.00')LT

CONST(T)
SR(P)

LANDSCAPE(T)

152.031M(498.79')

7+965.000
22.860M(75.00')LT

115.644M(379.41')

ISLAND

87.426M
(286.83')

8+080.000
35.052M(115.00')LT

WOODS

286.141M(938.78')

10.232M(33.57')

52C

84.642M(277.70')

P L

7+760 7+780 7+800 7+820 7+840 7+860 7+880 7+900 7+920 7+940 7+960 7+980 8+000 8+020 8+040 8+060 8+080 8+100 8+120

PROPOSED VT 100

N40° 36' 29.0"E

7+792.408
0.083M(0.27')RT

10A

9

7+779.660
14.326M
(47.00')RT

83.827M
(275.02')

19.126M(62.75')

7+800.000
14.326M(47.00')RT

20.340M
(66.73')

LANDSCAPE(T)

SR(P)

RECONSTRUCT (T)

INSTALL & MAINT.(P)

REMOVE & REPLACE(T)

INSTALL (T)

SR(T)

24.745M
(71.34')

7+820.000
22.860M(75.00')RT

CONST(T)

LANDSCAPE(T)

SR(P)

REMOVE(T)

CONST(T)

LOT LINE

160.000M
(524.93')

DRIP(P)

REMOVE(T)

7+980.000
22.860M(75.00')RT

100.740M(330.51')

8+080.000
35.052M(115.00')RT

87.426M(286.83')

57A

STA 8+081.200
END BRIDGE
BEGIN ROADWAY

REMOVE EXISTING GUARDRAIL BUILT UNDER PREVIOUS CONTRACT PRIOR TO INSTALL SUBGRADE MATERIAL

VILLAGE OF MORRISVILLE

STA 8+092.1 RT TO STA 8+120.0, RT
STEEL BEAM GUARDRAIL

GUARDRAIL CONSTRUCTED BY OTHERS IN PREVIOUS CONTRACT

GRAVEL DRIVE

STORAGE UNITS

WOODS

STA 7+915.000
END ROADWAY
BEGIN BRIDGE

9

R.E.K. HOLDINGS LLC

10

PACK AND PARK SELF STORAGE, LLC

STA 7+835.6, RT TO STA 7+847.0 RT
MANUFACTURED TERMINAL SECTION (FLARED)

STA 7+847.0 RT
TO STA 7+908.8, RT
STEEL BEAM GUARDRAIL

REMOVE & REPLACE PROPERTY MARKERS	
EXISTING	PROPOSED
I.P. 7+772.771 21.996RT	I.P. 7+779.660 14.326RT
I.P. 7+874.378 21.893RT	NONE
I.P. 7+935.298 21.822RT	NONE

0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

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 STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

FOR R.O.W. USE ONLY

NOTE: ACQUISITIONS SHOWN ON THIS SHEET PERTAIN TO BRIDGE CONSTRUCTION (CONTRACT 1) AND ASSOCIATED HIGHWAY CONSTRUCTION; SEE ACCOMPANYING SHEET FOR ADDITIONAL INFORMATION.

ROW LAYOUT PLAN #4A

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: 78d082L04A.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROW SHEET 95A OF 104

PLOT DATE: 12-MAR-2012
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 25 OF 123

TO ROW SHEET 97 OF 104
MATCHLINE BRIDGE ST. STA 5+166

TO ROW SHEET 95 OF 104
MATCHLINE STA 8+120

TO ROW SHEET 98 OF 104
MATCHLINE STA 8+440

VT. STATE PLANE GRID

BEGIN RELINQUISHMENT #1
TH5 5+238.420 CL

END RELINQUISHMENT #1
BEGIN MAINT. AGREE. ZONE#3
TH5 5+263.198 CL
END MAINT. AGREE. ZONE#3
TH5 5+284.958 CL
LENGTH=21.760M(71.39')

BEGIN MAINT. AGREE. ZONE#4
TH5 5+299.451 CL

END MAINT. AGREE. ZONE#4
LENGTH=12.025M(39.45')
BEGIN RELINQUISHMENT #2
TH5 5+311.476 CL

END RELINQUISHMENT #2
TH5 5+341.534 0.886M(2.91')LT

END LIMITED ACCESS
8+368.012
29.855M(97.95')LT

END LIMITED ACCESS
8+358.758
17.522M(57.49')RT

RESUME LIMITED ACCESS
8+382.926
27.433M(90.00')LT

RESUME LIMITED ACCESS
8+373.981
18.288M(60.00')RT

VILLAGE OF MORRISVILLE

N/F TROMBLEY, LEO, A.

N/F KING

ALDRICH CONSTRUCTION ENTERPRISES, INC.

N/F HARDWICK MOTORS, INC.

STATE OF VERMONT
(FORMERLY HARDWICK MOTORS INC.)

STATE OF VERMONT
(FORMERLY INTERNATIONAL CHURCH OF THE FOURSQUARE GOSPEL, INC.)

N/F JEWETT

QUAD, ROBERT S. & LISA M.

TOWN OF MORRISTOWN

STA 8+360.1 PROJECT BEGIN APPROACH

STA 8+346.0 PROJECT END APPROACH

STA 8+361.0 END APPROACH

STA 8+290, LT TO STA 8+345, RT REMOVE EXISTING GUIDERAIL

STA 8+232.1, 20.6 LT TO STA. 8+284.6, 33.3 LT
CONSTRUCT 300mm X 13.0M POND UNDERDRAIN
SEE DETENTION BASIN GRADING PLAN FOR DETAILS

RETAIN DRIVE FOR MAINTENANCE ACCESS

CONSTRUCT DETENTION BASIN. SEE DETENTION BASIN GRADING PLAN AND DETENTION BASIN DETAIL SHEETS.

DRAINAGE STRUCTURES NORTH OF THE BRIDGE SHALL NOT BE CONSTRUCTED IN THIS CONTRACT EXCEPT WHERE NOTED.

REMOVE EXISTING PAVEMENT, ADD TOPSOIL (150mm) AND SEED.

PROPOSED VT 100 STA 8+369.324 = BRIDGE STREET STA 5+292.246

PROPOSED LIMITED ACCESS TO BE CONSTRUCTED UNDER A FUTURE CONTRACT (BY OTHERS) (TYP)

11 STA 8+270.0, 5.4 LT TO STA 8+277.8, 20.0 LT
CONSTRUCT 450mm x 15.7m, CPEP (SL) WITH TWO 45° ELBOWS
CONSTRUCT 450mm x 1.0m OPTION PIPES AT INLETS, RCP (CLASS III), CPEP (SL)
ADD 450mm x 1.0m STUBS (3) FOR FUTURE CONNECTIONS STUB CAPS (INCIDENTAL)
CONSTRUCT PRCDI-A WITH TYPE D GRATE AT STA 8+270.0, 5.4 LT
CONSTRUCT 1.35m x 3.6m x 0.6m TYPE II STONE PAD AT OUTLET

12 STA 8+300.0, 5.7 LT TO STA 8+289.3, 20.1 LT
CONSTRUCT 750mm x 18.0m, CPEP (SL)
CONSTRUCT PRCDI-C WITH TYPE E GRATE AT STA 8+300.0
CONSTRUCT 2.6m x 6.0m x 0.6m TYPE II STONE PAD AT OUTLET

13 STA 8+349.0, 6.7 LT TO STA 8+300.0, 5.7 LT
CONSTRUCT 750mm x 48.0m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT 750mm x 1.0m OPTION PIPE AT INLET RCP (CLASS III), CPEP (SL)
750mm x 1.0m STUBS FOR FUTURE CONNECTION STUB CAP (INCIDENTAL)
CONSTRUCT PRCDI-C WITH TYPE E GRATE AT STA 8+349.0

14 STA 8+284.9, 34.0 LT TO STA 8+300.5, 39.0 LT
CONSTRUCT 900mm x 14.5m OPTION PIPE RCP (CLASS III), CPEP (SL)
CONSTRUCT PRCDI-B WITH 2X STEEL GRATES AT STA 8+284.9, 34.0 LT
CONSTRUCT 2.7m x 7.2m x 0.6m TYPE II STONE PAD AT OUTLET
(SEE DETENTION BASIN DETAIL SHEET)

16 STA 8+232.5, 16.0 LT
TO STA 8+256.0, 13.0 LT
CONSTRUCT 375mm x 23.0m OPTION PIPE PCCSP (1.6), CAAP (1.5), PCCSP WITH 375mm METAL END SECTION AT INLET

17 STA 8+290.0, LT
PLUG AND ABANDON EXISTING 600mm RCP WITH FLOWABLE FILL

621.80 REMOVAL AND DISPOSAL OF GUARDRAIL
8+290.0, LT TO 8+340.0, RT, 60.0m
8+290.0, LT TO 8+345.0, LT, 66.5m

EXCAVATION OF SURFACES AND PAVEMENTS
8+260.0, LT TO 8+285.0, LT

DRIVEWAY TABLE		
LOCATION	WIDTH	RADIUS
8+243.0, LT	3.6	3.6

NOTE:
DRIVEWAY TO BE CONSTRUCTED TO BOTTOM OF SUBGRADE IN THIS CONTRACT

NOTE: ACQUISITIONS SHOWN ON THIS SHEET PERTAIN TO BRIDGE CONSTRUCTION (CONTRACT 1) AND ASSOCIATED HIGHWAY CONSTRUCTION; SEE ACCOMPANYING SHEET FOR ADDITIONAL INFORMATION.

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 STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

FOR R.O.W. USE ONLY

ROW LAYOUT PLAN #5

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2) C/1

FILE NAME: 78d082L05.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROW SHEET 96 OF 104

PLOT DATE: 28-MAR-2012
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 26 OF 123

VTrans Metric

TO ROW SHEET 97 OF 104
MATCHLINE BRIDGE ST. STA 5+166

TO ROW SHEET 95 OF 104
MATCHLINE STA 8+120

TO ROW SHEET 98 OF 104
MATCHLINE STA 8+440

VT. STATE PLANE GRID

UNDERDRAIN TABLE					
FROM STATION	TO STATION	SIZE	TYPE	LENGTH	FLUSHING BASINS
8+355.0, RT 8.7	5+321.0, RT 6.7	200	UND.	22.0	5+321.0
5+320.0, LT 5.5	8+392.0, RT 6.7	200	UND.	35.0	5+320.0
5+219.0, LT 6.0	8+394.0, LT 7.6	200	UND.	41.0	5+249.0
5+259.0, RT 4.5	8+349.0, LT 6.7	200	UND.	38.0	
8+394.0, LT 7.5	8+440.0, LT 7.5	200	UND.	46.0	
8+393.0, RT 6.6	8+440.0, RT 6.5	200	UND.	47.0	

RELOCATE MAILBOX
SINGLE SUPPORT
5+235.0, LT (3)

DRIVEWAY TABLE		
LOCATION	WIDTH	RADIUS
8+243.0, LT	3.6	3.6
5+252.0, RT	4.5	3.6
5+328.0, LT	2.5	5.0
5+230.0 LT	10.5	3.6

SPECIAL DITCH WITH STONE LINING TYPE I
8+385.0 TO 8+440.0, RT
8+390.0 TO 8+440.0, LT

VERTICAL GRANITE CURB TABLE	
LOCATION	TYPE
STA 8+120.0, LT TO STA 8+237.0, LT	100mm
STA 8+249.0, LT TO STA 5+259.0, RT	100mm
STA 8+120.0, RT TO STA 5+303.0, RT	100mm
STA 5+240.0, RT TO STA 5+246.0, RT	175mm
STA 5+258.0, RT TO STA 5+289.0, RT	175mm
STA 5+303.0, RT TO STA 5+330.0, RT	175mm
STA 5+265.0, LT TO STA 8+440.0, LT	100mm
STA 5+315.0, LT TO STA 8+440.0, RT	100mm

CEMENT CONCRETE SIDEWALK
5+240.0 TO 5+290.0, RT
5+300.0 TO 5+330.0, RT

DRAINAGE TABLE										
DRAIN NO.	FROM STATION	TO STATION	PIPE SIZE	TYPE	LENGTH	INLET TYPE	GRATE TYPE	END SECTION	STONE TYPE	STONE PAD
32	8+129.0, RT 6.0	8+129.0, LT 6.0	450	3	11.0	RCDI-A	TYPE E			
33	8+129.0, LT 6.0	8+200.0, LT 6.0	450	3	69.0	RCDI-A	TYPE E			
34	NOT USED									
35	8+200.0, LT 6.0	8+235.0, LT 6.0	450	3	34.0	RCDI-A	TYPE E			
36	8+235.0, LT 6.0	8+270.0, LT 6.0	450	3	34.0	RCDI-A	TYPE E			
37	NOT USED									
38	NOT USED									
39	8+285.0, LT 6.0	8+270.0, LT 6.0	450	3	14.0	RCDI-A	TYPE E			
40	8+394.0, LT 7.6	8+390.0, LT 13.0	450	3	6.0	RCDI-A	TYPE E			
41	8+392.0, RT 6.7	8+394.0, LT 7.6	450	3	13.0	RCDI-B	2X TYPE D			
42	8+385.0, RT 11.4	8+392.0, RT 6.7	450	3	7.0	RCDI-A	TYPE D			
43	5+309.4, LT 3.5	8+385.0, RT 11.4	450	3	15.0	PRCMH	W/ CI COVER			
44	8+355.0, RT 8.7	5+309.4, LT 3.5	450	3	16.0	RCDI-A	TYPE E			
45B	5+259.0, RT 4.5	5+283.3, RT 4.5	450	3	24.3	RCDI-A	TYPE E			
45A	8+349.0, LT 6.7	5+283.3, RT 4.5	750	3	18.1	PRCMH	W/ CI COVER			
45	8+390.0, LT 13.0	5+283.3, RT 4.5	750	3	23.4	RCDI-C	TYPE B			

PIPE TYPES: 1= OPTION PIPE PCCSP (1.6), CAAP (1.5), CPEP; 3 = OPTION PIPE RCP (CLASS III), CPEP (SL)

BEGIN RELINQUISHMENT #1
TH5 5+238.420 CL

VILLAGE OF MORRISVILLE

N/F TROMBLEY, LEO, A.

N/F KING

STA 5+220.000
BEGIN BRIDGE STREET APPROACH

STA 5+219.4, LT 5.6 TO STA 5+212.0, LT 4.6 CONSTRUCT 600mm x 7.5m x 300mm TYPE I STONE DITCH

4.683M(15.36')
TH5 5+240.000
0.026M(0.09')RT
7.526M(24.69')
TH5 5+240.000
1.500M(24.61')LT
=8+387.490
49.449M(162.23')LT

7.609M(24.96')
TH5 5+238.312
7.611M(24.97')RT

N/F HARDWICK MOTORS, INC.

STA 5+219.4, LT 5.60 TO STA 5+239.3, LT 4.60 CONSTRUCT 300mm x 19.0m OPTION PIPE PCCSP (1.6), CAAP (1.5), CPEP OR CONSTRUCT PRCCD WITH TYPE B GRATE

RESUME LIMITED ACCESS
8+382.926
27.433M(90.00')LT

8+415.000
15.240M(50.00')LT

STA 5+228 TO STA 5+295 REMOVE EXISTING PIPE AND MH

[73.26M(240.36')]

STATE OF VERMONT
(FORMERLY HARDWICK MOTORS INC.)

ALDRICH CONSTRUCTION ENTERPRISES, INC.

8+335.680
36.184M(118.70')LT
8+300.000
35.052M(115.00')LT

INSTALL & MAINT(P) CUL-DIT & DR(P)

25.146M (82.50')
DRIVE(T)
UTIL(P)
INSTALL(T)
SR(T)

DETOUR(T)
CONST(T)
SR(T)

32.945M(108.09')

END RELINQUISHMENT #1
BEGIN MAINT. AGREE. ZONE#3
TH5 5+263.198 CL
END MAINT. AGREE. ZONE#3
TH5 5+284.958 CL
LENGTH=21.760M(71.39')

STA 8+290.0, LT TO STA 8+345.0 REMOVE EXISTING CAST GUARDRAIL

31.645M(103.82')

END LIMITED ACCESS
8+368.012
29.855M(97.95')LT

CONSTRUCT CEMENT CONCRETE SIDEWALK RAMP SEE DETAIL 93 P1

7.562M(24.81')
8+375.433
28.400M(93.18')LT

23.170M (76.02')
22.468M(73.71')
7.556M (24.79')
34.302M(112.57')

STA 8+260.0, LT TO BRIDGE ST STA 5+271.4, RT STEEL BEAM GUARDRAIL

STA 8+248.6, LT TO STA 8+260.0, LT MANUFACTURED TERMINAL SECTION (FLARED)

STA 8+120.0, LT TO 8+167.426 226.6, LT 35.052M(115.00')LT STEEL BEAM GUARDRAIL

STA 8+226.0, LT TO STA 8+237.4 MANUFACTURED TERMINAL SECTION (FLARED)

R=254.948M(836.44')
L=16.530M(392.38')

CONST(T)
SR(T)
INSTALL(T)

[87.426M(286.83')]

BEGIN MAINT. AGREE. ZONE#4
TH5 5+299.451 CL

8+167.426
35.052M(115.00')RT

STA 8+120.0, RT TO STA 8+314.9, RT STEEL BEAM GUARDRAIL

VILLAGE OF MORRISVILLE

R=254.052M(833.866')
L=48.598M(159.53')

END MAINT. AGREE. ZONE#4
LENGTH=12.025M(39.45')
BEGIN RELINQUISHMENT #2
TH5 5+311.476 CL

8+324.578
10.835M(35.55')RT

35.155M(115.34')
20.116M(66.00')

STA 8+314.9, RT TO STA 8+351.0, RT TRAILING END TERMINAL SEE STD. G-10

STA 8+280.0, LT TO STA 8+351.0, LT REMOVE EXISTING GUARDRAIL

8+300.000
35.052M(115.00')RT
INSTALL(T)
27.397M(89.89')

8+321.528
30.685M(100.67')RT
3.498M(11.48')

PROPOSED VT 100 BRIDGE STREET STA 5+22[illegible]

8+324.648
31.246M(102.51')RT
10.916M(35.81')

8+323.323
42.060M(137.99')RT

CONSTRUCT CEMENT CONCRETE SIDEWALK RAMP SEE DETAIL C3

30.175M(99.00')
31.422M(103.09')

N/F JEWETT

TH5 5+341.554
6.765M(22.20')RT
7.654M(25.11')

END RELINQUISHMENT #2
TH5 5+341.534 0.886M(2.91')LT

APPROACH (T)

TOWN OF MORRISTOWN

END LIMITED ACCESS
8+358.758
17.522M(57.49')RT
STATE OF VERMONT
(FORMERLY INTERNATIONAL CHURCH OF THE FOURSQUARE GOSPEL, INC.)

14.364M (47.13')

REMOVE(T)

[59.27M(194.47')]

8+399.104
18.288M(60.00')RT
QUAD, ROBERT S. & LISA M.

24.670M(80.94')
INSTALL(T)
25.123M(82.42')

BRIDGE ST STA 5+295 TO STA 5+305, REMOVE EXISTING PIPE AND DI

8+374.745
14.381M(47.18')RT
7.573M(24.85')

RESUME LIMITED ACCESS
8+373.981
18.288M(60.00')RT

16.148M (52.98')
LANDSCAPE (T)
DRIVE(T)

TH5 5+325.444
8.474M(27.80')LT
QUAD, ROBERT S. & LISA M.

7.870M(25.82')
8+366.140
18.970M(65.52')RT

7.570M(24.84')
TH5 5+325.445
0.904M(2.97')LT
[11.52M(37.80')]

STA 5+330.000
END BRIDGE STREET APPROACH

TH5 HWY EASE. 3 RODS

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 STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

NOTE: ACQUISITIONS SHOWN ON THIS SHEET PERTAIN TO BRIDGE CONSTRUCTION (CONTRACT 1) AND ASSOCIATED HIGHWAY CONSTRUCTION; SEE ACCOMPANYING SHEET FOR ADDITIONAL INFORMATION.

FOR R.O.W. USE ONLY

ROW LAYOUT PLAN #5A

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: 78d082L05A.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROW SHEET 96A OF 104

PLOT DATE: 28-MAR-2012
DRAWN BY: E. PIERCE
CHECKED BY: E. PIERCE
SHEET 27 OF 123

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	
6A	MORRISTOWN REAL ESTATE LLC	93	7+172.744 RT	7+326.491 RT	0.19 HA					WD	2/10/2012	MORRISTOWN	168	309-311	20,451 SF±
			7+175.864 RT	7+339.2 RT			INSTALL & MAINTAIN	(P)	430 SM						DITCH & UNDERDRAIN; INCLUDES CHECK
															DAMS; 4,629 SF±
			7+176.8 RT	7+193.2 RT			LANDSCAPE	(T)							PLANT TREES
			7+175.9 RT	7+220.0 RT			SLOPE	(P)	268 SM						2,885 SF±
			7+178.5 RT	7+257.6 RT			CONST.	(T)	233 SM						INCLUDES PDF; 2,508 SF±
			7+203.1 RT	7+345.4 RT			UTILITY	(P)	374 SM						4,026 SF±
			7+220.0 RT	7+257.6 RT			SLOPE	(T)	66 SM						710 SF±
			7+260 RT				DRIVE	(T)							4.8M (16')± WIDE, MM 0452
			7+262.4 RT	7+361.9 RT			SLOPE	(P)	309 SM						3,326 SF±
			7+262.4 RT	7+366.5 RT			CONST.	(T)	285 SM						INCLUDES PDF; 3,068 SF±
			7+172.736 RT	7+175.864 RT			REMOVE & REPLACE	(T)							I.P.
6B		93, 94,	7+172.744 LT	VT 100 3+140.000 RT	0.31 HA		ALL R.T. & I.			CONDEM	2/8/2012	MORRISTOWN	168	157-175	VT. RTE. 100 HWY. EASE. 33,367 SF±
		94A	VT 100 3+039.7 RT	VT 100 3+137.5 RT			CONST.	(T)	321 SM						INCLUDES E.C. & PDF; 3455 SF±
			VT 100 3+047.5 RT	VT 100 3+093.5 RT			DITCH	(P)	313 SM						3370 SF±
			VT 100 3+057.7 RT	VT 100 3+077.4 RT			UTILITY	(P)	70 SM						MUNICIPAL WATER LINE, 753 SF±
			VT 100 3+093.5 RT	VT 100 3+127.0 RT			SLOPE	(T)	176 SM						1895 SF±
			VT 100 3+089.2 RT	VT 100 3+093.9 RT			CUL.; DIT.	(P)	8 SM						86 SF±
			VT 100 3+095.4 RT	VT 100 3+123.1 RT			LANDSCAPE	(T)							PLANT TREES
6C		93, 94,	7+322.864 RT	7+425.047 RT	907 SM		ALL R.T. & I.								VT. RTE.100; HWY. EASE. 9763 SF±
		94A													
7A	NEW BEGINNING MIRACLE FELLOWSHIP	92, 93	7+262.725 LT	7+270.841 LT	2 SM					WD	8/3/2011	MORRISTOWN	161	137-138	22 SF±
			7+140.0 LT	7+269.7 LT			INSTALL	(T)	397 SM						EROSION CONTROL & PDF; 4273 SF±
			7+140.3 LT	7+270.7 LT			SLOPE	(T)	151 SM						1625 SF±
			7+196 LT				D&C	(T)							WATER LINE
			7+222.6 LT	7+235.3 LT			REMOVE	(T)							100MM PVC PIPE
			7+269.726 LT	7+270.822 LT			REMOVE & REPLACE	(T)							IRON PIN
7B		92, 93	7+140.403 LT	7+270.841 LT	0.10 HA		ALL R. T. & I.								VT. RTE. 100 HWY. EASE.; 10,764 SF±
8A	SARGENT, GREGORY L. & MARILYN DELACRUZ	93	7+308.903 LT	7+395.599 RT	618 SM					WD	8/3/2011	MORRISTOWN	161	135-136	6652 SF±
			7+308.947 LT	7+309.231 LT			REMOVE & REPLACE	(T)							IRON PIN
			7+309.0 LT	7+344.3 LT			INSTALL	(T)	102 SM						PDF; 1098 SF±
			7+315.0 LT	7+335.9 LT			LANDSCAPE	(T)							PLANT TREES
			7+352 LT				DRIVE	(T)							4.5M (14.8')± WIDE; MM 0453
			7+356 LT				D&C	(T)							WATER LINE
			7+357.7 LT	7+392.0 LT			INSTALL	(T)	77 SM						PDF; 829 SF±
			7+391.986 LT	7+395.532 RT			REMOVE & REPLACE	(T)							IRON PIN
8B		93	7+308.518 LT	7+395.599 RT	665 SM		ALL R.T. & I.								VT. RTE. 100 HWY. EASE.; 7,158 SF±

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
35	88, 94	PARCEL 52 BISHOP MARSHALL SCHOOL - REVISE "HR"	10/25/2010
		(HISTORIC ROUTE) REFERENCES TO "VT 100" (EXISTING ROUTE).	
		COMPLETED BY: MT PER C.O. 9663 APPROVED BY: HP	
36	84, 100	PARCEL 33 H.A. MANOSH INC. - REVISE STATIONS FOR	10/26/2010
		INSTALL (T) FOR SEWER LINE, REDESIGNED.	
		COMPLETED BY: MT PER C.O. 9664 APPROVED BY: HP	
37	89, 100	PARCEL 62 DEMARS PROPERTIES - DELETE INSTALL (T) FOR	10/26/2010
		SEWER LINE, REDESIGNED.	
		COMPLETED BY: MT PER C.O. 9665 APPROVED BY: HP	
38	81, 99,	PARCEL 11F TOWN OF MORRISVILLE - REVISE END STATION	12/3/2010
	102	TO READ 871.941; PARCEL 11I TOWN OF MORRISVILLE - REVISE	
		STAFFORD AVE. REMARKS TO READ TH83 (STAFFORD AVE.)	
		COMPLETED BY: MT PER C.O. 9671 APPROVED BY: HP	
39	84, 100,	PARCEL 32B AT LAST PROPERTIES LLC - MOVE PROFESSIONAL	12/3/2010
	101	DRIVE ACQUISITION AREA FROM "TAKE" TO "RIGHT" ON DETAIL	
		SHEET; PARCEL 32A - REVISE ENDING STATION 9+359.8 RT TO	
		9+359.8 LT.	
		COMPLETED BY: MT PER C.O. 9672 APPROVED BY: HP	
40	84	PARCEL 33B H.A. MANOSH - MOVE PROFESSIONAL DRIVE	12/3/2010
		ACQUISITION AREA FROM "TAKE" TO "RIGHT" ON DETAIL SHEET.	
		COMPLETED BY: MT PER C.O. 9673 APPROVED BY: HP	
41	85, 103,	PARCEL 36C STEWART - REVISE END STATION & AREA OF SR (T);	12/3/2010
	104	PARCEL 36E STEWART - DIVIDE DRIVE (T) INTO DRIVE (T) AND	
		RECONSTRUCT (T). REVISE SR (T) BEGIN & END STATIONS AND	
		AREA. ADD D&C (T).	
		COMPLETED BY: MT PER C.O. 9674 APPROVED BY: HP	
42	85, 103	PARCEL 37 VALLEE HOLDINGS LLC - DELETE DRIVE, ADD ACCESS	12/3/2010
		NOTE; REVISE END STATION & AREA OF CONST (T); DELETE	
		REMOVE (T) (FENCE); REVISE SR (T) STATION & AREA; ADD INSTALL	
		& MAINT. FOR GUY ANCHOR.	
		COMPLETED BY: MT PER C.O. 9675 APPROVED BY: HP	
43	85	PARCEL 39 SQUIRE - REVISE R.T. & I. IN WATER LINE; ADD	12/3/2010
		DISCONNECT & CONNECT (T).	
		COMPLETED BY: MT PER C.O. 9676 APPROVED BY: HP	
44	86, 103,	PARCEL 40 MANOSH HOSPITALITY - REVISE SR (T) EASEMENTS,	12/3/2010
	104	DELETE LANDSCAPE EASEMENTS, DELETE UTILITY EASEMENT,	
		DELETE EASEMENT FOR GUY WIRE.	
		COMPLETED BY: MT PER C.O. 9677 APPROVED BY: HP	
45	86, 103	PARCEL 41 MANOSH VENTURES - REVISED UTILITY EASEMENT.	12/6/2010
		COMPLETED BY: MT PER C.O. 9678 APPROVED BY: HP	
46	86	PARCEL 42 HOULE & NESKY - REVISE REMARKS FOR REMOVE &	12/6/2010
		REPLACE I.P. ON DETAIL SHEET.	
		COMPLETED BY: MT PER C.O. 9679 APPROVED BY: HP	
47	87, 99	PARCEL 51 STRONG - ADD LIMITED ACCESS TO REMARKS COLUMN	12/6/2010
		ON DETAIL SHEET; REVISE REMOVE & REPLACE I.P.	
		COMPLETED BY: MT PER C.O. 9680 APPROVED BY: HP	
48	88	PARCEL 55 BUKER - REVISE R.T.&I. IN WATER LINE; ADD	12/6/2010
		DISCONNECT & CONNECT (T).	
		COMPLETED BY: MT PER C.O. 9681 APPROVED BY: HP	
49	89	PARCEL 57 VILLAGE OF MORRISVILLE - MOVE ACQUISITION	12/6/2010
		AREAS FROM "TAKE" TO "RIGHT" ON DETAIL SHEET.; ADD	
		SHEET NUMBERS 95A & 96A ON DETAIL SHEET.	
		COMPLETED BY: MT PER C.O. 9682 APPROVED BY: HP	
50	89	PARCEL 62 DEMARS PROPERTIES - MOVE PROFESSIONAL	12/6/2010
		DRIVE ACQUISITION AREA FROM "TAKE" TO "RIGHT" COLUMN	
		ON DETAIL SHEET.	
		COMPLETED BY: MT PER C.O. 9683 APPROVED BY: HP	

PLAN LEGEND

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

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

APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PLOT DATE: 4/2/2012

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS** PLOT DATE:
PROJECT LEADER: **J. HARRIS** DRAWN BY: **M. TROTTIER**
DESIGNED BY: **McFARLAND JOHNSON** CHECKED BY: **E. PIERCE**
R.O.W. DETAIL SHEET #3 SHEET **27A** OF **123**

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	
9	R.E.K. HOLDINGS LLC	94, 94A,	7+695.833 RT	7+792.408 RT	0.12 HA					CONDEM	2/8/2012	MORRISTOWN	168	157-175	LIMITED ACCESS 12,906 SF±
		95, 95A	7+688.6 RT	7+771.6 RT			CONST.	(T)	222 SM						INCLUDES PDF; 2,390 SF±
			7+691.0 RT	7+760.0 RT			SLOPE	(T)	526 SM						5,662 SF±
			7+694.7 RT	7+778.7 RT			LANDSCAPE	(T)							PLANT TREES
			7+760.0 RT	7+779.660 RT			SLOPE	(P)	85 SM						915 SF±
			7+760.0 RT	7+774.1 RT			SLOPE	(T)	44 SM						474 SF±
			7+766.0 RT	7+779.660 RT			INSTALL & MAINTAIN	(P)	21 SM						RETAINING WALL; 226 SF±
			7+772.771 RT	7+779.660 RT			REMOVE & REPLACE	(T)							IRON PIN
10A	PACK AND PARK SELF-STORAGE, LLC	95, 95A	7+779.660 RT	7+980.000 RT	0.79 HA					WD	2/7/2012	MORRISTOWN	168	243-245	LIMITED ACCESS 85,038 SF±
			7+771.3 RT	7+908.7 RT			CONST	(T)	259 SM						INCLUDES PDF; 2,788 SF±
			7+771.9 RT	7+808.2 RT			RECONSTRUCT	(T)	159 SM						GRAVEL DRIVE; 1,712 SF±
			7+772.771 RT	7+779.660 RT			REMOVE & REPLACE	(T)							IRON PIN
			7+774.0 RT	7+811.8 RT			SLOPE	(P)	92 SM						990 SF±
			7+774.5 RT	7+800.3 RT			INSTALL	(T)							GUARDRAIL
			7+778.4 RT	7+803.7 RT			INSTALL & MAINTAIN	(P)	37 SM						RETAINING WALL; 398 SF±
			7+780.7 RT	7+879.4 RT			LANDSCAPE	(T)							PLANT TREES
			7+796.1 RT	7+816.3 RT			SLOPE	(T)	48 SM						517 SF±
			7+835.5 RT	7+897.1 RT			SLOPE	(P)	80 SM						861 SF±
			7+874.378 RT				REMOVE	(T)							IRON PIN
			7+935.298 RT				REMOVE	(T)							IRON PIN
			7+939.0 RT				DRAINAGE	(P)							
			7+813.0 LT	7+821.7 LT			SLOPE	(T)	4 SM						43 SF±
			7+813.5 LT	7+910.3 LT			CONST.	(T)	281 SM						INCLUDES PDF; 3025 SF±
			7+844.0 LT	7+905.1 LT			SLOPE	(P)	481 SM						0.12A±
			7+852.9 LT	7+886.4 LT			LANDSCAPE	(T)							PLANT TREES
10B		95, 95A	7+812.970 LT	7+992.227 LT	0.82 HA										BY OPTION ONLY; LOSS OF ACCESS
															88,261 SF±
11A	TOWN OF MORRISTOWN	92A	6+954.381 LT	6+994.346 LT	403 SM		ALL R. T. & I.					MORRISTOWN			TH 34 & VT. RTE. 100 HWY. EASE., 4338 SF±
			6+972.3 LT	TH 33 1+057.0 LT			REMOVE	(T)	595 SM						EXISTING PAVEMENT; 6,405 SF±
11B		92, 92A	TH 33 1+055.253 RT	7+088.699 LT	798 SM		ALL R. T. & I.								TH 33 & VT. RTE. 100 HWY. EASE., 8,590 SF±
			TH 33 1+041.986 LT	TH 33 1+137.0 CL			APPROACH	(T)							TH 33 (MORRISTOWN CORNERS RD.)
			TH 33 1+051.0 RT	TH 33 1+068.0 LT			CULVERT	(P)							
11C		92, 92A	7+030.738 RT	7+047.860 RT	228 SM		ALL R. T. & I.								VT. RTE. 100 & TH 91 HWY. EASE., 2,454 SF±
			7+032.104 RT	TH 91 2+095.0 CL			APPROACH	(T)							TH 91 (LAGUE RD.)
11D		96, 96A	8+358.758 RT	8+382.926 LT	722 SM		ALL R. T. & I.								TH 5 (BRIDGE ST) HWY. EASE., 7772 SF±
			TH 5 5+220.0 CL	TH 5 5+263.2 CL			APPROACH	(T)							TH 5 (BRIDGE ST)
			TH 5 5+311.5 CL	TH 5 5+330.0 CL			APPROACH	(T)							TH 5 (BRIDGE ST)
11E	NOT USED														
11F		99	8+954.177 LT	8+971.941 RT	343 SM		ALL R. T. & I.								WABUN AVE; LIMITED ACCESS; 3,692 SF±
11G		99	8+956.739 RT	CONN. A 16+135.0 CL			APPROACH	(T)							WABUN AVE. / CONNECTION "A"
11H		99	9+038.863 LT	9+059.950 RT	308 SM		ALL R. T. & I.								WILKENS ST., HWY. EASE.; LIMITED ACCESS; 3,315 SF±
			9+047.452 RT	9+071.0 RT			INSTALL	(T)	72 SM						PDF, TREES AND TURNAROUND; 775 SF±
11I		102	9+680.355 RT	9+696.438 LT	740 SM										TH 83 (STAFFORD AVE.) 7,966 SF±
			TH 83 13+101.427 CL	TH 83 13+130.0 CL			APPROACH	(T)							TH 83 (STAFFORD AVE.)
			TH 83 13+110.0 LT	TH 83 13+102.2 LT			INSTALL & MAINTAIN	(P)							UNDERDRAIN
			TH 83 13+101.5 RT	TH 83 13+110.0 RT			INSTALL & MAINTAIN	(P)							UNDERDRAIN
			TH 83 13+049.9 LT	TH 83 13+053.3 LT			INSTALL & MAINTAIN	(P)							UNDERDRAIN
			TH 83 13+049.9 RT	TH 83 13+053.1 RT			INSTALL & MAINTAIN	(P)							UNDERDRAIN
			TH 83 13+030.0 CL	TH 83 13+053.265 CL			APPROACH	(T)							TH 83 (STAFFORD AVE.)
11J		104	VT15 & 100 14+110.594 LT	VT15 & 100 14+132.840 LT	128 SM		ALL R. T. & I.								TH 12 HWY. EASE.; 1,378 SF±
			VT15 & 100 14+101.7 LT	VT15 & 100 14+126.619 LT			APPROACH	(T)							TH 12 (SILVER RIDGE RD)
11K		104	VT15 & 100 14+105.0 RT	VT15 & 100 14+133.5 RT			APPROACH	(T)							TH 11, NEEDLES EYE ROAD

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
51	82, 96,	PARCEL 15 ALDRICH - ADD SHEET 96A FOR CONTRACT 1.	12/6/2010
	96A	COMPLETED BY: MT PER C.O. 9687 APPROVED BY: HP	
52	88	PARCEL 52 BISHOP MARSHALL - ADD SHEETS 94A AND 95A FOR CONTRACT 1.	12/6/2010
		COMPLETED BY: MT PER C.O. 9688 APPROVED BY: HP	
53	90	PARCEL 65 SUNRISE DEVELOPMENT - ADD "LIMITED ACCESS" TO REMARKS ON DETAIL SHEET.	12/6/2010
		COMPLETED BY: MT PER C.O. 9684 APPROVED BY: HP	
54	81, 94,	PACEL 9 R.E.K. HOLDINGS - ADD SHEETS 94A AND 95A FOR CONTRACT 1.	12/6/2010
	94A, 95,		
	95A	COMPLETED BY: MT PER C.O. 9685 APPROVED BY: HP	
55	81, 95,	PARCEL 10 PACK & PARK - ADD SHEET 95A FOR CONTRACT 1.	12/6/2010
	95A	COMPLETED BY: MT PER C.O. 9686 APPROVED BY: HP	
56	90, 94,	PARCEL 67 RMN PROPERTIES - ADD SHEET 94A FOR CONTRACT 1.	12/6/2010
	94A	COMPLETED BY: MT PER C.O. 9689 APPROVED BY: HP	
57	84, 100,	PARCEL 34 THE 1781 LLC - ADD "ALL R.T. & I." FOR EXISTING	12/6/2010
	102	STORM DRAIN, PART OF WHICH WILL REMAIN IN THE R.O.W.	
		AND WILL BE CONNECTED TO OUR CLOSED SYSTEM.	
		COMPLETED BY: MT PER C.O. 9690 APPROVED BY: HP	
58	86, 103	PARCEL 42 HOULE & NESKY - NAME CHANGED TO LRP&S PROPERTIES, LLC	12/13/2010
		COMPLETED BY: MT PER C.O. 9691 APPROVED BY: HP	
59	78	PARCEL 3 WHITCOMB & BEDELL - ADD EASEMENT TO INSTALL & MAINTAIN GUY WIRE TO DETAIL SHEET.	12/14/2010
		COMPLETED BY: MT PER C.O. 9692 APPROVED BY: HP	
60	81	PARCEL 11 TOWN OF MORRISTOWN - REVISE TAKE AREA ON DETAIL SHEET.	12/14/2010
		COMPLETED BY: MT PER C.O. 9693 APPROVED BY: HP	
61	99	PARCEL 11 TOWN OF MORRISTOWN - REVISE ENGLISH OFFSET AT 8+956.901, 13.50 SM RT TO 44.31'	12/20/2010
		COMPLETED BY: MT PER C.O. 9694 APPROVED BY: HP	
62	84	PARCEL 32 AT LAST PROPERTIES - REVISE AREA OF DRIVE (T) TO 183 SM AND 1,970 SF ON DETAIL SHEET ONLY.	12/20/2010
		COMPLETED BY: MT PER C.O. 9695 APPROVED BY: HP	
63	1, 75A - 75J	GENERAL FILE - RENUMBERED SHEET 75A TO 75C; ADDED SHEETS 75A-B AND 75D-J; REVISED INDEX ON TITLE SHEET.	12/31/2010
		COMPLETED BY: MT PER C.O. 9696 APPROVED BY: HP	
64	83	PARCEL 26 VERMONT ASBESTOS GROUP - ADD 'LIMITED ACCESS' TO FEE ACQUISITION ON DETAIL SHEET.	1/25/2011
		COMPLETED BY: MT PER C.O. 9698 APPROVED BY: HP	
65	84	PARCEL 33 H.A. MANOSH, INC. - CHANGE BEGIN STATION OF FEE ACQUISITION TO 9+385.000 LT.	1/25/2011
		COMPLETED BY: MT PER C.O. 9699 APPROVED BY: HP	
66	87	PARCEL 46 MORRISVILLE CREAMERY CONDOS - CHANGE AREA OF HIGHWAY EASEMENT (P) TO 87 SM (936 SF).	1/25/2011
		COMPLETED BY: MT PER C.O. 9700 APPROVED BY: HP	
67	76, 88, 104	PARCEL 55 BUKER/TED'S GARAGE - CHANGE LESSEE TO FRED'S PLUMBING AND HEATING, INC.	3/4/2011
		COMPLETED BY: MT PER C.O. 9701 APPROVED BY: HP	
68	83, 99	PARCEL 23 DEMARS PROPERTIES - ADD ALL R.T. & I. FOR EXISTING WATER LINE IN PROPOSED TAKE AREA; ADD INSTALL (T) FOR NEW WATER LINE & VALVE.	3/15/2011
		COMPLETED BY: MT PER C.O. 9702 APPROVED BY: HP	
69	83, 99	PARCEL 24 BRADLEY - ADD ALL R.T. & I. FOR WATER LINE IN TAKE AREA; ADD INSTALL (T) FOR PROPOSED WATER LINE AND VALVE.	3/15/2011
		COMPLETED BY: MT PER C.O. 9703 APPROVED BY: HP	

PLOT DATE: 4/2/2012

PLAN LEGEND

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

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

APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS**
PROJECT LEADER: **J. HARRIS**
DESIGNED BY: **McFARLAND JOHNSON**
R.O.W. DETAIL SHEET #4

PLOT DATE:
DRAWN BY: **M. TROTTIER**
CHECKED BY: **E. PIERCE**
SHEET **27B** OF **123**

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	
12A	STATE OF VERMONT- A.O.T.	96, 96A	8+321.528 RT	8+358.758 RT	0.10 HA	NONE				WD	8/31/2006	MORRISTOWN	141	210-	LIMITED ACCESS 10,764 SF±
	(FORMERLY INTERNATIONAL CHURCH													211	INCL. ALL IMPROVEMENTS
	OF THE FOURSQUARE GOSPEL, INC.														
12B		96, 96A	TH 5 5+341.534 LT	8+366.140 RT	228 SM		ALL R. T. & I.								TH 5 BRIDGE ST. HWY. EASE.; 2454 SF±
13A	STATE OF VERMONT- A.O.T.	96, 96A	8+374.8 RT	8+488.3 RT	0.38 HA					WD	3/17/2003	MORRISTOWN	128	143-	0.94A±; INCLUDES BUILDING
	(FORMERLY HARDWICK MOTORS, INC.)	98												144	FORMERLY HARDWICK MOTORS, INC.
			8+382.9 LT	8+389.7 LT			SLOPE	(T)	21 SM						226 SF±
			8+382.9 LT	8+387.7 LT			DETOUR	(T)	25 SM						269 SF±
			8+383.6 LT				ALL R.T.& I.								SIGN
			8+385.7 LT	8+391.8 LT			CONST.	(T)	11 SM						118 SF±
			8+432.6 LT	8+489.4 LT			CONST.	(T)	45 SM						484 SF±
			8+448.3 LT	8+489.1 LT			SLOPE	(T)	42 SM						452 SF±
			8+382.9 LT	8+488.3 LT		0.50 HA									1.23 A±
13B		96, 96A	8+367.3 RT	8+387.5 LT	492 SM		ALL R.T.& I.								BRIDGE ST. R.O.W. 0.12 A±
14A	QUAD, ROBERT S. & LISA M.	96, 96A	8+373.981 RT	8+399.104 RT	50 SM					WD	8/10/2010	MORRISTOWN	151	449	538 SF± LIMITED ACCESS
			TH 5 5+325.4 LT	TH 5 5+324.8 LT			SLOPE	(T)	8 SM						86 SF±
			TH 5 5+321.8 LT				LANDSCAPE	(T)							PLANT TREE
			TH 5 5+320.3 LT	8+378.9 RT			SLOPE	(T)	29 SM						312 SF±
			8+380.2 RT	8+399.3 RT			INSTALL	(T)	11 SM						PDF; 118 SF±
			8+374.6 RT	8+378.1 RT			REMOVE	(T)							HEDGE
14B		96, 96A	TH 5 5+325.444 LT	8+374.745 RT	114 SM		ALL R. T. & I.								TH 5 HWY. EASE., 1227 SF±
15	ALDRICH CONSTRUCTION	96, 96A	TH 5 5+238.312 RT	8+375.433 LT	187 SM		ALL R. T. & I.			WD	8/2/2011	MORRISTOWN	161	106-108	TH 5 HWY. EASE., 2013 SF±
	ENTERPRISES, INC.		TH 5 5+238.3 RT	TH 5 5+263.4 RT			UTILITY	(P)	69 SM						743 SF±
			TH 5 5+238.3 RT	TH 5 5+258.0 RT			INSTALL & MAINTAIN	(P)							WATER LINE
			TH 5 5+252 RT				DRIVE	(T)							4.5M WIDE (14.8')±
			TH 5 5+254.4 RT	TH 5 5+263.3 RT			INSTALL	(T)	3 SM						E.C., 32 SF±
			TH 5 5+254.7 RT	TH 5 5+263.3 RT			SLOPE	(T)	19 SM						205 SF±
16	NOT USED														
17A	STATE OF VERMOT - A.O.T.	97	SR 11+119.044 LT	SR 11+191.403 LT	0.27 HA	NONE				WD	4/25/2008	MORRISTOWN	145	529	INCL. ALL IMPROVEMENTS, 29,062 SF±
	(FORMERLY BEDELL, ELIZABETH & RICHARD)														
17B		97	SR 11+118.742 RT	SR 11+193.351 LT	560 SM		ALL R. T. & I.								SO. RIVER ST. HWY. EASE., 6028 SF±;
18A	STATE OF VERMOT - A.O.T.	97	SR 11+043.885 LT	SR 11+133.291 LT	0.36 HA	NONE				WD	12/22/2006	MORRISTOWN	142	422	INCL. ALL IMPROVEMENTS, 38,749 SF±
	(FORMERLY BOHANNON, EDNA E. ESTATE)														
18B		97	SR 11+042.935 RT	SR 11+119.044 LT	574 SM		ALL R. T. & I.								SO. RIVER ST. HWY. EASE., 6179 SF±
19	STATE OF VERMONT, A.O.T.	98	8+460.854 RT	8+524.504 LT											NO RIGHTS REQUIRED; LEASE TO V.A.S.T.
	(FORMERLY LAMOILLE VALLEY RAILROAD)														NOT AFFECTED 0.12HA± (12,916 SF±)
20A	PINSLY RAILROAD COMPANY, INC.	98	8+487.118 LT	8+496.791 LT	35 SM					QCD	3/20/2012	MORRISTOWN	170	39-41	377 SF±; LIMITED ACCESS
20B		98	8+485.465 RT	8+673.771 LT	0.71 HA										76,421 SF±; LIMITED ACCESS
			8+476.0 RT	8+602.1 RT			CONST.	(T)	353 SM						INCLUDES PDF; 3800 SF±
			8+484.0 RT	8+487.8 RT			SLOPE	(P)	2 SM						22 SF±
			8+507.1 RT	8+547.6 RT			SLOPE	(P)	54 SM						581 SF±
			8+509.0 RT	8+511.3 RT			INSTALL	(T)	1 SM						TEMP. CHECK DAM; 11 SF±
			8+544.3 RT	8+546.2 RT			INSTALL	(T)	1 SM						TEMP. CHECK DAM; 11 SF±
			8+564.5 RT	8+589.0 RT			SLOPE	(P)	23 SM						248 SF±
			8+579.2 RT	8+581.4 RT			INSTALL	(T)	5 SM						TEMP. CHECK DAM; 54 SF±
			8+649.3 RT	8+656.4 RT			INSTALL	(T)	5 SM						PDF 54 SF±
			8+542.2 LT	8+589.0 LT			CONST.	(T)	63 SM						INCLUDES PDF; 678 SF±
			8+638.3 LT	8+674.7 LT			CONST.	(T)	34 SM						INCLUDES PDF; 366 SF±
20C		98	8+524.504 LT	8+710.761 LT	0.82 HA										88,267 SF±; LOSS OF ACCESS; BY
															OPTION ONLY

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE
70	83, 99	PARCEL 26 VT ASBESTOS GROUP - ADD ALL R.T. & I. FOR WATER	3/15/2011
		LINE IN TAKE AREA; ADD D&C (T) FOR WATER LINE.	
		COMPLETED BY: MT PER C.O. 9704 APPROVED BY: HP	
71	99	PARCEL 45 STELLAR PROPANE - PROPOSED WATER LINE HAS	3/15/2011
		BEEN REMOVED BY MJE. THEY CURRENTLY HAVE NO WATER	
		SERVICE. NO CHANGES TO EASEMENTS, THESE WERE TO BE	
		ACQUIRED BY MORRISVILLE WATER & LIGHT.	
		COMPLETED BY: MT PER C.O. 9705 APPROVED BY: HP	
72	87, 99	PARCEL 46 MORRISVILLE CREAMERY CONDO - ADD INSTALL (T)	3/15/2011
		FOR GATE VALVE ON WATER LINE. UPDATE EXISTING WATER	
		LINE.	
		COMPLETED BY: MT PER C.O. 9706 APPROVED BY: HP	
73	90, 99	PARCEL 66 SINON - ADD ALL R.T.& I. AND D&C (T) FOR WATER	3/15/2011
		LINE.	
		COMPLETED BY: MT PER C.O. 9707 APPROVED BY: HP	
74	86, 103	PARCEL 43 FEB REALTY/BOND AUTO - REVISE DRIVE WIDTHS;	3/23/2011
		NO CHANGES TO RIGHTS BE ACQUIRED.	
		COMPLETED BY: MT PER C.O. 9708 APPROVED BY: HP	
75	84	PARCEL 33 H.A. MANOSH, INC. - ADD 3 TEMPORARY EASEMENTS	5/26/2011
		TO DETAIL SHEET.	
		COMPLETED BY: MT PER C.O. 9715 APPROVED BY: HP	
76	81, 99	PARCEL 11 TOWN OF MORRISTOWN - DELETE WILKENS STREET	5/31/2011
		EXTENSION AS TOWN ROAD; DELETE 11E; REVISE BEGIN STATION	
		OF 11F TO 8+954.177 LT; REVISE BEGIN STATION OF 11H TO	
		9+038.863 LT.	
		COMPLETED BY: MT PER C.O. 9716 APPROVED BY: HP	
77	90, 99	PARCEL 66 SINON - DELETE WILKENS STREET EXTENSION AS	5/31/2011
		TOWN ROAD; REVISE 66A TO INCLUDE ALL R.T. & I. IN A PORTION	
		OF 33' ROW, FOR LIMITED ACCESS; ADD 66C ALL R.T. & I. IN A	
		PORTION OF A 33' ROW, NOT FOR LIMITED ACCESS.	
		COMPLETED BY: MT PER C.O. 9717 APPROVED BY: HP	
78	87, 99	PARCEL 45 STELLAR PROPANE - DELETE WILKENS STREET	5/31/2011
		EXTENSION AS TOWN ROAD; REVISE 45C ALL R.T. & I. IN ROW,	
		FOR LIMITED ACCESS; ADD 45D ALL R.T. & I. IN ROW, NOT	
		LIMITED ACCESS.	
		COMPLETED BY: MT PER C.O. 9718 APPROVED BY: HP	
79	87, 99	PARCEL 46 MORRISVILLE CREAMERY CONDOS - DELETE	5/31/2011
		WILKENS STREET EXTENSION AS TOWN ROAD; ADD 46E	
		HIGHWAY EASEMENT (P); ADD 46F ALL R.T. & I. IN ROW, NOT	
		LIMITED ACCESS.	
		COMPLETED BY: MT PER C.O. 9719 APPROVED BY: HP	
80	83, 99	PARCEL 23 DEMARS PROPERTIES LLC - DELETE WILKENS	5/31/2011
		STREET EXTENSIONS AS TOWN ROAD; ADD 23C ALL R.T. & I. IN	
		ROW, FOR LIMITED ACCESS; ADD 23D ALL R.T. & I IN ROW, NOT	
		LIMITED ACCESS.	
		COMPLETED BY: MT PER C.O. 9720 APPROVED BY: HP	
81	83, 99	PARCEL 24 BRADLEY - DELETE WILKENS STREET EXTENSION AS	5/31/2011
		TOWN ROAD; ADD 24C ALL R.T. & I. IN ROW FOR LIMITED ACCESS;	
		ADD 24D ALL R.T. & I. IN ROW, NOT LIMITED ACCESS.	
		COMPLETED BY: MT PER C.O. 9721 APPROVED BY: HP	
82	83, 99	PARCEL 26 VERMONT ASBESTOS GROUP - DELETE WILKENS	5/31/2011
		STREET EXTENSION AS TOWN ROAD; REVISE GEGIN STATION	
		OF "RECONSTRUCT (T)" TO AW 15+136.281 RT; ADD EASEMENT	
		TO INSTALL AND MAINTAIN A HYDRANT AT 8+930.0 LT.	
		COMPLETED BY: MT PER C.O. 9722 APPROVED BY: HP	
83	84, 102	PARCEL 34 THE 1781 LLC - ADD EXISTING SEWER CONNECTION	6/14/2011
		TO PLAN. ADD ALL R.T. & I.	
		COMPLETED BY: MT PER C.O. 9724 APPROVED BY: HP	
84	83	PARCEL 23 DEMARS PROPERTIES LLC - MOVE AREA ON DETAIL	6/21/2011
		SHEET FROM TAKE COLUMN TO RIGHTS COLUMN FOR ALL R.T. & I.	
		IN ROW.	
		COMPLETED BY: MT PER C.O. 9725 APPROVED BY: HP	

PLOT DATE: 4/5/2012

PLAN LEGEND

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

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

APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS** PLOT DATE:
PROJECT LEADER: **J. HARRIS** DRAWN BY: **M. TROTTIER**
DESIGNED BY: **McFARLAND JOHNSON** CHECKED BY: **E. PIERCE**
R.O.W. DETAIL SHEET #5 SHEET **27C** OF **123**

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	
45A	STELLAR PROPANE SERVICE, LLC	99	8+759.396 LT	AW 15+027.224 LT	97 SM					CONDEM	3/12/2012	MORRISTOWN	169	298-312	1,044 SF±
			8+761.9 LT	AW 15+035.0 LT			SLOPE	(T)	159 SM						1,712 SF±
			8+762.3 LT	AW 15+035.0 LT			CONST	(T)	94 SM						INCLUDES PDF; 1,012 SF±
45B		99	AW 15+027.224 LT	AW 15+059.851 LT			HIGHWAY	(P)	408 SM						ACCESS ROAD WEST; 4,392 SF±
			AW 15+027.224 LT	AW 15+030.0 LT			CULVERT	(T)	4 SM						43 SF±
			AW 15+032.5 LT	AW 15+034.3 LT			REMOVE	(T)	4 SM						CONCRETE PAD; 43 SF±
			AW 15+033.1 LT	AW 15+059.9 LT			DRIVE	(T)	198 SM						2,131 S F±
			8+814.075 LT	AW 15+059.851 LT			REMOVE & REPLACE	(T)							I.P.
45C		99	8+859.225 LT	8+964.135 LT			ALL R. T. & I.		263 SM						ROW IN COMMON; LIMITED ACCESS, 2,831 SF±
45D		99	8+814.075 LT	9+002.154 LT			ALL R. T. & I.		0.17 HA						ROW IN COMMON; 18,299 SF±
46A	MORRISVILLE CREAMERY CONDOMINIUM	99	AW 15+059.851 LT	AW 15+083.498 LT			HIGHWAY	(P)	87 SM			MORRISTOWN			ACCESS ROAD WEST; 936 SF±
	OWNERS ASSOCIATION, INC.		AW 15+059.8 LT	AW 15+083.5 LT			DRIVE	(T)	58 SM						624 SF±
			8+814.075 LT	AW 15+059.851 LT			REMOVE & REPLACE	(T)							I.P.
46B		99	8+859.225 LT	8+887.114 LT	47 SM										LIMITED ACCESS; 506 SF±
46C		99	AW 15+112.565 LT	AW 15+136.902 LT			HIGHWAY	(P)	121 SM						ACCESS ROAD WEST; 1,302 SF±
			AW 15+120 LT				DRIVE	(T)							
			AW 15+119.2 LT				INSTALL	(T)							GATE VALVE
46D		99	8+887.019 LT	8+964.135 LT			ALL R.T.& I.		215 SM						ROW IN COMMON; LIMITED ACCESS; 2,314 SF±
46E		99	8+814.075 LT	8+887.019 LT			HIGHWAY	(P)	678 SM						7,298 SF±
46F		99	AW15+136.586 LT	9+002.154 LT			ALL R.T.& I.		0.10 HA						ROW IN COMMON; 10,764 SF±
47	NOT USED														
48	QUAD, ROBERT S. & LISA M.	96, 96A	TH 5 5+328 LT				DRIVE	(T)		GTR	8/10/2010	MORRISTOWN	151	450	2.6M WIDE (8.5'±)
49	PALMER, JAMES H. & DEANNA S.	100	9+112.658 RT	9+144.749 RT	296 SM					WD	9/26/2011	MORRISTOWN	163	106-108	3,186 SF±; LIMITED ACCESS
			9+103.6 RT	9+141.1 RT			CONST	T	106 SM						1,441 SF±; INCLUDES PDF
			9+107.7 RT	9+132.4 RT			SLOPE	T	74 SM						797 SF±
			9+113.5 RT	9+122.2 RT			LANDSCAPE	T							PLANT TREES
50A	LAGUE, ELIZABETH D.	92,92A	7+046.339 RT	7+062.424 RT	116 SM ±					OPTION	1/23/2012	MORRISTOWN	168	101-103	1,249 SF ±
			7+062.424 RT	7+062.676 RT			REMOVE & REPLACE	(T)							I.P.
50B		92,92A	7+038.614 RT	7+061.166 RT	224 SM ±		ALL R. T. I.								VT. RTE. 100 & TH 91 HWY EASE, 2411SF ±
50C		92,92A	7+047.860 RT	TH91 2+071.937 LT			HWY. EASE.	(P)	370 SM ±						3,983 SF ±
			TH91 2+015.2 LT	TH91 2+032.9 LT			SLOPE	(T)	29 SM						312 SF ±
			TH91 2+022.4 LT	TH91 2+081.3 LT			CONST	(T)	97 SM						INCLUDES EC & PDF; 1,044 SF ±
			TH91 2+019.3 LT				LANDSCAPE	(T)							PLANT TREE
			7+061.0 RT	7+062.8 RT			UTILITY	(P)	3 SM						32 SF±
			TH91 2+074.9 LT				DITCH & DRAINAGE	(P)							
51	STRONG, MICHAEL E. & JESSICA R.	99	8+982.877 RT	9+009.844 RT	76 SM ±					WD	6/16/2011	MORRISTOWN	160	84-85	818 SF ±; LIMITED ACCESS
			8+971.9 RT	9+011.5 RT			SLOPE	(T)	175 SM	PRM	7/1/2011	MORRISTOWN	160	228-229	1,884 SF ±
			8+971.941 RT				REMOVE & REPLACE	(T)							I.P. SAME LOCATION
			8+972.9 RT	9+012.3 RT			INSTALL	(T)	115 SM						PDF; 1,238 SF ±
			8+975.1 RT	9+008.1 RT			LANDSCAPE	(T)							PLANT TREES
			9+008.281 LT	9+009.844 RT			REMOVE & REPLACE	(T)							I.P.

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

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

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

APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PLOT DATE: 4/2/2012

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS**
PROJECT LEADER: **J. HARRIS**
DESIGNED BY: **McFARLAND JOHNSON**
R.O.W. DETAIL SHEET #10

PLOT DATE:
DRAWN BY: **M. TROTTIER**
CHECKED BY: **E. PIERCE**
SHEET **27D** OF **123**

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	
52A	BISHOP JOHN A. MARSHALL SCHOOL, INC.	93, 94,	7+391.986 LT	7+520.000 LT	0.68 HA					CONDEM	3/12/2012	MORRISTOWN	169	298-312	73,197 SF±
		94A, 95,	7+391.6 LT	BMD 4+133.1 LT			CONST	(T)	804 SM						INCL. E.C., PDF & BF; 8,654 SF±
		95A	7+394.4 LT	7+439.1 LT			SLOPE	(P)	120 SM						1,292 SF±
			7+395.532 RT	7+391.986 LT			REMOVE & REPLACE	(T)							I.P.
			7+400.7 LT	7+808.6 LT			LANDSCAPE	(T)							PLANT TREES
			7+441.7 LT	BMD 4+060.0 LT			SLOPE	(P)	885 SM						9,526 SF±
			7+445.7 LT	BMD 4+093.2 LT			INSTALL	(T)	145 SM						SIDEWALK; 1,550 SF±
			7+447.1 LT	7+493.8 LT			INSTALL & MAINTAIN	(P)	116 SM						CULVERT; 1,249 SF±; INCL. HEADWALL
			7+449.3 LT	BMD 4+100.0 LT			UTILITY	(P)	578 SM						UNDERGROUND CONDUITS; 6,222 SF±
			7+462.0 LT	BMD 4+090.8 LT			INSTALL	(T)							GUARD RAIL
			7+462.5 LT	BMD 4+133.0 RT			DRIVE	(T)	0.10 HA						10,764 SF ±
			7+482.7 LT	7+555.3 LT			SLOPE	(T)	851 SM						9,160 SF ±
			7+493.0 LT	7+499.8 LT			CUL, DR, & DIT.	(P)							
			BMD 4+087.4 RT	BMD 4+097.4 RT			REMOVE	(T)							300MM HDPE
			BMD 4+087.7 LT	BMD 4+097.5 RT			INSTALL	(T)							CULVERT
			7+535.9 LT	7+816.1 LT			CONST	(T)	0.14 HA						INCL. PDF, PAVEMENT REMOVAL; 15,070 SF±
			7+559.4 LT	7+562.3 LT			INSTALL & MAINTAIN	(P)							DRAIN INLET & HEADWALL
			BMD 4+060.0 LT	BMD 4+133.1 LT			SLOPE	(T)	439 SM						4,726 SF±
			7+520.0 RT	7+562.3 RT			SLOPE	(T)	394 SM						4,241 SF±; INCL. PAVEMENT REMOVAL
			7+520.0 RT	7+538.8 RT			ACCESS	(T)	345 SM						3,714 SF±
			7+520.9 RT	7+633.4 RT			CONST	(T)	504 SM						INCL. E.C.& PDF; 5,425 SF±
			7+520.0 RT	7+542.0 RT			LANDSCAPE	(T)							PLANT TREES
			7+520.0 RT	7+539.3 RT			DITCH	(P)	118 SM						INCL. TEMP. PAVEMENT REMOVAL; 1,270 SF±
			VT 100 3+064.0 LT	VT 100 3+089.8 LT			REMOVE	(T)							CULVERTS
			VT 100 3+092.1 LT	VT 100 3+123.5 LT			LANDSCAPE	(T)							PLANT TREES
			7+545.2 RT	7+551.0 LT			ALL R.T. & I.								WATER LINE
			7+549.9 RT	7+555.6 LT			ALL R.T. & I.								SEWER LINE
			7+559.0 LT	7+813.5 LT			SLOPE	(T)	862 SM						9,279 SF±
			7+621.7 RT	7+635.6 RT			SLOPE	(T)	17 SM						183 SF±
			VT 100 3+067.4 LT	VT 100 3+132.8 LT			SLOPE	(T)	283 SM						INCL. PAVEMENT REMOVAL; 3,046 SF±
			VT 100 3+096.2 LT				REMOVE & RESET	(T)							SIGN WITH LIGHTS
52B		93,94,	7+392.684 RT	VT 100 3+140.000 LT	0.14 HA		ALL R. T. & I.								VT. RTE. 100 HWY. EASE., 14,962 SF±
		94A													
52C		94, 94A,	7+520.000 LT	7+806.141 LT	0.60 HA										64,586 SF±; LIMITED ACCESS
		95, 95A													
53	NOT USED														
54A	MATURA, DONALD & SCHULER, KATHY	92,92A	6+883.055 RT	6+956.973 RT	540 SM					WD	5/25/2011	MORRISTOWN	159	172-173	5,813 SF±
			6+890.3 RT	6+954.1 RT			CONST	(T)	167 SM						INCL. PDF; 1,798 SF±
			6+896.9 RT	6+917.3 RT			SLOPE	(P)	16 SM						172 SF±
			6+934.0 RT	6+938.9 RT			SLOPE	(P)	8 SM						86 SF±
			6+944.2 RT	6+955.4 RT			SLOPE	(P)	33 SM						355 SF±
			6+956.938 RT	6+955.386 RT			REMOVE & REPLACE	(T)							I.P.
			6+946.2 RT	6+954.7 RT			UTILITY	(P)	53 SM						571 SF±
54B		92,92A	6+884.704 RT	6+958.613 RT	542 SM		ALL R. T. & I.								VT. RTE. 100 HWY. EASE., 5,834 SF±
55	BUKER, THEODORE E. - LESSOR	103,104	VT15&100 14+128.591 RT	VT15&100 14+214.548 RT	886 SM		ALL R. T. & I.			WD	5/27/2011	MORRISTOWN	159	219-221	VT. RTE. 15&100 HWY. EASE., 9,537 SF±
	FRED'S PLUMBING AND HEATING, INC. -		VT15&100 14+167.8 RT	VT15&100 14+171.4 RT			REMOVE & RESET	(T)		SA	6/8/2011	MORRISTOWN	160	32-35	FENCE
	LESSEE		VT15&100 14+176 RT												DRIVE 5.5 M (18') WIDE, MM 0068
			VT15&100 14+180.2 RT	VT15&100 14+191.9 RT			REMOVE & RESET	(T)							FENCE
			VT15&100 14+190.8 RT	VT15&100 14+191.1 RT			INSTALL	(T)	5 SM						E.C.; 54 SF±
			VT15&100 14+197 RT												DRIVE 9.0 M (29.5') WIDE, MM 0069
			VT15&100 14+202.8 RT	VT15&100 14+206.3 RT			REMOVE & RESET	(T)							FENCE
			VT15&100 14+203.4 RT	VT15&100 14+214.8 RT			INSTALL	(T)	11 SM						E.C., 118 SF ±
			9+948.3 RT	9+958.3 LT			ALL R. T. & I.								WATER LINE
			9+948.3 RT	9+958.3 LT			D&C	(T)							WATER LINE
56A	ARI'S VERMONT REAL ESTATE HOLDINGS,	103	VT15&100 14+291.414 RT	VT15&100 14+308.012 RT	30 SM					WD	9/26/2011	MORRISTOWN	163	109-111	323 SF ±
	LLC		VT15&100 14+291.6 RT	VT15&100 14+296.8 RT			UTILITY	(P)	15 SM	SLV AGR	9/26/2011	MORRISTOWN	163	112-115	161 SF±
			VT15&100 14+291.6 RT	VT15&100 14+297.0 RT			INSTALL	(T)	5 SM	SAG	9/26/2011	MORRISTOWN	163	116-120	E.C. & PDF; 54 SF±
			VT15&100 14+291.414 RT	VT15&100 14+291.566 RT			REMOVE & REPLACE	(T)							I.P.
			VT 15&100 14+294.4 RT				INSTALL & MAINT.	(P)							GUY WIRE & ANCHOR

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

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

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

APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PLOT DATE: 4/2/2012

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS**
PROJECT LEADER: **J. HARRIS**
DESIGNED BY: **McFARLAND JOHNSON**
R.O.W. DETAIL SHEET #11

PLOT DATE:
DRAWN BY: **M. TROTTIER**
CHECKED BY: **E. PIERCE**
SHEET **27E** OF **123**

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	
56A	ARI'S VERMONT REAL ESTATE HOLDINGS,	103	9+917.4 LT	9+922.4 LT			CONST	(T)	1 SM						INCL. PDF, 11 SF±
	LLC (CONTINUED)		9+973.8 RT	9+988.151 LT			ALL R.T. & I.		223 SM						SEWER SYSTEM & EASEMENT; 2,400 SF±
			10+027.2 LT	10+029.6 LT			INSTALL	(T)	1 SM						PDF, 11 SF±
			10+019.3 LT	10+029.8 LT			UTILITY	(P)	179 SM						1927 SF±
56B		103	VT15&100 14+290.180 LT	VT15&100 14+301.930 RT	80 SM		ALL R.T. & I.								VT. RTE. 15&100 HWY. EASE., 861 SF±
57A	VILLAGE OF MORRISVILLE	95, 95A	7+965.000 LT	8+368.012 LT	2.53 HA					QCD/PTR	2/24/2011	MORRISTOWN	156	123-125	272,336 SF±; LIMITED ACCESS
		96, 96A	7+961.7 LT	8+215.5 LT			CONST	(T)	0.52 HA						INCLUDES INSTALLATION OF TEMP. BRIDGE
															OR CAUSEWAY, INCL. EC; 55,974 SF±
			8+261.5 LT	8+315.0 LT			CONST	(T)	365 SM						INCL. EC, PDF, 3929 SF±
			8+265.3 LT	8+291.2 LT			SLOPE	(T)	237 SM						INCL. PLANT TREES, REMOVAL OF
															GUARDRAIL AND REMOVAL OF PAVEMENT;
															2,551 SF±
			8+269.1 LT	8+272.8 LT			INSTALL	(T)							MUNICIPAL WATER SYSTEM
			8+278.9 LT	8+283.5 LT			INSTALL & MAINT	(P)	7 SM						DETENTION BASIN, 75 SF±
			8+283.1 LT	8+310.4 LT			CUL, DIT & DR	(P)	73 SM						786 SF±
57B		100	9+362.7 LT	9+380.5 RT			ALL R. T. & I.		140 SM						WATER LINE & EASEMENT; 1,507 SF±
57C		100,102	9+421.9 RT	9+680.355 RT			ALL R.T. & I.		0.18 HA						SEWER LINE & EASEMENT; 19,376 SF±
58A	STATE OF VERMONT - A.O.T.	97	SR 11+075.734 RT	SR 11+141.775 RT	0.13 HA					WD	11/26/2007	MORRISTOWN	144	574	INCL. ALL IMPROVEMENTS
	(FORMERLY O'NEIL, JOHN P.)														13,939 SF±
58B		97	SR 11+075.358 RT	SR 11+142.086	488 SM		ALL R.T. & I.								SOUTH RIVER ST. HWY. EASE.
															5,253 SF±
59	MORRISVILLE WATER & LIGHT DEPT.	92-103	6+788.8 LT	10+044.948 CL			ALL R.T. & I.			CONDEM	2/8/2012	MORRISTOWN	168	157-175	UTILITY EASEMENTS
		103, 104	VT 15&100 14+083.175 LT	VT 15&100 14+492.144 CL			ALL R.T. & I.								UTILITY EASEMENTS
60	TELEPHONE OPERATING COMPANY	92-103	6+788.8 LT	10+044.948 CL			ALL R.T. & I.			CONDEM	2/8/2012	MORRISTOWN	168	157-175	UTILITY EASEMENTS
	OF VERMONT LLC	103, 104	VT 15&100 14+083.175 LT	VT 15&100 14+492.144 CL			ALL R.T. & I.								UTILITY EASEMENTS
61	COMCAST OF CONNECTICUT, ETC., LLC	92-103	6+788.8 LT	10+044.948 CL			ALL R.T. & I.			CONDEM	2/8/2012	MORRISTOWN	168	157-175	UTILITY EASEMENTS
		103, 104	VT 15&100 14+083.175 LT	VT 15&100 14+492.144 CL			ALL R.T. & I.								UTILITY EASEMENTS
62A	DEMARS PROPERTIES, LLC	100	9+120.373 LT	9+398.093 RT	0.82 HA										LIMITED ACCESS 88,261 SF±
			9+218.4 RT	9+314.0 RT			CONST	(T)	294 SM						INCLUDES EC & PDF; 3165 SF±
			9+221.9 RT	9+279.1 RT			SLOPE	(T)	430 SM						4629 SF±
			9+231.1 RT	9+307.1 RT			LANDSCAPE	(T)							PLANT TREES
			9+283.6 RT	9+305.7 RT			SLOPE	(T)	27 SM						291 SF±
			9+361.0 RT	9+371.5 RT			CONST	(T)	33 SM						INCLUDES EC & PDF; 355 SF±
			9+364.8 RT	9+400.3 RT			RECONSTRUCT	(T)	493 SM						DRIVE & DRIVE ENTRANCE; 5,307 SF±;
															INCLUDES PAVEMENT
															REMOVAL, GRADING, LANDSCAPING, PDF
			9+394.708 LT	9+398.093 RT			REMOVE & REPLACE	(T)							I.P.
62B		100	9+361.809 LT	9+385.220 LT			ALL R.T. & I		144 SM						PROFESSIONAL DRIVE ROW; 1,550 SF±
			9+362.6 LT	9+377.4 RT			ALL R.T. & I								WATER LINE
			9+375.4 LT	9+389.6 RT			ALL R.T. & I								SEWER LINE

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLOT DATE: 4/2/2012

PLAN LEGEND

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

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

APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS**
PROJECT LEADER: **J. HARRIS**
DESIGNED BY: **McFARLAND JOHNSON**
R.O.W. DETAIL SHEET #12

PLOT DATE:
DRAWN BY: **M. TROTTIER**
CHECKED BY: **E. PIERCE**
SHEET **27F** OF **123**

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	
63A	BEEMAN, TARA M.	92, 92A,	7+061.166 RT	7+175.864 RT	0.14 HA					WD	9/26/2011	MORRISTOWN	163	102-105	15,070 SF±
		93	7+062.424 RT	7+065.8 RT			SLOPE	(T)	12 SM						129 SF±
			7+062.4 RT	7+063.8 RT			REMOVE	(T)							FENCE
			7+062.676 RT	7+062.424 RT			REMOVE & REPLACE	(T)							IRON PIN
			7+063.7 RT	7+070.9 RT			CONST.	(T)	37 SM						INCLUDES PDF; 398 SF±
			7+062.4 RT	7+138.6 RT			UTILITY	(P)	88 SM						947 SF±
			7+069.4 RT	7+073.3 RT			INSTALL & MAINTAIN	(P)							2 GUY WIRES & ANCHORS
			7+080.5 RT	7+102.7 RT			INSTALL	(T)	61 SM						PDF; 657 SF±
			7+089.0 RT	7+101.4 RT			SLOPE	(T)	24 SM						258 SF±
			7+098.4 RT	7+101.3 RT			ALL R.T. & I.								CONCRETE TUB
			7+101.4 RT	7+124.3 RT			RECONSTRUCT	(T)	281 SM						PARKING AREA; 3,025 SF±
			7+115 RT				DRIVE	(T)							7.2M (23.6')± WIDE; MM0443
			7+122.9 RT	7+179.4 RT			INSTALL	(T)	170 SM						PDF; 1,830 SF±
			7+124.3 RT	7+178.5 RT			SLOPE	(T)	242 SM						2,605 SF±
			7+129.3 RT				REMOVE & RESET	(T)							COMMERCIAL SIGN WITH LIGHTS
			7+132.9 RT	7+176.5 RT			INSTALL & MAINTAIN	(P)	88 SM						UNDERDRAIN & DITCH; 947 SF±
			7+160.4 RT	7+176.7 RT			LANDSCAPE	(T)							PLANT TREES
			7+172.736 RT	7+175.864 RT			REMOVE & REPLACE	(T)							IRON PIN
63B		92, 92A,	7+060.628 LT	7+172.744 RT	820 SM		ALL R.T. & I.								VT. RTE. 100 HWY. EASE. 8,827 SF±
		93													
64A	SHERMAN V. ALLEN PETROLEUM LLC	104	VT15&100 14+083.175 LT.	VT15&100 14+113.438 LT.	122 SM							MORRISTOWN			1,313 SF±
64B		104	VT15&100 14+110.594 LT.	VT15&100 14+123.180 LT.	51 SM		ALL R.T.I.								TH12 HWY. EAST.; 549 SF±
65	SUNRISE DEVELOPMENT LLC	102	9+501.882 LT	9+681.205 LT	0.10 HA							MORRISTOWN			10,990 SF±; LIMITED ACCESS
			9+501.882 LT	9+502.169 LT			REMOVE & REPLACE	(T)							I.P.
			9+502.169 LT	9+522.2 LT			INSTALL & MAINT.	(P)	154 SM						CULVERTS & D.I.; 1,658 SF±
			9+502.3 LT	9+508.1 LT			SLOPE	(T)	7 SM						75 SF±
			9+502.5 LT	9+513.0 LT			CONST.	(T)	33 SM						INCLUDES PDF; 355 SF±
			9+513.8 LT	9+517.9 LT			SLOPE	(T)	2 SM						22 SF±
			9+514.1 LT	TH83 13+030.0 RT			CONST.	(T)	528 SM						INCLUDES EC & PDF; 5,684 SF±
			9+515.3 RT	9+526.2 LT			ALL R.T. & I.								SEWER LINE
			9+515.7 LT	TH83 13+040.0 RT			LANDSCAPE	(T)							PLANT TREES
			9+526.6 LT	9+612.7 LT			SLOPE	(T)	85 SM						915 SF±
			9+666.3 LT	9+672.6 LT			SLOPE	(T)	4 SM						43 SF±
			9+674.3 LT	TH83 13+031.0 RT			SLOPE	(T)	64 SM						689 SF±
			9+680.878 LT	9+681.205 LT			REMOVE & REPLACE	(T)							REPLACE I.P. WITH BOUND
			TH83 13+046.910 RT				REMOVE	(T)							I.P.
			TH83 13+050.0 RT				INSTALL & MAINT.	(P)							UNDERDRAIN CLEANOUT
			TH83 13+023 RT				DRIVE	(T)							GRAVEL 10M (32.8') WIDE
66A	SINON, MADELYN	99	8+964.135 LT	8+897.8 LT			ALL R.T. & I.		423 SM	WDOE	3/1/2012	MORRISTOWN	169	187-189	33' R.O.W.; 4,553 SF±; LIMITED ACCESS
										SLEEVE AGR	3/1/2012	MORRISTOWN	169	190-193	
66B		99	CONN A 16+042.765 RT	8+897.4 RT			ALL R.T. & I.		195 SM			MORRISTOWN			33' R.O.W.; 2,099 SF±
			8+893.1 LT	CONN A 16+049.3 RT			ALL R.T. & I.								WATER LINE
			CONN A 16+048.2 RT				D&C	(T)							WATER LINE
66C		99	AW15+136.586 LT	9+002.154 LT			ALL R.T. & I.		0.10 HA						33' R.O.W.; 10,764 SF±
67	RMN PROPERTIES LLC, LESSOR;	94, 94A	7+635.581 RT	7+707.733 RT	853 SM					CONDEM	2/8/2012	MORRISTOWN	168	157-175	LIMITED ACCESS; 9,182 SF±
	ROCK ART BREWERY LLC, LESSEE		7+631.2 RT	7+691.0 RT			CONST.	(T)	173 SM						INCLUDES PDF; 1,862 SF±
			7+633.4 RT	7+695.833 RT			SLOPE	(T)	287 SM						3,089 SF±
			7+640.3 RT	7+691.0 RT			LANDSCAPE	(T)							PLANT TREES

TABLE OF REVISIONS

REVISION NO.	SHEET NO.	DESCRIPTION	DATE

PLAN LEGEND

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

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

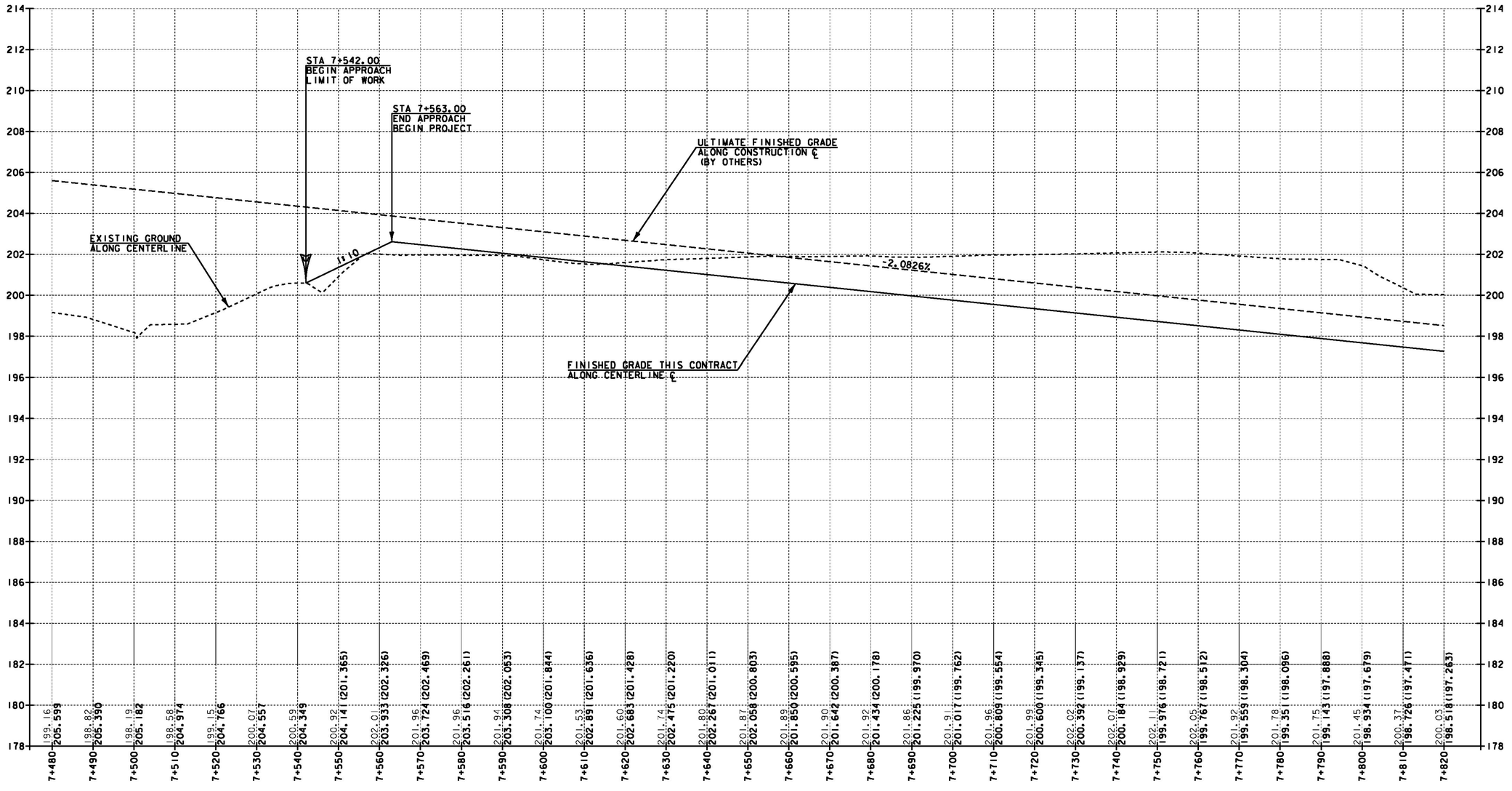
APPROVED: HARRY PETROVS DATE: 12-14-10
CHIEF, PLANS & TITLES

PLOT DATE: 4/2/2012

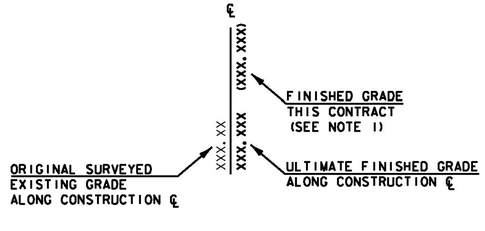
PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)**

FILE NAME: **R78D082.XLS**
PROJECT LEADER: **J. HARRIS**
DESIGNED BY: **McFARLAND JOHNSON**
R.O.W. DETAIL SHEET #13

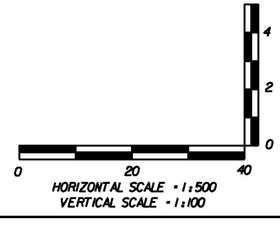
PLOT DATE:
DRAWN BY: **M. TROTTIER**
CHECKED BY: **E. PIERCE**
SHEET **27G** OF **123**



LEGEND



PROPOSED VT 100



NOTE:

1. NO SELECT MATERIALS OR PAVEMENT WILL BE PLACED FOR THIS CONTRACT. SEE DETAILS AND CROSS SECTIONS FOR LIMITS OF CONSTRUCTION.
2. GRADES SHOWN ARE FOR FINAL GRADE AT THE END OF THE CONTRACT. INTERIM GRADING REQUIRED FOR DELIVERY OF STEEL OR OTHER PURPOSES ARE AT THE DISCRETION OF THE CONTRACTOR WITH APPROVAL BY THE ENGINEER.

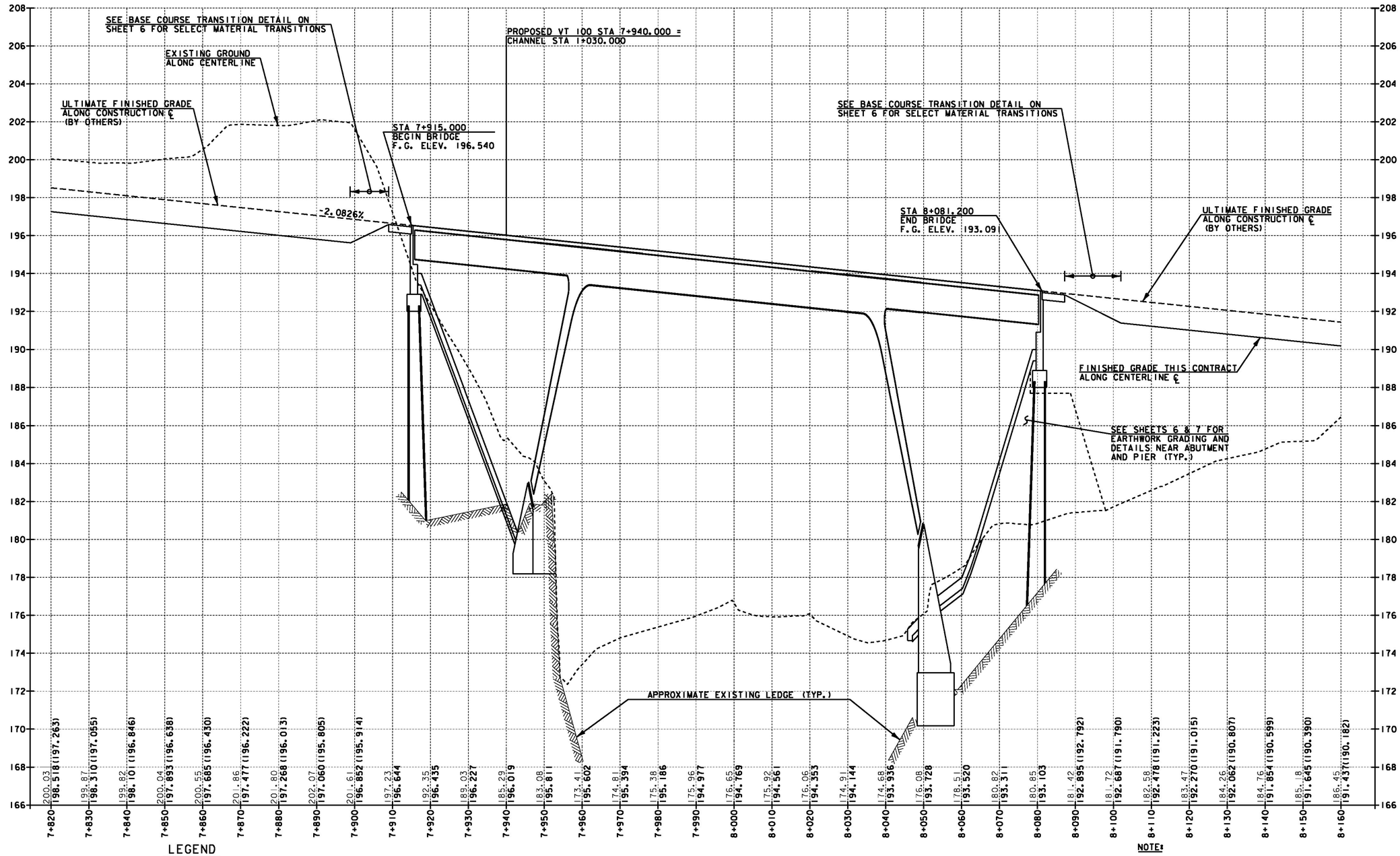
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

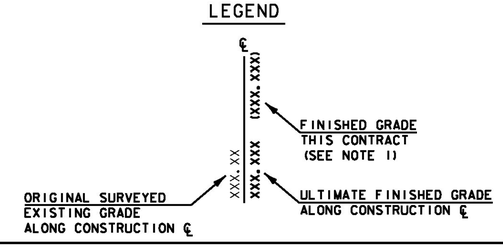
FILE NAME: z10b194proshts08.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
PROFILE SHEET - 1

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 28 OF 123

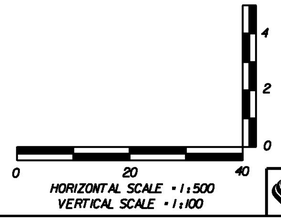
Metric



LEGEND



PROPOSED VT 100



NOTE:

1. NO SELECT MATERIALS OR PAVEMENT WILL BE PLACED FOR THIS CONTRACT OUTSIDE THE LIMITS OF THE BRIDGE AS NOTED. SEE DETAILS AND CROSS SECTIONS FOR LIMITS OF CONSTRUCTION.

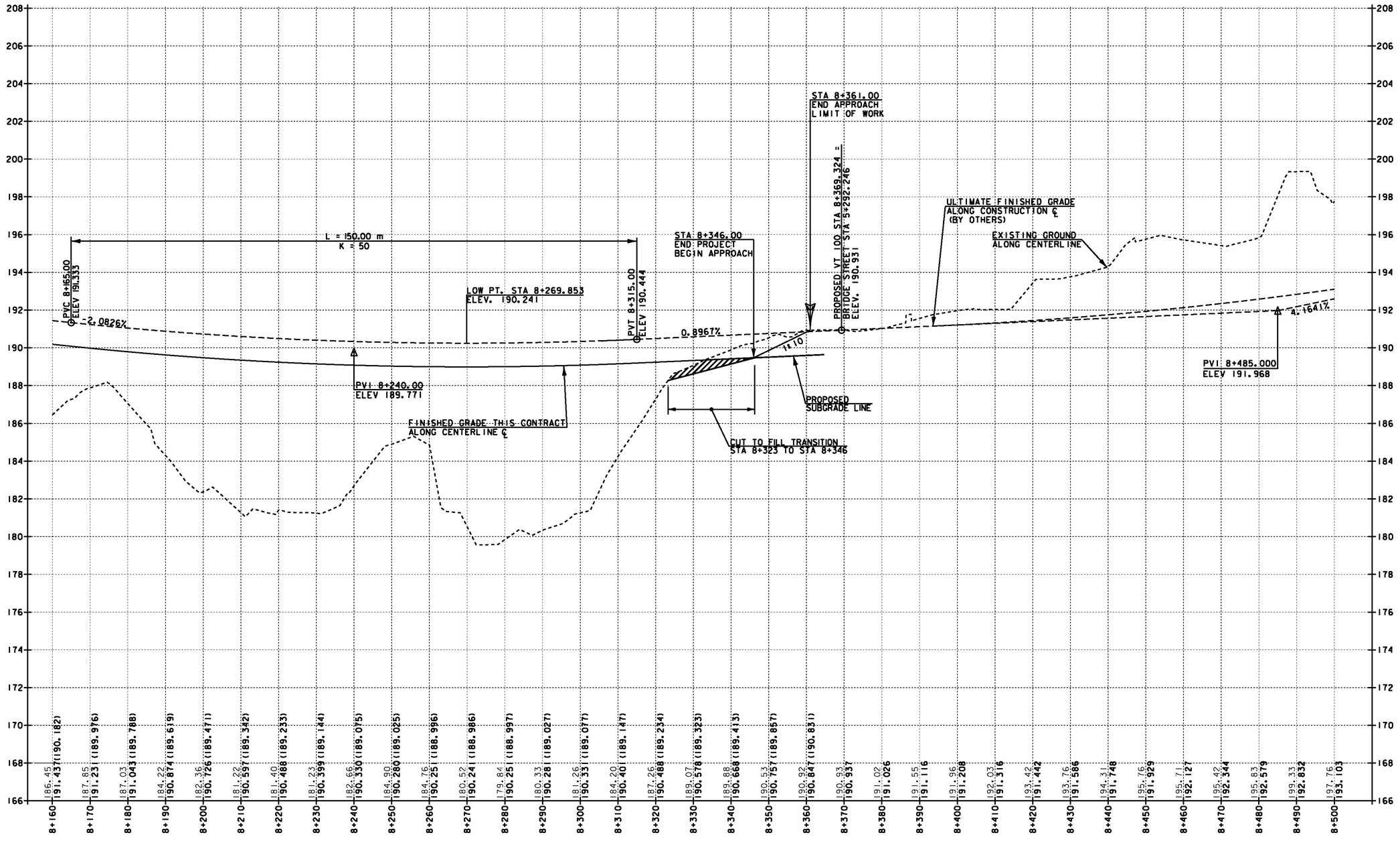
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

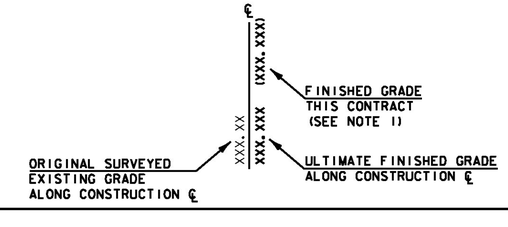
FILE NAME: z10b194prosht09.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
PROFILE SHEET - 2

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 29 OF 123

Metric



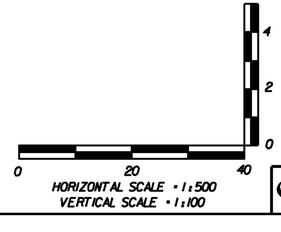
LEGEND



PROPOSED VT 100

NOTE:

1. NO SELECT MATERIALS OR PAVEMENT WILL BE PLACED FOR THIS CONTRACT OUTSIDE THE LIMITS OF THE BRIDGE AS NOTED. SEE DETAILS AND CROSS SECTIONS FOR LIMITS OF CONSTRUCTION.
2. GRADES SHOWN ARE FOR FINAL GRADE AT THE END OF THE CONTRACT. INTERIM GRADING REQUIRED FOR DELIVERY OF STEEL OR OTHER PURPOSES ARE AT THE DISCRETION OF THE CONTRACTOR WITH APPROVAL BY THE ENGINEER.



McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194prosht10.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
PROFILE SHEET - 3

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 30 OF 123

Metric

ALIGNMENT : PROPOSED VT 100				
ELEMENT	POINT	STATION	NORTHING	EASTING
LINEAR	POB	7+460.000	228597.1295	491199.1908

N

VT. STATE PLANE GRID

FUTURE ROADWAY TO BE BUILT IN A LATER CONTRACT (TYP)

BISHOP MARSHALL DRIVE

STA 7+563.0
END APPROACH
BEGIN PROJECT

PROPOSED VT 100

N40° 36' 29.0"E

STA 7+542.0
BEGIN APPROACH

EXISTING VT 100 (OLD)

FUTURE VT 100

EXISTING BISHOP MARSHALL DRIVE

MATCHLINE STA 7+760

0 10 20 30
SCALE 1:500

NOTES:

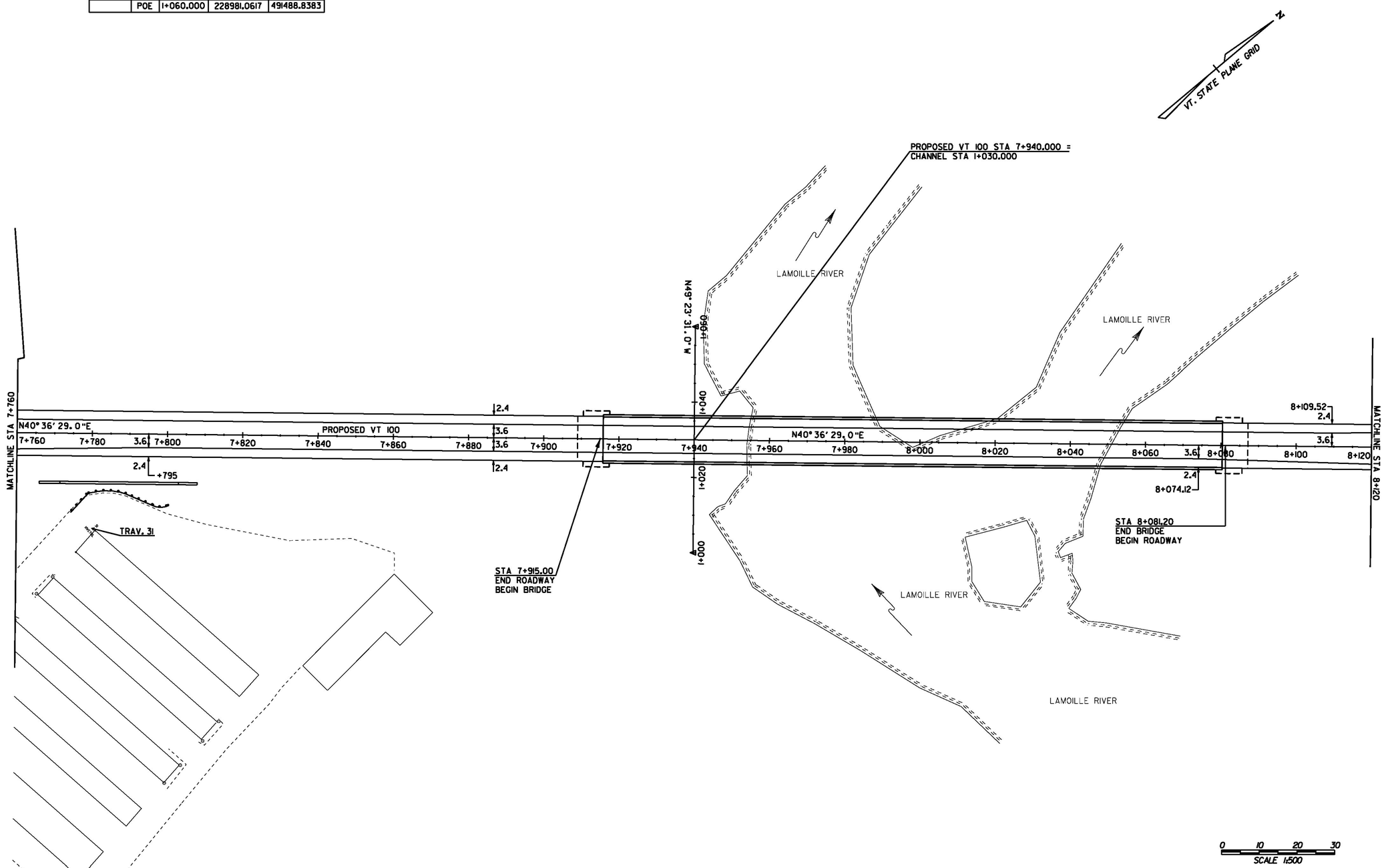
1. THE EXISTING DRIVEWAY TO BISHOP MARSHALL SCHOOL SHALL REMAIN ACCESSIBLE DURING CONSTRUCTION.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194pa03.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ALIGNMENT SHEET - 1	SHEET 31 OF 123

Metric

ALIGNMENT : CHANNEL				
ELEMENT	POINT	STATION	NORTHING	EASTING
LINEAR	POB	1+000.000	228942.0089	491534.3891
	POE	1+060.000	228981.0617	491488.8383



PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10bl94pa04.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ALIGNMENT SHEET - 2	SHEET 32 OF 123

McFarland Johnson

VTrans Metric

PROPOSED VT 100
CURVE NO. 2
△ = 32° 41' 36.0" LT
R = 290.00
T = 85.06
L = 165.48
E = 12.22
BANK = 0.077 M / M

MATCHLINE STA 8+120

N40° 36' 29.0"E

PC
Sta 8+167.426

CURVE NO. 2

PROPOSED VT 100

PI
Sta 8+252.485

PT
Sta 8+332.902

CURVE NO. 41

BRIDGE STREET
CURVE NO. 41
△ = 21° 3' 55.8" LT
R = 310.00
T = 58.11
L = 114.88
E = 5.40
NO BANK

STA 8+361.0
END APPROACH

TRAV. 39

PT
Sta 5+294.388

PROPOSED VT 100 STA 8+369.324 =
BRIDGE STREET STA 5+292.246

BRIDGE STREET

S10° 7' 48.1"E

N7° 54' 53.0"E

STA 8+346.0
END PROJECT
BEGIN APPROACH

PC
Sta 5+309.168

BRIDGE STREET
CURVE NO. 42
△ = 3° 49' 14.4" LT
R = 1100.00
T = 36.69
L = 73.35
E = 0.61
NO BANK

CURVE NO. 42

VT. STATE PLANE GRID

SCALE 1:500

ALIGNMENT : PROPOSED VT 100				
ELEMENT	POINT	STATION	NORTHING	EASTING
CURVE #2	PC	8+167.426	229134.1933	491659.6412
	PI	8+252.485	229198.7679	491715.0041
	PT	8+332.902	229283.0160	491726.7165
LINEAR	POE	8+420.000	229369.2841	491738.7098

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194pa05.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ALIGNMENT SHEET - 3

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 33 OF 123

VAOT Metric

STA 8+370.3, 37.4 LT
200mm VALVE FUTURE USE

STA 8+373.3, LT
CONNECT TO EXISTING 100mm WATERLINE WITH 100mm x 100mm TAPPING SLEEVE AND 100mm GATE VALVE, FLG x MJ, WITH BOX. 100mm x 200mm REDUCER, MJ AND 200mm GATE VALVE. CUT AND CAP EXISTING 100mm WATERLINE PROVIDE CAP W/JOINT RESTRAINTS AND THRUST BLOCK.

VT. STATE PLANE GRID

STA 8+362.7, 15.9 LT TO STA 8+374.3, 13.4 LT
CONSTRUCT 375mm x 12.0m PVC SEWER PIPE
CONSTRUCT 1.2m DIA. SMH AT STA 8+362.7, 15.9 LT
INV IN = 185.60 (375mm)
INV OUT = 185.55 (375mm)

100mm TEE, STA 8+372.8, 35.6 LT
200mm TEE, STA 8+370.13, 36.5 LT
100mm VALVE, STA 8+372.18, 36.2 LT

PROPOSED VT 100 STA 8+369.324 = BRIDGE STREET STA 5+292.246

REMOVE (BY OTHERS)

REMOVE EXISTING WATERLINE TO LIMITS OF SLOPEWORK

200mm 45° BEND, TEE MJxMJ
STA 8+370.13, 36.5 LT

100mm 45° BEND, MJxMJ

STA 8+308.6, 8.3 LT TO STA 8+362.7, 15.9 LT
CONSTRUCT 375mm x 54.0m PVC SEWER PIPE
MATCH INV AT EXIST SMH

375mm TO 150mm WYE
STA 8+326.69, 11.11 LT
ELEV = 184.71

45 DEGREE BEND

45 DEGREE BEND

200mm 45 DEGREE BEND STA 8+356.18, 18.09 LT

200mm 45 DEGREE BEND MJ x MJ

N40°36'29.0"E

N7°54'53.0"E

PROPOSED

VT 100

ADJUST SMH TO GRADE

NEW SEWER MANHOLE
STA 8+308.6, 8.3 LT

POND

NEW +213 RT 84.2 (BY OTHERS)

NEW +211 RT 83.6 (BY OTHERS)

NEW +216 RT 85.4 (BY OTHERS)

8+346.7 8+346.74 9.98 LT
STA ~~8+346.6, 9.8 RT~~ TO STA ~~8+346.6, 9.8 LT~~
CONSTRUCT 450mm x 20.0m C905 SLEEVE
~~CONSTRUCT YIELDING MARKER POSTS AT~~ SLEEVE ENDS
MOUND EARTH BORROW OVER PIPE TO PROVIDE 1.7m OF COVER (MIN.)

200mm 45° BEND, MJxMJ

STA 8+374.3, 13.4 LT TO STA 8+370.3, 5.2 RT
CONSTRUCT 375mm x 19.0m PVC SEWER PIPE
CONSTRUCT 1.2m DIA. SMH WITH OUTSIDE DROP AT STA 8+374.3, 13.4 LT
INV IN = 187.50 (EXIST 200mm)
INV IN = 186.00 (375mm)
INV OUT = 185.95 (375mm)

STA 8+370.3
PLUG EXISTING INVERT OUT
CORE NEW INVERT AT EXISTING ELEVATION

STA 8+328.48, 10.32 RT TO STA 8+329.04, 8.72 LT
450mm SLEEVE

REMOVE EXISTING SEWERLINE TO LIMITS OF NEW SEWERLINE

STA 8+373.3, 35.4 LT TO STA 8+358.4, 35.3 RT
CONSTRUCT 200mm x 89.0m DUCTILE IRON PIPE, CEMENT-LINED

STA 8+355.0, RT INSTALL CORPORATION STOP (25mm) AND 25mm COPPER PIPE. CONTRACTOR TO VERIFY SIZE IN THE FIELD. CONNECT TO EXISTING CURB STOP.

150mm SEWER SERVIVE CONNECTING TO EXISTING HOUSE SERVIVE
TIES INTO 150mm WYE
STA 8+327.66, 13.65 RT TO STA 8+326.69, 11.11 LT
A CLEANOUT EXISTS @ STA 8+327.66, 13.65 RT

200mm 45° BEND, MJxMJ

8+357.98, 35.17 RT
STA ~~8+358.4, RT~~
CONNECT TO EXISTING 100mm WATERLINE
~~WITH 100mm x 100mm TAPPING SLEEVE AND~~
STA 8+357.2, 35.0 RT 100mm GATE VALVE, FLG x MJ, WITH BOX. 100mm x 200mm REDUCER, MJ AND 200mm GATE VALVE. CUT AND CAP EXISTING 100mm WATERLINE PROVIDE CAP W/JOINT RESTRAINTS AND THRUST BLOCK STA 8+355.65, 35.6 RT

0 10 20 30
SCALE 1:500

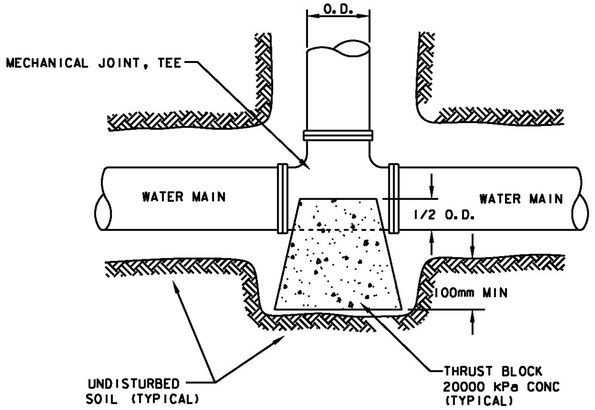
NOTE:
THE CONTRACTOR SHOULD BE AWARE THAT MORRISTOWN WATER AND LIGHT WILL BE TEMPORARILY RELOCATING THE EXISTING OVERHEAD TRANSMISSION LINES NEAR STATION 8+230 TO FACILITATE THE PLACEMENT OF THE PROPOSED ROADWAY EMBANKMENT BY THE CONTRACTOR TO GRADE AS SHOWN ON THE CROSS SECTIONS. ONCE THE FILL HAS BEEN PLACED TO GRADE, MORRISTOWN WATER AND LIGHT WILL INSTALL THE NEW POLES SHOWN ON THE PLANS AND RECONNECT THE OVERHEAD TRANSMISSION LINES. THE CONTRACTOR SHALL COORDINATE THE PROPOSED ROADWAY WORK WITH MORRISTOWN WATER AND LIGHT TO ALLOW THEM ACCESS TO THE WORK SITE AS NEEDED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ut05.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
UTILITY SHEET

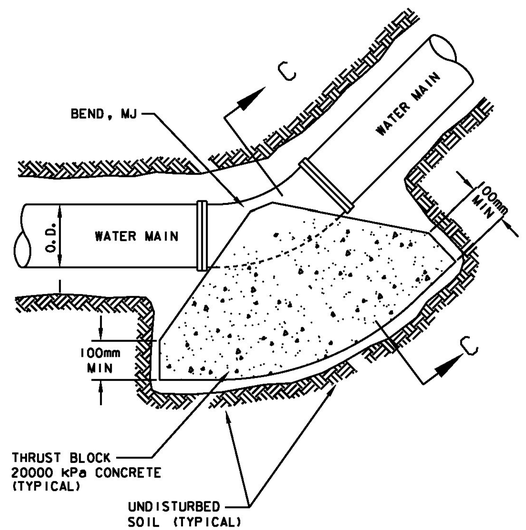
PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 34 OF 123



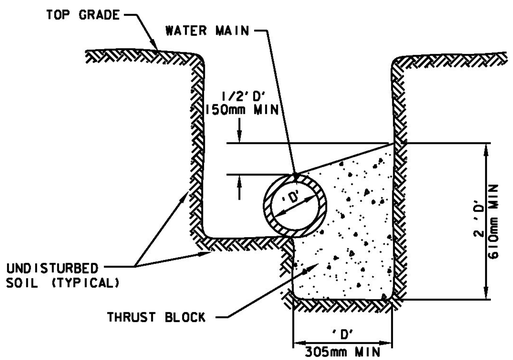
WATER MAIN TEE

BEARING AREA OF BLOCK IN SQ. m.					
FITTING SIZES	TEE & END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
150	0.21	0.31	0.17	0.08	0.05
200	0.37	0.53	0.29	0.14	0.07
250	0.56	0.80	0.42	0.22	0.11
300	0.80	1.12	0.60	0.31	0.16
350	0.80	1.12	0.60	0.31	0.16
400	1.01	1.43	0.77	0.40	0.20
450	1.29	1.67	0.90	0.46	0.23

• RESTRAINED JOINT FITTINGS MAY BE USED IN LIEU OF THRUST BLOCKS



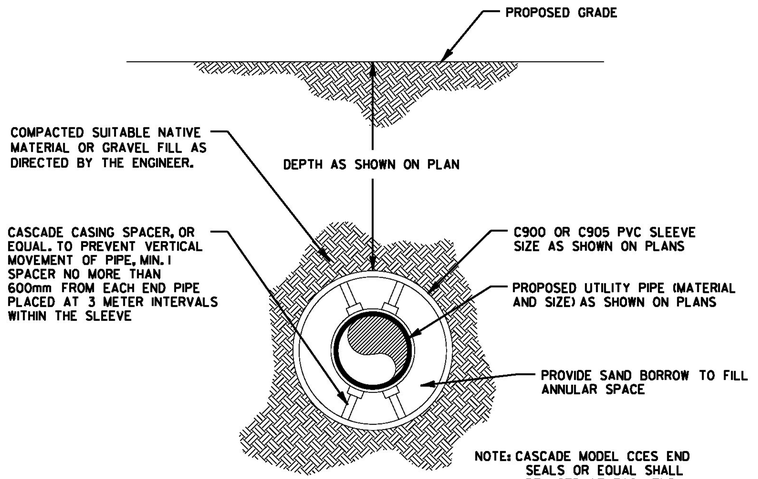
HORIZONTAL BEND



SECTION 'C-C'

THRUST BLOCK DETAILS - TYPICAL FOR WATER MAIN, FIRE PROTECTION MAIN, AND SANITARY FORCE MAIN PIPING

NOT TO SCALE

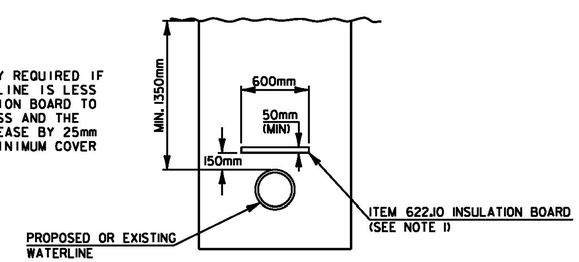


UTILITY SLEEVE DETAIL

NOT TO SCALE

NOTE:

1. INSULATION BOARD ONLY REQUIRED IF COVER OVER THE WATERLINE IS LESS THAN 1800mm. INSULATION BOARD TO BE 50mm MIN. THICKNESS AND THE THICKNESS SHALL INCREASE BY 25mm FOR EVERY 300mm OF MINIMUM COVER NOT PROVIDED.

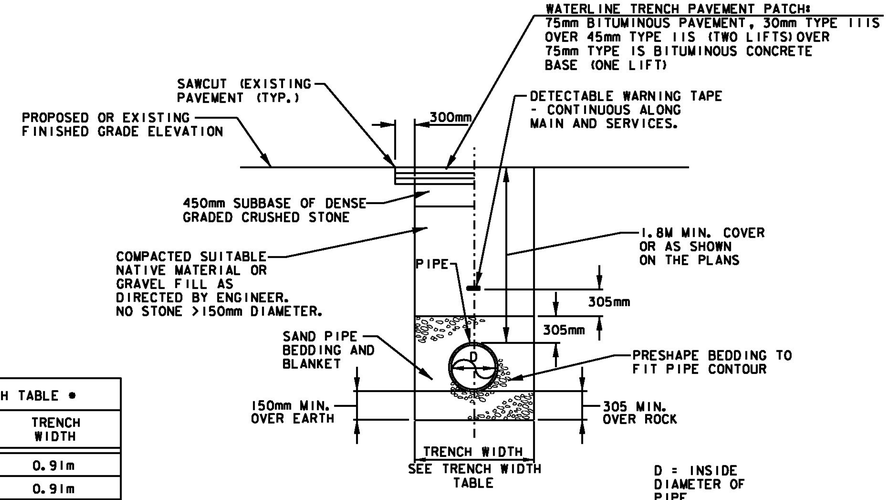


WATERLINE INSULATION DETAIL

NOT TO SCALE

TRENCH WIDTH TABLE •	
PIPE DIAMETER (mm)	TRENCH WIDTH
<100	0.91m
100 - 150	0.91m
203	0.91m
254	0.91m
305	0.91m
375	1.2m
406	1.2m
457	1.2m
533	1.2m
610	1.4m

• USE WIDTHS PROVIDED IN STANDARD SPECIFCAIONS WHEN ROCK, LEDGE, HARDPAN, OR OTHER UNYEILDING MATERIAL IS ENCOUNTERED, AS DIRECTED BY ENGINEER.



WATER LINE TRENCH DETAIL

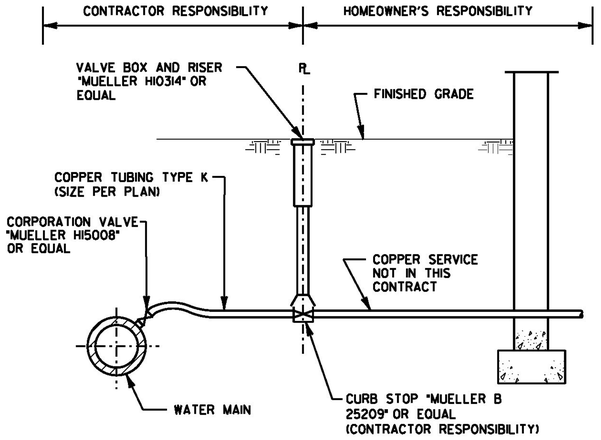
NOT TO SCALE

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

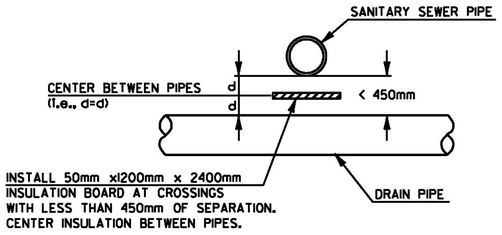
FILE NAME: z10b194utlldetl.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
UTILITY DETAIL SHEET - 1

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 35 OF 123

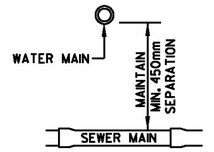
McFarland Johnson



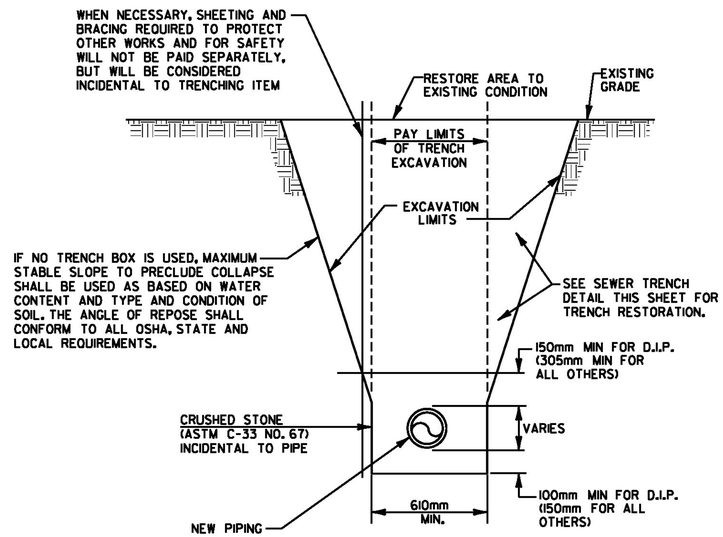
SERVICE INSTALLATION
NOT TO SCALE



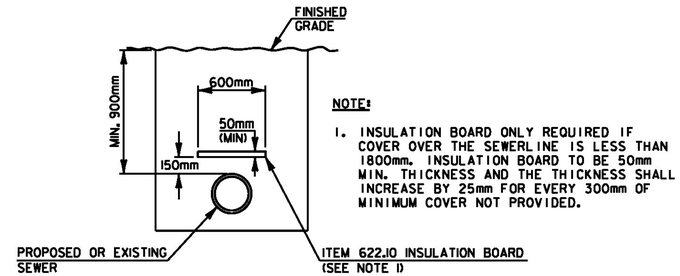
DRAIN / SANITARY SEWER CROSSING
NOT TO SCALE



WATER/SANITARY CROSSING
NOT TO SCALE

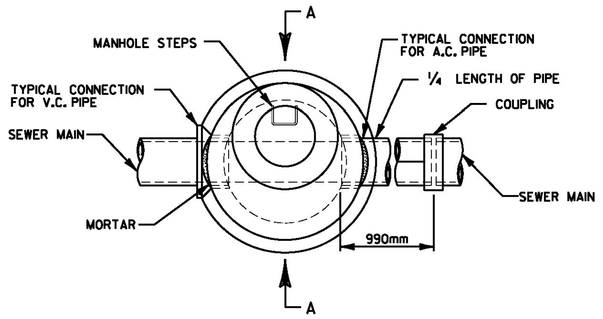


SEWER PIPE TRENCH
NOT TO SCALE

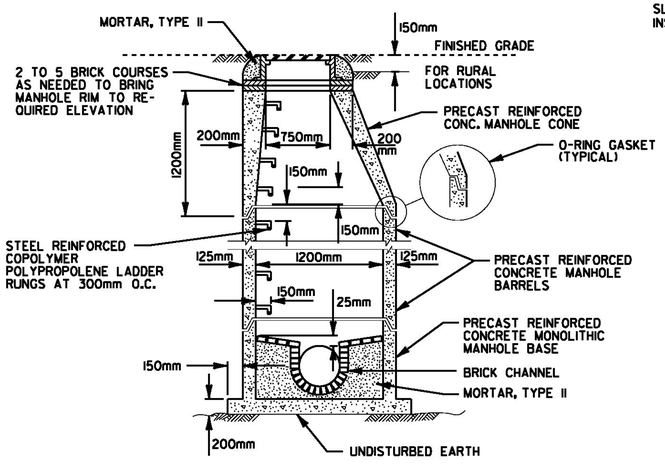


NOTE:
1. INSULATION BOARD ONLY REQUIRED IF COVER OVER THE SEWERLINE IS LESS THAN 1800mm. INSULATION BOARD TO BE 50mm MIN. THICKNESS AND THE THICKNESS SHALL INCREASE BY 25mm FOR EVERY 300mm OF MINIMUM COVER NOT PROVIDED.

SANITARY SEWER LINE INSULATION DETAIL
NOT TO SCALE

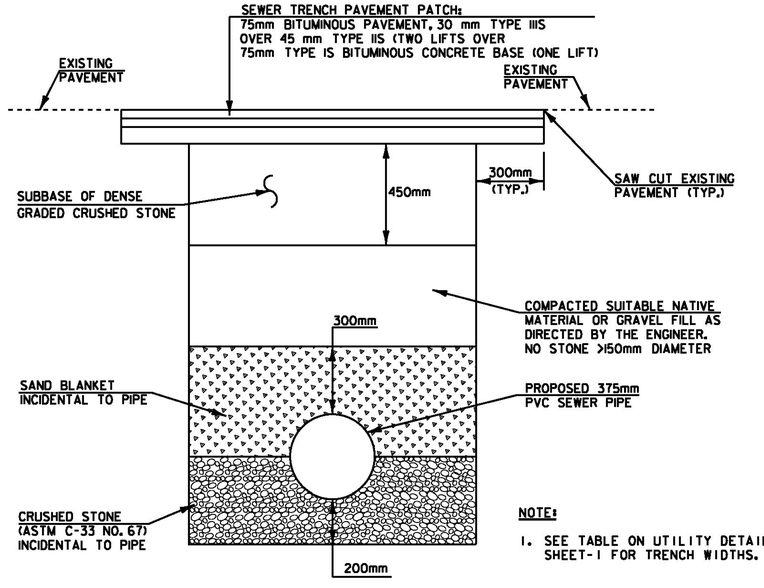


PLAN



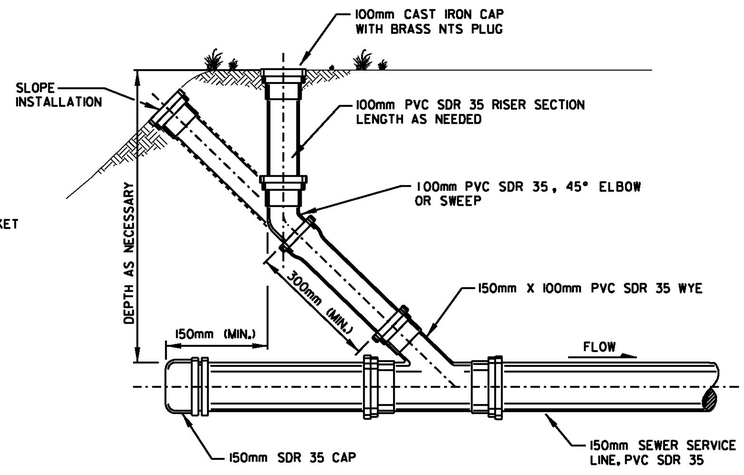
SECTION A-A

PRECAST REINFORCED CONCRETE SANITARY SEWER MANHOLE
NOT TO SCALE



NOTE:
1. SEE TABLE ON UTILITY DETAIL SHEET-1 FOR TRENCH WIDTHS.

SEWER TRENCH DETAIL
NOT TO SCALE



PVC SEWER SERVICE CLEANOUT
NOT TO SCALE

PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194utl1det2.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
UTILITY DETAIL SHEET - 2	SHEET 36 OF 123

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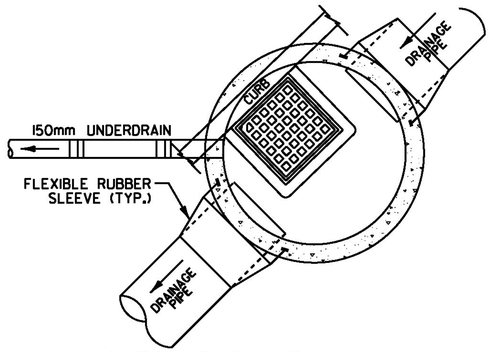
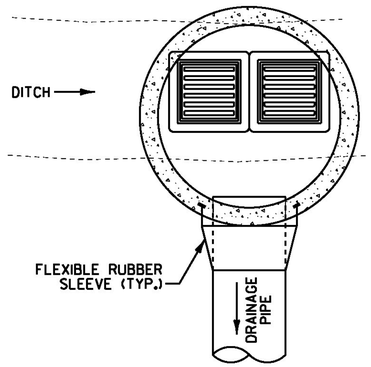
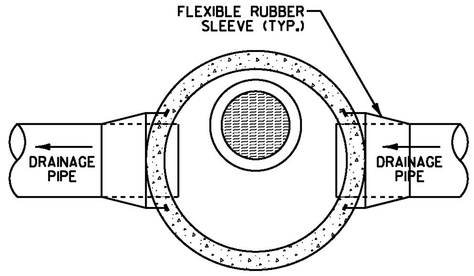


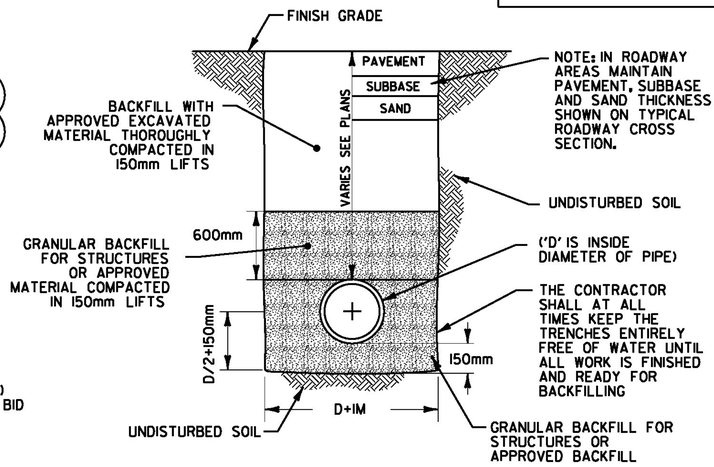
CATCH BASIN (PLAN) WITH UNDERDRAIN
NOT TO SCALE



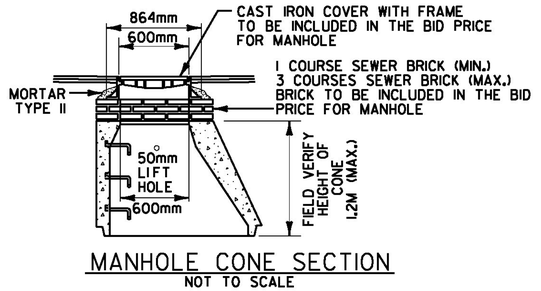
DOUBLE GRATE CATCH BASIN (PLAN)
NOT TO SCALE



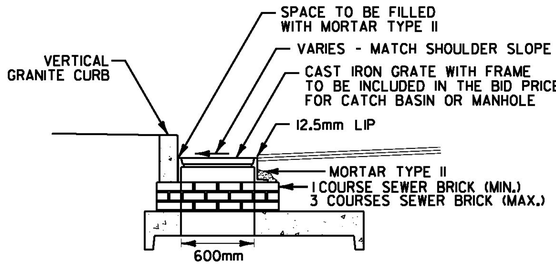
MANHOLE (PLAN)
NOT TO SCALE



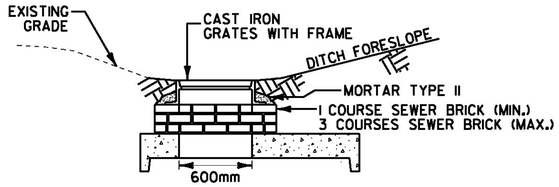
TYPICAL STORM DRAIN AND PIPE SLEEVE TRENCH
NOT TO SCALE



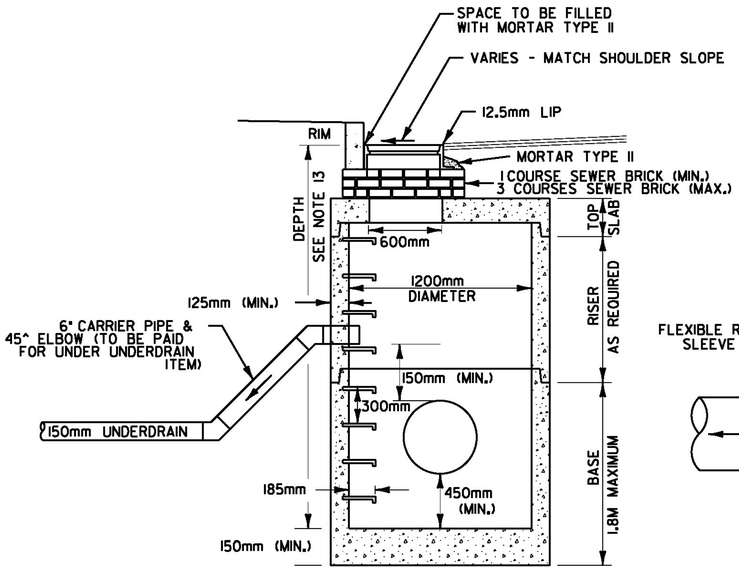
MANHOLE CONE SECTION
NOT TO SCALE



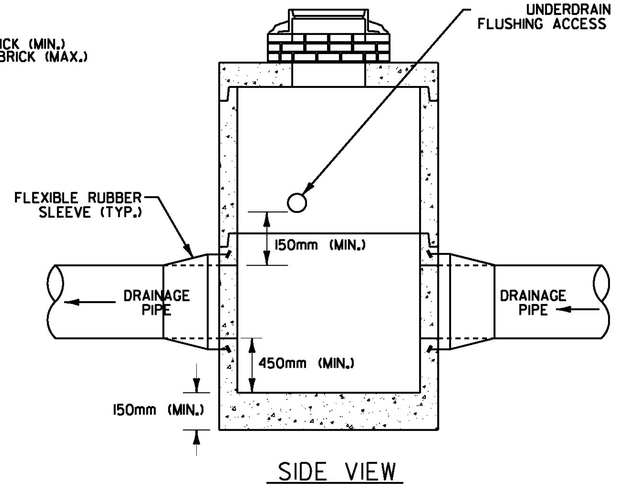
TYPICAL GRATE INSTALLATION WITH VERTICAL GRANITE CURB (ELEVATION)
NOT TO SCALE



TYPICAL GRATE INSTALLATION IN DITCH (ELEVATION)
NOT TO SCALE



ELEVATION VIEW



SIDE VIEW

TYPICAL PRECAST CATCH BASIN OR MANHOLE WITH UNDERDRAIN FLUSHING ACCESS
NOT TO SCALE

GENERAL NOTES: PRECAST REINFORCED CONCRETE CATCH BASINS

1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO SUBSECTION 705.04 OF THE STANDARD SPECIFICATIONS.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 5,000 PSI AT 28-DAYS.
3. STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS-25 LOADING.
4. MANHOLE STEPS SHALL BE 360mm WIDE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER. MANHOLE STEPS IN THE RISER SHALL ALIGN WITH THE MANHOLE STEPS IN BASE OF THE STRUCTURE.
5. FACE OF PIPE SHALL NOT PROJECT MORE THAN 50mm OR LESS THAN 25mm FROM INSIDE WALL OF STRUCTURE.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 300mm OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 75mm TO JOINTS.
7. FITTING FRAME TO FINAL GRADE MAY BE DONE WITH BRICK OR PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (3 COURSES MAX).
8. FLAT SLAB TOPS SHALL BE USED FOR ALL CATCH BASINS UNLESS OTHERWISE PERMITTED BY THE ENGINEER.
9. ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
11. PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE. SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS.
12. PAYMENT FOR INSTALLATION OF THE CATCH BASINS SHALL BE MADE UNDER THE PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE ITEM (604.20).
13. DEPTH AS SHOWN ON THE DRAINAGE DETAIL SHEET AND DRAINAGE PROFILE SHEETS IS DEFINED AS THE VERTICAL DISTANCE BETWEEN RIM ELEVATION AND THE BOTTOM OF SUMP.

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PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194drainagedet.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
DRAINAGE DETAILS	SHEET 37 OF 123

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION

THE PURPOSE OF THE OVERALL MORRISTOWN PROPOSED VT 100 PROJECT IS TO RELIEVE CONGESTION AND IMPROVE SAFETY AND TRAFFIC FLOW IN AND AROUND MORRISVILLE. THIS PROJECT IS BEING CONSTRUCTED AS A CONTROLLED ACCESS HIGHWAY FOR TRUCKS AND THROUGH TRAFFIC AROUND THE VILLAGE.

THE OVERALL PROJECT BEGINS AT A POINT 6.918 KM (4.30 MILES) NORTH OF THE STOWE-MORRISTOWN TOWN LINE (APPROXIMATELY 0.10 MILES SOUTH OF MORRISTOWN CORNERS ROAD), AND EXTENDS NORTH 3.191 KM (1.98 MILES) TO TERMINATE ACROSS FROM THE SUNSET MOTEL AND STONE GRILL ON VERMONT ROUTE 15. SEE THE TITLE SHEET FOR LOCUS MAP.

THIS CONTRACT WILL CONSTRUCT A BRIDGE OVER THE LAMOILLE RIVER ALONG WITH APPROACH WORK FROM THE EXISTING BISHOP MARSHALL DRIVE TO BRIDGE STREET.

TOTAL DISTURBED AREA (EXCLUDING WASTE AND BORROW AREAS):33,500 SM (3.35 HA)(8.28 ACRES)

THIS PROJECT FALLS UNDER THE JURISDICTION OF AN INDIVIDUAL CONSTRUCTION DISCHARGE PERMIT #3444-INDC. THE MAXIMUM AREA OF EARTH DISTURBANCE AT ANY ONE TIME UNDER THIS PERMIT IS 2.02 HA (5 AC).

ALL ON-SITE AND OFF-SITE WASTE AND BORROW AREAS AND HAUL ROADS TO BE USED BY THE CONTRACTOR NOT SHOWN ON THE PLANS NEED PRIOR WRITTEN CLEARANCE BY VTRANS ENVIRONMENTAL SECTION PRIOR TO THE BEGINNING OF CONSTRUCTION, PER SECTION 105 OF THE STANDARD SPECIFICATIONS.

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

SITE DRAINAGE AND TOPOGRAPHY:

THE EXISTING SITE CURRENTLY DRAINS TO VARIOUS TRIBUTARIES OF RYDER BROOK AND THE LAMOILLE RIVER. THE SITE IS MADE UP OF GENTLY ROLLING HILLS WITH SOME STEEP AREAS NEAR THE LAMOILLE RIVER . THE PROJECT CAN BE BROKEN DOWN INTO THREE MAIN WATERSHEDS. THE FIRST WATERSHED IS A WATERCOURSE BY THE BISHOP MARSHALL CATHOLIC SCHOOL. THIS WATERCOURSE FLOWS TO THE RYDER BROOK. THE SECOND WATERSHED DRAINS TO THE LAMOILLE RIVER WHERE THE PROPOSED SLANT LEG BRIDGE WILL BE LOCATED. IN THIS AREA, THERE ARE SOME ADJACENT WETLANDS THAT ALSO DRAIN TO THE RIVER. THE LAST WATERSHED IS A WETLAND/POND LOCATED NEAR THE INTERSECTION OF BRIDGE STREET AND THE EXISTING SEWER PLANT ROAD. THE WETLAND/POND OUTLETS TO THE LAMOILLE RIVER AS WELL. SEE THE CROSS SECTIONS FOR ADDITIONAL INFORMATION ON EXISTING AND PROPOSED GRADES AND ELEVATIONS.

VEGETATION:

THE EXISTING VEGETATION ON THE PROJECT SITE VARIES ALONG THE PROPOSED ROADWAY. STARTING AT THE SOUTHERN END OF THE PROJECT, THE FIRST 500 METERS OF ROADWAY UNDER THIS PROJECT WILL BE BUILT IN AN EXISTING FIELD CONSISTING OF SHORT GRASS. NORTH OF THIS FIELD IS A STEEP SLOPE DOWN TO THE LAMOILLE RIVER THAT IS FORESTED. ON THE OTHER SIDE OF THE RIVER, THERE IS 150 METERS OF FOREST FOLLOWED BY A MARSH AREA TO THE NORTH. BETWEEN THIS MARSH AND BRIDGE STREET IS 80 METERS OF WOODS.

SOILS:

THE PROJECT AREA CONSISTS OF DIFFERENT TYPES OF SOIL. A TABLE OF ALL OF THE SOILS TYPES AS CLASSIFIED BY THE U.S. SOIL CONSERVATION SERVICE IS SHOWN. ALSO, CONTAINED IN THIS TABLE ARE THE SOIL ERODIBILITY COEFFICIENTS AS GIVEN IN TABLE I IN THE VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES.

AS SEEN IN THE TABLE, THE SOILS ALONG THE PROJECT AS A WHOLE CAN BE CLASSIFIED AS HAVING LOW ERODIBILITY.

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

SOIL MAP ABBREV-IATION	SOIL NAME	K-VALUE	EROSION POTENTIAL	PERCENT OF PROJECT AREA
A_D	ADAMS	0.17	LOW	55%
C_O	COLTON	0.17	LOW	25%
L_Y	LYMAN	0.28	MODERATE	15%
C_R	CROGHAN	0.17	LOW	5%

AS SEEN IN THE TABLE ABOVE, THE SOILS ALONG THE PROJECT AS A WHOLE CAN BE CLASSIFIED AS HAVING LOW ERODIBILITY.

TOTAL RATING NUMBER (TRN):

THE TOTAL RATING NUMBER (TRN) IS A GAUGE FOR DETERMINING THE ERODIBILITY OF THE PROJECT SITE. THERE ARE FOUR MAIN COMPONENTS TO THE TRN. THEY ARE SITE AREA, SITE SLOPE, DURATION OF TIME OF SOIL DISTURBANCE, AND PROXIMITY TO CRITICAL FEATURES. ALTHOUGH THE SITE AREA, SLOPE, AND DURATION OF CONSTRUCTION SUGGEST THAT THIS SITE HAS A LOW ERODIBILITY POTENTIAL, DUE TO THE CLOSE PROXIMITY OF THIS PROJECT TO CRITICAL NATURAL AND MAN-MADE FEATURES, EROSION AND SEDIMENT CONTROL HAS BEEN DESIGNED ASSUMING MEDIUM EROSION POTENTIAL. MORE SUBSTANTIAL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN SPECIFIED TO PROTECT THE AFFECTED CRITICAL FEATURES.

PROXIMITY TO CRITICAL FEATURES:

THIS PROJECT WILL DIRECTLY IMPACT THREE DIFFERENT WETLANDS THAT ARE ADJACENT TO VARIOUS WATERCOURSES. ALSO, THE PROJECT CROSSES THE LAMOILLE RIVER. AT THESE AREAS OF WETLAND IMPACT AND AT THE WATERCOURSE CROSSING, IT WILL NOT BE POSSIBLE TO AVOID IMPACTS TO THE 50 FOOT VEGETATION BUFFER TO THESE CRITICAL NATURAL FEATURES.

THIS PROJECT IS UNDER JURISDICTION OF AGENCY OF NATURAL RESOURCES CONDITIONAL USE PERMIT #1992-211 AND CORP OF ENGINEERS PERMIT #NAE-1999-568-MI.

SOIL EROSION AND SEDIMENT CONTROL PLAN

PROPOSED GRADING:

A MAJORITY OF THE PROJECT IS IN CUT SECTION MAKING THE COLLECTION OF CONSTRUCTION RUNOFF IN THE FUTURE ROADSIDE DITCHES A REASONABLE ALTERNATIVE (SEE LAYOUT PLANS AND CROSS SECTIONS FOR IMPACT LINES AND PROPOSED GRADE INFORMATION, RESPECTIVELY). DURING CONSTRUCTION OF THE ROADWAY, PERIMETER DITCHES SHALL BE IN PLACE AT ALL TIMES TO ENCAPSULATE THE PROJECT AND TO COLLECT SEDIMENT LADEN STORMWATER. THE DITCHES WILL DIRECT RUNOFF TO A TREATMENT PRACTICE SUCH AS A TEMPORARY SEDIMENTATION BASIN. FOR THIS PROJECT, THE PROPOSED DETENTION BASIN SHOULD BE USED AS SEDIMENT BASIN. THE BASIN AT STATION 8+280, LEFT HAS ENOUGH STORAGE TO TREAT UP TO 3.5 ACRES OF CONTRIBUTING AREA DURING CONSTRUCTION. SINCE NO MORE THAN FIVE ACRES WILL BE DISTURBED AT ONE TIME, THIS BASIN SHOULD BE SUFFICIENT DURING THE CONSTRUCTION PHASE. HOWEVER, IF THE CONTRACTOR REQUIRES ADDITIONAL SEDIMENT BASINS, THE CONTRACTOR MAY SUBMIT THE LOCATION, SIZE, AND CALCULATIONS TO THE ENGINEER FOR APPROVAL. AS THE CONSTRUCTION PROGRESSES, THE PERMANENT ROADSIDE DRAINAGE DITCHES CAN BE USED AS THE PERIMETER DITCHES. WHENEVER POSSIBLE, STORMWATER SHOULD BE DIRECTED TO A SEDIMENT BASIN BY USING DIVERSION AND COLLECTION. THE PROJECT AS A WHOLE WILL HAVE EXCESS MATERIAL AMOUNTING TO 27,714 CUBIC METERS. THE CONTRACTOR SHALL SUBMIT THE LOCATION OF THIS WASTE AREA TO THE RESIDENT ENGINEER FOR APPROVAL.

LIMITS OF DISTURBANCE:

THE LIMIT OF DISTURBANCE FOR THIS PROJECT WILL TYPICALLY BE 3.0 M (10 FEET) BEYOND THE SLOPE LIMITS SHOWN UNLESS OTHERWISE SHOWN ON THE CONTRACT PLANS. THIS SHALL BE MARKED IN THE FIELD USING PROJECT DEMARCATION FENCING.

ALSO, THE PROJECT IS ADJACENT TO SOME MAN-MADE CRITICAL FEATURES, SUCH AS HOMES, BUSINESSES, AND SOME UTILITIES.

TIMETABLE FOR CONSTRUCTION:

SINCE THE PROJECT AREA IS GREATER THAN FIVE ACRES, CONSTRUCTION WILL NEED TO BE PHASED SUCH THAT NO MORE THAN FIVE ACRES OF SOIL IS UNSTABILIZED AT ANYTIME. BELOW IS AN ASSUMED CONSTRUCTION PHASING SEQUENCE FOR THE PROJECT. IT WAS ASSUMED THAT THE CONSTRUCTION SEASON IS FROM MAY 1 TO OCTOBER 15 TO COINCIDE WITH THE PLANTING SEASON. ALSO, ANY WORK PERFORMED IN A STREAM CHANNEL WILL NEED TO BE COMPLETED BETWEEN THE DATES OF JUNE 1 TO OCTOBER 1. IF THE CONTRACTOR IS TO PERFORM EARTHWORK OPERATIONS BEFORE MAY 1 OR AFTER OCTOBER 15, THE CONTRACTOR SHALL SUBMIT A WINTER EROSION AND SEDIMENT CONTROL PLAN PRIOR TO AUGUST 15 TO THE RESIDENT ENGINEER FOR APPROVAL (SUCH THAT VTRANS CAN REVIEW AND SUBMIT THE PLAN TO VANR PRIOR TO SEPTEMBER 15). TO ESTIMATE THE LENGTH OF EACH PHASE, A RATE OF 1500 CUBIC METERS PER DAY WAS USED FOR EARTHWORK. THIS TIME WAS THEN INCREASED BY 20 PERCENT TO ACCOUNT FOR OTHER CONSTRUCTION ACTIVITIES SUCH AS DRAINAGE AND GRUBBING. A SLOWER RATE WAS USED TO ESTIMATE ROCK EXCAVATION. THE ASSUMED PHASING DIAGRAM AND SCHEDULE FOR PROPOSED PHASING IS INCLUDED IN THE PERMIT SECTION OF THE PROSECUTION OF WORK. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING WILL BE HELD BETWEEN THE CONTRACTOR AND ALL APPLICABLE RESOURCE AGENCIES. IF THE CONTRACTOR WISHES TO CHANGE THE PROPOSED SCHEDULE, THE CONTRACTOR MUST SUBMIT THE CHANGES TO THE ENGINEER FOR APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING. THESE CHANGES COULD INCLUDE PROPOSED WORK DURING THE WINTER MONTHS.

PHASE 1
CONSTRUCT PROPOSED VT 100 SUBGRADE AND DRAINAGE FROM STA 8+081 TO STA 8+361
CONSTRUCT TEMPORARY BRIDGE/CAUSEWAY AND STAGING AREA STA 8+000 TO STA 8+102

PHASE 2
CONSTRUCT PROPOSED VT 100 SUBGRADE AND DRAINAGE FROM STA 7+542 TO STA 7+915
CONSTRUCT PROPOSED LAMOILLE RIVER BRIDGE STA 7+915 TO STA 8+081

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ecnl.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
EROSION CONTROL NARRATIVE - 1

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
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EROSION CONTROL NARRATIVE

Metric

TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL

TEMPORARY EROSION PREVENTION MEASURES TO BE UTILIZED INCLUDE THE FOLLOWING. REFER TO THE EROSION AND SEDIMENT CONTROL PLANS AND DETAILS FOR LOCATIONS.

THE AREA OF DISTURBED SOIL SHALL BE LESS THAN FIVE ACRES AT ALL TIMES. THIS WILL BE ACHIEVED BY THE CONSTRUCTION PHASING DISCUSSED EARLIER. THE LENGTH OF TIME THAT SOIL IS LEFT DISTURBED WILL ALSO BE MINIMIZED

MULCHING WILL BE UTILIZED ON A REGULAR BASIS. ANY SOIL EXPOSED FOR SEVEN DAYS PRIOR TO FINAL GRADING SHALL BE MULCHED. SOIL SHALL BE STABILIZED WITHIN 48 HOURS OF FORECASTED RAIN.

SEEDING AND MULCHING SHALL BE UTILIZED TO STABILIZE SOIL. SOIL SHALL BE STABILIZED WITHIN 48 HOURS OF REACHING FINAL GRADE AND/OR DURING INTERMITTENT PHASES OF CONSTRUCTION. SEE THE EROSION CONTROL DETAILS FOR SEED TYPES AND ASSOCIATED APPLICATION RATES.

SILT FENCE WILL BE INSTALLED NEAR THE TOE OF THE FILL SLOPES TO PREVENT SEDIMENT TRANSPORT TO DOWN GRADIENT AREAS. EACH LINE OF SILT FENCE WILL BE PLACED ALONG THE CONTOUR WITH THE LOWER EDGE BURIED 150mm TO PREVENT UNDERFLOW AND ENDS TURNED SLIGHTLY UPGRADE TO CREATE A PONDING EFFECT. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY UPSLOPE EARTHWORK. SILT FENCE SHALL BE PLACED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS.

PROJECT DEMARCATION FENCING, DENOTED -PDF-PDF- ON THE PLANS, SHALL DELINEATE THE LIMITS THE CONTRACTOR CAN ACCESS WITH CONSTRUCTION EQUIPMENT. THIS MEASURE LIMITS THE AREA THAT CAN BE DISTURBED AND EXPOSED TO EROSION. PDF MAY BE LOCATED IN CLOSE PROXIMITY TO THE PROPOSED SLOPE LINE IN ORDER TO KEEP CONSTRUCTION ACTIVITY OUT OF SENSITIVE AREAS. PDF SHALL BE INSTALLED PRIOR TO THE BEGINNING OF ANY EARTHWORK IN EACH PHASE. PDF SHALL BE PLACED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS.

INLETS SHALL BE SURROUNDED BY STONE CHECK DAMS OR SILT FENCE TO LIMIT THE AMOUNT OF SEDIMENT THAT ENTERS THE INLET. INLET PROTECTION SHALL BE PLACED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS AND PER THE EROSION CONTROL DETAILS. THIS MEASURE SHALL BE INSTALLED ONCE THE GRADE ADJACENT TO THE INLET IS WITHIN 150mm OF FINAL GRADE. INLETS SHALL BE CLEANED WHEN THE SUMP BECOMES FILLED WITH SEDIMENT AND AT THE COMPLETION OF CONSTRUCTION.

STONE CHECK DAMS WILL BE INSTALLED IN DITCH LINES TO FORCE STORMWATER TO POND AND LIMIT SEDIMENT TRANSPORT. STONE CHECK DAMS SHALL BE PLACED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS AND PER THE EROSION CONTROL DETAILS. PERMANENT DITCH BERMS ARE EARTHEN CHECK DAMS THAT WILL REMAIN AFTER CONSTRUCTION IS COMPLETED. THESE BERMS WILL ALSO CONTROL EROSION DURING CONSTRUCTION.

AT THE LOCATIONS WHERE CONSTRUCTION VEHICLES WILL BE ENTERING OR LEAVING THE CONSTRUCTION SITE/STAGING AREAS, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED TO LIMIT THE AMOUNT OF SEDIMENT THAT IS TRANSPORTED OFF OF THE SITE BY CONSTRUCTION VEHICLES. STONE SHALL BE USED TO REMOVE SEDIMENT FROM THE TIRES OF CONSTRUCTION VEHICLES. IF SEDIMENT IS STILL BEING TRACKED ONTO PUBLIC ROADS, THE LENGTH OF THE PAD SHALL BE EXTENDED OR VEHICLES SHALL BE RINSED WITH A HOSE PRIOR TO LEAVING THE SITE. SINCE THE PROJECT CROSSES DIFFERENT ROADWAYS AND IS BEING PHASED, THESE LOCATIONS MAY MOVE DURING CONSTRUCTION AND THERE MAY BE MORE THAN ONE CONSTRUCTION ENTRANCE PRESENT ALONG THE PROJECT.

EROSION CONTROL MATTING SHALL BE PLACED ON ANY SLOPES STEEPER THAN 1:3 (V:H). EROSION CONTROL MATTING SHALL BE PLACED WITHIN 48 HOURS OF ATTAINING FINAL GRADE. EROSION CONTROL MATTING SHALL BE PLACED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS. SEE THE EROSION CONTROL DETAILS FOR DETAILS ON EROSION MATTING FOR DITCHES AND EROSION MATTING FOR SLOPES STEEPER THAN 1:3.

THE PROPOSED DETENTION BASIN MAY BE USED AS SEDIMENT TRAP DURING THE CONSTRUCTION PHASE OF THE PROJECT. THIS TRAP WILL HELP RETAIN SEDIMENT ON THE PROJECT SITE. IN ACCORDANCE WITH THE VERMONT STORMWATER MANAGEMENT MANUAL, IF THE PROPOSED INFILTRATION BASIN SOUTH OF BRIDGE STREET IS TO BE USED AS SEDIMENT TRAPS, IT MUST FIRST BE LINED WITH GEOTEXTILE FABRIC DURING CONSTRUCTION TO PREVENT THE BOTTOM OF THE BASINS FROM CLOGGING WITH FINE SEDIMENTS. THE BASIN SHALL BE EMPTIED AND RE-VEGETATED AT THE END OF CONSTRUCTION. IF THE CONTRACTOR REQUIRES ADDITIONAL SEDIMENT TRAPS/BASINS, THE CONTRACTOR SHALL SUBMIT THE LOCATION, SIZE, AND CALCULATIONS TO THE RESIDENT ENGINEER FOR APPROVAL. TEMPORARY SEDIMENT TRAPS/BASINS SHALL BE SIZED TO PROVIDE A MINIMUM OF 3600 CF PER ACRE ACCORDING TO THE VERMONT HANDBOOK FOR SOIL EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES.

AT LOCATIONS WHERE CONSTRUCTION IS IN OR NEAR WATERCOURSES OF THE STATE OF VERMONT, GEOTEXTILE FOR FILTER CURTAIN SHALL BE USED TO MINIMIZE SEDIMENT FROM ENTERING THESE WATERCOURSES. THE FILTER CURTAIN SHALL EXTEND FROM THE BOTTOM OF THE WATERCOURSE TO THE TOP OF THE WATER SURFACE. GEOTEXTILE SHALL ALSO BE PLACED ALONG THE BOTTOM OF THE WATERCOURSE WITHIN THE LIMITS OF THE FILTER CURTAIN TO FACILITATE THE REMOVAL OF SEDIMENT AND PROTECT THE EXISTING WATERCOURSE BOTTOM. IF THE CONTRACTOR WISHES TO USE A DIFFERENT METHOD FOR CONTAINING SEDIMENT IN THESE WATERCOURSES, THE CONTRACTOR MUST SUBMIT THE ALTERNATE METHOD TO THE RESIDENT ENGINEER PRIOR TO THE PRE-CONSTRUCTION MEETING FOR APPROVAL. FILTER CURTAIN SHALL BE INSTALLED AS SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS PRIOR TO ANY CONSTRUCTION WITHIN 15 METERS (50 FEET) OF WATERS OF THE STATE.

TEMPORARY EROSION CONTROL MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED FOR SEDIMENT BUILD-UP. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE CONTROL MEASURE. SEDIMENT SHALL BE DISPOSED OF AT A SITE APPROVED BY THE ENGINEER. THE SITE SHALL BE LEVEL AND BE AT LEAST 30 METERS (100 FT) FROM WETLANDS OR WATERS OF THE STATE.

POTENTIAL STAGING AREA LOCATIONS ARE SHOWN ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS. THE STAGING AREAS HAVE BEEN LOCATED IN RELATIVELY FLAT AREAS WITHIN THE PROJECT LIMITS OF DISTURBANCE. ANY CHANGES TO THESE LOCATIONS MUST BE APPROVED BY THE ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROCURING SITES FOR THE DEPOSITION OF WASTE MATERIAL FROM THE PROJECT. A PROPERTY OWNED BY ERNEST KROSCH ON NORTH CAMBRIDGE ROAD IN CAMBRIDGE, VT HAS BEEN IDENTIFIED AS A REASONABLE LOCATION FOR THE DEPOSITION OF THIS MATERIAL.

PERMANENT EROSION CONTROL MEASURES

PERMANENT EROSION CONTROL MEASURES TO BE UTILIZED INCLUDE:

ALL DISTURBED SOIL SHALL BE PERMANENTLY STABILIZED WITH SEED AND MULCH. STEEPER SLOPES WITH A HIGHER EROSION POTENTIAL SHALL BE STABILIZED WITH STONE. SEE LAYOUT PLANS AND CROSS SECTIONS FOR LOCATIONS OF STONE ON SIDE SLOPES.

GENERAL EROSION AND SEDIMENT CONTROL GUIDELINES

THE CONSTRUCTION SEASON SHALL BE FROM APRIL 15 TO OCTOBER 15. IF ANY EARTHWORK IS TO BE PERFORMED OUTSIDE THE CONSTRUCTION SEASON, A STAND-ALONE WINTER EROSION AND SEDIMENT CONTROL PLAN AND A NARRATIVE DESCRIBING ALTERNATIVE STABILIZATION METHODS SHALL BE SUBMITTED THROUGH THE ENGINEER TO THE VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION FOR APPROVAL. THE STAND-ALONE EROSION AND SEDIMENT CONTROL PLANS SHALL BE DESIGNED ACCORDING TO THE VERMONT STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION AND SEDIMENT CONTROL.

THE CONTRACTOR SHALL STOCKPILE MATERIAL WITHIN THE STAGING AREAS ONLY. STOCKPILES SHALL BE STABILIZED WITHIN 48 HOURS PRIOR TO FORECASTED RAIN.

FUELING AND MAINTENANCE OF CONSTRUCTION VEHICLES SHALL BE LIMITED TO THE STAGING AREAS AND SHALL BE DONE BY QUALIFIED PERSONNEL.

THE EROSION CONTROL PLANS ARE MEANT TO BE 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 TO CONTROL EROSION AND MINIMIZE THE IMPACTS TO RECEIVING WATERS. THE MEASURES INCLUDE STABILIZATION AND STRUCTURAL PRACTICES, STORMWATER CONTROLS, AND OTHER POLLUTION PREVENTION CONTROLS.

COORDINATE THE INSTALLATION, USE, AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES WITH CONSTRUCTION ACTIVITIES TO ENSURE, EFFECTIVE, AND CONTINUOUS EROSION AND SEDIMENT CONTROL. EMPLOY TEMPORARY STABILIZATION PRACTICES IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. THE CONTRACTOR SHALL USE ADDITIONAL EROSION CONTROL MEASURES AS NECESSITATED BY THE SEQUENCE OF CONSTRUCTION, FIELD CONDITIONS, AND AS DIRECTED BY THE ENGINEER OR ON-SITE COORDINATOR. SEE SECTION 105.23 OF THE VERMONT AOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2006.

INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS OR AS DIRECTED BY THE ENGINEER OR ON-SITE COORDINATOR. DO NOT MODIFY THE TYPE, SIZE, OR LOCATION OF ANY CONTROL OR PRACTICE WITHOUT THE APPROVAL OF THE ENGINEER OR ON-SITE COORDINATOR. ANY CHANGES SHOULD BE NOTED ON THE PLANS, IN THE WEEKLY INSPECTION REPORT, AND REPORTED TO THE APPROPRIATE AUTHORITY IN A TIMELY MANNER. INSPECT ALL CONTROL MEASURES WEEKLY AND AFTER EACH RAINFALL EVENT THAT PRODUCES RUNOFF FROM THE PROJECT SITE. REPAIR MEASURES PROMPTLY ONCE DAMAGE IS DISCOVERED.

PREVENTING SOIL EROSION IS MUCH MORE EFFECTIVE THAN TREATING ERODED SEDIMENT. THEREFORE, STABILIZE ALL DISTURBED AREAS PROMPTLY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY VEGETATION SHALL BE ESTABLISHED IF THE AREA IS TO BE WITHOUT CONSTRUCTION ACTIVITY FOR A PERIOD OF 7 DAYS. PERIMETER CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITY. INSTALL OTHER TEMPORARY CONTROLS IN INCREMENTAL STAGES AS CONSTRUCTION PROCEEDS. CONSTRUCT SEDIMENTATION BASINS AS SOON AS PRACTICAL WITHIN EACH PHASE OF CONSTRUCTION.

MAINTAINING VEGETATED BUFFERS ALONG THE STREAM BANKS AND OTHER SENSITIVE AREAS IS A CRUCIAL EROSION AND SEDIMENT CONTROL MEASURE THAT SHOULD BE EMPLOYED WHENEVER POSSIBLE.

CONTROL ONLY SEDIMENT LADEN STORMWATER RUNOFF GENERATED BY THE PROJECT SITE. COLLECT AND ROUTE CLEAN STORMWATER AROUND THE PROJECT SITE WHENEVER POSSIBLE USING DIVERSION BERMS, CHANNELS, CULVERTS, OR TEMPORARY PIPES.

DO NOT ALLOW CONSTRUCTION EQUIPMENT TO OPERATE OUTSIDE OF PERIMETER CONTROL MEASURES.

THIS PROJECT CROSSES A WATERCOURSE OF THE STATE OF VERMONT, THE LAMOILLE RIVER. ANY CONSTRUCTION IN OR NEAR THIS WATERCOURSE WILL BE REQUIRED TO CONFORM TO THE VERMONT WATER QUALITY STANDARDS. THESE STANDARDS REQUIRE THAT A CRITICAL LEVEL OF TURBIDITY IN THE WATER NOT BE EXCEEDED. THE CONTRACTOR WILL NEED TO TEST FOR TURBIDITY LEVELS AT THIS CROSSING TO ENSURE THAT IT IS IN COMPLIANCE WITH THE STANDARDS. IT IS EXPECTED THAT THE EROSION AND SEDIMENT CONTROL MEASURES PROPOSED IN THIS PLAN WILL BE SUFFICIENT. HOWEVER, IF THE AMOUNT OF TURBIDITY BECOMES OUT OF COMPLIANCE WITH THE STANDARDS,
THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS DIRECTED BY THE ENGINEER.

PRE-CONSTRUCTION MEETING REQUIREMENTS

AFTER THE CONTRACT HAS BEEN AWARDED, THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER PRIOR TO THE PRE-CONSTRUCTION MEETING AS PER SECTION 652 - EROSION AND SEDIMENT CONTROL PLAN.
THIS INFORMATION MAY INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING.

1. THE NAME AND CONTACT INFORMATION OF THE ON-SITE COORDINATOR AND ANY OTHER CO-PERMITEES.
2. A DESCRIPTION OF THE INSPECTION, MAINTENANCE, AND RECORDS PROGRAM FOR ALL OF THE EROSION CONTROL MEASURES.
3. THE LOCATION OF TOPSOIL STOCKPILES, STAGING AREAS, EQUIPMENT STORAGE, REFUELING/MAINTENANCE AREAS, AND STUMP DISPOSAL AREAS IF DIFFERENT THAN SHOWN IN THIS PLAN.
4. LOCATION OF WASTE/BORROW AREAS FOR EXCESS SOIL, INCLUDING MAP IF OFF-SITE IF DIFFERENT THAN THE LOCATION SPECIFIED IN THIS PLAN. THIS PLAN SHALL INCLUDE ANY EROSION CONTROL MEASURES NECESSARY TO STABILIZE THESE AREAS TO PREVENT EROSION.
5. ANY OTHER INFORMATION THAT DIFFERS FROM THIS APPROVED EROSION PREVENTION AND SEDIMENT CONTROL PLAN.
6. SPECIFIC DEWATERING PLANS AT ANY LOCATION WHERE DEWATERING WILL OCCUR.

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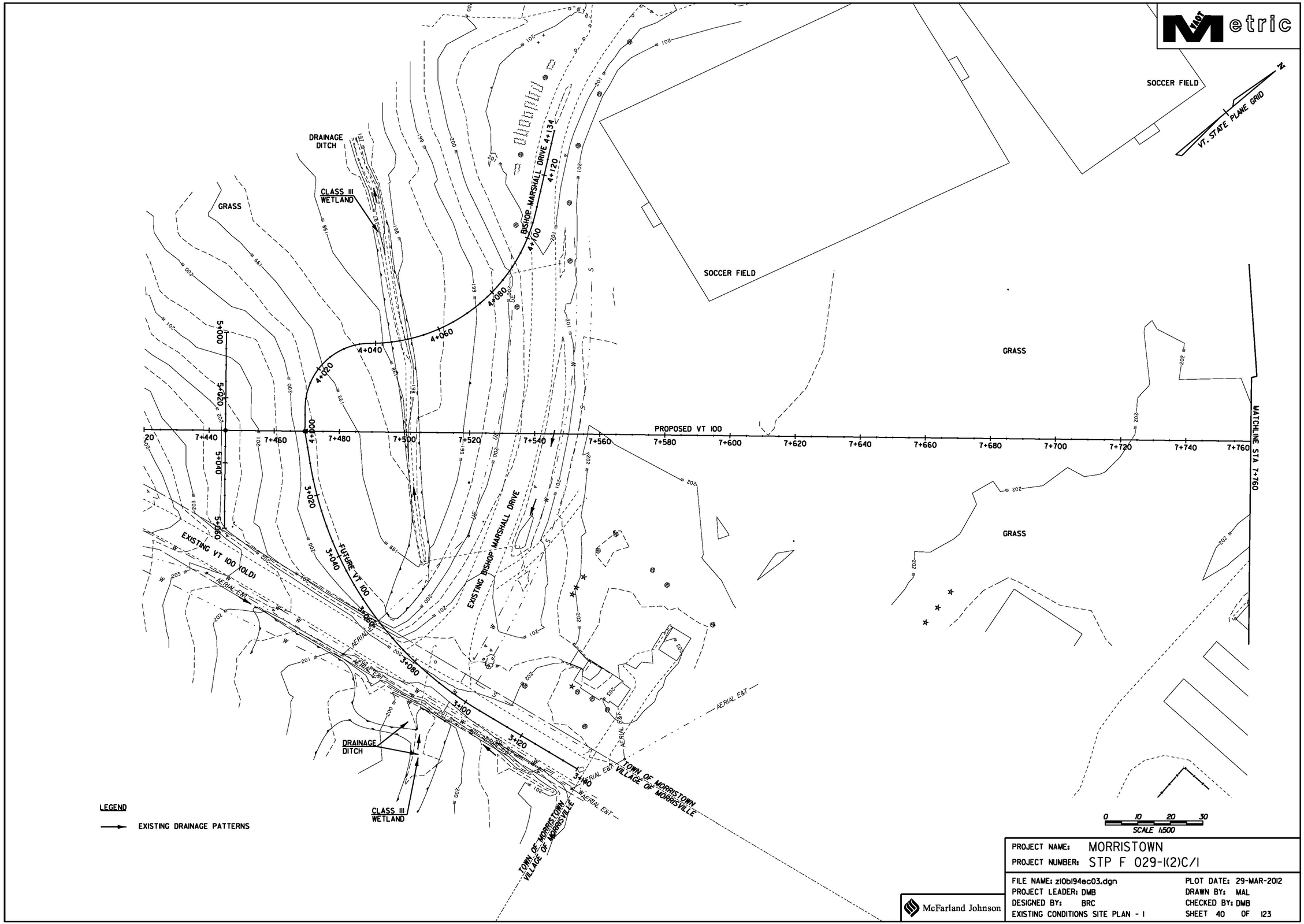
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10bl94ecn2.dgn | PLOT DATE: 11-APR-2012
PROJECT LEADER: DMB | DRAWN BY: MAL
DESIGNED BY: BRC | CHECKED BY: DMB
EROSION CONTROL NARRATIVE - 2 | SHEET 39 OF 123



PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194ec03.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
EXISTING CONDITIONS SITE PLAN - 1	SHEET 40 OF 123

McFarland Johnson

VTrans Metric

N
VT. STATE PLANE GRID

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

GRASS

CLASS II WETLAND

LAMOILLE RIVER

CLASS III WETLAND

MATCHLINE STA 7+760

PROPOSED VT 100

7+760 7+780 7+800 7+820 7+840 7+860 7+880 7+900 7+920 7+940 7+960 7+980 8+000 8+020 8+040 8+060 8+080 8+100 8+120

MATCHLINE STA 8+120

STA 8+081.20
END BRIDGE
BEGIN ROADWAY

WOODS

GRAVEL

WOODS STA 7+915.00
END ROADWAY
BEGIN BRIDGE

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

CLASS II WETLAND

LAMOILLE RIVER

LAMOILLE RIVER

LAMOILLE RIVER

LEGEND

EXISTING DRAINAGE PATTERN

0 10 20 30
SCALE 1:500

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ec04.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
EXISTING CONDITIONS SITE PLAN - 2

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 41 OF 123

McFarland Johnson

VTrans Metric

N
VT. STATE PLANE GRID

MATCHLINE STA 8+120

WOODS
WOODS
WOODS
CLASS III WETLAND
ADJACENT TO
LAMOILLE RIVER
CLASS III
WETLAND
CLASS III
WETLAND
RESIDENTAL
RESIDENTAL

8+120
8+140
8+160
8+180
8+200
8+220
8+240
8+260
PROPOSED
8+280
VT
8+300
100
8+320
8+340
8+360
8+380
8+400
8+420

BRIDGE STREET
5+180
5+200
5+220
5+240
5+260
5+280
5+300
5+320
5+340
5+360
5+380

PY
Sta 5+294.388
PC
Sta 5+309.168

LEGEND

EXISTING DRAINAGE PATTERN

0 10 20 30
SCALE 1:500

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194ec05.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
EXISTING CONDITIONS SITE PLAN - 3	SHEET 42 OF 123

McFarland Johnson

PROJECT DEMARCATION FENCE
7+542, LT - 7+760.0, LT
7+542, RT - 7+760.0, RT

GEOTEXTILE FOR SILT FENCE
7+540.0, RT - 7+600.0, RT

NOTES

1. USE PERMANENT DITCH BERMS FOR EROSION CONTROL WHERE SHOWN ON PLANS.
2. CONTRACTOR SHALL ALSO REVIEW THE EROSION CONTROL DETAILS.
3. SEE EROSION CONTROL DETAIL SHEETS FOR SEEDING FORMULAS. SEE THE EROSION CONTROL NARRATIVE FOR SEEDING AND MULCHING REQUIREMENTS.
4. IF A TEMPORARY CAUSEWAY IS UTILIZED, IT SHALL CONTAIN MULTIPLE CULVERTS OF SUFFICIENT SIZE THAT THE CHANNEL IS ALLOWED TO FLOW UNIMPEDED.
5. SEE THE EROSION CONTROL NARRATIVE FOR THE REQUIREMENTS FOR USING A PROPOSED DETENTION BASIN AS A TEMPORARY SEDIMENT TRAP.
6. CONTRACTOR SHALL MINIMIZE AMOUNT OF SEDIMENT ENTERING RIVER. CONTRACTOR SHALL MEET VT WATER QUALITY STANDARDS AND WILL MONITOR TURBIDITY UNITS.
7. SEDIMENT CONTAINMENT WILL BE GEOTEXTILE FOR FILTER CURTAIN UNLESS OTHERWISE CHANGED BY THE RESIDENT ENGINEER.
8. SEE THE EROSION CONTROL NARRATIVE AND SPECIFICATIONS FOR INSPECTION AND MAINTENANCE REQUIREMENTS FOR EROSION PREVENTION AND SEDIMENT CONTROL MEASURES.
9. SILT FENCE SHALL BE INSTALLED PARALLEL TO CONTOURS.
10. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED ANYWHERE EQUIPMENT WILL BE GOING FROM AREAS OF EXPOSED SOIL TO PAVED SURFACES.
11. TEMPORARY SHORING SHALL INCLUDE EROSION CONTROL MEASURES TO LIMIT THE AMOUNT OF SEDIMENT THAT ENTERS THE RIVER.
12. VEGETATION ON THE ISLAND TO BE RE-ESTABLISHED TO STABILIZE THIS AREA AT THE END OF CONSTRUCTION.

TEMPORARY STONE CHECK DAM, TYPE I
7+600, LT
7+630, LT&RT
7+690, LT&RT
7+720, LT&RT

LEGEND

- BF — BARRIER FENCE
- GEOTEXTILE FOR SILT FENCE
- GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
- PDF — PROJECT DEMARCATION FENCE
- FC — GEOTEXTILE FOR FILTER CURTAIN
- TEMPORARY EROSION MATTING
- PERMANENT DITCH BERMS
- PERMITTED TEMPORARY IMPACT AREA
- TEMPORARY STONE CHECK DAM, TYPE I

DRAINAGE DITCH
CLASS III WETLAND
GRASS
BISHOP MARSHALL DRIVE
SOCCER FIELD
APPROXIMATE LOCATION OF STABILIZED CONSTRUCTION ENTRANCE
APPROXIMATE LOCATION OF STAGING AREA
PROPOSED VT 100
N40° 36' 29.0"E
MATCHLINE STA 7+760
SEE SILT FENCE DETAIL ON EROSION CONTROL DETAIL SHEET (TYP.)
EXISTING VT 100 (OLD)
FUTURE VT 100
EXISTING BISHOP MARSHALL DRIVE
AERIAL E&T
TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE
VT. STATE PLANE GRID

SCALE 1:500

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10bl94er03.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
EPSC - 1	SHEET 43 OF 123

McFarland Johnson

GEOTEXTILE FOR SILT FENCE
ISLAND
8+075.0, RT - 8+120.0, RT

GEOTEXTILE FILTER CURTAIN
7+943.6, RT - 7+944.5, LT
7+980.4, LT - 8+033.3, LT
8+046.7, RT - 8+084.1, LT
8+043.6, LT - 8+085.6, LT
8+052.1, LT - 8+098.7, LT

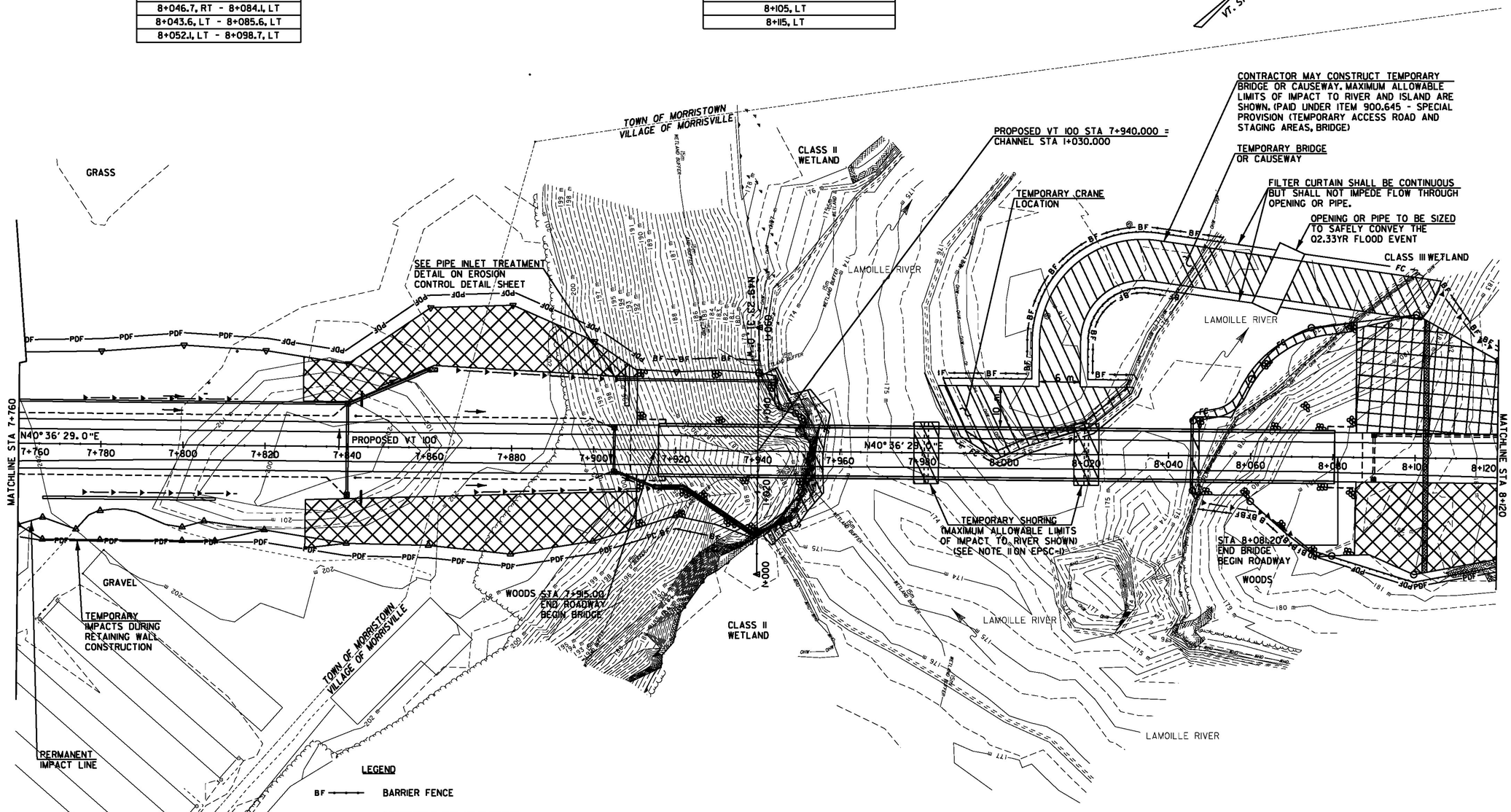
TEMPORARY EROSION MATTING
7+830, LT - 7+910.5, LT
7+830, RT - 7+910.5, RT
8+085.6, LT 8+120, LT
8+085.6, RT 8+120, RT

PROJECT DEMARCATION FENCE
7+760.0, LT - 7+910.1, LT
7+760.0, RT - 7+902.3, RT
8+076.1, RT - 8+120.0, RT
8+125.1, LT - 8+120.0, LT

TEMPORARY STONE CHECK DAM, TYPE I
7+780, LT&RT
7+810, LT&RT
7+880, LT&RT
8+055, RT
8+065, RT
8+075, RT
8+105, LT
8+115, LT

BARRIER FENCE
7+910.1, LT - 7+940.1, LT
7+902.3, RT - 7+932.3, RT
8+046.1, RT - 8+076.1, RT
8+095.1, LT - 8+125.1, LT
ISLAND

VT. STATE PLANE GRID



LEGEND

- BF — BARRIER FENCE
- GEOTEXTILE FOR SILT FENCE
- GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
- PDF — PROJECT DEMARCATION FENCE
- FC — GEOTEXTILE FOR FILTER CURTAIN
- TEMPORARY EROSION MATTING
- PERMANENT DITCH BERMS
- PERMITTED TEMPORARY IMPACT AREA
- TEMPORARY STONE CHECK DAM, TYPE I

NOTES

1. SEE EROSION CONTROL NOTES ON SHEET 43

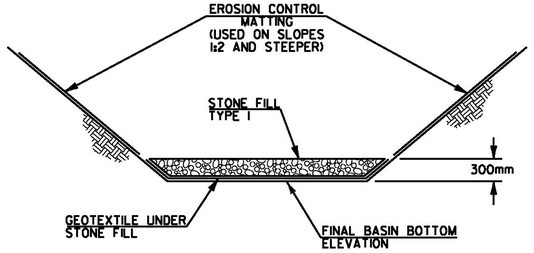
SCALE 1:500

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194er04.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
EPSC - 2	SHEET 44 OF 123

NOTES:

1. SEDIMENT, STONE FILL, AND GEOTEXTILE FABRIC TO BE REMOVED AT END OF CONSTRUCTION. FINAL LANDSCAPING IS THEN TO BE COMPLETED.
2. CONTRACTOR SHALL DEVELOP FINAL TEMPORARY BASIN DETAILS FOR REVIEW AND APPROVAL BY THE RESIDENT ENGINEER.



TEMPORARY BASIN LINING
N.T.S.

LEGEND

- BF ——— BARRIER FENCE
- GEOTEXTILE FOR SILT FENCE
- GEOTEXTILE FOR SILT FENCE, WOVEN WIRE REINFORCED
- PDF ——— PROJECT DEMARCATION FENCE
- —FC— GEOTEXTILE FOR FILTER CURTAIN
- TEMPORARY EROSION MATTING
- PERMANENT DITCH BERMS
- PERMITTED TEMPORARY IMPACT AREA
- TEMPORARY STONE CHECK DAM, TYPE I

GEOTEXTILE FOR SILT FENCE
8+120.0, RT - 8+139.7, RT
8+160.5, RT - 8+177.3, RT
8+350.7, RT - 5+321.9, RT
8+351.5, LT - 5+254.4, RT

GEOTEXTILE FOR SILT FENCE WOVEN WIRE REINFORCED
8+256.5, RT - 8+300.1, RT
8+289.0, LT - 8+298.8, LT
8+300.9, LT - 8+833.4, LT

BARRIER FENCE
8+244.8, RT - 8+320.8, RT
8+281.0, LT - 8+308.1, LT
8+309.0, LT - 8+345.4, LT

TEMPORARY STONE CHECK DAM, TYPE I
8+125.0, LT
8+135.0, LT
8+145.0, LT & RT
8+155.0, LT & RT
8+165.0, LT
8+175.0, LT
8+250.0, RT
8+300.0, RT
8+310.0, RT
8+320.0, RT
8+330.0, LT
8+340.0, LT

TEMPORARY EROSION MATTING
8+120.0, RT - 8+290.0, RT
8+120.0, LT - 8+210.0, LT
8+260.0, LT - 8+345.0, LT

PROJECT DEMARCATION FENCE
8+120.0, RT - 8+239.4, RT
8+120.0, LT - 8+281.0, LT
8+320.8, RT - BRIDGE ST.
8+345.4, LT - BRIDGE ST.

NOTES

1. SEE EROSION CONTROL NOTES ON SHEET 43

0 10 20 30
SCALE 1:500

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1

FILE NAME: z10b194er05.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
EPSC - 3	SHEET 45 OF 123

McFarland Johnson

VTrans Metric

SOCCER FIELD

SOCCER FIELD

N

VT. STATE PLANE GRID

DRAINAGE DITCH

CLASS III WETLAND

GRASS

BISHOP MARSHALL DRIVE

4+100

4+120

4+080

4+060

4+040

4+020

4+000

5+020

5+000

4+980

5+040

5+060

7+440

7+460

7+480

7+500

7+520

7+540

7+560

7+580

7+600

7+620

7+640

7+660

7+680

7+700

7+720

7+740

7+760

PROPOSED VT 100

N40° 36' 29.0"E

MATCHLINE STA 7+760

GRASS

GRASS

EXISTING VT 100 (OLD)

AERIAL E&T

FUTURE VT 100

3+020

3+040

3+060

3+080

3+100

3+120

3+140

EXISTING BISHOP MARSHALL DRIVE

AERIAL E&T

AERIAL E&T

AERIAL E&T

AERIAL E&T

DRAINAGE DITCH

CLASS III WETLAND

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

0 10 20 30
SCALE 1:500

NOTE :

1. SEE ROADWAY CROSS SECTIONS FOR FINAL GRADING.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194fc03.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
FINAL CONDITIONS SITE PLAN - 1

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 46 OF 123

VTrans Metric

N

VT. STATE PLANE GRID

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

CLASS II WETLAND

GRASS

LAMOILLE RIVER

CLASS III WETLAND

MATCHLINE STA 7+760

N40° 36' 29.0"E

PROPOSED VT 100

7+760 7+780 7+800 7+820 7+840 7+860 7+880 7+900 7+920 7+940 7+960 7+980 8+000 8+020 8+040 8+060 8+080 8+100 8+120

N49° 23' 31.0"W

N40° 36' 29.0"E

MATCHLINE STA 8+120

STA 8+081.20
END BRIDGE
BEGIN ROADWAY

WOODS

GRAVEL

WOODS STA 7+915.00
END ROADWAY
BEGIN BRIDGE

TOWN OF MORRISTOWN
VILLAGE OF MORRISVILLE

CLASS II WETLAND

LAMOILLE RIVER

LAMOILLE RIVER

LAMOILLE RIVER

0 10 20 30
SCALE 1:500

NOTE :

1. SEE ROADWAY CROSS SECTIONS FOR FINAL GRADING.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194fc04.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
FINAL CONDITIONS SITE PLAN - 2	SHEET 47 OF 123

Metric

N

VT. STATE PLANE GRID

MATCHLINE STA 8+120

8+120

8+140

N40° 36' 29.0"E

8+160

8+180

8+200

8+220

8+240

8+260

8+280

8+300

8+320

8+340

8+360

8+380

8+400

8+420

N 54° 53.0"E

PROPOSED VT 100

VT 100

WOODS

CLASS III WETLAND

AERIAL E&T

PS

PT STA 5+294.388

PROPOSED VT 100 STA 8+369.324 =
BRIDGE STREET STA 5+292.246

S 40° 48.1"E BRIDGE STREET

PC STA 5+309.168

5+180

5+200

5+220

5+240

5+260

5+280

5+300

5+320

5+340

5+360

5+380

0 10 20 30
SCALE 1:500

NOTE :

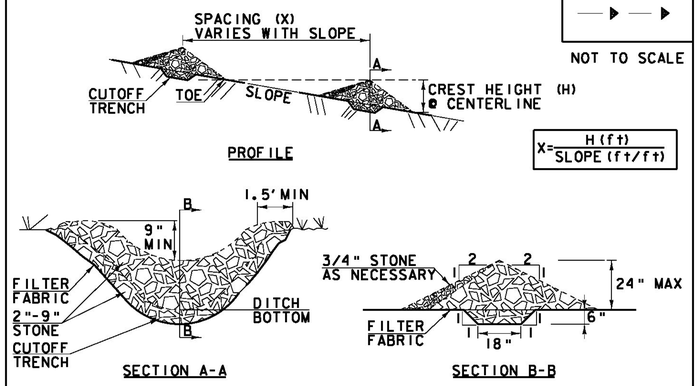
1. SEE ROADWAY CROSS SECTIONS FOR FINAL GRADING.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194fc05.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
FINAL CONDITIONS SITE PLAN - 3	SHEET 48 OF 123

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' 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

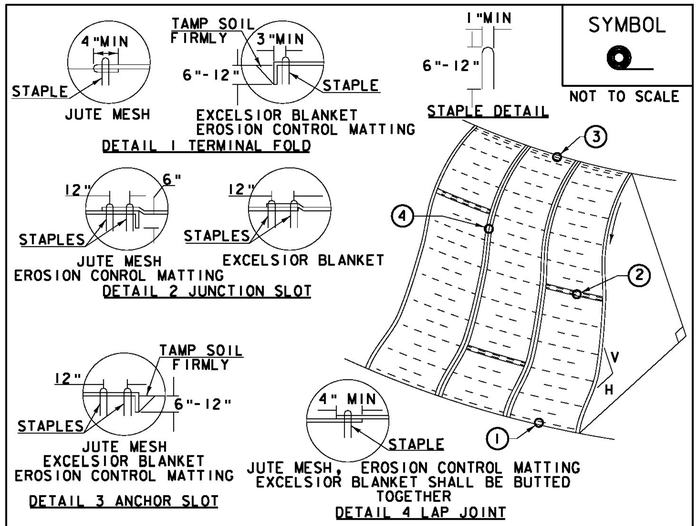
NOTES:
REFER TO "THE VERMONT STANDARDS & SPECIFICATIONS FOR EROSION PREVENTION & SEDIMENT CONTROL -2006- "FROM THE VT AGENCY OF NATURAL RESOURCES FOR ADDITIONAL GUIDANCE.

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

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

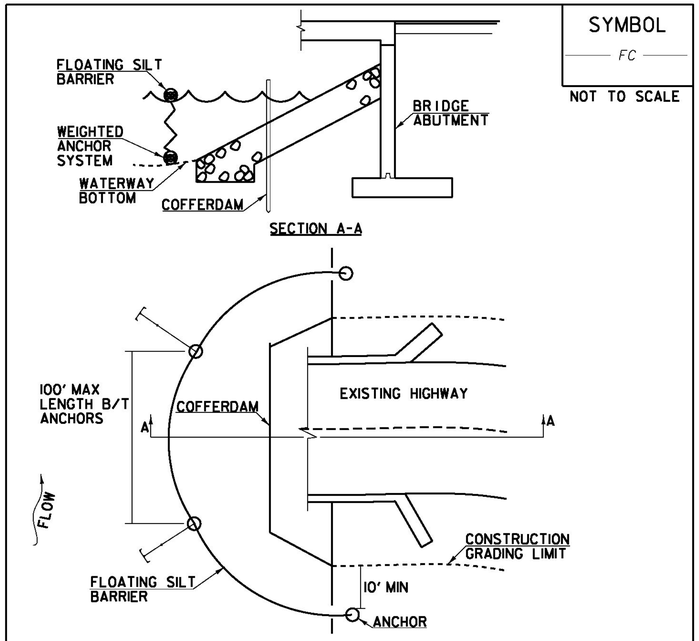
ROLLED EROSION CONTROL PRODUCT (RECP) SIDE SLOPE

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

SYMBOL
FC

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' LENGTH BETWEEN ANCHORS.
3. LAST SECTION SHALL TERMINATE A MINIMUM OF 10' 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

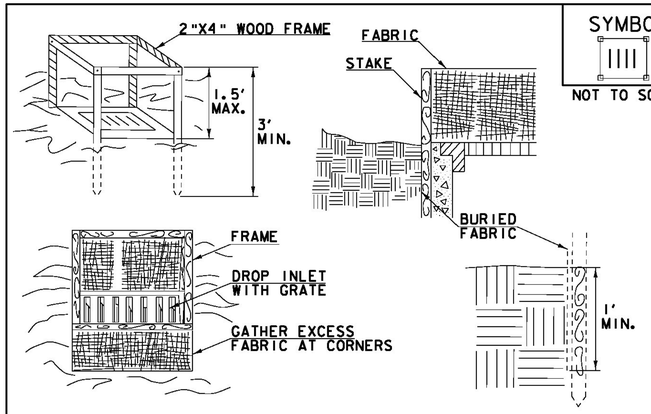
NOTE THAT THE ABOVE DETAILS ARE IN ENGLISH UNITS

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ecdet01.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
EPSC DETAILS - 1

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 49 OF 123



SYMBOL

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN APPARENT OPENING SIZE OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2"x 4" WOOD OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3'.
4. SPACE STAKES EVENLY AROUND INLET 3' APART AND DRIVE A MINIMUM 18" DEEP. SPANS GREATER THAN 3' MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1' MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.
7. MAXIMUM DRAINAGE AREA 1 ACRE

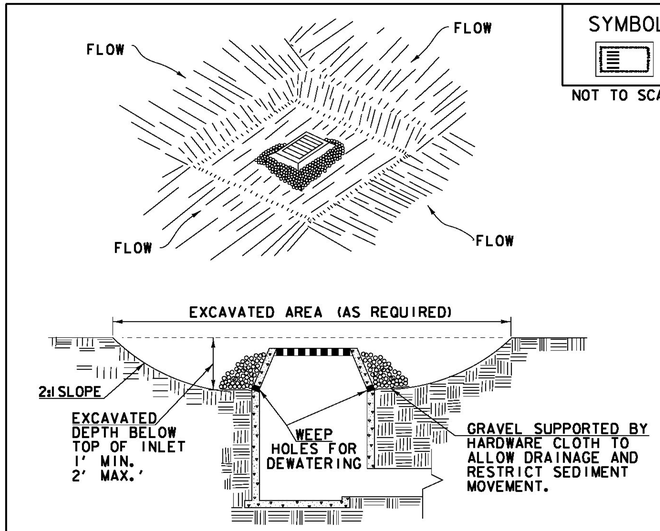
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FILTER FABRIC 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 7, 2008	WHF
JANUARY 13, 2009	WHF



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

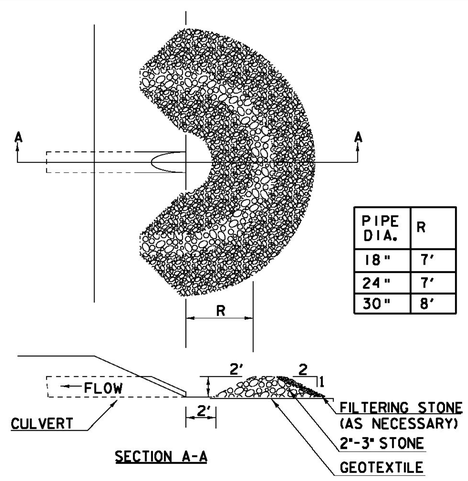
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC
ORIGINALLY DEVELOPED BY USDA-NRCS
VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. USE 2" TO 3" STONE. FILTERING STONE SHALL BE 3/4".
2. PLACE STONE OVER GEOTEXTILE.
3. ONCE THE AREAS UPSTREAM FROM THE CHECK DAM ARE STABILIZED WITH VEGETATION, THE SEDIMENT TRAPPED BEHIND THE DAM SHAL BE DISPOSED OF IN AN APPROVED WASTE AREA.
4. THE CHECK DAM (S) SHALL BE FLATTENED AND GRADED IN A MANNER WHICH PROTECTS THE AREA FROM EROSION AND CHANNEL BLOCKAGE . (GEOTEXTILE MUST BE REMOVED).
5. THE GEOTEXTILE MUST BE DISPOSED OF APPROPRIATELY.
6. THE AREA CONTRIBUTING TO THE CHECK DAM SHALL NOT EXCEED 4 ACRES.

ADAPTED FROM DETAILS PROVIDED BY: ILLINOIS USDA-NRCS
ORIGINALLY DEVELOPED BY USDA-NRCS

PIPE INLET PROTECTION

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

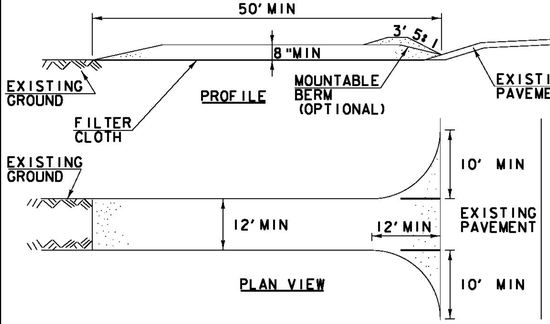
NOTE THAT THE ABOVE DETAILS ARE IN ENGLISH UNITS

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ecdet02.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
EPSC DETAILS - 2

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 50 OF 123



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.

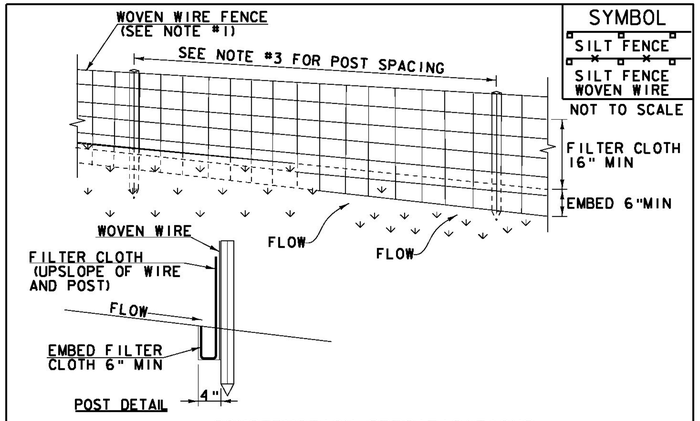
ADAPTED FROM DETAILS PROVIDED BY: NEW YORK STATE DEC ORIGINALLY DEVELOPED BY USDA-NRCS VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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

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. 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

VAOT RURAL AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
37.5%	22.5	45	CREEPING RED FESCUE	85%	98%
37.5%	22.5	45	TALL FESCUE	90%	95%
5.0%	3	6	RED TOP	90%	95%
15.0%	9	18	BIRDSFOOT TREFOIL	85%	98%
5.0%	3	6	ANNUAL RYE GRASS	85%	95%
100%	60	120			

VAOT URBAN AREA MIX

	LBS/AC				
% WEIGHT	BROADCAST	HYDROSEED	NAME	GERM %	PURITY %
42.5%	34	68	CREEPING RED FESCUE	85%	98%
10.0%	8	16	PERENNIAL RYE GRASS	90%	95%
42.5%	34	68	KENTUCKY BLUE GRASS	85%	85%
5.0%	4	8	ANNUAL RYE GRASS	85%	95%
100%	80	160			

GENERAL GUIDANCE

FERTILIZER		LIME	
BROADCAST	HYDROSEED	BROADCAST	HYDROSEED
10/20/2010	19-19-19	PELLETIZED	LIQUID
500 LBS/AC		2 TONS/AC	4.4 GAL/AC

CONSTRUCTION GUIDANCE

1. RURAL SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED UPLAND (NON WETLAND) AREAS DISTURBED BY THE CONTRACTOR.
2. URBAN SEED MIX: USE AS INDICATED IN THE PLANS AND/OR FOR ALL ESTABLISHED LAWN AREAS DISTURBED BY THE CONTRACTOR.
3. ALL SEED MIXTURES: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.
4. FERTILIZER AND LIMESTONE: SHALL FOLLOW RATES SHOWN ON PLAN OR AS DIRECTED BY THE ENGINEER
5. HAY MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, ACHIEVE 90% GROUND COVER OR AS DIRECTED BY THE ENGINEER.
6. TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
7. HYDROSEEDING: ALTHOUGH GUIDANCE IS GIVEN ABOVE THE SITE CONDITIONS AND THE TYPE OF HYDROSEED WILL ULTIMATELY DICTATE THE AMOUNTS AND TYPES OF SOIL AMENDMENTS TO BE APPLIED
8. TURF ESTABLISHMENT: PLACING SEED, FERTILIZER, LIME AND MULCH PRIOR TO SEPTEMBER 15 AND AFTER APRIL 15 CAN BETTER ENSURE A VIGOROUS GROWTH OF GRASS.

SEED

THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 651 FOR SEED (PAY ITEM 651.15)

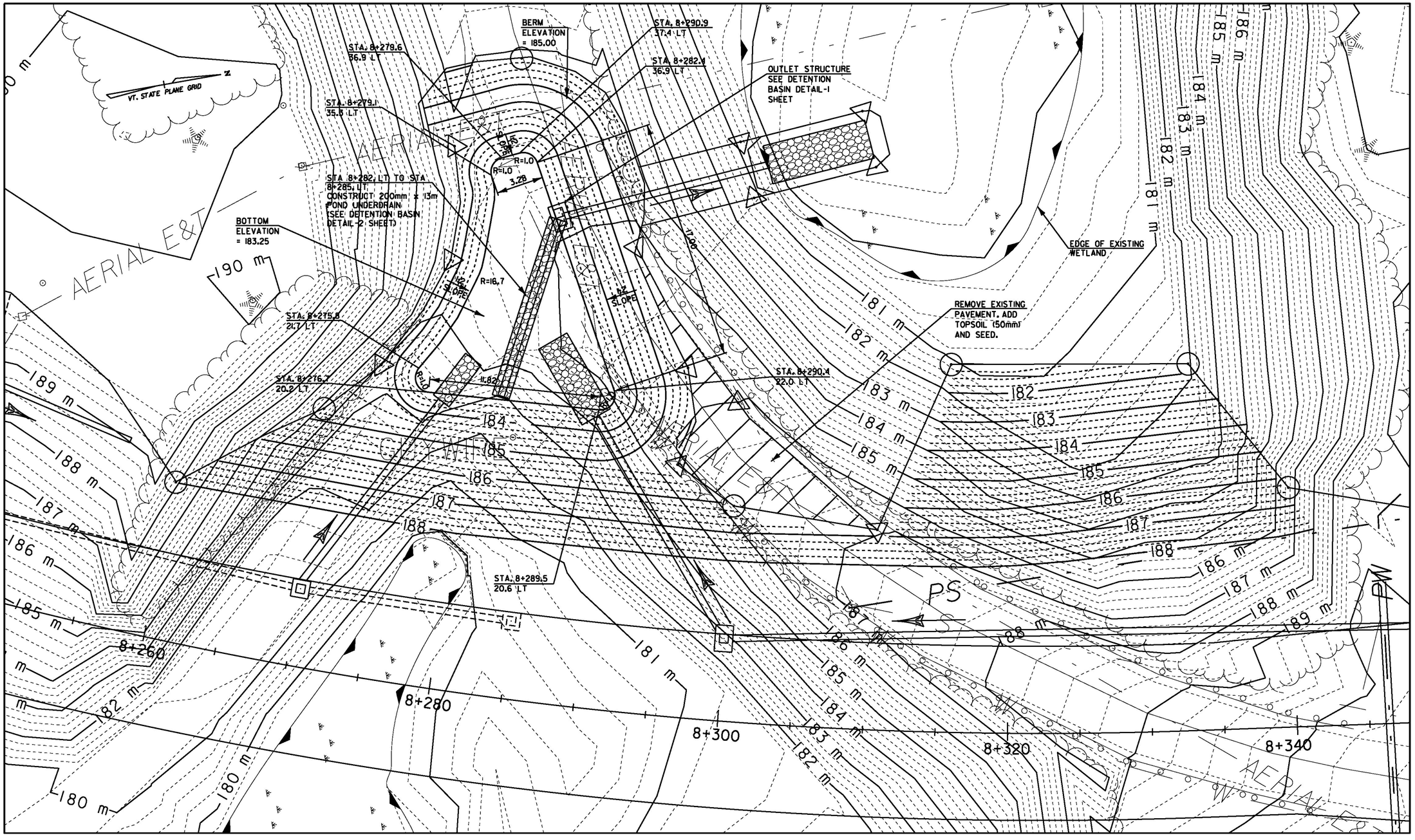
NOTE THAT THE ABOVE DETAILS ARE IN ENGLISH UNITS

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ecdet03.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
EPSC DETAILS - 3

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 51 OF 123



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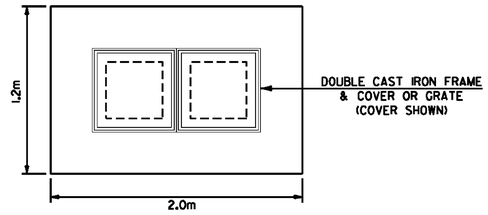
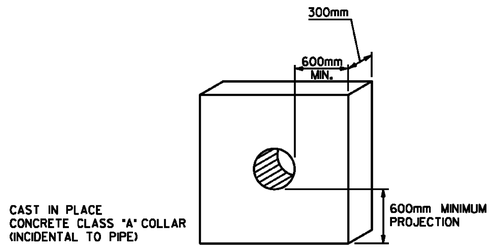
SCALE 1:125

McFarland Johnson

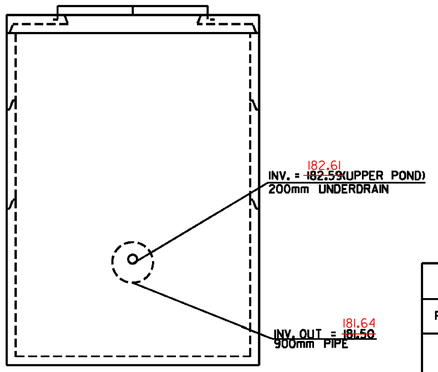
PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194basin2.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
DETENTION BASIN GRADING PLAN	SHEET 52 OF 123



TOP VIEW



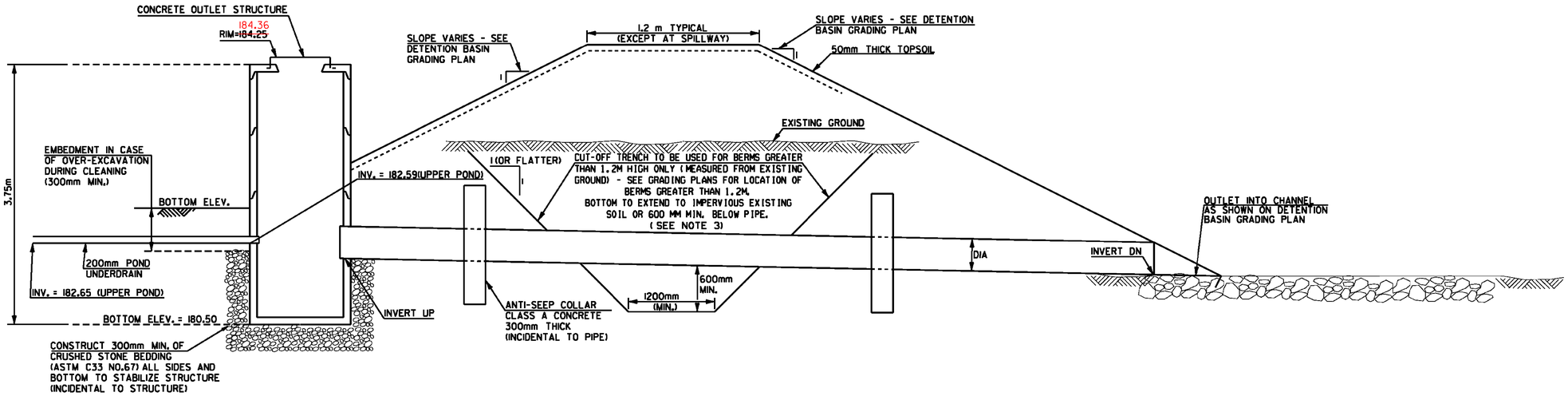
ANTI-SEEP COLLAR
NOT TO SCALE



CONCRETE OUTLET STRUCTURE
(FRONT VIEW)
NOT TO SCALE

CONSTRUCTION DATA

POND NO.	OUTLET PIPE				D_1	INVERT D_1	D_2	INVERT D_2	BOTT. ELEV.	H	OUTLET		REMARKS
	L	DIA	INV UP	INV DN							TYPE	ELEV.	
	m	mm	m	m	mm	m	mm	m	m	m		m	
1	14.5	900	~~181.50~~ 181.64	~~179.55~~ 179.54	-	-	-	-	183.25	3.75	2 x STEEL GRATE	184.25	SED. FOREBAY OUTLET



EXTENDED DETENTION BASIN SECTION
NOT TO SCALE

GENERAL NOTES:

1. THE DETENTION BASIN AREA SHALL BE CLEARED OF ALL TREES, ROOTS, STUMPS, BOULDERS AND SOD TO A DEPTH OF 600mm BELOW FINAL GRADE.
2. CONSTRUCT BERM USING EARTH BORROW MATERIAL FREE OF SOD, ROOTS, FROZEN MATERIAL, LARGE ROCKS, OR OTHER OBJECTIONABLE MATERIAL. COMPACT AS PER SPECIFICATIONS.
3. CONSTRUCT CUT OFF TRENCH AT CENTERLINE OF BERM OR SLIGHTLY UPSTREAM. FILL WITH ITEM 900.608 SPECIAL PROVISION (CLAY BORROW) TO REDUCE SEEPAGE AND STABILIZE THE BERM. COMPACT MATERIAL AS PER SPECIFICATIONS. CUT OFF TRENCH SHALL NOT BE CONSTRUCTED WITHIN THE LIMITS OF THE ROADWAY EMBANKMENT.
4. CONCRETE OUTLET STRUCTURE TO BE PRE-CAST WITH HOLE SIZES AND SPACING AS SHOWN WITH ANY ADJUSTMENTS APPROVED BY THE RESIDENT ENGINEER. HOLES SHALL BE CAST WITH THE SECTION TO AVOID POSSIBLE RUST STAINS FROM EXPOSED REINFORCEMENT. REFER TO SHEET 37 FOR DRAINAGE STRUCTURE DETAILS. CONCRETE OUTLET STRUCTURE SHALL BE PAID FOR UNDER ITEM 604.20.
5. TOPSOIL AND SEED ALL EARTH SLOPES AS SOON AS POSSIBLE. STABILIZE THE INLET AREA WITH REQUIRED EROSION CONTROL.
6. REMOVE ACCUMULATED SEDIMENT FROM DETENTION POND AT COMPLETION OF PROJECT.
7. ANTI-SEEP COLLARS (INCIDENTAL TO PIPE) SHALL BE INSTALLED AS SHOWN TO RESIST FLOW ALONG THE OUTSIDE OF THE PIPE. COLLARS SHOULD PROJECT A MINIMUM OF 600mm FROM THE PIPE. MAXIMUM SPACING OF COLLARS IS 6.0m. COST OF THE CONCRETE ANTI-SEEP COLLARS WILL BE INCLUDED WITHTHE ITEM FOR THE OUTLET PIPE.

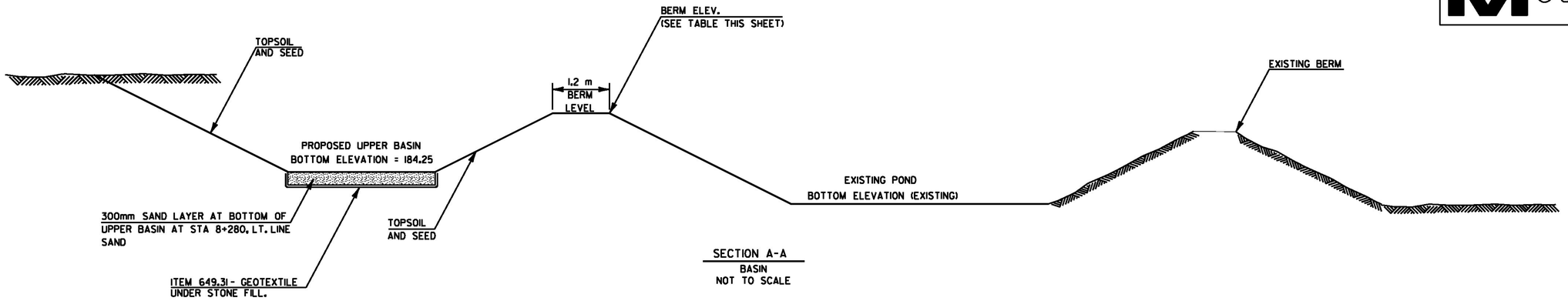
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

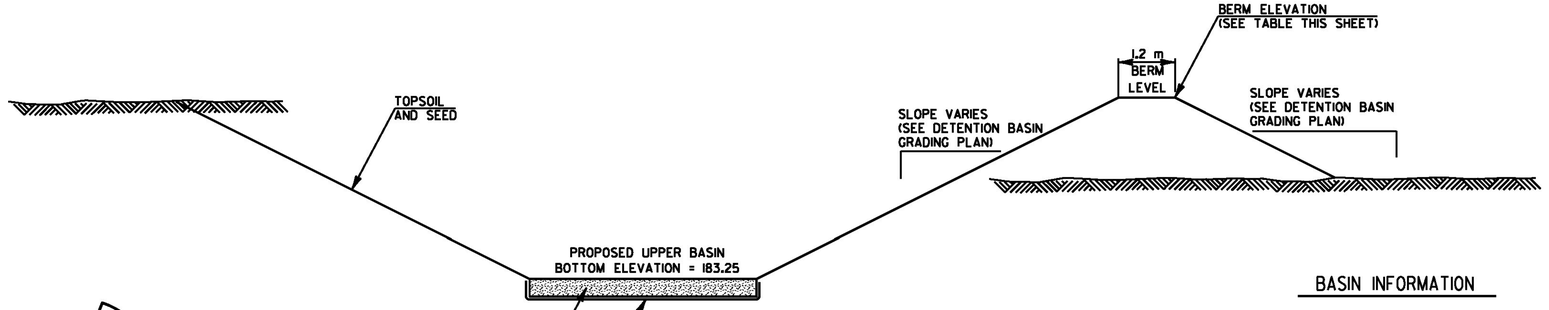
FILE NAME: z10b194draindet1.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
DETENTION BASIN DETAILS - 1

PLOT DATE: 11-APR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 53 OF 123

Metric



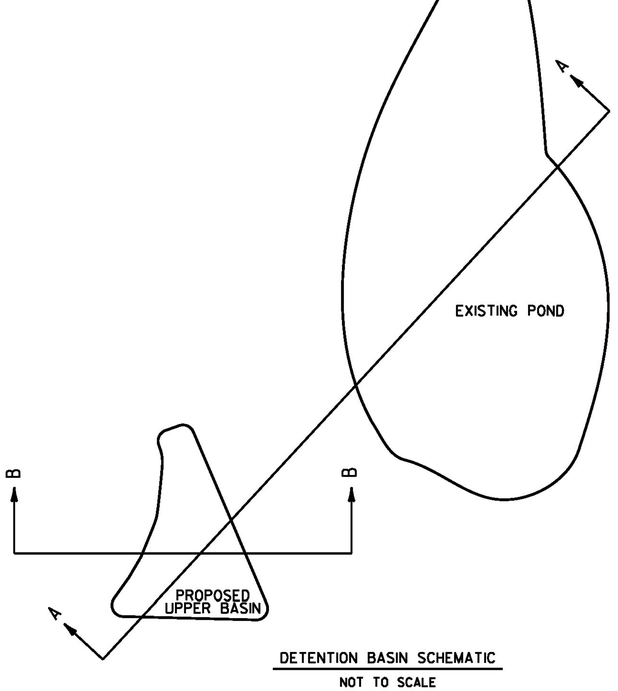
SECTION A-A
BASIN
NOT TO SCALE



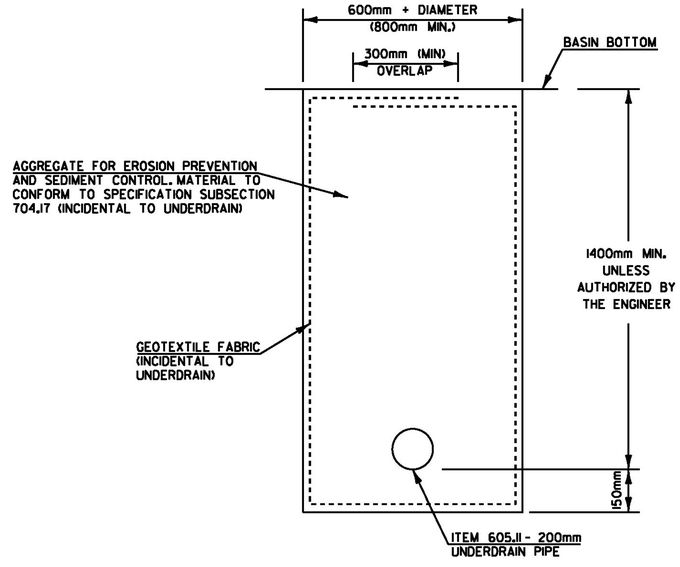
SECTION B-B
BASIN
NOT TO SCALE

BASIN INFORMATION

BASIN NO.	APPROXIMATE STATION LOCATION	BOTTOM ELEV.	BERM ELEV.
UPPER	8+280, LT	183.25	185.00



DETENTION BASIN SCHEMATIC
NOT TO SCALE



DETENTION BASIN UNDERDRAIN DETAIL
NOT TO SCALE

NOTES :

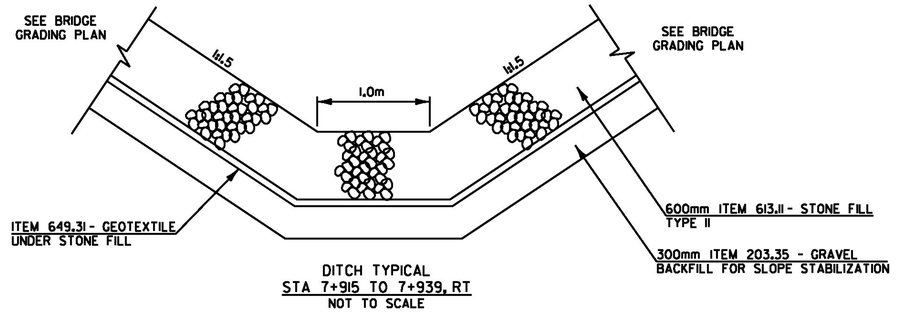
1. BERM SHOWN ON SECTION A-A AND B-B IS TO BE APPLIED WHERE REQUIRED - SEE BASIN GRADING PLAN.
2. ALL SLOPES ARE TO BE SEEDED TO THE ELEVATION SHOWN IN THE TABLE.
3. DURING CONSTRUCTION OF THE DETENTION BASIN GROUNDWATER MAY BE ENCOUNTERED. ITEM 613.10 - STONE FILL, TYPE I SHALL BE PLACED IN AREAS OF GROUNDWATER SEEPAGE INSTEAD OF SEED TO AN ELEVATION 600mm ABOVE THE OBSERVED GROUNDWATER ELEVATION PER ORDER OF THE ENGINEER.
4. SEE DETENTION BASIN GRADING PLAN FOR BASIN LAYOUT DETAILS.

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

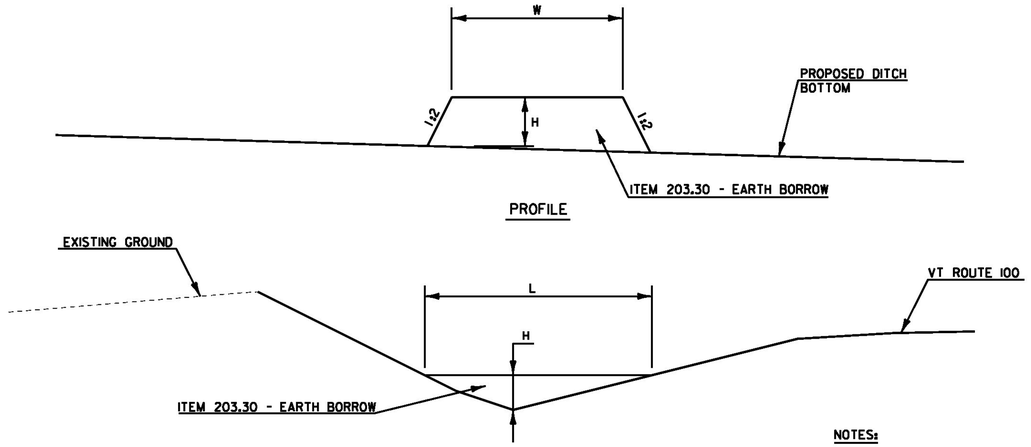
FILE NAME: z10b194drainde t2.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
DETENTION BASIN DETAILS - 2

PLOT DATE: 29-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 54 OF 123

McFarland Johnson



DITCH TYPICAL
STA 7+915 TO 7+939, RT
NOT TO SCALE



PROFILE

CROSS SECTION

DITCH BERM DETAIL
NOT TO SCALE

NOTES:

1. SEE BRIDGE GRADING PLANS FOR BACKSLOPE OF BERM AT STA. 7+908 LT.

2. SEE TABLE ON LAYOUT SHEETS FOR "W", "L", AND "H" DIMENSIONS.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194det3.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
MISCELLANEOUS DETAILS	SHEET 55 OF 123

McFarland Johnson

METRIC TYP.

MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

GENERAL NOTES:

DESIGN PROVISIONS:

1. THE FOLLOWING EFFECTIVE STRENGTH PARAMETERS WERE ASSUMED IN THE PREPARATION OF THE STRUCTURAL CALCULATIONS FOR THE RETAINING WALL SYSTEM:

	ϕ	c	γ	SOIL TYPE
REINFORCED SOIL	34°	0 kPa	19 KN/M³	SELECT GRANULAR
RETAINED SOIL	32°	0 kPa	19 KN/M³	SANDY SILT
FOUNDATION SOIL	32°	0 kPa	19 KN/M³	SANDY SILT

   SOIL TYPES AND DESIGN PROPERTIES SHALL BE CONFIRMED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO WALL CONSTRUCTION.

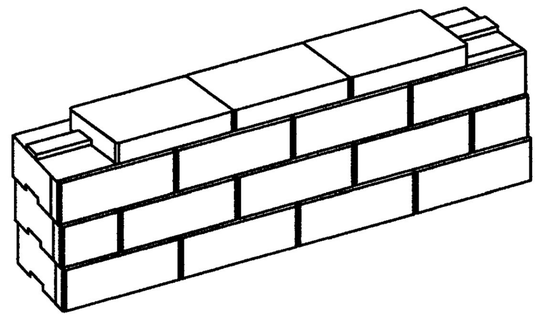
2. THE WALL IS DESIGNED TO SUPPORT THE FOLLOWING MAXIMUM SURCHARGE LOADINGS:

   LIVE LOAD: 13.4 kPa
   DEAD LOAD: NONE
   BACK SLOPE: NONE
   SEISMIC: NOT APPLICABLE
   HYDROSTATIC: NOT APPLICABLE

3. THE FOUNDATION SOILS AT THE WALL LOCATIONS SHALL BE CAPABLE OF SAFELY SUPPORTING 175 kPa WITHOUT FAILURE OR EXCESSIVE SETTLEMENT. LOCAL BEARING CAPACITY SHALL BE CONFIRMED BY THE SITE GEOTECHNICAL ENGINEER AFTER FOUNDATION EXCAVATION AND PRIOR TO WALL CONSTRUCTION.

SUGGESTED QUALITY ASSURANCE PROVISIONS:

1. WALL CONSTRUCTION SHALL BE SUPERVISED BY A QUALIFIED ENGINEER OR TECHNICIAN TO VERIFY FIELD AND SITE SOIL CONDITIONS. IF THIS WORK IS NOT PERFORMED BY THE SITE GEOTECHNICAL ENGINEER, A QUALIFIED GEOTECHNICAL ENGINEER/TECHNICIAN SHALL BE CONSULTED IN THOSE MATTERS PERTAINING TO THE SOIL CONDITIONS AND WALL PERFORMANCE.



SHEET INDEX

SHEET	DESCRIPTION
55.	TITLE SHEET
56.	SITE PLAN
57.	WALL 1 ELEVATION
58.	WALL 1 ELEVATION
59.	TYPICAL WALL SECTION
60.	TYPICAL UNIT DETAILS
61.	SPECIFICATIONS
62.	BORING LOGS

GENERAL NOTES:

SUGGESTED QUALITY ASSURANCE PROVISIONS:

2. THE FOUNDATION SOILS AT THE BASE OF THE WALL SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER. ANY UNSUITABLE SOILS OR IMPROPERLY COMPACTED EMBANKMENT MATERIAL SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER PRIOR TO WALL CONSTRUCTION TO PROVIDE ADEQUATE BEARING CAPACITY AND MINIMIZE SETTLEMENT.

3. ALL WALL EXCAVATION AND RETAINED SOILS SHALL BE INSPECTED FOR GROUNDWATER CONDITIONS. ANY ADDITIONAL DRAINAGE PROVISIONS REQUIRED IN THE FIELD SHALL BE INCORPORATED INTO THE WALL CONSTRUCTION AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

4. WALL BACKFILL MATERIAL SHALL BE TESTED AND APPROVED BY THE ENGINEER, MEETING THE MINIMUM REQUIREMENTS OF THE APPROVED DESIGN PLANS OR SPECIFICATIONS.

5. ALL SOIL BACKFILL SHALL BE TESTED BY THE GEOTECHNICAL ENGINEER FOR MOISTURE, DENSITY, AND COMPACTION PERIODICALLY (EVERY 610 mm VERTICALLY, 30 m-60 m C/C) MEETING THE MINIMUM REQUIREMENTS OF THE APPROVED DESIGN PLANS OR SPECIFICATIONS.

6. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN QUALITY CONTROL FOR THE CONSTRUCTION OF THE WALL TO ASSURE COMPLIANCE WITH CONTRACT REQUIREMENTS AND MAINTAIN RECORDS OF ITS QUALITY CONTROL.

7. ALL WALL ELEVATIONS, GRADES, AND BACK SLOPE CONDITIONS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD FOR CONFORMANCE WITH APPROVED DESIGN PLANS. ANY REVISIONS TO THE STRUCTURE GEOMETRY OR DESIGN CRITERIA SHALL REQUIRE DESIGN MODIFICATIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

MANUFACTURING PROVISIONS:

1. THE BLOCK SHALL RECON 50 SERIES BE AS MANUFACTURED BY S.D. IRELAND COMPANIES.

2. COLORING SHALL BE NATURAL CONCRETE WITH [illegible] GRANITE TEXTURE.

STATE OF VERMONT
CURTIS J. DERICHS
NO. 018.0074668
CIVIL
LICENSED
PROFESSIONAL ENGINEER

Curtis J. Derichs, P.E. Date: 4/11/12

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PHONE: (952) 303-5312 | FAX: (763) 392-1989
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No.	Date	Revision	By
1	8/20/10	REVISIONS PER REVIEW COMMENTS	ACM
2	1/30/12	REVISIONS PER REVIEW COMMENTS	CJD
3	3/15/12	REVISIONS PER REVIEW COMMENTS	CJD
4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: N/A
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1) MORRISTOWN, VERMONT
Title: TITLE SHEET

Registration No: 74668
Project No: 12-016
Sheet No: 56 OF 123

METRIC TYP.

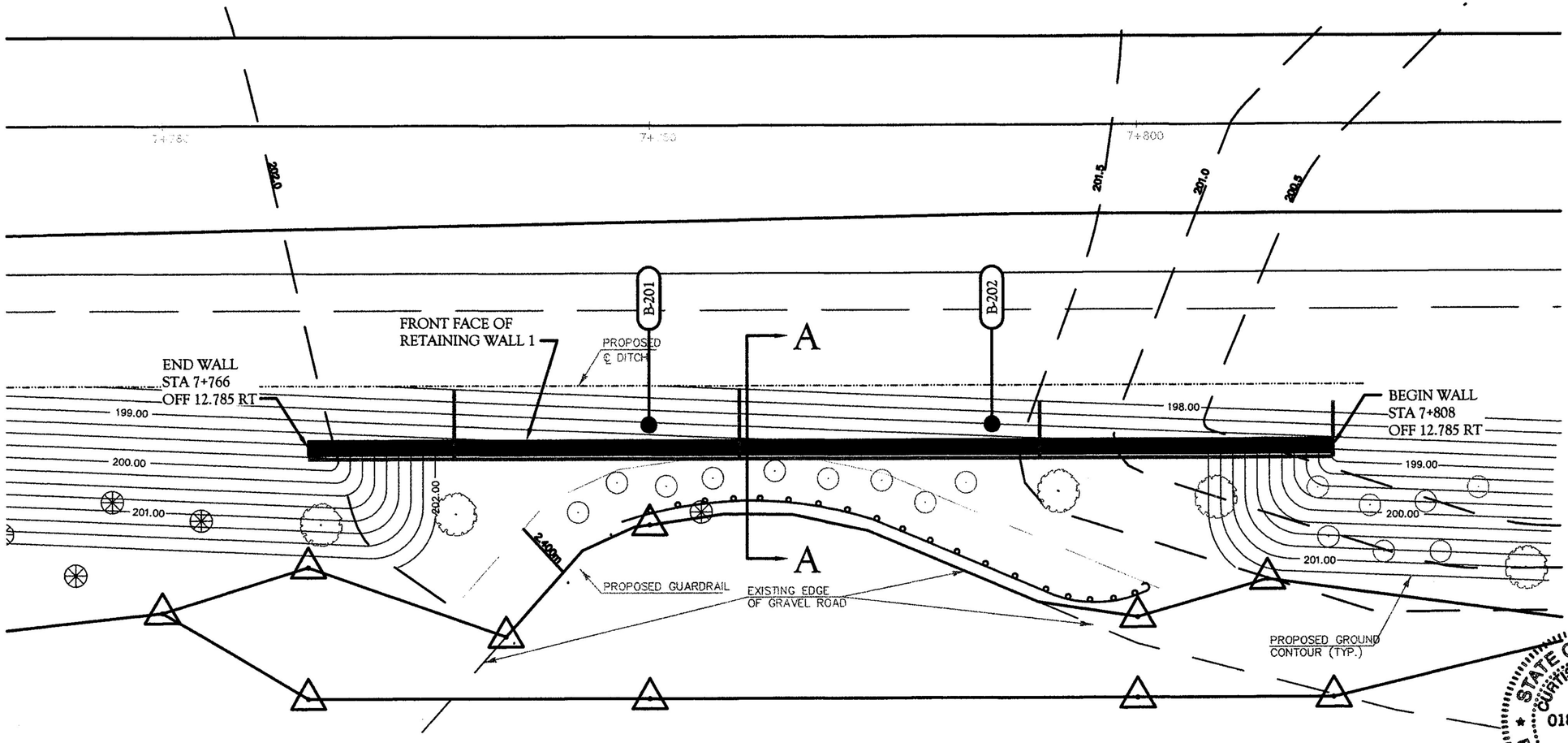
NOTES:

1. THE SITE PLAN SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. IT WAS REPRODUCED FROM MCFARLAND JOHNSON PLANS DATED JAN 8, 2010 [PROJECT #STP F 029-1(2)].
2. THE CONTRACTOR SHALL VERIFY INVERTS OF PROPOSED AND EXISTING UTILITIES TO ENSURE THERE ARE NO CONFLICTS. THE ENGINEER SHALL BE CONTACTED IF CONFLICTS ARISE AND AN ALTERNATIVE DESIGN MAY BE REQUIRED.
3. APPROXIMATE LOCATION OF BORINGS ACCORDING TO THE BORING LOG AND THE GEOTECHNICAL REPORT FROM THE STATE OF VERMONT AGENCY OF TRANSPORTATION MATERIALS AND RESEARCH SECTION. DATE STARTED 3-24-2010 AND ENDED 3-25-2010.

0 2 4 6 8 10

GRAPHIC SCALE IN METERS

PROPOSED DRAINPIPE



STATE OF VERMONT
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Curtis J. Derichs, P.E. Date: 4/11/12

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3	3/15/12	REVISIONS PER REVIEW COMMENTS	CJD
4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: 1:200
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

Title: SITE PLAN

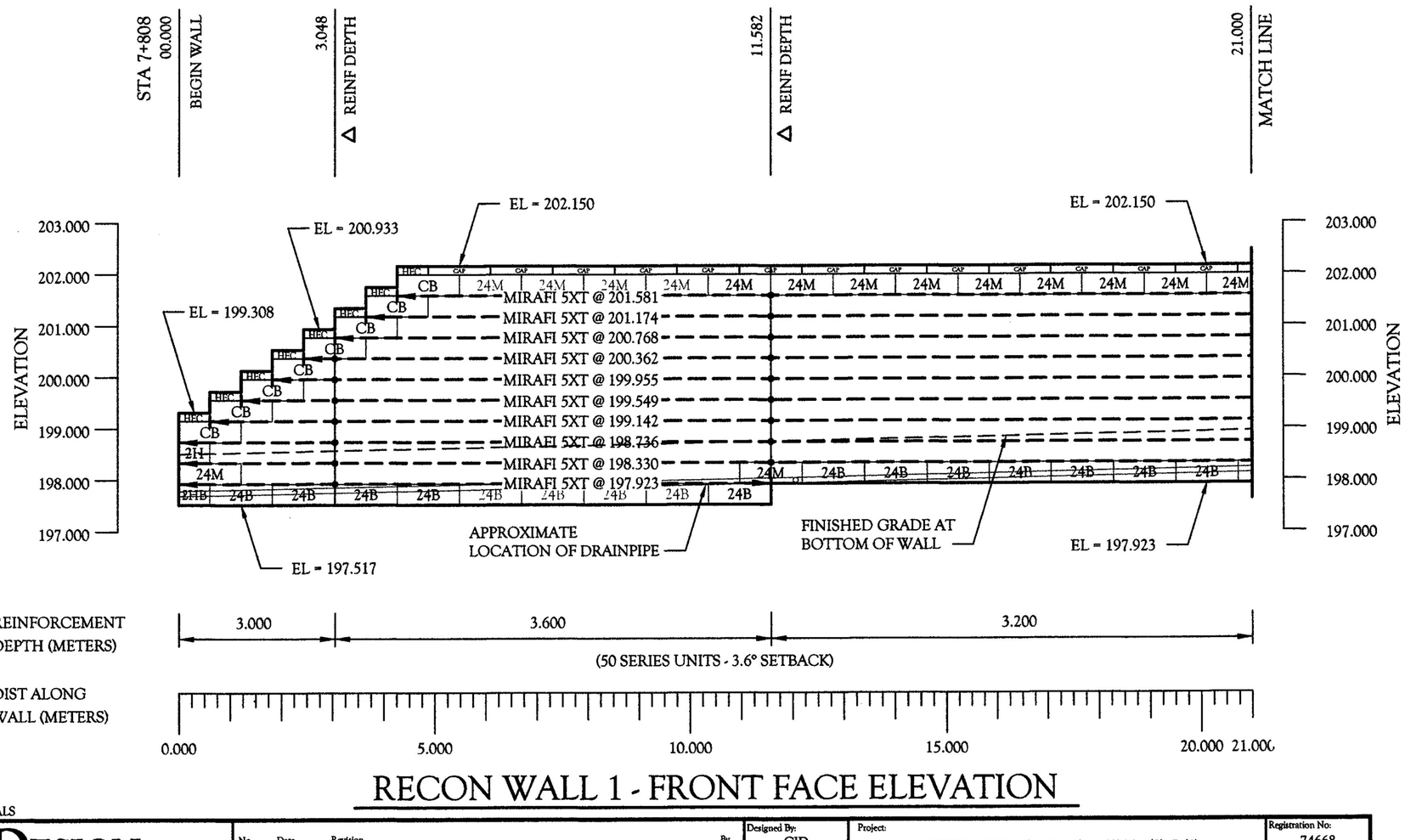
Registration No: 74668
Project No: 12-016
Sheet No: 57 OF 123

METRIC TYP.

GENERAL NOTES:

1. WALL SHALL BE CONSTRUCTED WITH RECON 50 SERIES 610mm DEEP UNITS AND 165mm CAPSTONES PRODUCED BY S.D. IRELAND COMPANIES. SEE SPECIFICATION 2.02 (SHEET 61) FOR COLOR AND TEXTURE.
2. THE DESIGN REQUIRES MIRAFI 5XT SOIL REINFORCEMENT AT THE ELEVATIONS SHOWN.
3. ALL UNITS NOT SHOWN ARE 610mm DEEP FULL MIDDLE UNITS.
4. ALL DIMENSIONS ARE IN METERS UNLESS STATED OTHERWISE.
5. SEE MANUFACTURER INFORMATION FOR ADDITIONAL CONSTRUCTION DETAILS FOR THE RECON RETAINING WALL SYSTEM.

RECON BLOCK KEY:	
CB =	610mm DEEP CORNER BLOCK
24M =	610mm DEEP MIDDLE BLOCK
2H =	610mm DEEP HALF MIDDLE BLOCK
24B =	610mm DEEP BOTTOM BLOCK
2HB =	610mm DEEP HALF BOTTOM BLOCK
CAP =	165mm CAPSTONE
HEC =	HALF END CAPSTONE (FIELD CUT)



RECON WALL 1 - FRONT FACE ELEVATION

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4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: 1:100
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

Title: WALL 1 ELEVATION

Registration No: 74668
Project No: 12-016
Sheet No: 58 OF 123

STATE OF VERMONT
CURTIS J. DERICHS
NO. 018.0074668 CIVIL
LICENSED PROFESSIONAL ENGINEER

Curtis J. Derichs, P.E. Date: 4/11/12

METRIC TYP.

GENERAL NOTES:

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2. THE DESIGN REQUIRES MIRAFI 5XT SOIL REINFORCEMENT AT THE ELEVATIONS SHOWN.
3. ALL UNITS NOT SHOWN ARE 610mm DEEP FULL MIDDLE UNITS.
4. ALL DIMENSIONS ARE IN METERS UNLESS STATED OTHERWISE.
5. SEE MANUFACTURER INFORMATION FOR ADDITIONAL CONSTRUCTION DETAILS FOR THE RECON RETAINING WALL SYSTEM.

RECON BLOCK KEY:	
CB =	610mm DEEP CORNER BLOCK
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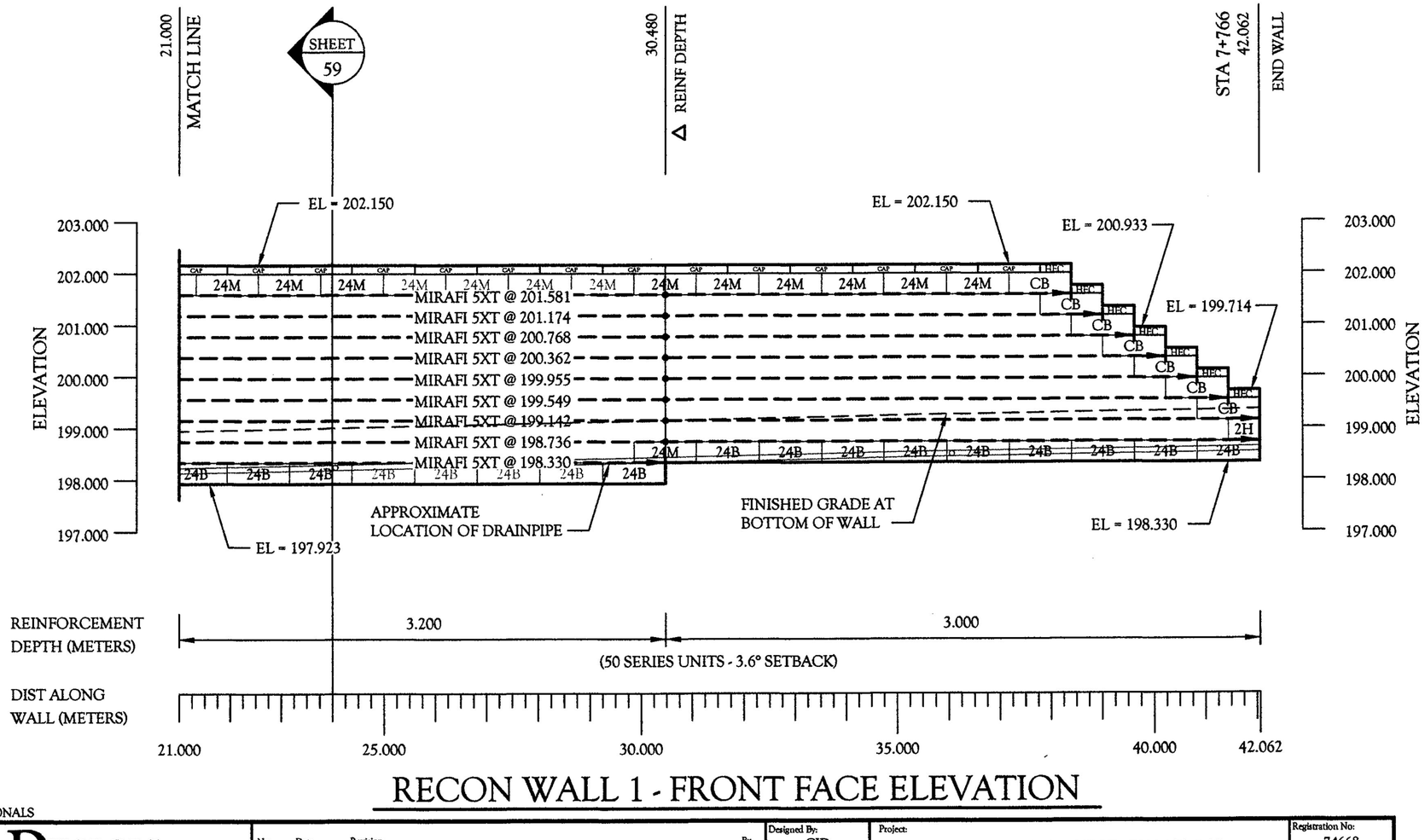

RECON WALL 1 - FRONT FACE ELEVATION

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4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: 1:100
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

Title: WALL 1 ELEVATION

Registration No: 74668
Project No: 12-016
Sheet No: 59 OF 123

STATE OF VERMONT
CURTIS J. DERICHS
NO. 018.0074668
CIVIL
LICENSED PROFESSIONAL ENGINEER

Curtis J. Derichs, P.E. Date: 4/11/12

METRIC TYP.

GENERAL NOTES:

1. THE SECTION SHOWN IS A REPRESENTATIVE WALL SECTION. THE WALL HEIGHTS, ELEVATIONS, TOE SLOPES, AND BACK SLOPES VARY ACCORDING TO THE ELEVATION PLAN AND SITE PLAN RESPECTIVELY.

2. UPON EXCAVATION, WHERE UNSUITABLE SOILS ARE FOUND, SUBCUT TO DEPTH "D" AS REQUIRED BY THE ONSITE GEOTECHNICAL ENGINEER AND REPLACE WITH SUITABLE COMPACTED STRUCTURAL FILL TO ACHIEVE THE REQUIRED BEARING CAPACITY. THE STRUCTURAL FILL SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY.

3. APPROXIMATE LIMITS OF EXCAVATION VARIES WHERE SUBCUT IS REQUIRED. ACTUAL LIMITS AND SIDE SLOPES TO BE DETERMINED BY CONTRACTOR AND MATCH FIELD CONDITIONS AND OSHA REGULATIONS.

4. THE WALL SHALL BE CONSTRUCTED WITH RECON 610mm (24") DEEP UNITS USING THE 3.6° BATTER WITH 165mm (6") CAPS.

5. THE DESIGN REQUIRES MIRAFI 5XT SOIL REINFORCEMENT AT THE ELEVATIONS SHOWN.

6. A 100mm THERMOPLASTIC PERFORATED DRAINPIPE WRAPPED WITH GEOTEXTILE. OUTLET DRAINPIPE AT 12.000M O.C. AND LOW ENDS OF WALL OR INTO ONSITE DRAINAGE.

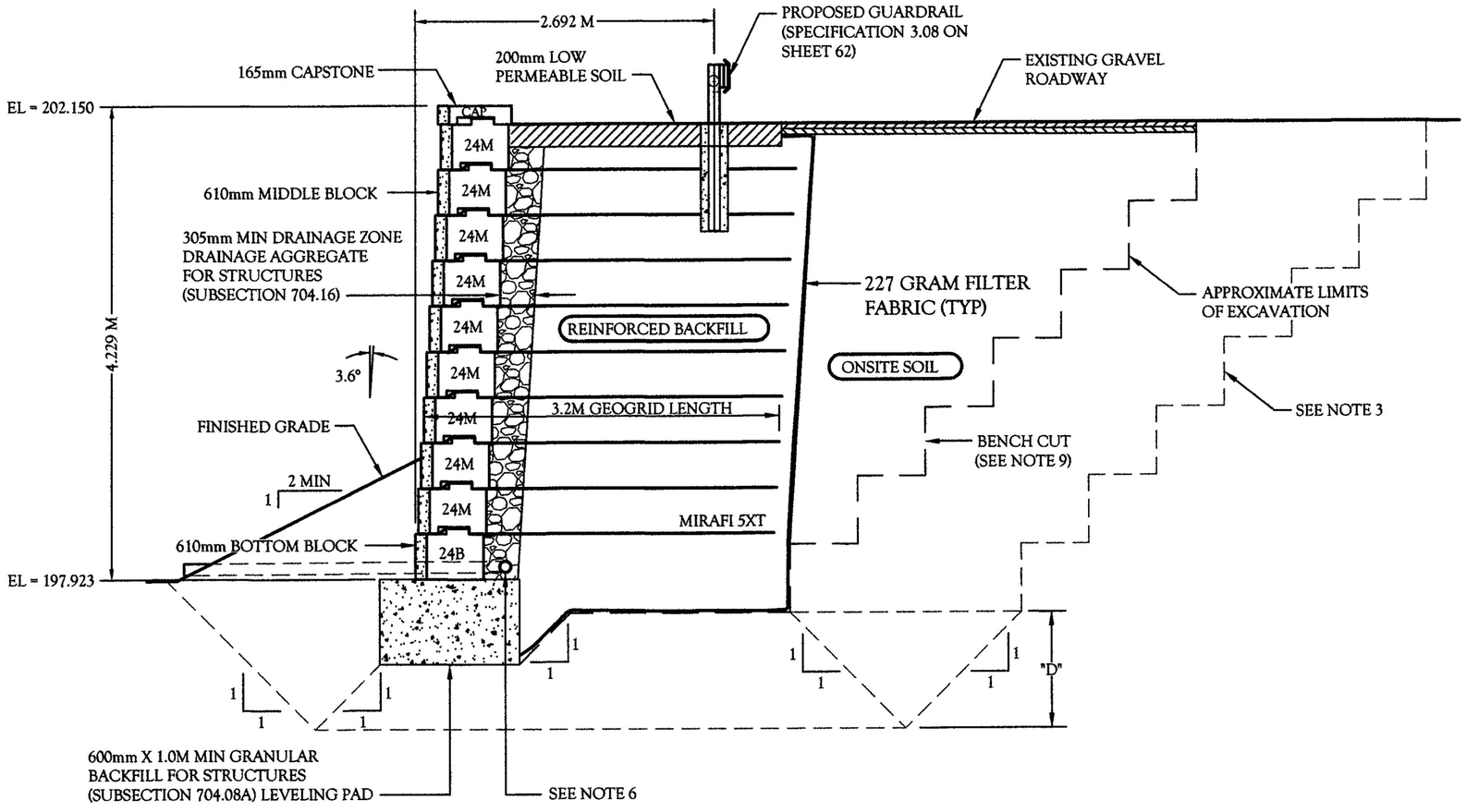
7. TO PREVENT PONDING OF WATER, POSITIVE DRAINAGE SHALL BE PROVIDED AT THE TOP AND BOTTOM OF WALL. INSPECT EXCAVATION SLOPES FOR ACTIVE SEEPAGE AND PLACE ADDITIONS DRAINS WHERE SEEPAGE OCCURS.

8. DO NOT BRING HEAVY COMPACTION OR PAVING EQUIPMENT WITHIN 1.0M OF THE BACK OF THE RECON RETAINING WALL (HAND OPERATED EQUIPMENT SHALL BE USED IN THIS ZONE).

9. BENCH CUT SHALL SHALL COMPLY WITH ALL STATE, COUNTY, AND CITY REGULATIONS AND CODES AND OSHA STANDARDS.

10. SEE MANUFACTURER INFORMATION FOR ADDITIONAL DETAILS ON THE RECON RETAINING WALL SYSTEM.

11. CIVIL DESIGN PROFESSIONALS SHALL NOT BE LIABLE FOR CONTRACTOR NEGLIGENCE.



TYPICAL REINFORCED WALL SECTION (A - A)

(WALL 1 SECTION SHOWN @ 24.0M)

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2	1/30/12	REVISIONS PER REVIEW COMMENTS	CJD
3	3/15/12	REVISIONS PER REVIEW COMMENTS	CJD
4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: 1/4" = 1'-0"
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1) MORRISTOWN, VERMONT

Title: TYPICAL WALL SECTION

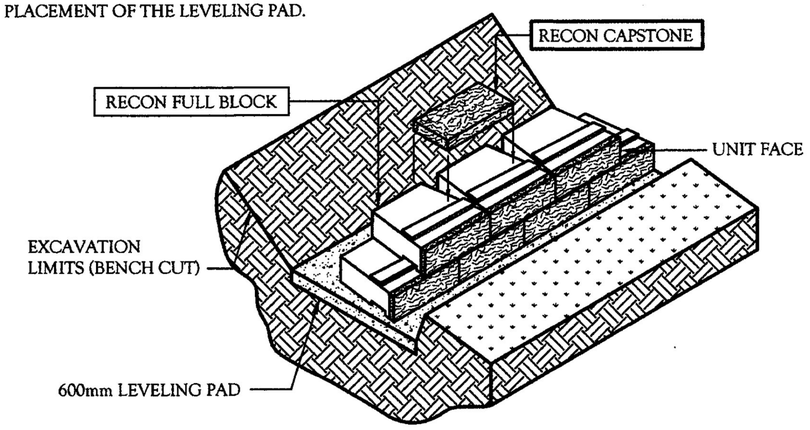
Registration No: 74668
Project No: 12-016
Sheet No: 60 OF 123

STATE OF VERMONT
CURTIS J. DERICHS
NO. 018.0074668
CIVIL
LICENSED PROFESSIONAL ENGINEER

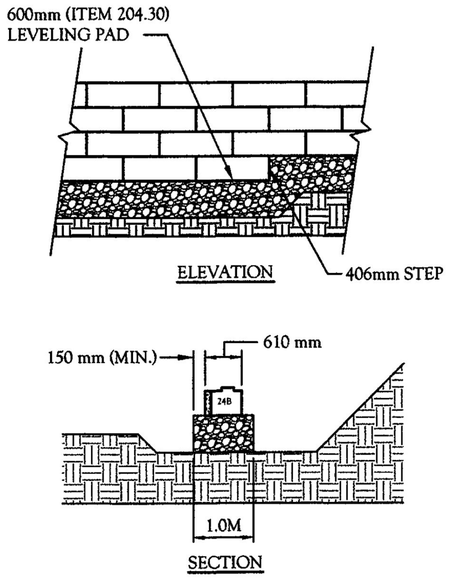
Curtis J. Derichs, P.E. Date: 4/11/12

LEVELING PAD NOTES:

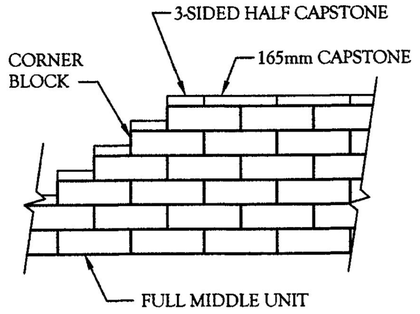
1. THE LEVELING PAD SHALL BE CONSTRUCTED WITH GRANULAR BACKFILL FOR STRUCTURES (ITEM 204.30)
2. THE BASE FOUNDATION SHALL BE APPROVED BY THE SITE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE LEVELING PAD.



1/61 RECON/BASE PAD ISOMETRIC VIEW
SCALE: N.T.S.



2/61 LEVELING PAD DETAIL
SCALE: N.T.S.



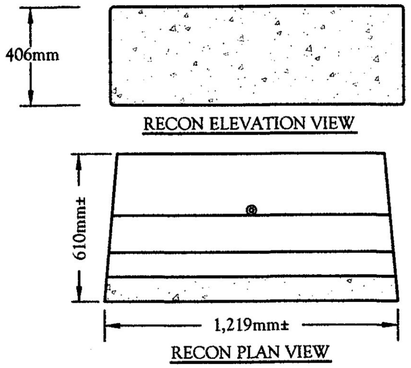
3/61 TOP OF WALL STEPS
SCALE: N.T.S.

NOTE:
1. SEE SPECIFICATION 2.02 (SHEET 61) FOR COLOR AND TEXTURE.

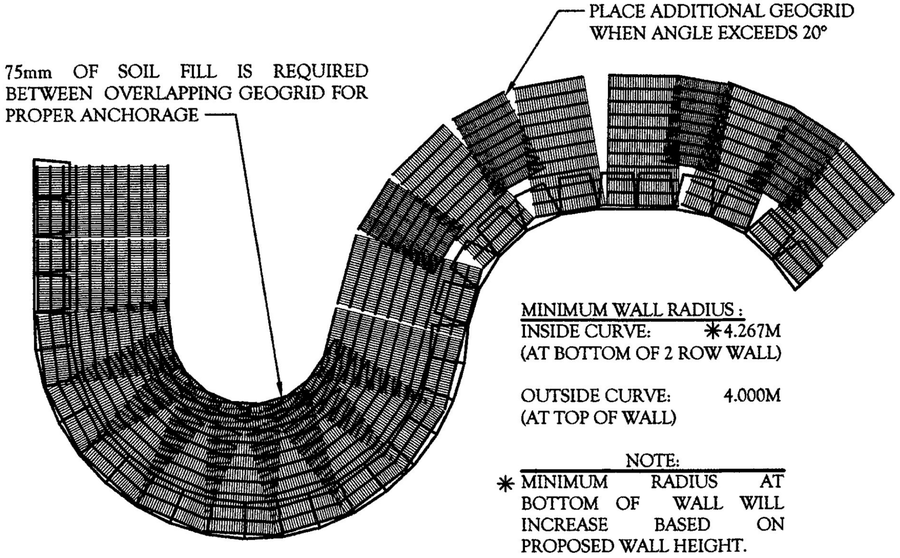
METRIC TYP.

RECON 610mm UNIT	
WIDTH:	1,219mm
DEPTH:	610mm
HEIGHT:	406mm
WEIGHT:	±640kg

RECON CAPSTONE	
WIDTH:	1,219mm
DEPTH:	610mm
HEIGHT:	165mm
WEIGHT:	±272kg



4/61 RECON UNIT
SCALE: N.T.S.

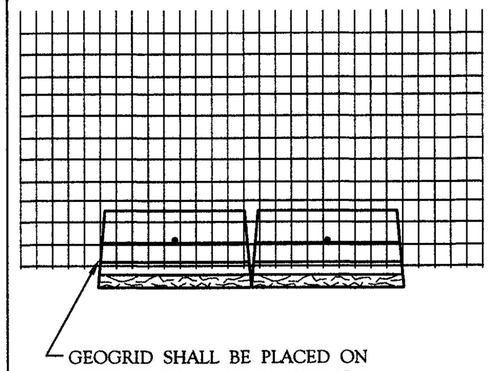


MINIMUM WALL RADIUS :
INSIDE CURVE: *4.267M
(AT BOTTOM OF 2 ROW WALL)

OUTSIDE CURVE: 4.000M
(AT TOP OF WALL)

NOTE:
* MINIMUM RADIUS AT BOTTOM OF WALL WILL INCREASE BASED ON PROPOSED WALL HEIGHT.

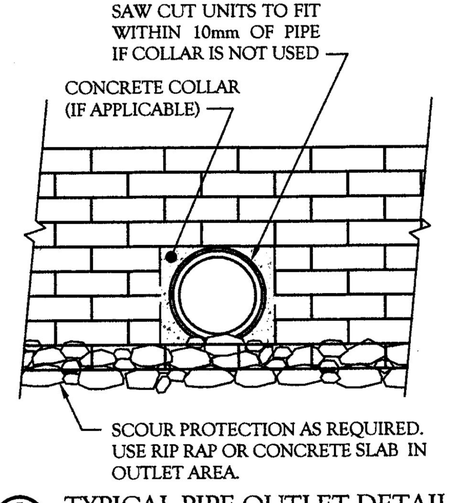
5/61 GEOGRID INSTALLATION ON CURVES
SCALE: N.T.S.



GEOGRID SHALL BE PLACED ON LEVEL BACKFILL AND EXTENDED UP TO THE FACE OF UNIT. PLACE NEXT UNIT. PULL GRID TAUT AND BACKFILL. STAKE AS REQUIRED.

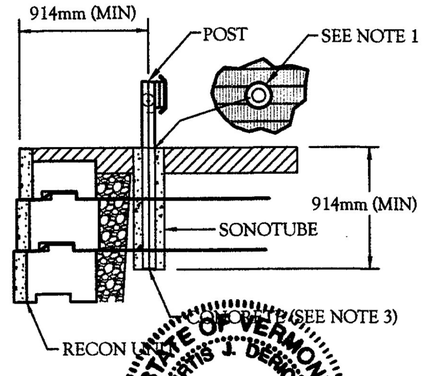
6/61 GEOGRID DETAIL
SCALE: N.T.S.

NOTE:
1. FOR PIPES LARGER THAN 610mm, A CONCRETE COLLAR MAY BE CAST AROUND PIPE FOR EASE OF CONSTRUCTION AND APPEARANCE.



7/61 TYPICAL PIPE OUTLET DETAIL
SCALE: N.T.S.

NOTE:
1. SEE SPECIFICATION 3.08 ON SHEET 62
2. VTRANS STANDARD GUIDERAIL DESIGN



8/61 TYPICAL FENCE POST DETAIL
SCALE: N.T.S.

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No.	Date	Revision	By
1	8/20/10	REVISIONS PER REVIEW COMMENTS	ACM
2	1/30/12	REVISIONS PER REVIEW COMMENTS	CJD
3	3/15/12	REVISIONS PER REVIEW COMMENTS	CJD
4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: N/A
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

Title: TYPICAL UNIT DETAILS

Registration No: 74668
Project No: 12-016
Sheet No: 61 OF 123

STATE OF VERMONT
CURTIS J. DERICHS
NO. 018.0074668
CIVIL
LICENSED
PROFESSIONAL ENGINEER

Curtis J. Derichs, P.E. Date: 4/11/12

METRIC TYP.

PART 1: GENERAL

1.01 Description

A. The work to be performed includes sourcing, providing and installing concrete retaining wall blocks to the lines and grades as specified on the project construction drawings and as may be further specified herein.

B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades shown on the construction drawings.

C. Work includes furnishing and installing all related materials required for construction of the retaining wall as shown on the construction shop drawings.

1.02 Reference Standards

A. ASTM D448 Sizes of Aggregate for Road and Bridge Construction.

B. AASHTO T 27 Sizes of Aggregate.

C. ASTM D698 Laboratory Compaction Characteristics using Standard Effort.

D. AASHTO T 96 Aggregate percent of wear.

1.03 Quality Assurance

A. Owner shall be responsible for soil testing, compaction testing and inspection quality control during earthwork operations.

PART 2: MATERIALS

2.01 Definitions

A. ReCon Retaining Wall Unit - A precast concrete, segmental facing block provided by an authorized manufacturer under license to ReCon Retaining Wall Systems, Inc.

B. Base Leveling Pad - An unreinforced cast-in-place or compacted crushed stone pad which serves as a flat surface for placing the initial course of precast units.

C. Drainage Aggregate - Clean 25.4mm minus crushed angular rock located immediately behind the retaining wall units to facilitate drainage and help compaction in close proximity to the retaining wall units.

D. Foundation Soil - Soil zone immediately beneath the retaining wall facing units and the wall leveling pad.

E. Retained Soil - Soil immediately behind the retaining wall facing drainage aggregate or reinforced backfill if present.

F. Subsurface Drainage System - A system for removing water from behind the wall and channeling it to a point of positive drainage.

2.02 ReCon Retaining Wall Units

A. ReCon wall units shall have a minimum 28-day compressive strength of 35 MPa. Standard weight concrete shall have a 5-9% air entrainment by volume. Weight of concrete shall be 21kN/m³.

B. Texture on the face of the block shall be North Shote Granite.

C. Color of block shall be Natural Concrete.

D. Block shall be fabricated in accordance to S.D. Ireland Companies standard drawings.

2.03 Geogrid

A. Geogrid shall be the type as shown on the drawings having the proerty requirements described within the manufacturer's specifications and required by the design.

2.04 Base Leveling Pad Material

A. As shown on the construction drawings, material shall consist of compacted granular backfill for structures (Subsection 704.08A) meeting the sieve criteria shown.

Sieve Size	% Passing
25mm	100
19mm	75-100
4.75mm	0-10
0.075mm	0-5

2.05 Drainage Aggregate

A. Drainage Stone shall consist of drainage aggregate for structures (Subsection 704.16) meeting the sieve criteria shown:

Sieve Size	% Passing
25mm	100
19mm	90-100
9.5mm	20-55
4.75mm	0-10
2.36mm	0-10

2.06 Reinforced Backfill (Select Granular)

A. Reinforced backfill shall be free of debris or organic material meeting the following gradation:

Sieve Size	% Passing
50mm	100
19mm	75-100
4.75mm	20-100
0.07mm	0-12

Plasticity Index (PI)<6

B. The maximum aggregate size shall be limited to 200mm unless field tests have been performed to evaluate potential strength reduction to installation.

C. Material can be site excavated material when the above requirements are met. Unsuitable soils for backfill (high plastic clays or organic materials) shall not be used in the reinforced soil mass.

D. Contractor shall submit reinforced fill sample and test results to the Architect/Engineer for approval prior to construction.

2.07 Low Permeable Soil

A. Low permeable soil shall have an infiltration rate less than 10mm/hour, such as those classified in Hydrologic Soil Groups (HSG) C and D.

PART 3: EXECUTION

3.01 Excavation

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown.

3.02 Foundation Soil Preparation

A. Foundation soil shall be excavated as required for leveling pad dimensions shown on the construction drawings, or as directed by the Geotechnical Engineer. Unsuitable soils shall be removed and replaced with acceptable material.

B. Over-excavated areas shall be backfilled with approved compacted backfill material.

3.03 Base Leveling Pad

A. Leveling pad materials shall be placed upon approved foundation as shown on the construction drawings to a minimum thickness of 600mm.

B. Aggregate material shall be compacted to provide a dense, level surface on which to place the first course of modular units. Compaction shall be to 95% of Standard Proctor Density as determined in accordance with ASTM D698. For crushed rock, material shall be densely compacted as determined by visual observation.

3.04 Unit Installation

A. The first course of concrete modular wall units shall be carefully placed on the base leveling pad. Each unit shall be checked for level and alignment.

B. Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from a base line.

C. Sweep excess material from top of units and install next course. Ensure that each course is completely backfilled and compacted prior to proceeding to next course.

3.05 Geogrid Installation

A. Geogrid shall be laid at the proper elevations and orientation as shown on the construction drawings or as directed by the Engineer. embed grid over the tongue and groove and up the unexposed front edge of the block.

B. The geogrid shall be pulled taut (75 kg/m) to eliminate loose folds and pretension the reinforcement. Stake or secure back edge of geogrid prior to and during backfill and compaction.

C. Correct orientation (roll direction) of the geogrid shall be verified by the contractor.

3.06 Fill Placement

A. Backfill material shall be placed with a maximum of 203mm lifts and compacted to 95% of Standard Proctor Density. As determined in accordance with ASTM D698. The in place moisture content shall not exceed the optimum moisture content as determined in accordance with ASTM D698 and be no lower than 2% below optimum moisture content.

B. Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid.

C. Backfill shall be placed from the wall back towards the embankment to ensure that the geogrid reamins taut.

D. Only hand-operated compaction equipment shall be allowed within 1.000m of the back surface of the concrete units.

E. Tracked construction equipment shall not be operated directyl on the geogrid. A minimum backfill thickness of 150mm is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles shall be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, (less than 16 kmph). Avoid sudden braking and sharp turning.

3.07 Capstone Installation

A. Clean and apply adhesive to top course of ReCon wall units prior to placing capstone.

B. Capstones shall be set in a bed of adhesive designed to withstand moisture and temperature extremes, remain flexible, and shall be specifically formulated for bonding masonry to masonry.

C. Trim sides of interior capstones to insure proper fit of wall cap. Do not leave cut surfaces exposed to view in the finished wall.

3.08 Guard Rail Installation

A. At each proposed guard rail post location, the Contractor shall install a one-foot diameter Sono-Tube or approved equal.

B. Sono-Tubes shall be installed to a depth equal to the maximum depth of each individual guard rail post and shall be centered to each individual guard rail post. Provision for the installation of these Sono-Tubes shall be made in each layer of geogrid by the Contractor.

C. Once all of the layers of geogrid and backfill material have been installed, the Contractor shall install the guard rail post in each Sono-tube and backfill with Class B concrete meeting the requirements of Section 501.

D. Sono-tubes shall be cut, as necessary, to an elevation flush with the finished grade.

E. Furnishing and installing the Sono-tubes and Class B concrete backfill shall be considered incidental to Item 621.20 Steel Beam Guardrail.

STATE OF VERMONT
CURTIS J. DERICHS
NO. 018.0074668
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Curtis J. Derichs, P.E. Date: 4/6/12

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4	4/11/12	REVISIONS PER REVIEW COMMENTS	CJD
5			
6			

Designed By: CJD
Scale: N/A
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

Title: SPECIFICATIONS

Registration No: 74668
Project No: 12-016
Sheet No: 62 OF 123

METRIC TYP.

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

BORING NUMBER: B-201
SHEET 1 of 1
DATE STARTED: 3/24/10
DATE COMPLETED: 3/25/10

PROJECT NAME: MORRISTOWN
SITE NAME: VT-100
STATION: 7+780
OFFSET: 12.79
VTSPG NAD83: N 228831.57 m E 491418.62 m

PROJECT NUMBER: STP F 029-1(2)
SITE NUMBER: BYPASS
GROUND ELEVATION: 200.70 m
GROUNDWATER DEPTH: NO WATER TO DEPTH
PROJECT PIN NUMBER: 78D082

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: CME 55 TRACK AUTO
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-3, Sa, brn, Moist, Rec. = 0.45 m	10	7.5	17.9	75.4	6.7
2		A-3, Sa, brn, Moist, Rec. = 0.44 m	4	13.4	2.5	80.5	7.0
		A-2-4, Sa, brn, Moist, Rec. = 0.54 m	16	12.3	3.4	83.8	12.8
4		A-4, SaSi, brn, Moist, Rec. = 0.41 m	12	24.9	0.1	20.6	79.3
6		A-1-a, SaGr, brn, Moist, Rec. = 0.34 m	56	6.6	52.3	35.6	12.1
8		A-1-b, GrSa, brn, Moist, Rec. = 0.33 m	18	4.1	38.6	54.0	7.4
		A-1-a, SaGr, brn, Moist, Rec. = 0.34 m	36	3.0	49.9	42.5	7.6
10		A-1-b, GrSa, brn, Moist, Rec. = 0.51 m	31	3.2	42.3	50.2	7.5
12		A-1-a, SaGr, brn, Moist, Rec. = 0.34 m	43	3.2	62.0	30.1	7.9
		A-1-b, GrSa, brn, Moist, Rec. = 0.66 m	30	5.2	42.1	43.9	14.0
14		Hole stopped @ 14.10 m					
16		DRILLER'S NOTES: 1. No Ledge to Depth. 2. The hammer energy correction factor, C_E for the CME 55 Track Rig used in this investigation is 1.46. The N values provided on the boring logs are raw values and have not been corrected.					
18							

LOG OF BORING MORRISTOWN STP F 029-1(2).GPJ VT AOT.GDT 6/9/10

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

BORING NUMBER: B-202
SHEET 1 of 1
DATE STARTED: 3/25/10
DATE COMPLETED: 3/25/10

PROJECT NAME: MORRISTOWN
SITE NAME: VT-100
STATION: 7+794
OFFSET: 12.79
VTSPG NAD83: N 228842.97 m E 491427.48 m

PROJECT NUMBER: STP F 029-1(2)
SITE NUMBER: BYPASS
GROUND ELEVATION: 200.30 m
GROUNDWATER DEPTH: NO WATER TO DEPTH
PROJECT PIN NUMBER: 78D082

BORING CREW
CREW CHIEF: PORTER
DRILLER: PORTER
LOGGER: WERNER

BORING RIG: CME 55 TRACK AUTO
BORING TYPE: HOLLOW STEM AUGER
SAMPLE TYPE: SPLIT BARREL
CHECKED BY: NSM

DEPTH (m)	SYMBOL	CLASSIFICATION OF MATERIALS (Description)	BLOWS PER 300mm	M.C. (%)	GRAVEL (%)	SAND (%)	FINES (%)
		A-2-4, Sa, brn, Moist, Rec. = 0.39 m	11	11.0	8.3	80.2	11.5
2		A-3, Sa, brn, Moist, Rec. = 0.51 m	11	10.2	1.2	89.8	9.0
		A-2-4, SiSa, brn, Moist, Rec. = 0.48 m	11	11.4	1.7	75.2	23.1
4		A-4, SiSa, brn, Moist, Rec. = 0.33 m	10	18.7	0.4	51.2	48.4
6		A-4, Si, brn, Moist, Rec. = 0.49 m	14	23.6	0.0	19.3	80.7
8		A-1-a, SaGr, brn, Moist, Rec. = 0.42 m	42	2.3	53.7	36.1	10.2
		A-1-a, SaGr, brn, Moist, Rec. = 0.31 m	27	2.0	61.5	31.9	6.6
10		A-1-b, GrSa, brn, Moist, Rec. = 0.48 m	9	1.8	27.8	64.9	7.3
12		A-1-a, SaGr, brn, Moist, Rec. = 0.21 m	23	1.3	52.0	38.7	9.3
		A-1-a, SaGr, brn, Moist, Rec. = 0.36 m	40	1.0	65.0	26.7	8.3
14		Hole stopped @ 14.10 m					
16		DRILLER'S NOTES: 1. No Ledge to Depth. 2. The hammer energy correction factor, C_E for the CME 55 Track Rig used in this investigation is 1.46. The N values provided on the boring logs are raw values and have not been corrected.					
18							

LOG OF BORING MORRISTOWN STP F 029-1(2).GPJ VT AOT.GDT 6/9/10

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5			
6			

Designed By: CJD
Scale: N/A
Date: MAY 19, 2010

Project: MORRISTOWN (PROJECT #F029-1(2) C/1)
MORRISTOWN, VERMONT

Title: BORING LOGS

Registration No: 74668
Project No: 12-016
Sheet No: 63 OF 123

Curtis J. Derichs, P.E. Date: 4/11/12

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.

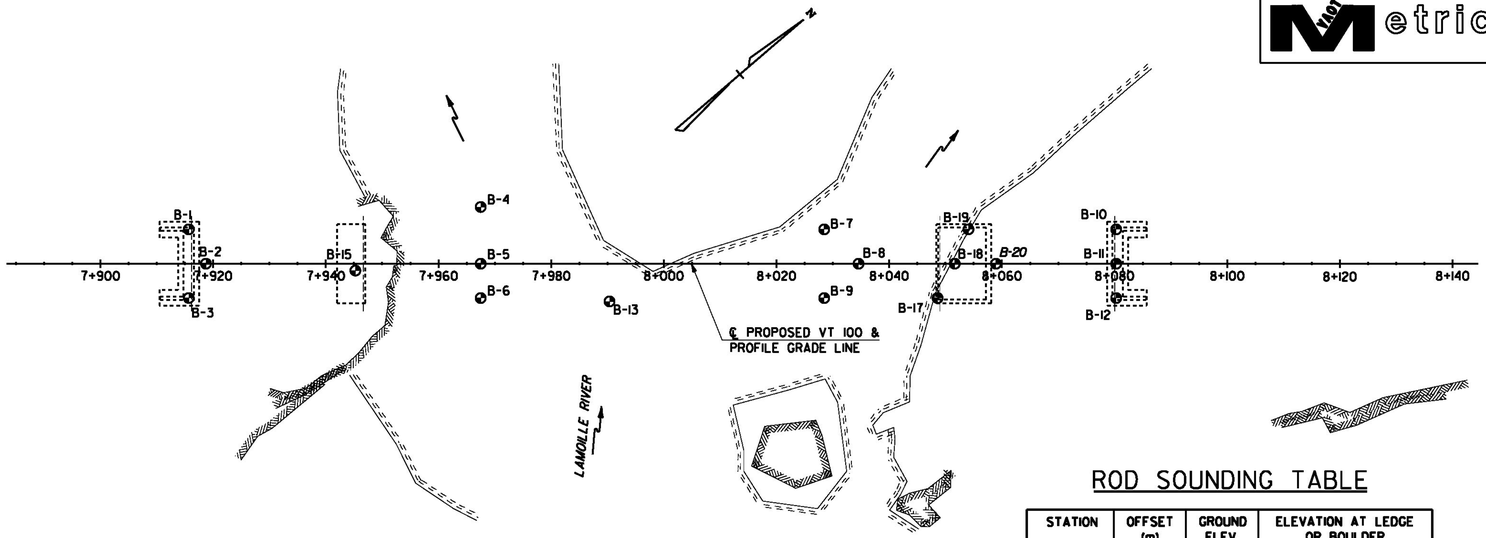
MUCK - Soft organic soil (containing > 10% organic material.

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 LAYOUT

SCALE: 1:500

0 10 20 30

SCALE IN METERS

BORING CHART

HOLE NO.	STATION	OFFSET (m)	GROUND ELEV.	BEDROCK ELEV.
B1	7+915.683	6.10 LT	192.36	177.12
B2	7+918.731	℄	192.88	180.99
B3	7+915.683	6.10 RT	194.68	186.29
B4	7+967.499	10.06 LT	177.15●	164.96
B5	7+967.499	℄	177.15●	163.01
B6	7+967.499	6.10 RT	177.15●	164.23
B7	8+028.459	6.10 LT	177.76	165.57
B8	8+034.555	℄	177.15●	166.18
B9	8+028.459	6.10 RT	177.15●	168.01
B10	8+080.275	6.10 LT	180.72	176.05
B11	8+080.275	℄	180.78	177.27
B12	8+080.275	6.10 RT	181.11	178.52
B13	7+990.359	6.71 RT	177.15●	162.06
B15	7+945.249	1.22 RT	184.41	182.40
B17	8+048.576	6.10 RT	177.69	170.53
B18	8+051.624	℄	177.27	172.24
B19	8+054.063	6.10 LT	176.56	172.45
B20	8+058.939	℄	178.64	172.08

NOTE: ● = RAFT DECK ELEVATION

ROD SOUNDING TABLE

STATION	OFFSET (m)	GROUND ELEV.	ELEVATION AT LEDGE OR BOULDER
7+940.067	9.14 LT	179.35	176.91
	6.10 LT	180.35	177.61
	3.05 LT	182.09	180.72
	℄	183.40	181.87
	3.05 RT	184.80	182.36
	6.10 RT	185.66	182.61
	9.14 RT	186.33	183.58
7+943.115	9.14 LT	178.74	177.67
	6.10 LT	180.02	178.95
	3.05 LT	181.48	180.56
	℄	183.19	180.38
	3.05 RT	184.44	182.67
	6.10 RT	185.23	182.54
	9.14 RT	185.66	183.82
7+946.163	9.14 LT	178.68	178.40
	6.10 LT	180.54	179.47
	3.05 LT	181.76	180.08
	℄	182.97	181.90
	3.05 RT	183.95	183.03
	6.10 RT	184.68	183.76
	9.14 RT	184.83	183.86
7+949.211	9.14 LT	178.52	178.37
	6.10 LT	179.96	179.19
	3.05 LT	INACCESSIBLE	
	℄	182.67	181.81
	3.05 RT	183.28	182.21
	6.10 RT	INACCESSIBLE	
	9.14 RT	INACCESSIBLE	

GENERAL NOTES

1. The subsurface explorations shown herein were made between Dec 1986 and July 1988 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

BORING LOGS ARE IN ENGLISH UNITS. A METRIC ELEVATION COLUMN HAS BEEN ADDED TO EACH BORING LOG FOR REFERENCE.

McFarland Johnson

PROJECT NAME: MORRISTOWN

PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194abi.dgn
PROJECT LEADER: DMB
DESIGNED BY: VTrans / S. Della
BORING INFORMATION SHEET

PLOT DATE: 29-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 64 OF 123

MORRISTOWN F 029-K(2)

* HOLE NO. B-1 STA. 259+70 OFFSET 1.1 20'
DRILLER MS LIS
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 2-9-86 FINISH
SURFACE ELEVATION 192.359

BOTTOM OF ABUT. NO. 1
FOOTING ELEV. 192.000

ESTIMATED PILE TIP
ELEVATION 177.12

METRIC ELEVATION (METERS)	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
192.359								
			21			M	BR	A-1-a GRAVEL W=8.8%
190	10		-					NO SAMPLE CR, STONE IN CASING
			-					NO SAMPLE BO.
	20		47			M	BR	A-4 SILT
185			58			M	BR	A-4 SILT W=21.5%
	30		71			M	BR	A-2-4 SILTY SAND W=25.8%
			58			M	BR	A-2-4 SILTY SAND W=21.5%
180	40		74			M	BR	A-2-4 SILTY SAND W=21.2%
			65			M	BR	A-4 SANDY SILT W=21.5%
	50							TOP OF BEDROCK @ 50.0'
								DEPTH 2REC ROD
								RUN* 1 50.0-54.0 75% 37.5%
								2 54.0-59.0 98% 100%
175	60							3 59.0-65.0 90% 44%
								ROCK TYPE - SEE BELOW
								HOLE STOPPED @ 60.0' IN BEDROCK
								RUN* 1 DEPTH 2REC ROD 50.0-54.0 CORE CONSISTS OF BLACK CARBONACEOUS, QUARTZ-SERICITE SCHIST, CORE IS MODERATELY HARD AND UNWEATHERED.
								RUN* 2 INCREASE IN QUARTZ CONTENT RESULTS IN MORE COMPETENT CORE.
	70							RUN* 3 SAME ROCK TYPE AS RUNS *1 AND *2.
170								
	80							

MORRISTOWN F 029-K(2)

* HOLE NO. B-2 STA. 259+80 OFFSET 6
DRILLER MS LIS
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 2-9-86 FINISH
SURFACE ELEVATION 192.877

BOTTOM OF ABUT. NO. 1
FOOTING ELEV. 192.000

ESTIMATED PILE TIP
ELEVATION 180.99

METRIC ELEVATION (METERS)	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
192.877								
			10					A-2-4 SILTY SAND W=24.5%
190	10		38					A-1-b GRAVEL W=8.2%
			-					NO SAMPLE BO.
	20		-					NO SAMPLE BO.
185			28			M	BR	A-4 SANDY SILT W=25.9%
	30		109					A-2-4 SAND W=26.7%
			102					A-4 SANDY SILT W=19.4%
	40							TOP OF BEDROCK @ 39.0'
								DEPTH 2REC ROD
								RUN* 1 39.0-44 60% 0%
								RUN* 2 44.0-47.5 71% 0%
180								RUN 3 47.5-50.0 100% 54%
								ROCK TYPE - SEE BELOW
	50							HOLE STOPPED @ 50.0 IN BEDROCK
								RUN* 1 ROCK IS QUARTZ SERICITE SCHIST, THE ROCK APPEARS TO BE UNWEATHERED AND MODERATELY HARD.
								RUN* 2 VERY SOFT BLACK GRAPHITIC PHYLLITE, INCOMPETENT ROCK.
175	60							RUN* 3 QUARTZOSE PHYLLITE & QUARTZ SERICITE SCHIST ROCK IS UNWEATHERED.

MORRISTOWN F 029-K(2)

* HOLE NO. B-3 STA. 259+70 OFFSET RT 20'
DRILLER MS LIS
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 2-17-86 FINISH
SURFACE ELEVATION 194.676

BOTTOM OF ABUT. NO. 1
FOOTING ELEV. 192.000

ESTIMATED PILE TIP
ELEVATION 186.29

METRIC ELEVATION (METERS)	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
194.676								
			46			M	BR	A-2-4 SILTY SAND W=20.8%
	10		-					NO SAMPLE CR & BO.
190			-					CORED BO 14.5-15.5' NO SAMPLE
	20							NO SAMPLE
			39					NO SAMPLE TOP OF BEDROCK @ 27.5'
185	30							LENGTH 2REC ROD
								RUN* 1 27.5-32.5 72 46%
								RUN* 2 32.5-37.5 90 40%
	40							HOLE STOPPED @ 37.5' IN BEDROCK
								RUN* 1 QUARTZOSE PHYLLITE AND GRAPHITIC PHYLLITE, CORE IS UNWEATHERED AND SOFT.
180								RUN* 2 QUARTZ-SERICITE SCHIST AND QUARTZOSE PHYLLITE, THE ROCK IS UNWEATHERED, MODERATELY HARD AND COMPETENT.
	50							
	60							
175								

MORRISTOWN F 029-K(2)

* HOLE NO. B-4 STA. 260+40 OFFSET LT 33'
DRILLER MCG 1984
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 6-1-87 FINISH
SURFACE ELEVATION 177.150 (RAFT DECK ELEVATION)

METRIC ELEVATION (METERS)	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK RAFT DECK @ 0.0'
177.150								WATER LEVEL @ 1.3'
175								RIVER BED @ 6.5'
	10		---					NO SAMPLE
170			6					NO SAMPLE
	20		---					BXDC 19.0-23.0 BOULDER
			---					BXDC 23.0-27.0 BOULDER
165	30		---					BXDC 29.0-33.0 BOULDER
			R					NO SAMPLE BOULDER
	40							TOP OF BEDROCK @ 40.0'
160								SEE GEOLOGISTS REPORT BELOW
	50							HOLE STOPPED @ 48.0' IN BEDROCK
								RUN LENGTH 2REC ROD
								1 40.0-45.0 96 42%
155	60							2 45.0-48.0 43 15%
								ROCK CONSISTS OF DARK GRAY CARBONACEOUS PHYLLITE WITH QUARTZ VEINS ALONG AND CROSS CUTTING THE FOLIATION THE PHYLLITE IS SOFT TO MODERATELY HARD IN AREAS WHERE QUARTZ IS MORE ABUNDANT THE ROCK IS COMPETENT IN-PLACE BUT BRITTLE IN CORES.
150	70							

* FOR METRIC STATION AND OFFSET, SEE BORING CHART ON BORING INFORMATION SHEET

BORING LOGS ARE IN ENGLISH UNITS. A METRIC ELEVATION COLUMN HAS BEEN ADDED TO EACH BORING LOG FOR REFERENCE.

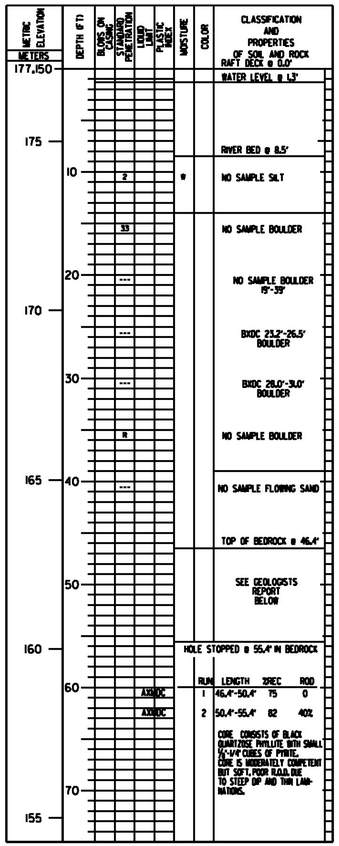
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: zd082all.dgn
PROJECT LEADER: DMB
DESIGNED BY: VTrans / S. Della
BORING LOG SHEET - 1
PLOT DATE: 29-MAR-2012
DRAWN BY:
CHECKED BY: R. Joy
SHEET 65 OF 123

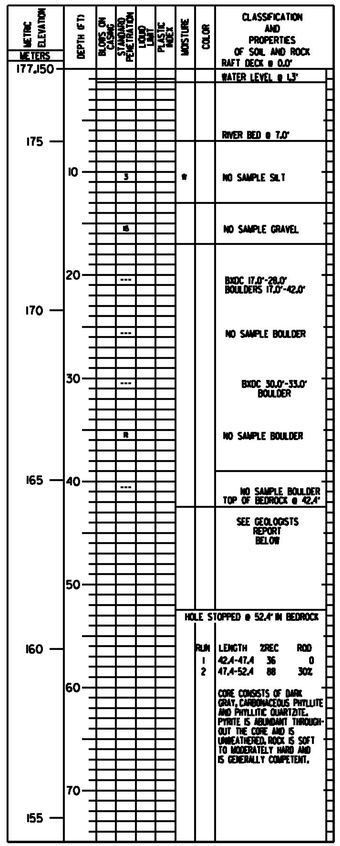
MORRISTOWN F 029-I(2)

* HOLE NO. B-5 STA. 264+40 OFFSET C/L
DRILLER McGLYNN
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 6-18-97 FINISH
SURFACE ELEVATION 177.150 (RAFT DECK ELEVATION)



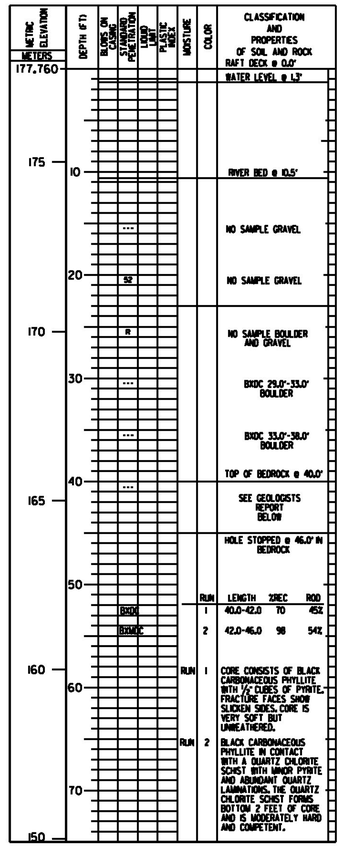
MORRISTOWN F 029-I(2)

* HOLE NO. B-6 STA. 264+40 OFFSET RT 20'
DRILLER McGLYNN
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 6-16-97 FINISH
SURFACE ELEVATION 177.150 (RAFT DECK ELEVATION)



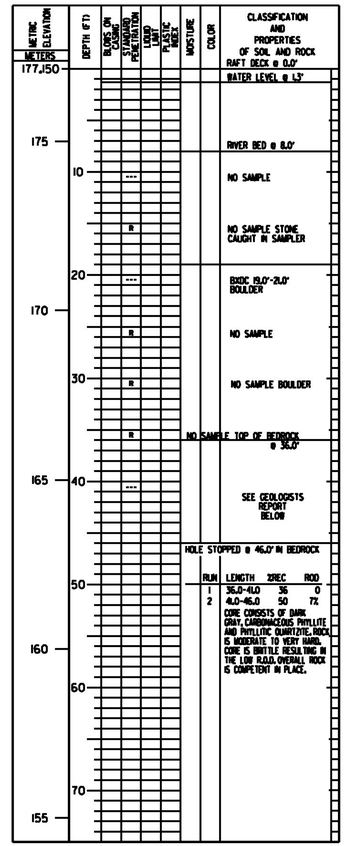
MORRISTOWN F 029-I(2)

* HOLE NO. B-7 STA. 263+40 OFFSET LT 20'
DRILLER McGLYNN
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 6-10-97 FINISH
SURFACE ELEVATION 177.760 (RAFT DECK ELEVATION)



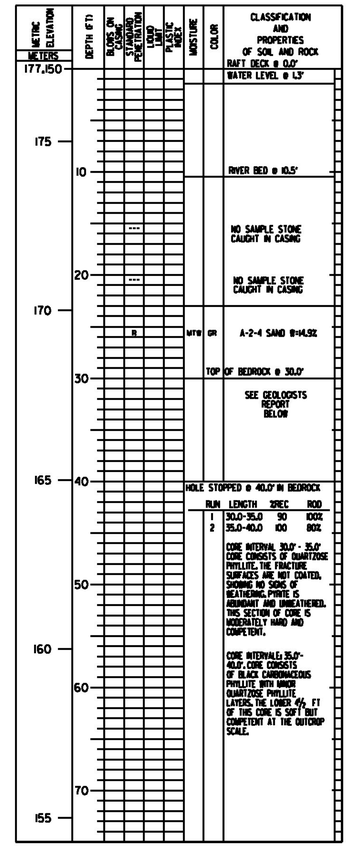
MORRISTOWN F 029-I(2)

* HOLE NO. B-8 STA. 263+40 OFFSET C/L
DRILLER McGLYNN
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 6-5-97 FINISH
SURFACE ELEVATION 177.150 (RAFT DECK ELEVATION)



MORRISTOWN F 029-I(2)

* HOLE NO. B-9 STA. 263+40 OFFSET RT 20'
DRILLER McGLYNN
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 6-2-97 FINISH
SURFACE ELEVATION 177.150 (RAFT DECK ELEVATION)



* FOR METRIC STATION AND OFFSET, SEE BORING CHART ON BORING INFORMATION SHEET

BORING LOGS ARE IN ENGLISH UNITS. A METRIC ELEVATION COLUMN HAS BEEN ADDED TO EACH BORING LOG FOR REFERENCE.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-I(2)C/I

FILE NAME: z10b194al2.dgn
PROJECT LEADER: DMB
DESIGNED BY: VTrans / S. Della
BORING LOG SHEET - 2

PLOT DATE: 29-MAR-2012
DRAWN BY:
CHECKED BY: R. Joy
SHEET 66 OF 123

BOTTOM OF ABUT. NO. 2
ELEVATION 188.000

MORRISTOWN F 029-1(2)

* HOLE NO. B-10 STA. 265+10 OFFSET LT 20'
DRILLER SAFFORD
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 9-25-86 FINISH
SURFACE ELEVATION 180.716

ESTIMATED PILE TIP
ELEVATION 176.05

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LOAD TEST	LAB PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
180.716						M	BR	NO SAMPLE GR.
								NO SAMPLE BO.
								A-3 SAND @ 19.7' TOP OF BEDROCK @ 15.3'
								DEPTH %REC ROD
						RUN* 1		15.3-20.3 100% 50%
						RUN* 2		20.3-25.3 100% 76%
								HOLE STOPPED @ 25.3' IN BEDROCK
						RUN* 1		DOMINENTLY A CARBONACEOUS PHYLLITE. THIS CORE IS SOFT AND OF POOR QUALITY. (15.3-19.3') THE ROCK IS UNWEATHERED.
						RUN* 2		MICACEOUS QUARTZITE CROSSCUT BY NUMEROUS QUARTZ VEINS. CORE IS VERY COMPETENT, HARD AND UNWEATHERED.

BOTTOM OF ABUT. NO. 2
ELEVATION 188.000

MORRISTOWN F 029-1(2)

* HOLE NO. B-11 STA. 265+10 OFFSET ℄
DRILLER BILLS
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 9-25-86 FINISH
SURFACE ELEVATION 180.777

ESTIMATED PILE TIP
ELEVATION 177.27

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LOAD TEST	LAB PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
180.777						M	BR	NO SAMPLE SAGR & BO.
								TOP OF BEDROCK @ 8.5'
								DEPTH %REC ROD
						RUN* 1		8.5-16.5 94% 70.2%
						RUN* 2		16.5-21.5 100% 72.0%
								HOLE STOPPED @ 21.5' IN BEDROCK
								CORE IS DOMINATED BY CARBONACEOUS PHYLLITE. CORE IS SOFT WHERE PHYLLITE IS ABUNDANT AND MODERATELY HARD IN THE QUARTZ-RICH ZONES. THE CORE IS UNWEATHERED.

BOTTOM OF ABUT. NO. 2
ELEVATION 188.000

MORRISTOWN F 029-1(2)

* HOLE NO. B-12 STA. 265+10 OFFSET RT 20'
DRILLER BILLS
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 12-4-86 FINISH
SURFACE ELEVATION 181.112

ESTIMATED PILE TIP
ELEVATION 178.52

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LOAD TEST	LAB PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
181.112								NO SAMPLE BO. TOP OF BEDROCK @ 8.5'
								DEPTH %REC ROD
						RUN* 1		10.5-15.5 98% 100%
						RUN* 2		15.5-20.5 100% 98%
								CORE CONSISTS OF QUARTZ-ALBITE-CHLORITE SCHIST. THE ROCK IS MODERATELY HARD TO HARD. CORE IS VERY COMPETENT AND UNWEATHERED.
								HOLE STOPPED @ 20.5' IN BEDROCK.

MORRISTOWN F 029-1(2)

* HOLE NO. B-13 STA. 262+5 OFFSET RT 22'
DRILLER McGUIRE
LOG APPROVED BY G. BATCHELDER-ADAMS
DATE: START 6-23-87 FINISH
SURFACE ELEVATION 177.150 CRAFT DECK ELEVATION

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LOAD TEST	LAB PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
177.150								RAFT DECK @ 0.0'
								WATER LEVEL @ 1.3'
								RIVERBED @ 4.5'
								NO SAMPLE
		35						NO SAMPLE GRAVEL
		R						NO SAMPLE BOULDERS 14.0'-40.0'
		R						NO SAMPLE BOULDER
								NO SAMPLE BOULDER
								BXIDC 23.0-31.0 BOULDER
								NO SAMPLE BOULDER
		43						NO SAMPLE SAND AND BOULDER
								NO SAMPLE FLOWING SAND
								TOP OF BEDROCK @ 49.5'
								SEE GEOLOGISTS REPORT BELOW
								HOLE STOPPED @ 57.5' IN BEDROCK
								RUN LENGTH %REC ROD
						AXMDC		1 49.5-52.5 67 27%
						AXMDC		2 52.5-57.5 8 0
								CORE CONSISTS OF BLACK QUARTZOSE PHYLLITE WITH SMALL ⅛"-¼" PYRITE CUBES.
								CORE IS MODERATELY COMPETENT BUT VERY BRITTLE. LOW ROD DUE TO VERTICAL DIP AND DIFFICULT CONDITIONS.

* FOR METRIC STATION AND OFFSET, SEE BORING CHART ON BORING INFORMATION SHEET

BORING LOGS ARE IN ENGLISH UNITS. A METRIC ELEVATION COLUMN HAS BEEN ADDED TO EACH BORING LOG FOR REFERENCE.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194al3.dgn
PROJECT LEADER: DMB
DESIGNED BY: VTrans / S. Della
BORING LOG SHEET - 3

PLOT DATE: 29-MAR-2012
DRAWN BY:
CHECKED BY: R. Joy
SHEET 67 OF 123

MORRISTOWN F 029-I(2)

* HOLE NO. B-16 STA. 260+67 OFFSET 4' RT
DRILLER MILLS
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 7-9-98 FINISH
SURFACE ELEVATION 184.407

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
184.407								
		3				M	brn	A-2-4 SI5a w=36.5% TOP OF BEDROCK @ 6.6'
						RUN		INT. 2REC ROD
						#1 AXMDC		6.6-8.6 32 0%
						2 NXMDC		8.6-15.6 100 50%
						3 NXMDC		15.6-21.6 100 100%
						4 NXMDC		21.6-26.6 100 95%
180	10							SEE GEOLOGIST'S REPORT BELOW
	20							HOLE STOPPED @ 26.6' IN BEDROCK
175	30							INTERVAL 6.6-8.6: CORE CONSISTS OF A QUARTZ-RICH GRAPHITIC PHYLLITE, THIS RUN IS MODERATELY WEATHERED AND SOFT. ROCK FRACTURES ALONG VERTICAL FOLIATIONS AND LOW ANGLE CROSS-FRACTURES. THIS RUN IS IN COMPETENT ROCK.
	40							INTERVAL 8.6-15.6: CORE CONSISTS OF THE SAME ROCK TYPE AS RUN #1. THE ROCK IS MODERATELY COMPETENT TO COMPETENT.
170								INTERVAL 15.6-21.6: SAME ROCK TYPE AS RUN #1 BUT ROCK IS FRESH, MODERATELY HARD TO HARD AND COMPETENT. CORE RECOVERED IN ONE PIECE.
	50							INTERVAL 21.6-26.6: SAME ROCK TYPE AS RUN #1. CORE IS FRACTURED ALONG FOLIATION INTO LARGE PIECES. CORE IS COMPETENT OVERALL.

BOTTOM OF SOUTH SLANT LEG FOOTING ELEVATION 178.185

MORRISTOWN F 029-I(2)

* HOLE NO. B-17 STA. 264+06 OFFSET 20' RT
DRILLER MILLS
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 7-15-98 FINISH
SURFACE ELEVATION 177.692

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
177.692								SANDY SILT WASH NO SAMPLE TAKEN
		22				-	-	NO RECOVERY SANDY GRAVEL
175	10	32				-	-	NO RECOVERY SANDY GRAVEL
		37				M	brn	A-1-b SILTY GRAVEL W=12.7%
	20	13				M	brn	A-2-4 SILTY SAND W=21.7% TOP OF BEDROCK @ 23.5'
170						RUN		INT. 2REC ROD
						1 AXMDC		23.5-28.7 100 64%
	30					2 AXMDC		28.7-33.7 62 28%
						SEE GEOLOGIST'S REPORT BELOW		
								HOLE STOPPED @ 33.7' IN BEDROCK
165	40							CORE CONSISTS OF QUARTZITE AND A QUARTZ-RICH PHYLLITE. CORE IS BRITTLE DUE TO HIGH QUARTZ CONTENT RESULTING IN LOW ROD. ROCK IS A COMPETENT BEARING SURFACE.
	50							

BOTTOM OF NORTH SLANT LEG FOOTING ELEVATION 170.175

MORRISTOWN F 029-I(2)

* HOLE NO. B-18 STA. 264+16 OFFSET C/L
DRILLER MILLS
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 7-9-98 FINISH
SURFACE ELEVATION 177.266

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
177.266								
175		13				M	brn	A-4 SILT W=25.1%
	10	69				M	brn	A-2-4 SILTY SAND W=21.4%
		59				M	brn	A-4 SaSI W=18.7 TOP OF BEDROCK @ 16.5'
						RUN		INT. 2REC ROD
170	20					#1 AXMDC		16.5-21.5 100 12%
						2 AXMDC		21.5-26.5 98 7%
						SEE GEOLOGIST'S REPORT BELOW		
	30							HOLE STOPPED @ 26.5' IN BEDROCK
165	40							CORE CONSISTS OF QUARTZITE AND A QUARTZ-RICH PHYLLITE. CORE IS BRITTLE DUE TO HIGH QUARTZ CONTENT RESULTING IN LOW ROD. OVERALL THE ROCK IS MODERATELY HARD AND COMPETENT.

BOTTOM OF NORTH SLANT LEG FOOTING ELEVATION 170.175

MORRISTOWN F 029-I(2)

* HOLE NO. B-19 STA. 264+24 OFFSET 20' LT
DRILLER MILLS
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 7-9-98 FINISH
SURFACE ELEVATION 176.565

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
176.565								
175		27				M	brn	A-4 SANDY SILT W=17.9%
	10	52				M	brn	A-2-4 SILTY SAND W=15.0% TOP OF BEDROCK @ 13.5'
						PENETRATED SOFT BEDROCK WITH CASING TO 14.5'		
						RUN		INT. 2REC ROD
	20					#1 AXMDC		14.5-19.5 98 MX
170						2 AXMDC		19.5-24.5 100 26%
						SEE GEOLOGIST'S REPORT BELOW		
								HOLE STOPPED @ 24.5' IN BEDROCK
	30							CORE CONSISTS OF PHYLLITIC QUARTZITE AND PHYLLITE. THE CORE IS ONLY SLIGHTLY WEATHERED ALONG FOLIATION SURFACES, IS MODERATELY HARD AND COMPETENT OVERALL. LOW ROD IS DUE TO BRITTLE NATURE OF CORE AND IS NOT INDICATIVE OF OVERALL ROCK QUALITY. THIS CORE HAS A HIGHER PERCENTAGE OF MODERATELY SOFT PHYLLITE THAN HOLE #B-17, B-18 AND B-20.
165	40							
	50							
160								

MORRISTOWN F 029-I(2)

* HOLE NO. B-20 STA. 264+40 OFFSET C/L
DRILLER MILLS
LOG APPROVED BY G.BATCHELDER-ADAMS
DATE: START 7-7-98 FINISH
SURFACE ELEVATION 178.637

METRIC ELEVATION METERS	DEPTH (FT)	BLOWS ON CASING	STANDARD PENETRATION	LIQUID LIMIT	PLASTIC INDEX	MOISTURE	COLOR	CLASSIFICATION AND PROPERTIES OF SOIL AND ROCK
178.637								Sa SI W WASH NO SAMPLE TAKEN
		18				-	-	NO RECOVERY Sa Gr
175	10	11				M	brn	A-4 SANDY SILT w=14.6%
		62				M	brn	A-2-4 SILTY SAND w=12.8% ENCOUNTERED SOME BOULDERS/ COBBLES 8'-15'
	20	11				M	brn	A-4 SaSI w=8.3% TOP OF BEDROCK @ 21.5'
						RUN		INT. 2REC ROD
170						#1 AXMDC		21.5-26.5 94 32%
	30					2 AXMDC		26.5-31.5 80 28%
						SEE GEOLOGIST'S REPORT BELOW		
								HOLE STOPPED @ 31.5' IN BEDROCK
165	40							CORE CONSISTS OF PHYLLITIC QUARTZITE AND PHYLLITE. THE CORE IS MODERATELY HARD AND BRITTLE DUE TO HIGH QUARTZ CONTENT. THIS RESULTS IN LOW ROD VALUES. THE ROCK IS COMPETENT OVERALL.
	50							

* FOR METRIC STATION AND OFFSET, SEE BORING CHART ON BORING INFORMATION SHEET

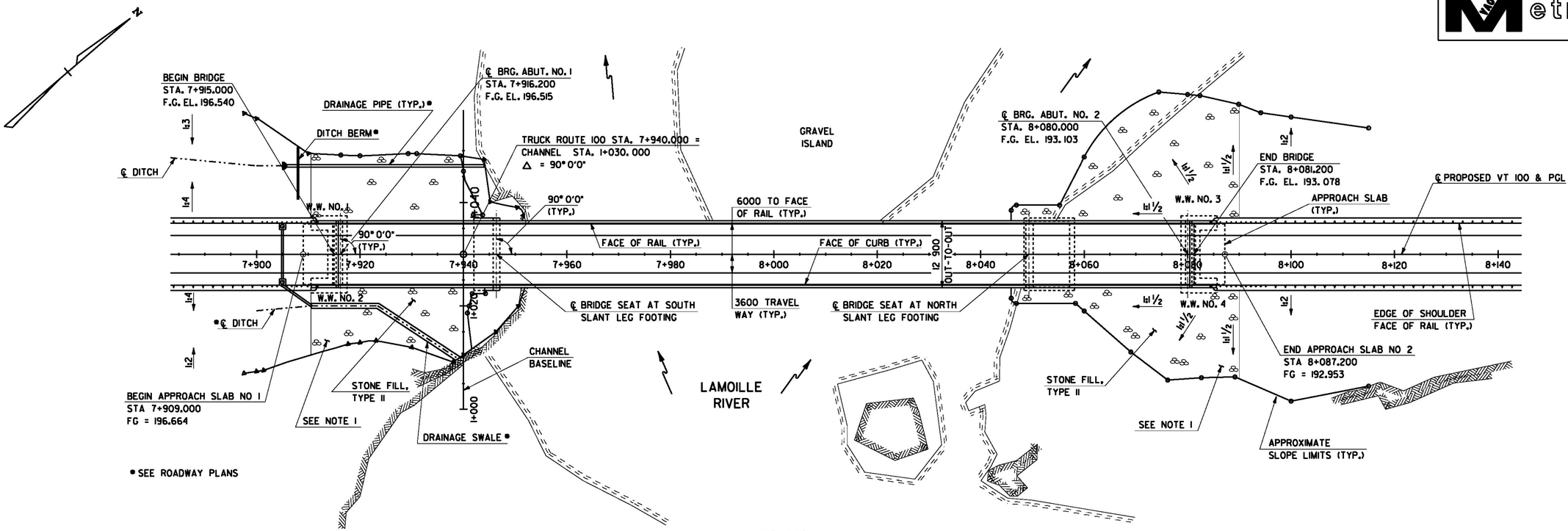
BORING LOGS ARE IN ENGLISH UNITS. A METRIC ELEVATION COLUMN HAS BEEN ADDED TO EACH BORING LOG FOR REFERENCE.

McFarland Johnson

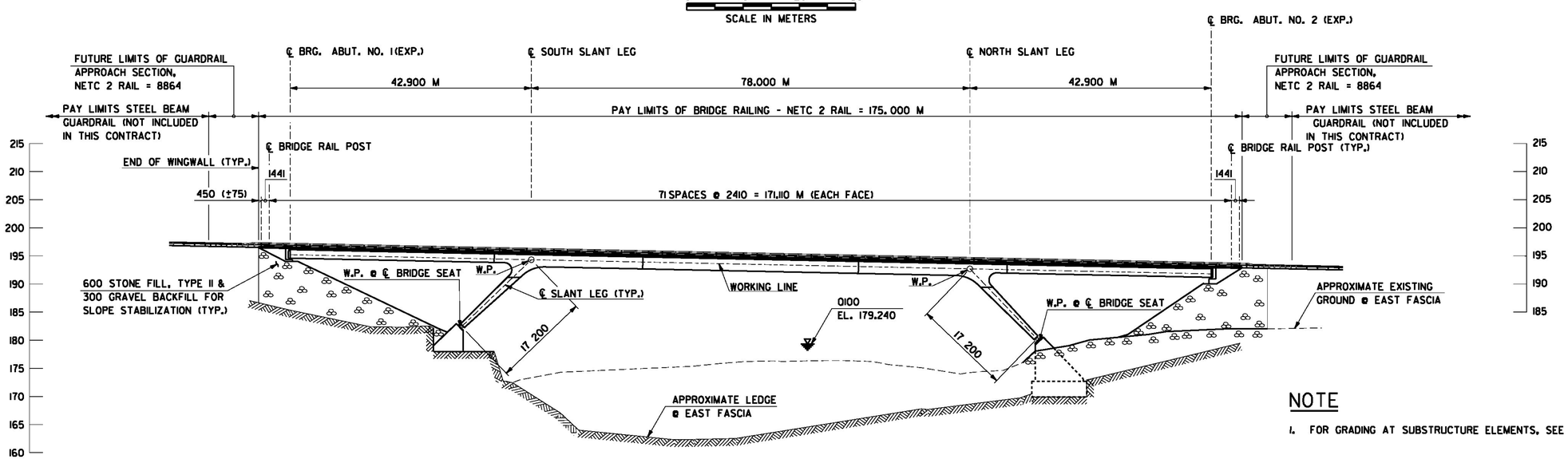
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194al4.dgn
PROJECT LEADER: DMB
DESIGNED BY: VTrans / S. Della
BORING LOG SHEET - 4

PLOT DATE: 29-MAR-2012
DRAWN BY:
CHECKED BY: R. Joy
SHEET 68 OF 123



PLAN
SCALE: 1:400
0 10 20 30
SCALE IN METERS



ELEVATION
SCALE: 1:400
0 10 20 30
SCALE IN METERS

NOTE

1. FOR GRADING AT SUBSTRUCTURE ELEMENTS, SEE SHEET 70.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.
ALL ELEVATIONS SHOWN IN METERS (M).

McFarland Johnson

PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194ape.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: P. Dustin
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
PLAN AND ELEVATION	SHEET 69 OF 123

VTrans Metric

℄ BRG. ABUT. NO. 1
STA. 7+916.200

PROPOSED VT 100 STA. 7+940.000 =
CHANNEL STA. 1+030.000
Δ = 90° 0'0"

STA. 7+908.00, LT.
DITCH BERM (SEE
ROADWAY PLANS)

℄ PROPOSED VT 100 & PGL

7+900 7+920 7+940 7+960

℄ DITCH
(1000mm WIDE)

STONE FILL TYPE II

℄ BRIDGE SEAT AT SOUTH
SLANT LEG FOOTING

EXCAVATE TO EL. 178.185
UNCLASSIFIED CHANNEL
EXCAVATION (ITEM 203.27)

CHANNEL
BASELINE

1+060

1+000

℄ BRG. ABUT. NO. 2
STA. 8+080.000

3100
(TYP.)

℄ PROPOSED VT 100 & PGL

8+040 8+060 8+080 8+100

EXCAVATE TO EL. 170.175
UNCLASSIFIED CHANNEL
EXCAVATION (ITEM 203.27)

℄ BRIDGE SEAT AT NORTH
SLANT LEG FOOTING

STONE FILL TYPE II

LEGEND

- STONE FILL, TYPE II
- FILL LIMITS
- CUT LIMITS
- 196 m — EXISTING CONTOURS
- 196 — PROPOSED CONTOURS

GRADING PLAN

SCALE: 1:200

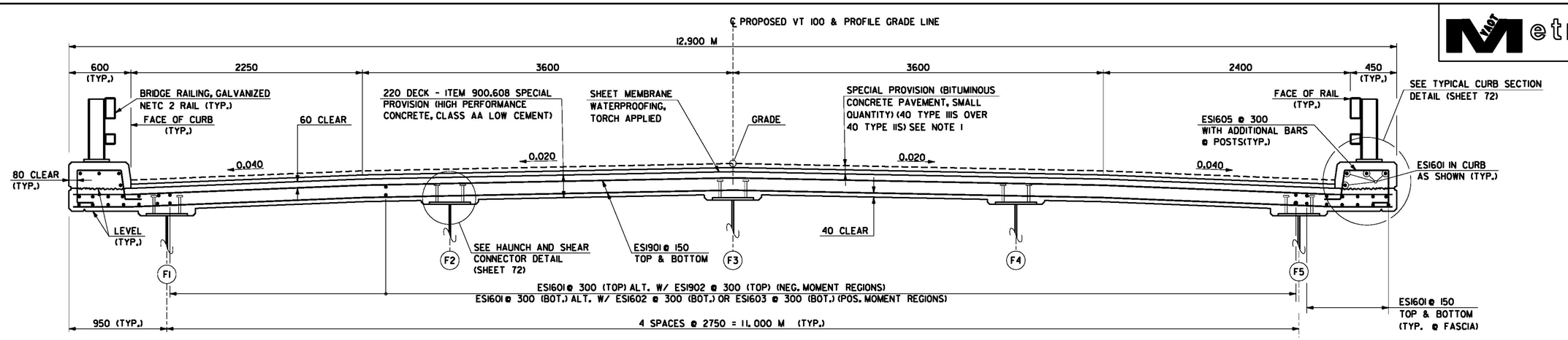
0 2 4 8 12 16 20

SCALE = 1:200

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

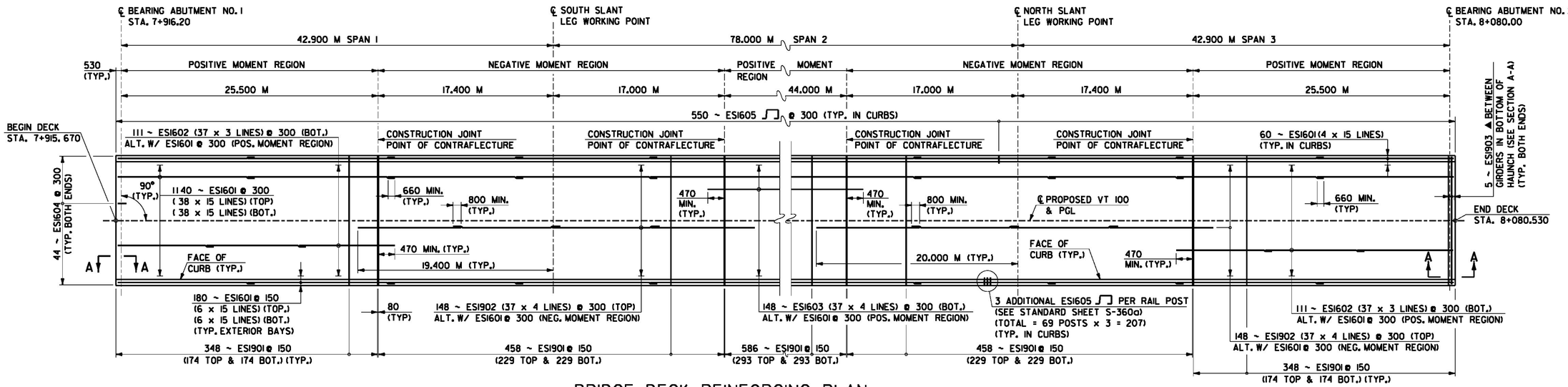
PROJECT NAME:	MORRISTOWN		
PROJECT NUMBER:	STP F 029-1(2)C/1		
FILE NAME:	z10b194agp.dgn	PLOT DATE:	30-MAR-2012
PROJECT LEADER:	DMB	DRAWN BY:	P. Dustin
DESIGNED BY:	S. Della	CHECKED BY:	R. Joy
GRADING PLAN		SHEET	70 OF 123

McFarland Johnson



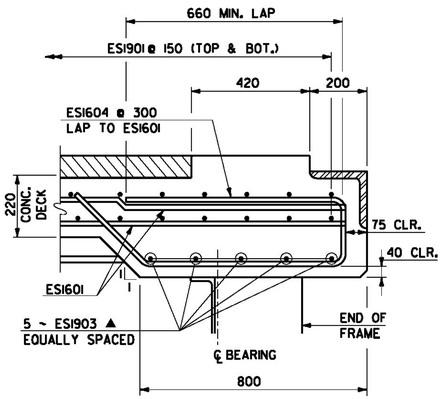
TYPICAL BRIDGE SECTION

SCALE: 1:20



BRIDGE DECK REINFORCING PLAN

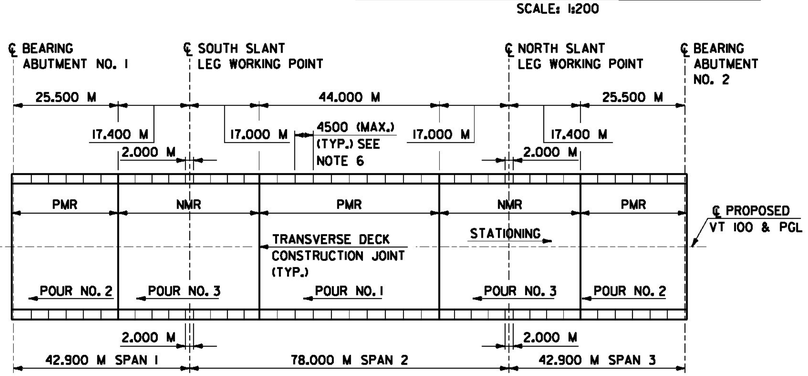
SCALE: 1:200



SECTION A-A

SCALE: 1:10

(ABUTMENT NO. 2 SHOWN, ABUTMENT NO. 1 SIMILAR)



DECK POUR SEQUENCE

NOT TO SCALE

DECK POUR SEQUENCE NOTES

1. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS AFTER COMPLETION OF EACH POUR BEFORE BEGINNING ANOTHER POUR.
2. IF APPROVED BY THE ENGINEER, INDIVIDUAL POUR NUMBERS AS SHOWN MAY BE POURED THE SAME DAY PROVIDED THE MAXIMUM TIME OF POUR IS 8 HOURS AND INDICATED POURING SEQUENCE IS FOLLOWED AND A RETARDING ADMIXTURE IS USED SO THAT THE DECK CONCRETE WILL NOT SET UP UNTIL ALL THE POUR HAS BEEN MADE.
3. THE RETARDING ADMIXTURE SHALL BE INCIDENTAL TO ITEM 900.608, SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS AA LOW CEMENT).
4. ALL POURS SHALL START FROM THE LOW END (ELEVATION WISE).
5. IF ALL SECTIONS ARE NOT POURED IN THE SAME DAY, USE TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINTS. (SEE DETAIL, SHEET 72). BRIDGE DECK CONCRETE SHALL BE DEPOSITED PARALLEL TO THE CENTERLINE BEARING.
6. CAST CURB IN POSITIVE MOMENT REGIONS, THEN NEGATIVE MOMENT REGIONS. THE CURB POURING SEQUENCE WILL BE IN ALTERNATING SECTIONS.

NOTE

1. SECOND LIFT OF BITUMINOUS CONCRETE PAVEMENT TYPE IIIS IS NOT INCLUDED IN THIS CONTRACT.

LEGEND

▲ = CUT TO FIT IN FIELD
PMR = POSITIVE MOMENT REGION
NMR = NEGATIVE MOMENT REGION

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

0 0.5 1
SCALE = 1:10

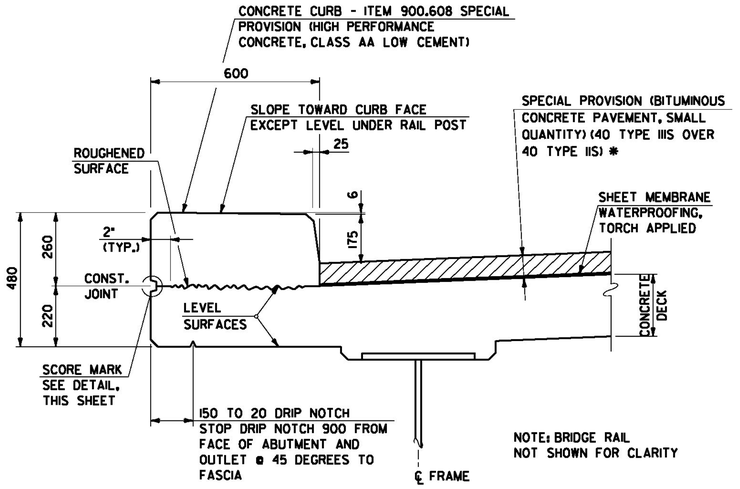
0 1 2
SCALE = 1:20

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194adl.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della
DECK REINFORCEMENT

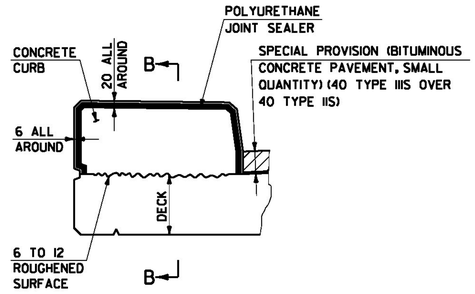
PLOT DATE: 11-APR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SHEET 71 OF 123



TYPICAL CURB SECTION

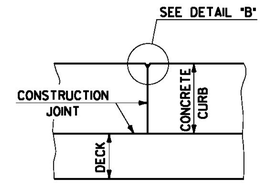
SCALE: 1:10

* SECOND LIFT OF BITUMINOUS CONCRETE PAVEMENT TYPE IIIS IS NOT INCLUDED IN THIS CONTRACT

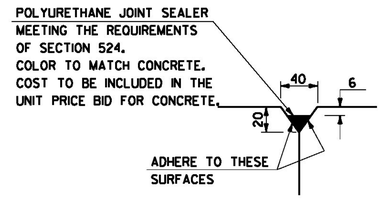


CONCRETE CURB JOINT SECTION

NOT TO SCALE



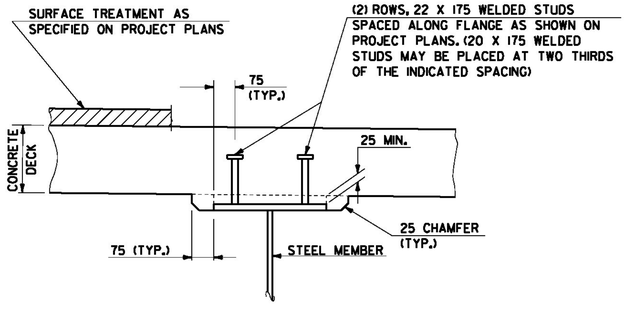
SECTION B-B



DETAIL B

CONCRETE CURB JOINT NOTES

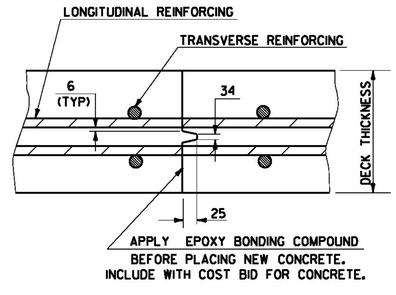
1. CONCRETE CURBS MAY BE PLACED IN ONE CONTINUOUS OPERATION IF AN APPROVED SHRINKAGE REDUCING ADMIXTURE LISTED IN THE SPECIAL PROVISIONS IS USED WITH THE CONCRETE MIX DESIGN. PAYMENT FOR THE SHRINKAGE REDUCING ADMIXTURE WILL BE INCIDENTAL TO THE BRIDGE CURB CONCRETE ITEM.
2. IF THE CONTRACTOR CHOOSES NOT TO USE AN APPROVED SHRINKAGE REDUCING ADMIXTURE, THE CURBS SHALL BE CONSTRUCTED WITH CONSTRUCTION JOINTS SPACED AT A MAXIMUM OF 4.5 METERS CENTER TO CENTER AND 600 MILLIMETERS MINIMUM FROM THE CENTER OF NEAREST BRIDGE RAILING POST.
3. ON MULTI-SPAN CONTINUOUS SUPERSTRUCTURES, REGARDLESS OF WHETHER APPROVED SHRINKAGE REDUCING ADMIXTURE IS USED, CURB JOINTS SHALL BE LOCATED OVER THE CENTERLINE OF PIERS AND 2 METERS EACH SIDE OF THE CENTERLINE OF EACH PIER.
4. WHEN CURB JOINTS ARE USED THE CURBS SHALL BE PLACED IN ALTERNATE SECTIONS WITH A MINIMUM OF 48 HOUR DELAY BETWEEN ADJACENT PLACEMENTS.
5. LONGITUDINAL REINFORCING SHALL BE CONTINUOUS THROUGH CURB CONSTRUCTION JOINTS.
6. SEE DECK POUR SEQUENCE NOTES ON SHEET 71.



HAUNCH AND SHEAR CONNECTOR DETAIL

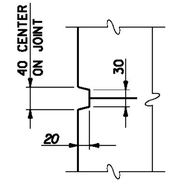
NOT TO SCALE

NOTE:
THE 75 mm HORIZONTAL SECTION MAY BE ELIMINATED FOR FORMING SYSTEMS DESIGNED FOR THE CONSTRUCTION OF VERTICAL HAUNCHES. ANY VOIDS RESULTING FROM FORMING SYSTEM ELEMENTS SHALL BE FILLED WITH JOINT SEALER, POLYURETHANE MEETING THE REQUIREMENTS OF SECTION 524. THE COST OF THE JOINT SEALER, POLYURETHANE SHALL BE INCIDENTAL TO THE ADJACENT CONCRETE.



TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

NOT TO SCALE



SCORE MARK DETAIL

SCALE: 1:5

0 0.25 0.5

SCALE = 1:5

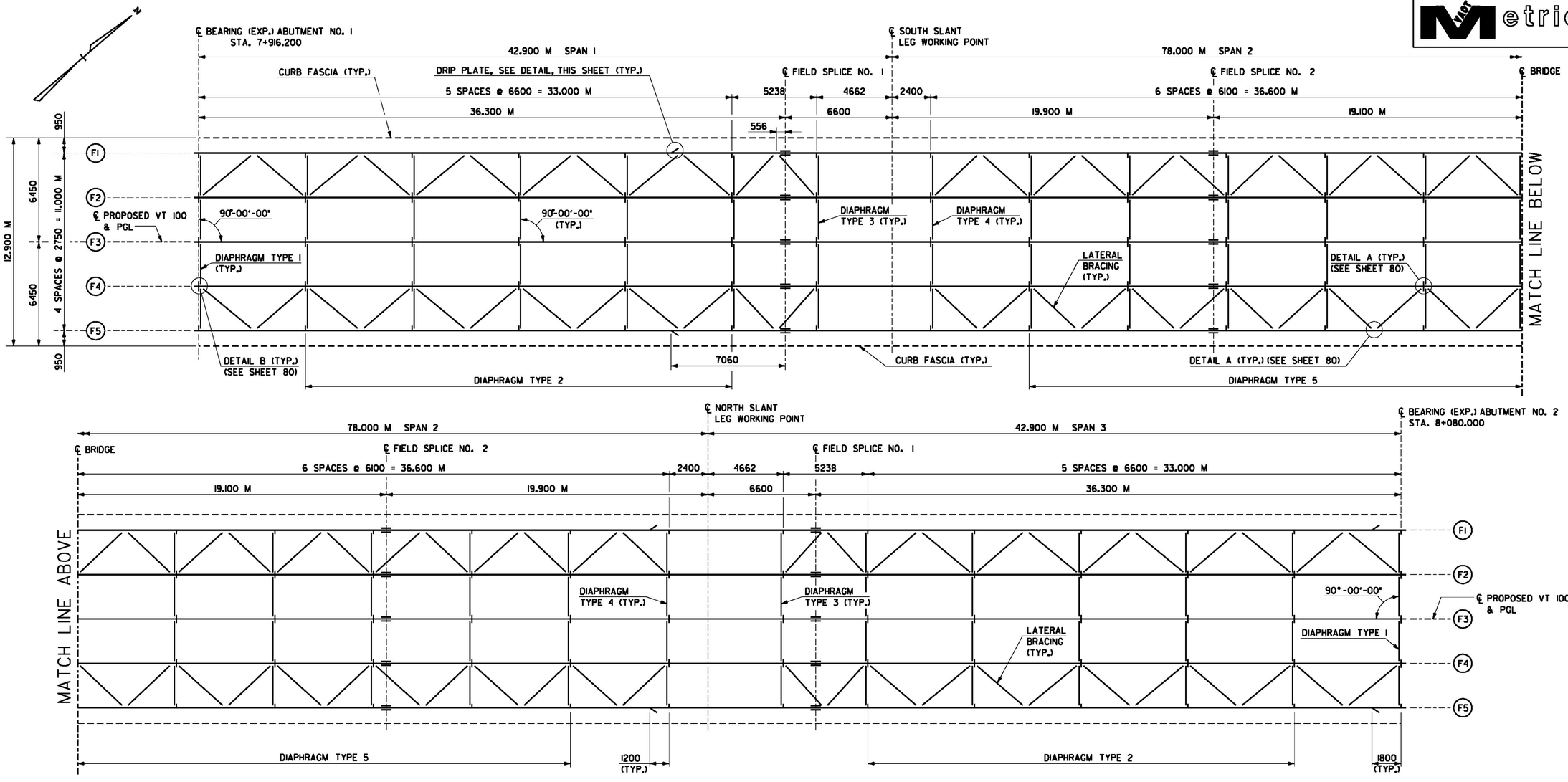
0 0.5 1

SCALE = 1:10

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

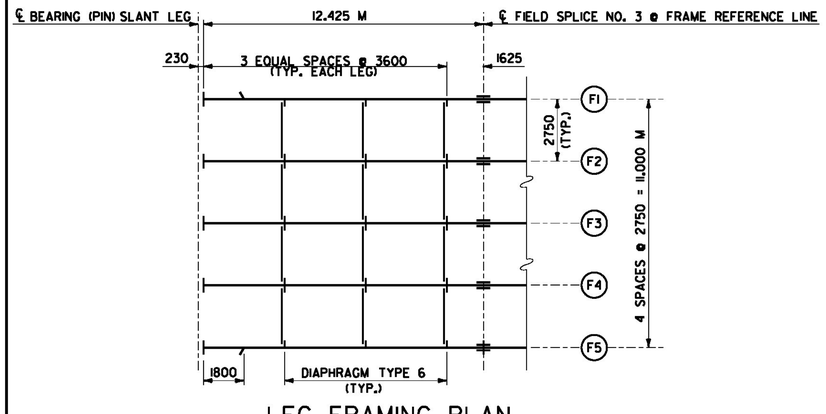
PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	z10b194ad2.dgn
PROJECT LEADER:	DMB
DESIGNED BY:	D. Kull
SUPERSTRUCTURE DETAILS	
PLOT DATE:	11-APR-2012
DRAWN BY:	S. Merkwan
CHECKED BY:	R. Joy
SHEET	72 OF 123

McFarland Johnson



FRAMING PLAN

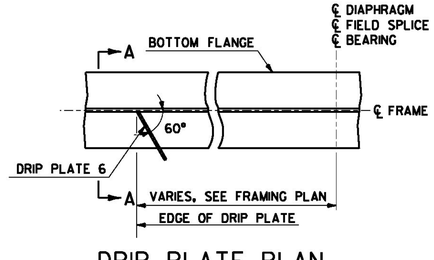
SCALE: 1:125



LEG FRAMING PLAN

SCALE: 1:125

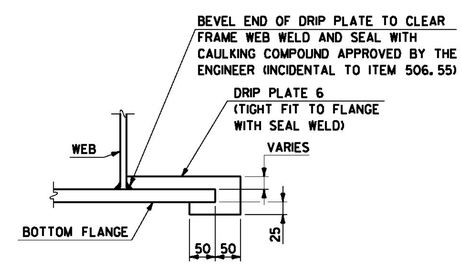
NOTE:
LEG FRAMING PLAN VIEW SHOWN NORMAL TO THE WORKING LINE OF THE LEG.
SOUTH SLANT LEG SHOWN. NORTH SLANT LEG OPPOSITE HAND.



DRIP PLATE PLAN

NOT TO SCALE

NOTE:
DRIP PLATES SHALL BE PLACED AS INDICATED ON THE FRAMING PLAN AND GIRDER ELEVATION.



SECTION A-A

NOT TO SCALE

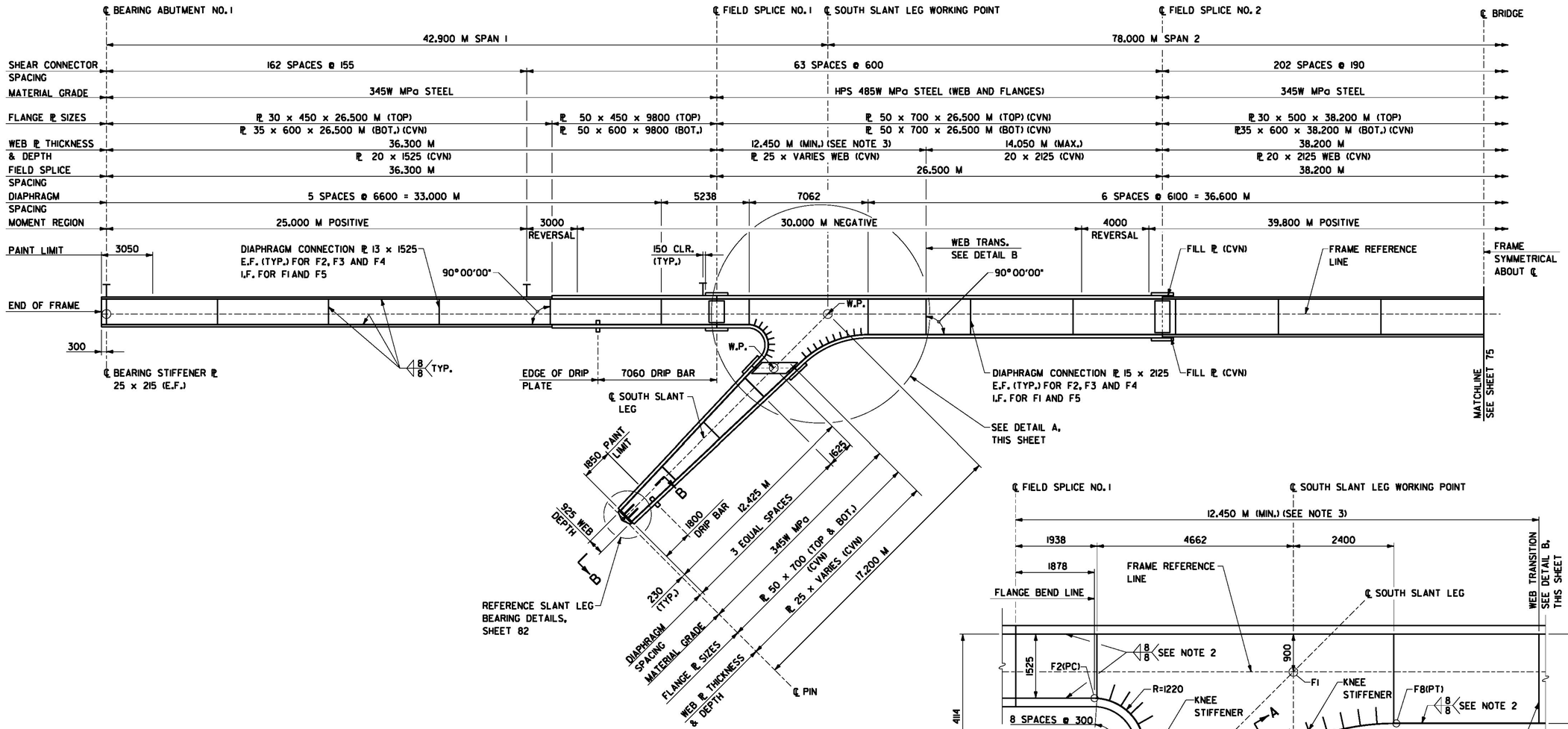
0 6.25 12.5

SCALE = 1:125

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

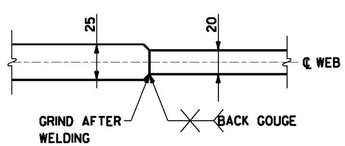
PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194afp.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: P. Dustin
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
FRAMING PLAN	SHEET 73 OF 123

McFarland Johnson



FRAME ELEVATION

SCALE: 1:125



DETAIL B

NOT TO SCALE
WEB SPLICE DETAIL. LIMITS OF WEB PLATE SIZES INDICATED ON FRAME ELEVATION.

NOTE:
FIELD SPLICE NO.3, SPLICE PLATES AND DRIP BAR NOT SHOW FOR CLARITY

DETAIL A

SOUTH SLANT LEG SHOWN, NORTH SLANT LEG OPPOSITE HAND
SCALE: NOT TO SCALE

NOTES

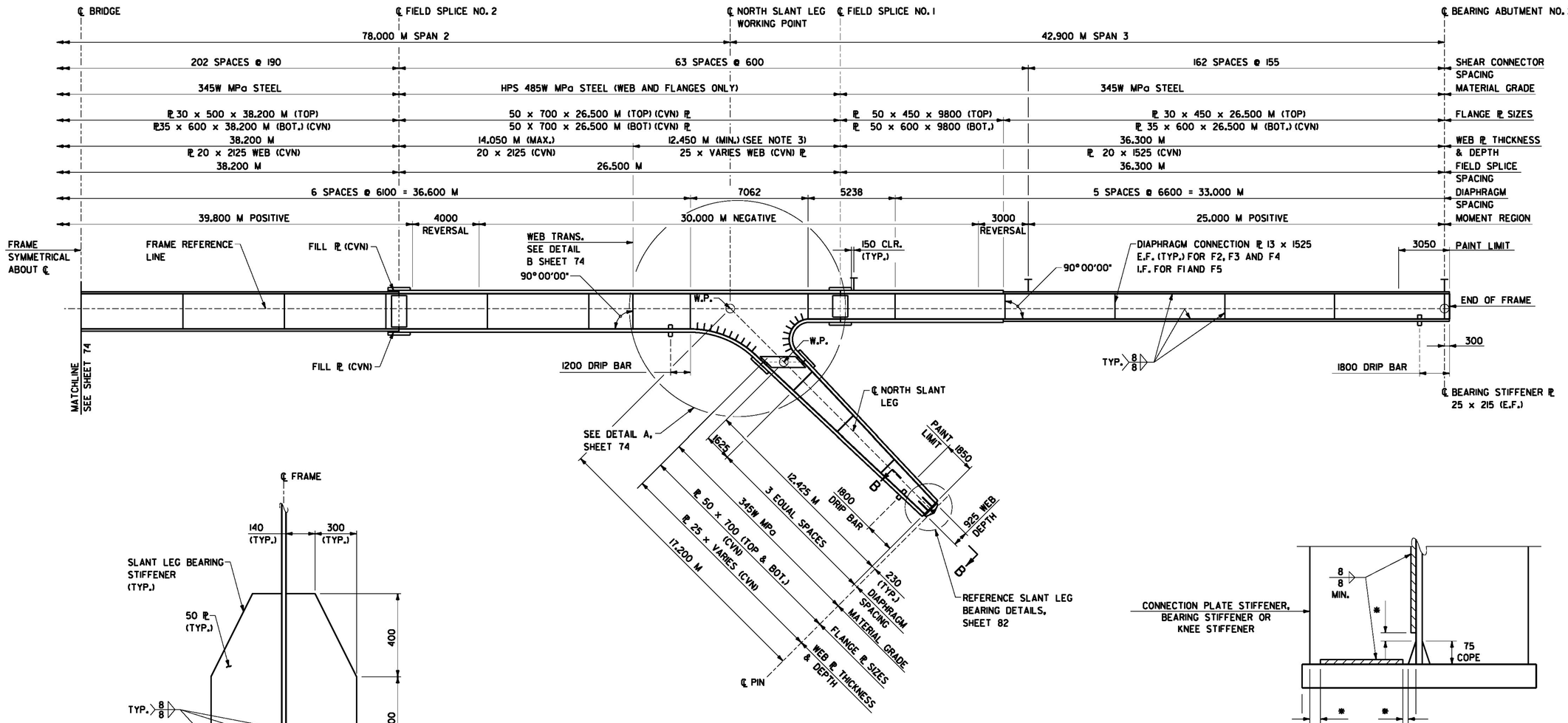
1. ALL FRAME DIMENSIONS ARE HORIZONTAL AND ARE MEASURED ALONG FRAME REFERENCE LINE OR CENTERLINE SLANT LEG. ALL RADII ARE MEASURED ALONG OUTSIDE FACE OF FLANGE.
2. ULTRASONIC TESTING (UT) SHALL BE CONDUCTED ON ALL CURVED FLANGE ELEMENTS IN THE KNEE AREA. COST SHALL BE INCLUDED IN ITEM 900.635, SPECIAL PROVISION (HIGH PERFORMANCE STEEL, GRADE 485W).
3. COMPLETE JOINT PENETRATION (CJP) WEB WELDS NOT PERMITTED IN THIS LENGTH.
4. FOR SECTIONS A-A AND B-B, SEE SHEET 75.

0 6.25 12.5
SCALE = 1:125

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	zd082afe.dgn
PROJECT LEADER:	DMB
DESIGNED BY:	D. Kull
SLANT LEG FRAME ELEVATION (1 OF 2)	
PLOT DATE:	29-MAR-2012
DRAWN BY:	P. Dustin
CHECKED BY:	R. Joy
SHEET	74 OF 123

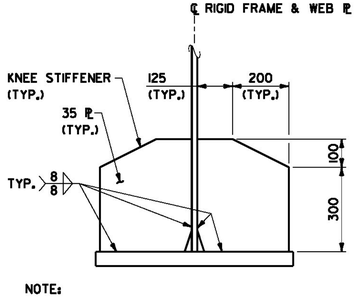
McFarland Johnson



NOTE:
STIFFENER MATERIAL TO BE AASHTO M270M GRADE 345W STEEL.

SECTION B-B
SLANT LEG BEARING STIFFENER
SCALE: 1:10

FRAME ELEVATION
SCALE: 1:125



NOTE:
STIFFENER MATERIAL TO BE AASHTO M270M HPS 485W STEEL.

SECTION A-A
KNEE STIFFENER
SCALE: 1:10

WELD TERMINATION AND COPING DETAIL FOR STEEL MEMBERS
NOT TO SCALE

* NO WELD FOR 10 MIN., 22 MAX. (EXCEPT MUST MAINTAIN 25 MIN. FROM EDGE OF FLANGE)

0 0.5 1
SCALE = 1:10

0 6.25 12.5
SCALE = 1:125

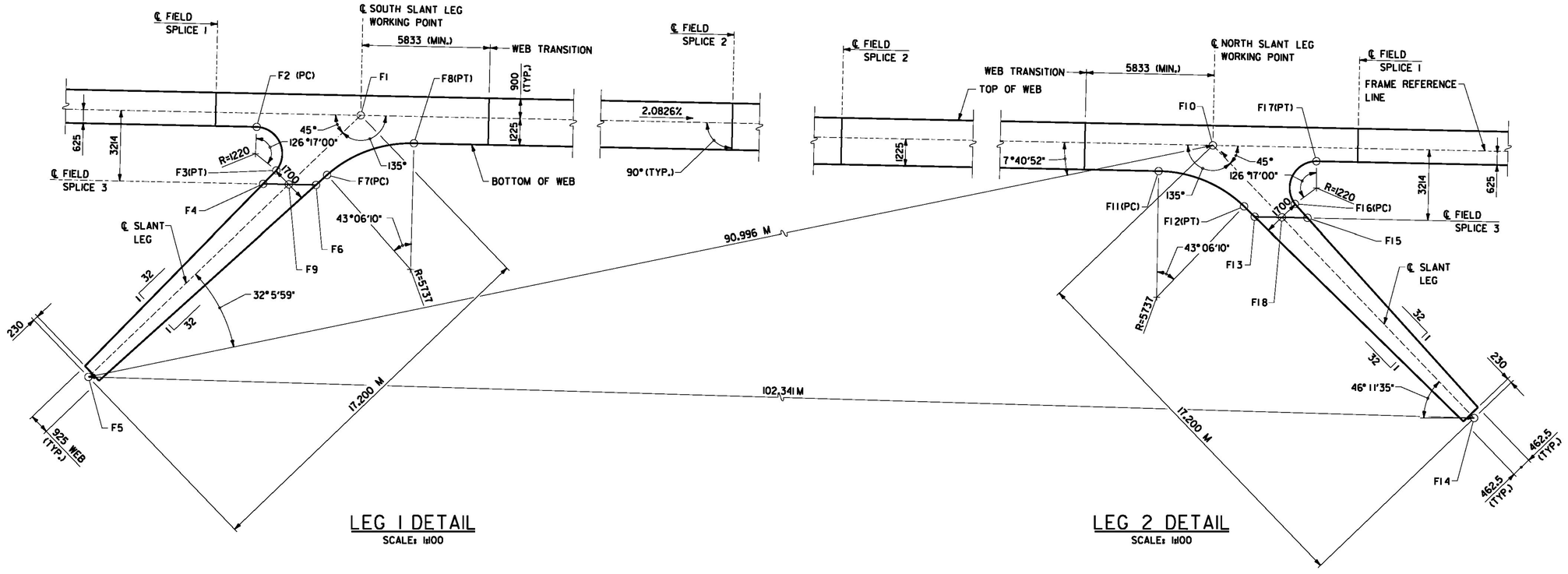
NOTES

1. FOR LOCATIONS OF SECTIONS A-A AND B-B, SEE SHEET 74.
2. COMPLETE JOINT PENETRATION (CJP) WEB WELDS NOT PERMITTED IN THIS LENGTH.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	z10b194afe.dgn
PROJECT LEADER:	DMB
DESIGNED BY:	D. Kull
SLANT LEG FRAME ELEVATION (2 OF2)	
PLOT DATE:	29-MAR-2012
DRAWN BY:	P. Dustin
CHECKED BY:	R. Joy
SHEET	75 OF 123

McFarland Johnson



LEG 1 DETAIL

SCALE: 1:100

LEG 2 DETAIL

SCALE: 1:100

NOTES

1. ALL DIMENSIONS MEASURED ALONG FRAME REFERENCE LINE UNLESS OTHERWISE NOTED.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

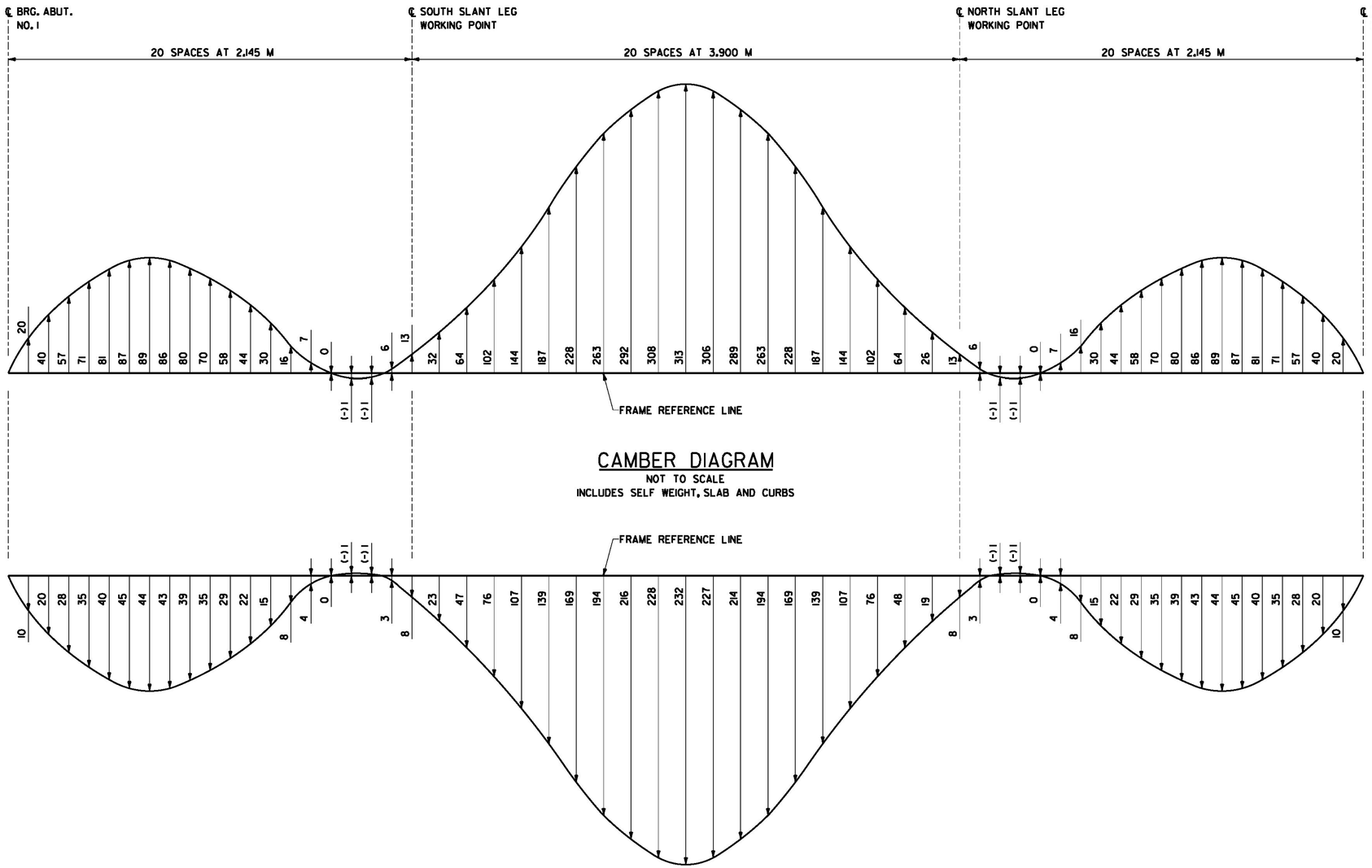
0 1 2 4 6 8 10

SCALE = 1:100

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194afg.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: P. Dustin
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
SLANT LEG FRAME DETAILS	SHEET 76 OF 123

Metric



CAMBER DIAGRAM

NOT TO SCALE
INCLUDES SELF WEIGHT, SLAB AND CURBS

DEFLECTION DIAGRAM

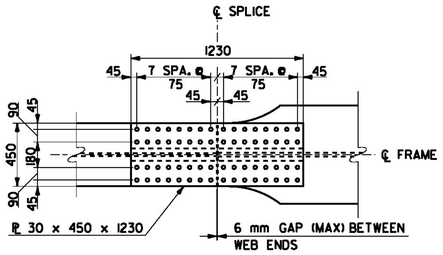
NOT TO SCALE

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1

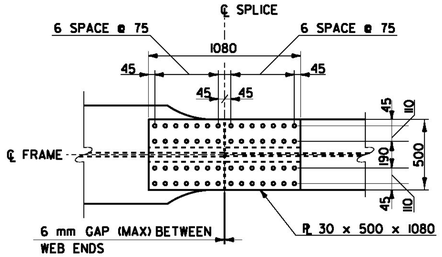
FILE NAME:	z10b194afg.dgn	PLOT DATE:	29-MAR-2012
PROJECT LEADER:	DMB	DRAWN BY:	P. Dustin
DESIGNED BY:	D. Kull	CHECKED BY:	R. Joy
CAMBER DIAGRAM		SHEET	77 OF 123

McFarland Johnson



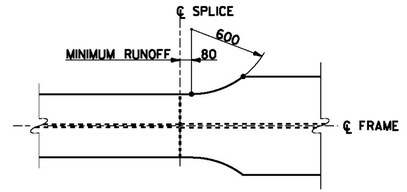
TOP FLANGE PLAN

SCALE: 1:20



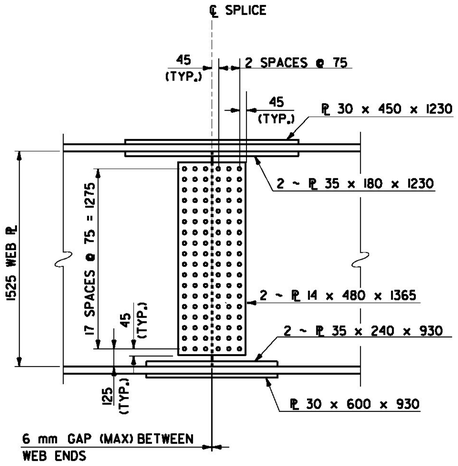
TOP FLANGE PLAN

SCALE: 1:20



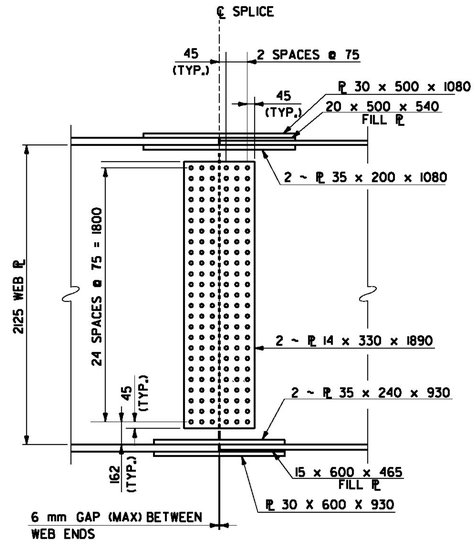
FLANGE PLATE WIDTH TRANSITION

SCALE: 1:20



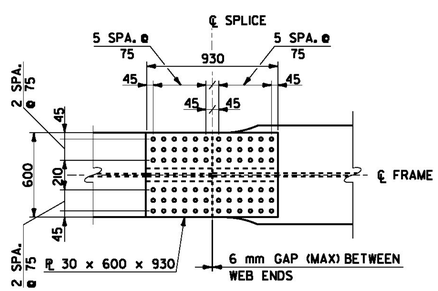
WEB ELEVATION

SCALE: 1:20



WEB ELEVATION

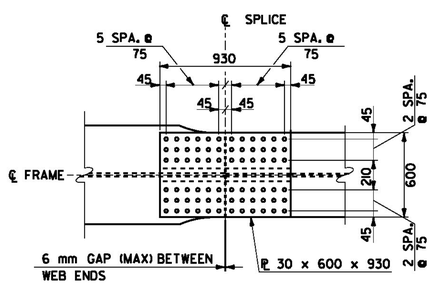
SCALE: 1:20



BOTTOM FLANGE PLAN

SCALE: 1:20

FIELD SPLICE NO. 1



BOTTOM FLANGE PLAN

SCALE: 1:20

FIELD SPLICE NO. 2

NOTES

1. ALL SPLICE PLATES AND FILL PLATES TO BE AASHTO M270M GRADE 345W STEEL. ALL COSTS SHALL BE INCLUDED IN ITEM 506.55 STRUCTURAL STEEL - PLATE GIRDER.
2. ALL SPLICE AND FILL PLATES TO CONFORM TO THE CHARPY V NOTCH REQUIREMENTS.
3. ALL SPLICE CONNECTIONS SHALL BE MADE USING M22 DIAMETER, AASHTO M 164M, BOLTS IN 24 DIAMETER HOLES.
4. EXCLUDE BOLT THREADS FROM SHEAR PLANES.

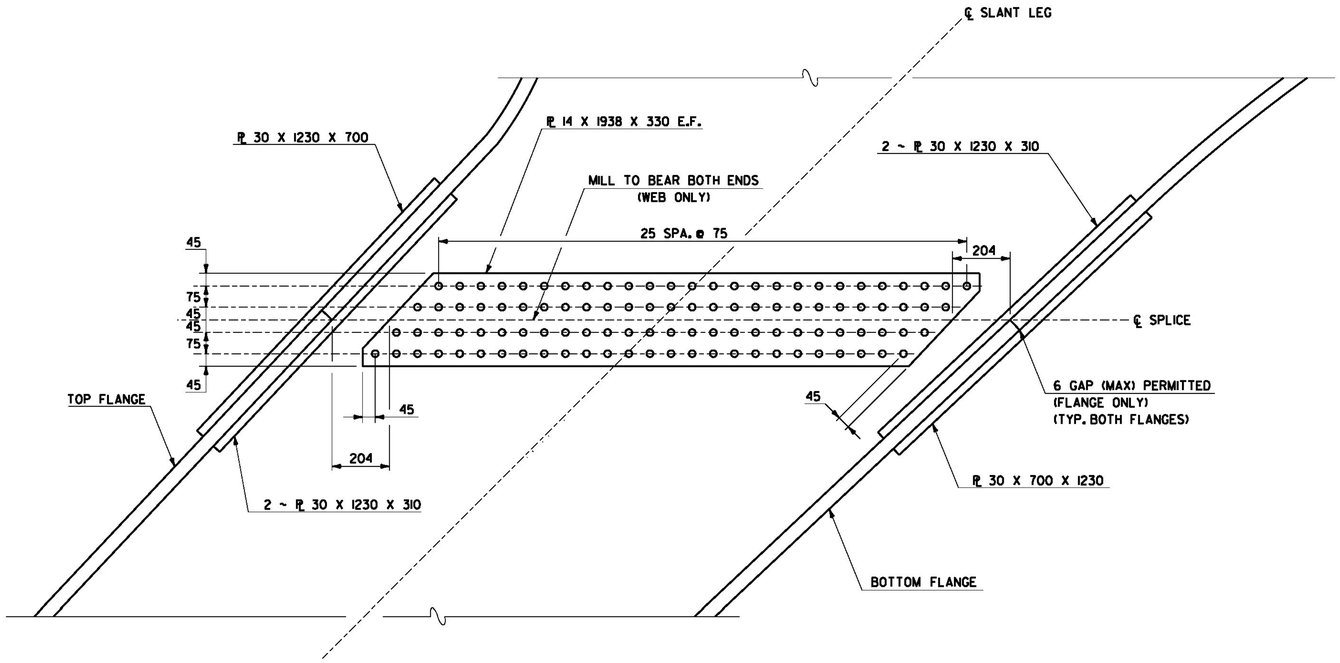
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

0 1 2

SCALE = 1:20

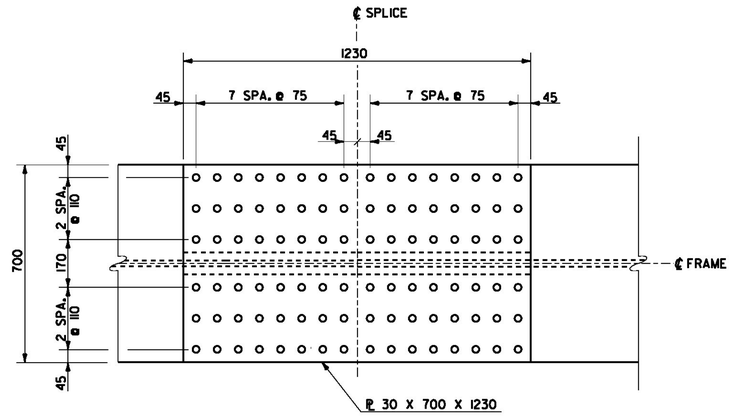
McFarland Johnson

PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194afs.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: D. Kull
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
FIELD SPLICE DETAILS - 1	SHEET 78 OF 123



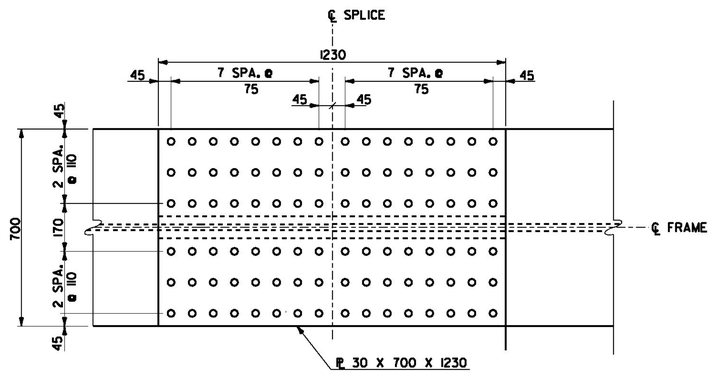
WEB ELEVATION

SCALE: 1:10



TOP FLANGE

SCALE: 1:10



BOTTOM FLANGE PLAN

SCALE: 1:10

FIELD SPLICE NO. 3

NOTE

1. FOR FIELD SPLICE NOTES, SEE SHEET 78.

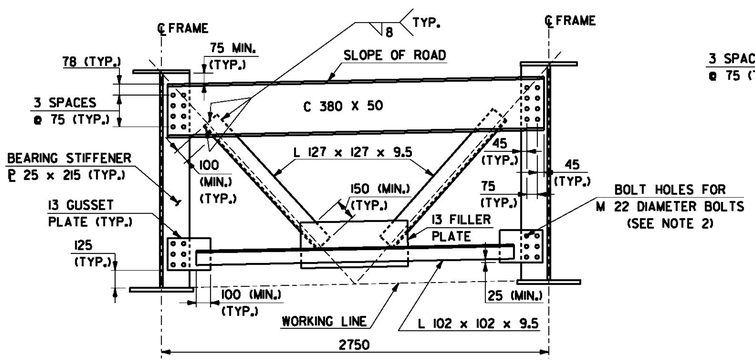
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

0 0.5 1

SCALE = 1:10

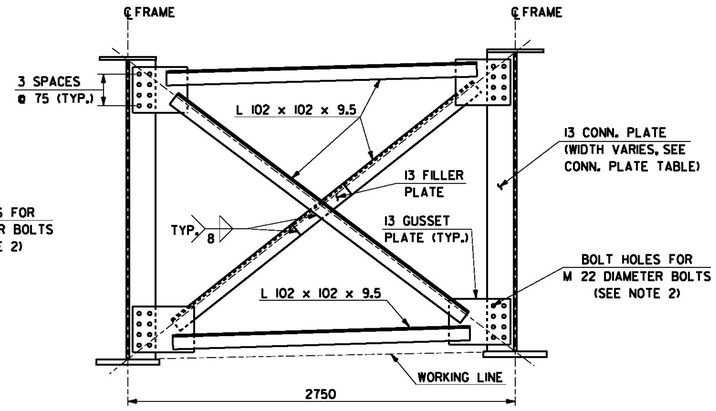
McFarland Johnson

PROJECT NAME: MORRISTOWN	
PROJECT NUMBER: STP F 029-1(2)C/1	
FILE NAME: z10b194afs.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: D. Kull
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
FIELD SPLICE DETAILS - 2	SHEET 79 OF 123



DIAPHRAGM TYPE 1

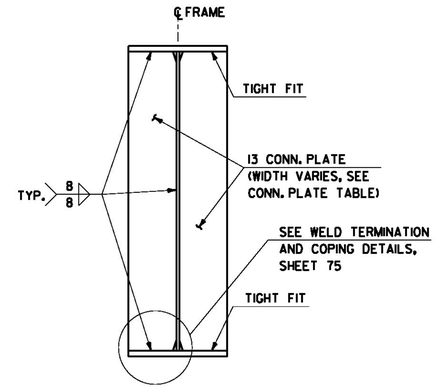
SCALE: 1:20



DIAPHRAGM TYPE 5

SCALE: 1:20

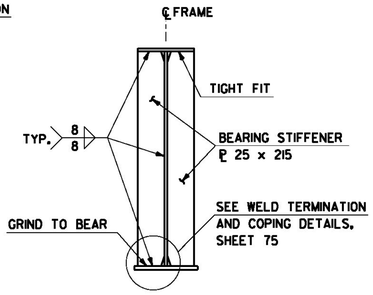
(FOR GUSSET PLATE DETAILS NOT SHOWN, SEE DETAIL C)



INTERMEDIATE CONNECTION PLATE DETAIL

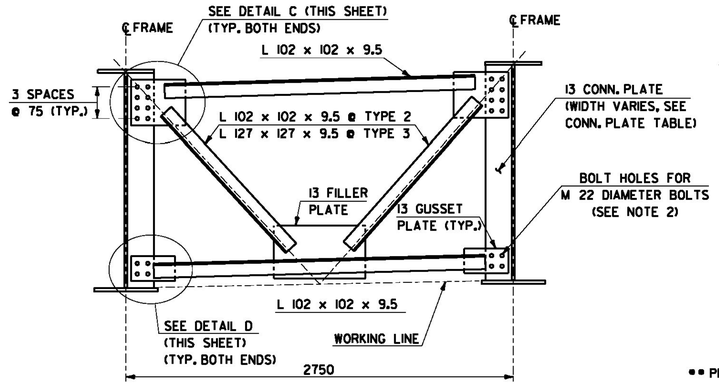
SCALE: 1:20

CONNECTION PLATE TABLE	
TOP FLANGE WIDTH	MIN. CONN. PLATE WIDTH
450	215
500	330
700	240



ABUTMENT BEARING STIFFENER DETAIL

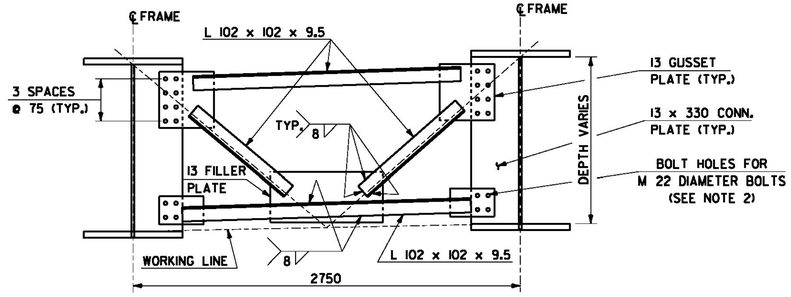
SCALE: 1:20



DIAPHRAGM TYPE 2 & 3

SCALE: 1:20

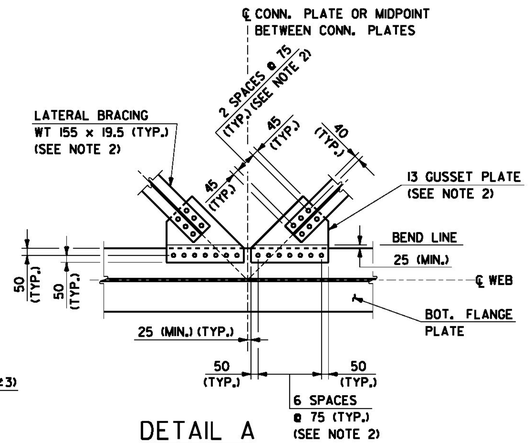
(TYPE 2 SHOWN, TYPE 3 SIMILAR UNLESS NOTED)



DIAPHRAGM TYPE 6

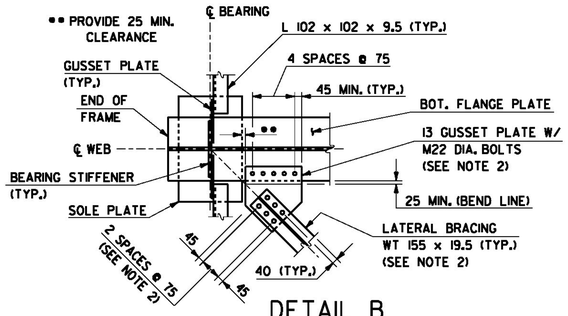
SCALE: 1:20

(FOR GUSSET PLATE DETAILS NOT SHOWN, SEE DETAILS C & D)



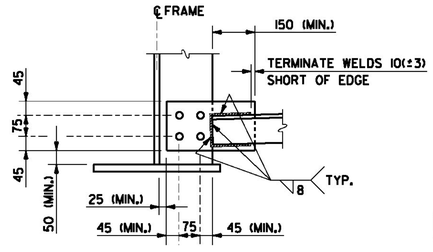
DETAIL A

SCALE: 1:20



DETAIL B

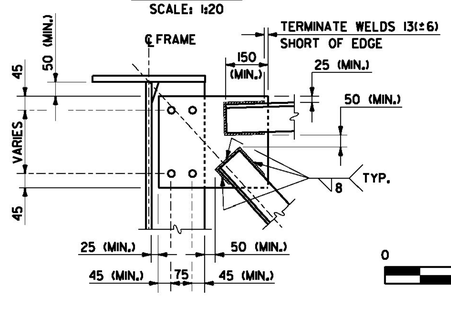
SCALE: 1:20



DETAIL D

SCALE: 1:10

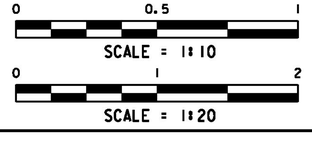
(TYPICAL TOP AND BOTTOM STRUT CONNECTIONS)



DETAIL C

SCALE: 1:10

(TYPICAL TOP AND BOTTOM STRUT CONNECTIONS)



DIAPHRAGM TYPE 4

SCALE: 1:20

(FOR GUSSET PLATE DETAILS NOT SHOWN, SEE DETAIL C)

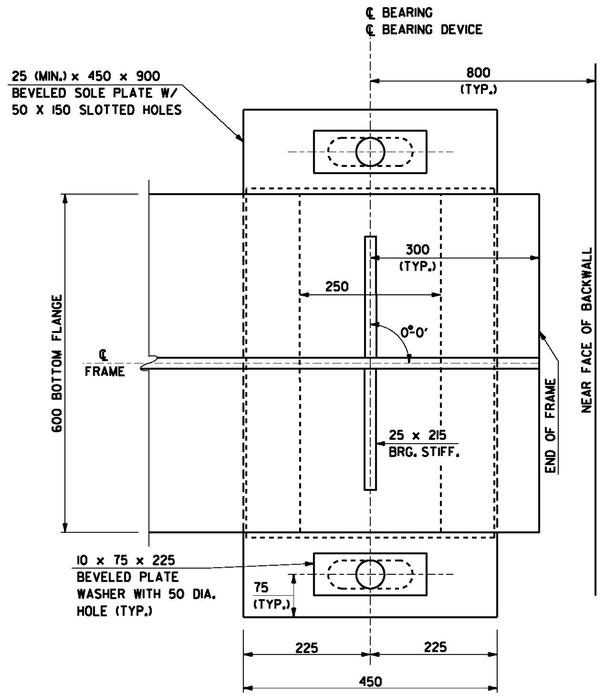
NOTES

1. ALL DIAPHRAGMS, CONNECTION PLATES, LATERAL BRACING AND GUSSET PLATES SHALL BE AASHTO M270 M, GRADE 345W.
2. ALL BOLTS TO BE 22mm DIAMETER ASTM A 325 BOLTS CONFORMING TO THE REQUIREMENTS OF SUBSECTION 714.05.
3. PROVIDE 24mm DIAMETER HOLES IN ALL DIAPHRAGM MEMBERS.
4. USE 27mm DIAMETER OVERSIZE HOLES IN LATERAL BRACING MEMBERS AND STANDARD 24mm DIAMETER HOLES IN GUSSET PLATES AND FLANGES. WASHERS SHALL BE PLACED ON BOTH SIDES OF MEMBER WITH OVERSIZED HOLES
5. ALL DIAPHRAGM FILLER PLATES AND GUSSET PLATES TO BE RECTANGULAR.
6. FOR LOCATIONS OF DETAIL A AND DETAIL B, SEE SHEET 73.

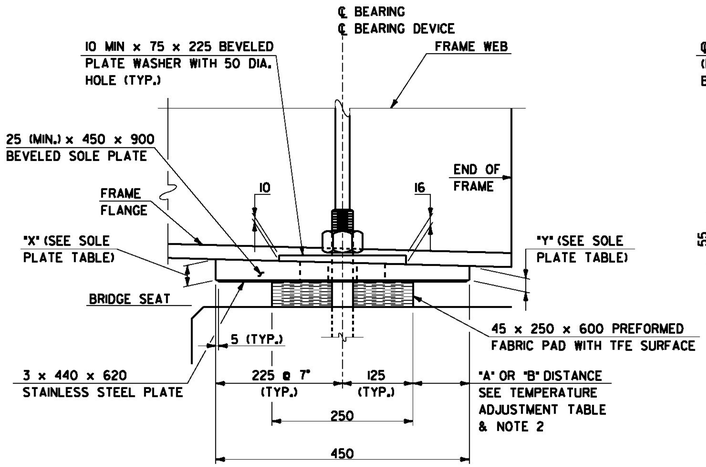
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	z10b194acf.dgn
PROJECT LEADER:	DMB
DESIGNED BY:	D. Kull
DIAPHRAGM DETAILS	
PLOT DATE:	29-MAR-2012
DRAWN BY:	S. Merkwan
CHECKED BY:	R. Joy
SHEET	80 OF 123

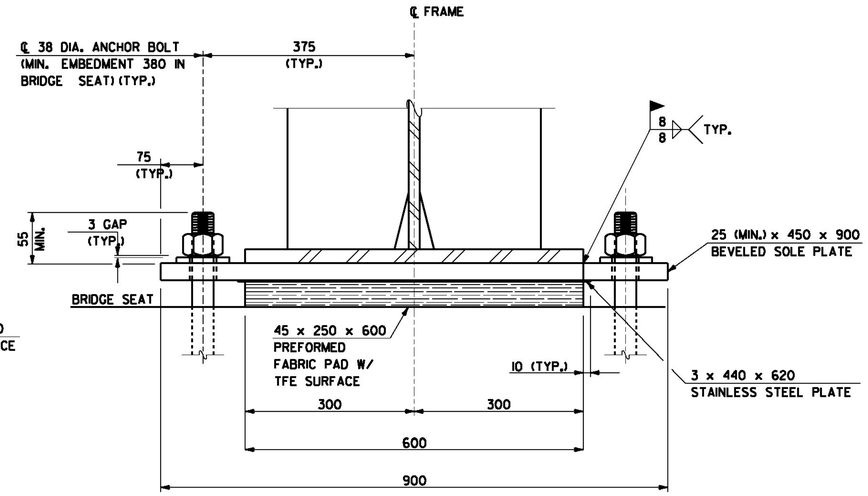
McFarland Johnson



PLAN



ELEVATION



FRONT VIEW

EXPANSION BEARING DETAIL
ITEM 531.10 BEARING DEVICE ASSEMBLY

SCALE: 1:5
(ABUTMENT NO. 2 SHOWN, ABUTMENT NO. 1 SIMILAR)

SOLE PLATE TABLE

	"X"	"Y"
ABUTMENT NO. 1	25	32
ABUTMENT NO. 2	37	25

TEMPERATURE ADJUSTMENT TABLE

ABUTMENTS			
TEMP		"A" DIST.	"B" DEIST
-18°C	0°F	130	124
-9°C	15°F	121	115
-1°C	30°F	113	108
7°C	45°F	105	97
16°C	60°F	97	91
24°C	75°F	88	82
32°C	90°F	80	74
41°C	105°F	72	66

BEARING NOTES

1. FOR ADDITIONAL PREFORMED FABRIC BEARING NOTES, SEE SHEETS 3 AND 4.
2. THE "A" DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER ALL DEAD LOAD HAS BEEN APPLIED. THE "B" DISTANCE IS LISTED FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION OF THE CONCRETE SLAB, CURB, PAVEMENT AND BRIDGE RAIL. THE FINAL "A" DISTANCE AS SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN 3 MILLIMETERS.
3. DESIGN CRITERIA:
   (A) BASE PLATE TO CONCRETE DESIGN PRESSURE = 7.0 MPa MAXIMUM.
   (B) MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIANS.
   (C) HORIZONTAL CAPACITY SHALL BE A MINIMUM 10% OF VERTICAL LOAD.
   (D) DESIGN LOAD PER BEARING = 776 kN.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

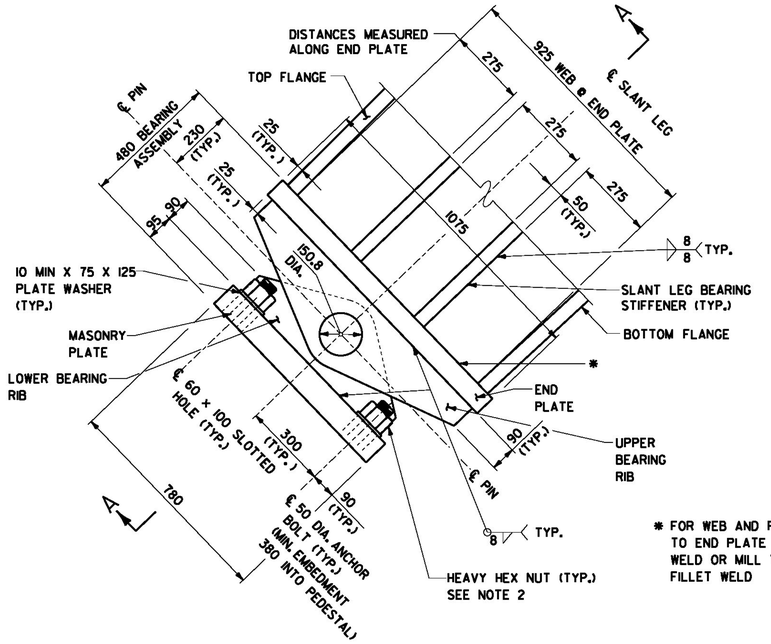
0 0.25 0.5
SCALE = 1:5

McFarland Johnson

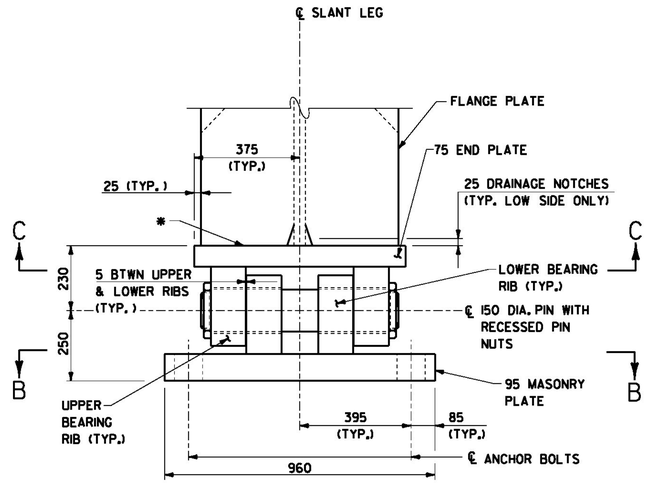
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194abl.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della / D. Kull
ABUTMENT BEARING DETAILS

PLOT DATE: 29-MAR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SHEET 81 OF 123

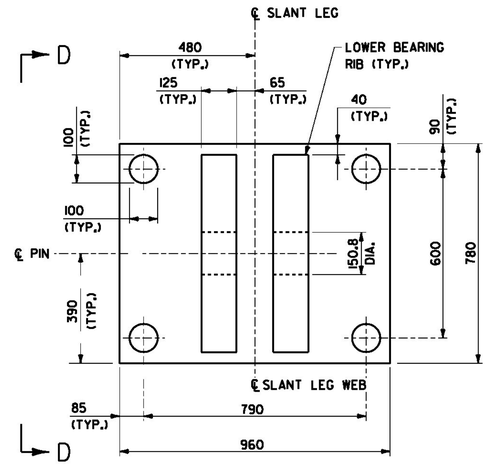


ELEVATION

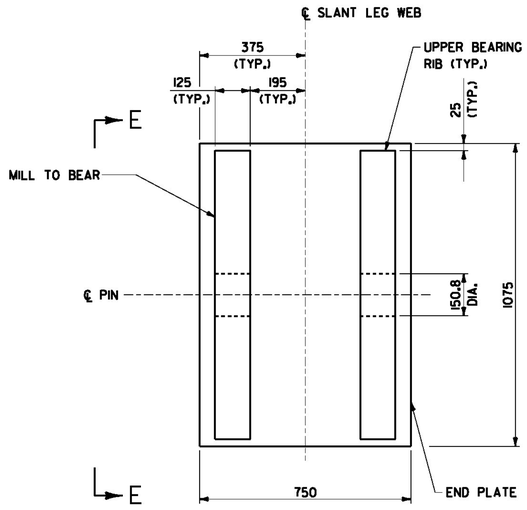


* FOR WEB AND FLANGE CONNECTION TO END PLATE USE FULL PENETRATION WELD OR MILL TO BEAR WITH 8 FILLET WELD

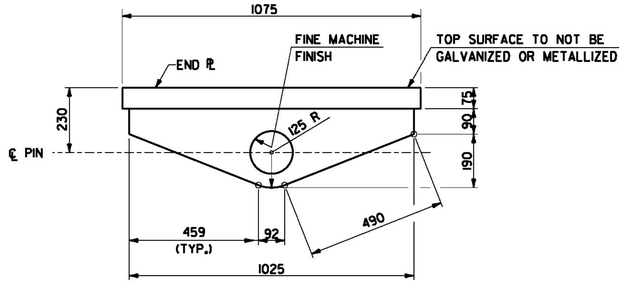
SECTION A-A



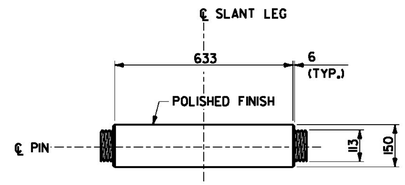
SECTION B-B
LOWER BEARING ASSEMBLY



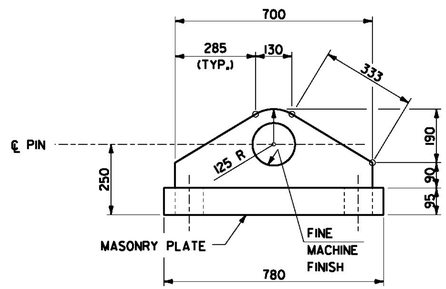
SECTION C-C
UPPER BEARING ASSEMBLY
SECTION C-C SHOWN FROM UNDERSIDE OF BEARING



VIEW E-E
UPPER BEARING ASSEMBLY



PIN DETAIL



VIEW D-D
LOWER BEARING ASSEMBLY

DESIGN LOADS	
DESCRIPTION	LOAD
DEAD LOAD 1 (STEEL FRAMES, DECK)	2905 KN
DEAD LOAD 2 (CONCRETE CURB, RAIL)	650 KN
TEMPERATURE	80 KN
LIVE LOAD (+ IMPACT)	1380 KN
TOTAL	5015 KN

BEARING NOTES

1. FOR ADDITIONAL STEEL BEARING NOTES, SEE SHEET 4.
2. DRAW NUTS FINGER TIGHT DURING CONSTRUCTION. AFTER PLACEMENT OF CONCRETE, RE-ADJUST NUTS AND BURR THREADS ABOVE NUT.

SLANT LEG BEARING DETAILS
ITEM 531.13 BEARING DEVICE ASSEMBLY, STEEL

SCALE: 1:10

0 0.5 1
SCALE = 1:10

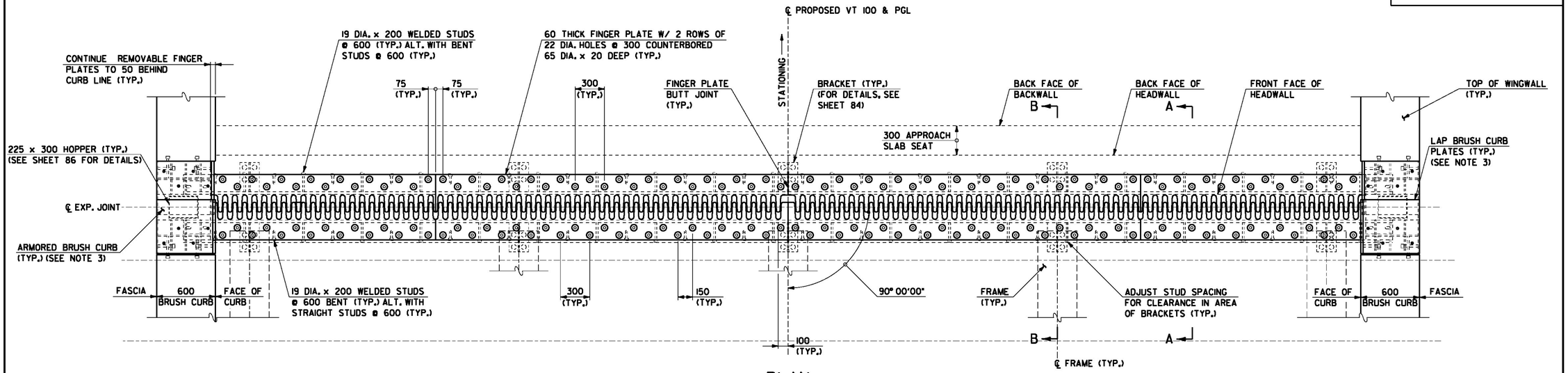
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ab2.dgn
PROJECT LEADER: DMB
DESIGNED BY: D. Kull
SLANT LEG BEARING DETAILS

PLOT DATE: 30-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 82 OF 123

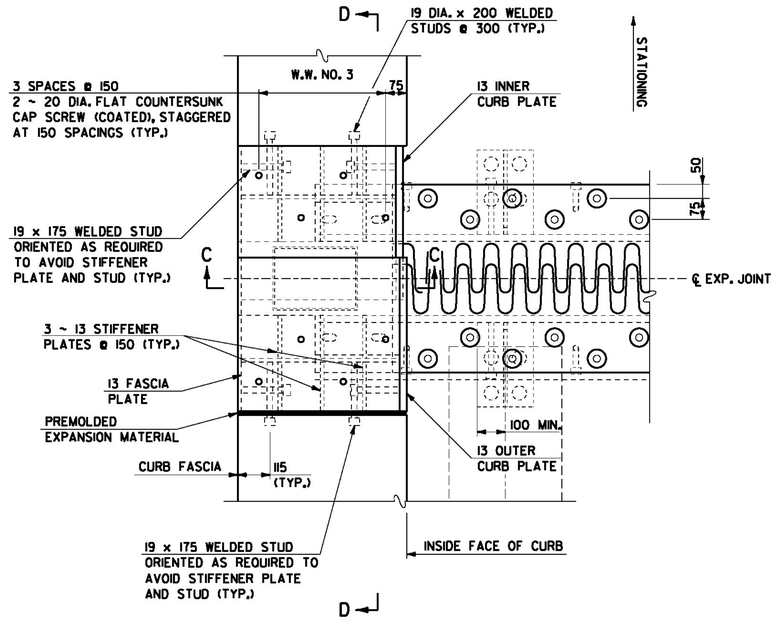
McFarland Johnson



PLAN

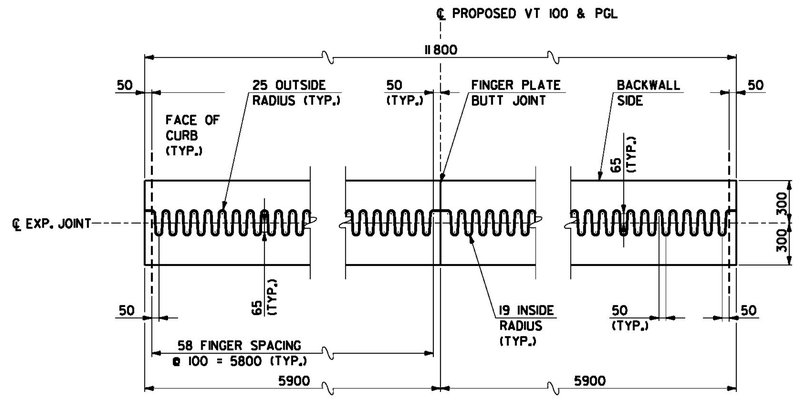
SCALE: 1:20

(ABUTMENT NO. 2 SHOWN, ABUTMENT NO. 1 SIMILAR)



ARMORED BRUSH CURB PLAN DETAIL

SCALE: 1:10



CUTTING DETAIL

SCALE: 1:20

NOTES

1. FOR ADDITIONAL EXPANSION JOINT NOTES, SEE SHEET 4.
2. FINGER PLATES IN ROADWAY ARE REMOVABLE TO ALLOW FOR CLEANING AND/OR REPLACEMENT OF FABRIC TROUGH.
3. LAP BRUSH CURB PLATES IN DIRECTION OF TRAFFIC.
4. FOR SECTIONS A-A, B-B, C-C AND D-D, SEE SHEETS 84 AND 85.
5. FOR TEMPERATURE ADJUSTMENT TABLE, SEE SHEET 84.

0 1 2

SCALE = 1:20

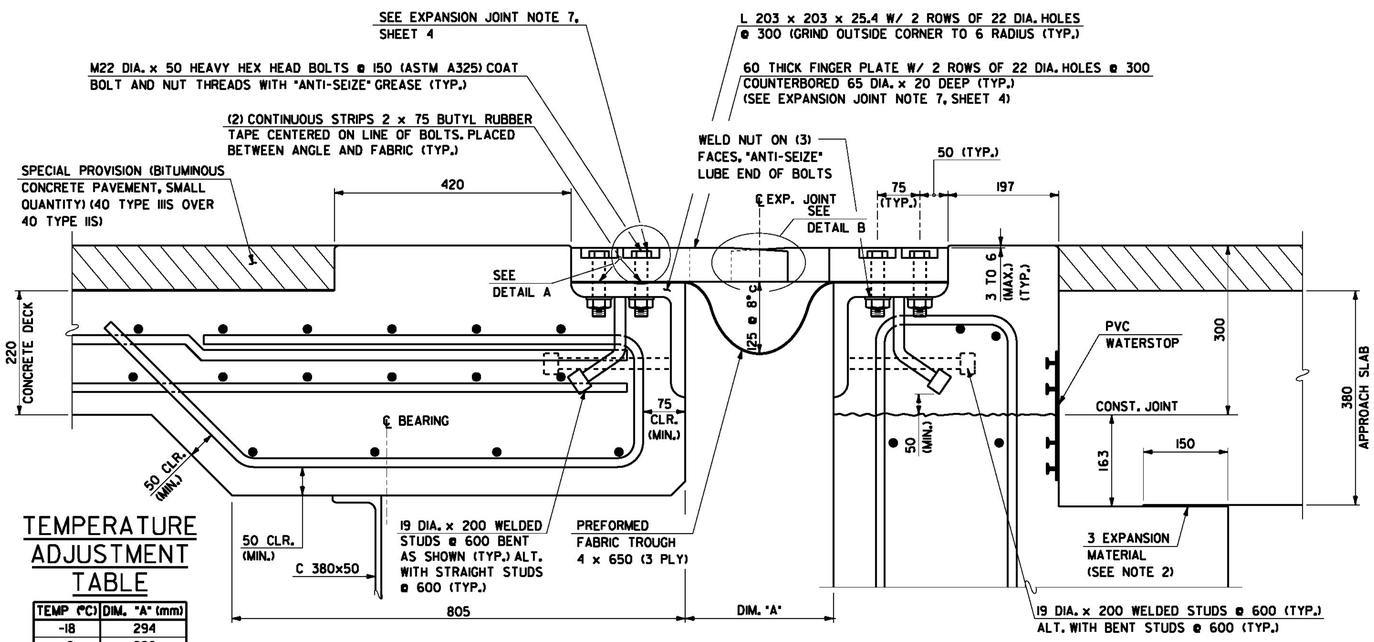
0 0.5 1

SCALE = 1:10

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME:	MORRISTOWN		
PROJECT NUMBER:	STP F 029-1(2)C/1		
FILE NAME:	z10b194aj1.dgn	PLOT DATE:	29-MAR-2012
PROJECT LEADER:	DMB	DRAWN BY:	P. Dustin
DESIGNED BY:	S. Della	CHECKED BY:	R. Joy
FINGER JOINT DETAILS - 1		SHEET	83 OF 123

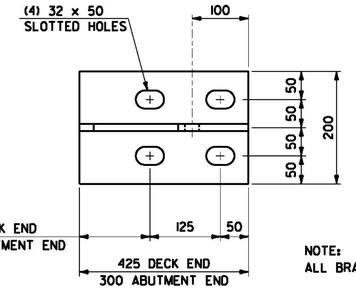


TEMPERATURE ADJUSTMENT TABLE

TEMP (°C)	DIM. "A" (mm)
-18	294
-9	286
-1	278
7	270
16	262
24	254
32	246
41	238

SECTION A-A (TYPICAL SECTION BETWEEN GIRDERS)

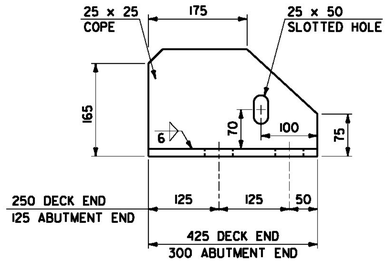
SCALE: 1:5
(ABUTMENT NO. 2 SHOWN, ABUTMENT NO. 1 SIMILAR)



NOTE:
ALL BRACKETS AND PLATES 13 mm THICK

BRACKET PLAN

SCALE: 1:5



BRACKET ELEVATION

SCALE: 1:5

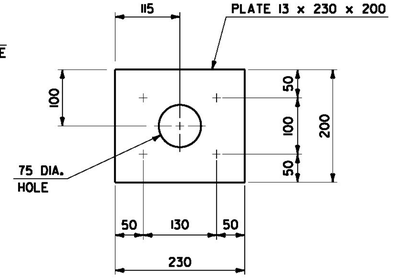
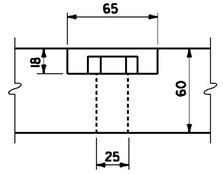


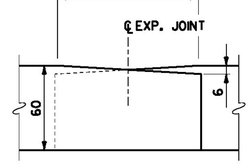
PLATE PLAN

SCALE: 1:5



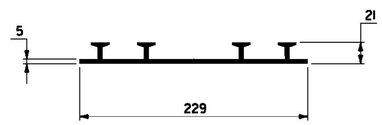
DETAIL A

SCALE: 1:2



DETAIL B

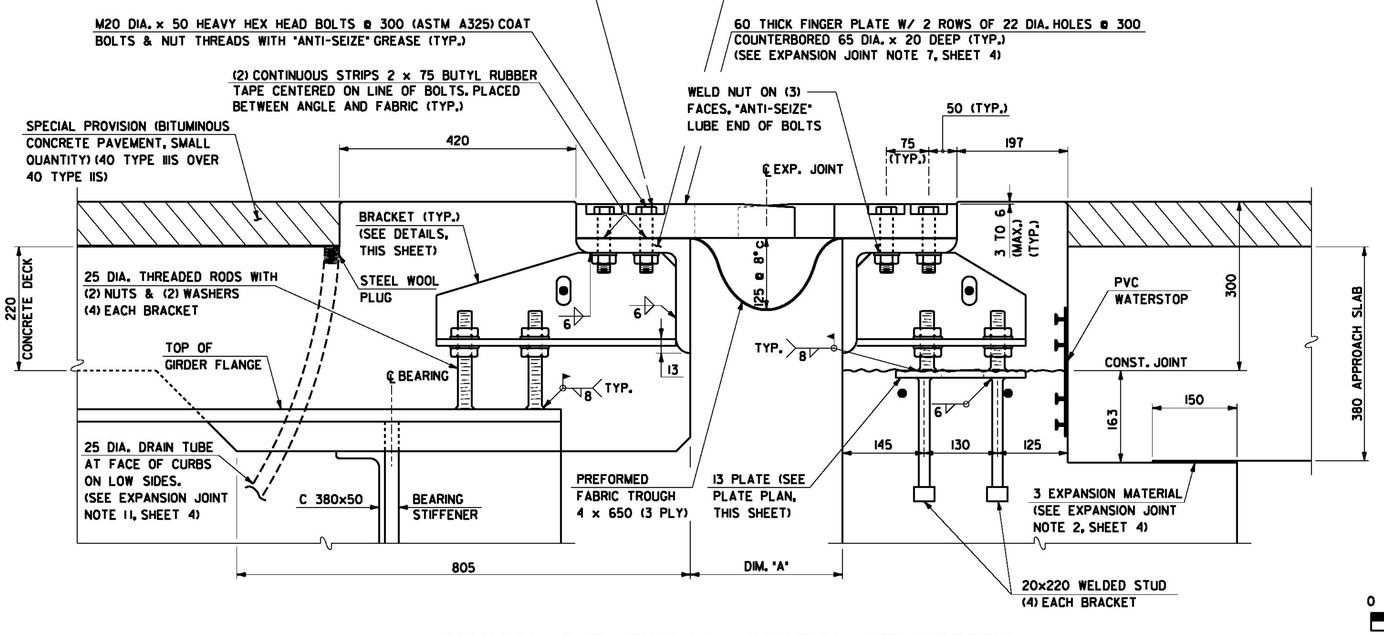
SCALE: 1:2



NOTE:
THE COSTS FOR P. V. C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

P. V. C. WATERSTOP FOR CONSTRUCTION JOINTS

NOT TO SCALE



SECTION B-B (TYPICAL SECTION AT GIRDERS)

SCALE: 1:5
(ABUTMENT NO. 2 SHOWN, ABUTMENT NO. 1 SIMILAR)

NOTES

1. FOR GENERAL NOTES AND EXPANSION JOINT NOTES, SEE SHEETS 3 AND 4.
2. EXPANSION MATERIAL INCIDENTAL TO ITEM 501.34.

0 0.25 0.5
SCALE = 1:5

0 .1 .2
SCALE = 1:2

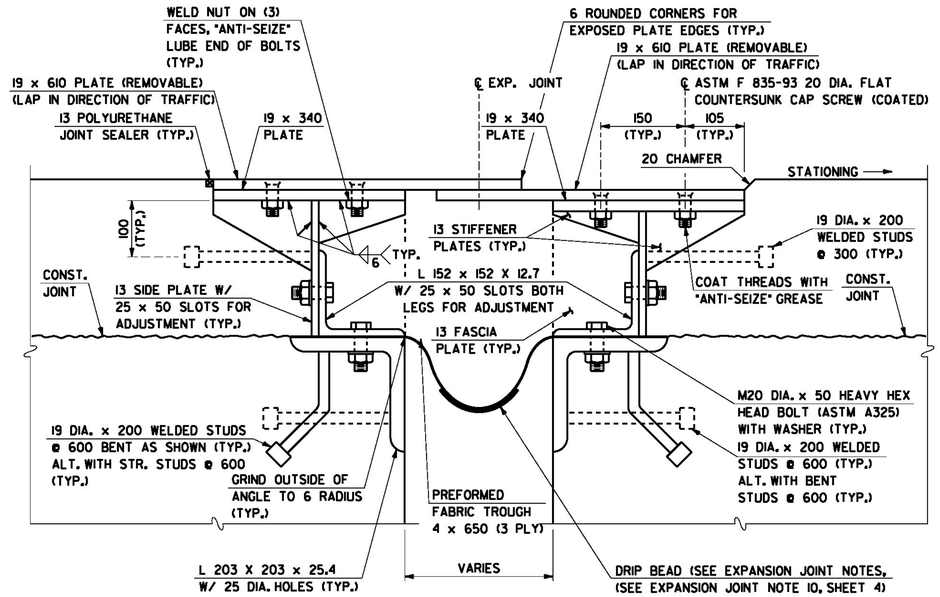
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194aj2.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della
FINGER JOINT DETAILS - 2

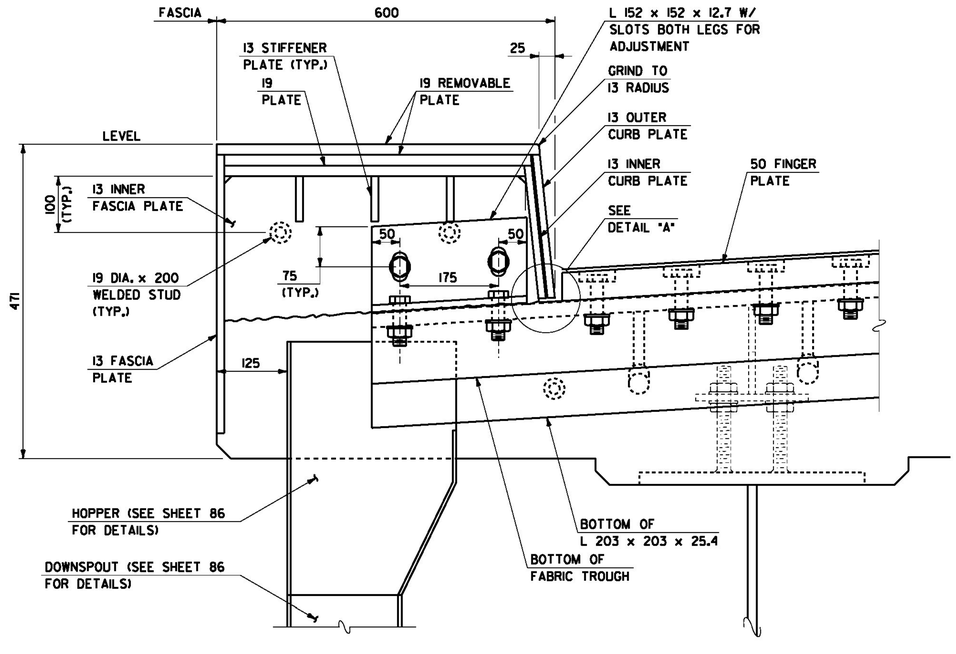
PLOT DATE: 29-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 84 OF 123

McFarland Johnson



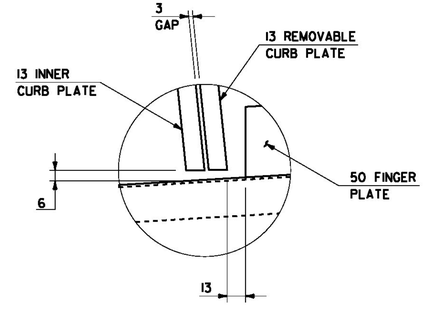
SECTION D-D (TYPICAL SECTION AT ARMORED BRUSH CURB)

SCALE: 1:5



SECTION C-C

SCALE: 1:5



DETAIL "A"

SCALE: 1:2

0 0.25 0.5

SCALE = 1:5

0 .1 .2

SCALE = 1:2

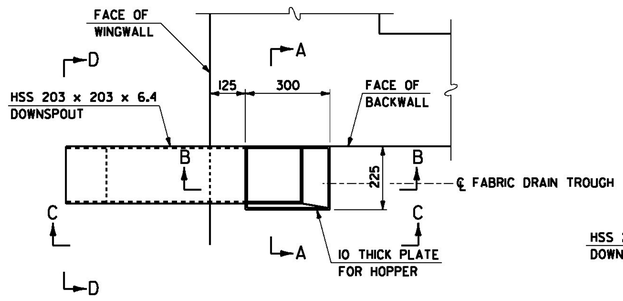
NOTE

1. FOR ADDITIONAL EXPANSION JOINT NOTES, SEE SHEET 4.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

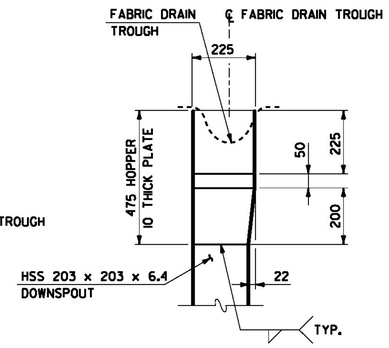
McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME:	z10b194aj3.DGN
PROJECT LEADER:	DMB
DESIGNED BY:	S. Della
FINGER JOINT DETAILS - 3	
PLOT DATE:	29-MAR-2012
DRAWN BY:	P. Dustin
CHECKED BY:	R. Joy
SHEET	85 OF 123



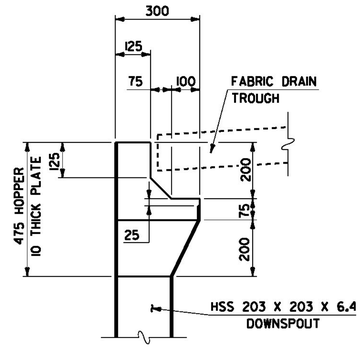
TYPICAL HOPPER PLAN

SCALE: 1:10



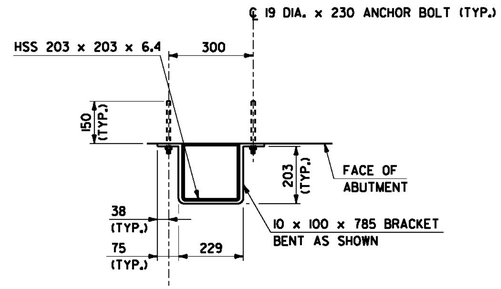
SECTION A-A

SCALE: 1:10



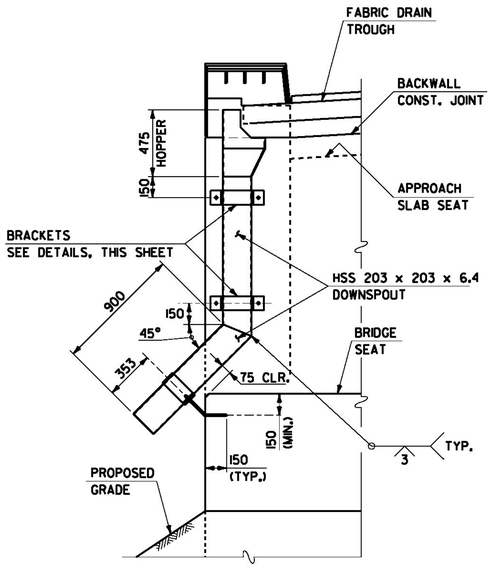
SECTION B-B

SCALE: 1:10



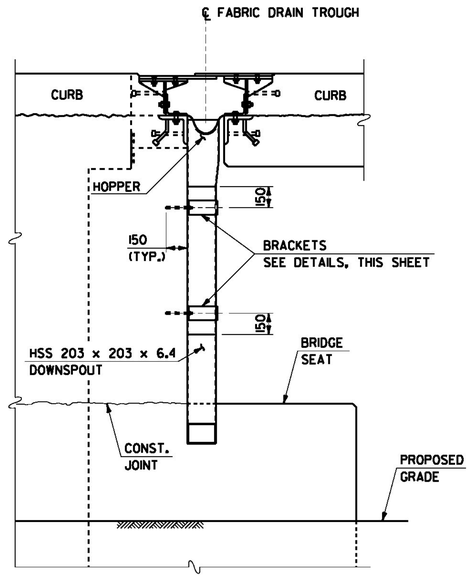
DETAIL FOR ATTACHING DOWNSPOUT TO BACKWALL

SCALE: 1:10



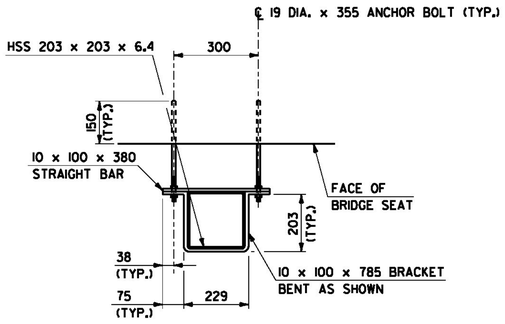
ELEVATION C-C

SCALE: 1:20



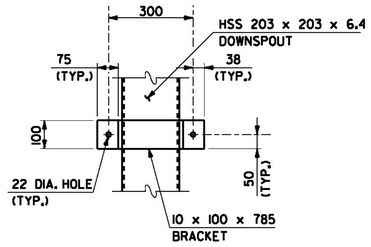
ELEVATION D-D

SCALE: 1:20



DETAIL FOR ATTACHING DOWNSPOUT TO BRIDGE SEAT

SCALE: 1:10



BRACKET ELEVATION

SCALE: 1:10

BRACKETS SHALL NOT BE BENT IN THE FIELD

NOTES

1. FOR ADDITIONAL DOWNSPOUT NOTES, SEE SHEET 4.
2. PAYMENT FOR ALL MATERIALS AND LABOR RELATED TO THE HOPPER AND DOWNSPOUT ASSEMBLY SHALL BE INCLUDED IN ITEM 506.55, STRUCTURAL STEEL (PLATE GIRDER).
3. THE HOPPER AND DOWNSPOUT ASSEMBLY SHALL BE INSTALLED AFTER THE BRIDGE EXPANSION JOINT IS IN PLACE.
4. ALL HOPPER AND DOWNSPOUT COMPONENTS AND HARDWARE SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.
5. HOLLOW STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A-500M OR A-501M.
6. ANY PLACE WHERE THE GALVANIZING HAS BEEN REMOVED FROM THE DOWNSPOUT EITHER BY CUTTING, BURNING, WELDING, PLACING, OR ANY OTHER MEANS, IT SHALL BE PREPARED BY THOROUGHLY CLEANING THE DAMAGED AREAS WITH A WIRE BRUSH AND PAINTING THE DAMAGED AREAS WITH AN APPROVED SEALANT AS DETERMINED BY THE ENGINEER AT NO ADDITIONAL COST.

0 1 2

SCALE = 1:20

0 0.5 1

SCALE = 1:10

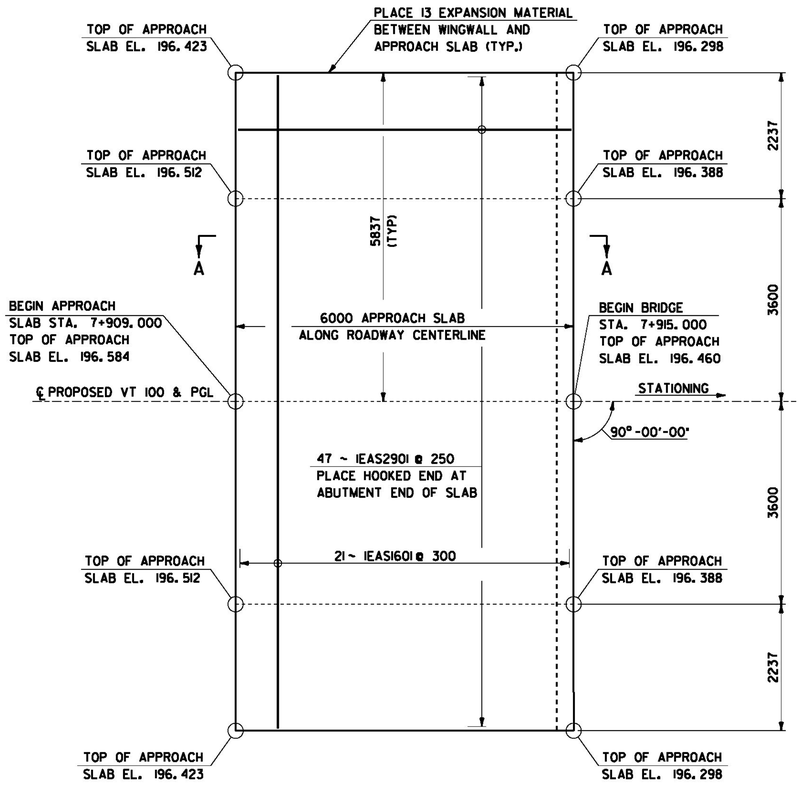
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

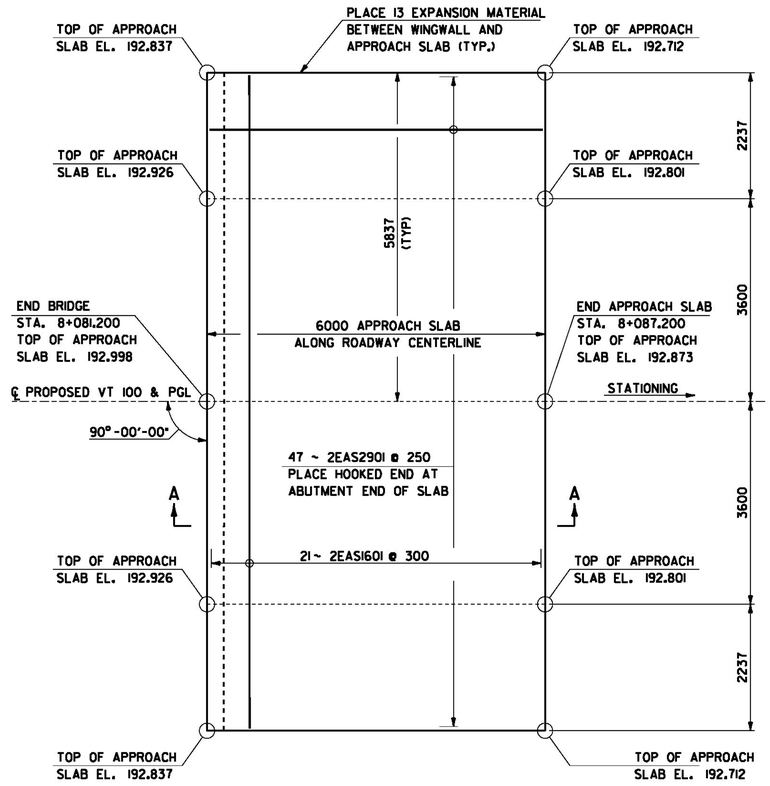
FILE NAME: z10bl94add.dgn
PROJECT LEADER: DMB
DESIGNED BY: D. Kull / P. Dustin
DOWNSPOUT AND HOPPER DETAILS

PLOT DATE: 11-APR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SHEET 86 OF 123



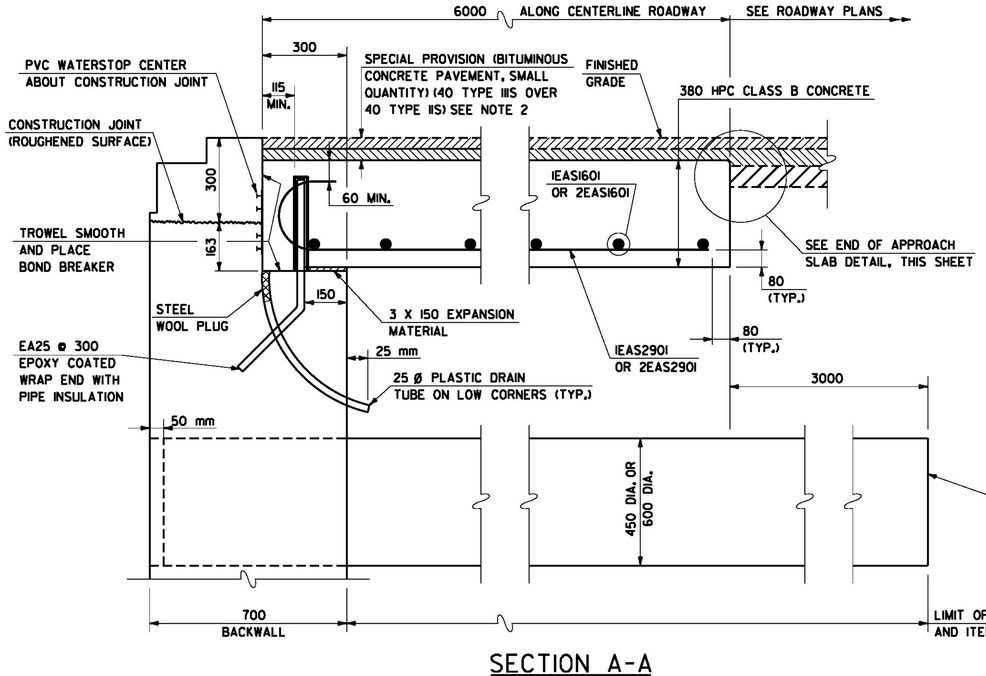
APPROACH SLAB NO. 1 PLAN

SCALE: 1:50



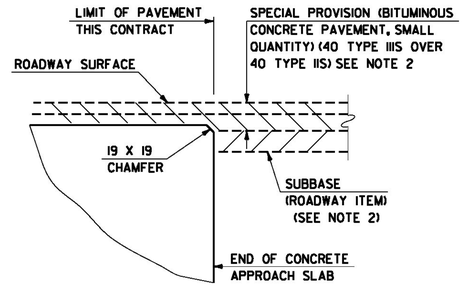
APPROACH SLAB NO. 2 PLAN

SCALE: 1:50



SECTION A-A

SCALE: 1:10



END OF APPROACH SLAB DETAIL

NOT TO SCALE

NOTES

1. REINFORCING STEEL COVER SHALL BE 80 CLR. UNLESS OTHERWISE SPECIFIED.
2. SECOND LIFT OF BITUMINOUS CONCRETE PAVEMENT TYPE IIIS, SUBBASE AND ROADWAY BITUMINOUS PAVEMENT IS NOT INCLUDED IN THIS CONTRACT.

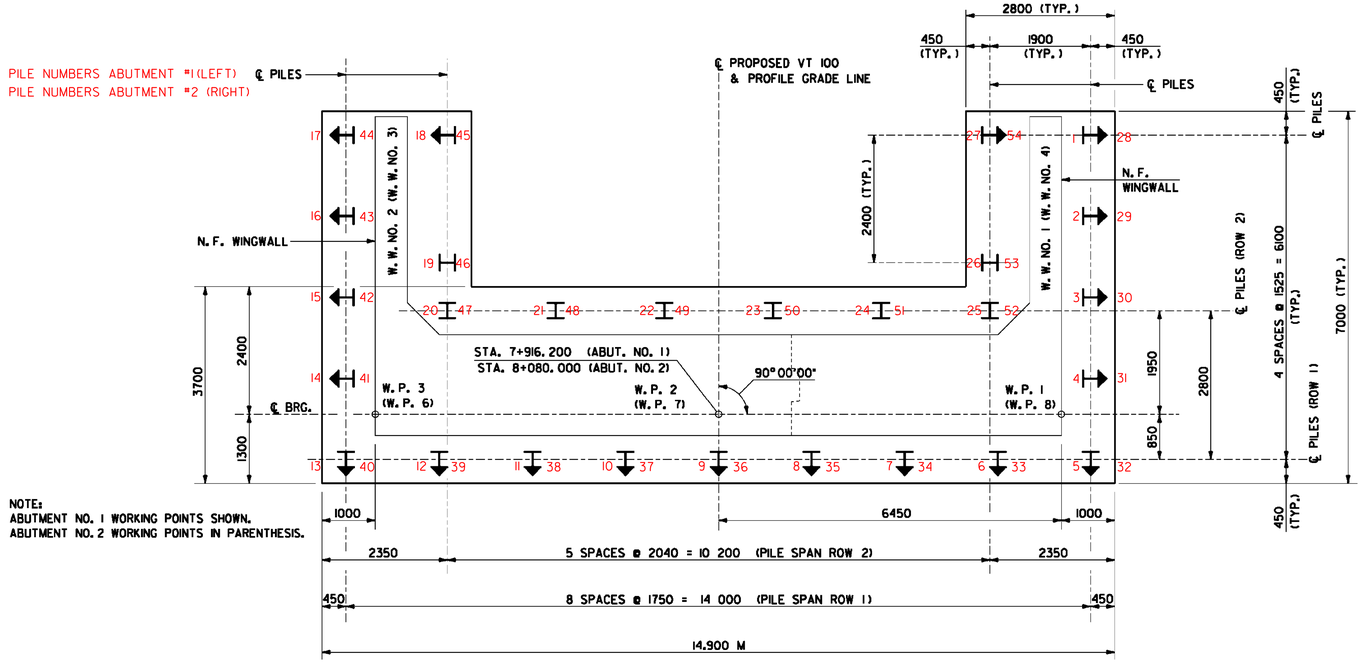
0 0.5 1
SCALE = 1:10

0 1 2 3 4 5
SCALE = 1:50

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194aas.dgn	PLOT DATE: 29-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: S. Merkwan
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
APPROACH SLAB DETAILS	SHEET 87 OF 123

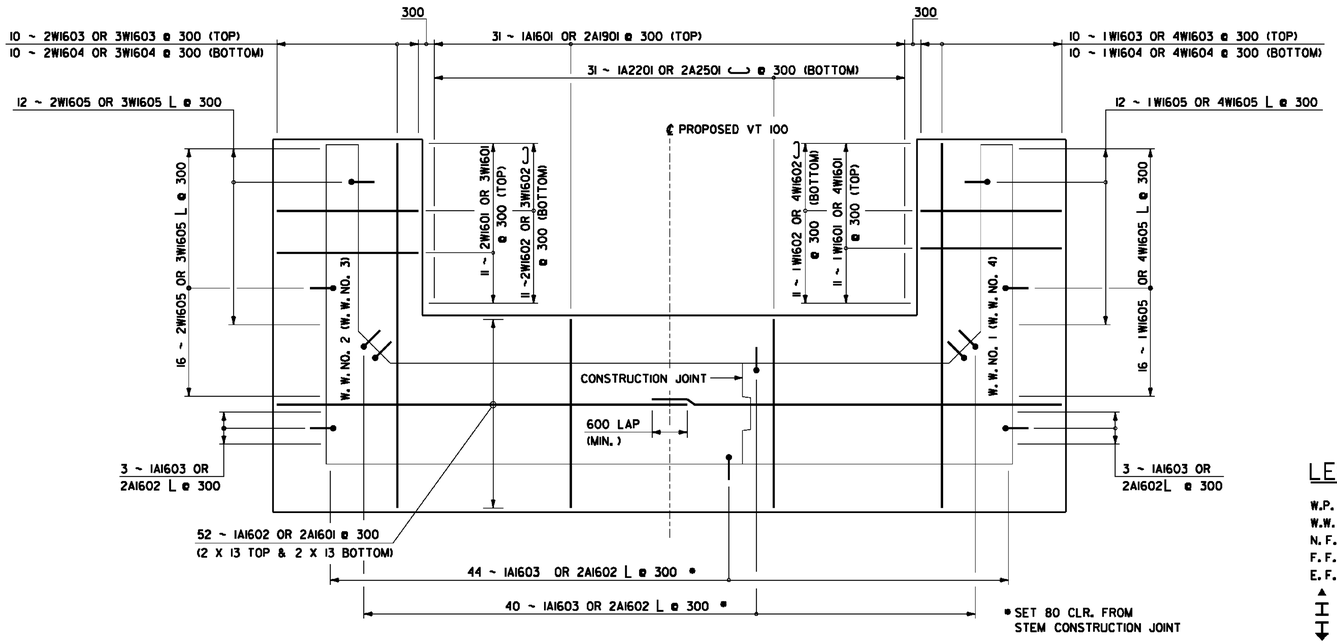
McFarland Johnson



NOTE:
ABUTMENT NO. 1 WORKING POINTS SHOWN.
ABUTMENT NO. 2 WORKING POINTS IN PARENTHESIS.

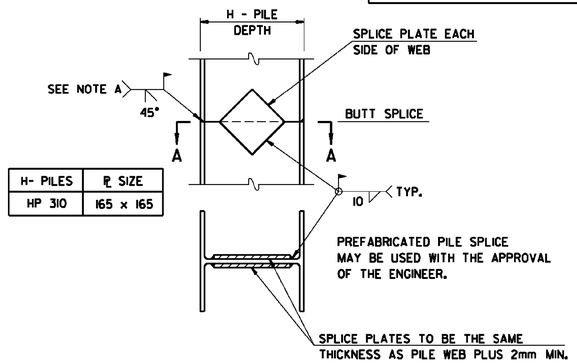
ABUTMENT FOOTING PILE LAYOUT

SCALE: 1:50
ABUTMENT NO. 1 SHOWN (ABUTMENT NO. 2 SIMILAR)



ABUTMENT FOOTING REINFORCING STEEL LAYOUT

SCALE: 1:50
ABUTMENT NO. 1 SHOWN (ABUTMENT NO. 2 SIMILAR)



H- PILES	℄ SIZE
HP 310	165 x 165

SECTION A-A

NOTE A:
FULL PENETRATION FLANGE ONLY (TYP.)

DETAIL OF PILE SPLICE

NOT TO SCALE

PILE SPLICE NOTES

1. DO NOT ALLOW PILE SPLICING ON ANY PORTION OF PILE THAT IS TO REMAIN EXPOSED OR BE ABOVE FINISHED GROUND LINE IN COMPLETED STRUCTURE.
2. PROVIDE SPLICED SLEEVE MATERIAL SAME AS PILE MATERIAL.
3. LET WELDS COOL TO AIR TEMPERATURE BEFORE DRIVING PILES.
4. SPLICE MUST DEVELOP THE YIELD STRENGTH OF THE PILE IN BEARING AND BENDING.
5. REFER TO SUBSECTION 506.10 (d) FOR FIELD WELDING REQUIREMENTS.

WORKING POINTS

LOCATION	NORTHING	EASTING
W. P. 1	228947.6657	491491.2252
W. P. 2	228943.4670	491496.1225
W. P. 3	228939.2693	491501.0186
W. P. 6	229072.0191	491597.8392
W. P. 7	229067.8204	491602.7365
W. P. 8	229063.6228	491607.6326

LEGEND

W.P. = WORKING POINT
W.W. = WINGWALL
N. F. = NEAR FACE
F. F. = FAR FACE
E. F. = EACH FACE
▲ = CUT TO FIT IN FIELD
I = HP 310x79 BEARING PILE
I = HP 310x79 BATTERED PILE AT 3 TO 12 BATTER

NOTE

1. REINFORCING STEEL COVER SHALL BE 80 CLR. UNLESS OTHERWISE SPECIFIED.

0 1 2 3 4 5
SCALE = 1:50

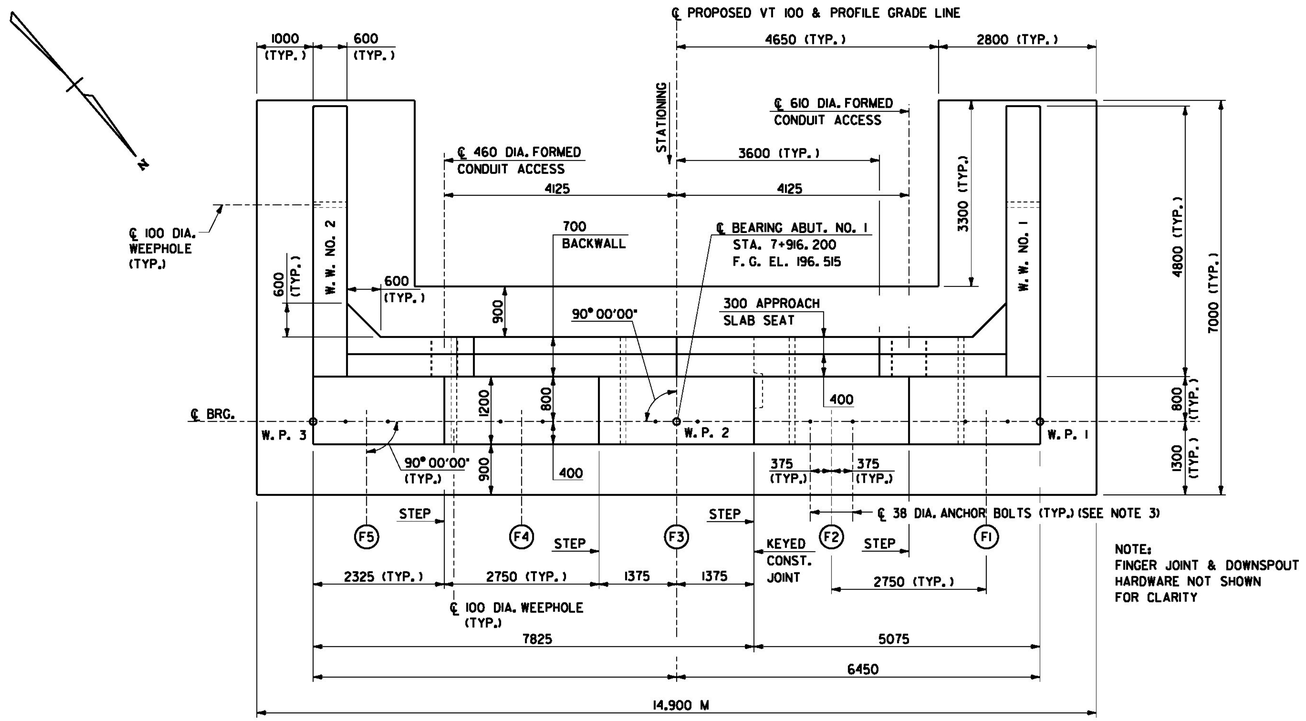
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

McFarland Johnson

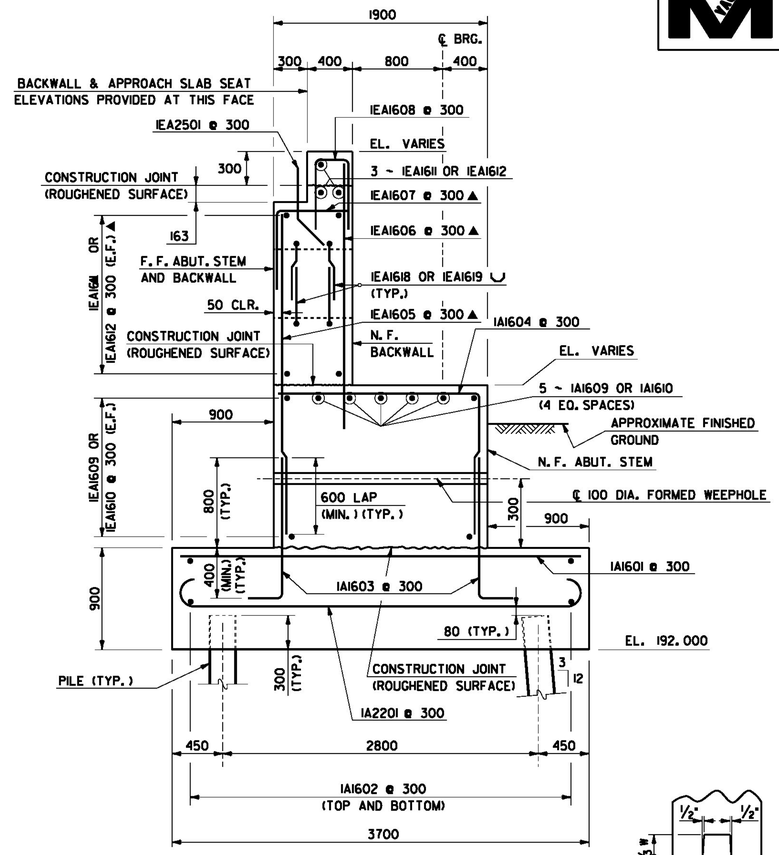
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194aaf.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della / D. Kull
ABUTMENT FOOTINGS AND DETAILS

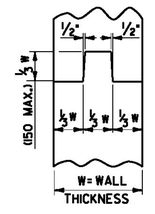
PLOT DATE: 29-MAR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SHEET 88 OF 123



ABUTMENT NO. 1 PLAN
SCALE: 1:50

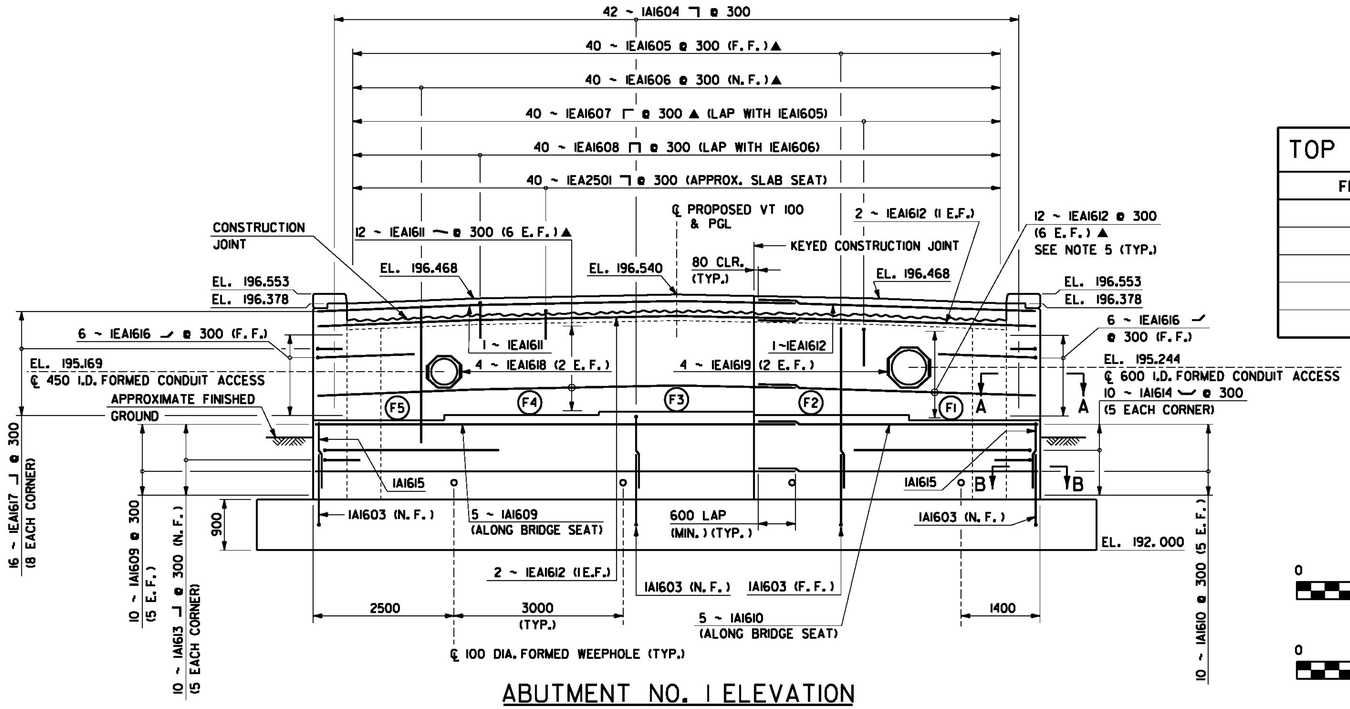


ABUTMENT NO. 1 SECTION
SCALE: 1:25



KEYED CONSTRUCTION JOINT DETAIL
NOT TO SCALE

TOP OF PEDESTAL ELEVATIONS	
FRAME NO.	ELEVATION
F1	194.310
F2	194.403
F3	194.458
F4	194.403
F5	194.310



ABUTMENT NO. 1 ELEVATION
SCALE: 1:50
NOTE: PILES NOT SHOWN FOR CLARITY

LEGEND

N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
I.D. = INSIDE DIAMETER
▲ = CUT TO FIT IN FIELD
(F1) FRAME NUMBER

0 1 2
SCALE = 1:25

0 1 2 3 4 5
SCALE = 1:50

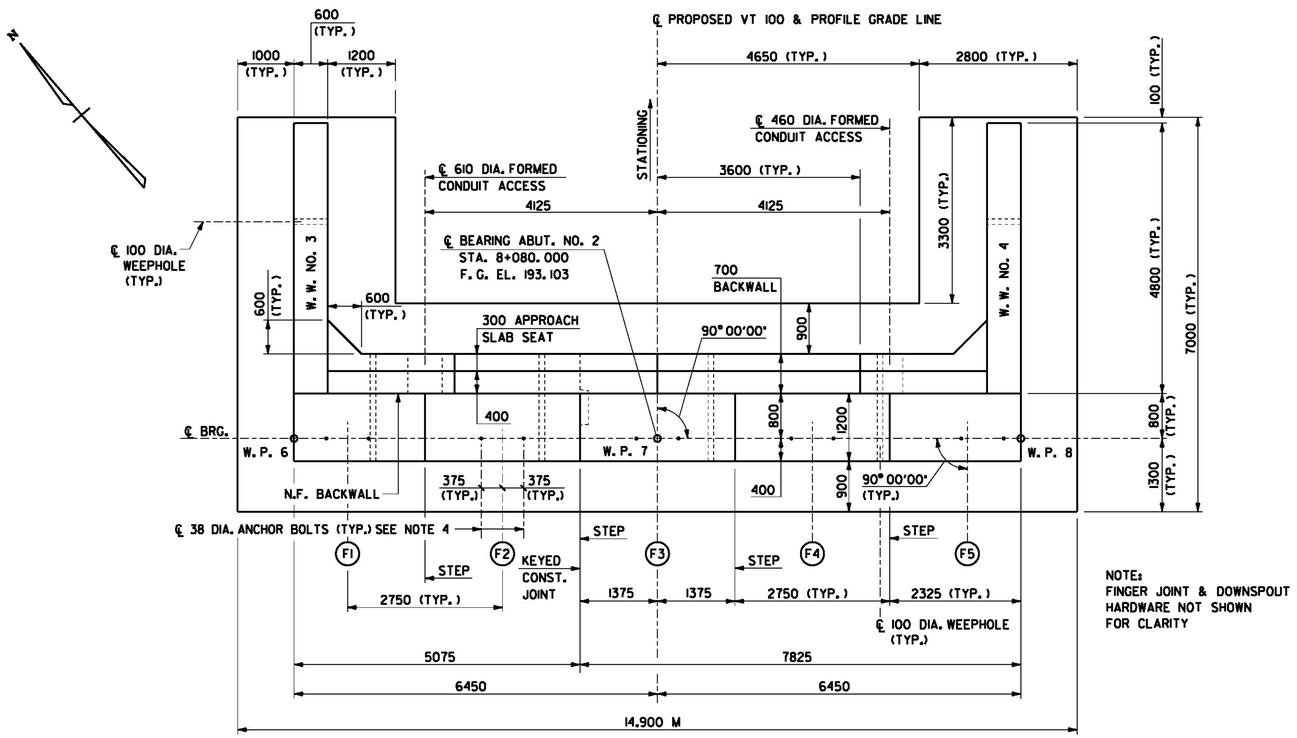
NOTES

1. FOR SECTIONS A-A AND B-B, SEE SHEET 91.
2. FOR WORKING POINT COORDINATES, SEE SHEET 88.
3. FIELD DRILL 60 DIA. X 380 MIN DEEP HOLES FOR NO. 38 ANCHOR BOLTS.
4. FOR BRIDGE RAIL LAYOUT ON WINGWALLS, SEE SHEET 69.
5. HORIZONTAL BARS SHALL BE SPACED TO FOLLOW GEOMETRY OF THE BRIDGE CROWN.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.
ALL ELEVATIONS IN METERS (M)

McFarland Johnson

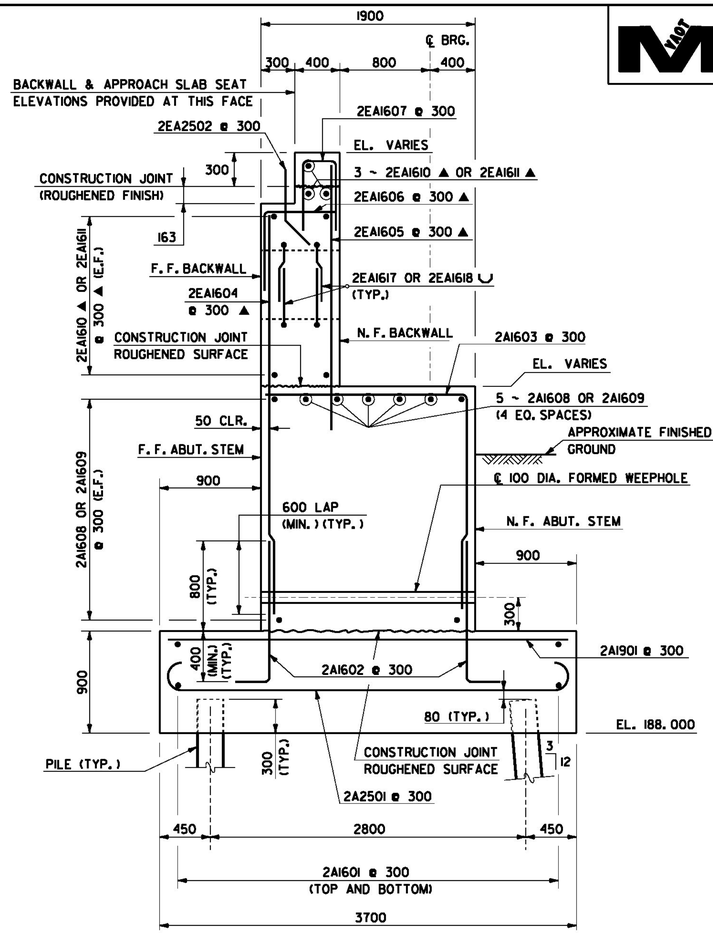
PROJECT NAME:	MORRISTOWN		
PROJECT NUMBER:	STP F 029-1(2)C/1		
FILE NAME:	z10b194asa.dgn	PLOT DATE:	29-MAR-2012
PROJECT LEADER:	DMB	DRAWN BY:	S. Merkwan
DESIGNED BY:	S. Della / D. Kull	CHECKED BY:	R. Joy
ABUTMENT NO.	1	SHEET	89 OF 123



NOTE:
FINGER JOINT & DOWNSPOUT HARDWARE NOT SHOWN FOR CLARITY

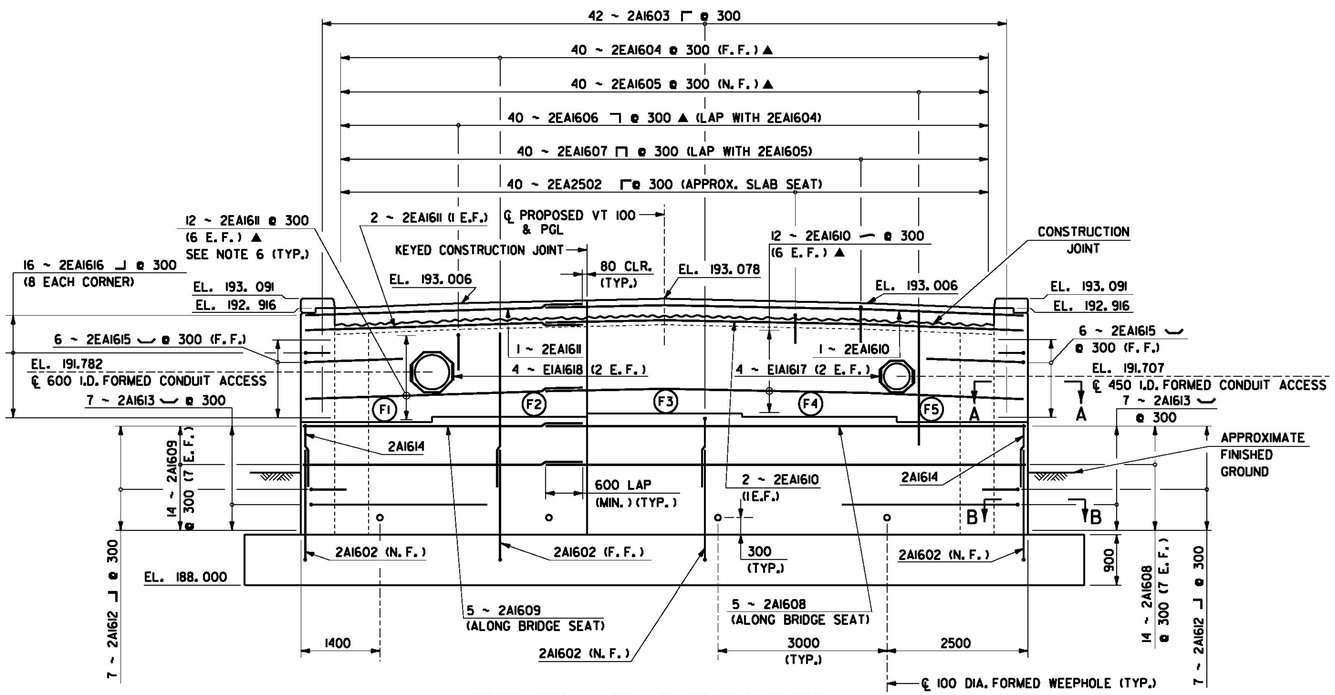
ABUTMENT NO. 2 PLAN

SCALE: 1:50



ABUTMENT NO. 2 SECTION

SCALE: 1:25



ABUTMENT NO. 2 ELEVATION

SCALE: 1:50

NOTE: PILES NOT SHOWN FOR CLARITY

TOP OF PEDESTAL ELEVATIONS

FRAME NO.	ELEVATION
F1	190.899
F2	190.992
F3	191.047
F4	190.992
F5	190.899

LEGEND

N. F. = NEAR FACE
F. F. = FAR FACE
E. F. = EACH FACE
I. D. = INSIDE DIAMETER
▲ = CUT TO FIT IN FIELD
(F1) FRAME NUMBER

0 1 2
SCALE = 1:25

0 1 2 3 4 5
SCALE = 1:50

NOTES

1. FOR KEYED CONSTRUCTION JOINT DETAIL, SEE SHEET 89.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 91.
2. FOR WORKING POINT COORDINATES, SEE SHEET 88.
3. FIELD DRILL 60 DIA. X 380 MIN DEEP HOLES FOR NO. 38 ANCHOR BOLTS.
4. FOR BRIDGE RAIL LAYOUT ON WINGWALLS, SEE SHEET 69.
5. HORIZONTAL BARS SHALL BE SPACED TO FOLLOW GEOMETRY OF THE BRIDGE CROWN.

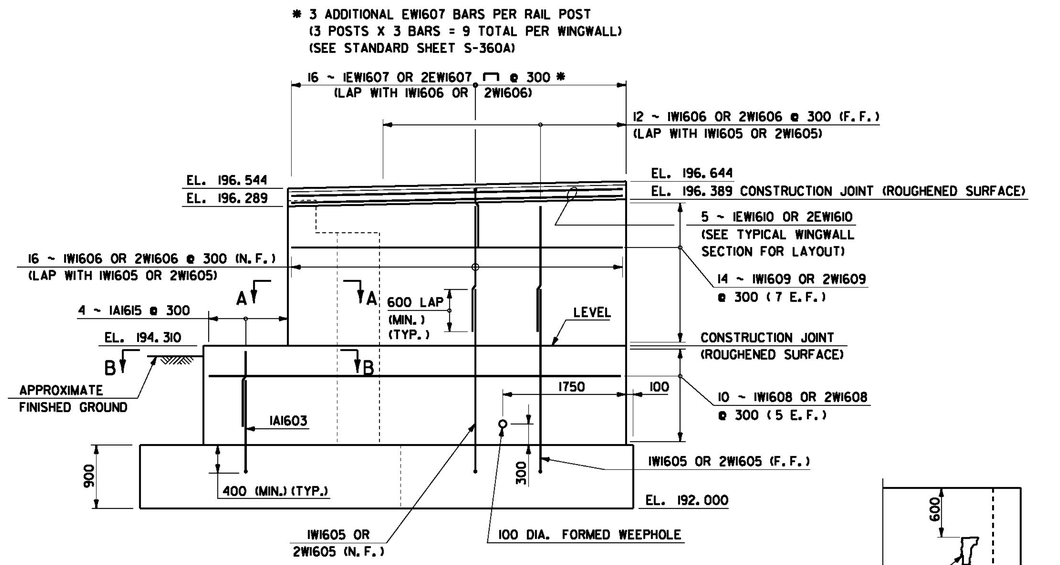
NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.
ALL ELEVATIONS IN METERS (M)

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194ana.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della / D. Kull
ABUTMENT NO. 2

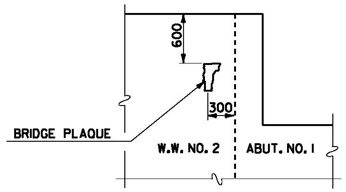
PLOT DATE: 29-MAR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SHEET 90 OF 123



WINGWALL NOS. 1 & 2 ELEVATION

SCALE: 1:40

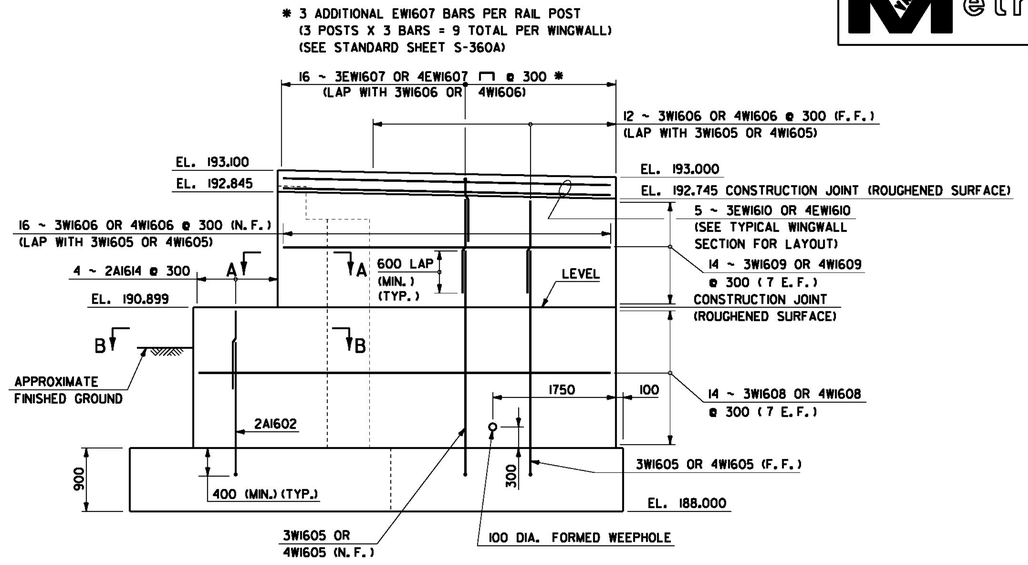
NOTE: OUTSIDE (NEAR) FACE OF WINGWALL SHOWN. APPROACH SLAB RAIL NOT SHOWN FOR CLARITY. PILES NOT SHOWN FOR CLARITY.



BRIDGE PLAQUE LOCATION DETAIL

NOT TO SCALE

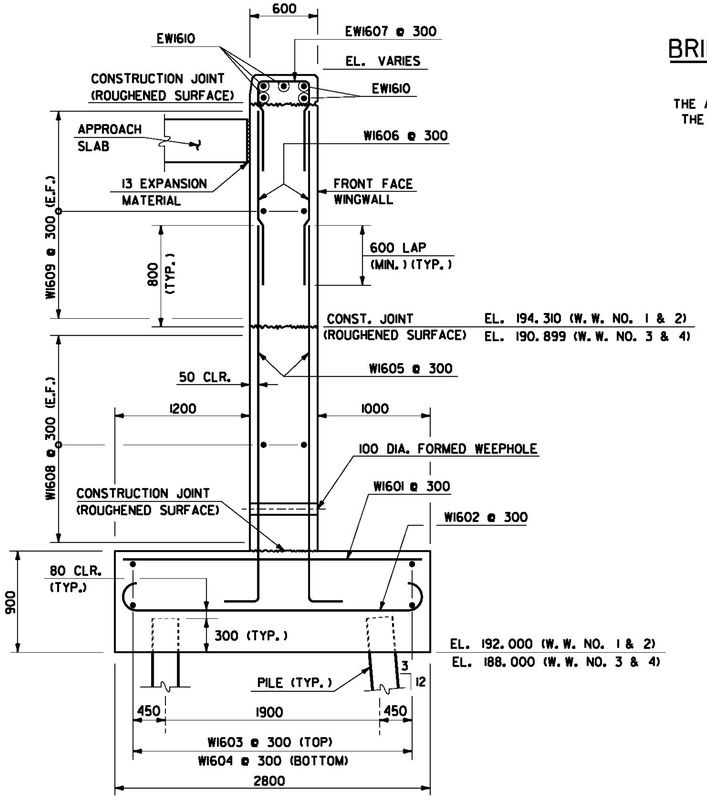
THE BRIDGE PLAQUE WILL BE SUPPLIED BY THE AGENCY OF TRANSPORTATION AND SHALL BE INSTALLED BY THE CONTRACTOR AT ABUTMENT NO. 1 ON THE RIGHT SIDE AS SHOWN OR AS DIRECTED BY THE ENGINEER.



WINGWALL NOS. 3 & 4 ELEVATION

SCALE: 1:40

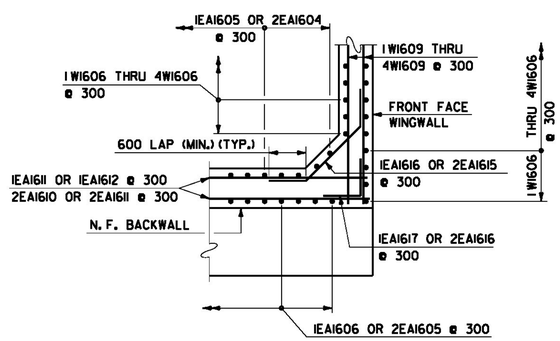
NOTE: OUTSIDE (NEAR) FACE OF WINGWALL SHOWN. APPROACH SLAB RAIL NOT SHOWN FOR CLARITY. PILES NOT SHOWN FOR CLARITY.



TYPICAL WINGWALL SECTION

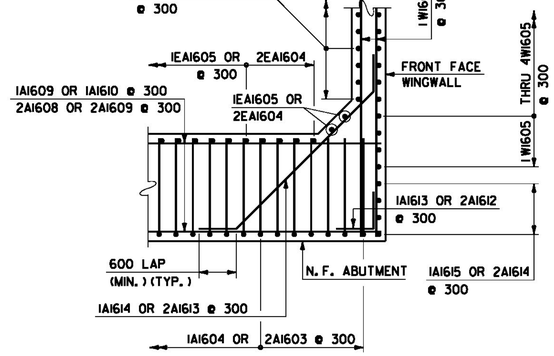
SCALE: 1:25

NOTE: APPROACH SLAB RAIL NOT SHOWN FOR CLARITY.



SECTION A-A
(CORNER DETAIL ABOVE BRIDGE SEAT)

SCALE: 1:50



SECTION B-B
(CORNER DETAIL BELOW BRIDGE SEAT)

SCALE: 1:50

LEGEND

N.F.: NEAR FACE
F.F.: FAR FACE
E.F.: EACH FACE
▲: CUT TO FIT IN FIELD

0 1 2
SCALE = 1:25

0 1 2 3 4
SCALE = 1:40

0 1 2 3 4 5
SCALE = 1:50

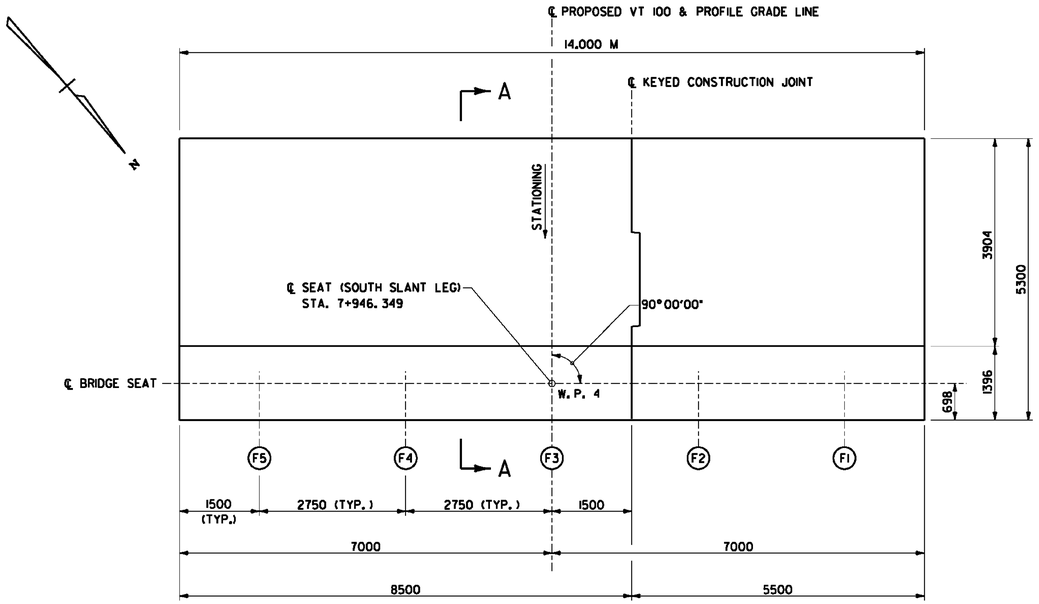
NOTES

1. REINFORCING STEEL COVER SHALL BE 80 CLR. UNLESS OTHERWISE SPECIFIED.
2. FOR BRIDGE RAIL LAYOUT ON WINGWALLS, SEE SHEET 69.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME:	MORRISTOWN		
PROJECT NUMBER:	STP F 029-1(2)C/1		
FILE NAME:	z10b194awd.dgn	PLOT DATE:	29-MAR-2012
PROJECT LEADER:	DMB	DRAWN BY:	S. Merkwan
DESIGNED BY:	S. Della / D. Kull	CHECKED BY:	R. Joy
SUBSTRUCTURE DETAILS		SHEET	91 OF 123

McFarland Johnson

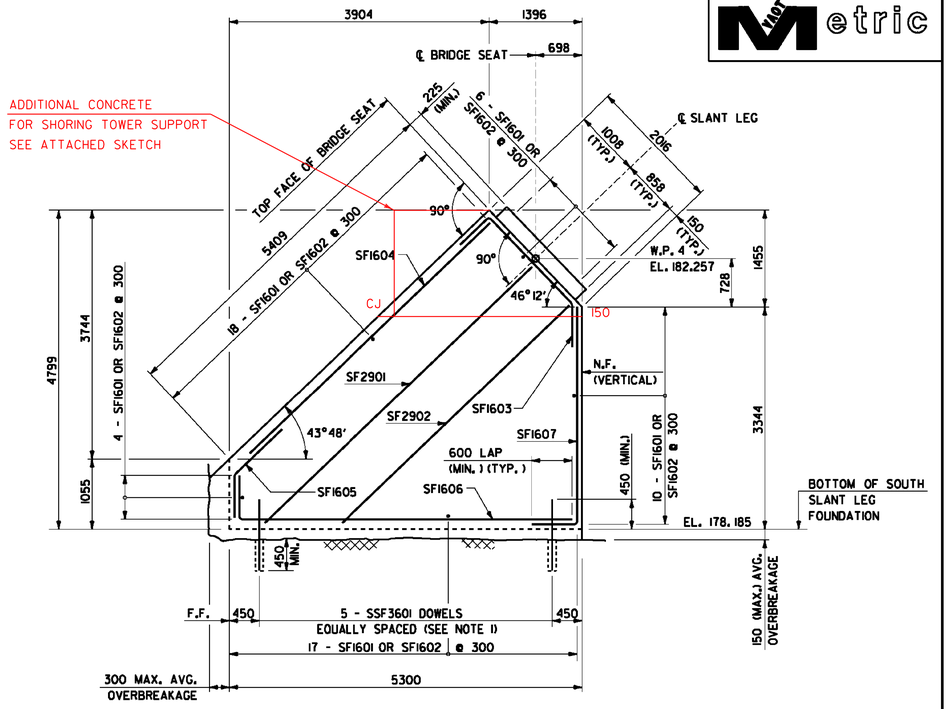


NOTE:
PEDESTAL NOT SHOWN FOR CLARITY.

SOUTH SLANT LEG PLAN

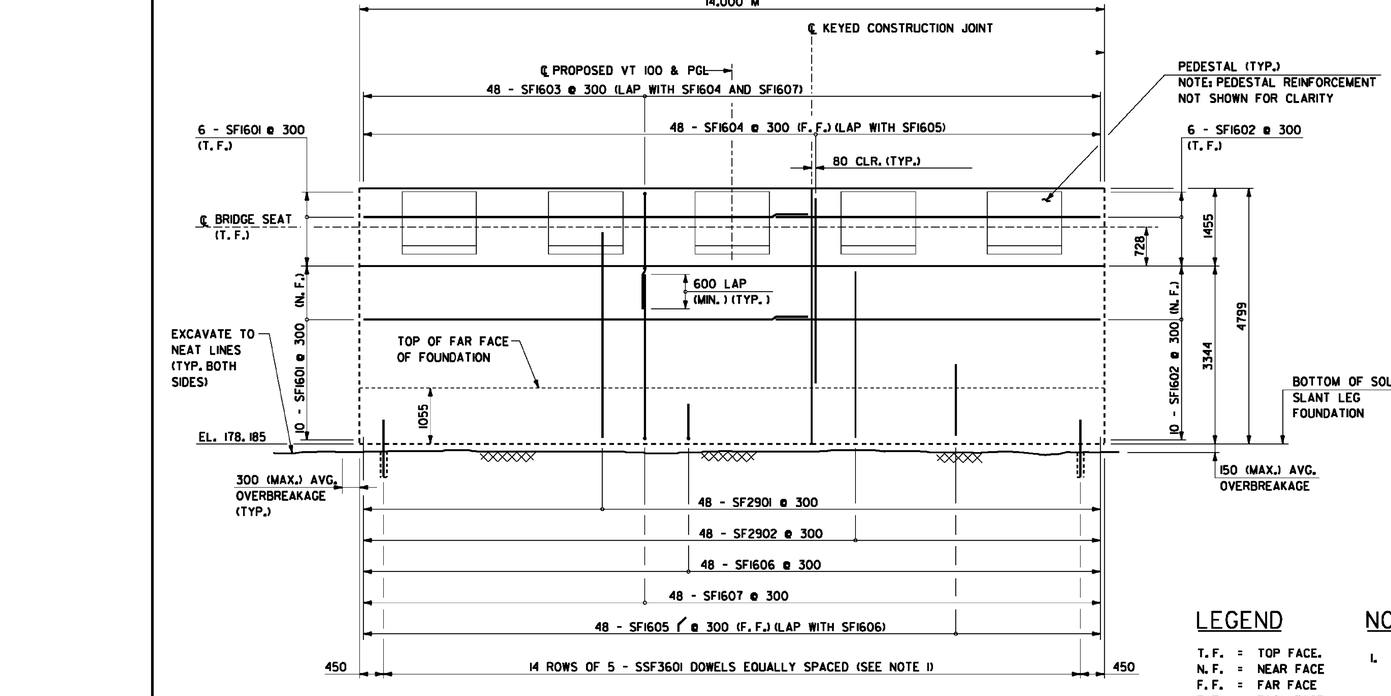
SCALE: 1:50

WORKING POINTS		
LOCATION	NORTHING	EASTING
W.P. 4	228966.3630	491515.7525



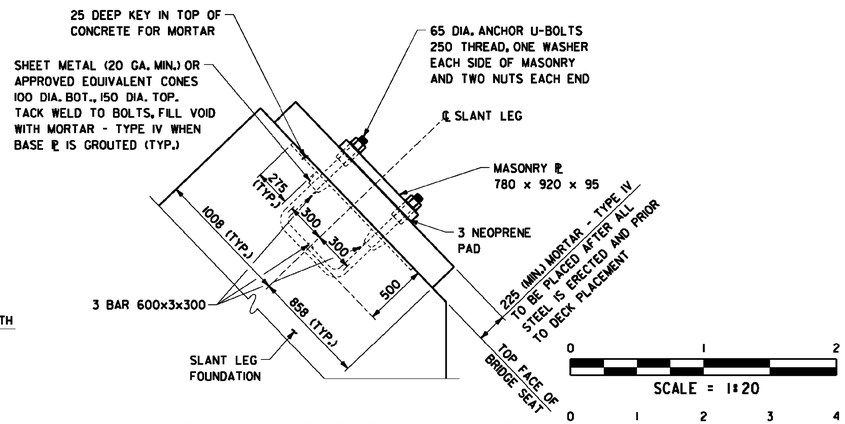
SECTION A-A

SCALE: 1:40



SOUTH SLANT LEG ELEVATION

SCALE: 1:50



ANCHOR BOLT SYSTEM DETAIL

SCALE: 1:20
NOTE: PEDESTAL REINFORCEMENT NOT SHOWN FOR CLARITY

SCALE = 1:20

SCALE = 1:40

SCALE = 1:50

LEGEND

T.F. = TOP FACE.
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

NOTE

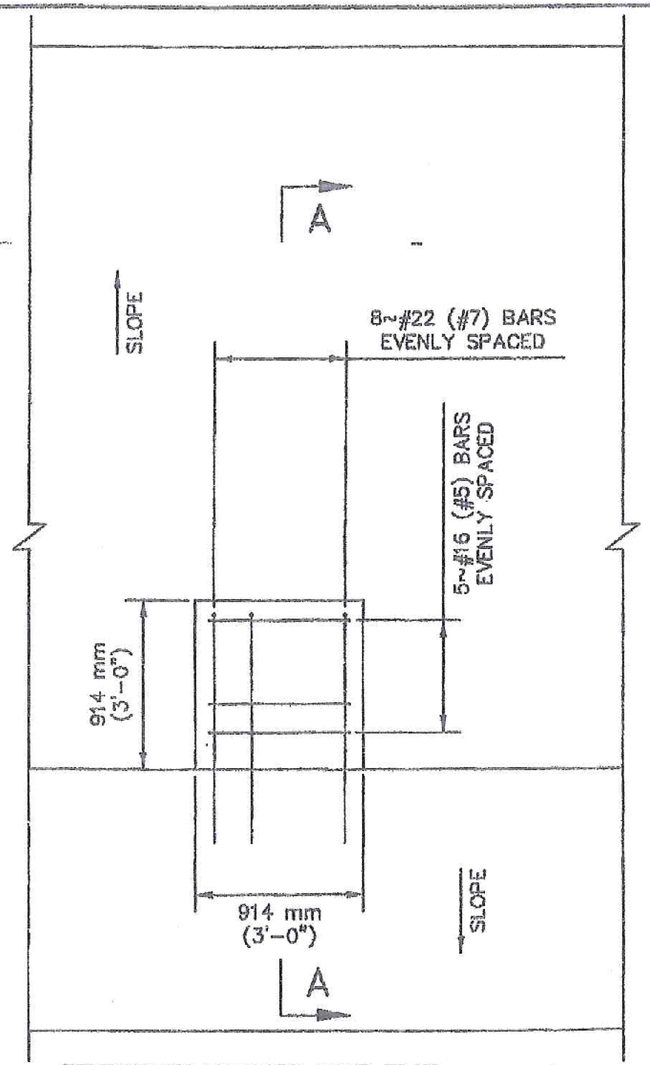
1. DOWELS SET INTO LEDGE SHALL BE STAINLESS STEEL REINFORCING AND PAID AS ITEM 900.635 SPECIAL PROVISION (STAINLESS STEEL REINFORCING).

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

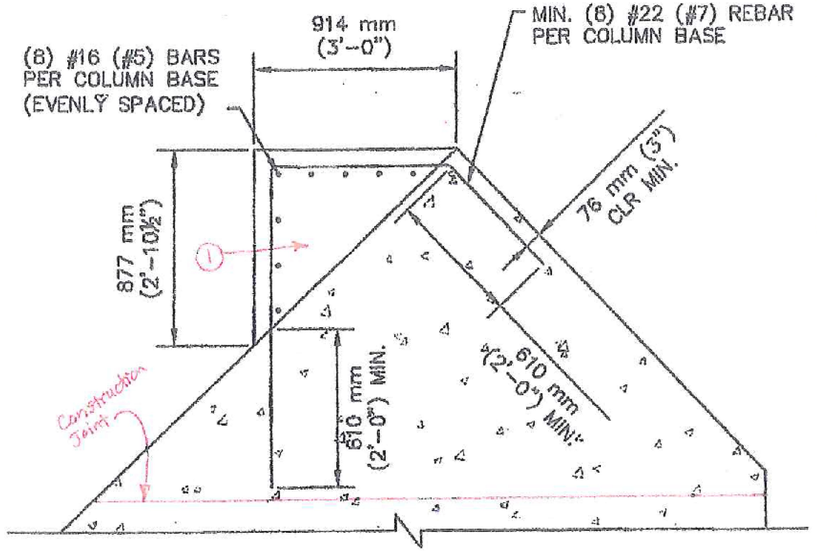
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10bl94asf.dgn
PROJECT LEADER: DMB
DESIGNED BY: D. Kull/S. Della
PLOT DATE: 29-MAR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SOUTH SLANT LEG FOUNDATION
SHEET 92 OF 123



TEMPORARY SUPPORT BASE PLAN
SCALE: 1:600



SECTION A-A
SCALE: 1:500

① Pour pedestal integrally with upper portion of foundation.

☒ Reviewed
☐ Rejected

☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

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

McFarland-Johnson, Inc. Morristown 17246.00

Date 12/7/12

By RJ Joy

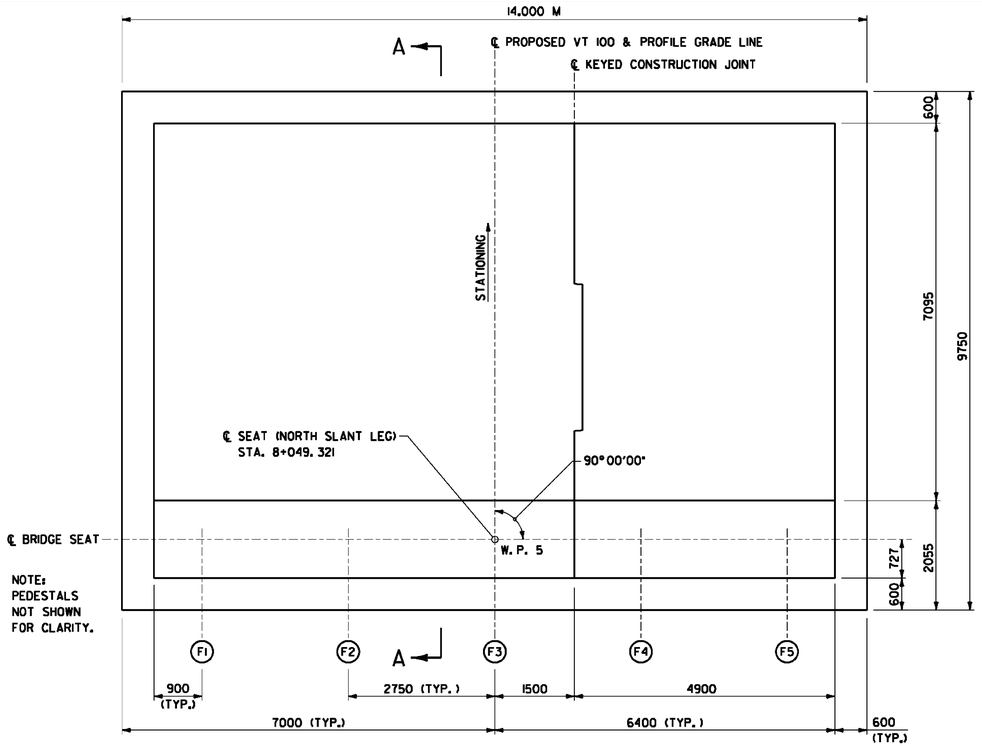
TEMPORARY SUPPORT COLUMN BASE

ER-1

ECKMAN Engineering, LLC

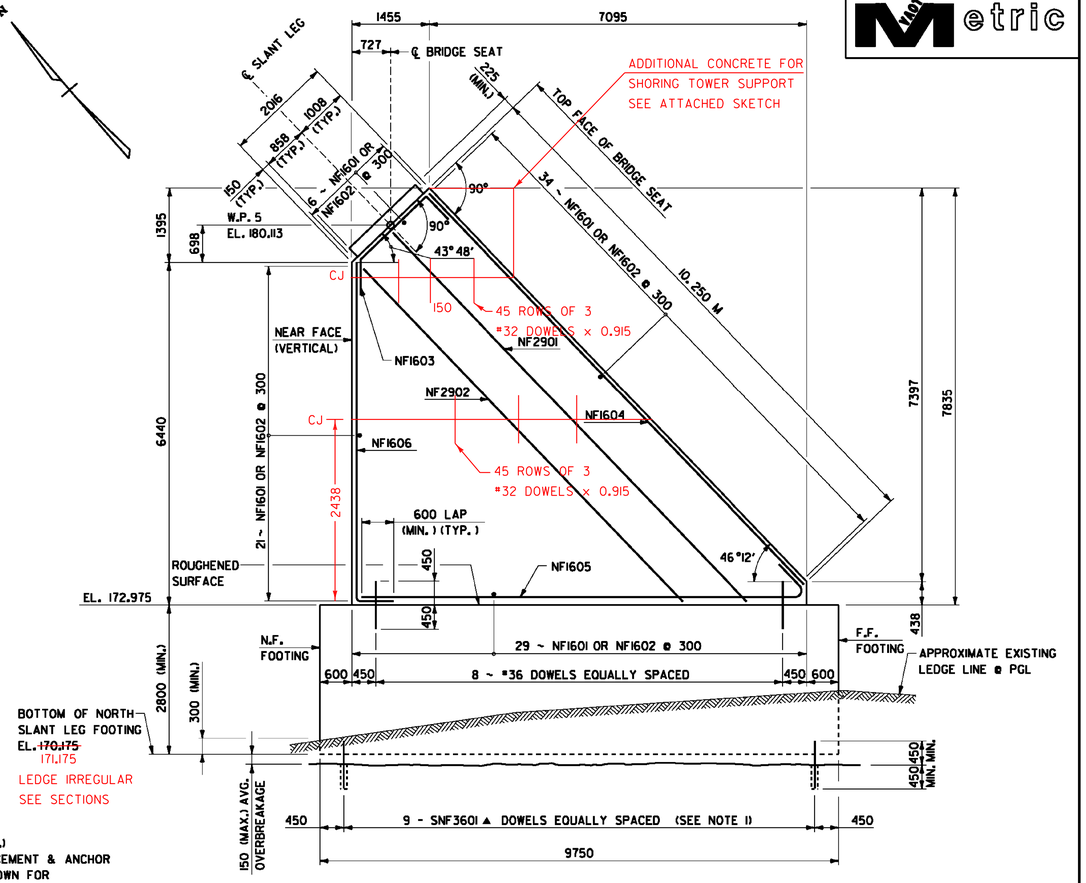
PROPOSED BRIDGE CONSTRUCTION
VT ROUTE 100 OVER LAMOILLE RIVER
MORRISTOWN, VERMONT
PROJECT NUMBER: STP F 028-1(2)c/1

REVISIONS/NOTES



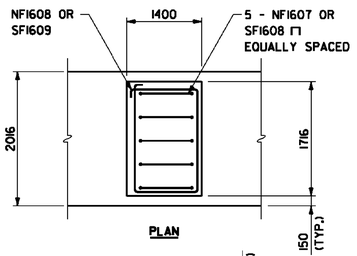
NORTH SLANT LEG PLAN

SCALE: 1:50



SECTION A-A

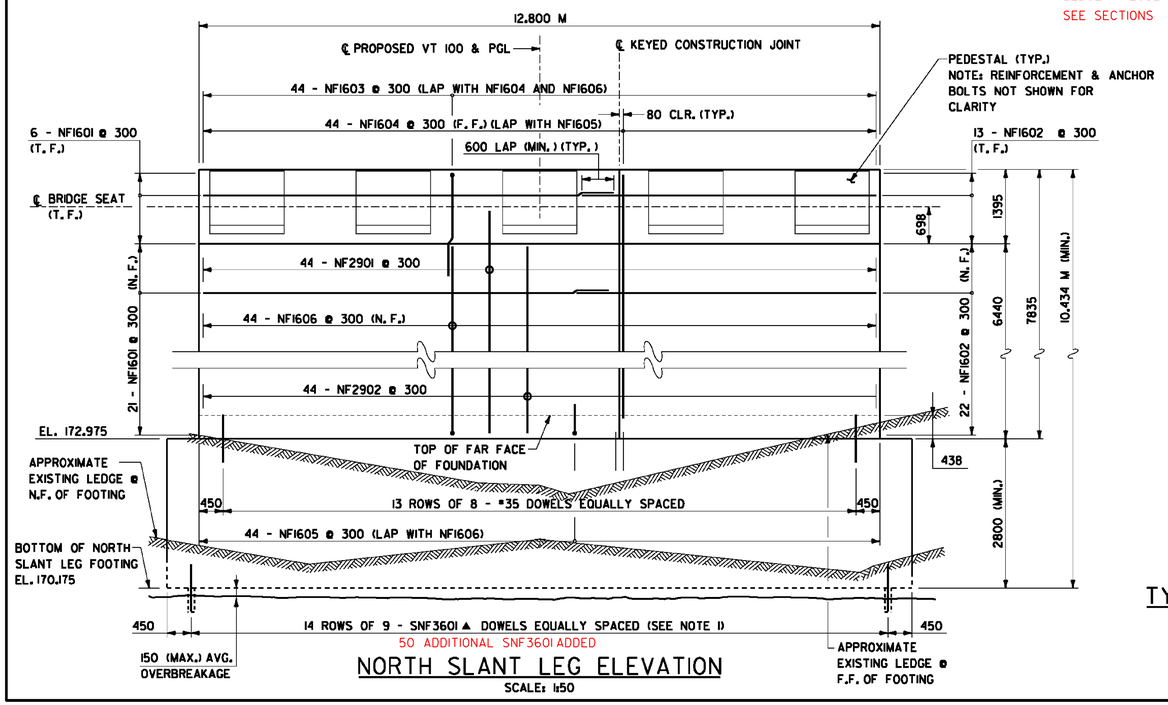
SCALE: 1:50



TYPICAL PEDESTAL REINFORCING

SCALE: 1:40

NOTE: ANCHOR BOLTS NOT SHOWN FOR CLARITY



NORTH SLANT LEG ELEVATION

SCALE: 1:50

WORKING POINTS

LOCATION	NORTHING	EASTING
W. P. 5	229044.5301	491582.7686

NOTE

1. DOWELS SET INTO LEDGE SHALL BE STAINLESS STEEL REINFORCING AND PAID AS ITEM 900.635 SPECIAL PROVISION (STAINLESS STEEL REINFORCING).

LEGEND

T.F. = TOP FACE.
N.F. = NEAR FACE
F.F. = FAR FACE
E.F. = EACH FACE
▲ = CUT TO FIT IN FIELD

0 1 2 3 4
SCALE = 1:40

0 1 2 3 4 5
SCALE = 1:50

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194anf.dgn
PROJECT LEADER: DMB
DESIGNED BY: D. Kull / S. Della
NORTH SLANT LEG FOUNDATION

PLOT DATE: 29-MAR-2012
DRAWN BY: S. Merkwan
CHECKED BY: R. Joy
SHEET 93 OF 123

McFarland Johnson

STATE OF VERMONT
AGENCY OF TRANSPORTATION

REINFORCING STEEL SCHEDULE

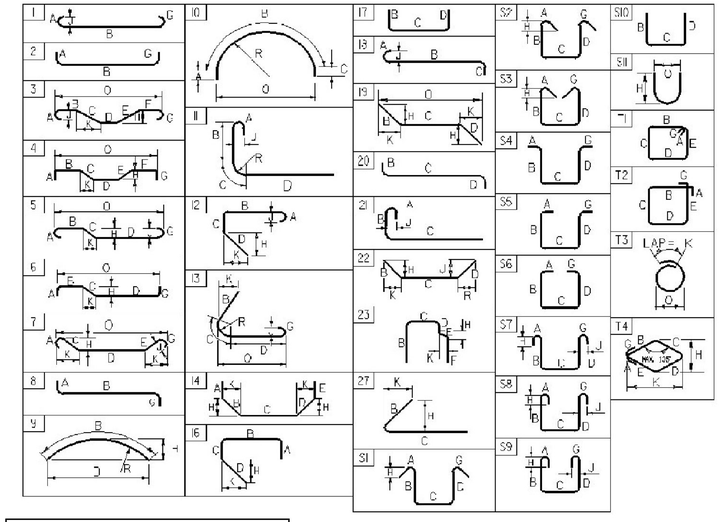
Metric

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	ABUTMENT NO. 1																
	30	16	3540	1A1601	STR												
	52	16	7670	1A1602	STR												
	88	16	1450	1A1603	17		1200	250	0								
	42	16	3100	1A1604	17		1770	1330	0								
▲	40	16	2930	E1A1605	STR												
▲	40	16	2390	E1A1606	STR												
▲	40	16	1170	E1A1607	17		570	600	0								
	40	16	1510	E1A1608	17		620	270	620								
	15	16	8345	E1A1609	STR												
	15	16	4995	E1A1610	STR												
▲	15	16	8345	E1A1611	STR												
▲	15	16	4995	E1A1612	STR												
	10	16	1200	1A1613	17		600	600	0								
	10	16	5135	1A1614	22		600	3935	600				424	424	424	424	
✳	3	16	1150	1A1615	STR												
✳	13	16	2765	E1A1616	22		600	1565	600				424	424	424	424	
	16	16	1200	E1A1617	17		600	600	0								
	4	16	1125	E1A1618	14	225	225	225	225	225			160		160		
	4	16	1500	E1A1619	14	300	300	300	300	300			215		215		
△	32	22	4040	1A2201	1	250	3540					250		180			
△	42	25	900	E1A2501	12	0	0	450	450					0			
	ABUTMENT NO. 2																
	52	16	7670	2A1601	STR												
✳	89	16	1450	2A1602	17		1200	250	0								
	42	16	3635	2A1603	17		1770	1865	0								
▲	40	16	3435	E2A1604	STR												
▲	40	16	2350	E2A1605	STR												
▲	40	16	1170	E2A1606	17		570	600	0								
	40	16	1510	E2A1607	17		620	270	620								
	19	16	8345	E2A1608	STR												
	19	16	4995	E2A1609	STR												
▲	15	16	7745	E2A1610	STR												
▲	15	16	4395	E2A1611	STR												
	14	16	1200	2A1612	17		600	600	0								
	14	16	5135	2A1613	22		600	3935	600				424	424	424	424	
	2	16	1720	2A1614	STR												
✳	13	16	2765	E2A1615	22		600	1565	600				424	424	424	424	
	16	16	1200	E2A1616	17		600	600	0								
	4	16	1125	E2A1617	14	225	225	225	225	225			160		160		
	4	16	1500	E2A1618	14	300	300	300	300	300			215		215		
△	32	19	3540	2A1901	STR												
△	32	25	4090	2A2501	1	275	3540					275		205			
△	42	25	900	E2A2502	12			450	450				318		318		
	WINGWALL 1																
✳	12	16	2640	1W1601	STR												
	11	16	2990	1W1602	1	175	2640					175		130			
	10	16	6840	1W1603	STR												
	10	16	6840	1W1604	STR												
	28	16	2860	1W1605	17		2610	250	0								
	28	16	1930	1W1606	STR												
	25	16	1960	E1W1607	17		745	470	745								
	10	16	5840	1W1608	STR												
	14	16	4640	1W1609	STR												
	5	16	4640	E1W1610	STR												
	WINGWALL 2																
	11	16	2640	2W1601	STR												
	11	16	2990	2W1602	1	175	2640					175		130			
	10	16	6840	2W1603	STR												
	10	16	6840	2W1604	STR												
	28	16	2860	2W1605	17		2610	250	0								
	28	16	1930	2W1606	STR												
	25	16	1960	E2W1607	17		745	470	745								
	10	16	5840	2W1608	STR												
	14	16	4640	2W1609	STR												
✳	6	16	4640	E2W1610	STR												
	WINGWALL 3																
	11	16	2640	3W1601	STR												
	11	16	2990	3W1602	1	175	2640					175		130			
	10	16	6840	3W1603	STR												
	10	16	6840	3W1604	STR												
	28	16	3450	3W1605	17		3200	250	0								
	28	16	1800	3W1606	STR												
	25	16	1960	E3W1607	17		745	470	745								
	14	16	5840	3W1608	STR												
	14	16	4640	3W1609	STR												
✳	6	16	4640	E3W1610	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
	WINGWALL 4																
✳	12	16	2640	4W1601	STR												
	11	16	2990	4W1602	1	175	2640					175		130			
	10	16	6840	4W1603	STR												
	10	16	6840	4W1604	STR												
	28	16	3450	4W1605	17		3200	250	0								
	28	16	1800	4W1606	STR												
	25	16	1960	E4W1607	17		745	470	745								
	14	16	5840	4W1608	STR												
	14	16	4640	4W1609	STR												
	5	16	4640	E4W1610	STR												

~ 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.
12. S IN BAR MARK PREFIX DENOTES STAINLESS STEEL REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (Kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm^2)	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

McFarland Johnson

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)C/1**

FILE NAME: **z10b194ars.xls**
PROJECT MANAGER: **DMB**
DESIGNED BY: **S. MERKWAN**
REINFORCING STEEL SCHEDULE SHEET #1

PLOT DATE: **3/29/2012**
DRAWN BY: **S. MERKWAN**
CHECKED BY: **S. DELIA**
SHEET **94** OF **123**

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
	APPROACH SLAB NO. 1																
✳	22	16	11524	E1AS1601	STR												
	47	29	6225	E1AS2901	1	375	5850					0		300			
	APPROACH SLAB NO. 2																
	21	16	11524	E2AS1601	STR												
△	49	29	6225	E2AS2901	1	375	5850					0		300			
	SUPERSTRUCTURE																
	1620	16	11600	ES1601	STR												
✳	223	16	9250	ES1602	STR												
	148	16	11730	ES1603	STR												
	88	16	1935	ES1604	16	660	265	655	355				250		250		
	1514	16	1540	ES1605	S5	250	360	440	240			250					
	2198	19	12740	ES1901	STR												
△	298	19	10450	ES1902	STR												
▲	10	19	12740	ES1903	STR												
	SOUTH SLANT LEG FOUNDATION																
	55	16	8340	SF1601	STR												
	55	16	6100	SF1602	STR												
	48	16	3060	SF1603	22		600	1860	600				600	415	0	433	
	48	16	5250	SF1604	STR												
✳	49	16	1200	SF1605	22		600	600	0				433	0	415	0	
	48	16	6035	SF1606	17		895	5140	0								
	48	16	3785	SF1607	17		600	3184	0								
✳	26	16	2180	SF1608	17		470	1240	470								
	10	16	6695	SF1609	T2	250	1856	1240	1856	1240		250					
	48	29	5685	SF2901	STR												
△	50	29	4635	SF2902	STR												
△	72	36	1050	SSF3601	STR												
	NORTH SLANT LEG FOUNDATION																
	90	16	7740	NF1601	STR												
	90	16	5500	NF1602	STR												
✳	45	16	3060	NF1603	22		600	1860	600				600	415	0	433	
	44	16	10090	NF1604	STR												
	44	16	8990	NF1605	27		600	8390					433		415		
	44	16	6880	NF1606	17		600	6280	0								
	25	16	2180	NF1607	17		470	1240	470								
✳	11	16	6695	NF1608	T2	250	1856	1240	1856	1240		250					
	44	29	9700	NF2901	STR												
△	46	29	8735	NF2902	STR												
△	232	36	1050	SNF3601	STR												

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ 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.
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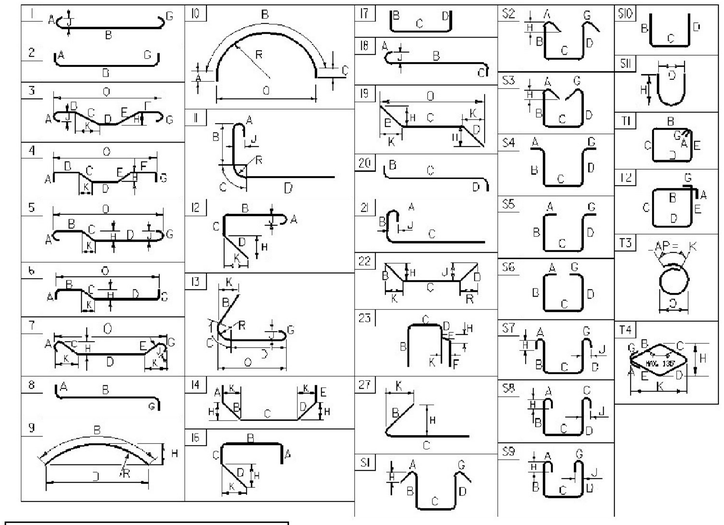
12. S IN BAR MARK PREFIX DENOTES STAINLESS STEEL REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE	NOMINAL MASS (kg/m)	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER (mm)	CROSS SECTIONAL AREA (mm^2)	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
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#36	7.907	35.8	1006	112.47
#43	11.380	43.0	1452	135.09
#57	20.240	57.3	2581	180.01

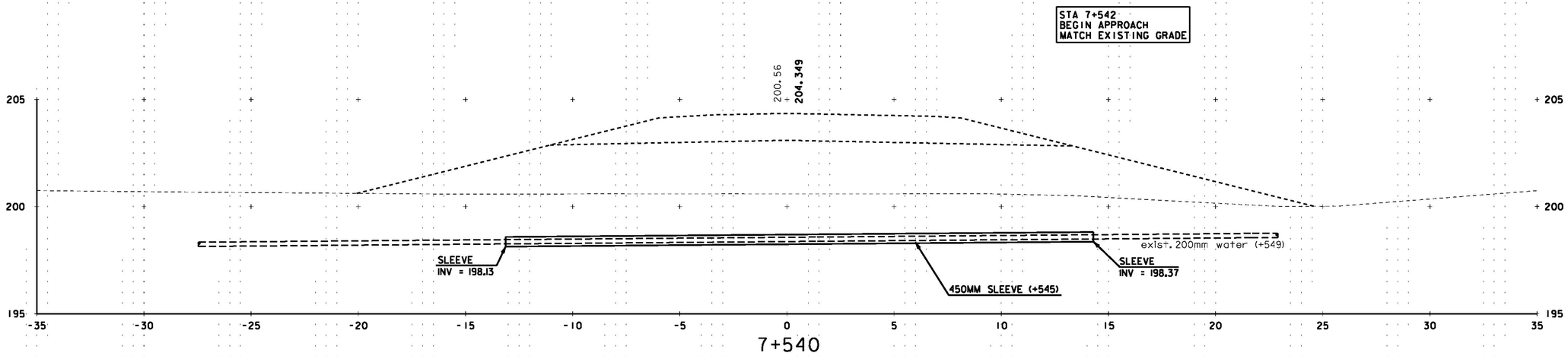
McFarland Johnson

PROJECT NAME: **MORRISTOWN**
PROJECT NUMBER: **STP F 029-1(2)C/1**

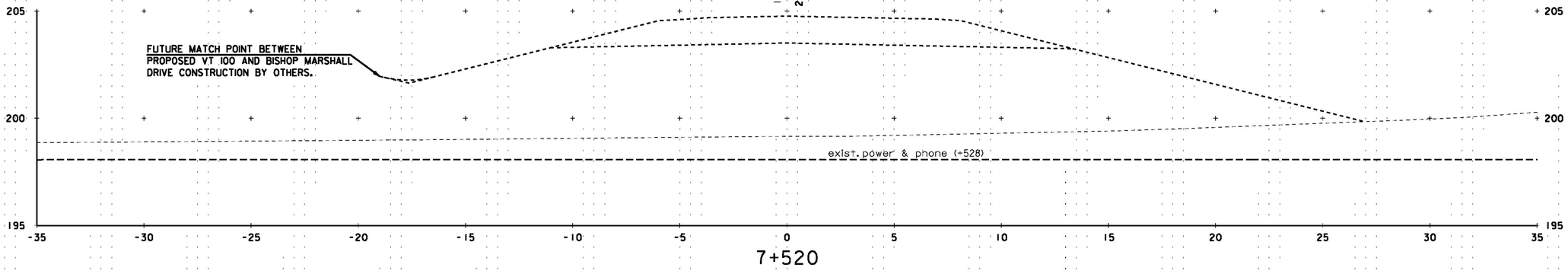
FILE NAME: **z10b194ars.xls**
PROJECT MANAGER: **DMB**
DESIGNED BY: **S. MERKWAN**
REINFORCING STEEL SCHEDULE SHEET #2

PLOT DATE: **7/25/00**
DRAWN BY: **S. MERKWAN**
CHECKED BY: **S. DELIA**
SHEET **95** OF **123**

Metric

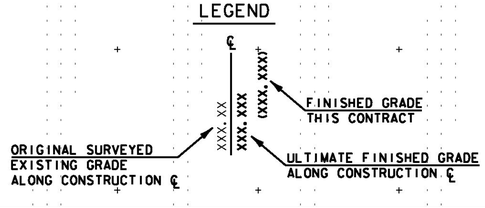


7+540



7+520

LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

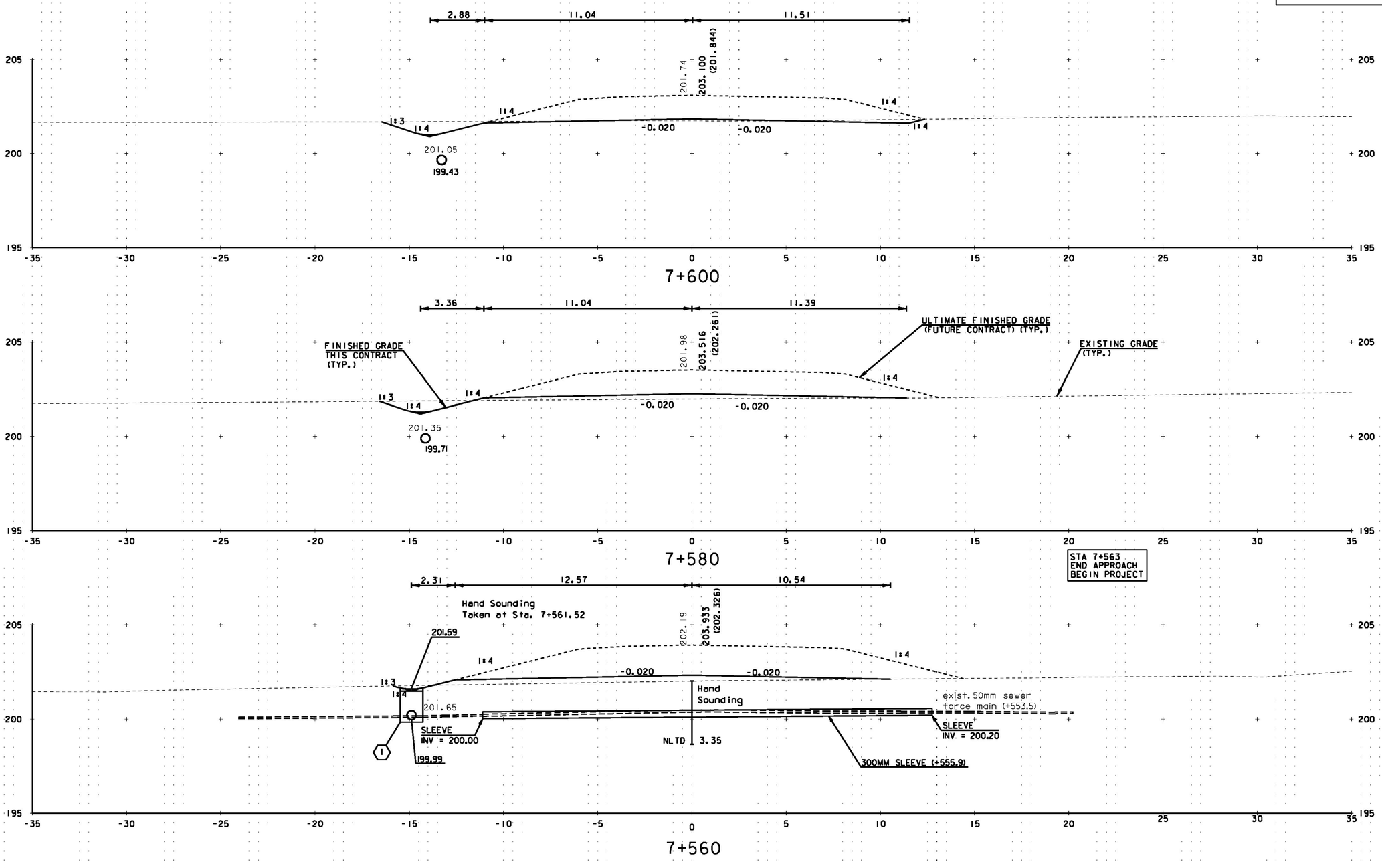
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

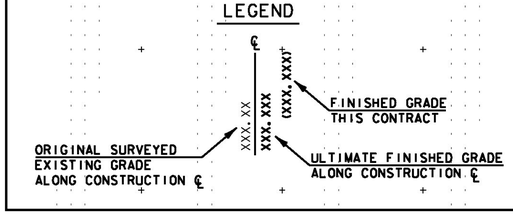
FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+520 TO 7+540

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 96 OF 123

Metric



LEGEND

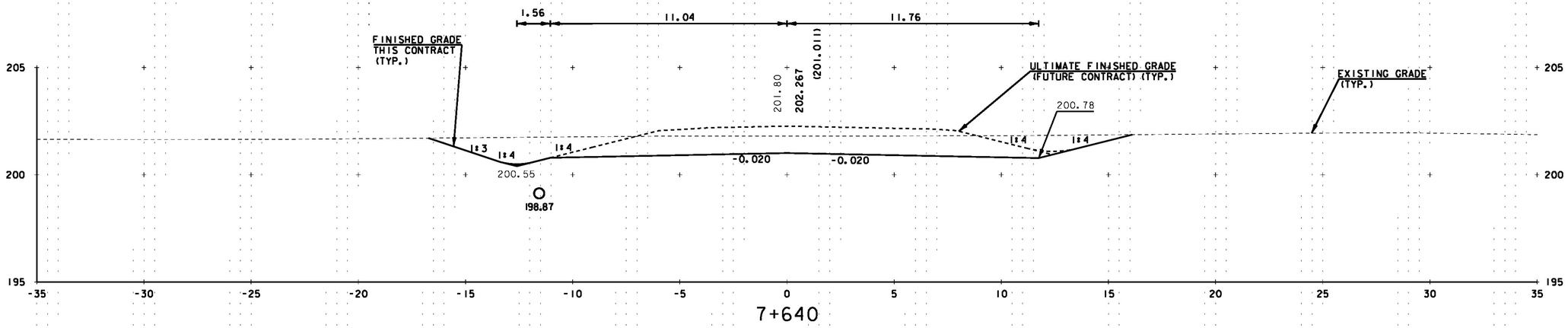


NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

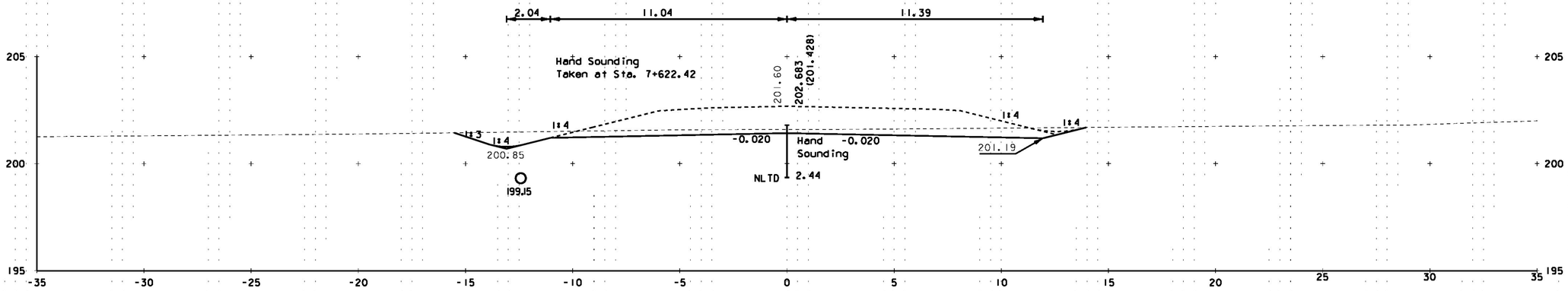
McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194xs.dgn	PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 7+560 TO 7+600	SHEET 97 OF 123

Metric

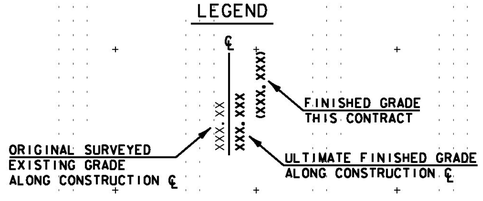


7+640



7+620

LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

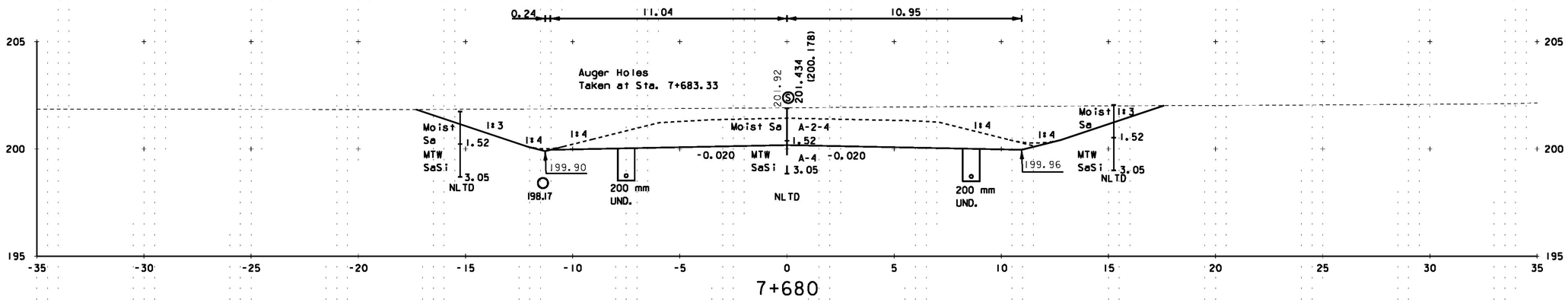
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

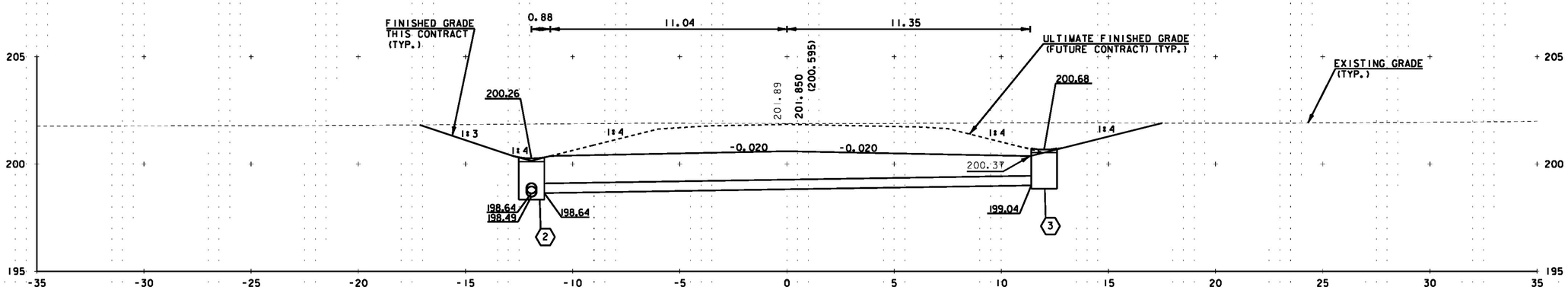
FILE NAME: z10bl94xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+620 TO 7+640

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 98 OF 123

Metric

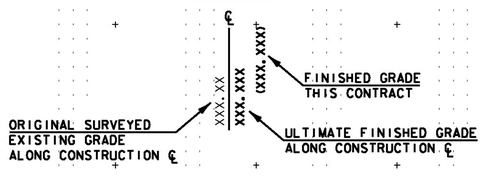


7+680



7+660

LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

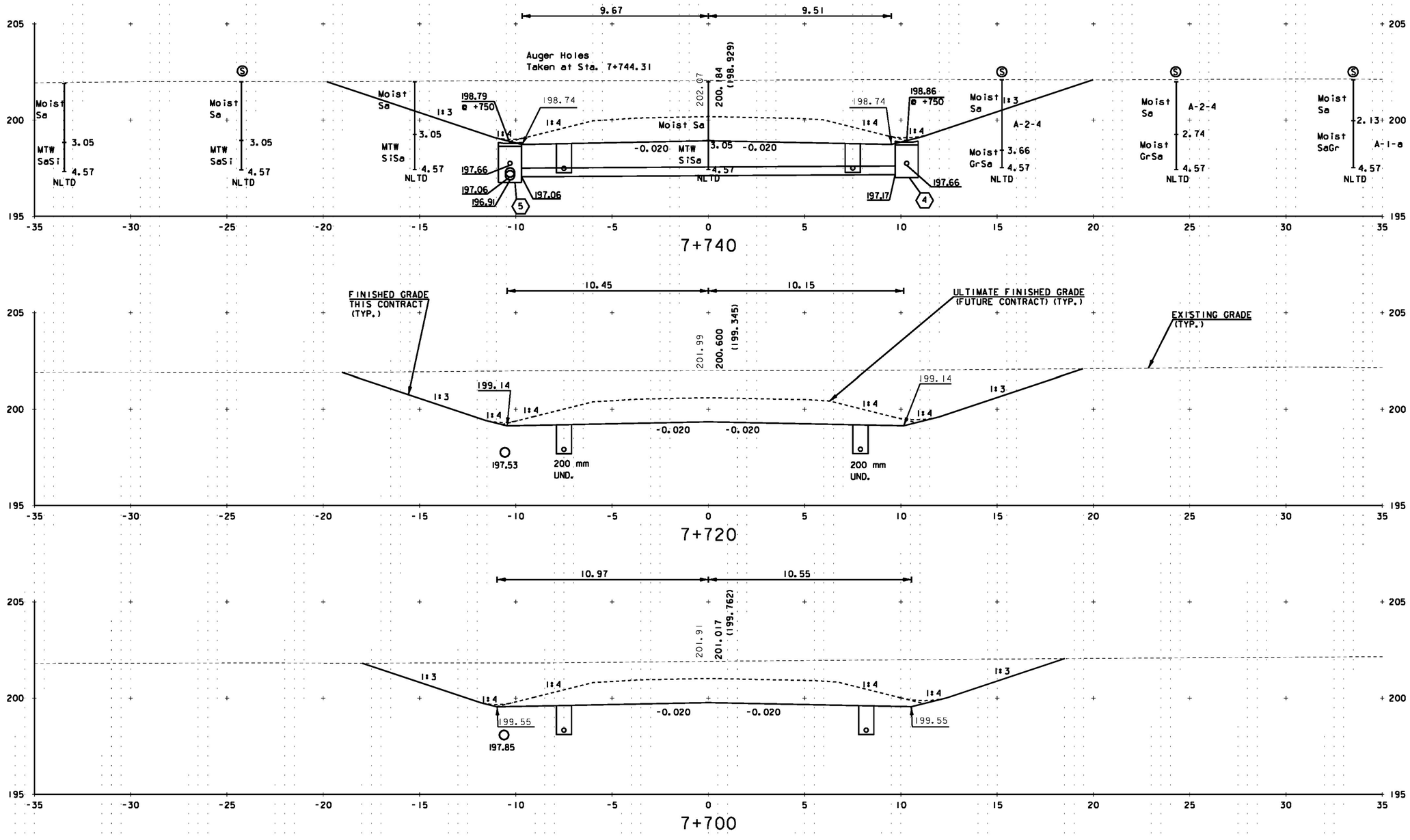
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

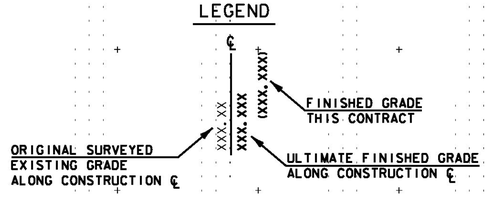
FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+660 TO 7+680

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 99 OF 123

Metric



LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

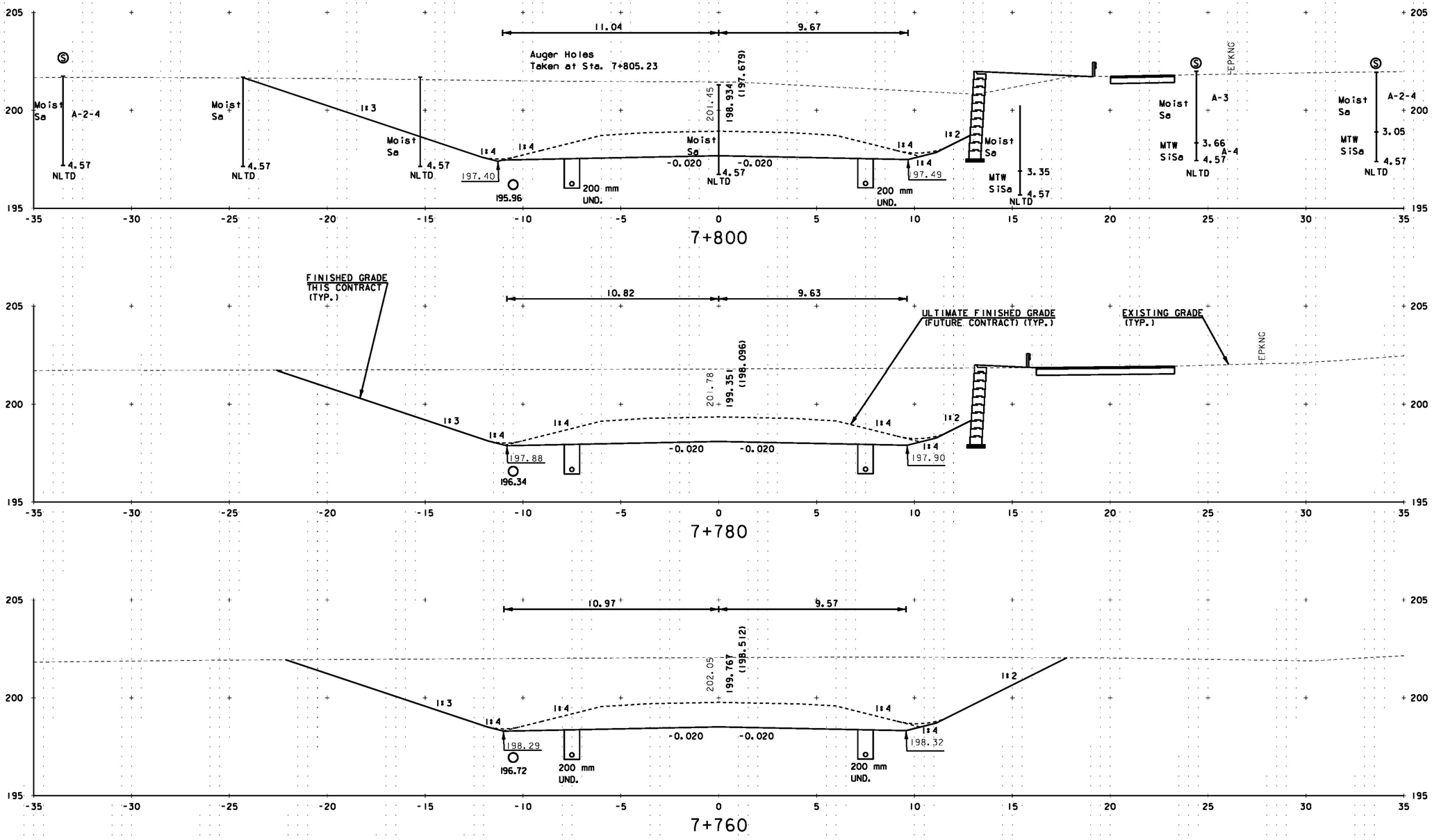
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

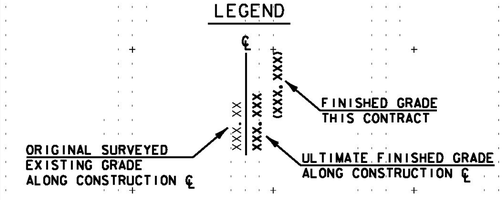
FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+700 TO 7+740

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 100 OF 123

Metric



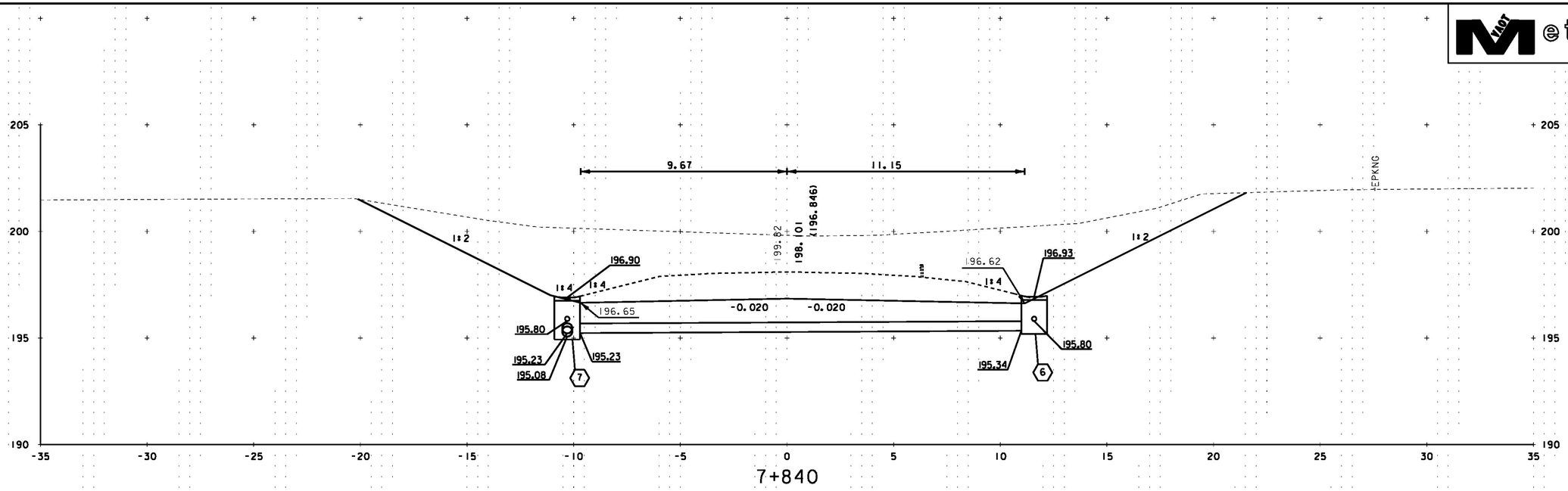
LEGEND



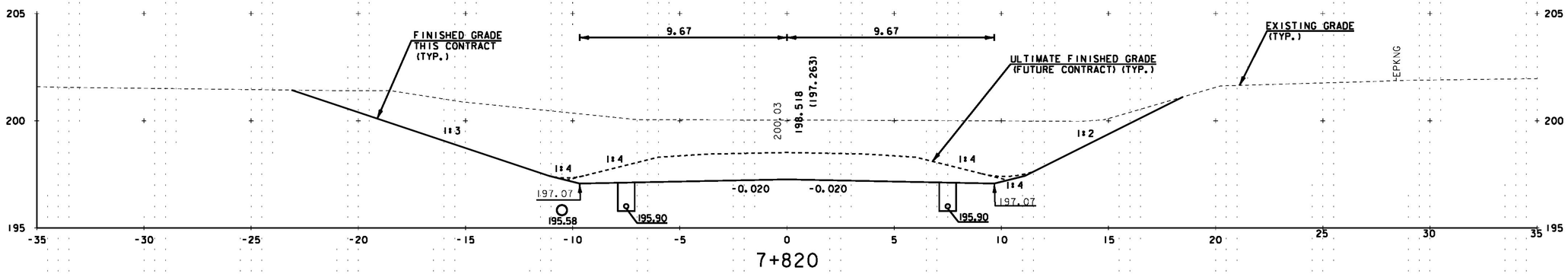
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194xs.dgn	PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 7+760 TO 7+800	SHEET 101 OF 123

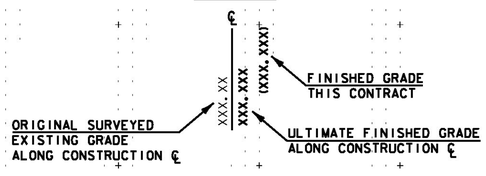


7+840



7+820

LEGEND



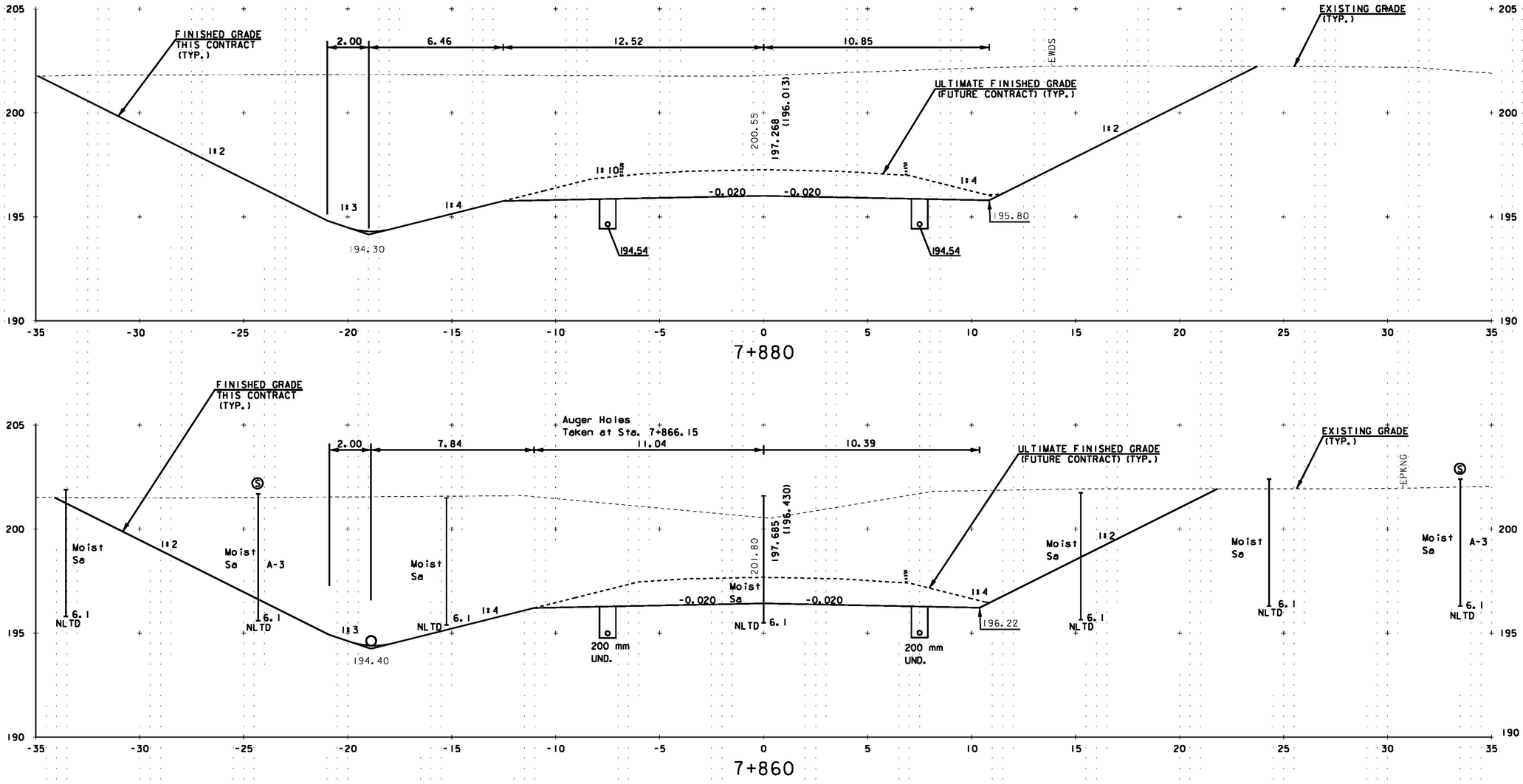
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

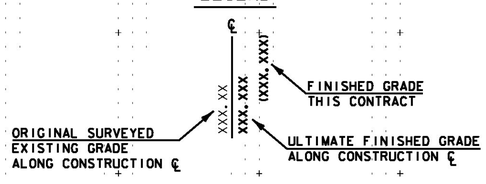
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+820 TO 7+840

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 102 OF 123



LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

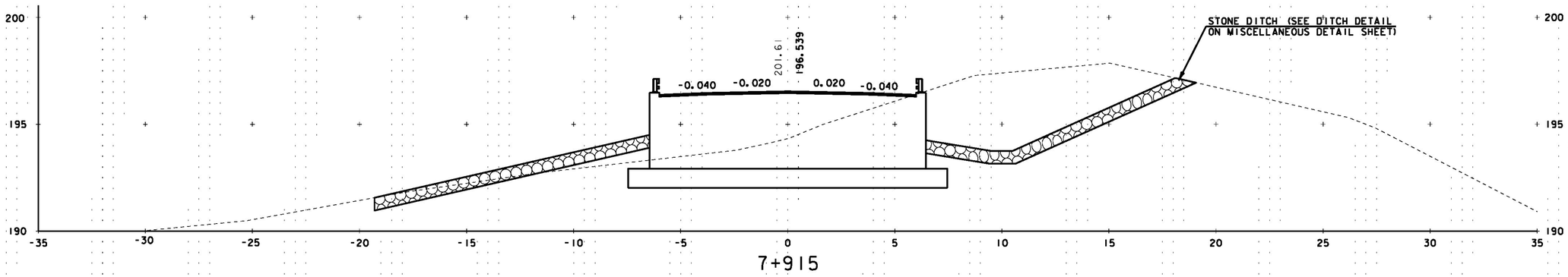
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+860 TO 7+880

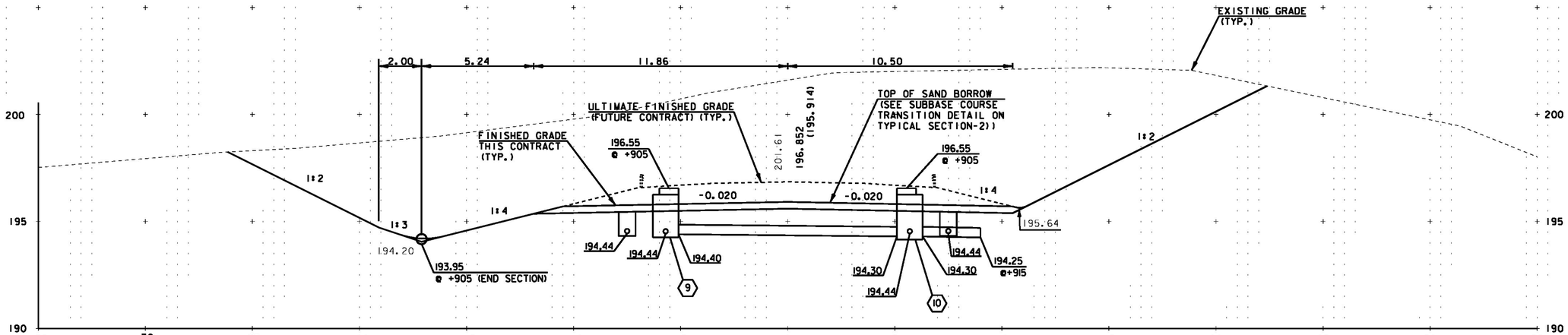
PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 103 OF 123

Metric

STA 7+915
BEGIN BRIDGE

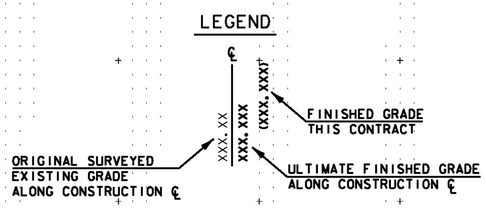


7+915



7+900

LEGEND



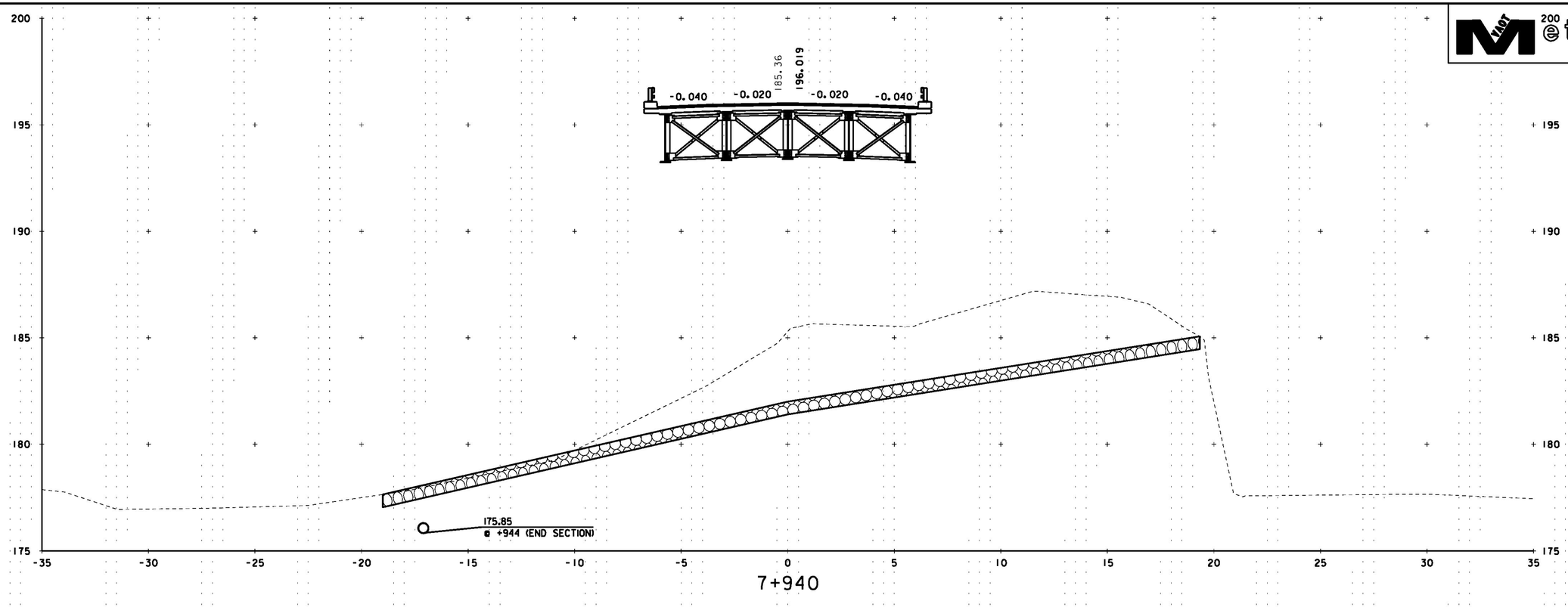
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

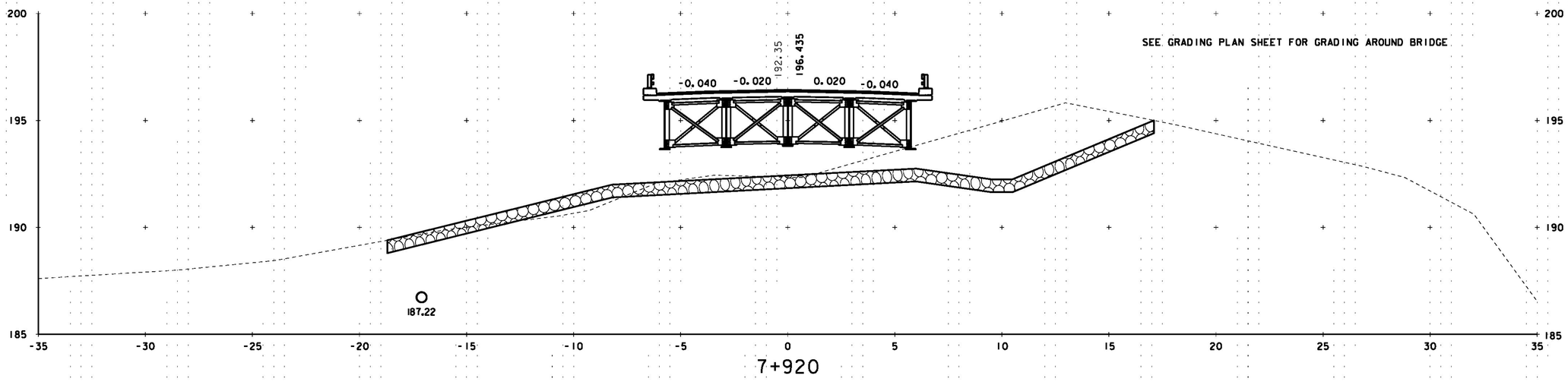
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+900 TO 7+915

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 104 OF 123



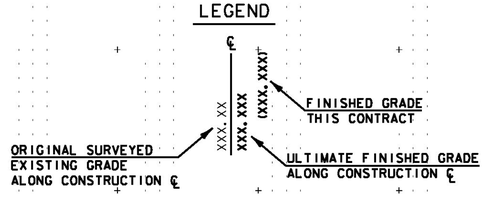
7+940



7+920

SEE GRADING PLAN SHEET FOR GRADING AROUND BRIDGE.

LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

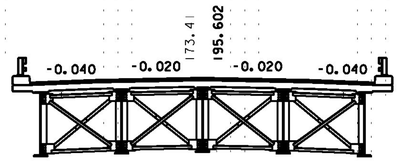
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

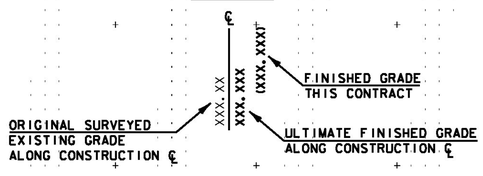
FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 7+920 TO 7+940

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 105 OF 123

Metric



LEGEND



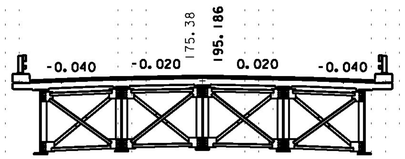
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

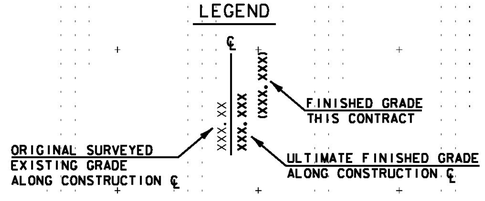
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTION: 7+960

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 106 OF 123



LEGEND



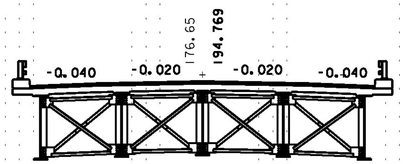
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

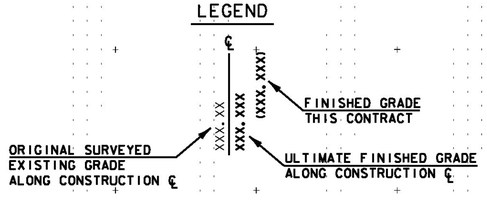
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTION: 7+980

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 107 OF 123



LEGEND



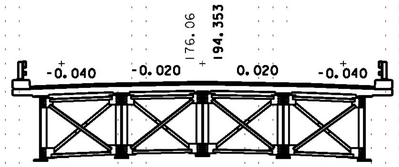
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

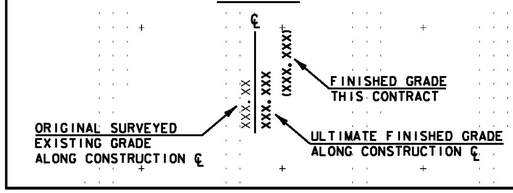
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTION: 8+000

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 108 OF 123



LEGEND



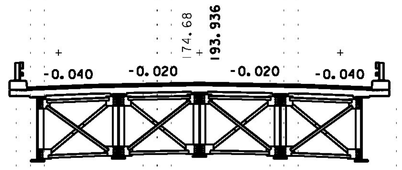
NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

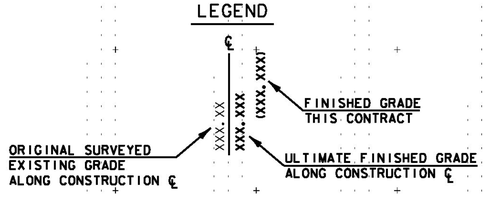
FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTION: 8+020

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 109 OF 123



8+040

LEGEND



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTION: 8+040

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 110 OF 123

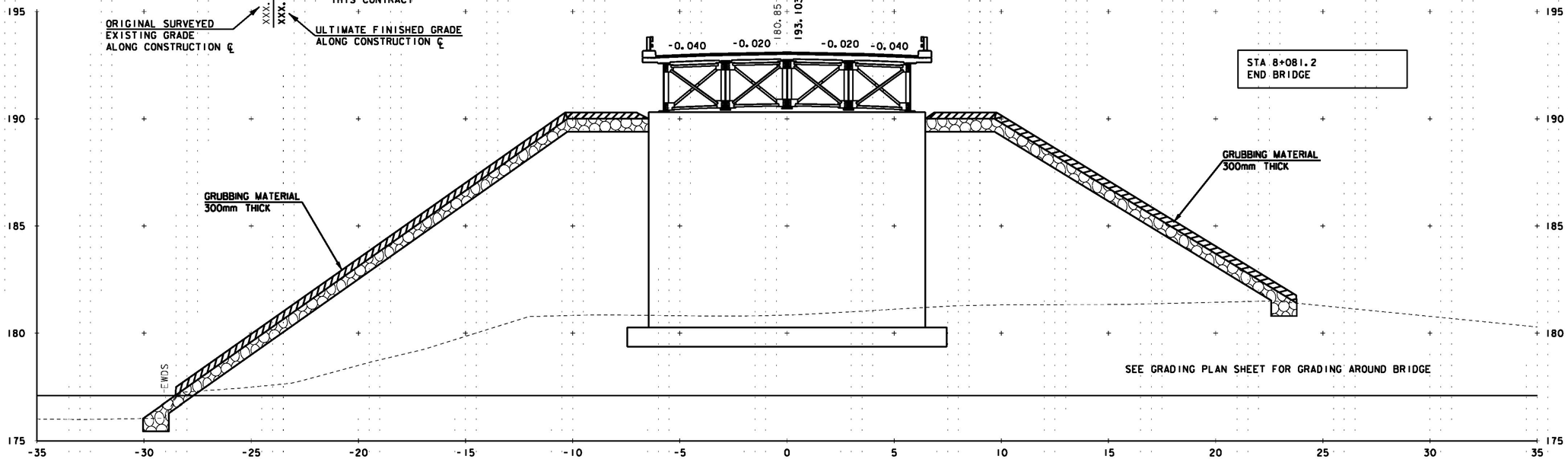
LEGEND

℄

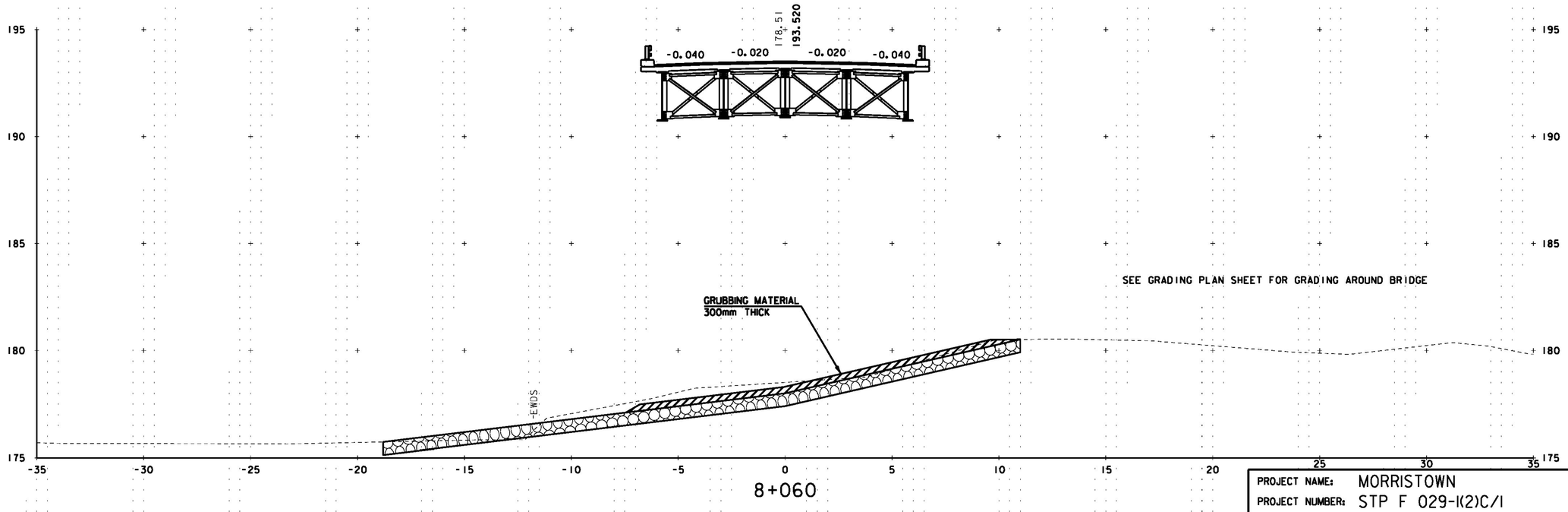
XXX.XX — ORIGINAL SURVEYED EXISTING GRADE ALONG CONSTRUCTION ℄

XXX.XXX — ULTIMATE FINISHED GRADE ALONG CONSTRUCTION ℄

(XXX.XXX) — FINISHED GRADE THIS CONTRACT



8+080



8+060

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn — PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB — DRAWN BY: MAL
DESIGNED BY: BRC — CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 8+060 TO 8+080 — SHEET 111 OF 123

Metric

LEGEND

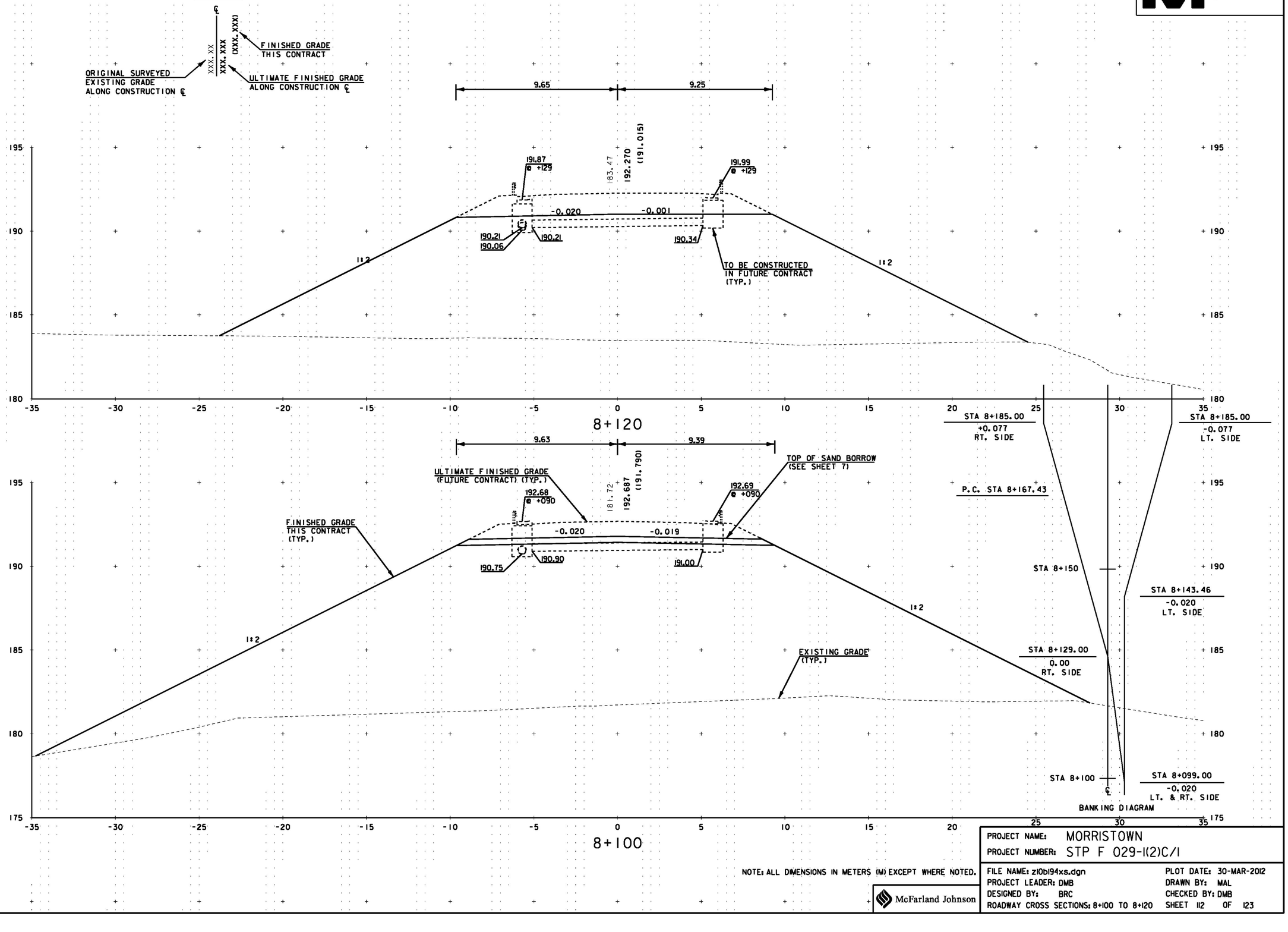
℄

XXX.XX
XXX.XXX
(XXX.XXX)

FINISHED GRADE THIS CONTRACT

ORIGINAL SURVEYED EXISTING GRADE ALONG CONSTRUCTION ℄

ULTIMATE FINISHED GRADE ALONG CONSTRUCTION ℄



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 8+100 TO 8+120

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 112 OF 123

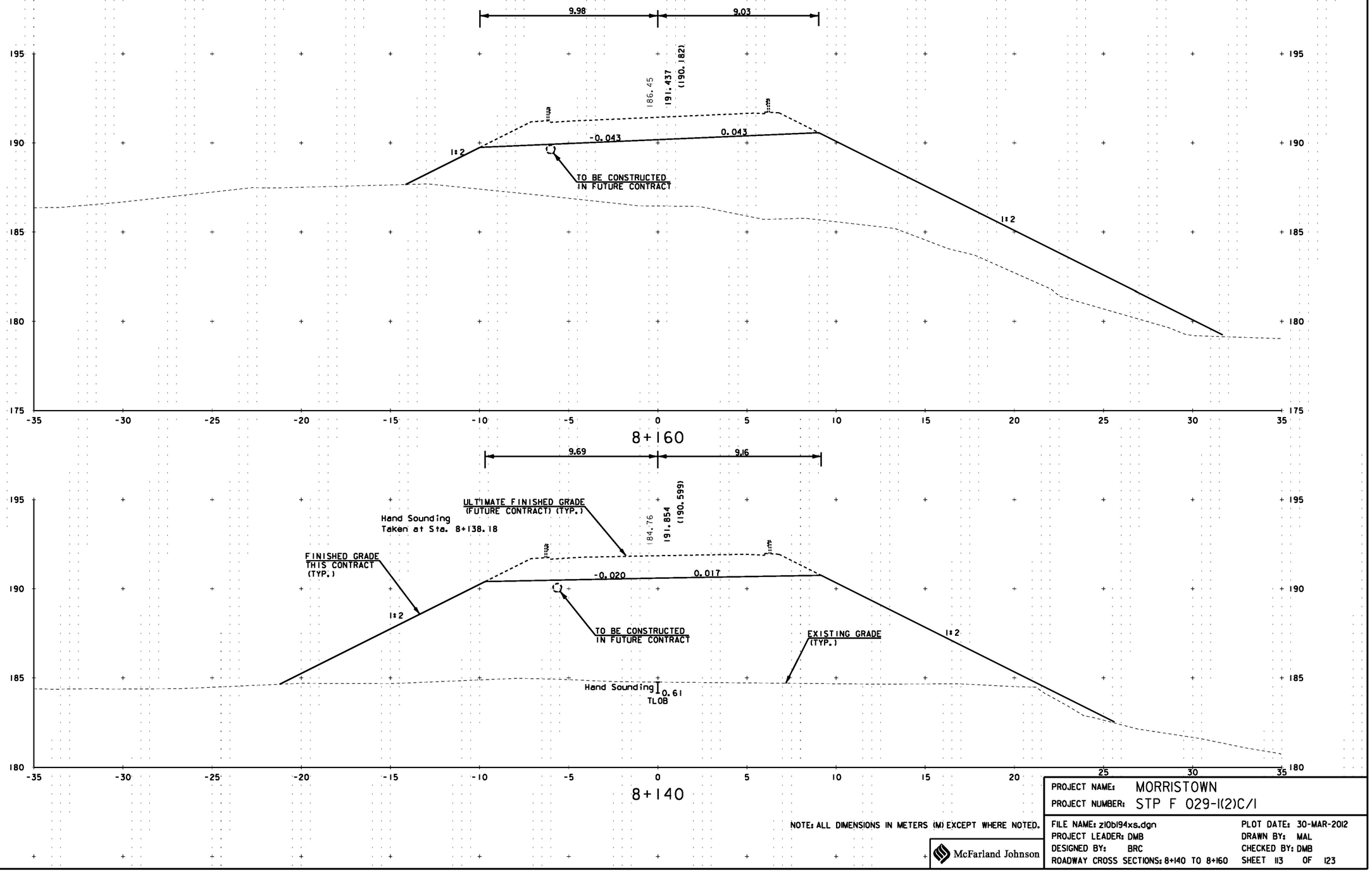
LEGEND

ORIGINAL SURVEYED EXISTING GRADE ALONG CONSTRUCTION ℄

XXX.XX
XXX.XXX
(XXX.XXX)

FINISHED GRADE THIS CONTRACT

ULTIMATE FINISHED GRADE ALONG CONSTRUCTION ℄



8+160

8+140

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 8+140 TO 8+160

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 113 OF 123

Metric

LEGEND

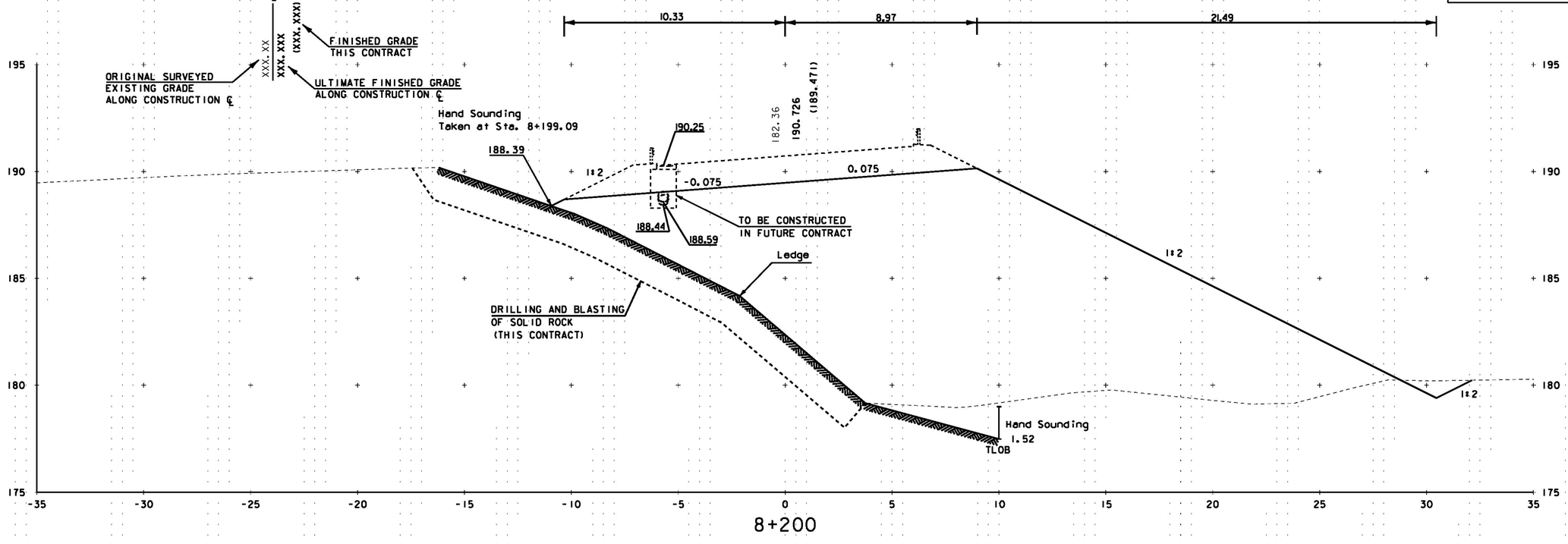
℄

XXX.XX
XXX.XXX
(XXX.XXX)

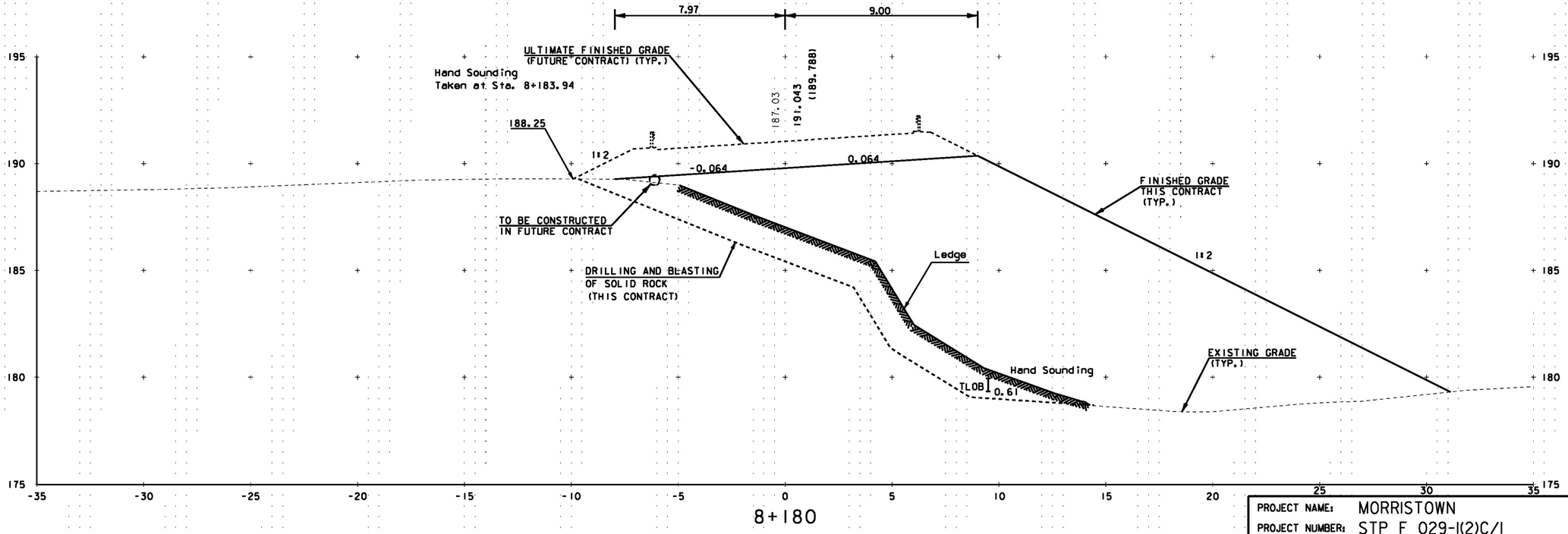
FINISHED GRADE
THIS CONTRACT

ORIGINAL SURVEYED
EXISTING GRADE
ALONG CONSTRUCTION ℄

ULTIMATE FINISHED GRADE
ALONG CONSTRUCTION ℄



8+200



8+180

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194xs.dgn
PROJECT LEADER: DMB
DESIGNED BY: BRC
ROADWAY CROSS SECTIONS: 8+180 TO 8+200

PLOT DATE: 30-MAR-2012
DRAWN BY: MAL
CHECKED BY: DMB
SHEET 114 OF 123

Metric

LEGEND

℄

XXX.XX
XXX.XXX
(XXX.XXX)

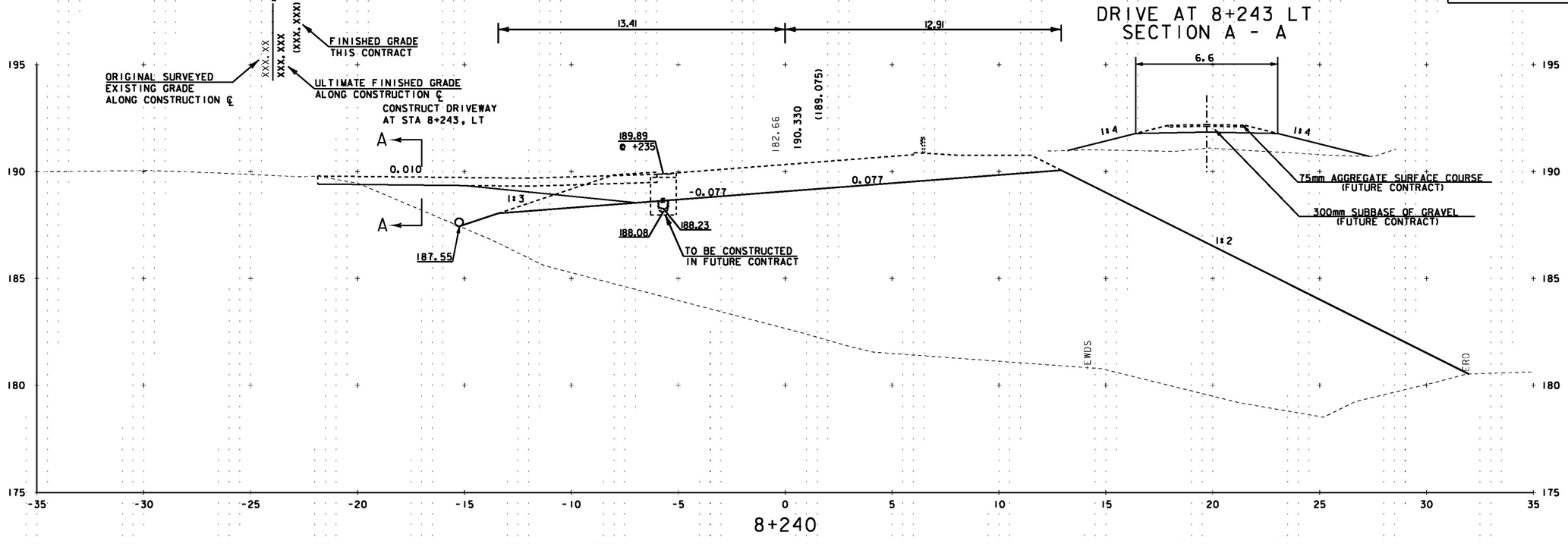
FINISHED GRADE
THIS CONTRACT

ORIGINAL SURVEYED
EXISTING GRADE
ALONG CONSTRUCTION ℄

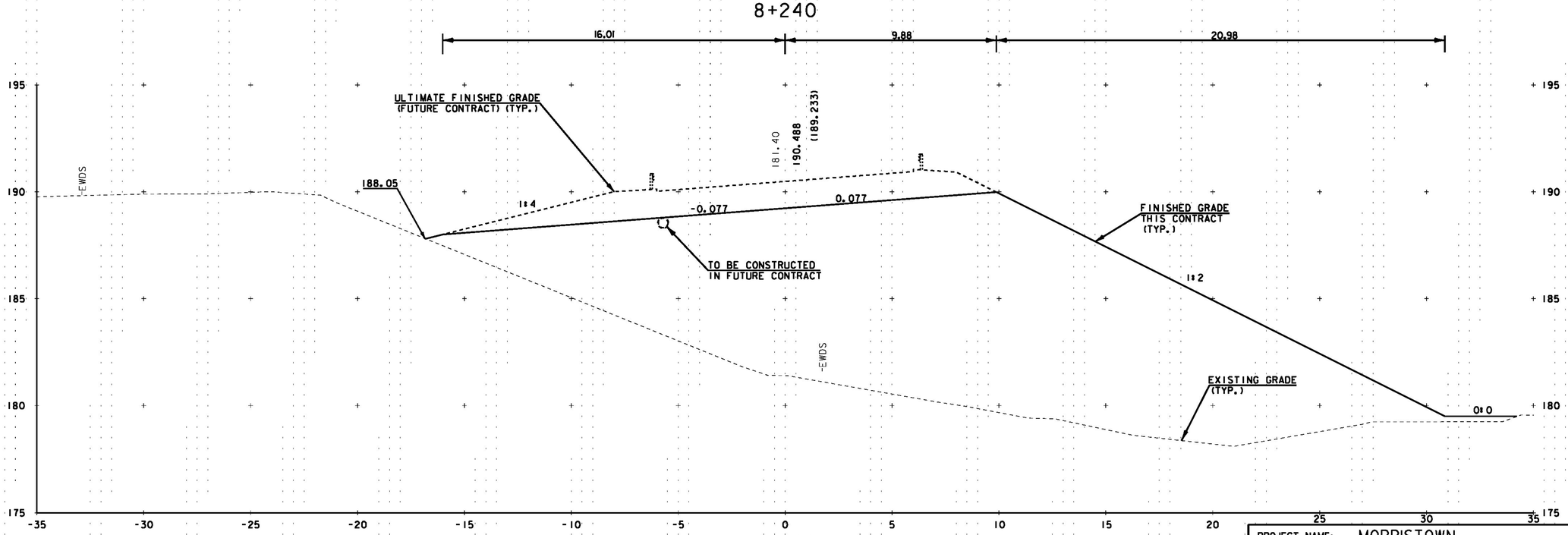
ULTIMATE FINISHED GRADE
ALONG CONSTRUCTION ℄

CONSTRUCT DRIVEWAY
AT STA 8+243, LT

DRIVE AT 8+243 LT
SECTION A - A



8+240



8+220

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194xs.dgn	PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 8+220 TO 8+240	SHEET 115 OF 123

Metric

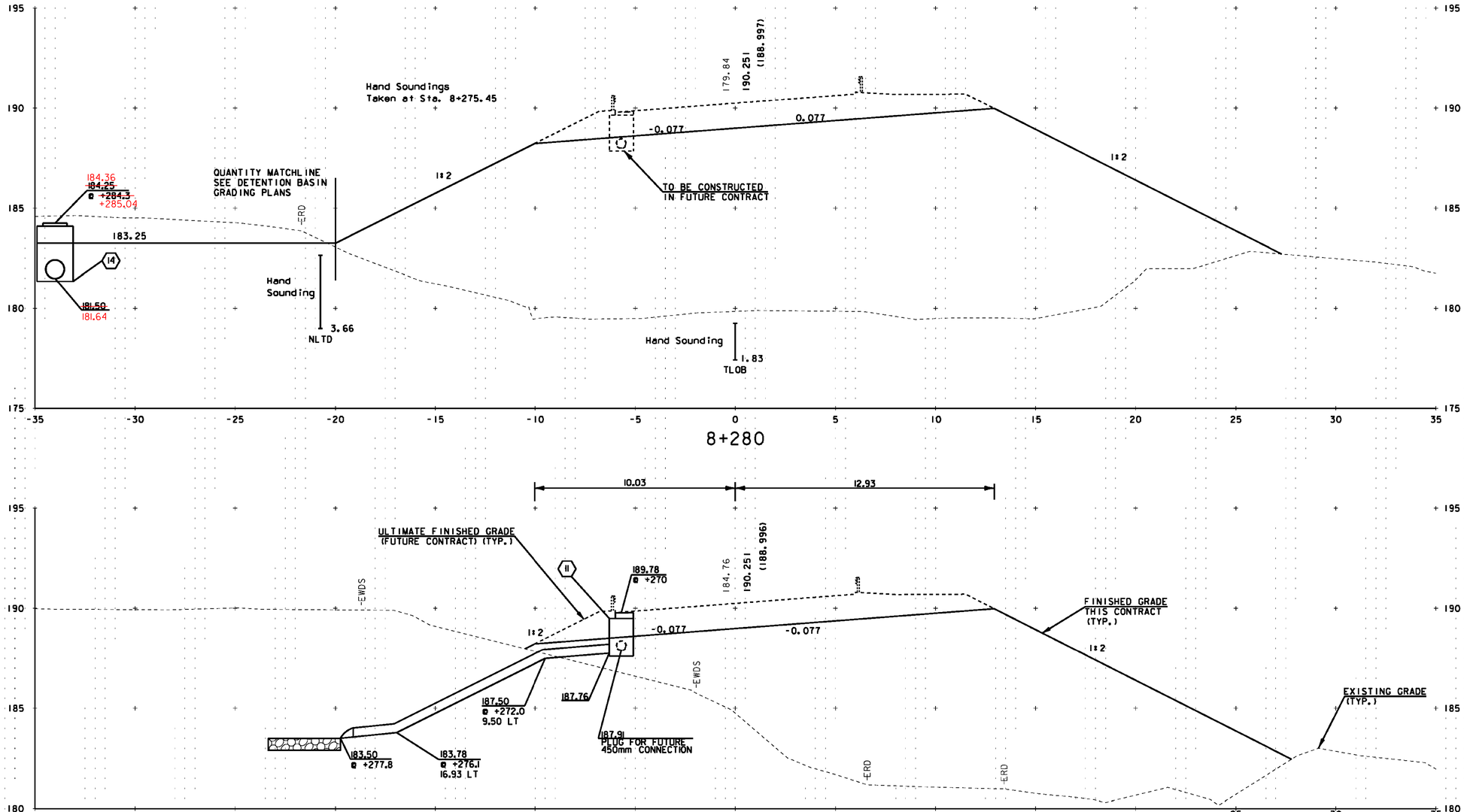
LEGEND

℄

XXX.XX ORIGINAL SURVEYED EXISTING GRADE ALONG CONSTRUCTION ℄

XXX.XXX ULTIMATE FINISHED GRADE ALONG CONSTRUCTION ℄

(XXX.XXX) FINISHED GRADE THIS CONTRACT



NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194xs.dgn	PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 8+260 TO 8+280	SHEET 116 OF 123

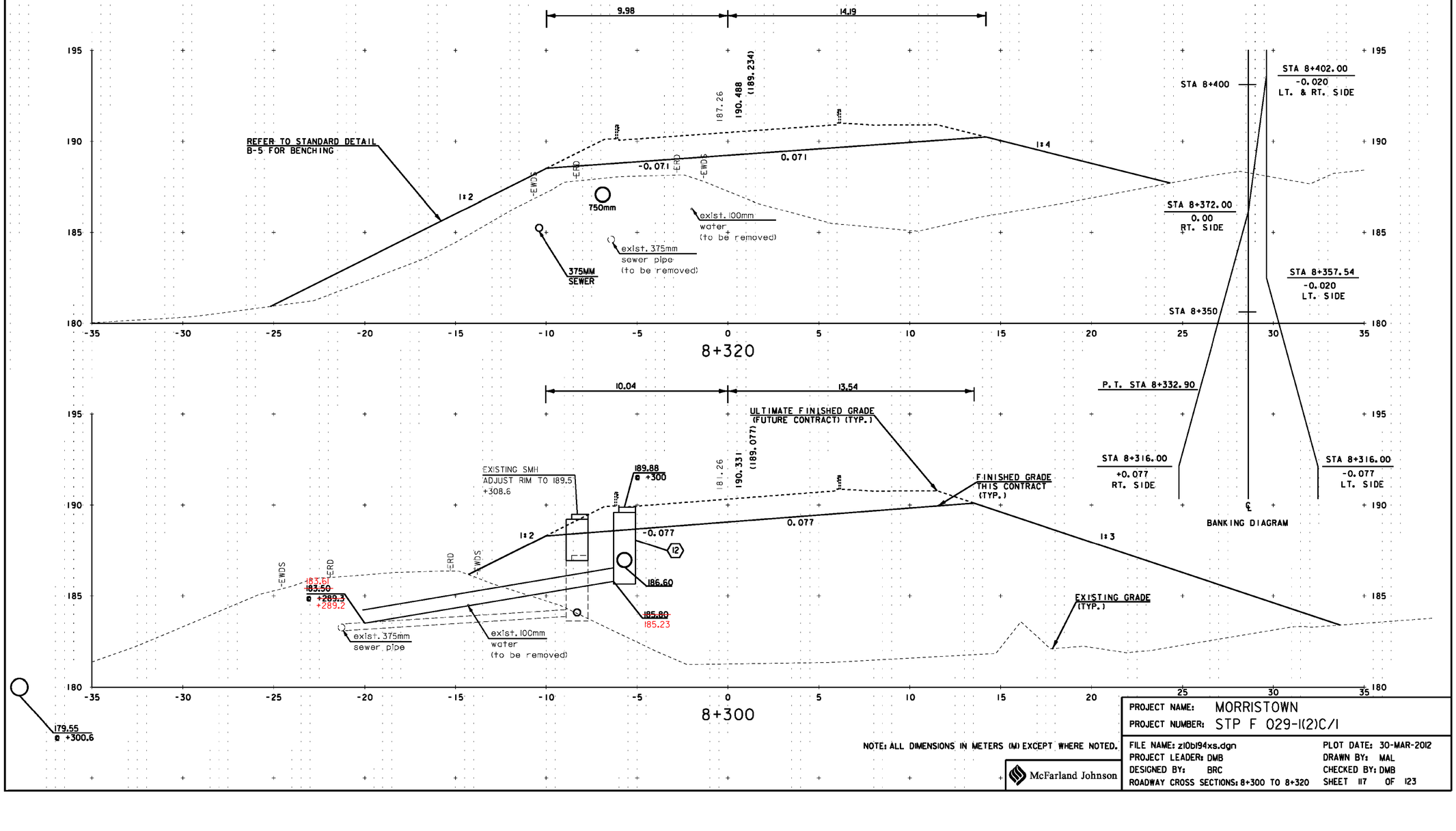
LEGEND

ORIGINAL SURVEYED EXISTING GRADE ALONG CONSTRUCTION ℄ (XXX.XX)

FINISHED GRADE THIS CONTRACT (XXX.XXX)

ULTIMATE FINISHED GRADE ALONG CONSTRUCTION ℄ (XXX.XXX)

Metric

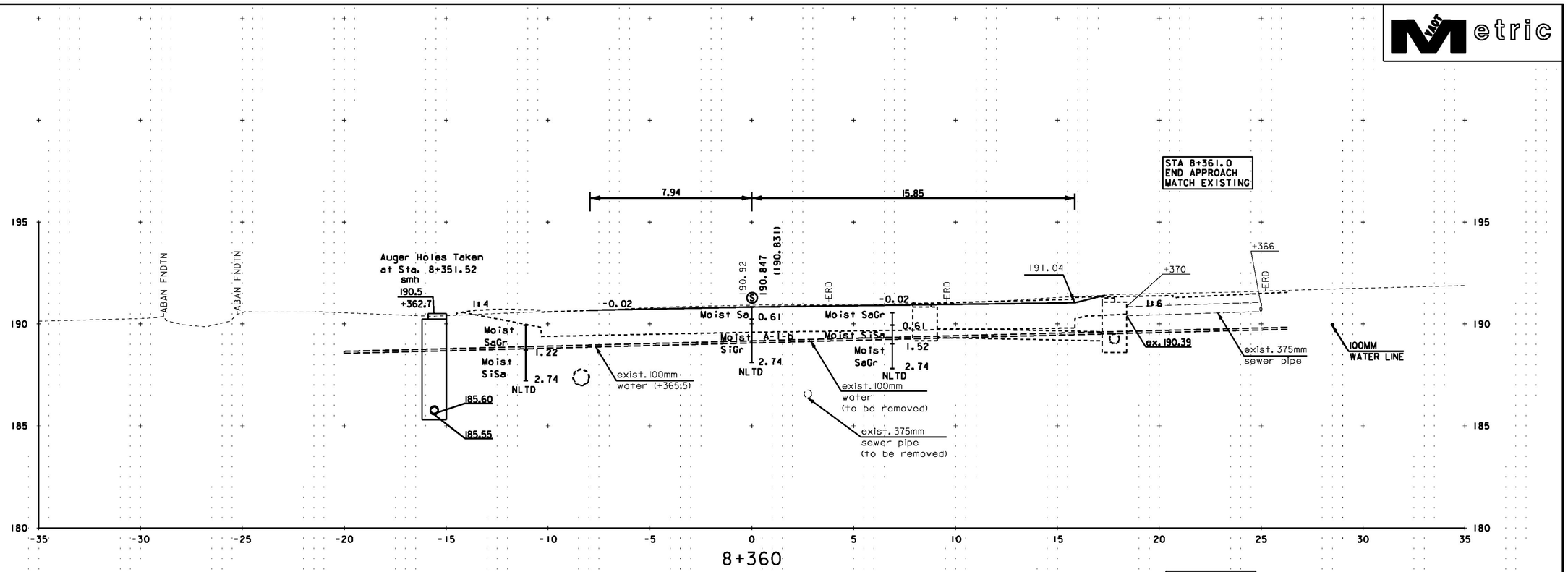


NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10b194xs.dgn	PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 8+300 TO 8+320	SHEET 117 OF 123

Metric

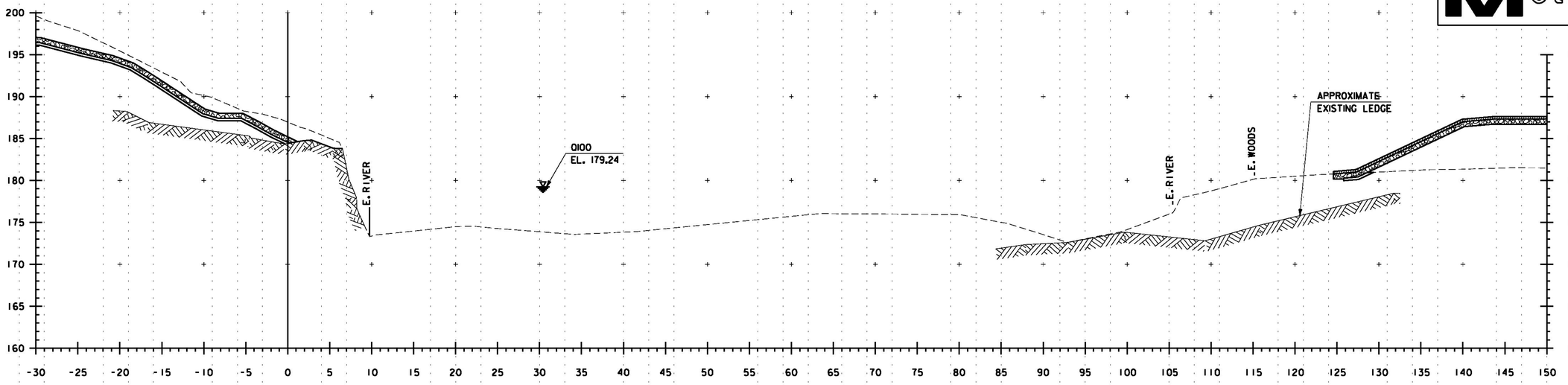


NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: z10bl94xs.dgn	PLOT DATE: 30-MAR-2012
PROJECT LEADER: DMB	DRAWN BY: MAL
DESIGNED BY: BRC	CHECKED BY: DMB
ROADWAY CROSS SECTIONS: 8+340 TO 8+360	SHEET 118 OF 123

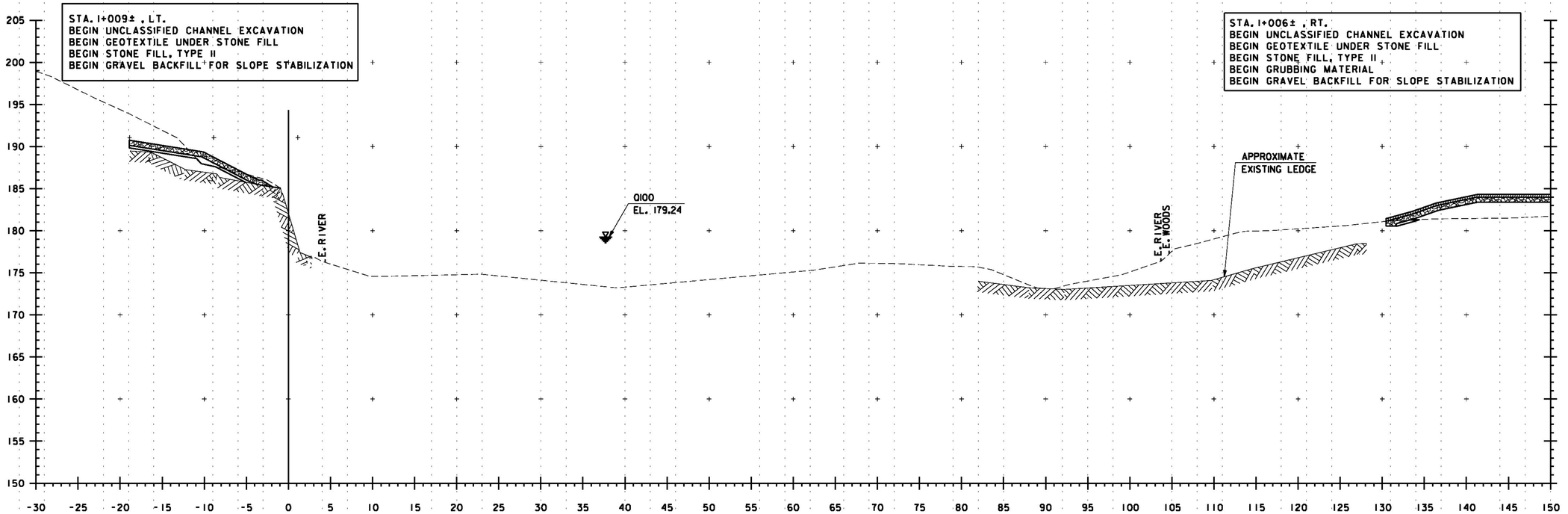
Metric



1+015

STA. 1+009± , LT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL, TYPE II
BEGIN GRAVEL BACKFILL FOR SLOPE STABILIZATION

STA. 1+006± , RT.
BEGIN UNCLASSIFIED CHANNEL EXCAVATION
BEGIN GEOTEXTILE UNDER STONE FILL
BEGIN STONE FILL, TYPE II
BEGIN GRUBBING MATERIAL
BEGIN GRAVEL BACKFILL FOR SLOPE STABILIZATION



1+010

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

NOTES

1. FOR GRADING AROUND BRIDGE, SEE GRADING PLAN, SHEET 70.

0 10 20
SCALE IN METERS

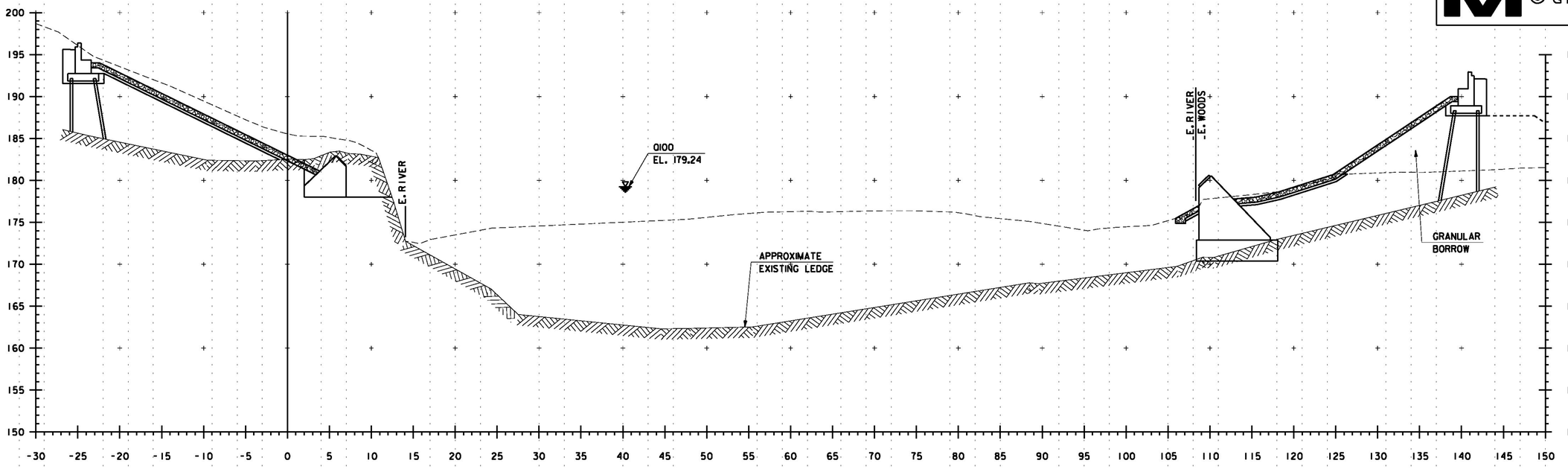
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

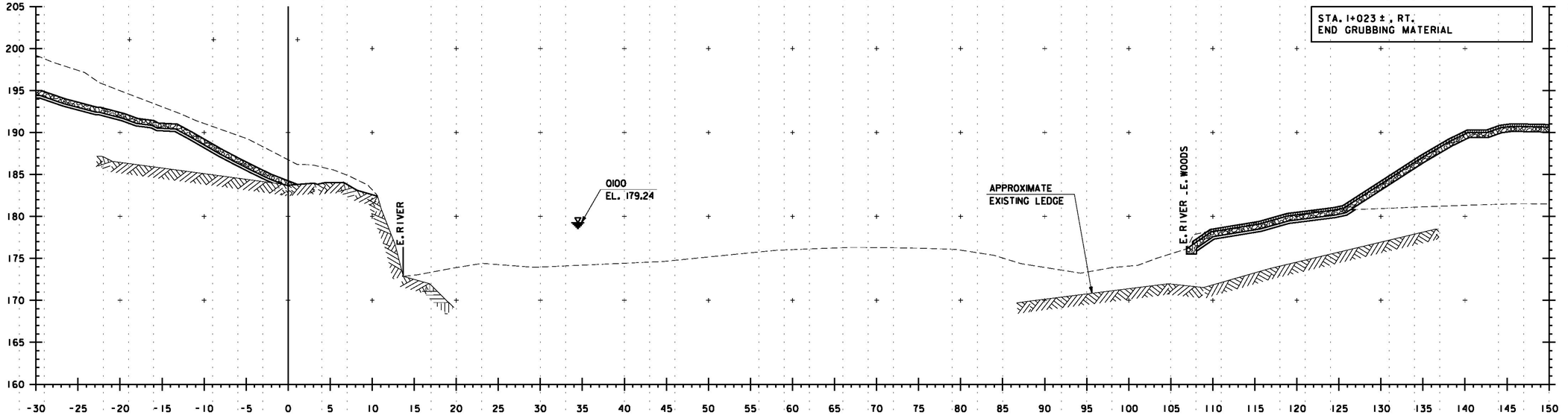
FILE NAME: z10b194acs.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della/B. Colburn
CHANNEL CROSS SECTIONS: 1+010 TO 1+015

PLOT DATE: 30-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 119 OF 123

Metric



1+025



1+020

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

NOTES

1. FOR GRADING AROUND BRIDGE, SEE GRADING PLAN, SHEET 70.

0 10 20
SCALE IN METERS

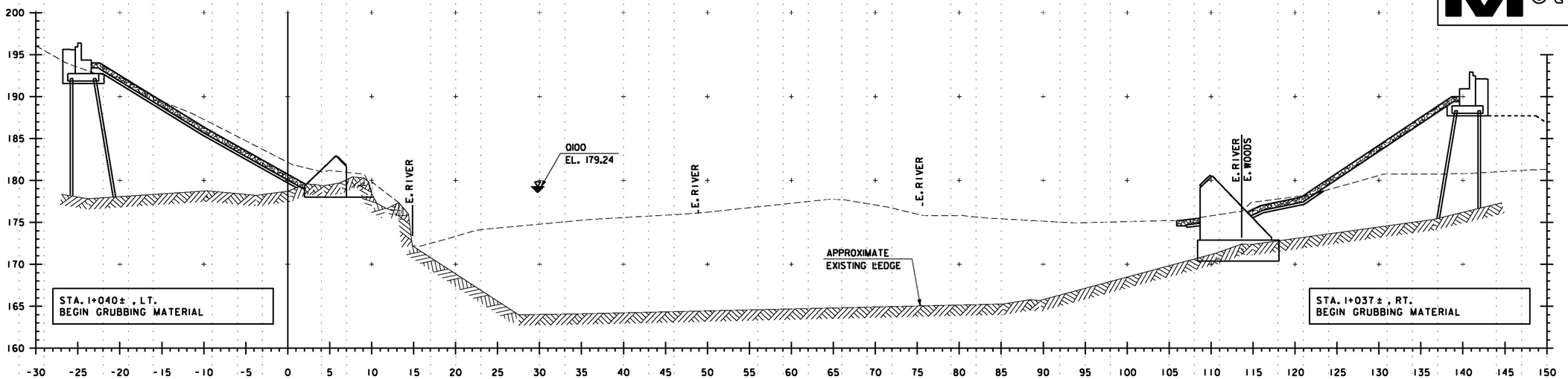
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

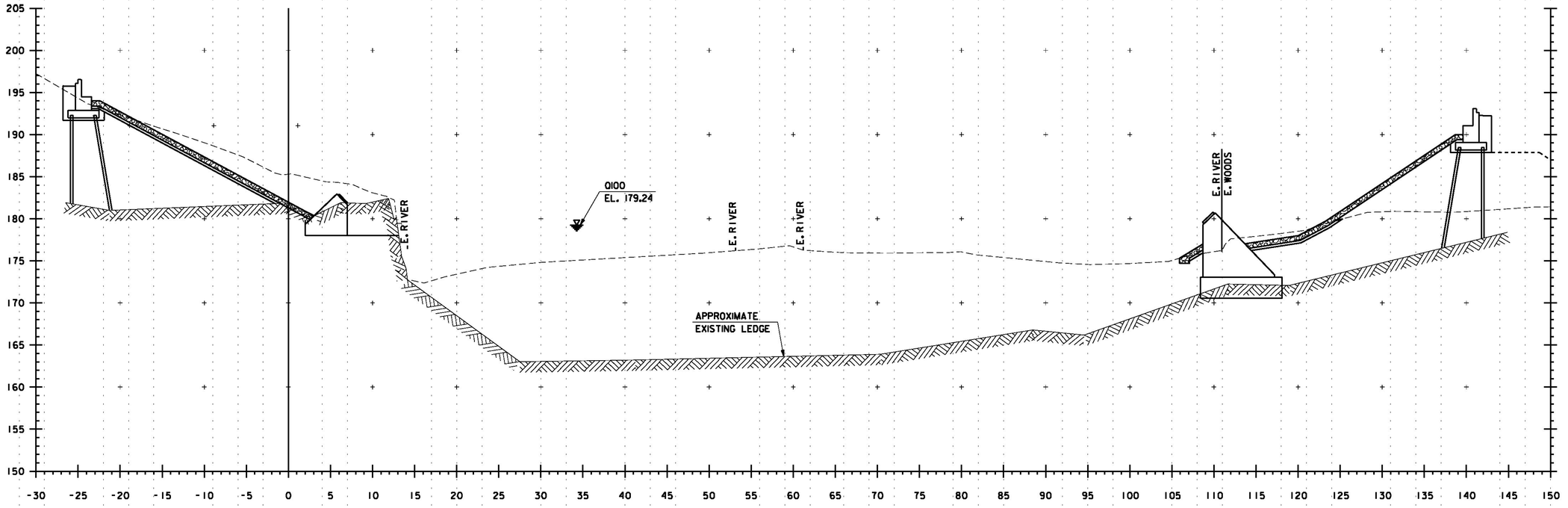
FILE NAME: z10b194acs.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della/B. Colburn
CHANNEL CROSS SECTIONS: 1+020 TO 1+025

PLOT DATE: 29-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 120 OF 123

Metric



1+035



1+030

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

NOTES

1. FOR GRADING AROUND BRIDGE, SEE GRADING PLAN, SHEET 70.

0. 10. 20.
SCALE IN METERS

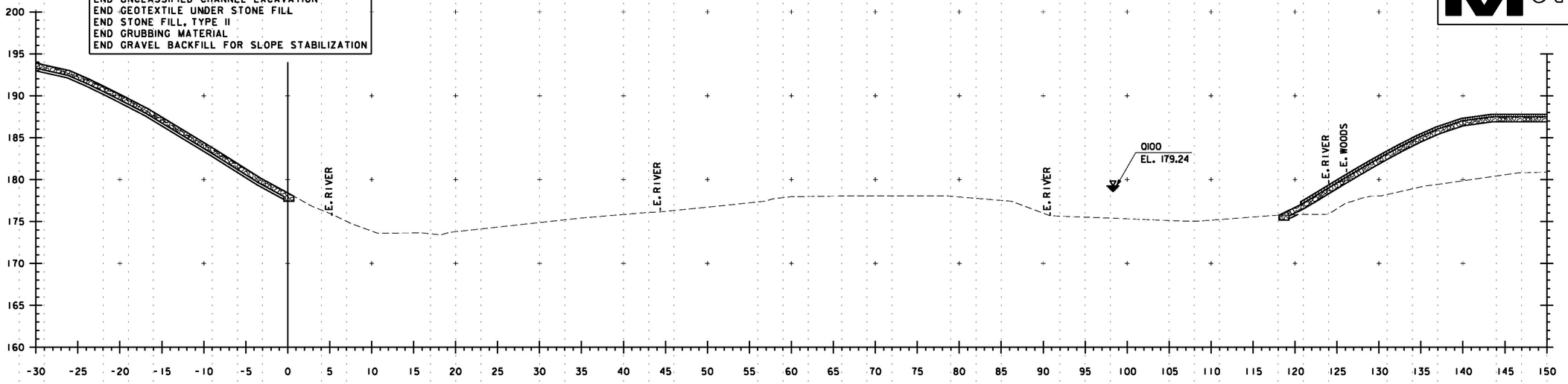
McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

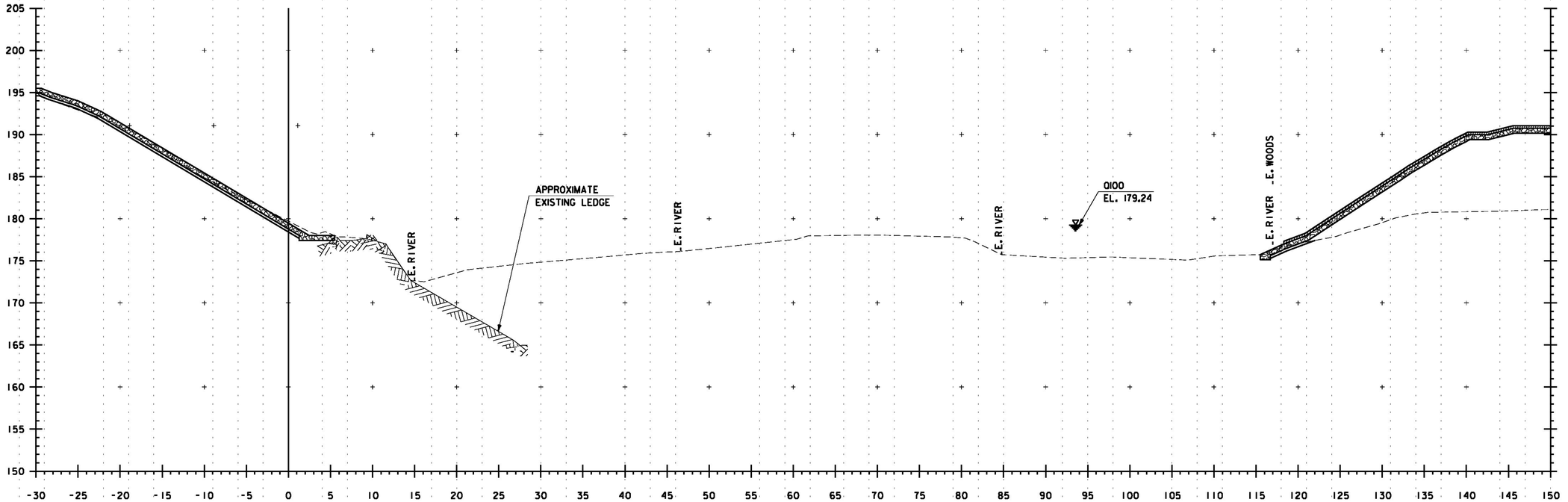
FILE NAME: z10b194acs.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della/B. Colburn
CHANNEL CROSS SECTIONS: 1+030 TO 1+035

PLOT DATE: 29-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 121 OF 123

STA. 1+049± , LT.
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE II
END GRUBBING MATERIAL
END GRAVEL BACKFILL FOR SLOPE STABILIZATION



1+045



1+040

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

NOTES

1. FOR GRADING AROUND BRIDGE, SEE GRADING PLAN, SHEET 70.

0 10 20
SCALE IN METERS

McFarland Johnson

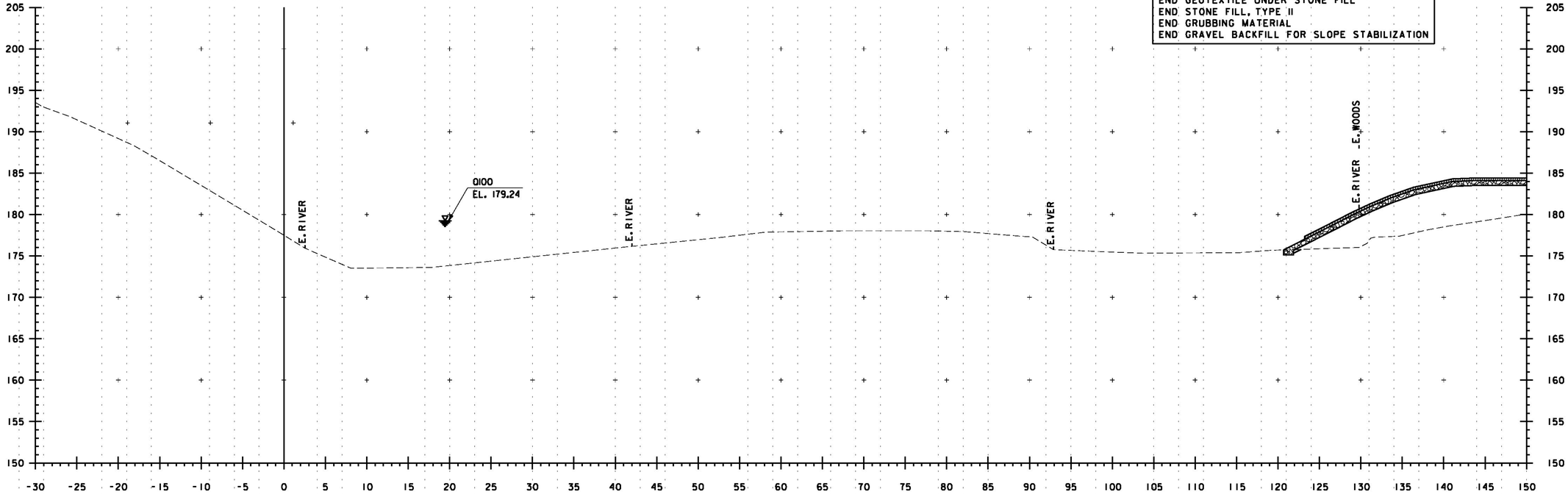
PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194acs.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della/B. Colburn
CHANNEL CROSS SECTIONS: 1+040 TO 1+045

PLOT DATE: 29-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 122 OF 123

Metric

STA. 1+062 ± , RT.
END UNCLASSIFIED CHANNEL EXCAVATION
END GEOTEXTILE UNDER STONE FILL
END STONE FILL, TYPE II
END GRUBBING MATERIAL
END GRAVEL BACKFILL FOR SLOPE STABILIZATION



1+050

NOTE: ALL DIMENSIONS IN METERS (M) EXCEPT WHERE NOTED.

NOTES

1. FOR GRADING AROUND BRIDGE, SEE GRADING PLAN, SHEET 70.

0. 10. 20.
SCALE IN METERS

McFarland Johnson

PROJECT NAME: MORRISTOWN
PROJECT NUMBER: STP F 029-1(2)C/1

FILE NAME: z10b194acs.dgn
PROJECT LEADER: DMB
DESIGNED BY: S. Della/B. Colburn
CHANNEL CROSS SECTIONS: 1+050

PLOT DATE: 29-MAR-2012
DRAWN BY: P. Dustin
CHECKED BY: R. Joy
SHEET 123 OF 123

AMSCOT
STRUCTURAL PRODUCTS, INC.
A World of Structural Bearings
and Custom Fabricated Metal Components.
241 E. Blackwell Street
Dover, NJ 07801

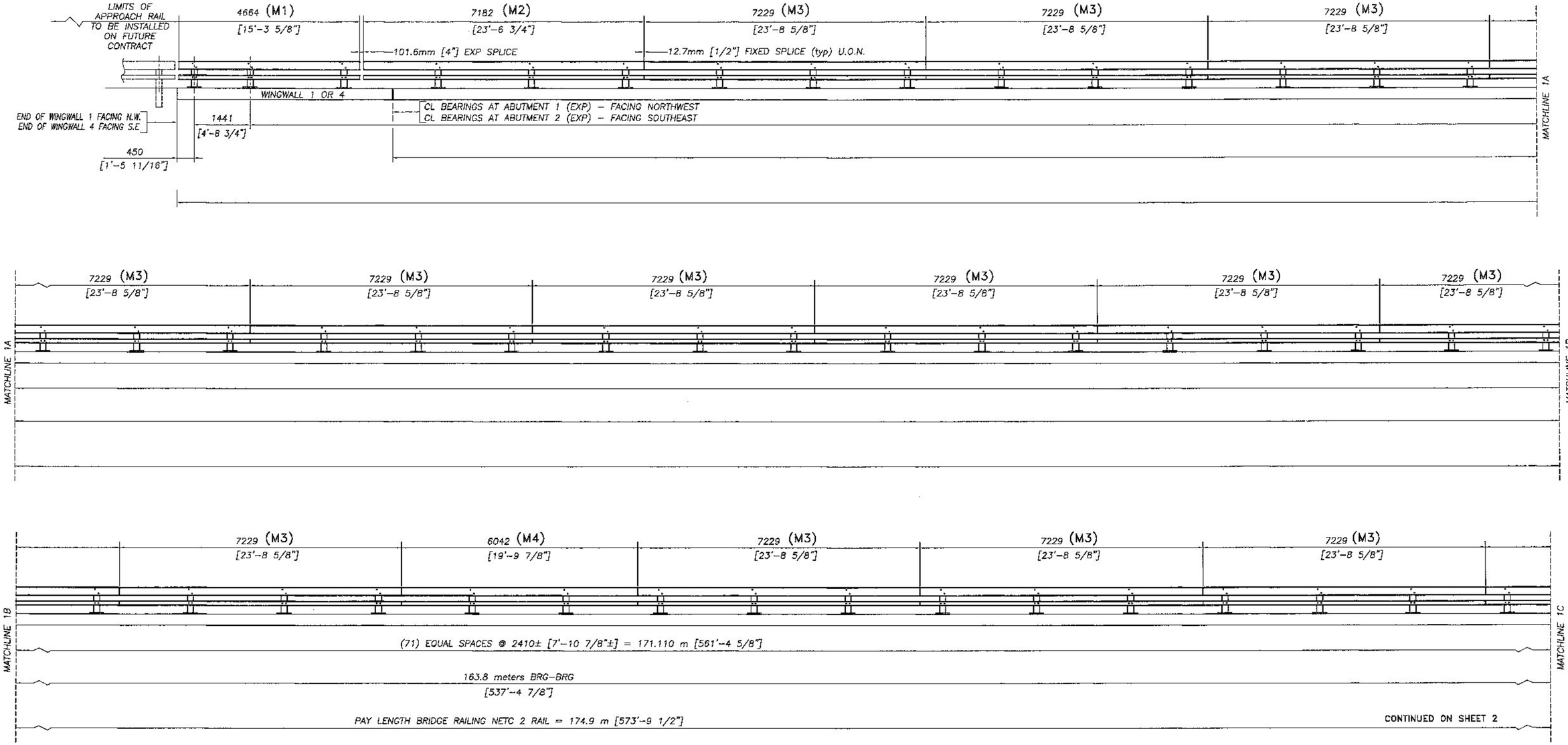
AMSCOT STRUCTURAL PRODUCTS – PREFORMED FABRIC PAD TO PTFE BOND PROCEDURE

FACTORY BOND PROCEDURE:

Material preparation procedure as follows:

1. Preformed fabric reinforced elastomeric pad (90 ± 5 Shore A Durometer)- bond surface to be roughened by scoring full surface area with wire brush.
2. Substrate sheet to be either 1/16" phenolic sheet and shall be prepped by abrading both surfaces or 18 gauge steel sheet and shall be prepped by sand blasting both surfaces to a SSPC-SP10 classification.
3. All foreign materials to be removed from PTFE sheet, Substrate sheet (18 gauge steel and or Phenolic sheet), and Fabric Pad bonding surfaces.
4. Two part epoxy bond adhesive material; Armstrong style no. A-271 parts A and B shall be thoroughly mixed together as per manufactures mix ratio.
5. Mixed epoxy shall be applied with trowel providing uniformity of epoxy on all bonding surface areas.
6. PTFE (Polytetrafluorethylene)-(virgin, not reprocessed) shall be placed etched face surface with the applied epoxy coating against prepared substrate sheet. Epoxy coated substrate sheet opposite face shall be placed against preformed fabric pad material.
7. The fabric pad with substrate & PTFE shall be placed into hydraulic heated press for a duration of 15-20 minutes @ 180° F to allow proper cure time of epoxy material. (Longer time periods required when material pad thickness exceeds 1" thick).
8. Preformed reinforced Bearing pad bonded to PTFE shall be allowed to cool for 60 minutes before handling.
9. Excess PTFE shall be removed from perimeter of pad. Pad shall be sanded smooth on all sides.
10. Finished Preformed fabric bearing pad w/PTFE to be inspected by Q/C personnel prior to packaging for shipment.

Recommended storage procedures: PTFE materials shall be kept covered from direct UV light exposure for any long periods of time.



NORTHWEST (OR SOUTHEAST) RAILING ELEVATION

LOOKING AT FACE OF RAILING FROM CENTERLINE OF ROAD
FACING NORTHWEST (OR SOUTHEAST)

ITEM 525.33 NETC 2 RAIL BRIDGE RAIL = 350 meters (BOTH SIDES COMBINED)

Vermont Agency of Transportation
RECEIVED

CK'D BY -- OK'D BY D. Bonneau
January 4, 2013
RESUBMIT No **Approved**
BY Douglas Bonneau DATE 01/08/13

ALL LINEAR DIMENSIONS ARE IN millimeters (mm) UNLESS OTHERWISE NOTED
ENGLISH STANDARD DIMENSIONS ARE SHOWN IN [ ] FOR REFERENCE

No.	Remarks	Date
0	Initial submittal	11/30/12

REVISIONS - APPLIES TO SET

_____ Reviewed _____ Rejected
X Furnish As Corrected _____ Revise and Resubmit

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

McFarland Johnson
Date January 3, 2012
By D. Kull

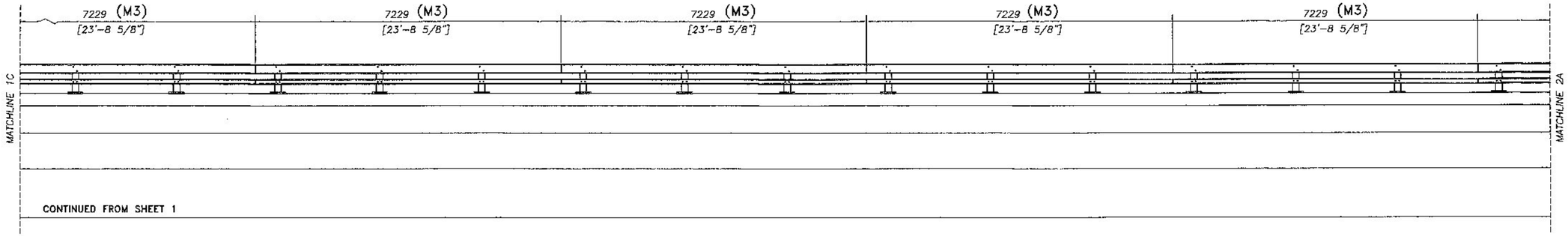
HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

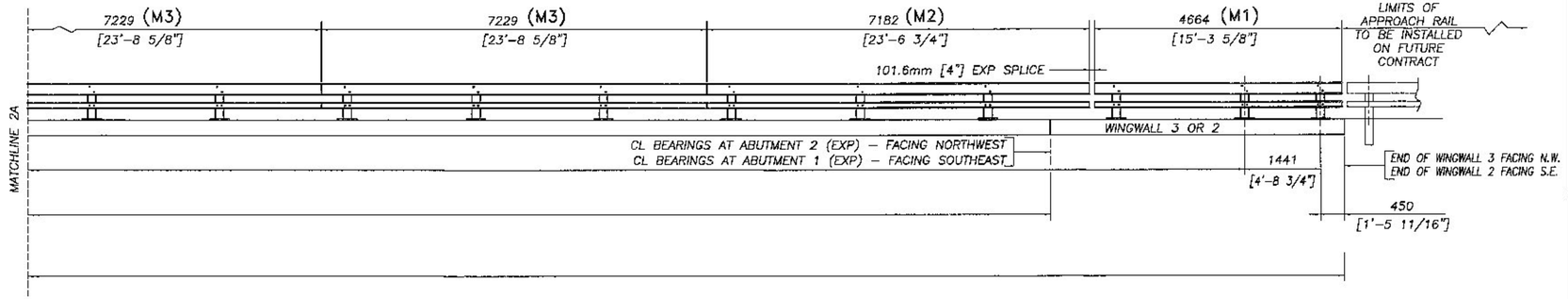
ITEM 525.33 NETC 2 RAIL BRIDGE RAILING (S-360A)
TOWN OF MORRISTOWN, VERMONT
LAMOILLE COUNTY
VT100 MINOR ARTERIAL STP F 029-1(2) C/1

CERTIFIED FABRICATOR

HSC JOB NO. 1909
GENERAL CONTRACTOR
SUB CONTRACTOR LAFAYETTE
SHEET NO. 1 of 3

DRAWN PAR CHECKED DATE 11-28-12 SCALE NONE SIZE D





BILL OF MATERIAL

NORTHWEST AND SOUTHEAST SIDES COMBINED

Qty	mk	Description	Spec.
148		BRIDGE RAILING POST W6 x 25 x 2'-2.375" OAH WITH 1 x 10 x 14 BASE PLATE (GLV)	A709 gr 50
44		SPLICE TUBE (FOR 8X4 RAIL) HSS 7 x 3 x 3/8 x 1'-8.000" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
44		SPLICE TUBE (FOR 4X4 RAIL) HSS 3 x 3 x 5/16 x 1'-8.000" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
4		EXP SPLICE (FOR 8X4 RAIL) HSS 7 x 3 x 3/8 x 1'-11.750" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
4		EXP SPLICE (FOR 4X4 RAIL) HSS 3 x 3 x 5/16 x 1'-11.750" OAL w/ TAPPED HOLES & 2 WELDED NUTS (GLV)	A500 gr B
4	M1	RAIL TUBE HSS 8 x 4 x 5/16 x [4.664m] 15 ft - 3.625 in OAL - EXP splice both ends (GLV)	A500 gr B
4	M2	RAIL TUBE HSS 8 x 4 x 5/16 x [7.182m] 23 ft - 6.75 in OAL - FIX splice 1 end, EXP splice 1 end (GLV)	A500 gr B
40	M3	RAIL TUBE HSS 8 x 4 x 5/16 x [7.229m] 23 ft - 8.625 in OAL - FIX splice both ends (GLV)	A500 gr B
2	M4	RAIL TUBE HSS 8 x 4 x 5/16 x [6.042m] 19 ft - 9.875 in OAL - FIX splice both ends (GLV)	A500 gr B
4	M1	RAIL TUBE HSS 4 x 4 x 1/4 x [4.664m] 15 ft - 3.625 in OAL - EXP splice both ends (GLV)	A500 gr B
4	M2	RAIL TUBE HSS 4 x 4 x 1/4 x [7.182m] 23 ft - 6.75 in OAL - FIX splice 1 end, EXP splice 1 end (GLV)	A500 gr B
40	M3	RAIL TUBE HSS 4 x 4 x 1/4 x [7.229m] 23 ft - 8.625 in OAL - FIX splice both ends (GLV)	A500 gr B
2	M4	RAIL TUBE HSS 4 x 4 x 1/4 x [6.042m] 19 ft - 9.875 in OAL - FIX splice both ends (GLV)	A500 gr B
148		ANCHOR SPACER PLATE PL 0.375 x 13.000 x 9.375	A709 gr 36
594		ANCHOR STUD DBL END PART THREAD - 1" DIA x 12.000 w/ 2.250" THD EACH END (GLV)	A449
1188		HEAVY HEX NUT 1" (GLV)	A563 DH
594		ROUND WASHER (SAE) - 1" DIA SMALL (GLV)	F436
594		JAM NUT 1" (GALV)	A563 DH
592		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 6" LG. FULL BODY (GLV)	A449 / A325
592		LOCK NUT 3/4" (GLV)	A563 DH
592		ROUND WASHER (SAE) 3/4" (GLV)	F436
384		HEX HEAD BOLT 5/8" DIA x 1.75" LG. (GLV)	A325
384		ROUND WASHER (SAE) 5/8" (GLV)	F436
32		SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV)	A53 gr B
148		BEARING PAD 0.125" THICK x 10.000 x 14.000 (NEOPRENE 80 duro +/-10)	aashto M251

* ANCHOR STUD QUANTITY INCLUDES TWO ADDITIONAL SETS FOR TESTING

Vermont Agency of Transportation

RECEIVED

CK'D BY -- OK'D BY D. Bonneau

January 4, 2013

RESUBMIT No Approved

BY Douglas Bonneau DATE 01/08/13

_____ Reviewed
_____ Rejected
__X__ Furnish As Corrected
_____ Revise and Resubmit

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

McFarland Johnson

Date January 3, 2012

By D. Kull

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 NETC 2 RAIL BRIDGE RAILING (S-360A)
TOWN OF MORRISTOWN, VERMONT
LAMOILLE COUNTY
VT100 MINOR ARTERIAL STP F 029-1(2) C/1

AISC CERTIFIED FABRICATOR

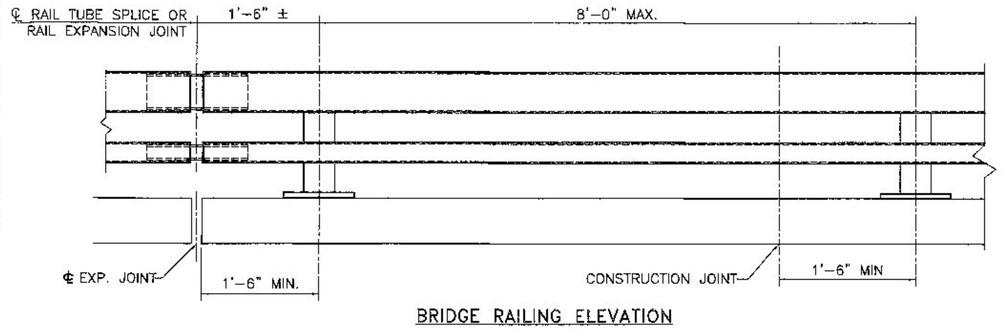
GENERAL CONTRACTOR

SUB CONTRACTOR LAFAYETTE

HSC JOB NO. 1909

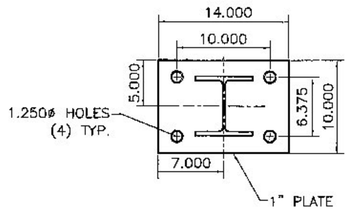
SHEET NO. 2 of 3

DRAWN PAR | CHECKED | DATE 11-28-12 | SCALE NONE | SIZE D

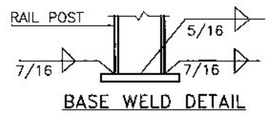


BRIDGE RAILING ELEVATION

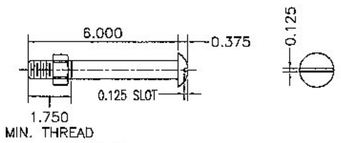
Note: Provide Metric Dimensions



POST AND BASE PLATE



BASE WELD DETAIL



3/4" DIA. A449 ROUND HEAD BOLT

(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #8)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

Vermont Agency of Transportation

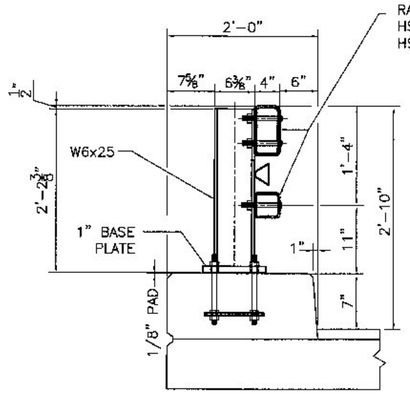
RECEIVED

CK'D BY -- OK'D BY D. Bonneau

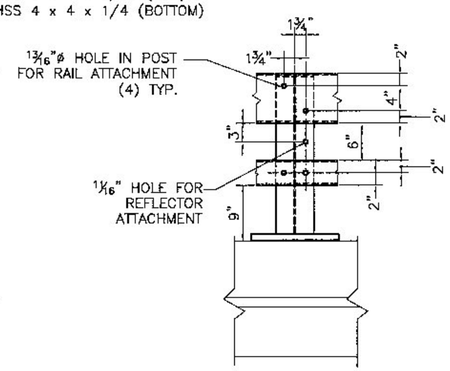
January 4, 2013

RESUBMIT No Approved

BY Douglas Bonneau DATE 01/08/13



TYPICAL SECTION



ELEVATION

NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECTION 525.
2. PRIOR TO GALVANIZING, ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
3. ALL POSTS SHALL BE SET NORMAL TO GRADE.
4. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
5. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING THE END OF AN INTEGRAL ABUTMENT BRIDGE AND AT ALL SUPERSTRUCTURE EXPANSION JOINTS. EXPANSION JOINT WIDTH SHALL BE 4" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
6. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT SHALL BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AND APPROVED ZINC-RICH PAINT DURING INSTALLATION.
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
8. RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY ASTM A449 ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
9. ANY BENDING OR CURVING OF RAIL SHALL BE DONE IN A FABRICATION PLANT IN ACCORDANCE WITH SUBMITTED PROCEDURES.
10. THE MINIMUM DISTANCE FROM A POST TO AN EXPANSION JOINT SHALL BE SUCH TO MAINTAIN MINIMUM EDGE DISTANCE OF 5" FROM ANY ANCHOR STUD TO THE END OF THE SLAB, OR TO THE EXPANSION JOINT RECESS POUR, IF ONE IS USED.
11. A DELINEATOR (SEE VAOT STANDARD DRAWING G-1 FOR DETAILS) SHALL BE INSTALLED AT NEAREST POST TO 30 FT SPACING. WHITE IS TO BE INSTALLED ON THE DRIVER'S RIGHT. FOR ONE WAY BRIDGES, YELLOW IS TO BE INSTALLED ON THE DRIVER'S LEFT. PAYMENT SHALL BE INCIDENTAL TO OTHER ITEMS.
12. THIS RAILING MEETS THE REQURIEMENTS FOR A TL-4 SERVICE LEVEL.

MATERIALS

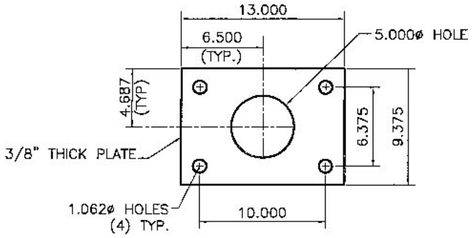
RAIL TUBES	ASTM A500 GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATES	ASTM A709/A709M, GRADE 50
ALL OTHER SHAPES AND PLATES	ASTM A709/A709M, GARDE 36
ANCHOR STUDS	ASTM A449
ALL OTHER BOLTS (UNLESS NOTED)	AASHTO M164, TYPE1

NUTS FOR AASHTO M164 BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASTHO M291 (ASTM A563).

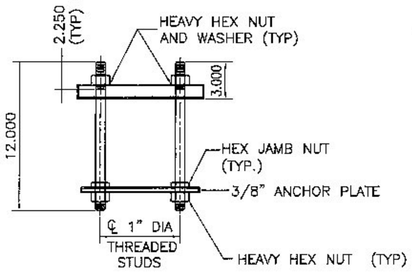
WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFCATIONS.

1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

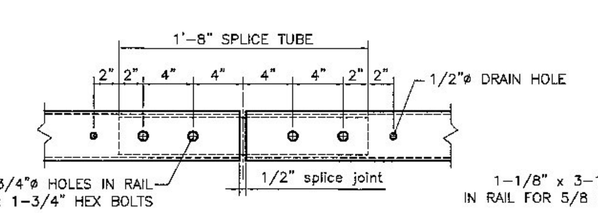
RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMEN.



ANCHOR PLATE

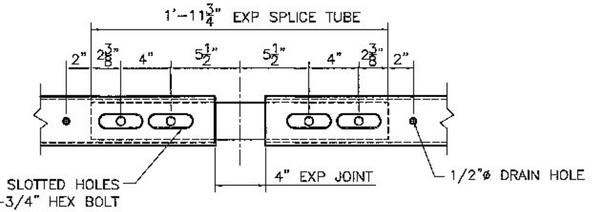


RAIL POST ANCHORAGE



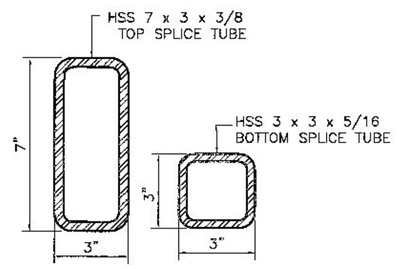
FIXED SPLICE JOINT DETAIL

BOTTOM VIEW

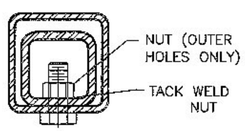


EXPANSION SPLICE DETAIL

BOTTOM VIEW

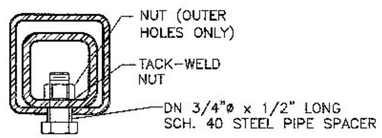


RAIL TUBE SPLICE SECTION



5/8"ø TAPPED HOLE IN SPLICE TUBE & 3/4"ø HOLE IN RAIL TUBE FOR BOLT & PLAIN HARDENED WASHER

FIXED SPLICE JOINT SECTION



5/8"ø TAPPED HOLE IN SPLICE TUBE AND 1 1/8" x 'C' SLOT IN RAIL TUBE FOR BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

Reviewed ___ Furnish As Corrected
Rejected ___ Revise and Resubmit

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

Date January 3, 2012

McFarland Johnson

By D. Kull

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 525.33 METC 2 RAIL BRIDGE RAILING (S-360A)
TOWN OF MORRISTOWN, VERMONT
LAMOILLE COUNTY
VT100 MINOR ARTERIAL STP F 029-1(2) C/1

CERTIFIED FABRICATOR

GENERAL CONTRACTOR
SUB CONTRACTOR LAFAYETTE

SHOP JOB NO. 1909
SHEET NO. 3 of 3

DRAWN	CHECKED	DATE	SCALE	SIZE
PAR		11-28-12	NONE	D

Note: Not Reviewed by MJ

Highway Safety Corporation

Glastonbury, CT

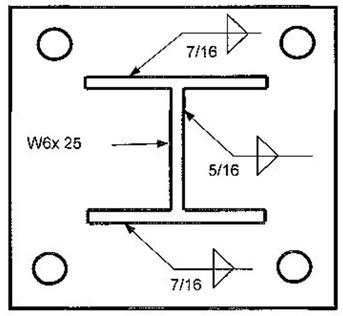
Welding Procedure Specification

Material specification **A572 gr 50, A709 Gr 50**
Welding process **Gas Metal Arc Welding (GMAW) Spray Transfer**
Manual, semi-automatic, or automatic **Semi-Automatic**
Position of welding **Flat (1F) or Horizontal (2F)**
Filler metal specification **AWS A5.18**
Filler metal classification **ER70S-6**
Electrode and manufacturer **Lincoln Electric Lincoln Weld L-56**
Flux and manufacturer **N/A**
Shielding gas **86% Argon / 14% CO2** Flow rate **35-45 CFM**
Single or multiple pass **Single or Multiple**
Single or multiple arc **Single**
Welding current **DCEP**
Polarity **Reverse - electrode positive**
Welding progression **Stringers**
Root treatment **clean base metal**
Preheat and interpass temperature **base metal up to 3/4" (50ºF) ; over 3/4 thru 1-1/2" (150ºF) : over 1-1/2" thru 2-1/2" (225ºF)**
Postheat treatment **None**
Electrode extension **3/4" ± 1/4"**

WELDING PROCEDURE

Weld size	Pass no.	Electrode size	Welding parameters		Travel speed
			Amperes	Volts	
5/16"	1	0.062"	300 A ± 30	29 V ± 2	15 ipm ± 2
7/16"	1 & 2	0.062"	↓	↓	15 ipm ± 2

Joint detail



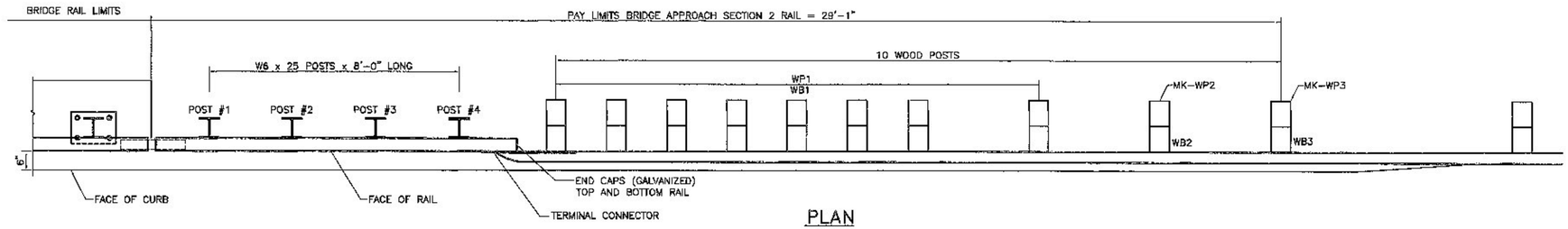
Vermont Agency of Transportation
RECEIVED
CK'D BY -- OK'D BY D. Bonneau
January 4, 2013
RESUBMIT No Approved
BY Douglas Bonneau DATE 01/08/13

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

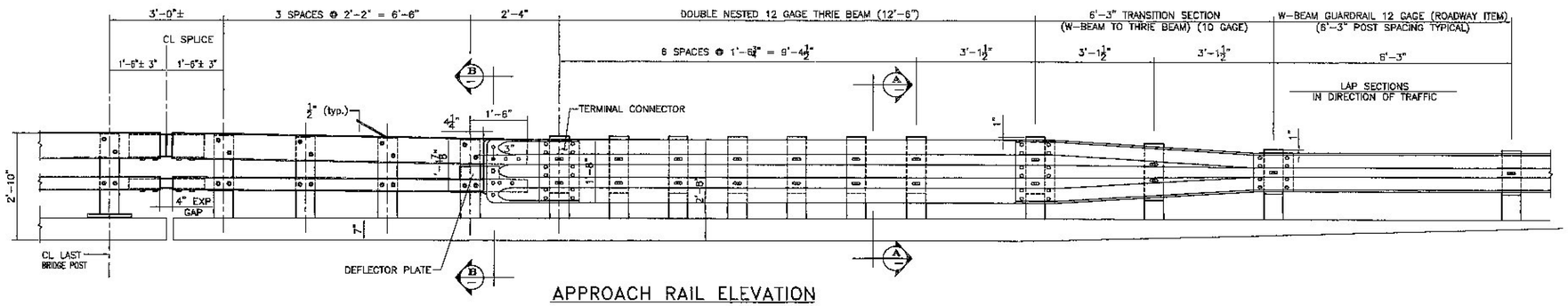
WPS no. **W-VTPEDPOST1**
Revision no. **0**
Supporting PQR no. **Pre-Qualified**
Project Name **Morristown, VT**

Fabricator **Highway Safety Corporation**
Prepared By: **Paul Radice**
Date **11-28-12**
Project Number **STP F 029-1(2) C/1**

Paul A Radice
CWI 98070221
QC1 EXP. 7/1/2013



PLAN



APPROACH RAIL ELEVATION

LEADING END (RIGHT) IS SHOWN
DEPARTURE END (LEFT) SIMILAR BUT OPPPOSITE HAND

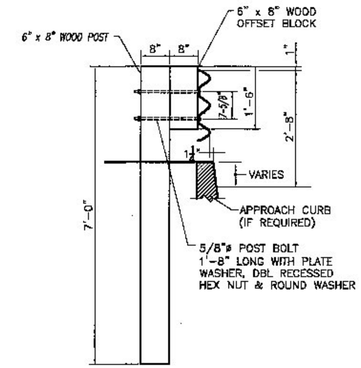
NOTES:
1. PAYMENT FOR GUARDRAIL APPROACH SECTION – GALVANIZED 2 RAIL SHALL INCLUDE THE TERMINAL CONNECTOR, THE CONNECTION PLATE, THE DEFLECTOR PLATE, RAIL, POSTS, BLOCKS AND ATTACHMENT HARDWARE.

2. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.

3. TUBE AND STEEL POST MATERIALS, DIMENSION SIZES AND NOTES SHALL BE THE SAME AS THOSE OF THE BRIDGE RAIL UNLESS OTHERWISE NOTED.

4. APPROACH RAIL BOLTS SHALL BE ASTM A307 GRADE A AND NUTS SHALL BE AASHTO M291 (ASTM 563 GRADE A OR BETTER (GALVANIZED). WASHERS SHALL BE ASTM F844.

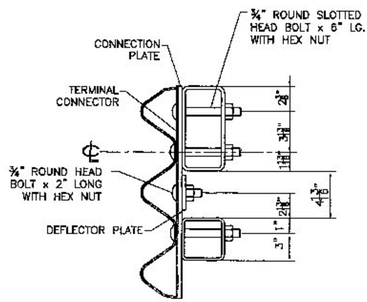
5. WELD TOP SPLICE BAR TO FIT BEND. USE COMPLETE PENETRATION WELD (B-U2).



SECTION A–A

BILL OF MATERIAL

Qty	mk	Description	Spec.
4	01	W6x25 APPROACH POST - #1 x 8'-0" OAL (GALV)	A709 gr 50
4	02	W6x25 APPROACH POST - #2 x 8'-0" OAL (GALV)	A709 gr 50
4	03	W6x25 APPROACH POST - #3 x 8'-0" OAL (GALV)	A709 gr 50
4	04	W6x25 APPROACH POST - #4 x 8'-0" OAL (GALV)	A709 gr 50
4		UPPER RAIL APPROACH TUBE HSS 8 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		LOWER RAIL APPROACH TUBE HSS 4 x 4 x 5/16 x 9'-4.000" w/ 3.500 SLOTS FOR 4" EXP GAP (GALV)	A500 gr B
4		CONNECTION PLATE PL 0.375" x 20.000" x 27.000" (GALV)	A709 gr 36
2		DEFLECTOR PLATE (RIGHT) PL 0.375 x 4.000 x 13.375 (GALV)	A709 gr 36
2		DEFLECTOR PLATE (LEFT) PL 0.375 x 4.000 x 13.375 (GALV)	A709 gr 36
4		END CAP FOR 8x4 TUBE 0.187 THICK PLATE 8.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		END CAP FOR 4x4 TUBE 0.187 THICK PLATE 4.000 x 4.000 w/ WELDED TABS (GALV)	A709 gr 36
4		(ANGLED) SPLICE TUBE (EXPANSION) FOR 8x4 UPPER RAIL HSS 7 x 3 x 3/8 x 1'-11.750" OAL (GALV)	A500 gr B
4		SPLICE TUBE (EXPANSION) FOR 4x4 LOWER RAIL HSS 3 x 3 x 5/16 x 1'-11.750" OAL (GALV)	A500 gr B
32		WOOD POST (WP1) 6 x 8 x 7'-0"	TIMBER
32		WOOD BLOCKOUT (WB1) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST (WP2) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB2) 6 x 8 x 1'-6"	TIMBER
4		WOOD POST(WP3) 6 x 8 x 7'-0"	TIMBER
4		WOOD BLOCKOUT (WB3) 6 x 8 x 1'-2"	TIMBER
4		THRIE FLAT LIP BRIDGE SHOE (MODIFIED) 10 GA. GALV	asshto M180 B2
4		THRIE TRANSITION PANEL 6'-3" / 3'-1 1/2" 10 GA. GALV.	asshto M180 B2
8		THRIE PANEL 12'-6" / 1'-6 3/4" 12 GA. GALV.	asshto M180 A2
92		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 8" LG. (GLV) w/ LOCK NUT & FLAT WASHER	A449
4		ROUND HEAD POST BOLT slot or wrench head - no shoulder 3/4" DIA x 2" LG. (GLV) w/ HEX NUT	A449
8		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-8" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
68		ROUND HEAD POST BOLT - oval shoulder 5/8" DIA x 1'-6" LG. (GALV) w/ DBL RECESS NUT, FLAT WASHER	A307
32		HEX HEAD BOLT 5/8 x 1-3/4" (GALV) w/ FLAT WASHER	A325
128		PANEL SPLICE BOLT 5/8 x 1-1/4" (GALV) w/ DOUBLE RECESSED NUT	A307
76		RECTANGULAR PLATE WASHER 0.187 x 1.750 x 3.000 (GALV)	A709 gr 36
32		SPACER PIPE - GALVANIZED 3/4" SCH. 40 x 1/2" LONG (GLV)	A53 gr B



SECTION B–B

ITEM 621.72 GUARDRAIL APPROACH SECTION, GALVANIZED 2 RAIL BOX BEAM – 4 UNITS

No.	Remarks	Date
0	Initial submittal	4/15/13
	REVISIONS	

Vermont Agency of Transportation
RECEIVED
SHOP DRAWING TRANSMITTAL DO-NOT-SUBMIT

CK'D BY D. Bonneau OK'D BY D. Bonneau
August 9, 2013
RESUBMIT No Approved
BY T. Bohl DATE 08/22/2013

Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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Date August 21, 2013
McFarland Johnson
By D. Kill

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

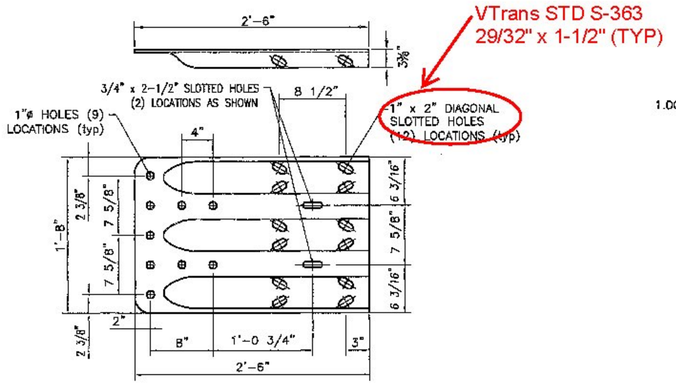
ITEM 621.72 GUARDRAIL APPROACH,
GALVANIZED 2 RAIL BOX BEAM (S-560B)
VT 100
STP F 029-1(2)
TOWN OF MORRISTOWN, LAMOILLE COUNTY VT

GENERAL CONTRACTOR
SUB CONTRACTOR VT REC

AISC CERTIFIED FABRICATOR

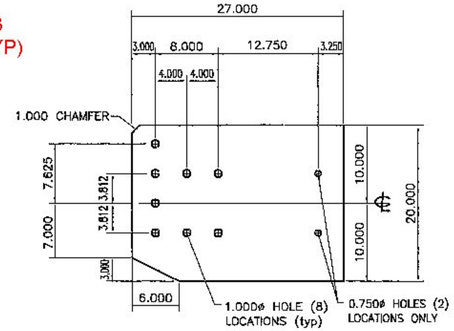
SHOP DRAWING NO. 1933
SHEET NO. 1 of 2

DRAWN PAR | CHECKED | DATE 04-18-13 | SCALE NONE | SIZE D



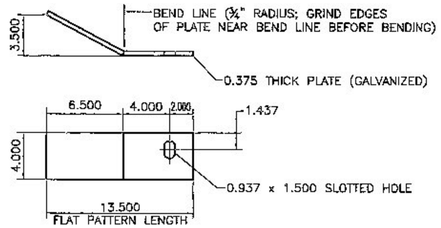
TERMINAL CONNECTOR

10 GAUGE (AASHTO M180 B2)



CONNECTION PLATE

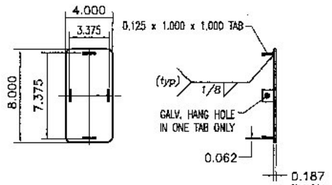
0.375 x 20.000 x 27.000 (A709 gr 36)



DEFLECTOR PLATE

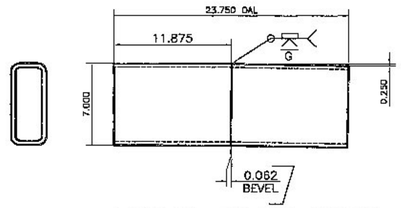
0.375 x 4.000 x 13.500 (A709 gr 36)

RIGHT HAND APPROACH SHOWN — LEFT HAND BENT OPPOSITE



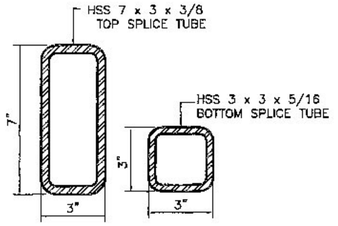
END CAP (8x4)

0.187 x 4.000 x 8.000 (A709 gr 36)

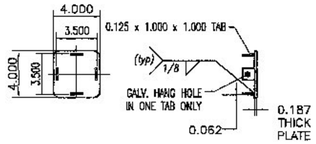


ANGLED SPLICE DETAIL

HSS 7 x 3 x 3/8 — FOR UPPER RAIL SPLICE

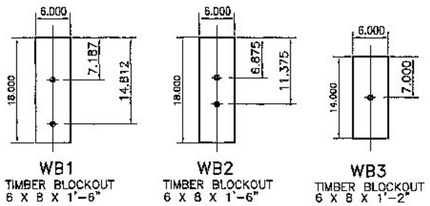


RAIL TUBE SPLICE SECTION

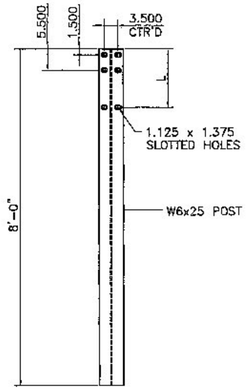


END CAP (4x4)

0.187 x 4.000 x 4.000 (A709 gr 36)



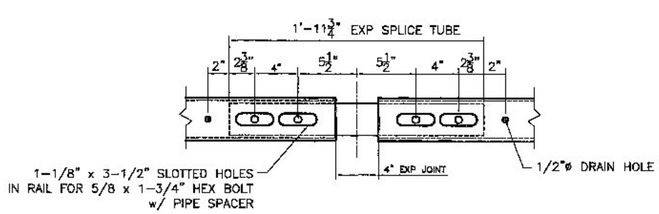
WOOD BLOCK DETAILS



STEEL POST

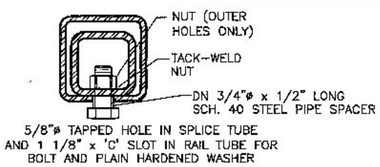
STEEL POST CHART

No.	L
#1	1'-3.250"
#2	1'-3.000"
#3	1'-2.687"
#4	1'-2.375"

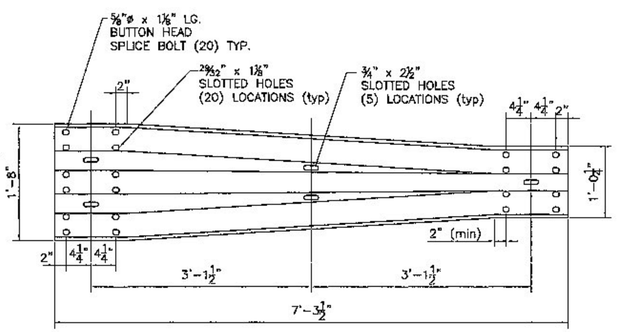


EXPANSION SPLICE DETAIL

BOTTOM VIEW

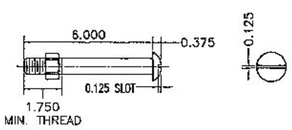


EXPANSION JOINT SECTION



THRIE TRANSITION PANEL

10 GAUGE (AASHTO M180 B2)



3/4" DIA. A449 ROUND HEAD BOLT

(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

Reviewed ___ Furnish As Corrected
Rejected ___ Revise and Resubmit

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Date August 21, 2013

McFarland Johnson

By D. Kull

Vermont Agency of Transportation

RECEIVED

CK'D BY D. Bonneau OK'D BY D. Bonneau

August 9, 2013

RESUBMIT No Approved AsNoted

BY T. Bohl DATE 08/22/2013

HIGHWAY SAFETY CORP
GLASTONBURY, CT
860-633-9445

ITEM 621.72 GUARDRAIL APPROACH, GALVANIZED 2 RAIL BOX BEAM (S-3608)
VT 100
STP F 029-1(2)
TOWN OF MORRISTOWN, LAMOILLE COUNTY VT

AISC CERTIFIED FABRICATOR

GENERAL CONTRACTOR

DESIGN CONSULTANT VT REC

HSC JOB NO. 1933

SHEET NO. 2 of 2

DRAWN	CHECKED	DATE	SCALE	SIZE
PAR		04-18-13	NONE	D

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No **Approved**

BY T. Bohl DATE 03/28/2013

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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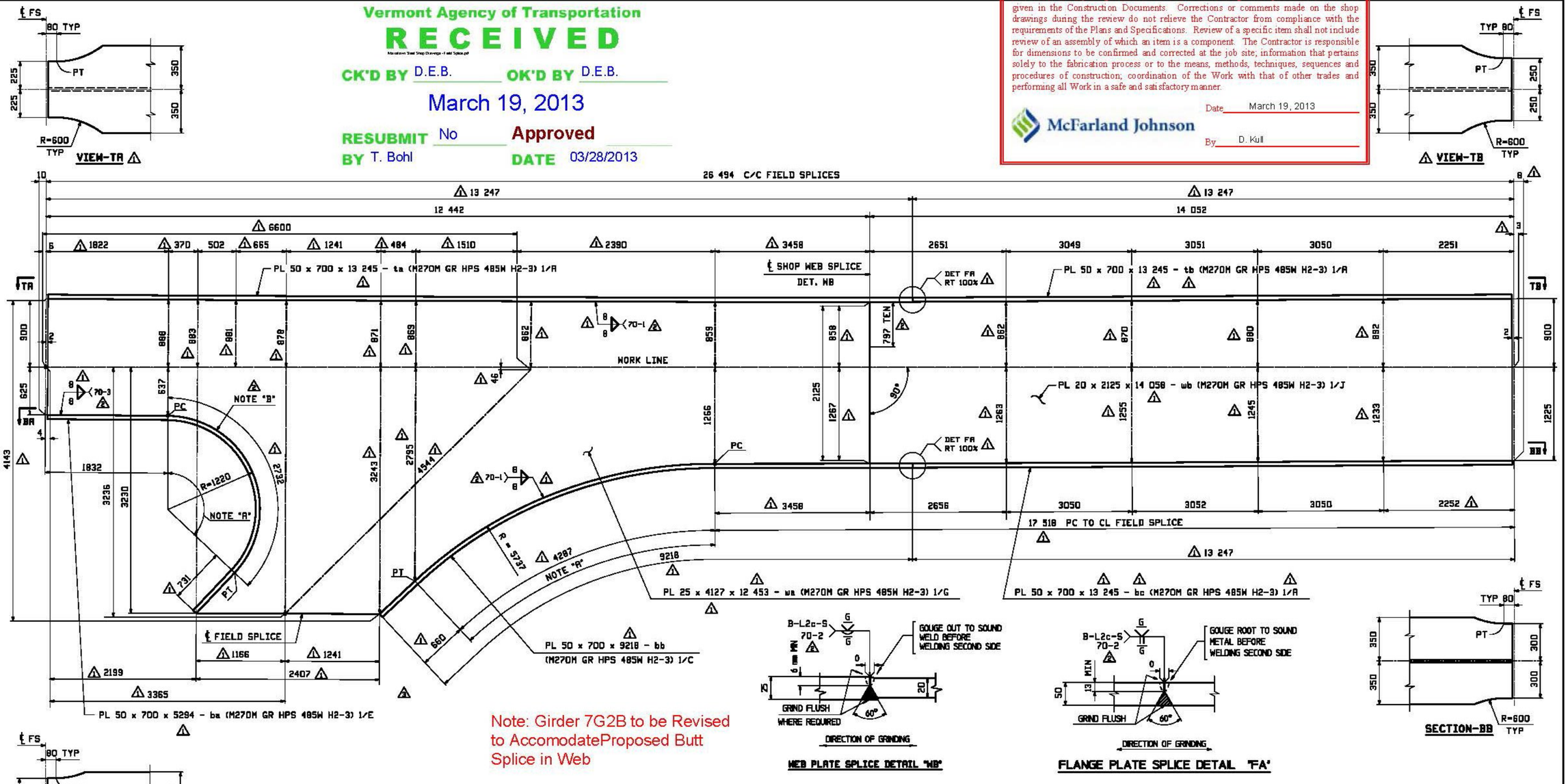
McFarland Johnson

Date March 19, 2013

By D. Kull



Note: Girder 7G2B to be Revised to AccomodateProposed Butt Splice in Web

NOTE "A"
CURVED AREA OF FLANGE PLATE TO BE UT TESTED AFTER ROLLING

NOTE "B"
BEFORE HOT OR COLD BENDING, THE CORNERS OF THE PLATE SHALL BE ROUNDED TO A RADIUS OF 1" THROUGHOUT THAT PORTION OF THE PLATE AT WHICH THE BENDING IS TO OCCUR (TYP).

WEB CUTTING AND FLANGE BENDING DIAGRAMS FOR
GIRDERS 6G1B, 7G2B, 8G3B, 9G4B, 10G5B AT SOUTH LEG
GIRDERS 6G5D, 7G4D, 8G3D, 9G2D, 10G1D AT NORTH LEG

NOTES:
- FOR GENERAL SHOP NOTES SEE DRAWING GN1
- H2-3 INDICATES PLATES THAT REQUIRE CHARPY V-NOTCH TEST AT H FREQUENCY FOR ZONE 2
- ALL MATERIALS AASHTO M270M-GR HPS 485W

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
3	3/15/13	REMOVE KILL TO BEAM	CRK	PCP		
2	12/19	APPROVAL COMMENTS	EEO	PCP		
1	9/18/12	ADD WELDS & FLG SPLICES, GEOMETRIC CAMBER	EEO	PCP		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

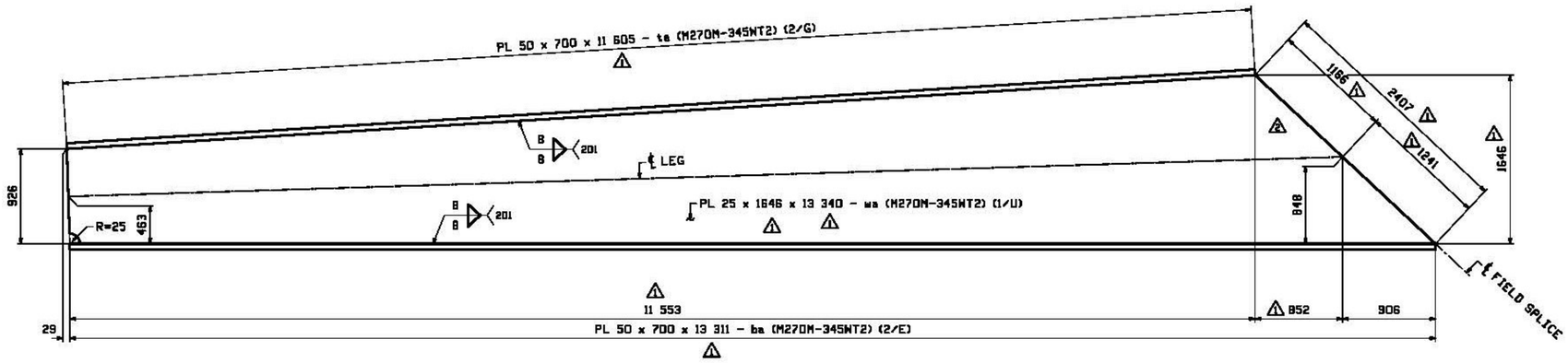
DESCRIPTION: CAMBER DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: WJG DATE: 08/07
CHKD: SOB DATE: 08/09
LOCATION: MORRISTOWN, VT JOB NO. 521
PROJ NO. STP F 029-1(2)C/1 DWG NO. C2
CUSTOMER: WINTERSET, INC. REV. 3



WEB AND FLANGE CUTTING DIAGRAMS FOR GIRDERS
21L1S, 22L2S, 23L3S, 24L4S, 25L5S, 21L5N, 22L4N, 23L3N, 24L2N & 25L1N

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

X Reviewed — Furnish As Corrected

Rejected — Revise and Resubmit

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McFarland Johnson

Date March 19, 2013

By D. Kull

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 - DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	03/13	REMOVE MILL TO BEAR	CRK	PCP		
1	09/21	GEOMETRIC CAMBER	SOB	EEC		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: | SHOP BOLTS:

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TEKLA STRUCTURES

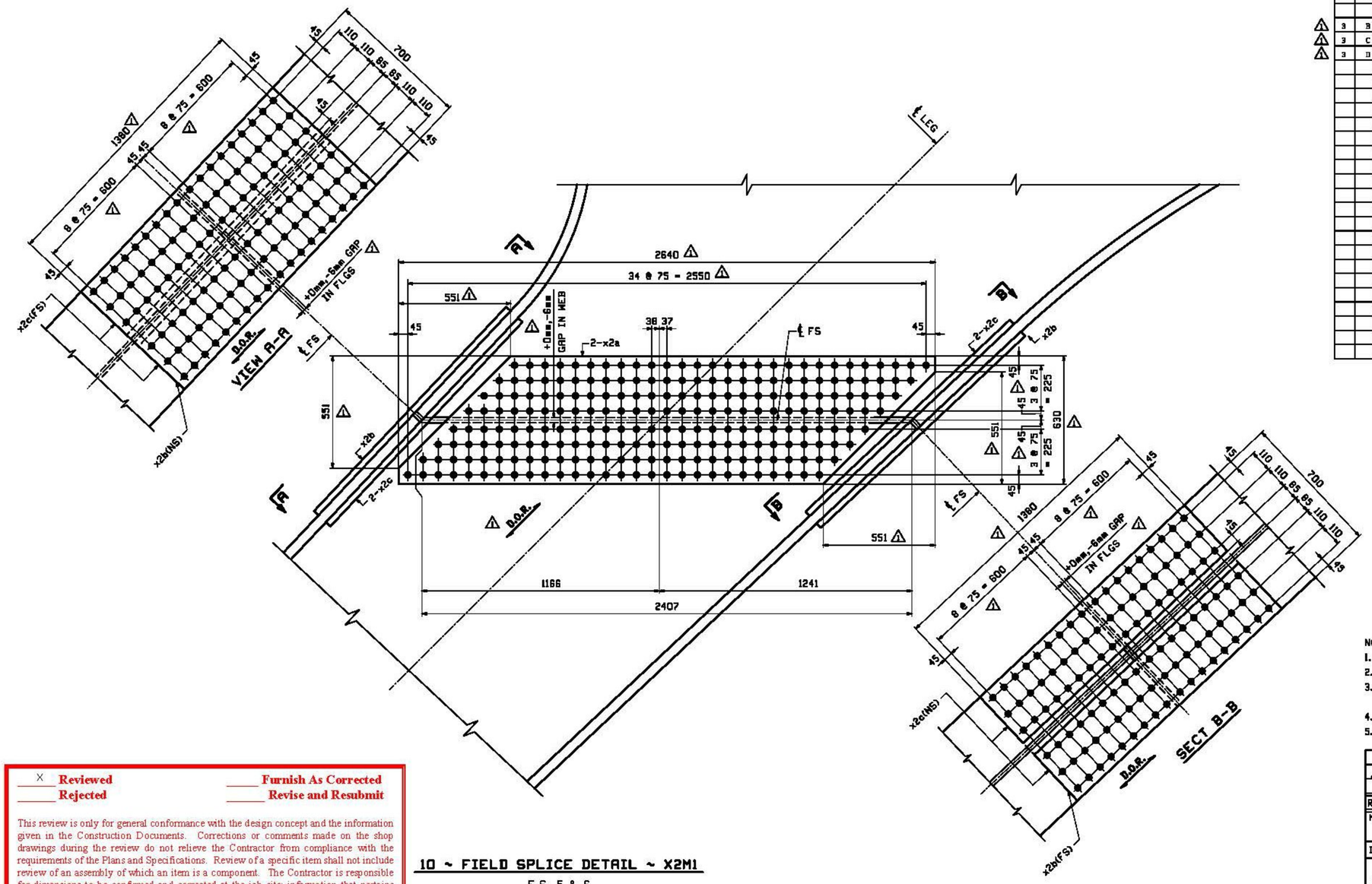
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEC DATE: 08/23
CHKD: SOB DATE: 08/27

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.

JOB NO. 521
DWG NO. C5
REV. 2

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	X2	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH ■	LENGTH ■■	REMARKS	WT	PROCUREMENT NOTES
		X2M1	10		FIELD SPLICE	5 & 6			1254 kg 2985 lbs	
1 3	B		20	x2a	PL 19x2640	0	630	M270M-345WT2	240 kg 547 lbs	
1 3	C		20	x2b	PL 30x700	1	380	M270M-345WT2	228 kg 502 lbs	
1 3	D		40	x2c	PL 30x310	1	380	M270M-345WT2	101 kg 222 lbs	



10 ~ FIELD SPLICE DETAIL ~ X2M1

F.S. 5 & 6

(FS5 SHOWN, FS6 ROTATED 180°)

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. HOLES IN SPLICE PLATES ARE PRE-DRILLED.
3. ENDS OF GIRDERS ARE DRILLED FROM SOLID DURING SHOP ASSEMBLY, USING SPLICE PLATES AS A TEMPLATE.
4. T2 - DENOTES CHARPY V-NOTCH TESTING REQUIRED.
5. D.O.R. - DENOTES DIRECTION OF MILL ROLLING.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	3/15	DESIGN REVISION	CRK	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE GN1	5/16 ø	NONE

DESCRIPTION: FIELD SPLICE STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3137C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/18	
	CHKD: PCP	DATE: 9/17/12	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	X2	
CUSTOMER: WINTERSET, INC.		REV. 1	

X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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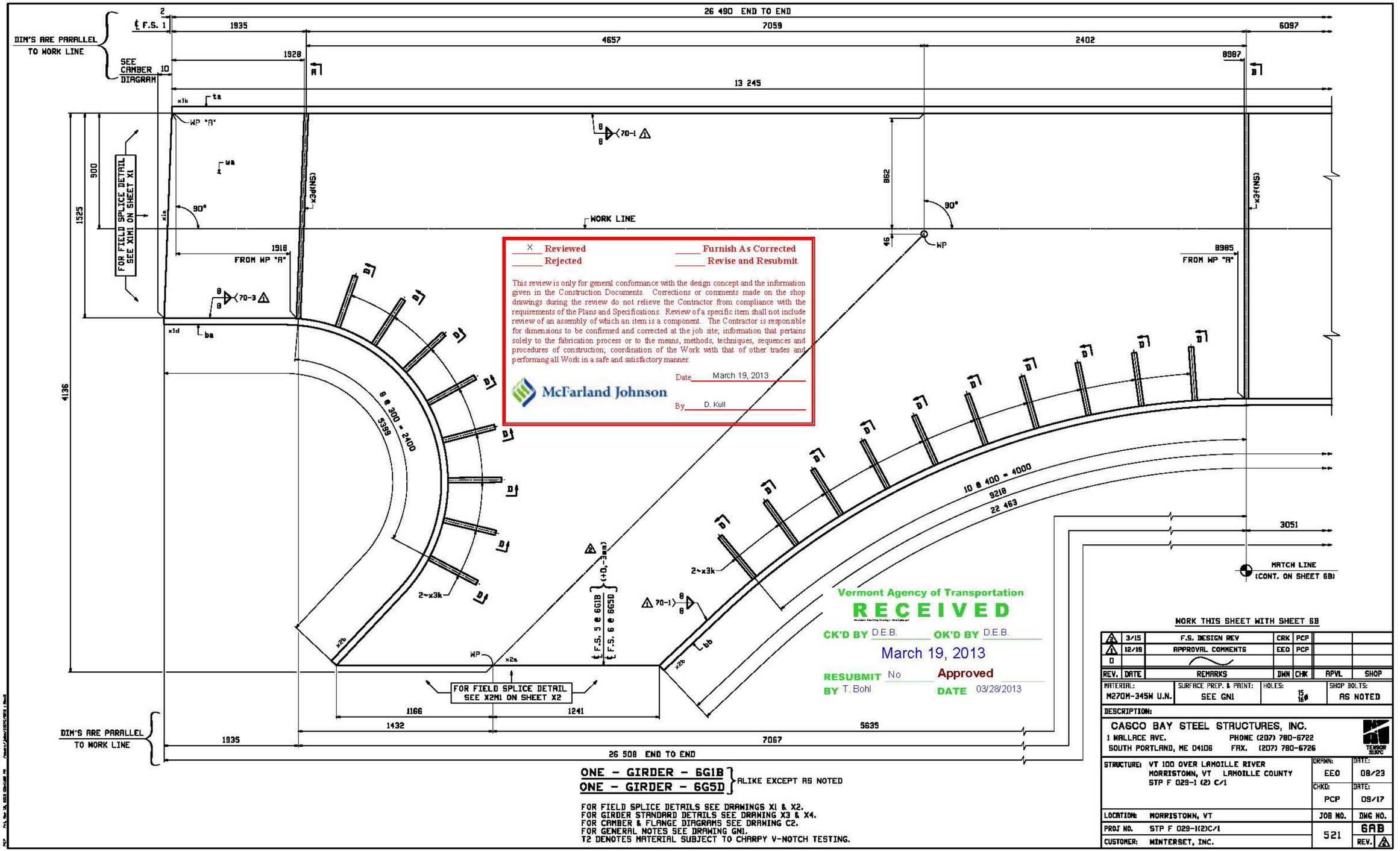
McFarland Johnson

Date March 19, 2013

By D. Kull



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Rejected — Revise and Resubmit

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McFarland Johnson

Date March 19, 2013

By D. Kull

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

ONE - GIRDER - 6G1B
ONE - GIRDER - 6G5D
} ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

WORK THIS SHEET WITH SHEET 6B

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
3	3/15	F.S. DESIGN REV	CRK	PCP		
2	12/18	APPROVAL COMMENTS	EEO	PCP		
1						

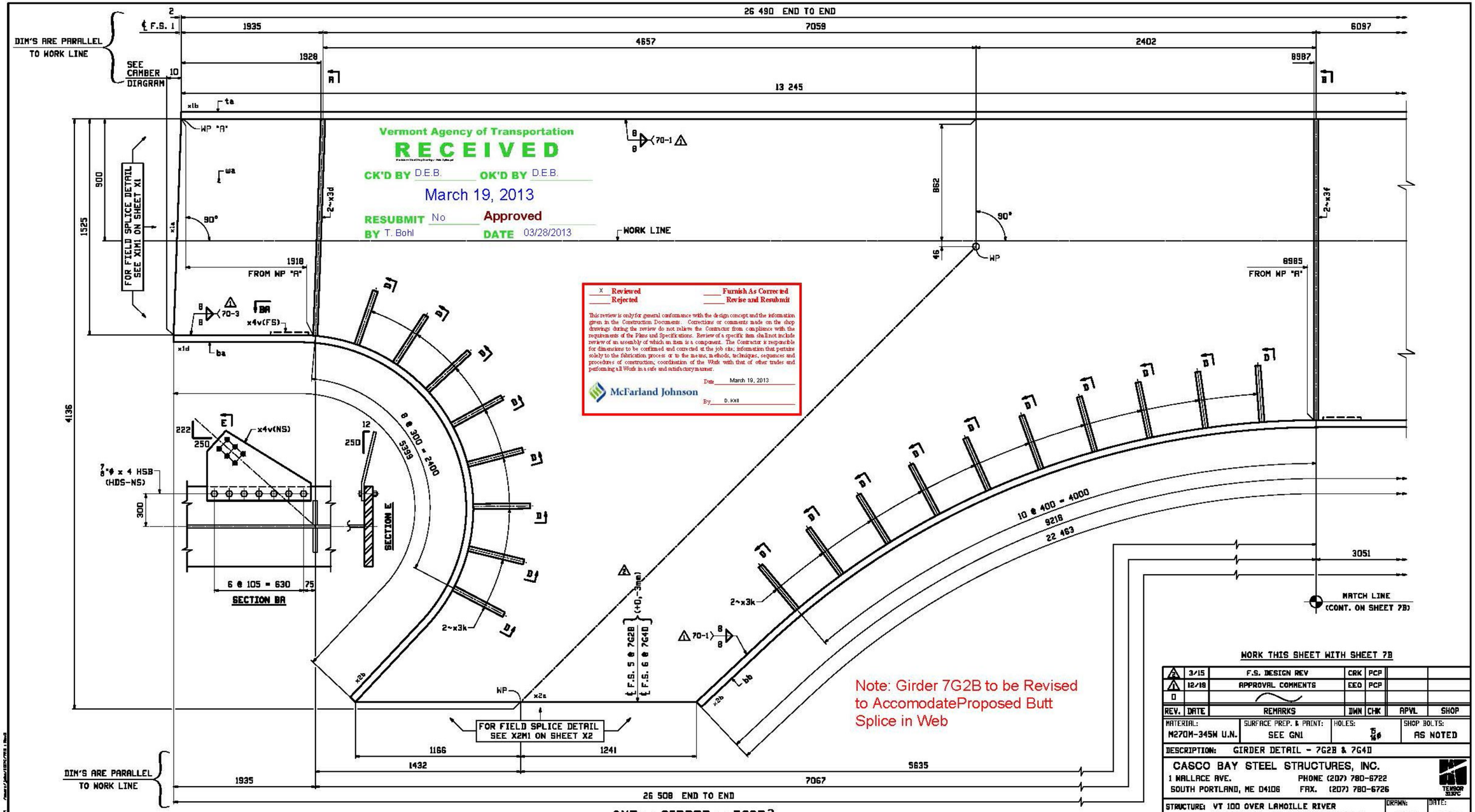
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ø	AS NOTED

DESCRIPTION:

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3139PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/23
	CHKD: PCP	DATE: 09/17
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1	521	6AB
CUSTOMER: WINTERSET, INC.		REV. 3



Vermont Agency of Transportation
RECEIVED
CK'D BY D.E.B. OK'D BY D.E.B.
March 19, 2013
RESUBMIT No Approved
BY T. Bohl DATE 03/28/2013

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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McFarland Johnson
Date March 19, 2013
By D. Kill

Note: Girder 7G2B to be Revised to AccomodateProposed Butt Splice in Web

WORK THIS SHEET WITH SHEET 7B

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ϕ	AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G2B & 7G4D

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3137C

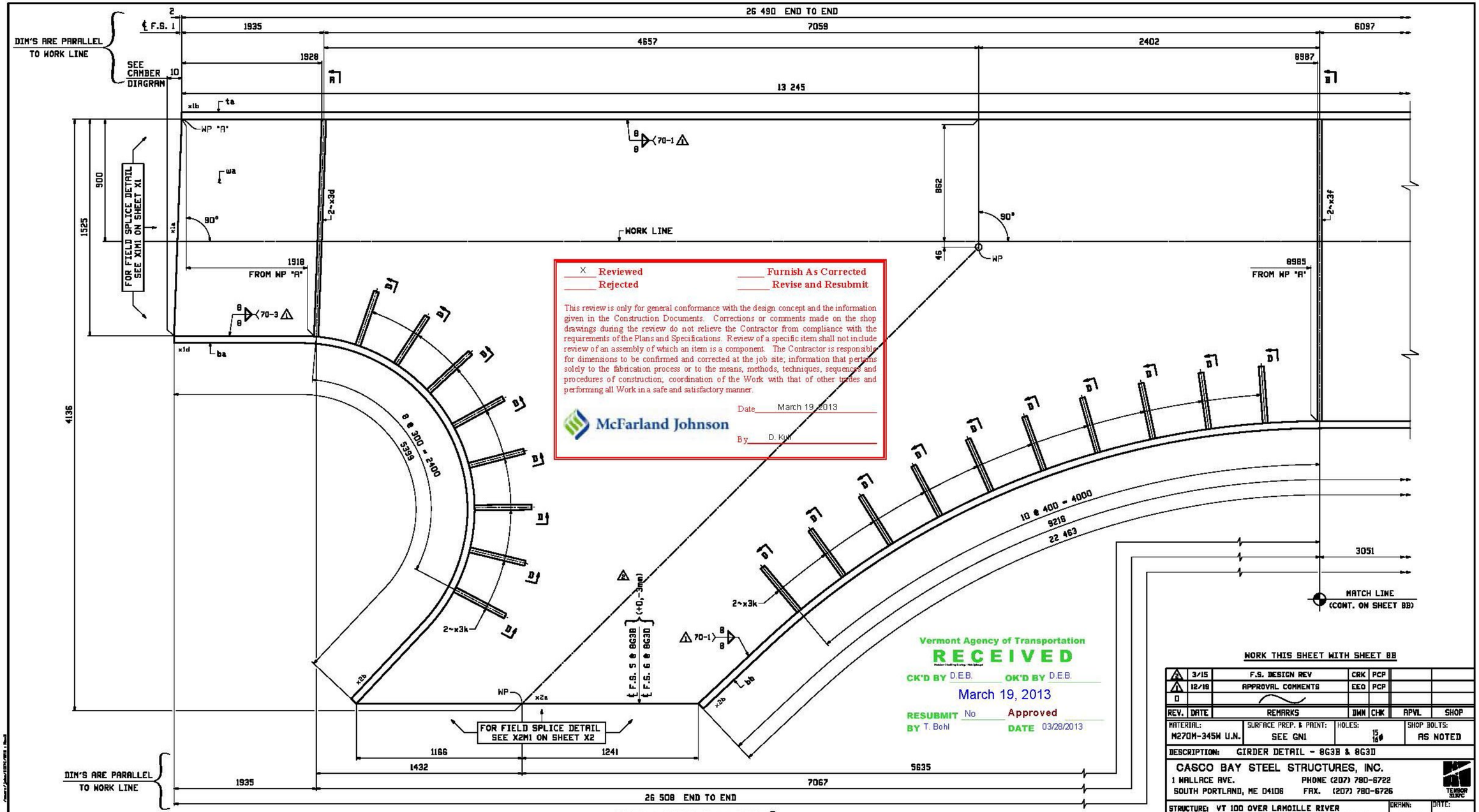
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
EEO	08/24
CHKD: PCP	DATE: 09/17

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.
JOB NO. 521
DWG NO. 7AB
REV. 2

ONE - GIRDER - 7G2B
ONE - GIRDER - 7G4D
ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



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Rejected
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McFarland Johnson

Date March 19, 2013

By D. Kuhl

Vermont Agency of Transportation
RECEIVED
CK'D BY D.E.B. OK'D BY D.E.B.
March 19, 2013
RESUBMIT No Approved
BY T. Bohl DATE 03/28/2013

ONE - GIRDER - 8G3B
ONE - GIRDER - 8G3D
ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

WORK THIS SHEET WITH SHEET BB

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16 ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 8G3B & 8G3D

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3137C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/27	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	8AB	
CUSTOMER: WINTERSET, INC.		REV. 2	

DIM'S ARE PARALLEL TO WORK LINE

SEE CAMBER DIAGRAM

℄ F.S. 1

26 490 END TO END

1935 | 7059 | 6097

4657 | 2402

1928 | 8987

10

13 245

x1b | t2

WP "A"

w2

90°

x1a

900

1525

FOR FIELD SPLICE DETAIL SEE X1M1 ON SHEET X1

2-x3d

WORK LINE

862

90°

46

WP

2-x3f

1918 FROM WP "A"

8985 FROM WP "A"

B 8 70-3 ⚠

BA

x4t(NS)

x1d | b2

4136

6 @ 105 = 630 | 75

8 @ 300 = 2400

5339

SECTION E

300

7/8"ϕ x 4 HSB (HDS-NS)

250 | 222

x4t(NS)

E

SECTION BA

250 | 12

2-x3k

D

10 @ 400 = 4000

9218

22 463

3051

MATCH LINE (CONT. ON SHEET 9B)

⚠ {F.S. 5 @ 9G4B (+0, -3mm) {F.S. 6 @ 9G2D

⚠ 70-1 B 8

x2b

bb

WP | x2a

FOR FIELD SPLICE DETAIL SEE X2M1 ON SHEET X2

1166 | 1241

1432 | 5835

DIM'S ARE PARALLEL TO WORK LINE

1935 | 7067

26 508 END TO END

ONE - GIRDER - 9G4B
ONE - GIRDER - 9G2D } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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McFarland Johnson

Date March 19, 2013

By D. Kull

Vermont Agency of Transportation
RECEIVED
CK'D BY D.E.B. OK'D BY D.E.B.
March 19, 2013
RESUBMIT No Approved
BY T. Bohl DATE 03/28/2013

WORK THIS SHEET WITH SHEET 9B

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
3	3/15	F.S. DESIGN REV	CRK	PCP		
2	12/18	APPROVAL COMMENTS	EEO	PCP		
1						
0						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16ϕ | SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 9G4B & 9G2D

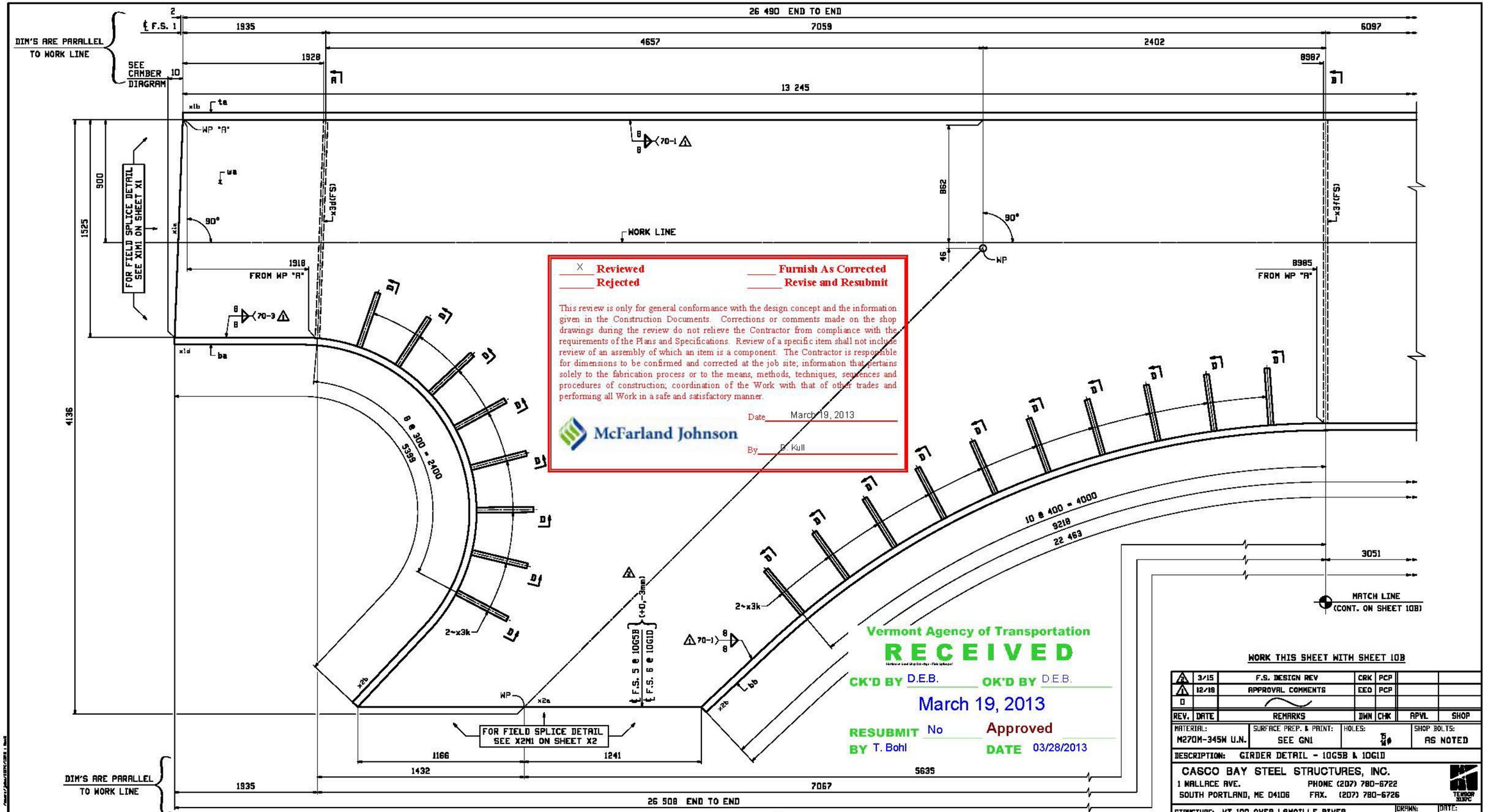
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3030PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEO | DATE: 08/27
CHKD: PCP | DATE: 09/17

LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 9AB
PROJ NO. STP F 029-1(2)C/1 | REV. 3
CUSTOMER: WINTERSET, INC.



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Rejected
Furnish As Corrected
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McFarland Johnson

Date March 19, 2013

By D. Kull

Vermont Agency of Transportation
RECEIVED
CK'D BY D.E.B. OK'D BY D.E.B.
March 19, 2013
RESUBMIT No Approved
BY T. Bohl DATE 03/28/2013

ONE - GIRDER - 10G5B
ONE - GIRDER - 10G1D
ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

WORK THIS SHEET WITH SHEET 10B

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16 | SHOP BOLTS: AS NOTED

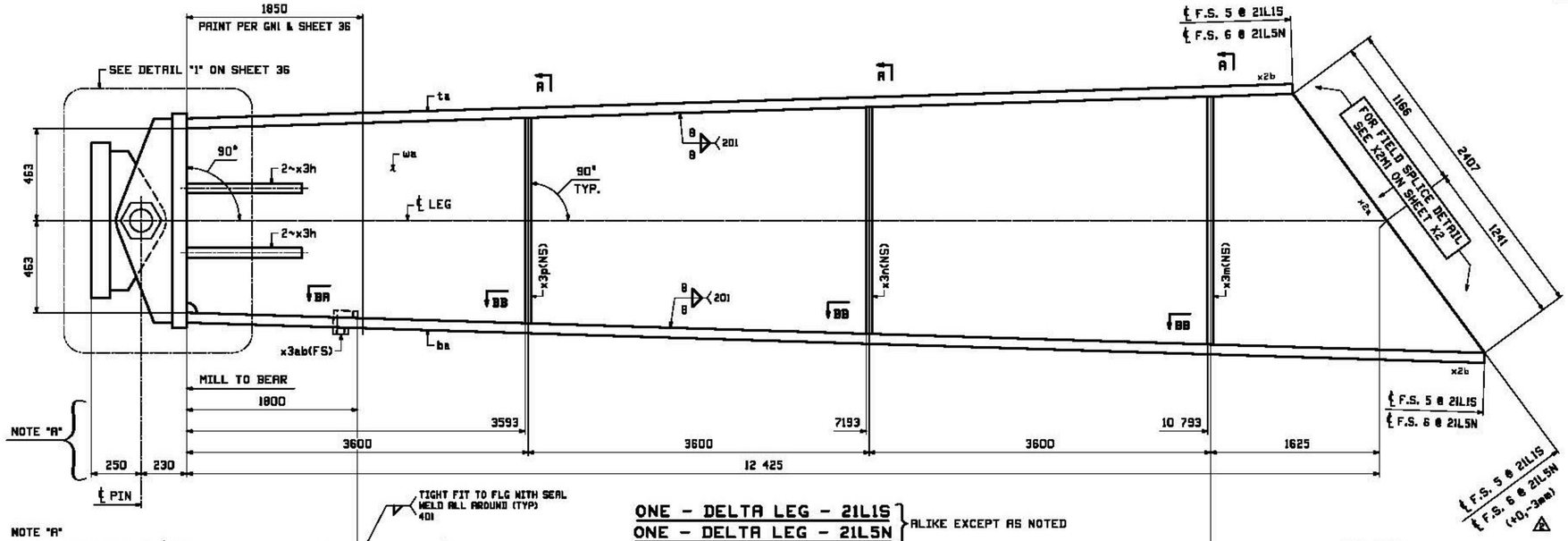
DESCRIPTION: GIRDER DETAIL - 10G5B & 10G1D

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

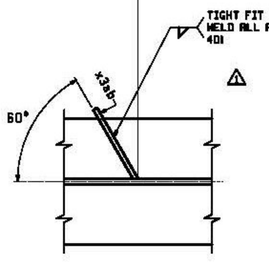
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEO DATE: 08/27
CHKD: PCP DATE: 09/17

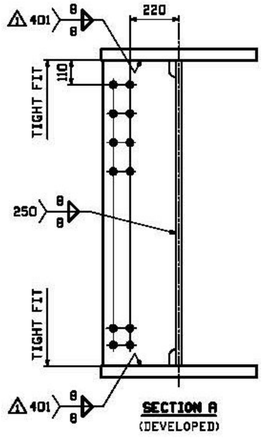
LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.
JOB NO. 521
DWG NO. 10AB
REV. 2



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.



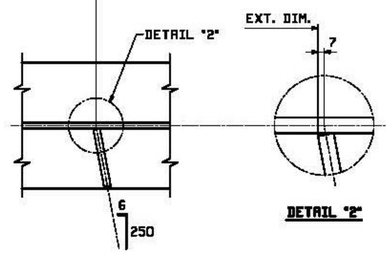
SECTION BA



SECTION A
(DEVELOPED)

ONE - DELTA LEG - 21L1S
ONE - DELTA LEG - 21L5N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



DETAIL "2"

SECTION BB

FOR INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	21	2
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		21L1S	1		DELTA LEG				3973 kg 8758.4 lbs	
		21L5N	1		DELTA LEG				3973 kg 8758.4 lbs	
1	U		2	wt	PL 25x1845	13	340	MIE M270M-345WT2	13870 kg 30580 lbs	
2	G		2	ta	PL 50x700	11	605	MIE M270M-345WT2	3190 kg 7034.8 lbs	
2	E		2	ba	PL 50x700	13	311	MIE M270M-345WT2	3657 kg 8063 lbs	
5	R		8	x3h	PL 50x340	0	800	MIE	107 kg 235.9lbs	
5	H		2	x3m	PL 13x330	1	598		54 kg 118.1lbs	
5	J		2	x3n	PL 13x330	1	374		43 kg 102.1lbs	
5	K		2	x3p	PL 13x330	1	150		38 kg 83.8lbs	
6	R		2	x3ab	PL 6x100	0	440		2 kg 5.1lbs	
			2	36BAI	BEARING ASSEMBLY				2190 kg 4740 lbs	

Vermont Agency of Transportation
RECEIVED
Milestones Steel Shop Drawings - and Splices.pdf

CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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McFarland Johnson

Date March 19, 2013

By D. Kull

WORK THIS SHEET WITH SHEET 36

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	AS NOTED	F 13/16ø	NONE

DESCRIPTION: GIRDER DETAIL - 21L1S & 21L5N

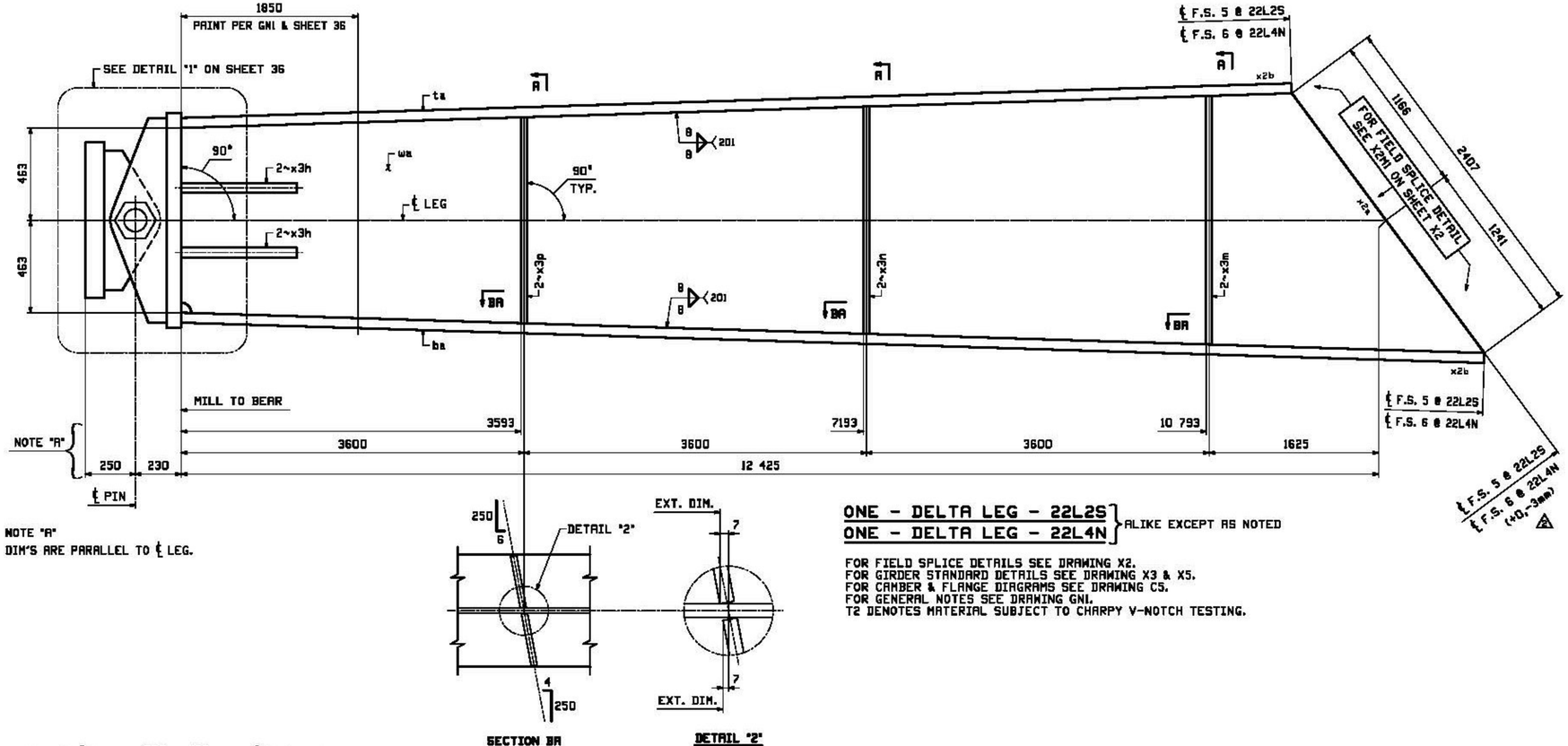
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TEKLA STRUCTURES

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
EEO	08/28
CHKD:	DATE:
PCP	09/17

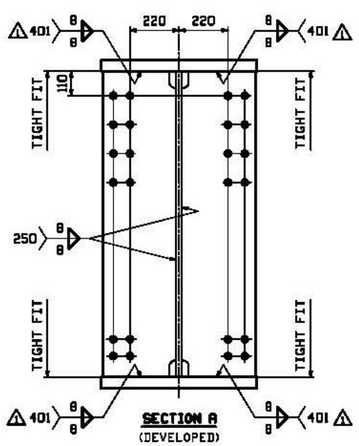
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	21
CUSTOMER:	WINTERSET, INC.		REV. 2



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

SECTION BA

DETAIL "2"



SECTION A
(DEVELOPED)

ONE - DELTA LEG - 22L2S
ONE - DELTA LEG - 22L4N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

FOR INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	22	A
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		22L2S	1		DELTA LEG				4010 kg 8838 lbs	
		22L4N	1		DELTA LEG				4010 kg 8838 lbs	
1	U		2	wa	PL 25x1845	13	340	MIE M270M-345WT2	13870 kg 30600 lbs	
2	G		2	ta	PL 50x700	11	605	MIE M270M-345WT2	3190 kg 7036 lbs	
2	E		2	ba	PL 50x700	13	311	MIE M270M-345WT2	3657 kg 8059 lbs	
5	R		8	x3h	PL 50x340	0	800	MIE	107 kg 235 lbs	
5	H		4	x3m	PL 13x330	1	598		54 kg 118 lbs	
5	J		4	x3n	PL 13x330	1	374		43 kg 102 lbs	
5	K		4	x3p	PL 13x330	1	150		38 kg 83 lbs	
			2	36BA1	BEARING ASSEMBLY				3190 kg 7240 lbs	

Vermont Agency of Transportation

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CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No **Approved**

BY T. Bohl DATE 03/28/2013

WORK THIS SHEET WITH SHEET 36

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
A	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PRINT: AS NOTED | HOLES: 15/16ø | SHOP BOLTS: NONE

DESCRIPTION: GIRDER DETAIL - 22L2S & 22L4N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR SLOPE

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEO DATE: 08/31
CHKD: PCP DATE: 09/17

LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 22
PROJ NO. STP F 029-1(2)C/1 | REV. A
CUSTOMER: WINTERSET, INC.

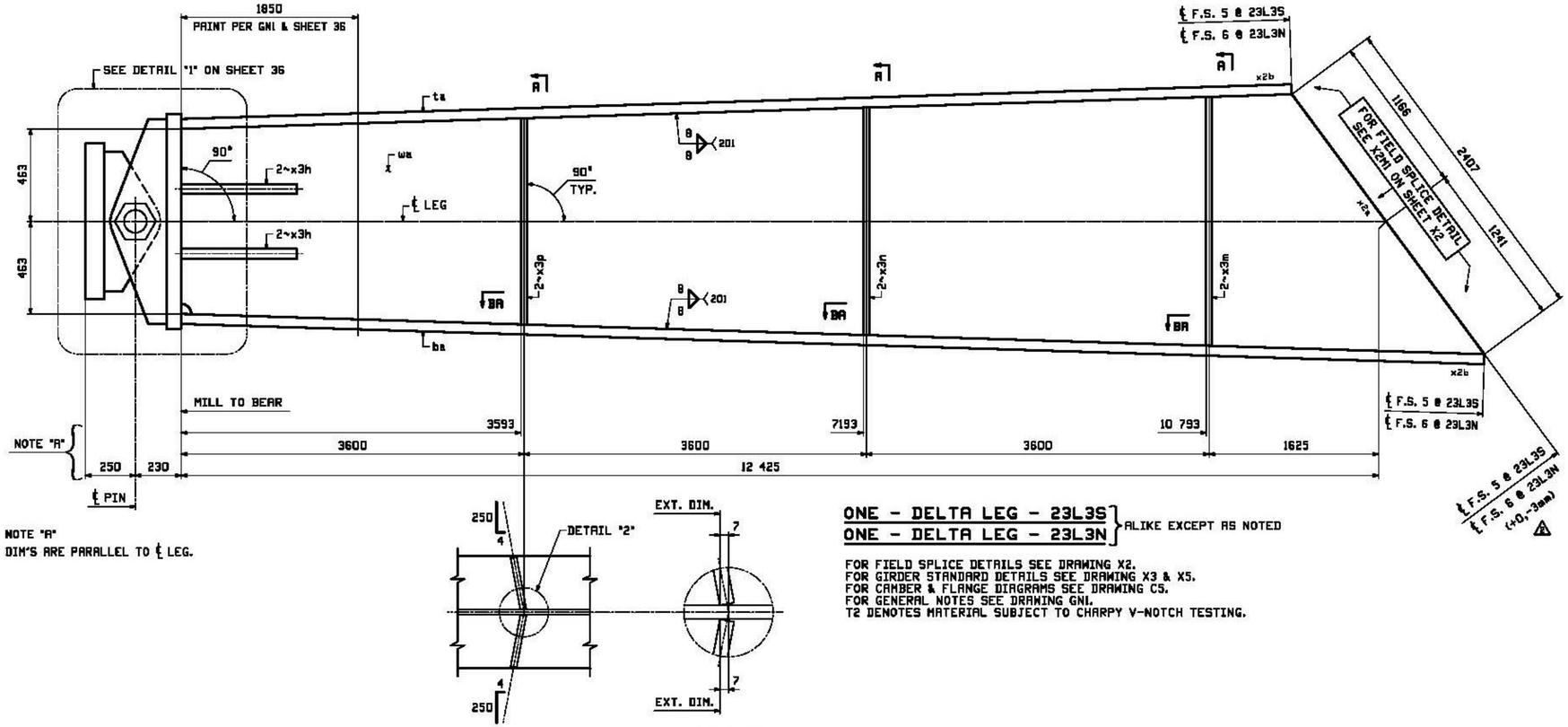
X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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

McFarland Johnson

Date March 19, 2013

By D. Kull



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

ONE - DELTA LEG - 23L3S
ONE - DELTA LEG - 23L3N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

BILL OF MATERIAL

JOB NO. 521 — DRAWING NO. 23 — REV. 2

FDM INFO PAGE	FDM INFO LINE	SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		23L3S	1		DELTA LEG				4010 kg 8838 lbs	
		23L3N	1		DELTA LEG				4010 kg 8838 lbs	
1	U		2	wa	PL 25x1845	13	340	MIE M270M-345MT2	10870 kg 23900 lbs	
2	G		2	ta	PL 50x700	11	605	MIE M270M-345MT2	3190 kg 7026 lbs	
2	E		2	ba	PL 50x700	13	311	MIE M270M-345MT2	3657 kg 8059 lbs	
5	R		8	x3h	PL 50x340	0	800	MIE	107 kg 235 lbs	
5	H		4	x3m	PL 13x330	1	598		54 kg 118 lbs	
5	J		4	x3n	PL 13x330	1	374		42 kg 102 lbs	
5	K		4	x3p	PL 13x330	1	150		38 kg 83 lbs	
			2	36BA1	BEARING ASSEMBLY				3190 kg 7240 lbs	

Vermont Agency of Transportation
RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.
March 19, 2013
RESUBMIT No Approved
BY T. Bohl DATE 03/28/2013

WORK THIS SHEET WITH SHEET 36

X Reviewed ____ Furnish As Corrected
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McFarland Johnson
Date March 19, 2013
By D. Kull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

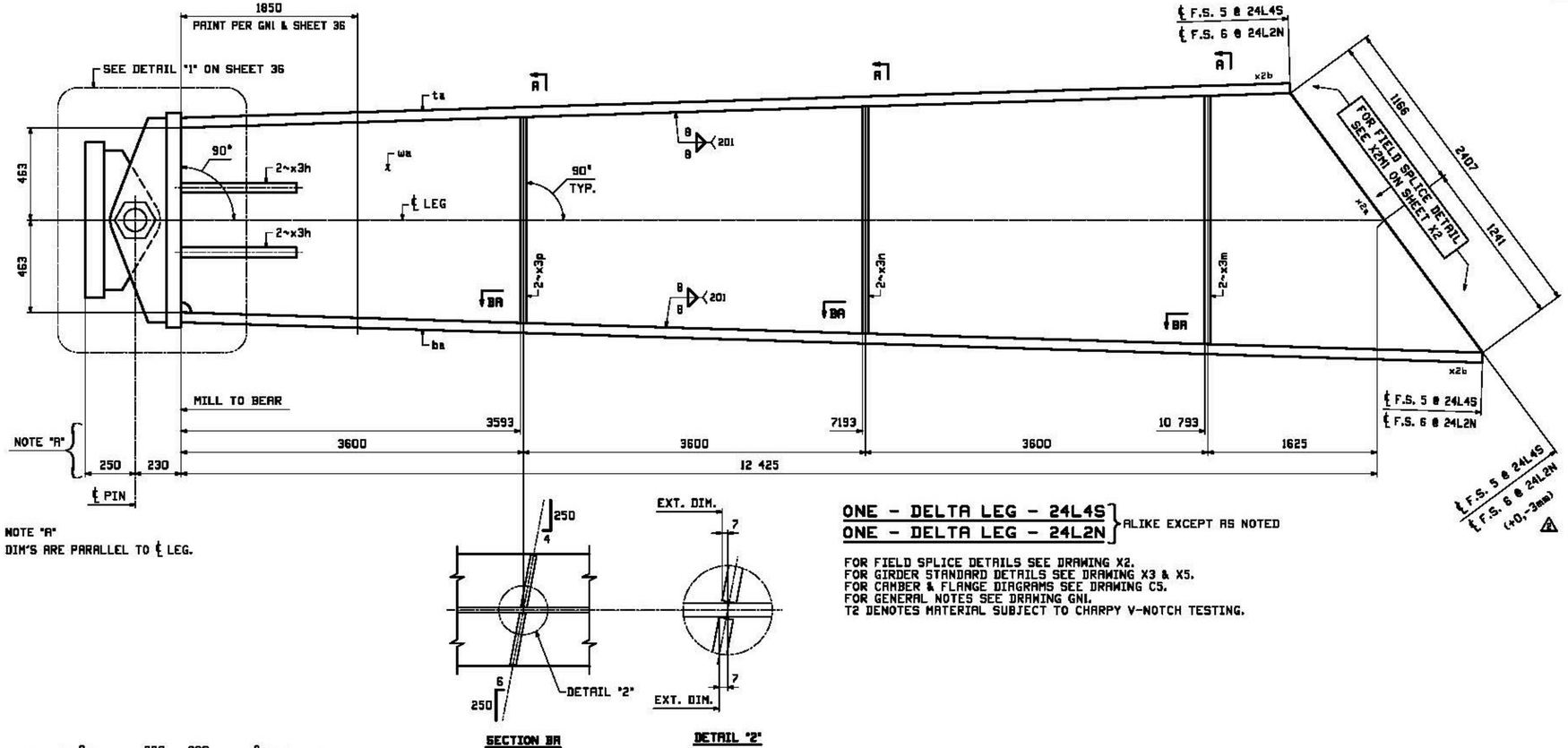
MATERIAL: M270M-345W U.N. | SURFACE PREP. & PRINT: AS NOTED | HOLES: 15 @ 1" | SHOP BOLTS: NONE
DESCRIPTION: GIRDER DETAIL - 23L3S & 23L3N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR SLOPE

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

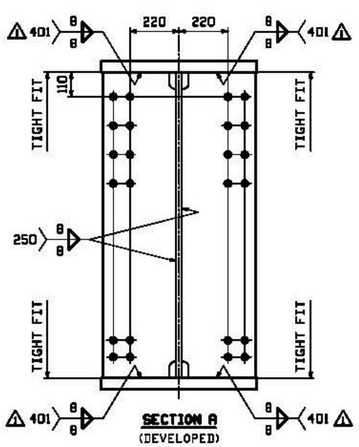
DRAWN: EEO DATE: 08/31
CHKD: PCP DATE: 09/17
LOCATION: MORRISTOWN, VT JOB NO. 521 DWG NO. 23
PROJ NO. STP F 029-1(2)C/1 REV. 2
CUSTOMER: WINTERSET, INC.



NOTE "R"
DIM'S ARE PARALLEL TO ℄ LEG.

SECTION BA

DETAIL "2"



SECTION A
(DEVELOPED)

ONE - DELTA LEG - 24L4S
ONE - DELTA LEG - 24L2N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

BILL OF MATERIAL

JOB NO. 521 | DRAWING NO. 24 | REV. 2

FINA INFO PAGE	FINA INFO LINE	SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		24L4S	1		DELTA LEG				4010 kg 8838.8 lbs	
		24L2N	1		DELTA LEG				4010 kg 8838.8 lbs	
1	U		2	wa	PL 25x1645	13	340	MIE M270M-345MT2	10870 kg 23900 lbs	
2	G		2	ta	PL 50x700	11	605	MIE M270M-345MT2	3190 kg 7026 lbs	
2	E		2	ba	PL 50x700	13	311	MIE M270M-345MT2	3657 kg 8059 lbs	
5	R		8	x3h	PL 50x340	0	800	MIE	107 kg 235 lbs	
5	H		4	x3m	PL 13x330	1	598		54 kg 118 lbs	
5	J		4	x3n	PL 13x330	1	374		43 kg 102 lbs	
5	K		4	x3p	PL 13x330	1	150		38 kg 83 lbs	
			2	36BA1	BEARING ASSEMBLY				3190 kg 7240 lbs	

Vermont Agency of Transportation

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CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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McFarland Johnson

Date March 19, 2013

By D. Kull

WORK THIS SHEET WITH SHEET 36

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/15	F.S. DESIGN REV	CRK	PCP		
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PAINT: AS NOTED | HOLES: 15/16ø | SHOP BOLTS: NONE

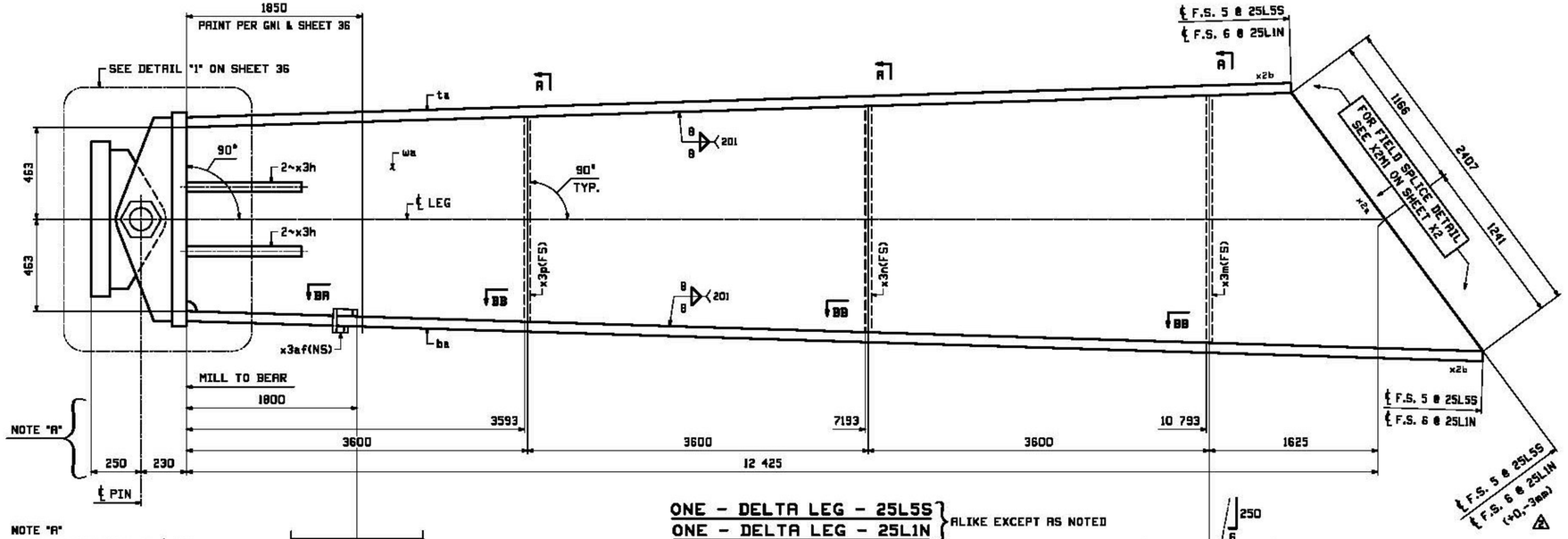
DESCRIPTION: GIRDER DETAIL - 24L4S & 24L2N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

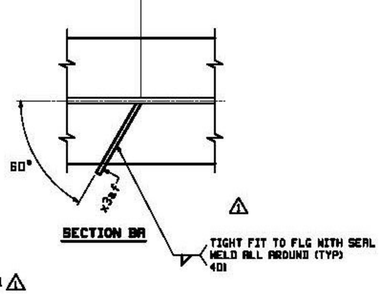
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

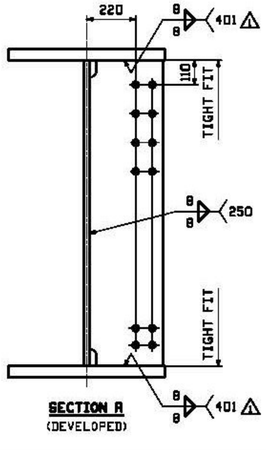
DRAWN: EEO DATE: 08/31
CHKD: PCP DATE: 09/17

LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 24
PROJ NO. STP F 029-1(2)C/1 | REV. 2
CUSTOMER: WINTERSET, INC.



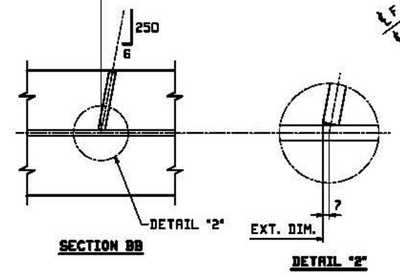
NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.





ONE - DELTA LEG - 25L5S
ONE - DELTA LEG - 25L1N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



FAB INFO		SHOP	BILL OF MATERIAL						JOB NO.	DRAWING NO.	REV.
									521	25	2
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		25L5S	1		DELTA LEG				3973 kg 8758.4 lbs	
		25L1N	1		DELTA LEG				3973 kg 8758.4 lbs	
1	U		2	wt	PL 25x1845	13	340	MIE M270M-345WT2	13870 kg 30580 lbs	
2	G		2	ta	PL 50x700	11	605	MIE M270M-345WT2	3190 kg 7034.8 lbs	
2	E		2	ba	PL 50x700	13	311	MIE M270M-345WT2	3857 kg 8089 lbs	
5	R		8	x3h	PL 50x340	0	800	MIE	107 kg 235.8lbs	
5	H		2	x3m	PL 13x330	1	598		54 kg 118.1lbs	
5	J		2	x3n	PL 13x330	1	374		43 kg 102.1lbs	
5	K		2	x3p	PL 13x330	1	150		38 kg 83.8lbs	
6	R		2	x3af	PL 6x100	0	440		2 kg 5.1lbs	
			2	36BRI	BEARING ASSEMBLY				2190 kg 4740 lbs	

Vermont Agency of Transportation

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CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

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X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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McFarland Johnson

Date March 19, 2013

By D. Kull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
3	3/15	F.S. DESIGN REV	CRK	PCP		
2	12/19	APPROVAL COMMENTS	EEO	PCP		
1						
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	AS NOTED	15/16ø	NONE

DESCRIPTION: GIRDER DETAIL - 25L5S & 25L1N

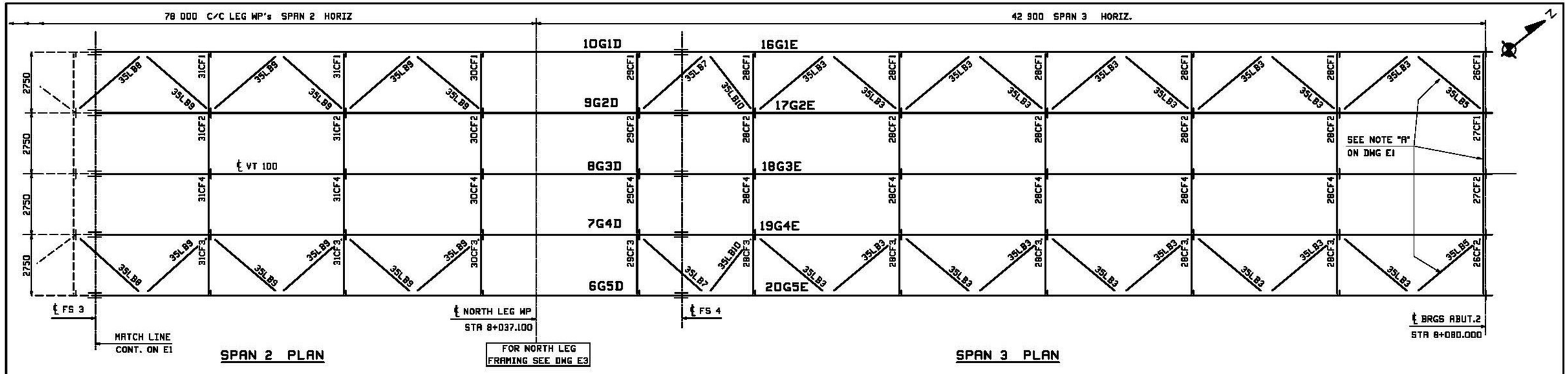
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TEKLA STRUCTURES

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
EEO	08/31
CHKD:	DATE:
PCP	09/17

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	25
CUSTOMER:	WINTERSET, INC.		REV. 3



SPAN 2 PLAN

SPAN 3 PLAN

FIELD BOLT LIST — A325 Type 3 BOLTS

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS P/CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
1														**FIELD SPLICES 1 & 4**
2	640	7/8	6	64	10	115	30	50	35				⚠ L1	TOP FLANGE SPLICE
3	1080	7/8	3 1/2	108	10	53	14	25	14				⚠ L1	WEB SPLICE
4	720	7/8	6	72	10	115	30	50	35				⚠ L1	BOTTOM FLANGE SPLICE
5														
6														**FIELD SPLICES 2 & 3**
7	560	7/8	6	56	10	115	30	50	35				⚠ L1	TOP FLANGE SPLICE
⚠ 8	1500	7/8	3 1/2	150	10	48	14	20	14				⚠ L1	WEB SPLICE
9	432	7/8	6	72	6	115	30	50	35				⚠ L1	BOTTOM FLANGE SPLICE
10	264	7/8	6	66	4	115	30	50	35				⚠ L1	BOTTOM FLANGE SPLICE (LINES 2 & 4)
11	38	7/8	8 1/2	9	4	128	30	50	35	13			⚠ L1	BTM FLANGE SPLICE W/LATERAL GUSSET
12														
13														**FIELD SPLICES 5 & 6**
⚠ 14	1080	7/8	5 3/4	108	10	110	30	50	30				⚠ L1	TOP FLANGE SPLICE
⚠ 15	2240	7/8	4	224	10	83	19	25	19				⚠ L1	WEB SPLICE
⚠ 16	1080	7/8	5 3/4	108	10	110	30	50	30				⚠ L1	BOTTOM FLANGE SPLICE
17														
18														**INT. CROSSFRAMES D2 & D3**
19	788	7/8	2 1/2	8	98	28	13	13					⚠ L1	TOP GUSSET TO CONNECTION PLATE
20	384	7/8	2 1/2	4	98	28	13	13					⚠ L1	BTM GUSSET TO CONNECTION PLATE
21														
22														**INT. CROSSFRAMES D4**
23	180	7/8	2 1/2	10	18	28	13	13					⚠ L1	TOP GUSSET TO CONNECTION PLATE
24	180	7/8	2 1/2	10	18	28	13	13					⚠ L1	BTM GUSSET TO CONNECTION PLATE
25														

WASHER CODES

L1: 1 Flat, 1 Load Ind.
L2: 2 Flat, 1 Load Ind. ⚠

FIELD BOLT LIST — A325 Type 3 BOLTS

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS P/CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
26														**INT. CROSSFRAMES D5**
27	704	7/8	2 1/2	8	88	26	13	13				⚠	L1	TOP GUSSET TO CONNECTION PLATE
28	704	7/8	2 1/2	8	88	26	13	13				⚠	L1	BTM GUSSET TO CONNECTION PLATE
29														
30														**INT. CROSSFRAMES D6**
31	384	7/8	2 1/2	8	48	26	13	13				⚠	L1	TOP GUSSET TO CONNECTION PLATE
32	192	7/8	2 1/2	4	48	26	13	13				⚠	L1	BTM GUSSET TO CONNECTION PLATE
33														
34														**LATERALS**
35	1104	7/8	2 1/2	6	184	23	10	13				⚠	L2	LATERAL WT TO CONNECTION PLATE

WASHER CODES

L1: 1 Flat, 1 Load Ind.
L2: 2 Flat, 1 Load Ind. ⚠

FIELD BOLT LIST — A325 Type 1 (GALV) BOLTS

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS P/CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED						WASH CODE	PIECES CONNECTED AND REMARKS
36			⚠											**ABUTMENT CROSSFRAMES**
37	128	7/8	3	8	16	35	10	25					⚠ L1	TOP STRUT WEB TO BRG STIFFENER
38	96	7/8	3	8	16	38	13	25					⚠ L1	BTM GUSSET TO BRG STIFFENER
39														
40														**LATERALS** (PAINTED AT ABUT 1 & 2)
41	48	7/8	2 1/2	6	8	23	10	13					⚠ L2	LATERAL WT TO CONNECTION PLATE

WASHER CODES

L1: 1 Flat, 1 Load Ind.
L2: 2 Flat, 1 Load Ind. ⚠

FIELD BOLT SUMMARY — EXACT COUNT - NONE EXTRA

LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	48	7/8	A325 Type 1	2 1/2	48	(GALVANIZED)
2						⚠
3	⚠ 224	7/8	A325 Type 1	3	⚠ 224	(GALVANIZED)
4	320	Hard Flat Washers for 7/8" ø BOLT				F436-1 (GALVANIZED)
5	⚠ 272	Load Ind. Washers for 7/8 ø BOLT				F959 (GALVANIZED) ⚠
6						
7						
8	4560	7/8	A325 Type 3	2 1/2	4560	
9						⚠
⚠ 10	⚠ 2580	7/8		3 1/2	⚠ 2580	
⚠ 11	2240	7/8		4	2240	
⚠ 12	2160	7/8		5 3/4	2160	
13	2616	7/8		6	2616	
14	36	7/8	A325 Type 3	6 1/2	36	
⚠ 15	15296	Hard Flat Washers for 7/8" ø BOLT				F436-3
⚠ 16	⚠ 14192	Load Ind. Washers for 7/8 ø BOLT	⚠			F959-3 ⚠
17						

1. All bolt diameters and lengths are shown in inches (english unit of measurement).
2. All grip values are shown in metric units.

WORK THIS DRAWING WITH DRAWINGS E1 & E3

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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

McFarland Johnson

Date March 25, 2013

By D. Kull

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 19, 2013

RESUBMIT No Approved

BY T. Bohl DATE 03/28/2013

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠ 2	03/25	QTY FOR FIELD SPLICE DESIGN REVISION	CRK	PCP		
⚠ 1	03/08	REMOVE LOAD INDICATOR WASHERS TO FIELD BOLTS				
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: | SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

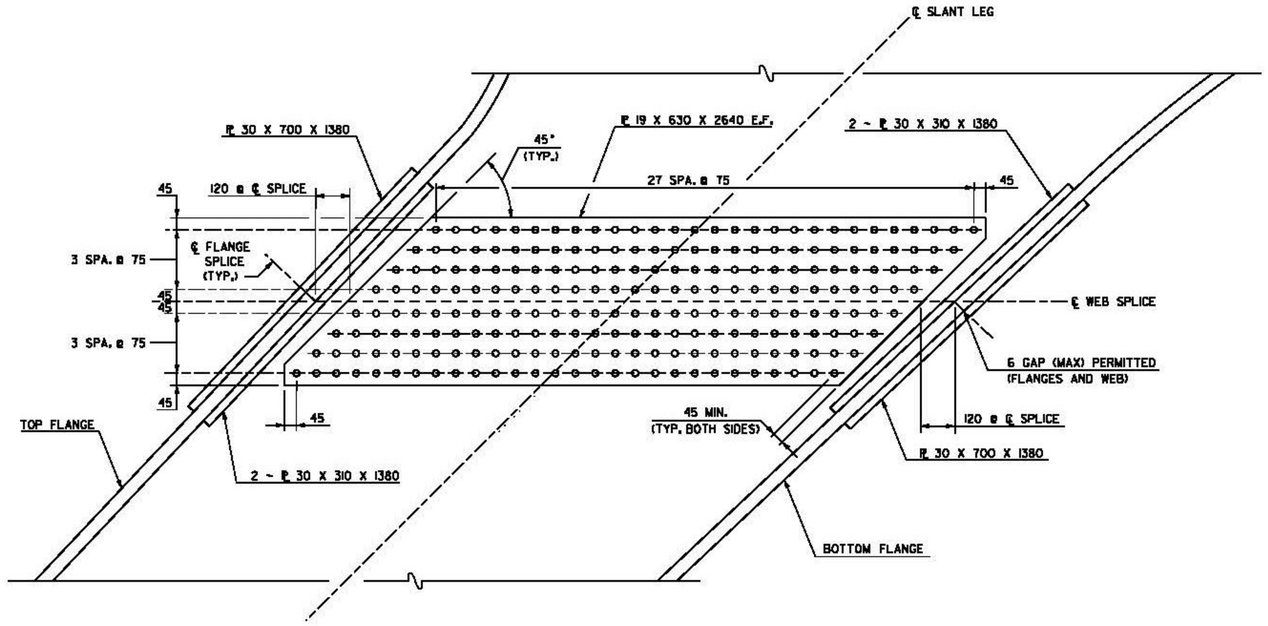
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3325C

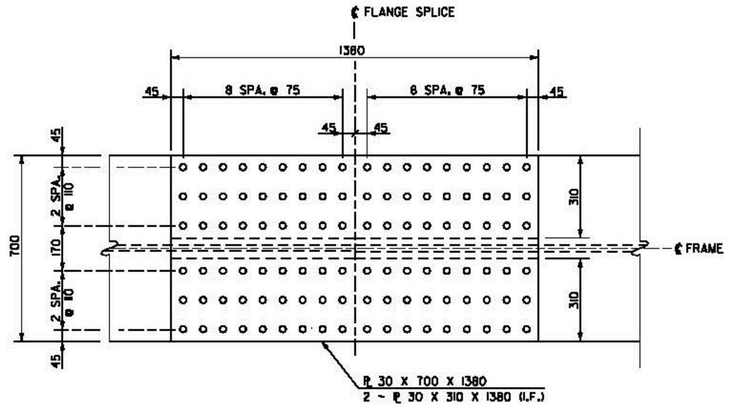
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

		DRAWN: JTB	DATE: 08/21
		CHKD: PCP	DATE: 09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	E2
CUSTOMER:	WINTERSET, INC.		REV. ⚠ 2

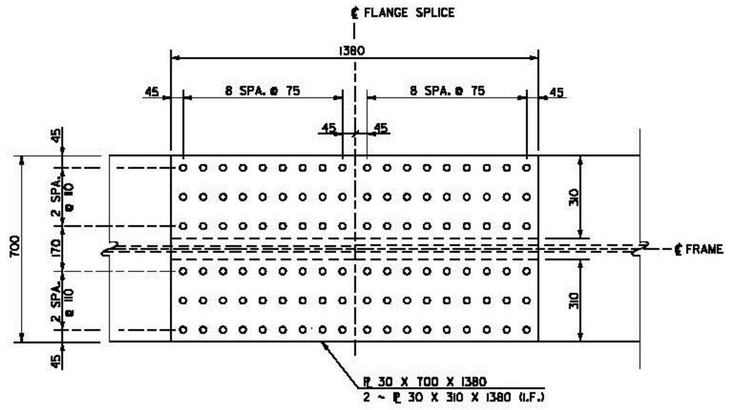
Metric



WEB ELEVATION
SCALE: 1:10



TOP FLANGE PLAN
SCALE: 1:10



BOTTOM FLANGE PLAN
SCALE: 1:10

REVISED
FIELD SPLICE NO. 3

NOTE: THIS SHEET REPLACES SHEET 79 OF THE CONTRACT PLAN SET. NO OTHER SHEETS HAVE BEEN REVISED TO REFLECT THE REVISED SPLICE 3 DESIGN.

STATE OF VERMONT
DAVID M. KULL
NO. 99300
CIVIL
LICENSED
PROFESSIONAL ENGINEER
3/13/2013

NOTE

1. FOR FIELD SPLICE NOTES, SEE SHEET 78.

NOTE: ALL DIMENSIONS IN MILLIMETERS (mm) EXCEPT WHERE NOTED.

0 0.5 1
SCALE = 1:10

McFarland Johnson

PROJECT NAME:	MORRISTOWN
PROJECT NUMBER:	STP F 029-1(2)C/1
FILE NAME: Revi_z10b194dfs.dgn	PLOT DATE: 3/13/2013
PROJECT LEADER: DMB	DRAWN BY: S. Merkwan
DESIGNED BY: D. Kull	CHECKED BY: R. Joy
REVISED FIELD SPLICE NO. 3	SHEET 1 OF 1

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 26, 2013

RESUBMIT No — Approved AsNoted

BY T. Bohl DATE 03/28/2013

_____ Reviewed — X Furnish As Corrected

_____ Rejected — _____ Revise and Resubmit

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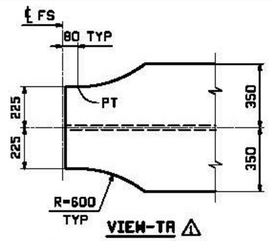
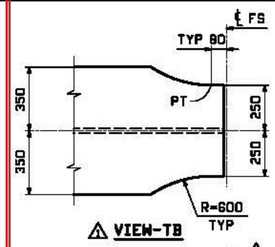
McFarland Johnson

Date March 27, 2013

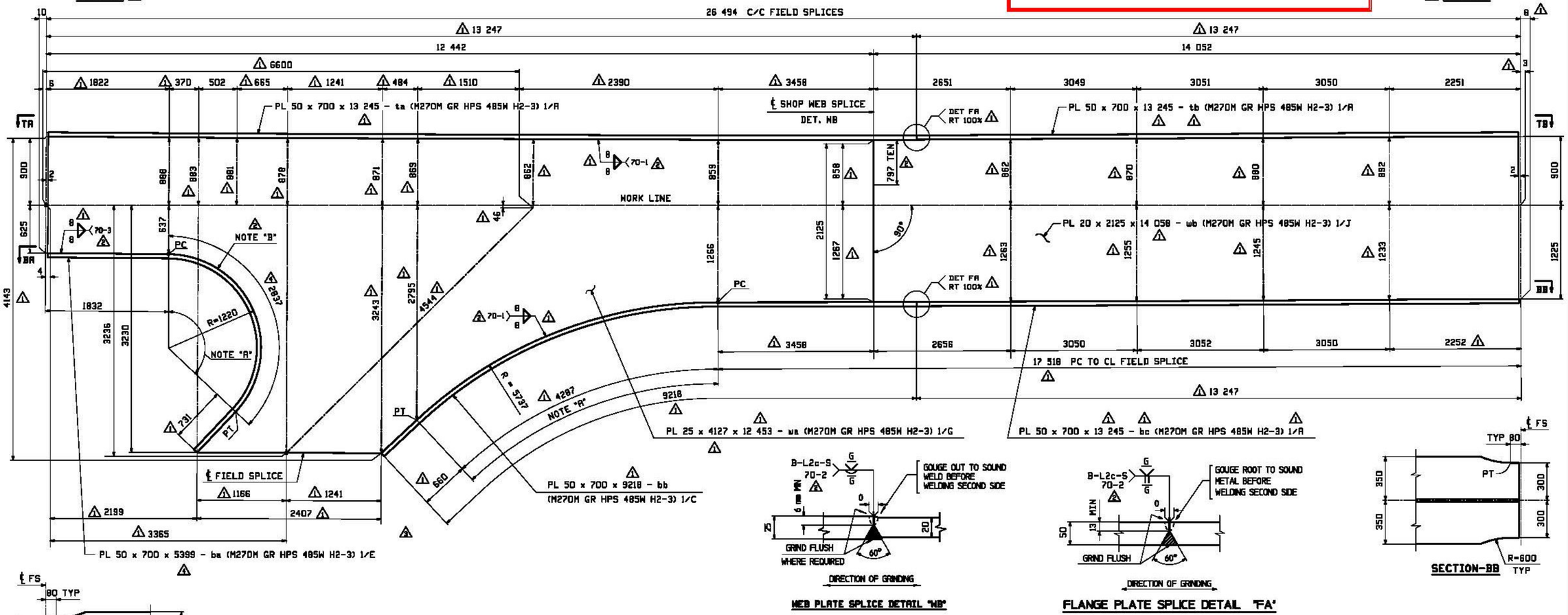
By D. Kull

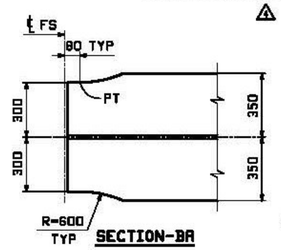


VIEW-TA



VIEW-TB





SECTION-BA

NOTE "A"
CURVED AREA OF FLANGE PLATE TO BE UT TESTED AFTER ROLLING

NOTE "B"
BEFORE HOT OR COLD BENDING, THE CORNERS OF THE PLATE SHALL BE ROUNDED TO A RADIUS OF 1/16" THROUGHOUT THAT PORTION OF THE PLATE AT WHICH THE BENDING IS TO OCCUR (TYP).

WEB PLATE SPLICE DETAIL "WB"

FLANGE PLATE SPLICE DETAIL "FA"

SECTION-BB

WEB CUTTING AND FLANGE BENDING DIAGRAMS FOR GIRDERS 6G1B, ⚠4 8G3B, 9G4B, 10G5B AT SOUTH LEG GIRDERS 6G5D, 7G4D, 8G3D, 9G2D, 10G1D AT NORTH LEG

NOTES:
- FOR GENERAL SHOP NOTES SEE DRAWING GN1
- H2-3 INDICATES PLATES THAT REQUIRE CHARPY V-NOTCH TEST AT H FREQUENCY FOR ZONE 2
- ALL MATERIALS AASHTO M270M-GR HPS 485W

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠4	3/20/13	REMOVE GIRDER 7G2B & MOVE TO SHEET C6	EEO	PCP		
⚠3	3/15/13	REMOVE KILL TO BEAM	CRK	PCP		
⚠2	12/19	APPROVAL COMMENTS	EEO	PCP		
⚠1	9/18/12	ADD WELDS & FLG SPLICES, GEOMETRIC CAMBER	EEO	PCP		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

DESCRIPTION: CAMBER DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR DESPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: WJG DATE: 08/07
CHKD: SOB DATE: 08/09

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.

JOB NO. 521
DWG NO. C2
REV. ⚠4

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 26, 2013

RESUBMIT No Approved AsNoted

BY T. Bohl DATE 03/28/2013

_____ Reviewed _____ Rejected

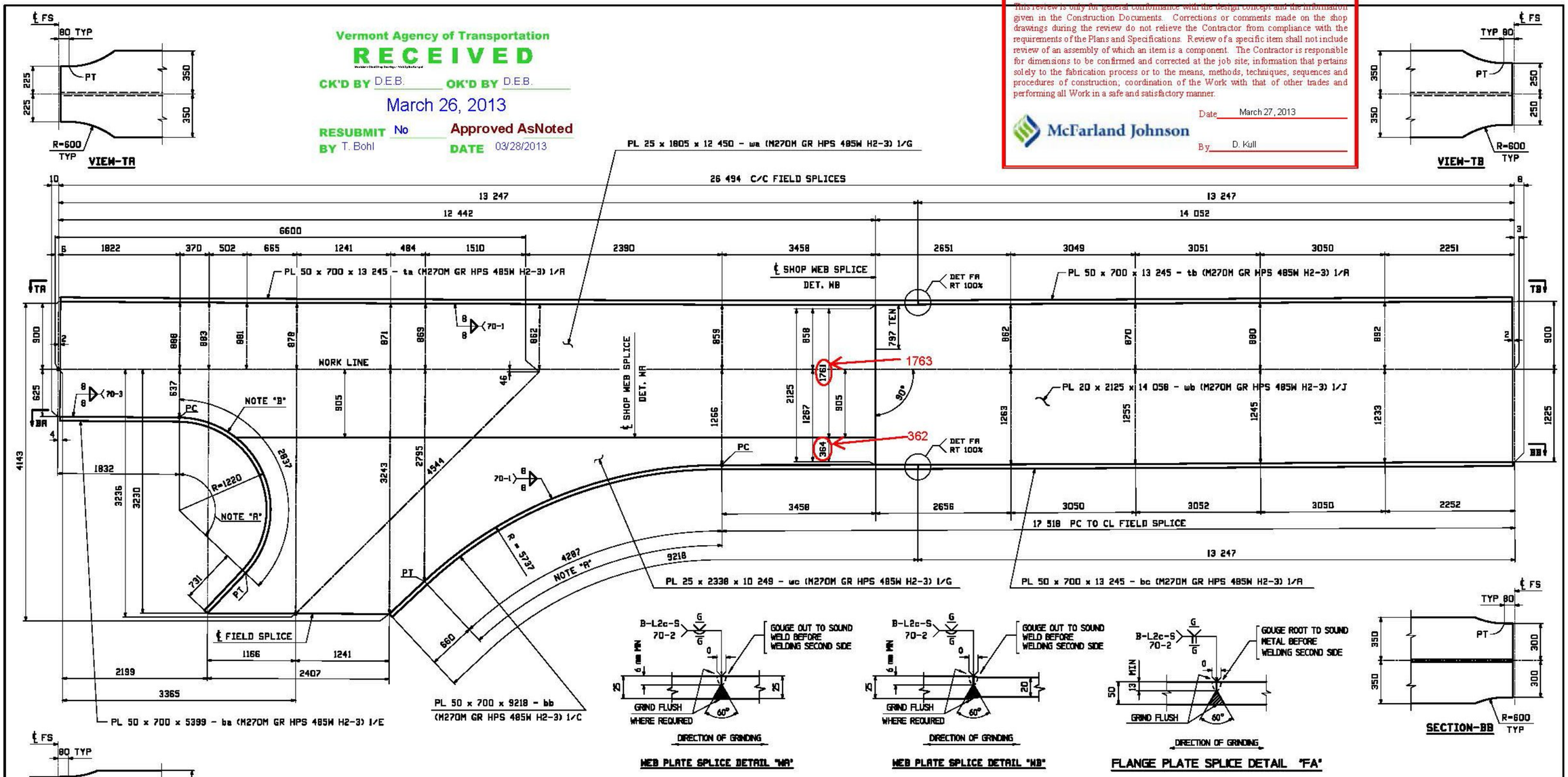
X Furnish As Corrected _____ Revise and Resubmit

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

McFarland Johnson

Date March 27, 2013

By D. Kull



NOTE "A"
CURVED AREA OF FLANGE PLATE TO BE UT TESTED AFTER ROLLING

NOTE "B"
BEFORE HOT OR COLD BENDING, THE CORNERS OF THE PLATE SHALL BE ROUNDED TO A RADIUS OF 1/16" THROUGHOUT THAT PORTION OF THE PLATE AT WHICH THE BENDING IS TO OCCUR (TYP).

WEB CUTTING AND FLANGE BENDING DIAGRAMS FOR GIRDER 7G2B

NOTES:
- FOR GENERAL SHOP NOTES SEE DRAWING GN1
- H2-3 INDICATES PLATES THAT REQUIRE CHARPY V-NOTCH TEST AT H FREQUENCY FOR ZONE 2
- ALL MATERIALS AASHTO M270M-GR HPS 485W

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

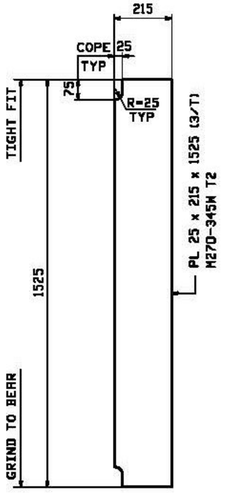
MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726

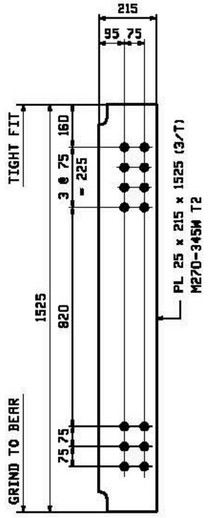
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEO	DATE: 3/20/13	LOCATION: MORRISTOWN, VT	JOB NO.
CHKD: PCP	DATE: 3/25/13	PROJ NO. STP F 029-1(2)C/1	521
		CUSTOMER: WINTERSET, INC.	DWG NO. C6 REV. △



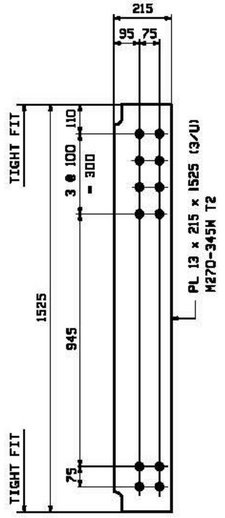
4 ~ BRG STIFFENERS ~ x3a

ABUT 1 & 2 - FASCIA
(TYPE D1)



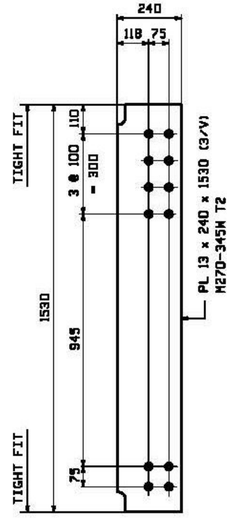
16 ~ BRG STIFFENERS ~ x3b

ABUT 1 & 2
(TYPE D1)



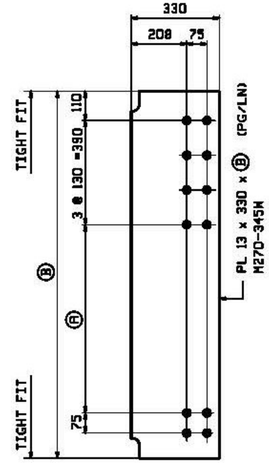
80 ~ CF CONN STIFF ~ x3c

(TYPE D2)



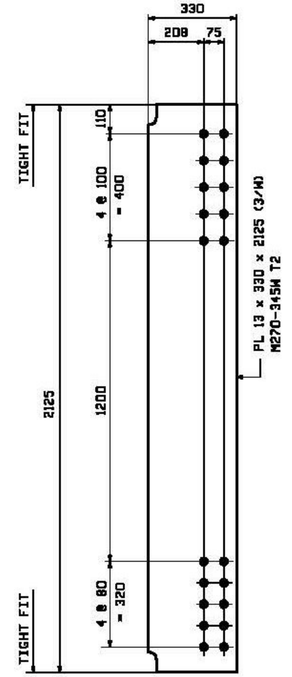
16 ~ CF CONN STIFF ~ x3d

(TYPE D3)



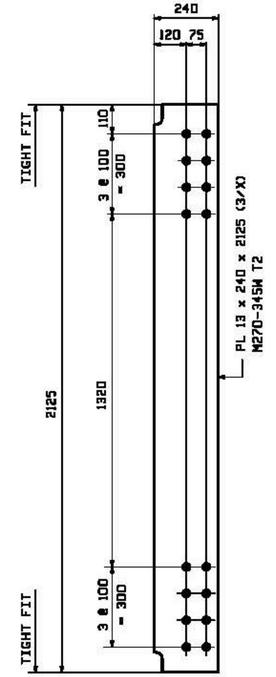
CF CONN STIFF ~ MARK A

MARK A	QTY	Ⓐ	Ⓑ	PG/LN	
x3m	16	928	1598	5/H	TYPE D6A
x3n	16	704	1374	5/J	TYPE D6B
x3p	16	480	1150	5/K	TYPE D6C



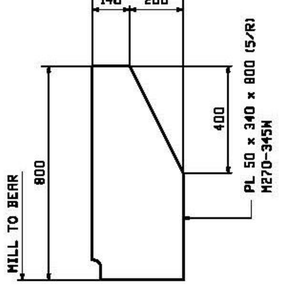
16 ~ CF CONN STIFF ~ x3f

(TYPE D4)



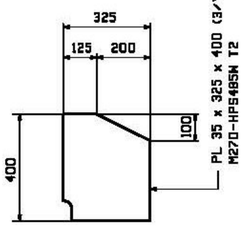
80 ~ CF CONN STIFF ~ x3g

(TYPE D5)



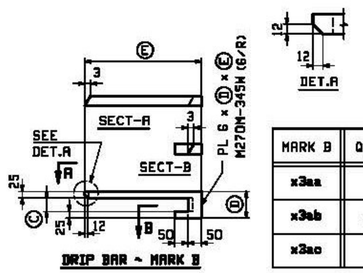
40 ~ BRG STIFFENERS ~ x3h

DELTA LEGS



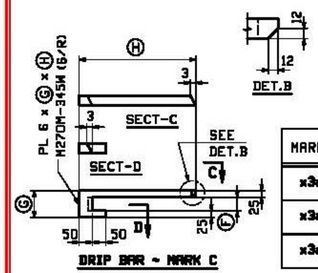
⚠ 356 ~ STIFFENERS ~ x3k

KNEES



DRIP BAR ~ MARK B

MARK B	QTY	Ⓒ	Ⓓ	Ⓔ	
x3aa	1	50	100	395	50x600 FLG
x3ab	3	50	100	440	50x700 FLG
x3ac	1	35	85	395	35x600 FLG



DRIP BAR ~ MARK C



MARK C	QTY	Ⓕ	Ⓖ	Ⓗ	
x3ad	1	50	100	395	50x600 FLG
x3af	3	50	100	440	50x700 FLG
x3ag	1	35	85	395	35x600 FLG

Vermont Agency of Transportation

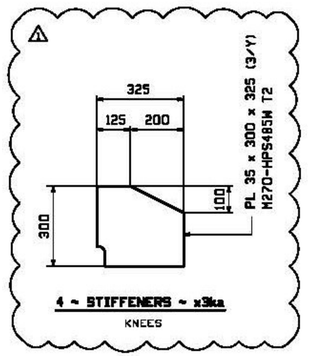
RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 26, 2013

RESUBMIT No Approved AsNoted

BY T. Bohl DATE 03/28/2013



4 ~ STIFFENERS ~ x3ka

KNEES

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	3/21/13	REV'D QTY OF x3k & ADDED NEW MARK x3ka	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
AS NOTED	SEE GN1	15/16ϕ	NONE

DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3030PC

STRUCTURE:	DRAWN:	DATE:
VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	CRK	08/20
	CHKD: PCP	DATE: 9/17/12
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1	521	X3
CUSTOMER: WINTERSET, INC.		REV. ⚠

Reviewed
Rejected
X Furnish As Corrected
Revise and Resubmit

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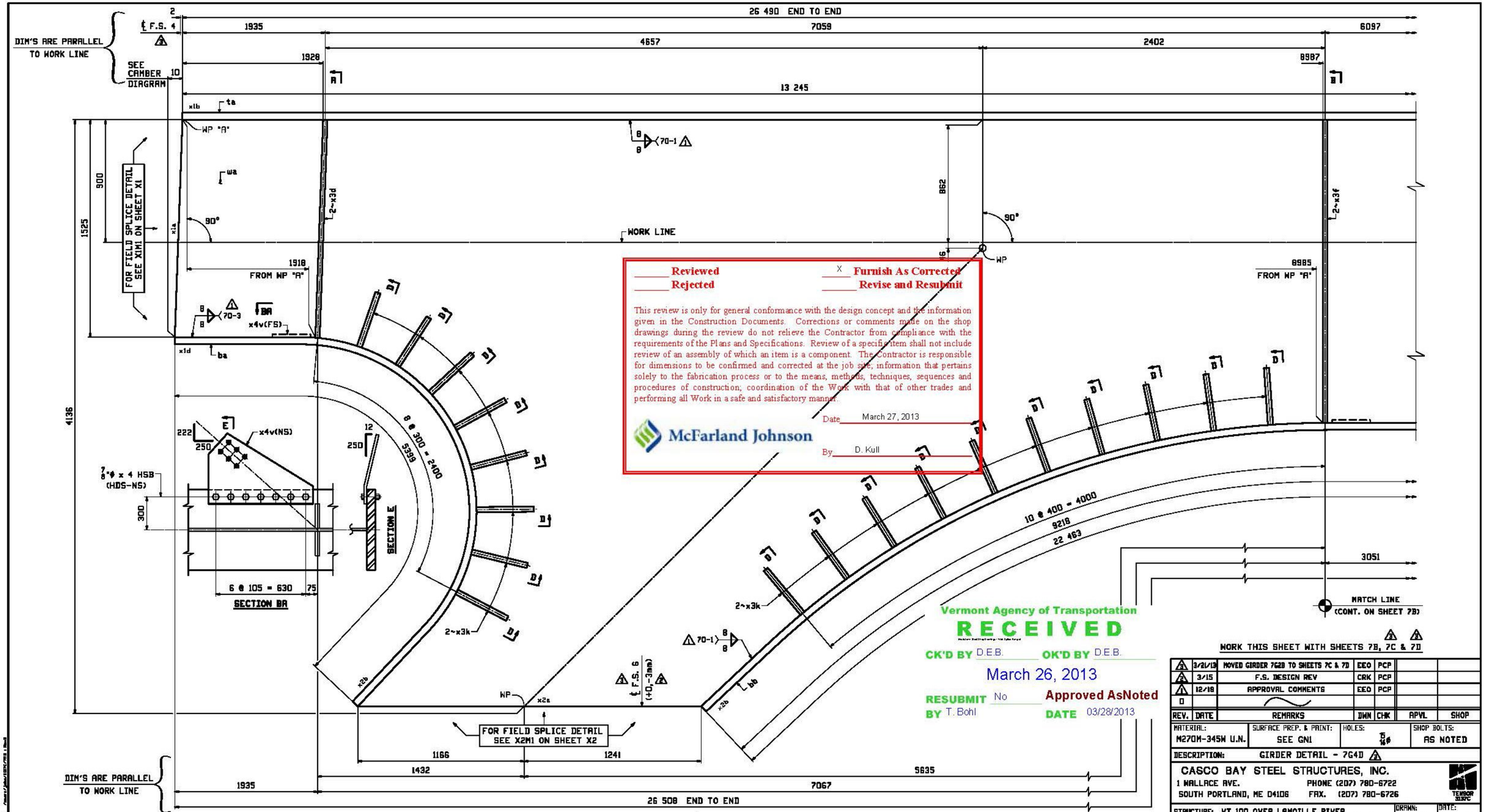
McFarland Johnson

Date March 27, 2013

By D. Kull



Reviewed
Rejected
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Revise and Resubmit

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McFarland Johnson

Date March 27, 2013

By D. Kull

Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 26, 2013

RESUBMIT No Approved AsNoted

BY T. Bohl DATE 03/28/2013

WORK THIS SHEET WITH SHEETS 7B, 7C & 7D

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
4	3/21/13	MOVED GIRDER 7G2B TO SHEETS 7C & 7D	EEO	PCP		
3	3/15	F.S. DESIGN REV	CRK	PCP		
2	12/18	APPROVAL COMMENTS	EEO	PCP		
1						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16ø | SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G4D 4

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 33/2C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

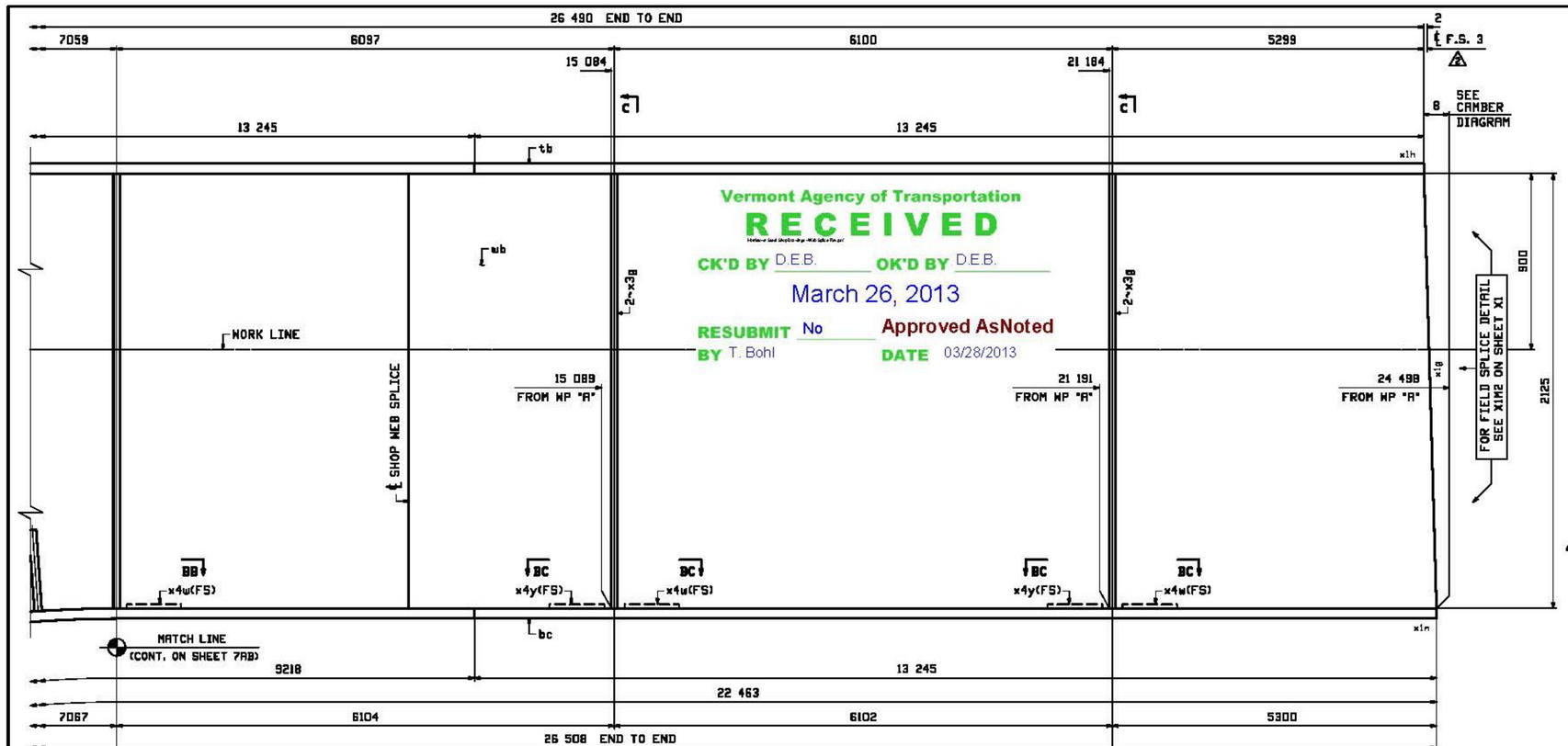
DRAWN: EEO DATE: 08/24
CHKD: PCP DATE: 09/17

LOCATION: MORRISTOWN, VT
JOB NO. 521
DWG NO. 7AB
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.
REV. 4

4

ONE - GIRDER - 7G4D

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



Vermont Agency of Transportation

RECEIVED

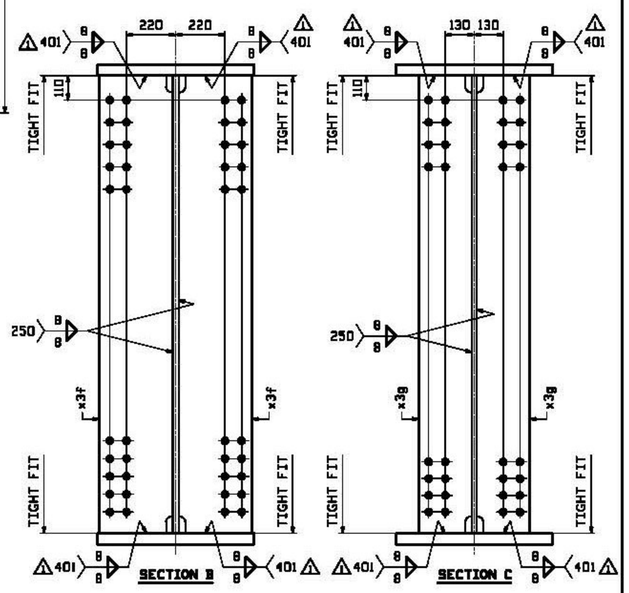
CK'D BY D.E.B. OK'D BY D.E.B.

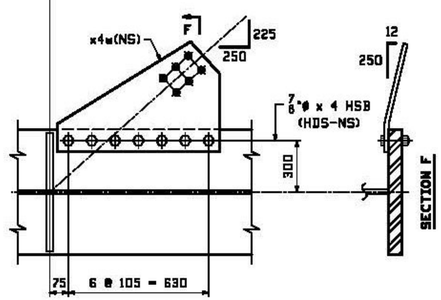
March 26, 2013

RESUBMIT No Approved AsNoted

BY T. Bohl DATE 03/28/2013

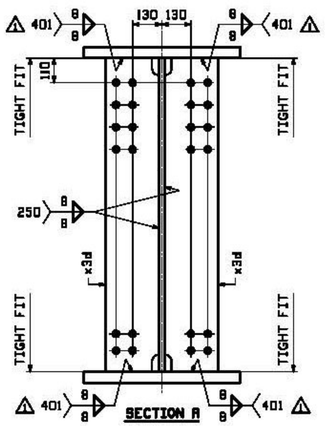
	FORM INFO		SHOP	BILL OF MATERIAL			LENGTH		JOB NO.	DRAWING NO.	REV.
	PAGE	LINE	MARK	QTY	MARK	MATERIAL	m	mm	521	7B	2
2			7G4D	1		GIRDER				10633 kg 23789 lbs	
2	1	G		1	wt	PL 25x4127	12	453	M270M-HPS485W(70W)	4600 kg 10336 lbs	
2	1	J		1	wb	PL 20x2125	14	058	M270M-HPS485W(70W)	4660 kg 10461 lbs	
2	1	A		1	ta	PL 50x700	13	245	M270M-HPS485W(70W)	3838 kg 8583 lbs	
2	1	A		1	tb	PL 50x700	13	245	M270M-HPS485W(70W)	3829 kg 8823 lbs	
2	1	E		1	ba	PL 50x700	5	359	M270M-HPS485W(70W)	1493 kg 3272 lbs	
2	1	C		1	bb	PL 50x700	9	218	M270M-HPS485W(70W)	2503 kg 5564 lbs	
2	1	A		1	bc	PL 50x700	13	245	M270M-HPS485W(70W)	3829 kg 8823 lbs	
2	3	V		2	x3d	PL 13x240	1	530	M270M-345W(50W)	37 kg 85 lbs	
2	3	W		2	x3f	PL 13x330	2	125	M270M-345W(50W)	72 kg 158 lbs	
2	3	X		4	x3g	PL 13x240	2	125	M270M-345W(50W)	53 kg 116 lbs	
2	3	Y		36	x3k	PL 35x325	0	400	M270M-HPS485W(70W)	50 kg 78 lbs	
2	6	K		1	x4v	PL 13x730	0	420	(BENT)	31 kg 68 lbs	
2	6	K		3	x4w	PL 13x730	0	424	(BENT)	32 kg 70 lbs	
2	6	K		2	x4y	PL 13x730	0	424	(BENT)	32 kg 70 lbs	
2	8	J		42		¾ ø HSB	0	4	(RCT) M164M-6	27 kg 61 lbs	
2	8	P		42		¾ ø HSN			(RCT) M563 (GR-DH3)	24 kg 201 lbs	
2	8	Q		42		¾ ø HSW			F436M-6	03 kg 07 lbs	

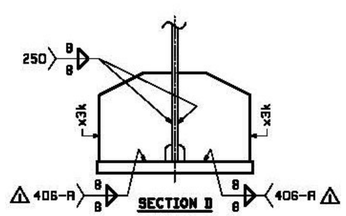


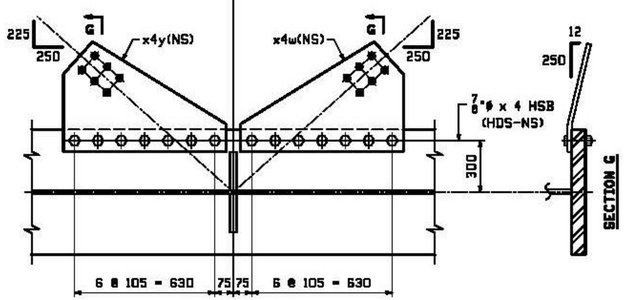


ONE - GIRDER - 7G4D (CONTINUED)

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.







WORK THIS SHEET WITH SHEETS 7AB, 7C & 7D

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	3/21/13	MOVED GIRDER 7G2B TO SHEETS 7C & 7D	EEO	PCP		
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16ø | SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G4D 2

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEO | DATE: 08/24
CHKD: PCP | DATE: 09/17
LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 7B
PROJ NO. STP F 029-1(2)C/1 | REV. 2
CUSTOMER: WINTERSET, INC.

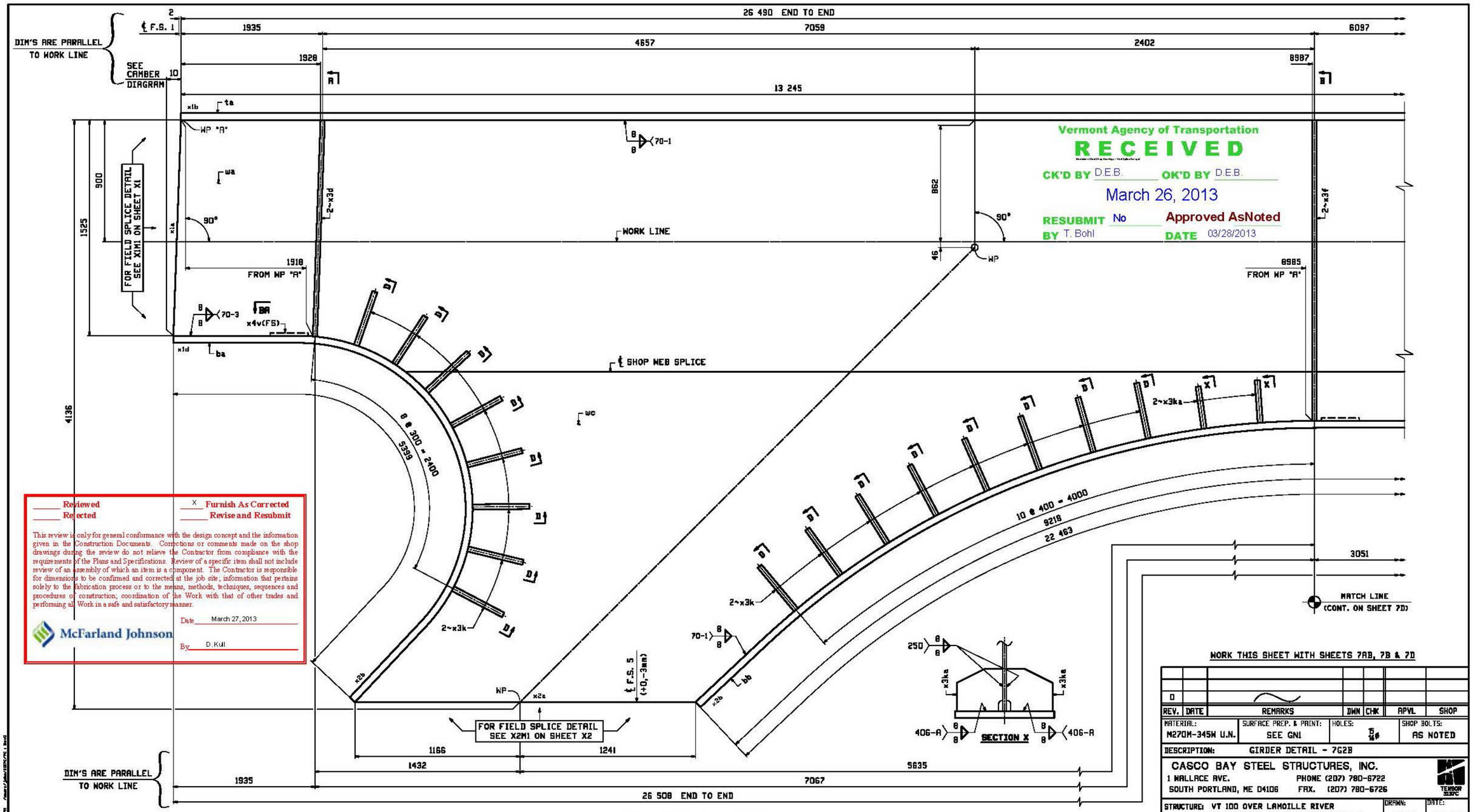
Reviewed — X Furnish As Corrected
Rejected — Revise and Resubmit

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

McFarland Johnson

Date March 27, 2013

By D. Kull



Vermont Agency of Transportation

RECEIVED

CK'D BY D.E.B. OK'D BY D.E.B.

March 26, 2013

RESUBMIT No Approved AsNoted

BY T. Bohl DATE 03/28/2013

Reviewed — X Furnish As Corrected

Rejected — Revise and Resubmit

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

McFarland Johnson

Date March 27, 2013

By D.Kull

WORK THIS SHEET WITH SHEETS 7AB, 7B & 7D

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL: M270M-345W U.N.	SURFACE PREP. & PAINT: SEE GN1	HOLES: 25/16ø	SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G2B

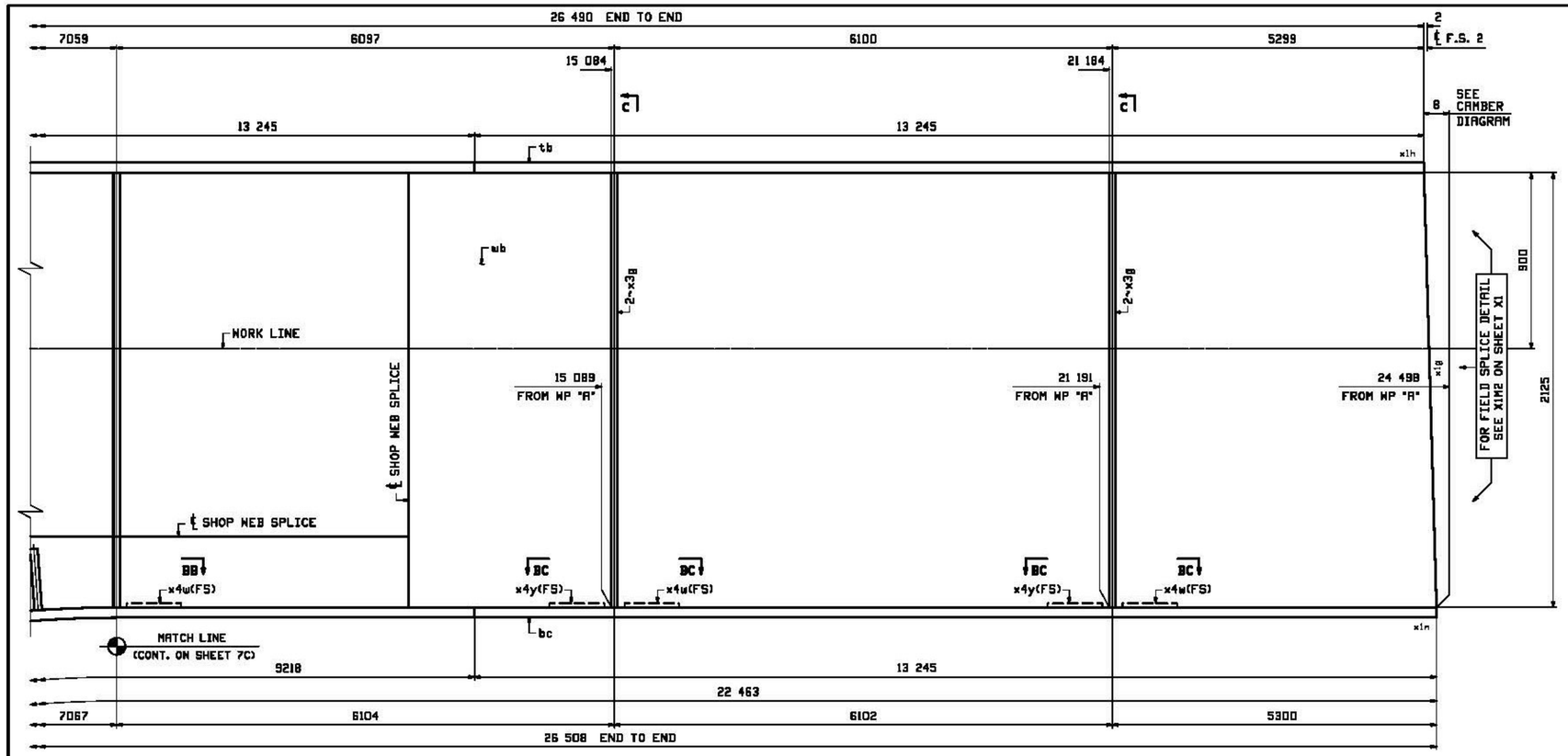
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3139PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1		DRAWN: EEO	DATE: 3/21/13
		CHKD: PCP	DATE: 3/25/13
LOCATION: MORRISTOWN, VT		JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1		521	7C
CUSTOMER: WINTERSET, INC.			REV. △

ONE - GIRDER - 7G2B

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C6.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



ONE - GIRDER - 7G2B (CONTINUED)

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C6.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO. 521	DRAWING NO. 7D	REV.
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		7G2B	1		GIRDER				26564 kg 52914 lbs	
1	G		1	wa	PL 25x1805	12	450	M270M-HPS485W(T2	4410 kg 9722 lbs	
1	J		1	wb	PL 20x2125	14	058	M270M-HPS485W(T2	4890 kg 10340 lbs	
1	G		1	wc	PL 25x2338	10	249	M270M-HPS485W(T2	4703 kg 10367 lbs	
1	A		1	ta	PL 50x700	13	245	M270M-HPS485W(T2	3838 kg 8283 lbs	
1	A		1	tb	PL 50x700	13	245	M270M-HPS485W(T2	3829 kg 8323 lbs	
1	E		1	ba	PL 50x700	5	359	M270M-HPS485W(T2	1493 kg 3292 lbs	
1	C		1	bb	PL 50x700	9	218	M270M-HPS485W(T2	2503 kg 5564 lbs	
1	A		1	bc	PL 50x700	13	245	M270M-HPS485W(T2	3829 kg 8323 lbs	
3	V		2	x3d	PL 13x240	1	530	M270M-345W(T2	37 kg 85 lbs	
3	W		2	x3f	PL 13x330	2	125	M270M-345W(T2	72 kg 158 lbs	
3	X		4	x3g	PL 13x240	2	125	M270M-345W(T2	53 kg 116 lbs	
3	Y		32	x3k	PL 35x325	0	400	M270M-HPS485W(T2	50 kg 78 lbs	
3	Y		4	x3ka	PL 35x325	0	300	M270M-HPS485W(T2	37 kg 59 lbs	
6	K		1	x4v	PL 13x730	0	420	(BENT)	31 kg 68 lbs	
6	K		3	x4u	PL 13x730	0	424	(BENT)	93 kg 205 lbs	
6	K		2	x4y	PL 13x730	0	424	(BENT)	62 kg 137 lbs	
8	J		42		7/8 ø HSB	0	4	(RCT) F3BM-3	37 kg 81 lbs	
8	P		42		7/8 ø HHN			(RCT) F3BM (GR-DH3)	14 kg 31 lbs	
8	Q		42		7/8 ø HSW			F3BM-3	413 kg 907 lbs	

Vermont Agency of Transportation
RECEIVED
CK'D BY D.E.B. OK'D BY D.E.B.
March 26, 2013
RESUBMIT No Approved AsNoted
BY T. Bohl DATE 03/28/2013

WORK THIS SHEET WITH SHEETS 7AB, 7B & 7C

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G2B

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

STRUCTURE:	DRAWN:	DATE:
VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	EEO	3/21/13
	CHKD: PCP	DATE: 3/25/13
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1	521	7D
CUSTOMER: WINTERSET, INC.		REV. △

Reviewed
Rejected
X Furnish As Corrected
Revise and Resubmit

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

McFarland Johnson

Date March 27, 2013

By D. Kull

DENOTES VC CAMBER

STA 7+900.00 ℄ BRGS ABUT 1 STA 7+916.200

42 909 CL BRG TO CL LEG WP ALONG WL

36 327 TO CL FS

G3A

91-11-35.05
91.193069

12 066

24 230

CL SHOP SPL

MATCH LINE
CONT. BELOW

42 909 CL BRG TO CL LEG WP ALONG WL

36 327 TO CL FS

78 016 SLOPING C/C LEG WP's

26 504 C/C FIELD SPLICES

G3B

91-11-35.05

MATCH LINE
CONT. ABOVE

2836 ARC
133.2137 °

℄ FS 5

℄ FS 1

4327 ARC

4345

24 230

12 450

WP SOUTH SLANT LEG

43.2137°

14 054

CL SHOP SPL

MATCH LINE
CONT. ON WSF2

L3S

226.193069

ANG=1.78400
T=.0311

316.193069
136.193069

42 909 | 78 016 | 42 909

36 327 | 26 504 | 38 210 | 26 504 | 36 289

6601 | 19 903 | 19 903 | 6601

12 066 | 24 230 | 12 450 | 14 054 | 18 930 | 19 260 | 14 054 | 12 450 | 24 230 | 12 066

FULL LENGTH ELEVATION

VERMONT
Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Bonneau, P.E. 12/10/12
Structures Project Manager Date

X Reviewed ___ Furnish As Corrected
___ Rejected ___ Revise and Resubmit

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

McFarland Johnson
Date October 24, 2012
By D.Hall

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	9/18/12	REV. VERT. CURVE & LOC. OF SHOP SPLICE	SOB	EEO		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

DESCRIPTION:

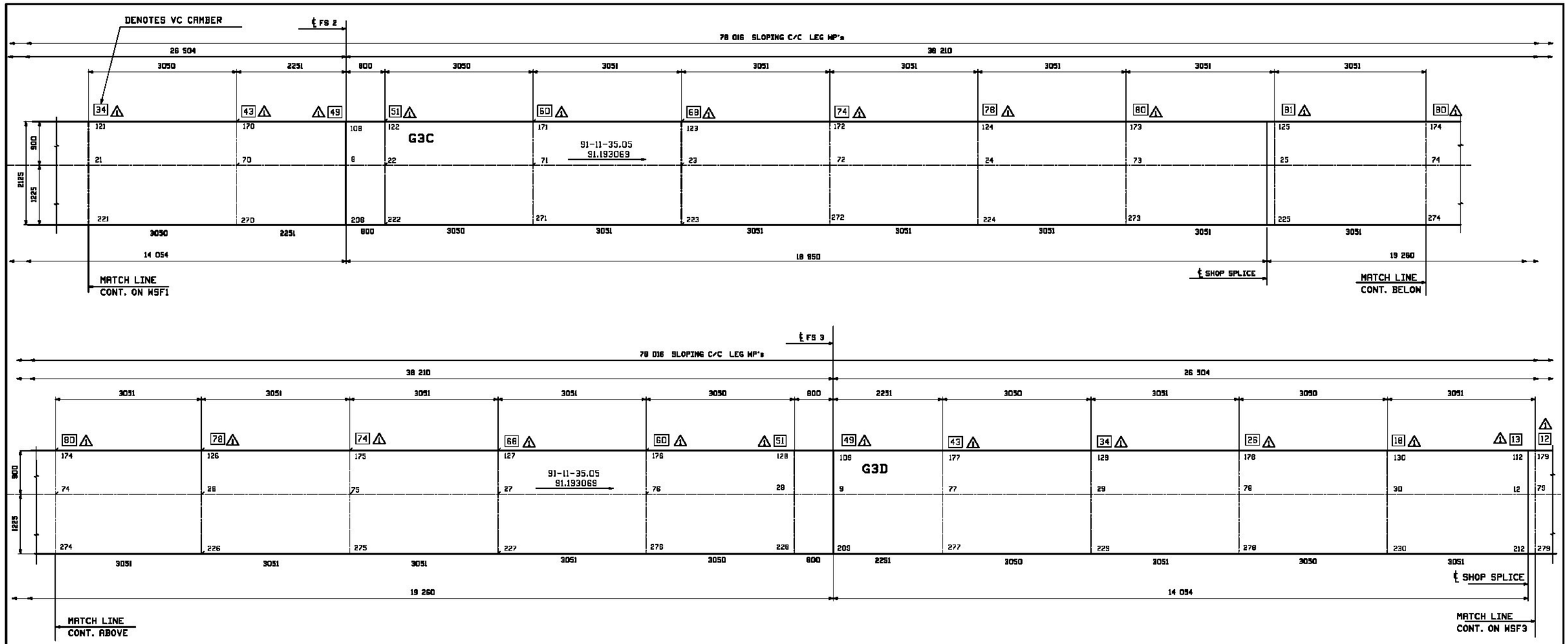
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR SUSPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: WJG DATE: 07/23
CHKD: SOB DATE: 07/26
JOB NO. 521
DWG NO. WSF1
REV. 1

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.



VERMONT
Agency of Transportation

X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit

Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager

12/10/12
Date

X Reviewed
__ Rejected
__ Furnish As Corrected
__ Revise and Resubmit

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Date October 24, 2012

McFarland Johnson

By D. Kull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	9/18/12	REV. VERT. CURVE	SOB	EED		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES: AS NOTED	SHOP BOLTS: AS NOTED

DESCRIPTION: FINAL GEOMETRY

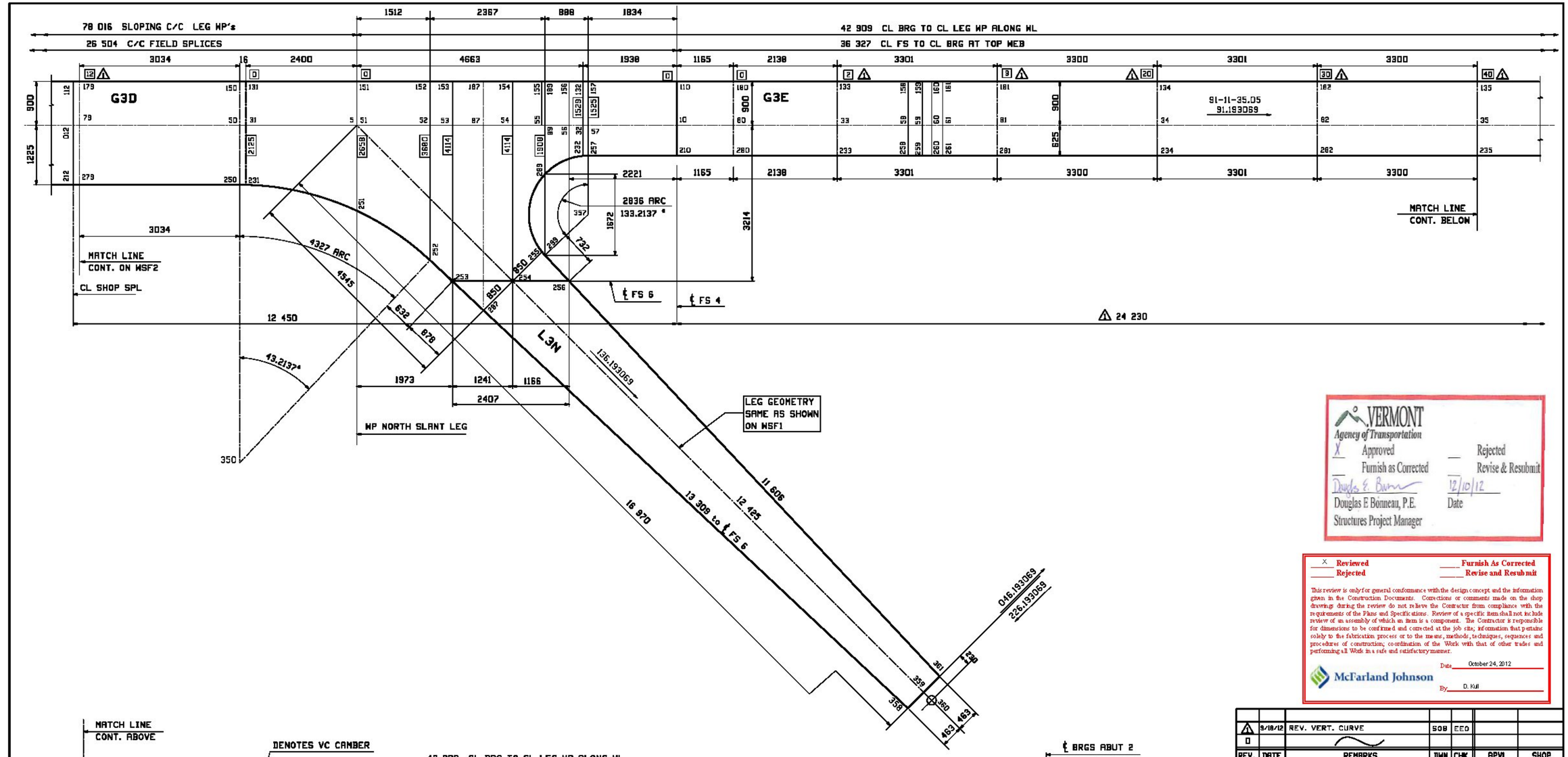
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 33/2C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	WJG	DATE:	07/23
CHKD:	SOB	DATE:	07/26
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	WSF2
CUSTOMER:	WINTERSET, INC.		REV. 1

Thu, Oct 4, 2012 08:08:08 PM J:\projects\521\DETAILS\WSF2.1.dwg EED



VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E Bonneau, P.E. — 12/10/12
Structures Project Manager — Date

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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McFarland Johnson — Date October 24, 2012 — By D. Kull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	9/18/12	REV. VERT. CURVE	SOB	EEO		
0						

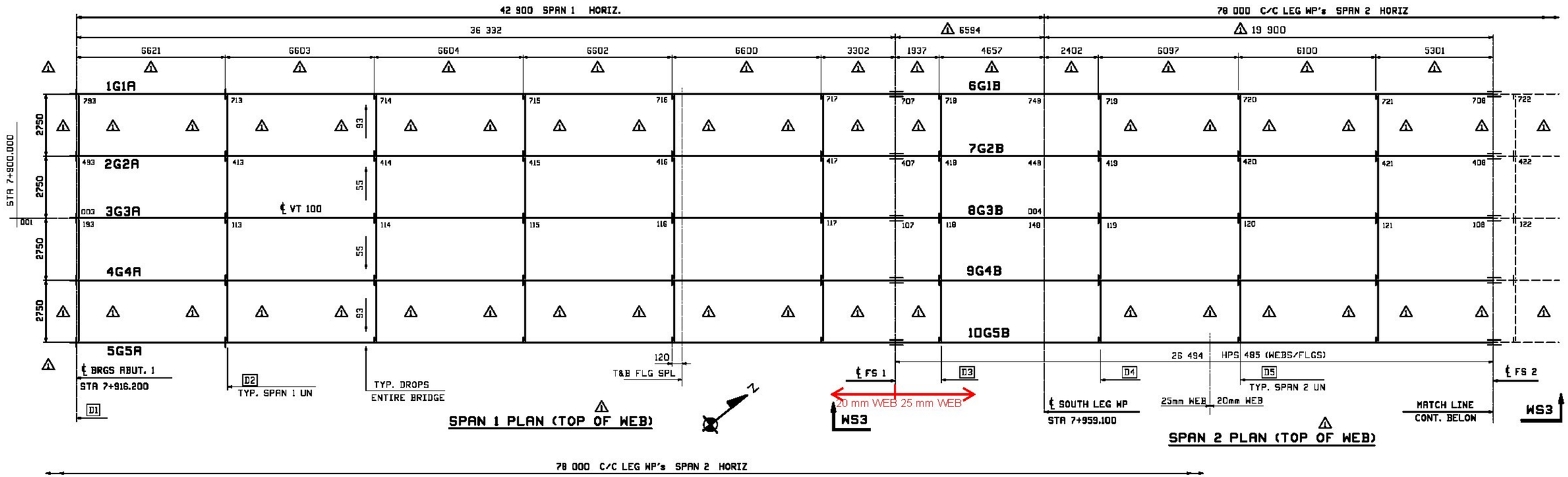
MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

DESCRIPTION: FINAL GEOMETRY

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	WJG	DATE:	07/23
CHKD:	SOB	DATE:	07/26
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	WSF3
CUSTOMER:	WINTERSET, INC.		REV. 1



** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG TOP OF WEB WITH CORRECTIONS MADE FOR GEOMETRIC CAMBER,GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS & BRG. STIFF'S ARE VERT.AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 100.
7. FOR LAYOUTS SEE "TD" SHEETS.
8. CROSSFRAME DROPS ARE CALCULATED IN THEIR FINAL POSITION.

⚠ WORK THIS SHEET WITH SHEETS WS2 – WS6

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	10/1/12	MOVED LATERAL BRAC. TO SHEET WS5	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
		AS NOTED	AS NOTED

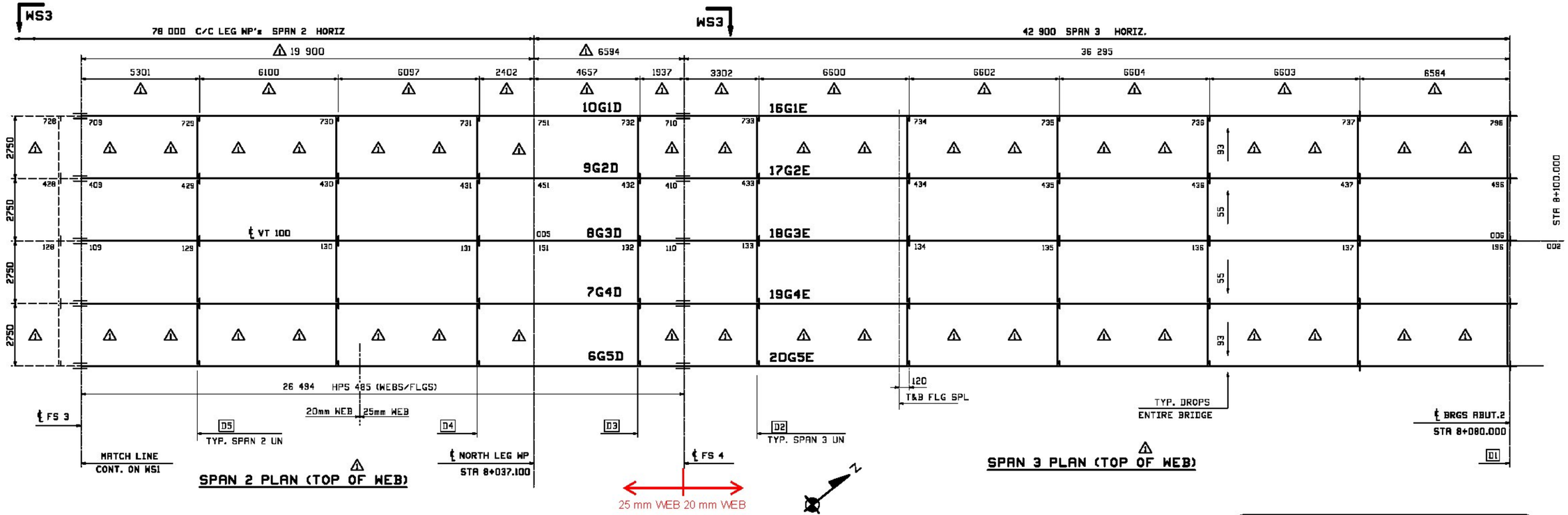
DESCRIPTION: CALCULATION PLAN - SPANS 1 & 2 (TOP OF WEB) ⚠

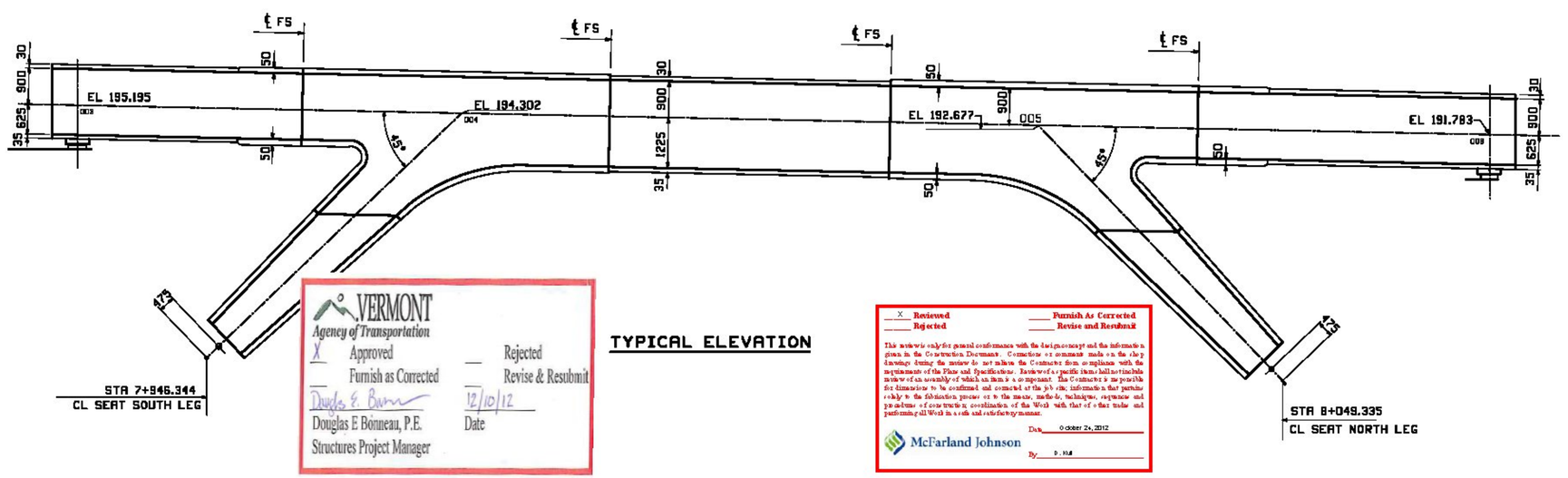
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3139PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: WJG	DATE: 07/26
	CHKD: SOB	DATE: 08/02
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. WS1
PROJ NO. STP F 029-1(2)C/1		REV. ⚠
CUSTOMER: MINTERSET, INC.		

Reviewed / Rejected / Furnish As Corrected / Revise and Resubmit
This review is only for general conformance with the design concept and the information given in the Contractual Documents. Contractor is responsible for dimensions to be confirmed and correlated at the job site, information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, coordination of the Work with the rest of the project and safety precautions. Work in a safe and satisfactory manner.
Date: October 24, 2012
By: D.Hall
McFarland Johnson

VERMONT
Agency of Transportation
X Approved / Furnish as Corrected / Rejected / Revise & Resubmit
Douglas E. Bonneau
12/10/12
Douglas E Bonneau, P.E.
Structures Project Manager
Date





TYPICAL ELEVATION

VERMONT
Agency of Transportation
X Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E. Bonneau — 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit
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McFarland Johnson
Date October 24, 2012
By D. Hill

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG TOP OF WEB WITH CORRECTIONS MADE FOR GEOMETRIC CAMBER,GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS & BRG. STIFF'S ARE VERT.AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 100.
7. FOR LAYOUTS SEE "TD" SHEETS.
8. CROSSFRAME DROPS ARE CALCULATED IN THEIR FINAL POSITION.

⚠ WORK THIS SHEET WITH SHEETS WS1 & WS3 - WS6

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠ 0	10/3/12	MOVED LATERAL BRAC. TO SHEET WS6	EEO	PCP		

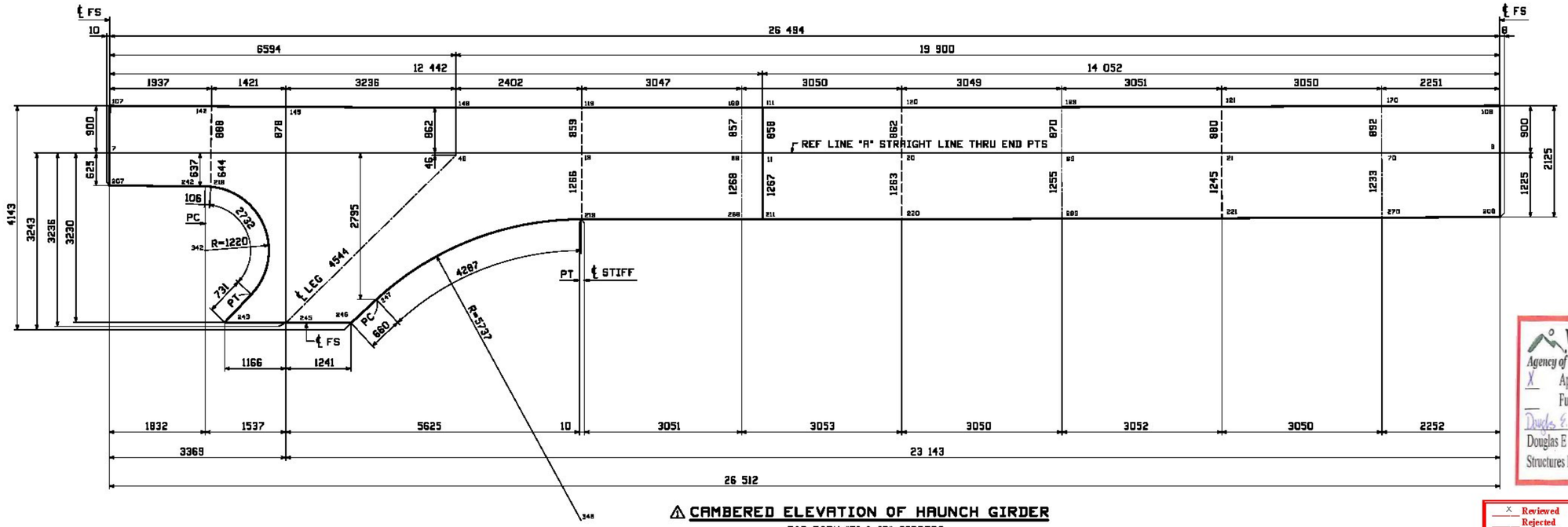
MATERIAL:	SURFACE PREP. & PAINT:	HOLES: AS NOTED	SHOP BOLTS: AS NOTED

DESCRIPTION: CALCULATION PLAN ~ SPANS 2 & 3 (TOP OF WEB)

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

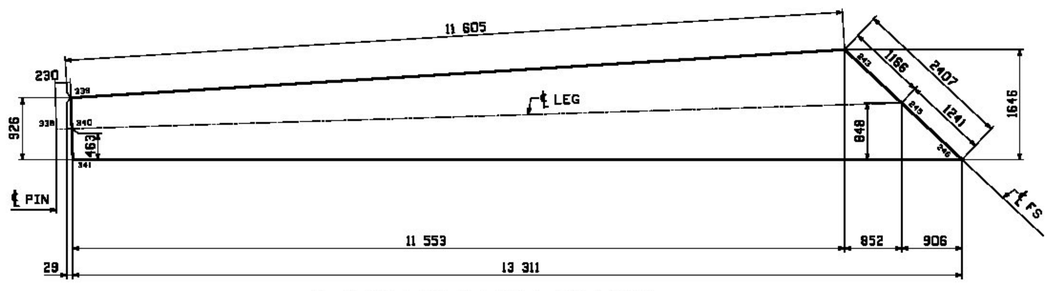
TENSAR GROUP

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: WJG	DATE: 07/26
		CHKD: SOB	DATE: 08/02
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	WS2
CUSTOMER:	WINTERSET, INC.		REV. ⚠



⚠ CAMBERED ELEVATION OF HAUNCH GIRDER

FOR BOTH "B" & "D" GIRDERS



⚠ GEOMETRIC DETAIL OF LEGS

VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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McFarland Johnson — Date October 24, 2012 — By D. Kull

⚠ WORK THIS SHEET WITH SHEETS WS1, WS2 & WS4 - WS6

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	09/21	GEOMETRIC CAMBER	SOB	EEC		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: AS NOTED | SHOP BOLTS: AS NOTED

DESCRIPTION: CAMBER HAUNCH

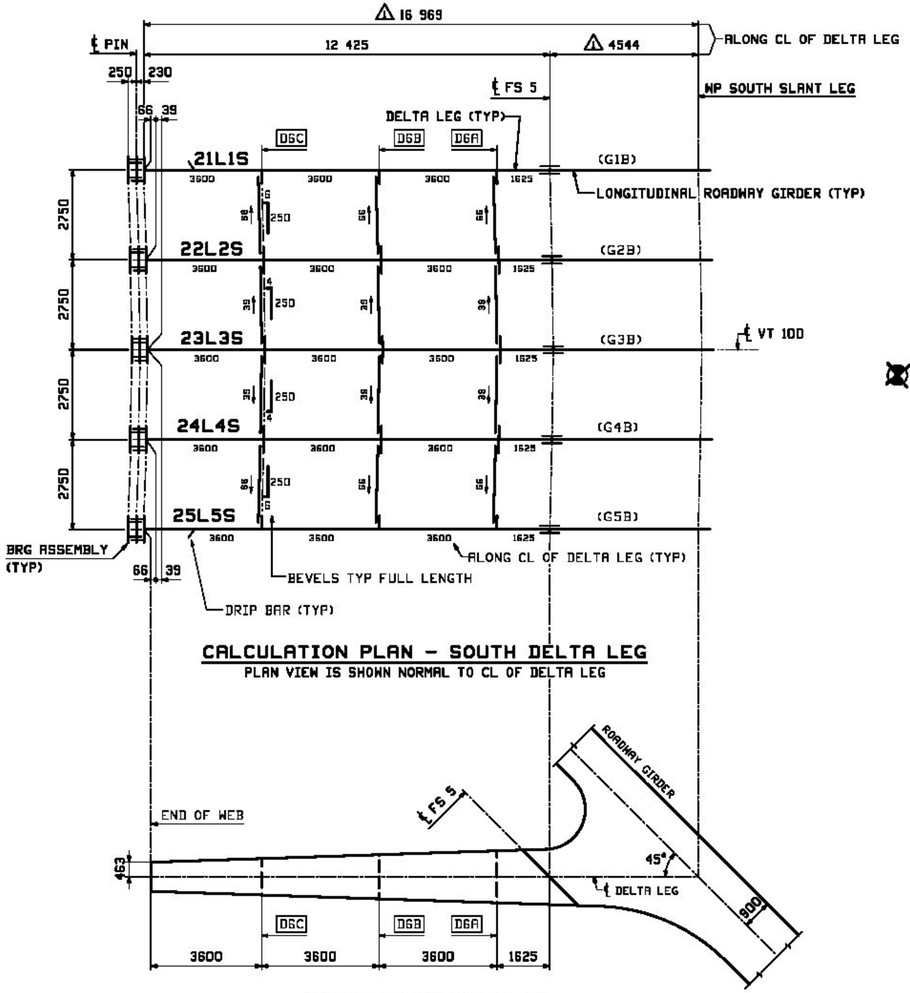
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. — PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 — FAX. (207) 780-6726

TENSOR SUSPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	WJG	DATE:	07/27
CHKD:	SOB	DATE:	08/02
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	WS3
CUSTOMER:	WINTERSET, INC.		REV. ⚠

Thu, Oct 4, 2012 dbonneau MS /users/jobs/12521/dwg/ws3.dgn

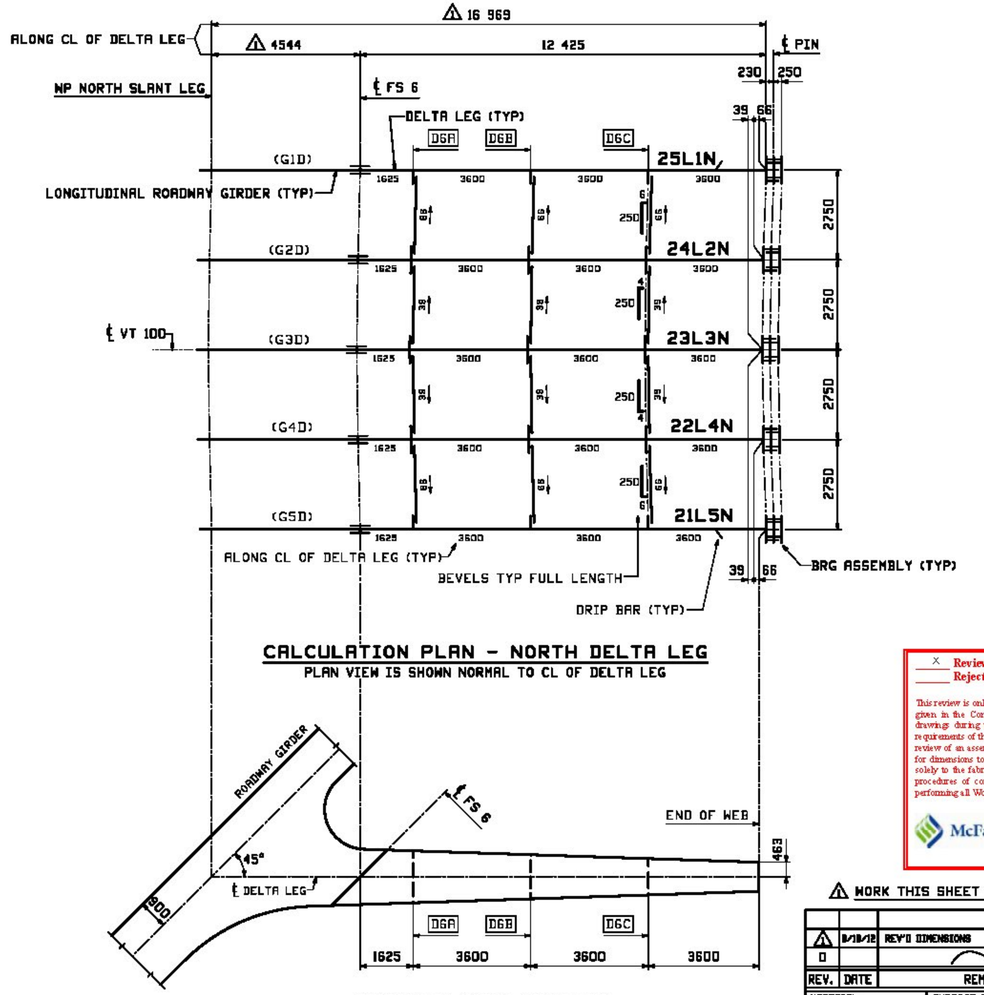


CALCULATION PLAN – SOUTH DELTA LEG

PLAN VIEW IS SHOWN NORMAL TO CL OF DELTA LEG

SECTION AT SOUTH DELTA LEG

SEE DRAWING WSF1 FOR ADD'L INFO



CALCULATION PLAN – NORTH DELTA LEG

PLAN VIEW IS SHOWN NORMAL TO CL OF DELTA LEG

SECTION AT NORTH DELTA LEG

SEE DRAWING WSF3 FOR ADD'L INFO

VERMONT
Agency of Transportation

X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit

Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12
Date

__X__ Reviewed
_____ Rejected
_____ Furnish As Corrected
_____ Revise and Resubmit

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McFarland Johnson

Date October 24, 2012

By D. Kull

⚠ WORK THIS SHEET WITH SHEETS WS1 – WS3, WS5 & WS6

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠ 1	8/28/12	REV'D DIMENSIONS	EEO	PCP		
0						

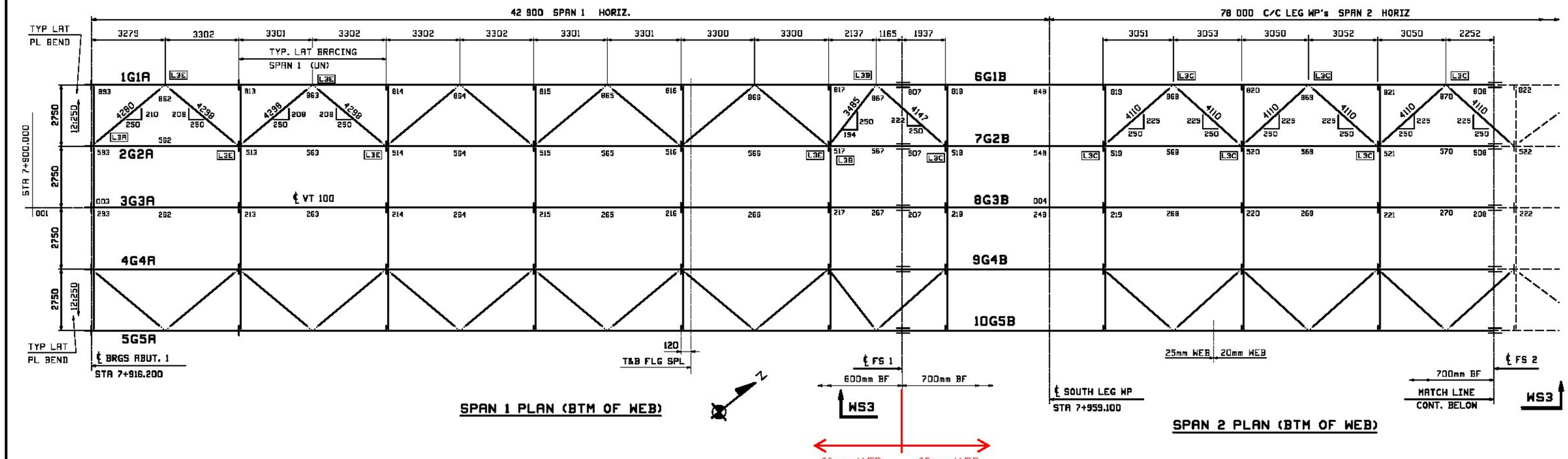
MATERIAL:	SURFACE PREP. & PRINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CALCULATION PLAN – DELTA LEGS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 33.5FC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/15
	CHKD: SOB	DATE: 08/27
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. WS4
PROJ NO. STP F 029-1(2)C/1		REV. ⚠
CUSTOMER: WINTERSET, INC.		



VERMONT
Agency of Transportation
X Approved
Furnish as Corrected
Rejected
Revise & Resubmit
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12
Date

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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Date October 24, 2012
By D. Kull
McFarland Johnson

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BTM OF WEB WITH CORRECTIONS MADE FOR GEOMETRIC CAMBER,GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS & BRG. STIFF'S ARE VERT.AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. FOR LAYOUTS SEE "TD" SHEETS.

WORK THIS SHEET WITH SHEETS WS1 - WS4 & WS6

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

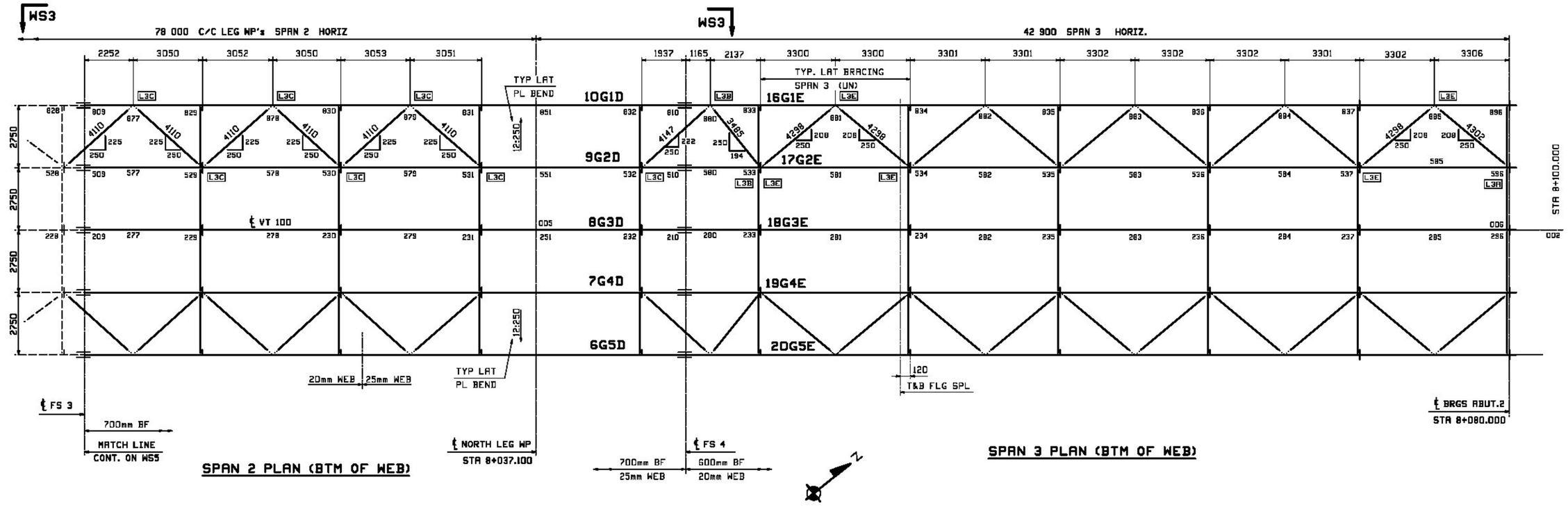
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CALCULATION PLAN ~ SPANS 1 & 2 (BTM OF WEB)

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1		DRAWN: EEO	DATE: 10/03
		CHKD: PCP	DATE: 10/03
LOCATION: MORRISTOWN, VT		JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1		521	WS5
CUSTOMER: WINTERSET, INC.			REV. 0



SPAN 2 PLAN (BTM OF WEB)

SPAN 3 PLAN (BTM OF WEB)

NOTE
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NOTES

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4. ENDS OF GIRDERS & BRG. STIFF'S ARE VERT.AFTER DL ROTATION.
5. CF STIFF, INT STIFF & FIELD SPLICES ARE NORMAL TO GRADE.
6. FOR LAYOUTS SEE "TD" SHEETS.

WORK THIS SHEET WITH SHEETS WS1 - WS5

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D		~				

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CALCULATION PLAN ~ SPANS 2 & 3 (BTM OF WEB)

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 10/03
		CHKD: PCP	DATE: 10/03
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	WS6
CUSTOMER:	WINTERSET, INC.		REV. △

VERMONT
Agency of Transportation
X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12
Date

X Reviewed
__ Rejected
__ Furnish As Corrected
__ Revise and Resubmit

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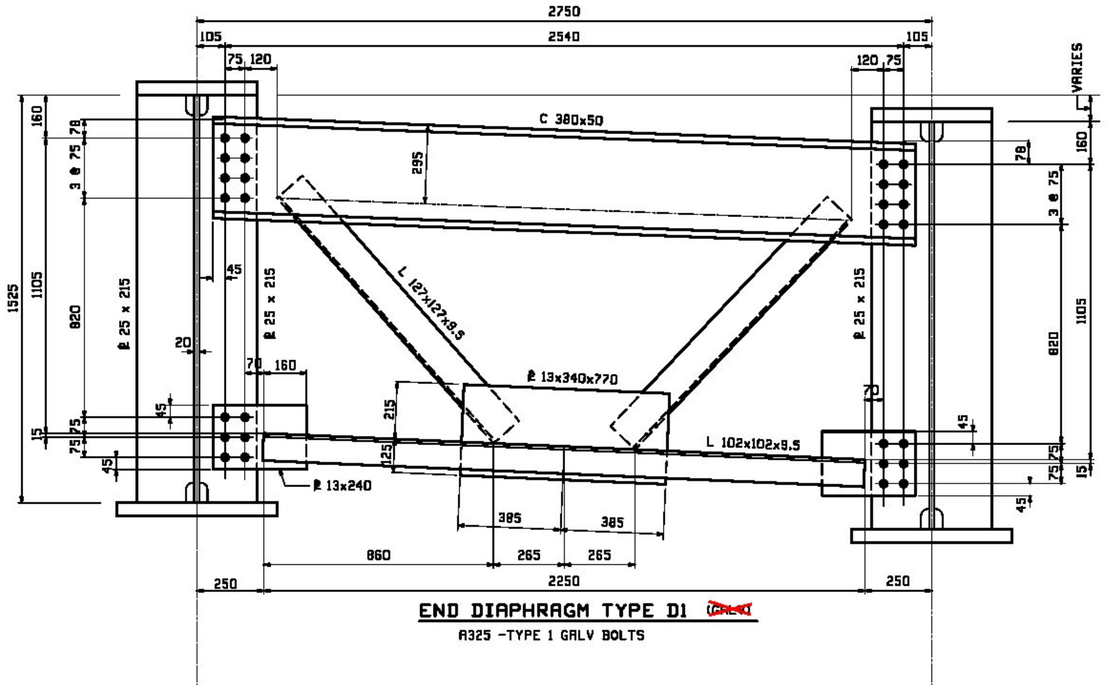
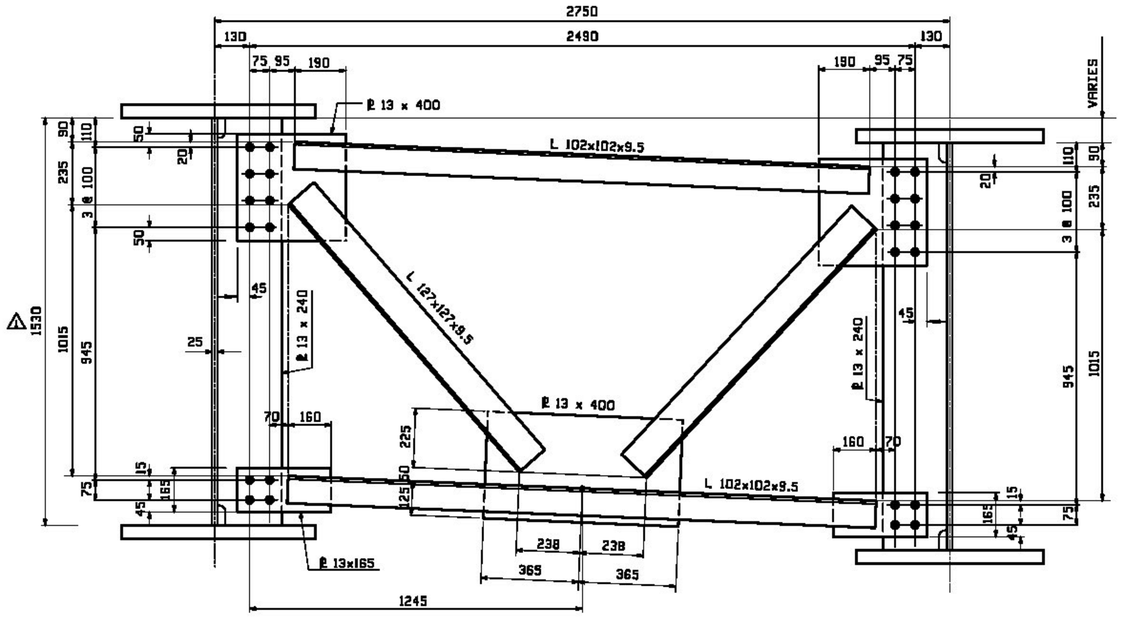
McFarland Johnson
Date October 24, 2012
By D. Kull

ED Wed, Oct 31, 2012 08:53:53 PM J:\work\jobs\521\CAD\WS6.1.dwg



END DIAPHRAGM TYPE D1 ~~CHKD~~

A325 -TYPE 1 GALV BOLTS



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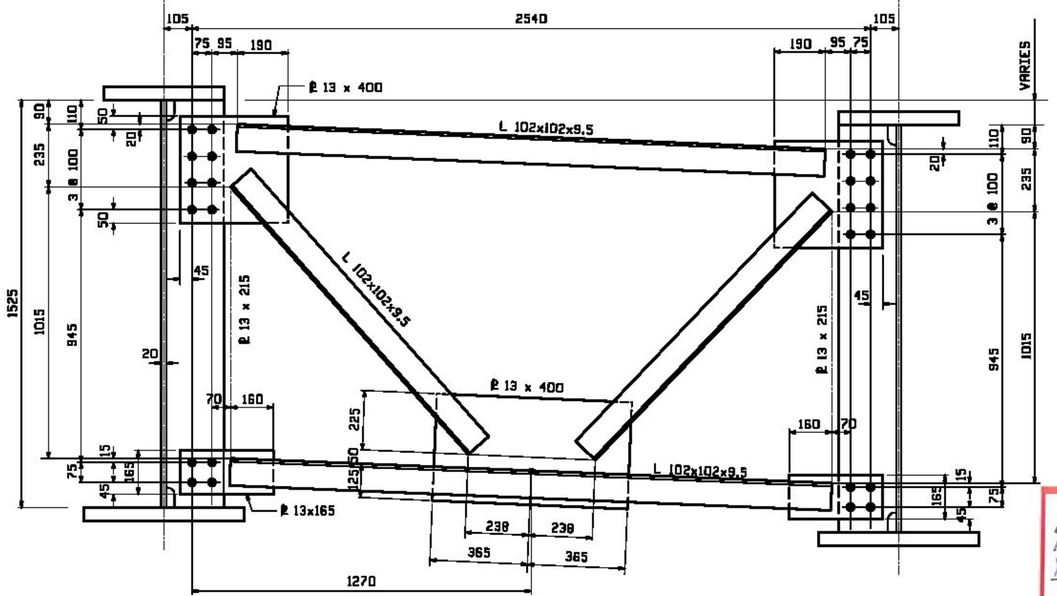

INT DIAPHRAGM TYPE D2

VERMONT
Agency of Transportation

X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit

Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12
Date

X Reviewed
__ Rejected
__ Furnish As Corrected
__ Revise and Resubmit

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McFarland Johnson

Date October 24, 2012
By D. Hall

NOTE
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REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	8/18/12	REV'D DEPTH OF INT. DIAPHRAGM TYPE D3	EEO	PCP		
0						

MATERIAL: M270-GR 345W
SURFACE PREP. & PAINT:
HOLES: 15/16 DIA
BOLTS: (UNO) 7/8 A325-TYPE 3

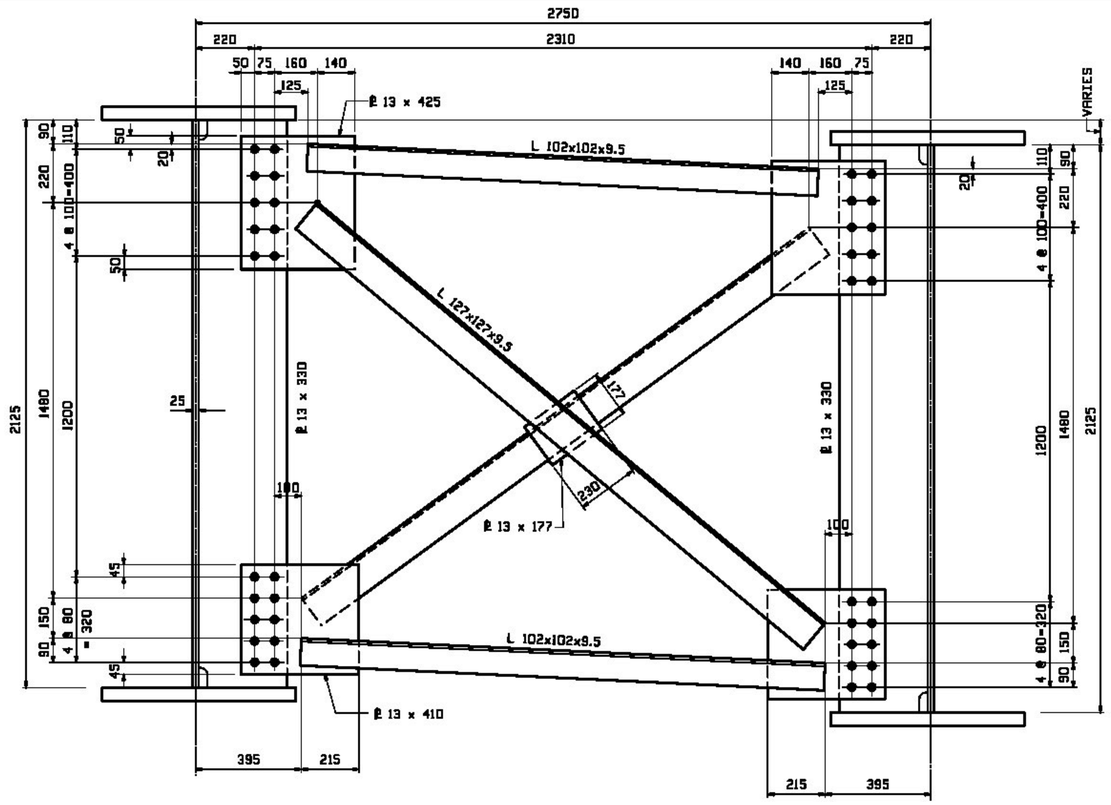
DESCRIPTION: TYPICAL LAYOUTS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR GROUP

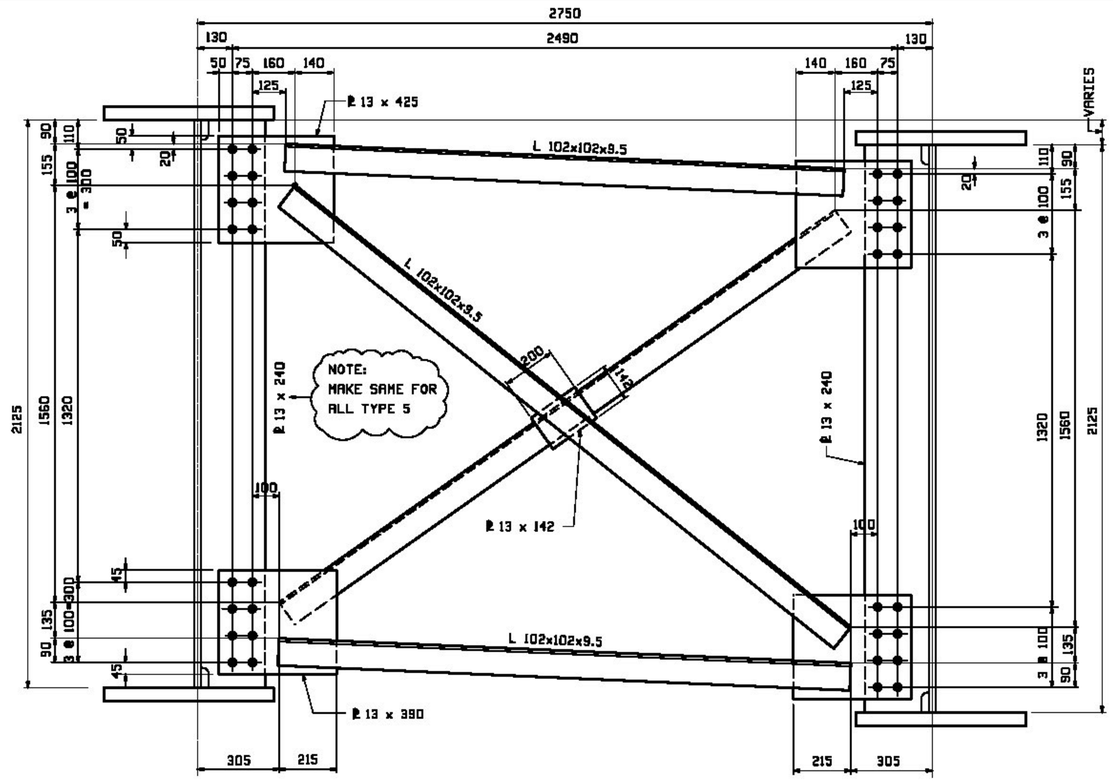
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: WJG DATE: 07/28
CHKD: SOB DATE: 08/03

LOCATION: MORRISTOWN, VT
JOB NO. 521
DWG NO. TD1
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.
REV. 1



INT DIAPHRAGM TYPE D4



INT DIAPHRAGM TYPE D5

NOTE
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL: M270-GR 345W	SURFACE PREP. & PAINT:	HOLES: 15/16 DIA	BOLTS: 7/8 A325-TYPE 3

DESCRIPTION: TYPICAL LAYOUTS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR SUPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: WJG	DATE: 07/29	
	CHKD: SOB	DATE: 08/03	
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. TD2	
PROJ NO. STP F 029-1(2)C/1			
CUSTOMER: WINTERSET, INC.		REV. △	

VERMONT
Agency of Transportation
X Approved
__ Furnish as Corrected
Douglas E Bonneau, P.E.
Structures Project Manager

__ Rejected
__ Revise & Resubmit
12/10/12
Date

X Reviewed
__ Rejected
__ Furnish As Corrected
__ Revise and Resubmit

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McFarland Johnson
Date October 24, 2012
By D. Kull

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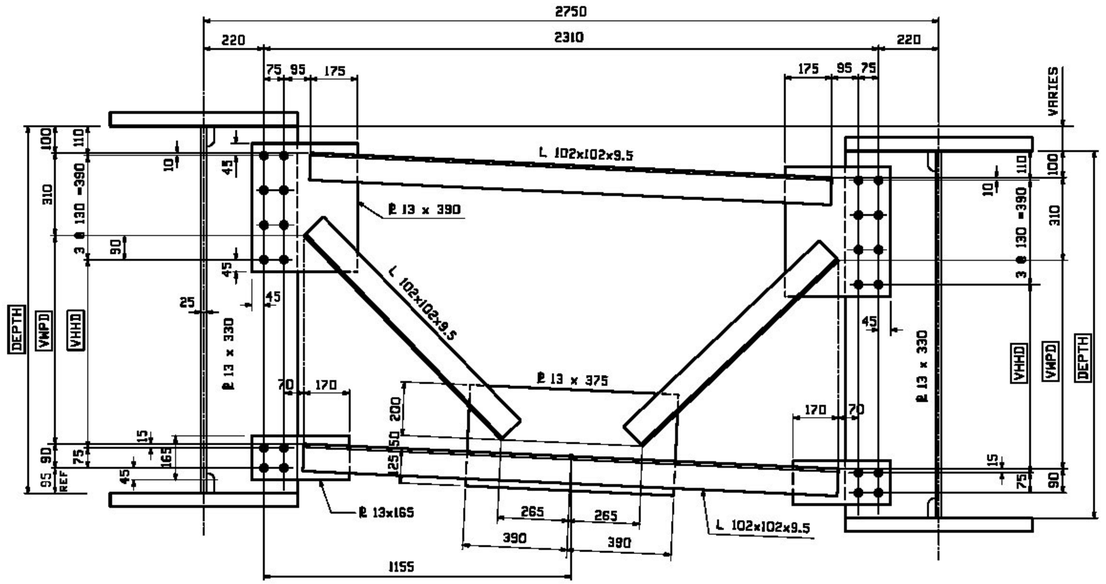

INT DIAPHRAGM TYPE D6

	D6A	D6B	D6C
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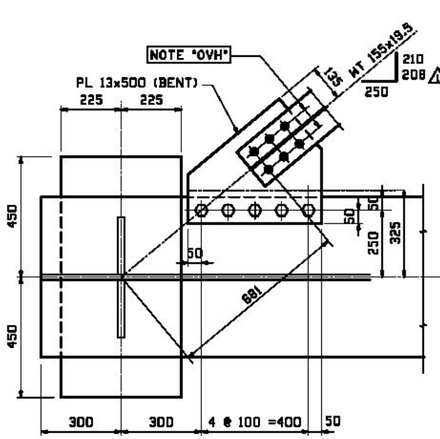
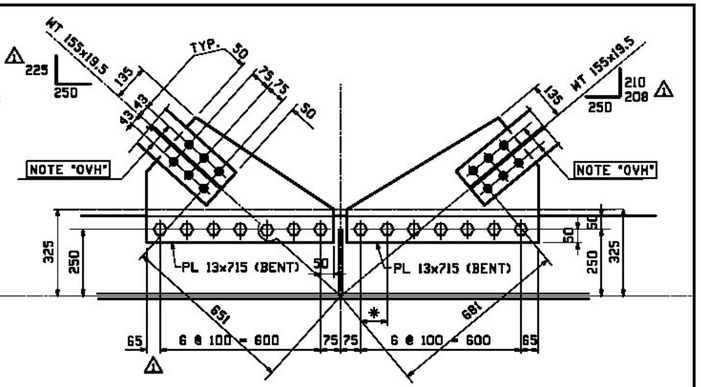
VWPD	1003	779	555
VHHD	928	704	480



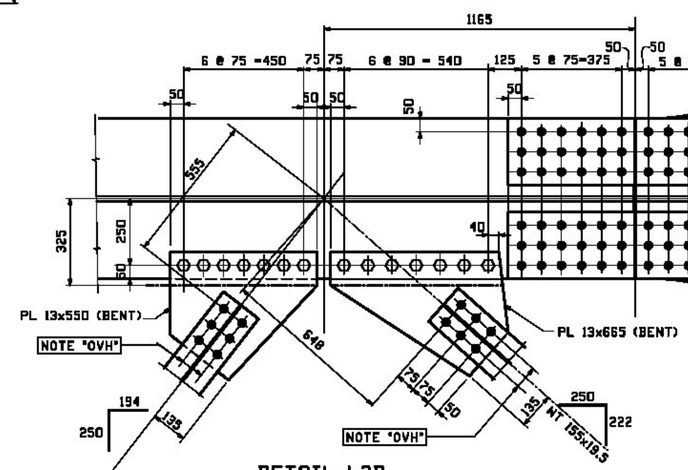
DETAIL L3A



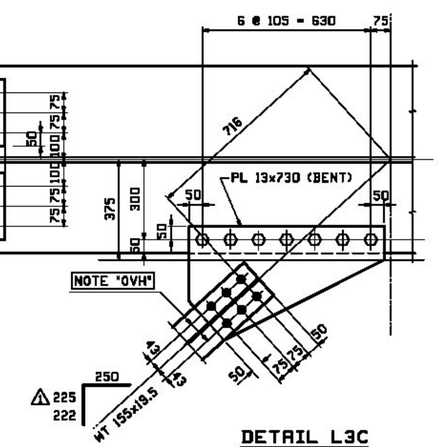
DETAIL L3D

DETAIL L3E

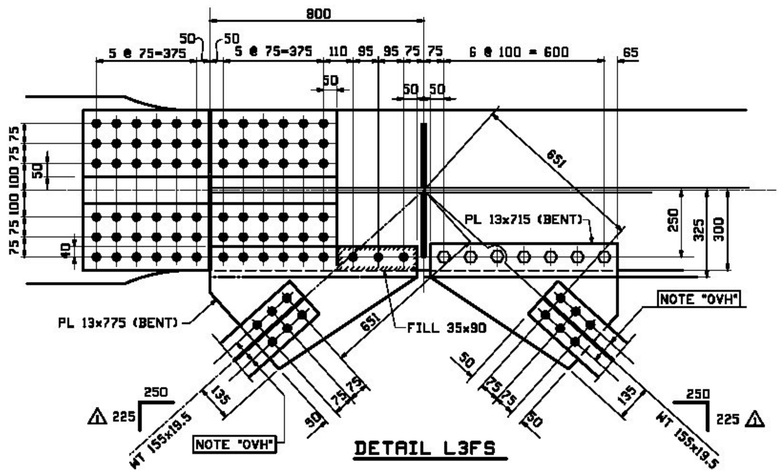
* ADJUST SPACING AS REQ'D TO CLEAR SHOP SPLICE



DETAIL L3B



DETAIL L3C



DETAIL L3FS

NOTE "OVH"
$1\frac{1}{16}$ ø HOLES (WT'S ONLY)
FOR $\frac{7}{8}$ ø HSB

** NOTE **
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	8/18/12	GENERAL REVISIONS	EEO	PCP		
0						

MATERIAL: M270-GR 345W
SURFACE PREP. & PAINT:
HOLES: $\frac{15}{16}$ DIA (UN)
BOLTS: $\frac{7}{8}$ A325-TYPE 3

DESCRIPTION: TYPICAL LAYOUTS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722
FAX. (207) 780-6726

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: WJG DATE: 07/29
CHKD: SOB DATE: 08/07

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.
JOB NO. 521
DWG NO. TD3
REV. 1

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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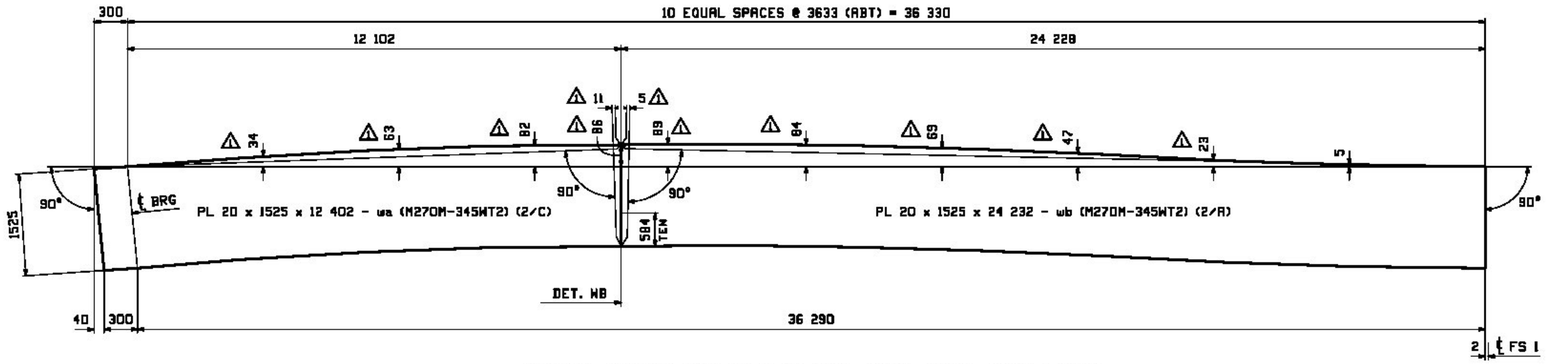
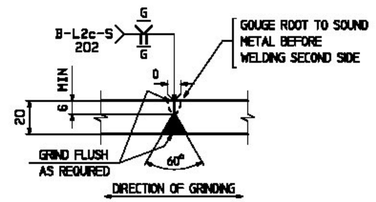
McFarland Johnson
Date October 24, 2012
By D. Kull

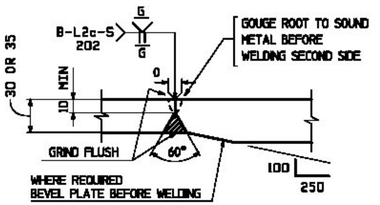
VERMONT
Agency of Transportation
X Approved
Rejected
Furnish as Corrected
Revise & Resubmit
Douglas E. Bonneau
12/10/12
Douglas E Bonneau, P.E.
Date
Structures Project Manager



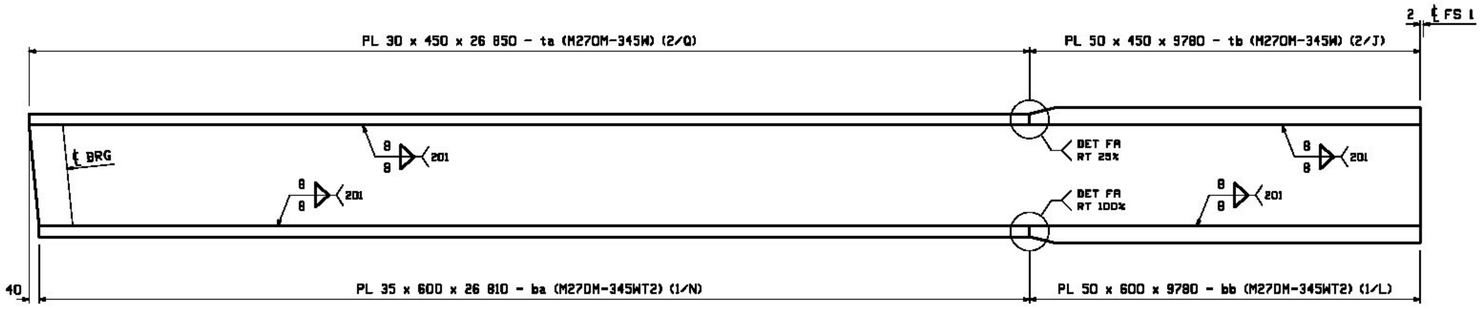
CAMBER DIAGRAM FOR GIRDERS 1G1A, 2G2A, 3G3A, 4G4A & 5G5A



WEB PLATE SPLICE DETAIL "WB"



FLANGE PLATE SPLICE DETAIL "FA"



FLANGE DIAGRAM FOR GIRDERS 1G1A, 2G2A, 3G3A, 4G4A & 5G5A

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 - DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	09/24	GEOMETRIC CAMBER	SOB	EEO		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 35.5FC

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/21
		CHKD: SOB	DATE: 08/27
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	C1
CUSTOMER:	WINTERSET, INC.		REV. 1

VERMONT
Agency of Transportation
X Approved
Furnish as Corrected
Douglas E Bonneau, P.E.
Structures Project Manager
Rejected
Revise & Resubmit
12/10/12
Date

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

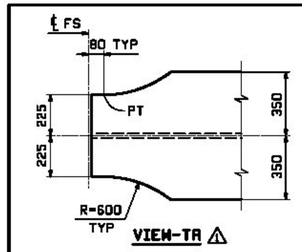
This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during the review do not relieve the Contractor from compliance with the requirements of the Plans and Specifications. Review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

Date October 24, 2012

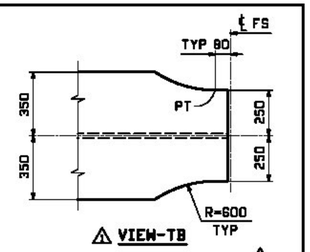
McFarland Johnson

By D. Kull

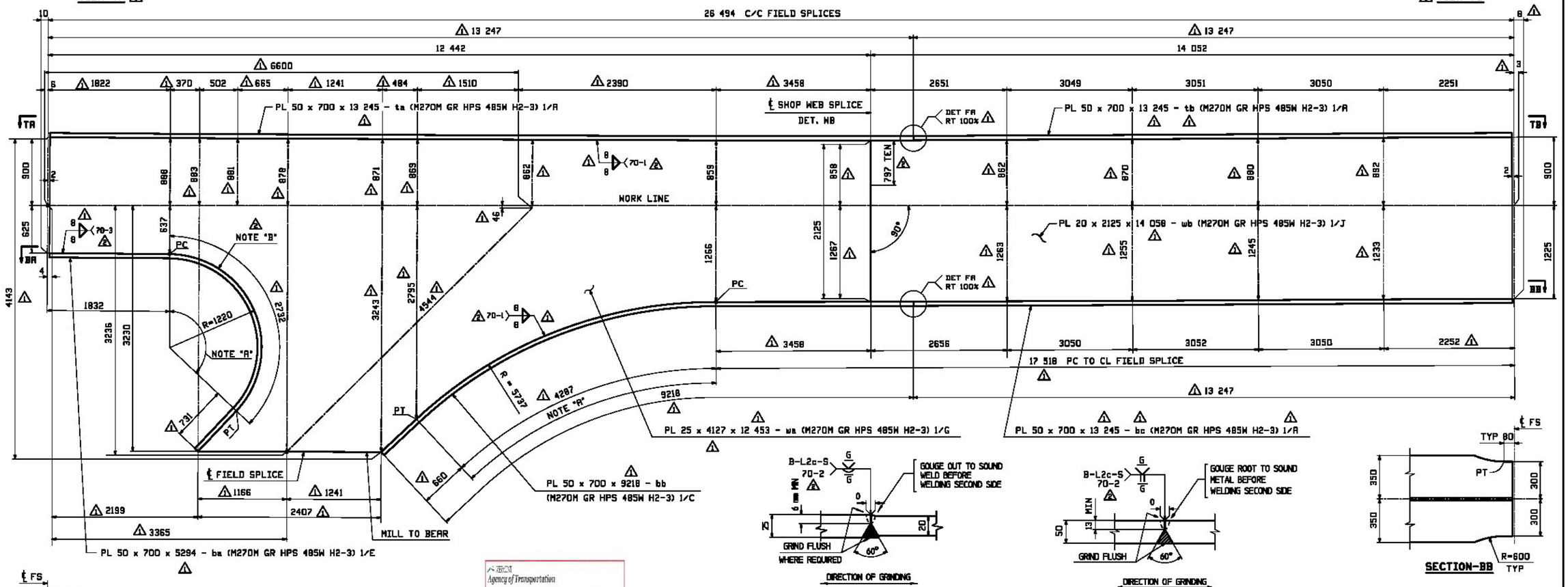
ED Thu, Oct 4, 2012 08:08:41 PM /home/jobs/521/DWG/C1.1.dgn

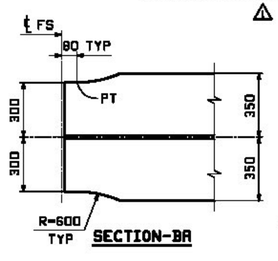


VIEW-TA



VIEW-TB





SECTION-BA

NOTE "A"
CURVED AREA OF FLANGE PLATE TO BE UT TESTED AFTER ROLLING

NOTE "B"
BEFORE HOT OR COLD BENDING, THE CORNERS OF THE PLATE SHALL BE ROUNDED TO A RADIUS OF $\frac{1}{16}$" THROUGHOUT THAT PORTION OF THE PLATE AT WHICH THE BENDING IS TO OCCUR (TYP).

MAINE
Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas F. Bonneau 12/21/12
Douglas F. Bonneau, P.E. Date
Structures Project Manager

WEB PLATE SPLICE DETAIL "WB"

FLANGE PLATE SPLICE DETAIL "FA"

SECTION-BB

WEB CUTTING AND FLANGE BENDING DIAGRAMS FOR
GIRDERS 6G1B, 7G2B, 8G3B, 9G4B, 10G5B AT SOUTH LEG
GIRDERS 6G5D, 7G4D, 8G3D, 9G2D, 10G1D AT NORTH LEG

NOTES:
- FOR GENERAL SHOP NOTES SEE DRAWING GN1
- H2-3 INDICATES PLATES THAT REQUIRE CHARPY V-NOTCH TEST AT H FREQUENCY FOR ZONE 2
- ALL MATERIALS AASHTO M270M-GR HPS 485W

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	12/19	APPROVAL COMMENTS	ECO	PCP		
1	9/18/12	ADD WELDS & FLG SPLICES, GEOMETRIC CAMBER	ECO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
		AS NOTED	AS NOTED

DESCRIPTION: CAMBER DIAGRAMS

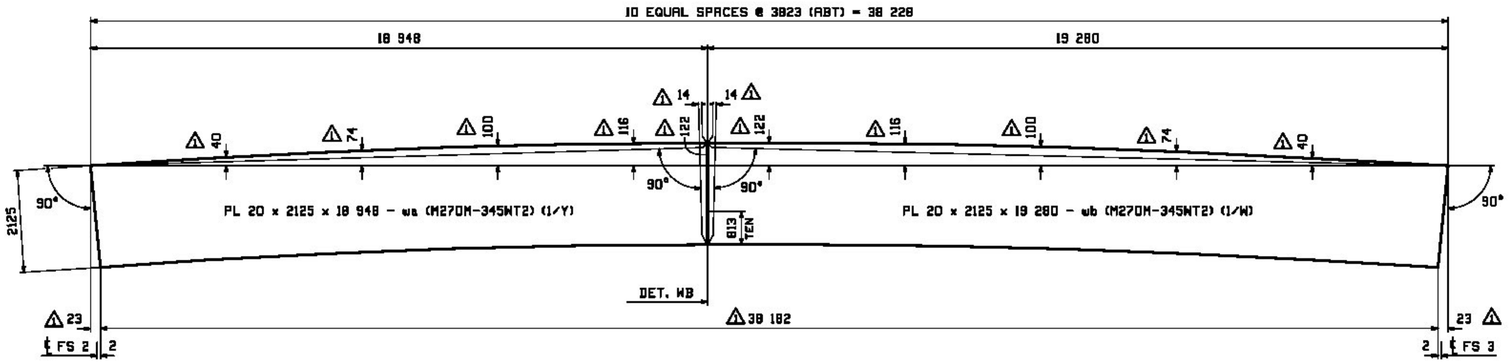
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR GROUP

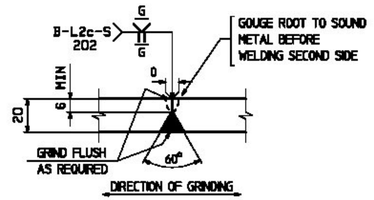
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
WJG	08/07
CHKD:	DATE:
SOB	08/09

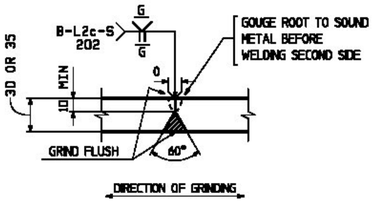
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	C2
CUSTOMER:	WINTERSET, INC.		REV. 2



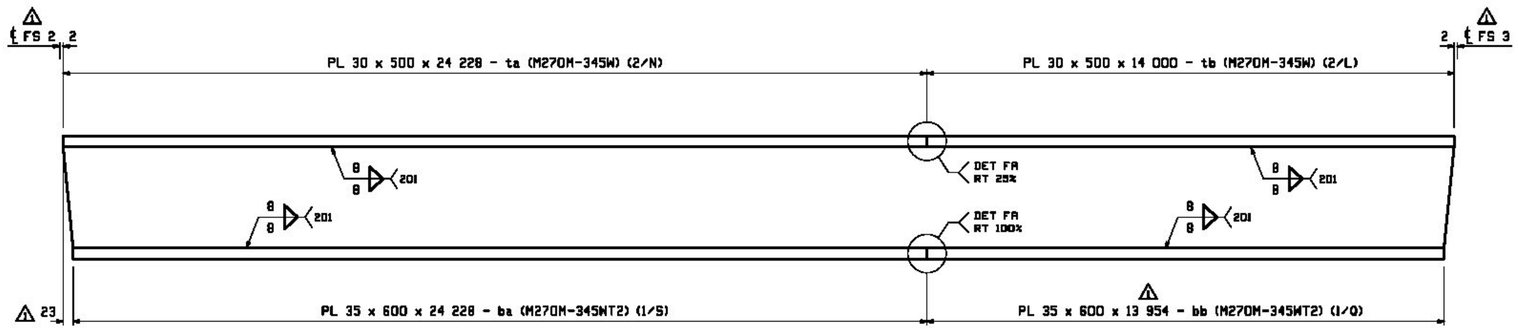
CAMBER DIAGRAM FOR GIRDERS 11G1C, 12G2C, 13G3C, 14G4C & 15G5C



WEB PLATE SPLICE DETAIL "WB"



FLANGE PLATE SPLICE DETAIL "FA"



FLANGE DIAGRAM FOR GIRDERS 11G1C, 12G2C, 13G3C, 14G4C & 15G5C

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 - DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2.

VERMONT
Agency of Transportation
X Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E. Bonneau — 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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Date October 24, 2012

McFarland Johnson

By D. Kull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	8/24/12	REV'D FIELD SPLICE LABELS, GEOMETRIC CAMBER	EEO	PCP		
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: | SHOP BOLTS:

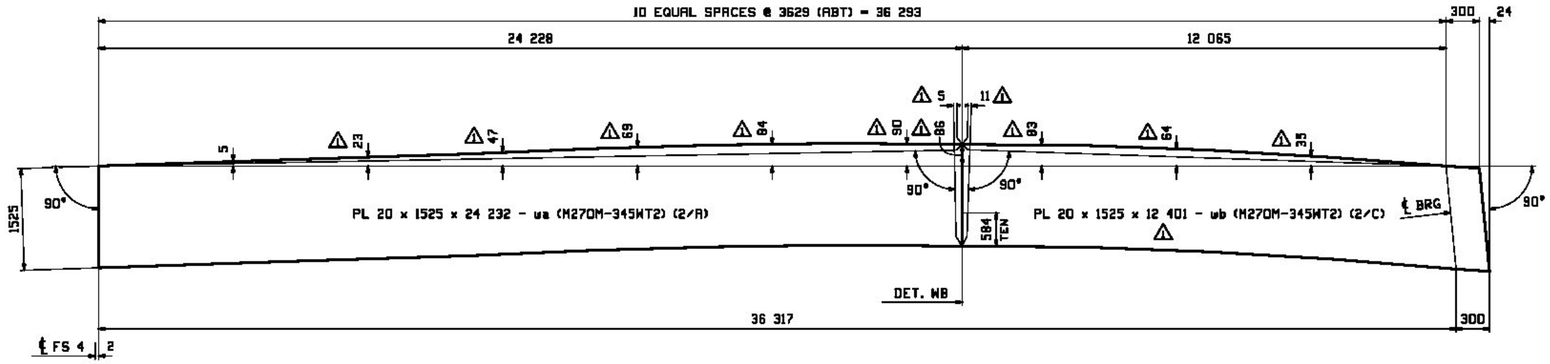
DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722
FAX. (207) 780-6726

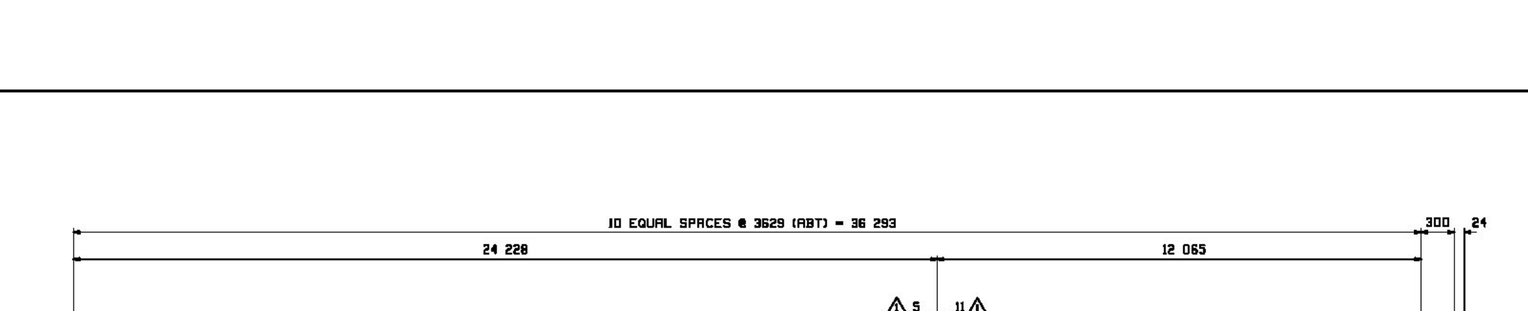
TENSOR 3032C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

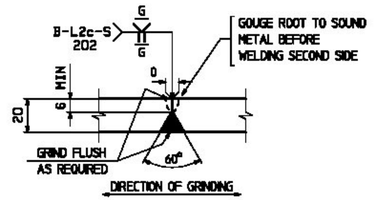
DRAWN:	EEO	DATE:	08/21
CHKD:	SOB	DATE:	08/27
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	C3
CUSTOMER:	WINTERSET, INC.		REV. 1



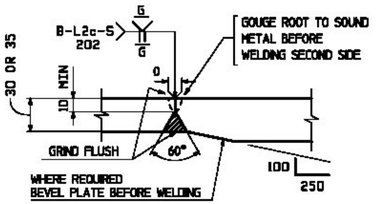
CAMBER DIAGRAM FOR GIRDERS 16G1E, 17G2E, 18G3E, 19G4E & 20G5E



FLANGE DIAGRAM FOR GIRDERS 16G1E, 17G2E, 18G3E, 19G4E & 20G5E



WEB PLATE SPLICE DETAIL "WB"



FLANGE PLATE SPLICE DETAIL "FA"

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 - DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	09/24	GEOMETRIC CAMBER	SOB	EEO		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 33.5FC

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/21
		CHKD: SOB	DATE: 08/27
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	C4
CUSTOMER:	WINTERSET, INC.		REV. 1

VERMONT
Agency of Transportation
X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit
Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12
Date

X Reviewed
__ Rejected
__ Furnish As Corrected
__ Revise and Resubmit

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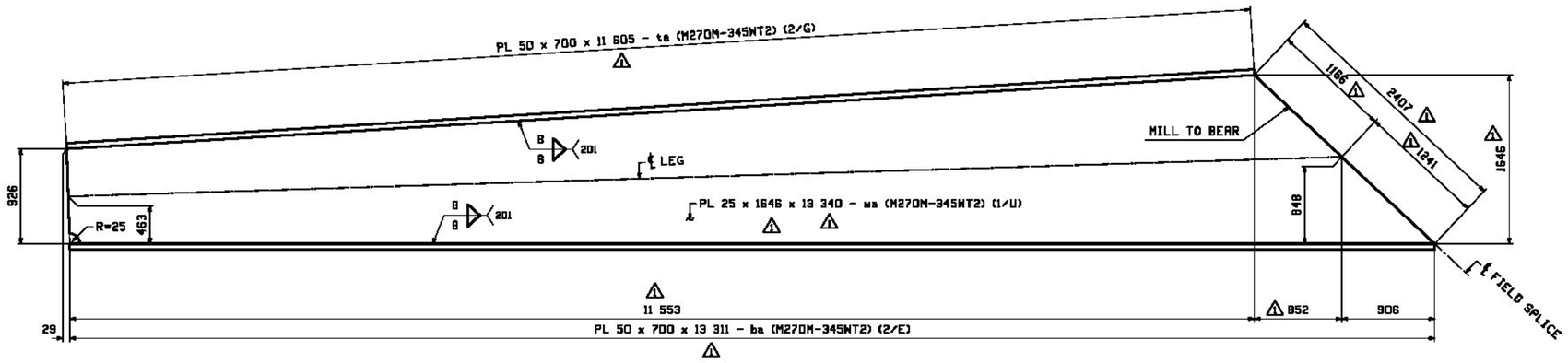
McFarland Johnson
Date October 24, 2012
By D. Kull

ED Thu Oct 4, 2012 08:51:41 M:\msm\jobs\1521\C\c1.dgn



WEB AND FLANGE CUTTING DIAGRAMS FOR GIRDERS

21L1S, 22L2S, 23L3S, 24L4S, 25L5S, 21L5N, 22L4N, 23L3N, 24L2N & 25L1N

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 - DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TEST AT H FREQ. FOR ZONE 2.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	09/21	GEOMETRIC CAMBER	SOB	EEO		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: CAMBER & FLANGE DIAGRAMS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3137C

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/23
		CHKD: SOB	DATE: 08/27
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	C5
CUSTOMER:	MINTERSET, INC.		REV. 1

VERMONT
Agency of Transportation

X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit

Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager

12/10/12
Date

X Reviewed
__ Rejected
__ Furnish As Corrected
__ Revise and Resubmit

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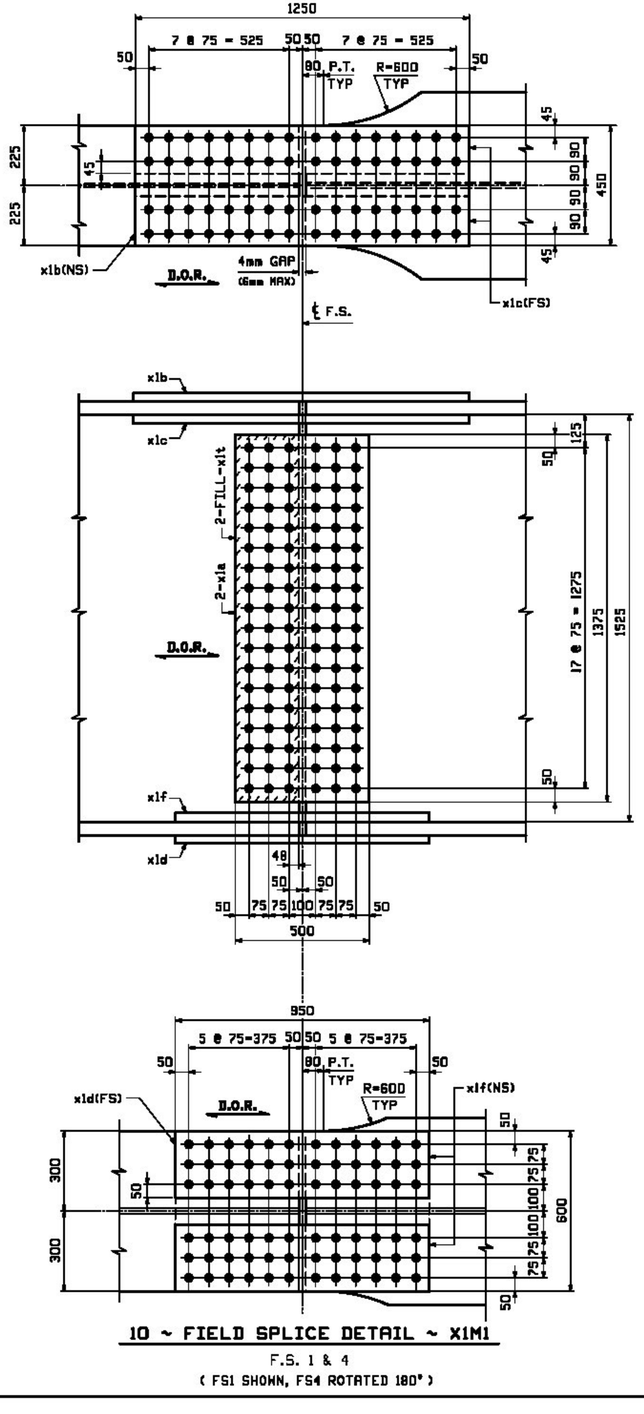
McFarland Johnson

Date October 24, 2012

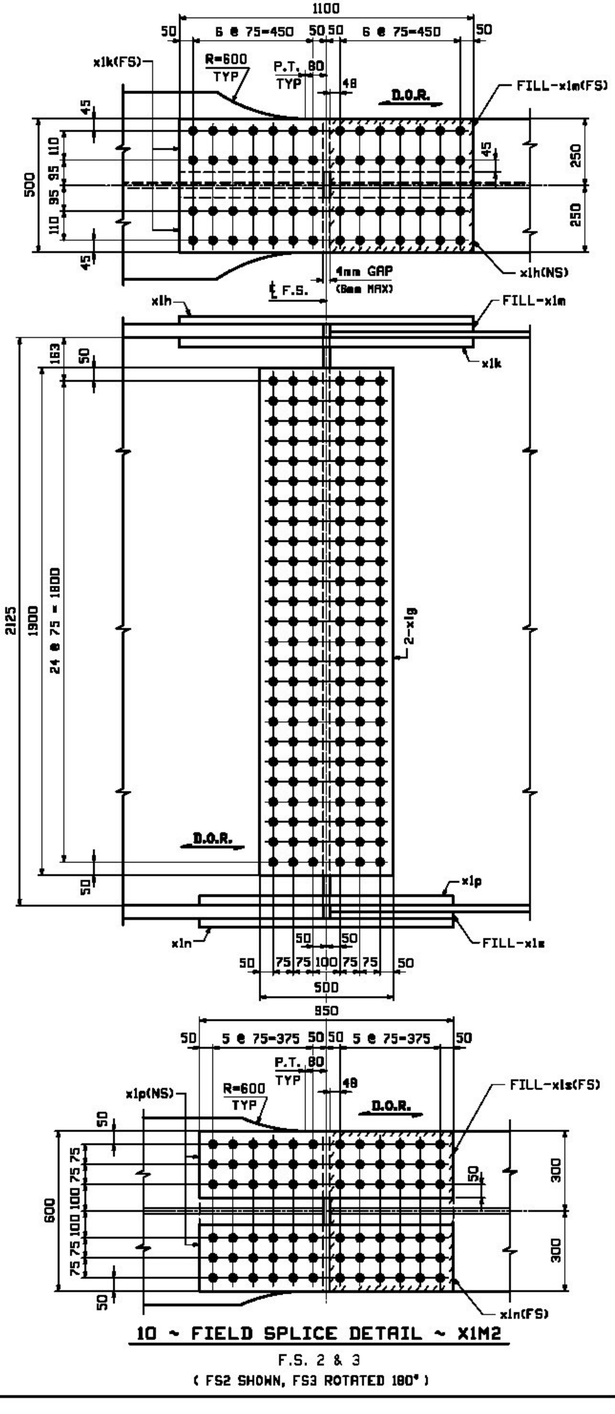
By D. Kull



10 ~ FIELD SPLICE DETAIL ~ X1M1

F.S. 1 & 4

(FS1 SHOWN, FS4 ROTATED 180°)



10 ~ FIELD SPLICE DETAIL ~ X1M2

F.S. 2 & 3

(FS2 SHOWN, FS3 ROTATED 180°)

FORM INFO		SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		X1M1	10		FIELD SPLICE	1 & 4			8992 kg 19812 lbs	
3	E		20	x1a	PL 14x1375	0	500	M270M-345WT2	75 kg 167 lbs	
3	F		10	x1b	PL 30x450	1	250	M270M-345WT2	133 kg 295 lbs	
3	G		20	x1c	PL 35x180	1	250	M270M-345WT2	62 kg 138 lbs	
3	H		10	x1d	PL 30x600	0	950	M270M-345WT2	134 kg 296 lbs	
3	J		20	x1f	PL 35x250	0	950	M270M-345WT2	89 kg 164 lbs	
3	S		20	x1t	PL 12 GA x 240	1	375	FILL M270M-1	7 kg 16 lbs	
		X1M2	10		FIELD SPLICE	2 & 3			800 kg 1788 lbs	
3	K		20	x1g	PL 14x1800	0	500	M270M-345WT2	104 kg 230 lbs	
3	L		10	x1h	PL 30x500	1	100	M270M-345WT2	130 kg 286 lbs	
3	M		20	x1k	PL 35x200	1	100	M270M-345WT2	69 kg 152 lbs	
3	Q		10	x1m	PL 20x500	0	548	FILL M270M-345WT2	43 kg 95 lbs	
3	N		10	x1n	PL 30x600	0	950	M270M-345WT2	134 kg 296 lbs	
3	P		20	x1p	PL 35x250	0	950	M270M-345WT2	89 kg 164 lbs	
3	R		10	x1s	PL 15x600	0	473	FILL M270M-345WT2	33 kg 74 lbs	

VERMONT
Agency of Transportation

X Approved
___ Furnish as Corrected
___ Rejected
___ Revise & Resubmit

Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager

12/10/12
Date

X Reviewed
___ Rejected
___ Furnish As Corrected
___ Revise and Resubmit

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

Date October 24, 2012

McFarland Johnson

By D. Kull

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. HOLES IN SPLICE PLATES ARE PRE-DRILLED.
3. ENDS OF GIRDERS ARE DRILLED FROM SOLID DURING SHOP ASSEMBLY, USING SPLICE PLATES AS A TEMPLATE.
4. T2 - DENOTES CHARPY V-NOTCH TESTING REQUIRED.
5. D.O.R. - DENOTES DIRECTION OF MILL ROLLING.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

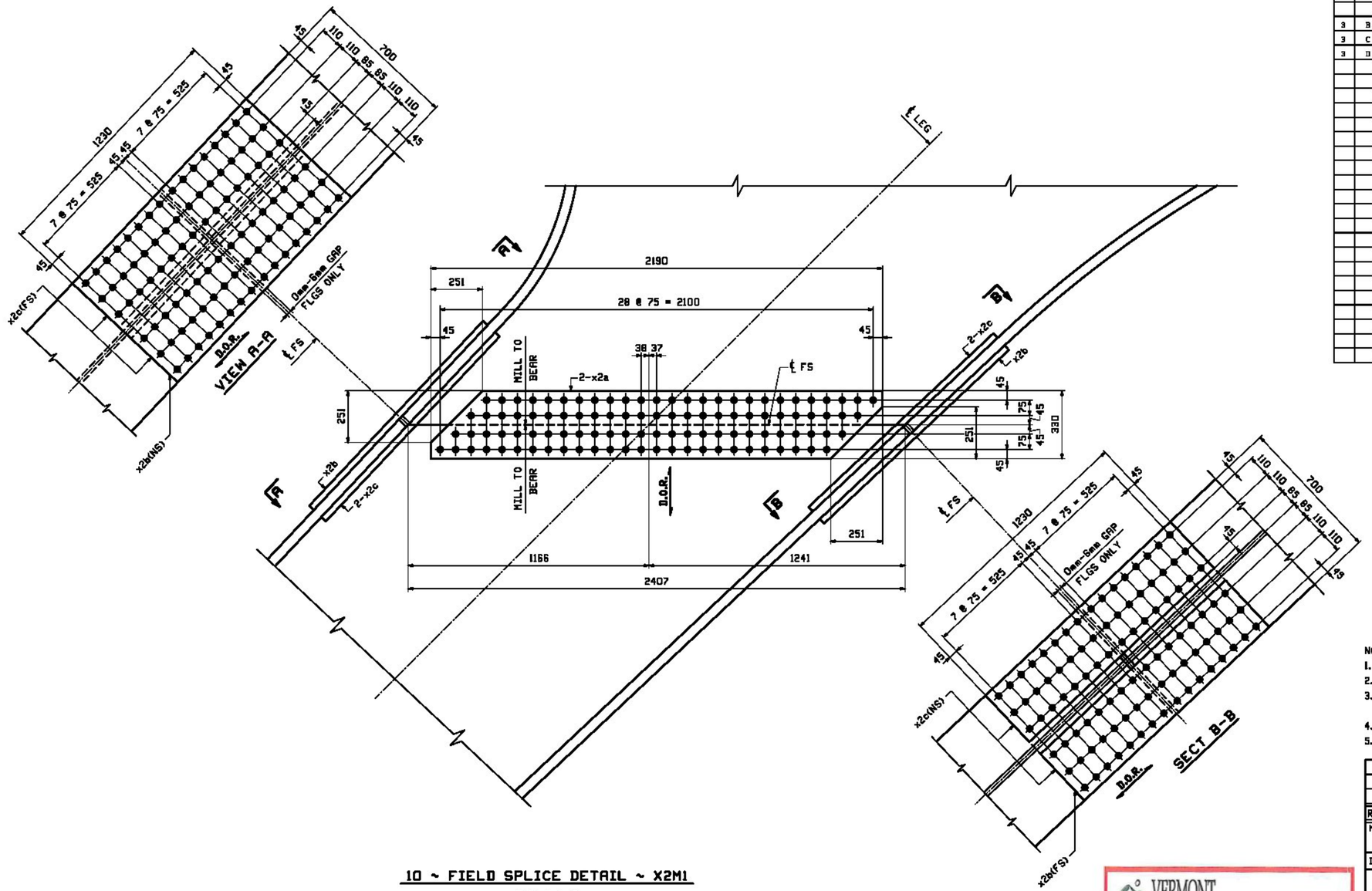
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE GN1	16ø	NONE

DESCRIPTION: FIELD SPLICE STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3032PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1		DRAWN: CRK	DATE: 08/17
		CHKD: PCP	DATE: 9/17/12
LOCATION: MORRISTOWN, VT		JOB NO. 521	DWG NO. X1
PROJ NO. STP F 029-1(2)C/1			REV. △
CUSTOMER: WINTERSET, INC.			



10 ~ FIELD SPLICE DETAIL ~ X2M1

F.S. 5 & 6

(FS5 SHOWN, FS6 ROTATED 180°)

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	X2	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		X2M1	10		FIELD SPLICE 5 & 6				884 kg 2032 lbs	
3	B		20	x2a	PL 14x2190	0	330	M270M-345WT2	78 kg 175 lbs	
3	C		20	x2b	PL 30x700	1	230	M270M-345WT2	808 kg 447 lbs	
3	D		40	x2c	PL 30x310	1	230	M270M-345WT2	80 kg 180 lbs	

Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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McFarland Johnson

Date October 24, 2012

By D. Kull

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.
2. HOLES IN SPLICE PLATES ARE PRE-DRILLED.
3. ENDS OF GIRDERS ARE DRILLED FROM SOLID DURING SHOP ASSEMBLY, USING SPLICE PLATES AS A TEMPLATE.
4. T2 - DENOTES CHARPY V-NOTCH TESTING REQUIRED.
5. D.O.R. - DENOTES DIRECTION OF MILL ROLLING.

VERMONT
Agency of Transportation

X Approved — Rejected

Furnish as Corrected — Revise & Resubmit

Douglas E Bonneau, P.E. — 12/10/12 Date

Structures Project Manager

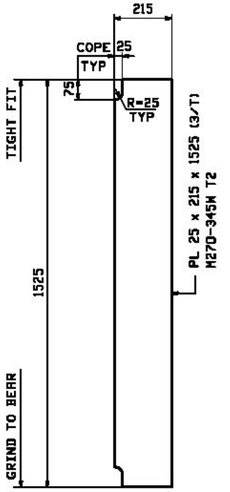
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE GN1	25Ø 16Ø	NONE

DESCRIPTION: FIELD SPLICE STANDARD DETAILS

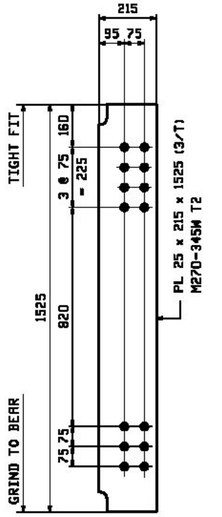
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/18
		CHKD: PCP	DATE: 9/17/12
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	X2
CUSTOMER:	WINTERSET, INC.		REV. 0



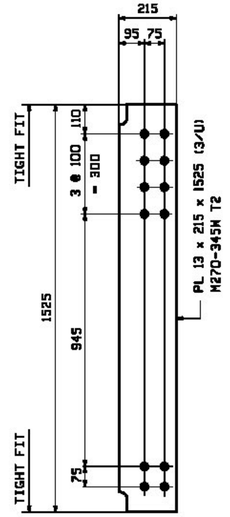
4 ~ BRG STIFFENERS ~ x3a

ABUT 1 & 2 - FASCIA
(TYPE D1)



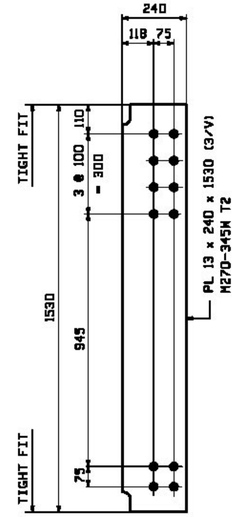
16 ~ BRG STIFFENERS ~ x3b

ABUT 1 & 2
(TYPE D1)



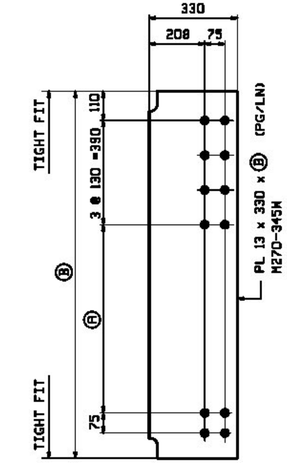
80 ~ CF CONN STIFF ~ x3c

(TYPE D2)



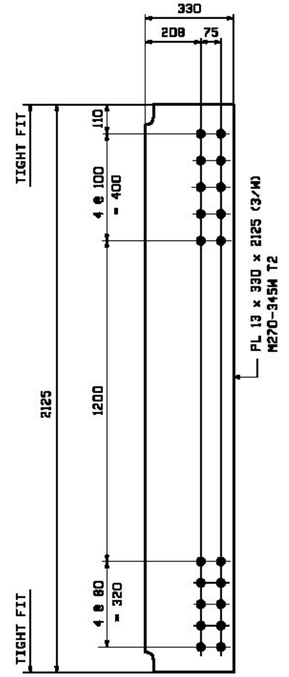
16 ~ CF CONN STIFF ~ x3d

(TYPE D3)



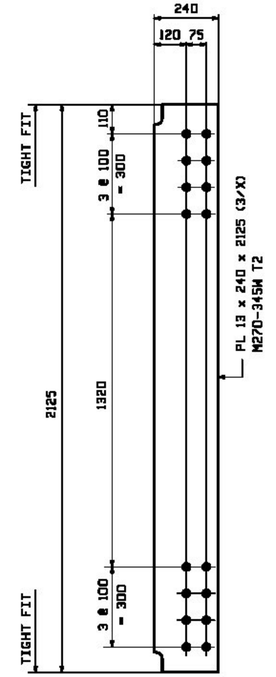
CF CONN STIFF ~ MARK A

MARK A	QTY	Ⓐ	Ⓑ	PG/LN	
x3m	16	928	1598	5/H	TYPE D6A
x3n	16	704	1374	5/J	TYPE D6B
x3p	16	480	1150	5/K	TYPE D6C



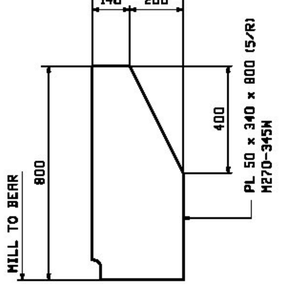
16 ~ CF CONN STIFF ~ x3f

(TYPE D4)



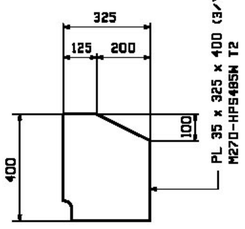
80 ~ CF CONN STIFF ~ x3g

(TYPE D5)



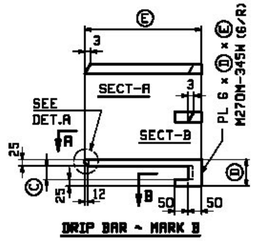
40 ~ BRG STIFFENERS ~ x3h

DELTA LEGS



360 ~ STIFFENERS ~ x3k

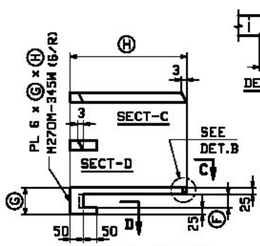
KNEES



DRIP BAR ~ MARK B



MARK B	QTY	Ⓒ	Ⓓ	Ⓔ	
x3aa	1	50	100	395	50x600 FLG
x3ab	3	50	100	440	50x700 FLG
x3ac	1	35	85	395	35x600 FLG



DRIP BAR ~ MARK C



MARK C	QTY	Ⓕ	Ⓖ	Ⓗ	
x3ad	1	50	100	395	50x600 FLG
x3af	3	50	100	440	50x700 FLG
x3ag	1	35	85	395	35x600 FLG

VERMONT
Agency of Transportation

X Approved
__ Furnish as Corrected
__ Rejected
__ Revise & Resubmit

Douglas E Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12
Date

__X__ Reviewed
____ Rejected
____ Furnish As Corrected
____ Revise and Resubmit

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McFarland Johnson
Date October 24, 2012
By D. Kull

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.
2. T2 DENOTES CHARPY V-NOTCH TESTING REQUIRED.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
AS NOTED	SEE GN1	13/16ø	NONE

DESCRIPTION: GIRDER STANDARD DETAILS

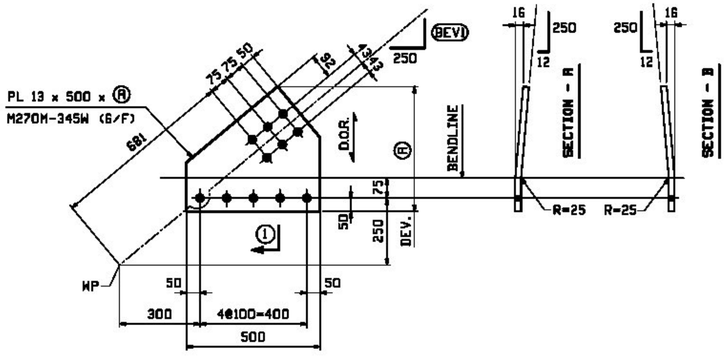
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 30.30PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

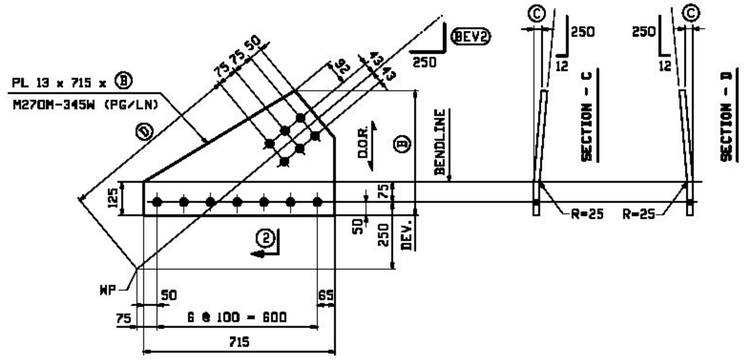
DRAWN:	DATE:
CRK	08/20
CHKD:	DATE:
PCP	9/17/12

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	X3
CUSTOMER:	WINTERSET, INC.		REV. 0



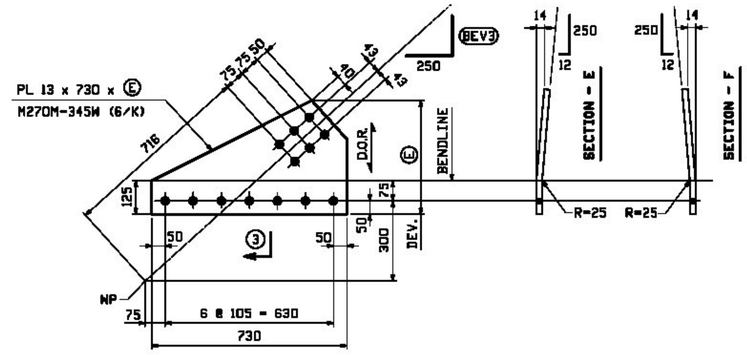
LAT GUSSET ~ MARK A

MARK A	QTY	Ⓐ	BEV1	①	
x4a	1	470	210	A	L3A - ABUT. 1
x4b	1	470	210	B	L3A - ABUT. 1
x4c	1	467	208	A	L3A - ABUT. 2
x4d	1	467	208	B	L3A - ABUT. 2



LAT GUSSET ~ MARK B

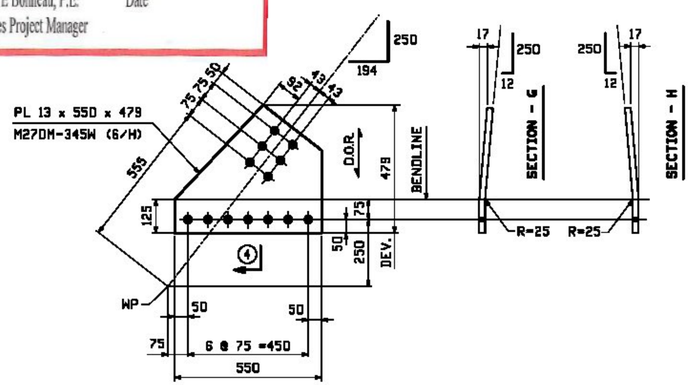
MARK B	QTY	Ⓑ	Ⓒ	Ⓓ	BEV2	②	PG/LN	
x4f	1	470	16	681	210	C	G/G	L3E
x4g	1	470	16	681	210	D	G/G	L3E
x4h	35	467	16	681	208	C	G/G	L3E
x4k	35	467	16	681	208	D	G/G	L3E
x4p	24	470	17	651	225	C	G/K	L3D & L3FS
x4q	24	470	17	651	225	D	G/K	L3D & L3FS



LAT GUSSET ~ MARK C

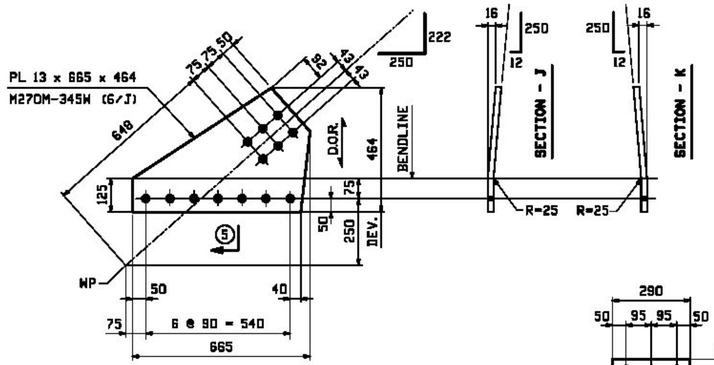
MARK C	QTY	Ⓔ	BEV3	③	
x4t	2	420	222	E	L3C
x4v	2	420	222	F	L3C
x4w	22	424	225	E	L3C
x4y	22	424	225	F	L3C

VERMONT
Agency of Transportation
X Approved
___ Furnish as Corrected
___ Rejected
___ Revise & Resubmit
Douglas E. Bonneau 12/10/12
Douglas E Bonneau, P.E. Date
Structures Project Manager



LAT GUSSET ~ MARK D

MARK D	QTY	④	
x4aa	4	G	L3B
x4ab	4	H	L3B



LAT GUSSET ~ MARK E

MARK E	QTY	⑤	
x4ac	2	J	L3B
x4ad	2	K	L3B

Reviewed ___ Furnish As Corrected
___ Rejected ___ Revise and Resubmit

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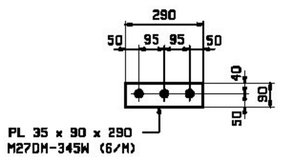
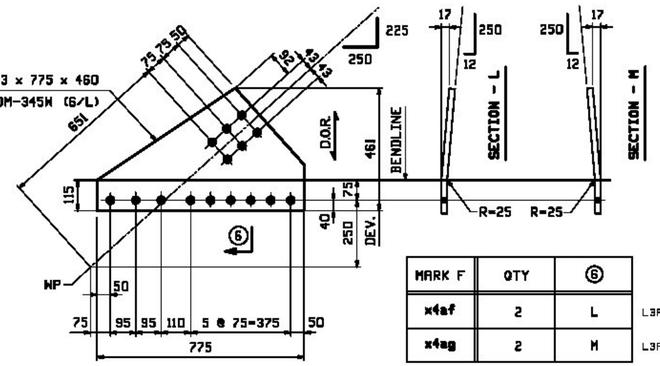
Date October 24, 2012
By D. Kull
McFarland Johnson



4 ~ FILL PLATE ~ x4ah
L3FS



MARK F	QTY	⑥	
x4af	2	L	L3FS
x4ag	2	M	L3FS

NOTES:
1. FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
AS NOTED	SEE GN1	15 @ 16	NONE

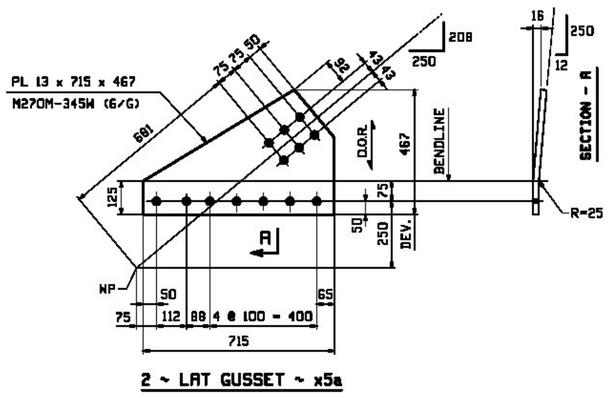
DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 33.5FC

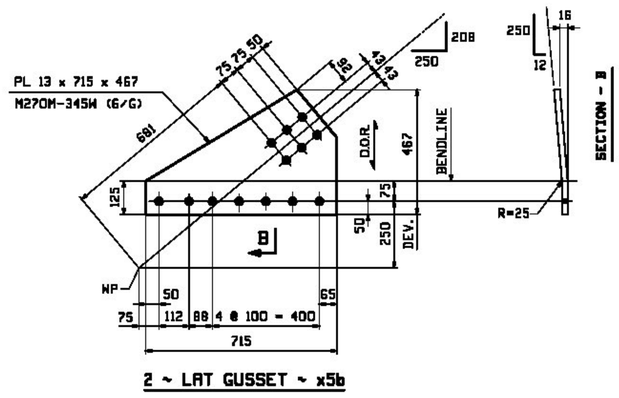
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

		DRAWN: CRK	DATE: 08/21
		CHKD: PCP	DATE: 9/17/12
LOCATION: MORRISTOWN, VT		JOB NO. 521	DWG NO. X4
PROJ NO. STP F 029-1(2)C/1			REV. △
CUSTOMER: WINTERSET, INC.			



2 ~ LAT GUSSET ~ x5a

L3E @ SHOP SPL



2 ~ LAT GUSSET ~ x5b

L3E @ SHOP SPL

NOTES:

1. FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
AS NOTED	SEE GN1	15/16ø	NONE

DESCRIPTION: GIRDER STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TEKLA STRUCTURES

STRUCTURE:	DRAWN:	DATE:
VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	CRK	08/24
	CHKD: PCP	DATE: 9/17/12
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1	521	X5
CUSTOMER: WINTERSET, INC.		REV. △

VERMONT
Agency of Transportation

X Approved — Rejected

Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau 12/10/12

Douglas E Bonneau, P.E. Date

Structures Project Manager

X Reviewed — Furnish As Corrected

Rejected — Revise and Resubmit

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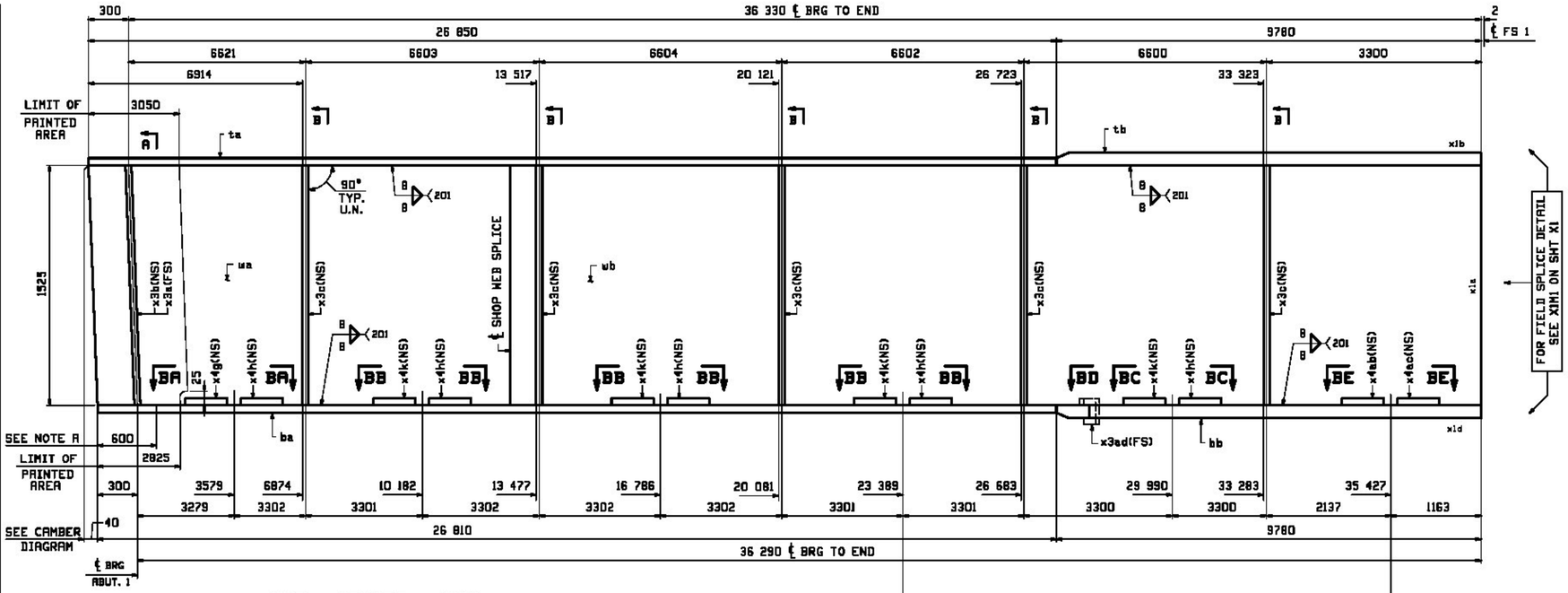
McFarland Johnson

Date October 24, 2012

By D. Kull

PCP Thu, Sep 13, 2012 3:06:43 PM J:\projects\jobs\521\CAD\X5.1.dwg

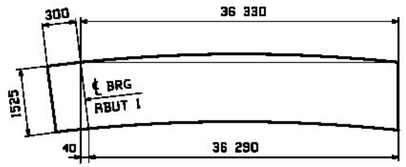


ONE - GIRDER - 1G1A

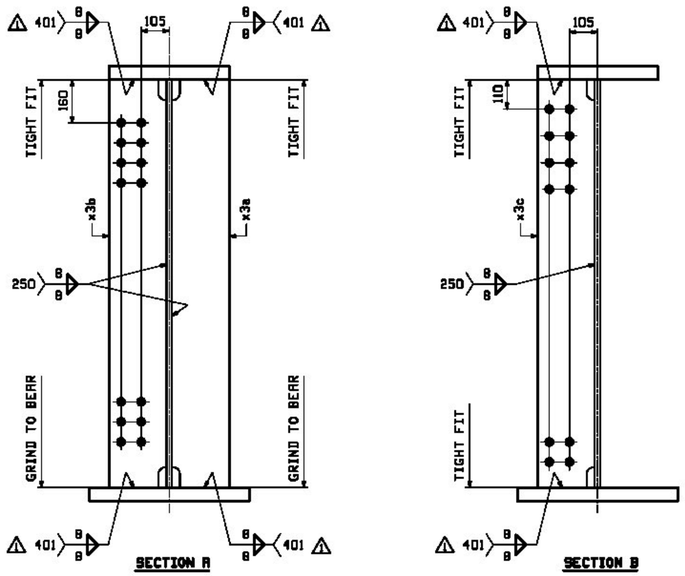
NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.

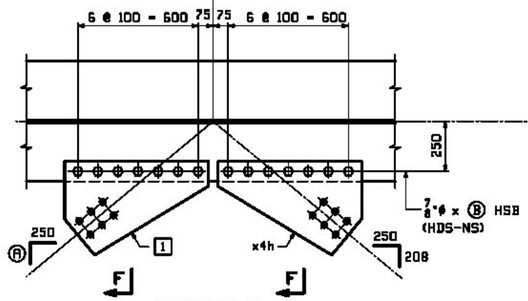
FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

INFO PAGE	INFO LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		1G1A	1		GIRDER				20009 kg 43825 lbs	
2	C		1	wa	PL 20x1525	12	402	M270M-345MT2	3981 kg 8765 lbs	
2	A		1	wb	PL 20x1525	24	232	M270M-345MT2	3832 kg 8781 lbs	
2	Q		1	ta	PL 30x450	26	850		2945 kg 6823 lbs	
2	J		1	tb	PL 50x450	9	780		1727 kg 3809 lbs	
1	N		1	ba	PL 35x600	25	610	M270M-345MT2	4420 kg 9744 lbs	
1	L		1	bb	PL 50x600	9	780	M270M-345MT2	2303 kg 5078 lbs	
3	T		1	x3a	PL 25x215	1	525	MIE M270M-345MT2	64 kg 142 lbs	
3	T		1	x3b	PL 25x215	1	525	MIE M270M-345MT2	64 kg 142 lbs	
3	U		5	x3c	PL 13x215	1	525	M270M-345MT2	33 kg 74 lbs	
6	R		1	x3ad	PL 6x100	0	395		2 kg 4 lbs	
6	G		1	x4g	PL 13x715	0	470	(BENT)	34 kg 76 lbs	
6	G		5	x4h	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
6	G		4	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
6	H		1	x4ab	PL 13x550	0	479	(BENT)	27 kg 59 lbs	
6	J		1	x4ac	PL 13x665	0	464	(BENT)	31 kg 68 lbs	
8	F		56		7/8 ϕ HSB	0	3 1/4	(RCT) S2B2K-S	.37 kg .81 lbs	
8	J		28		7/8 ϕ HSB	0	4	(RCT) S2B4K-S	.47 kg .91 lbs	
8	P		84		7/8 ϕ HSN			(RCT) S2B3 (SER-DUM)	.34 kg .20 lbs	
8	Q		84		7/8 ϕ HSW			F436A-S	.43 kg .217 lbs	

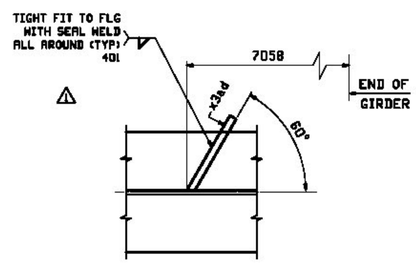


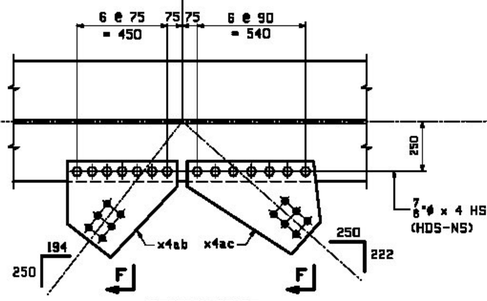
ORIENTATION DIAGRAM

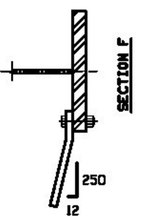




SECTION	1	Ⓐ	Ⓑ
BA-BA	x4g	210	3 1/4
BB-BB	x4k	208	3 1/4
BC-BC	x4k	208	4







Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E. Bonneau, P.E. Date
Structures Project Manager

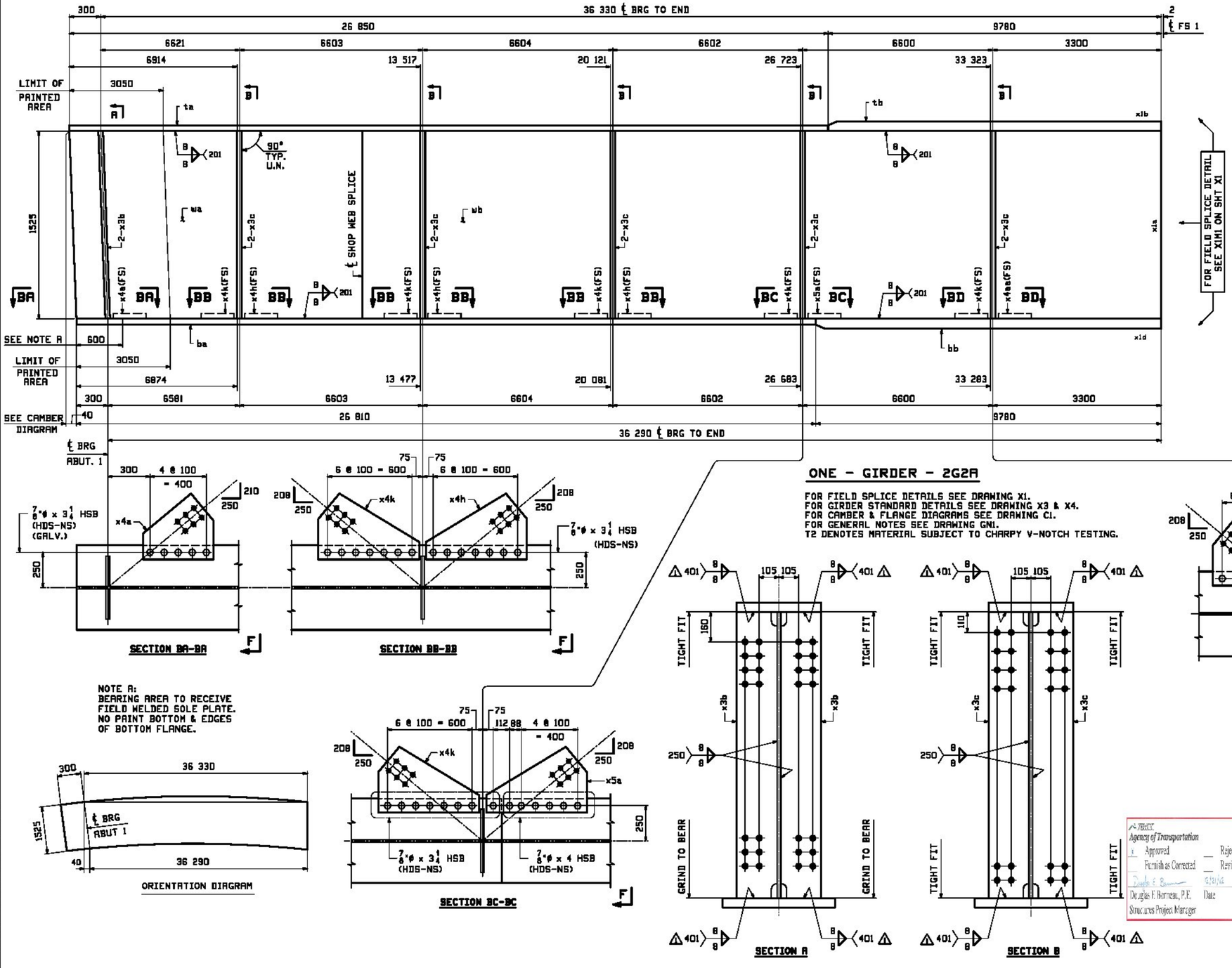
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EED	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16ϕ	AS NOTED

DESCRIPTION: GIRDER DETAIL - 1G1A

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/23
		CHKD: PCP	DATE: 9/17/12
LOCATION:	MORRISTOWN, VT	JOB NO. 521	DWG NO. 1
PROJ NO.	STP F 029-1(2)C/1		REV. 1
CUSTOMER:	WINTERSET, INC.		



FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	2	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		2G2A	1		GIRDER				20967 kg 46218 lbs	
2	C		1	wa	PL 20x1525	12	402	M270M-345W T2	2965 kg 6538 lbs	
2	A		1	wb	PL 20x1525	24	232	M270M-345W T2	5832 kg 12751 lbs	
2	Q		1	ta	PL 30x450	25	850		2845 kg 6273 lbs	
2	J		1	tb	PL 50x450	9	780		1727 kg 3808 lbs	
1	N		1	ba	PL 35x600	28	810	M270M-345W T2	4420 kg 9744 lbs	
1	L		1	bb	PL 50x600	9	780	M270M-345W T2	2833 kg 6070 lbs	
3	T		2	x3b	PL 25x215	1	525	MIE M270M-345W T2	84 kg 185 lbs	
3	U		10	x3c	PL 13x215	1	525	M270M-345W T2	33 kg 74 lbs	
5	F		1	x4a	PL 13x500	0	470	(BENT)	24 kg 53 lbs	
5	G		3	x4h	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	G		5	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4aa	PL 13x550	0	479	(BENT)	27 kg 59 lbs	
5	G		1	x5a	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
8	F		50		7/8 ø HSB	0	3 1/4	(RCT) M164M-3	.47 kg .81 lbs	
8	J		20		1 ø HSB	0	4	(RCT) M164M-3	.37 kg .81 lbs	
8	P		70		7/8 ø HSN			(RCT) M164 (GR-DH3)	.13 kg .301 lbs	
8	Q		70		7/8 ø HSN			F436M-3	.113 kg .07 lbs	
8	F		5		7/8 ø HSB	0	3 1/4	(RCT)(GALV) M164M-3	.47 kg .81 lbs	
8	P		5		7/8 ø HSN			(RCT)(GALV) M164 (GR-DH3)	.18 kg .301 lbs	
8	Q		5		1 ø HSN			(GALV) F436M-3	.103 kg .07 lbs	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W UN
SURFACE PREP. & PAINT: SEE GN1
HOLES: 15/16ø
SHOP BOLTS: AS NOTED
DESCRIPTION: GIRDER DETAIL - 2G2A

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726
TENSOR SSPC

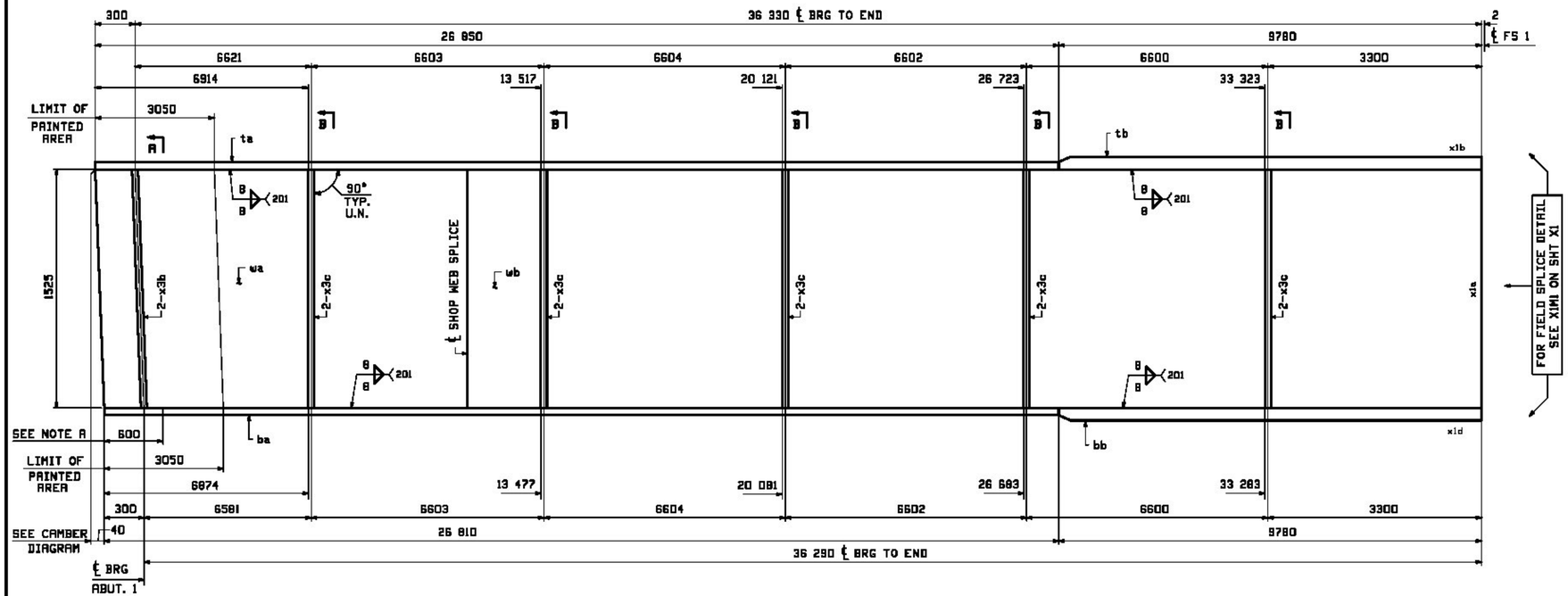
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: CRK DATE: 08/24
CHKD: PCP DATE: 9/17/12

LOCATION: MORRISTOWN, VT
JOB NO. 521
DWG NO. 2
PROJ NO. STP F 029-1(2)C/1
REV. 1
CUSTOMER: WINTERSET, INC.

VTRANS Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E. Burnham, P.E. Date 9/19/12
Structures Project Manager

PCP Wed, Dec 19, 2012 8:08:02 PM J:\projects\jobs\521\C2\2_1.dwg



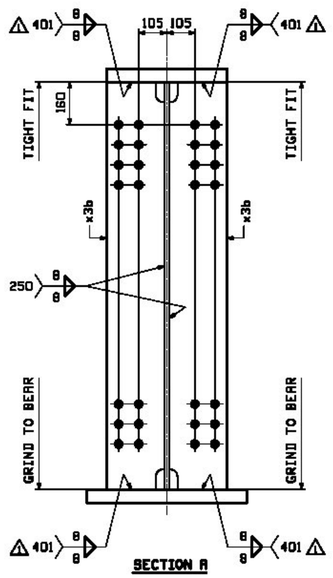
FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	3	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		3G3A	1		GIRDER				82930 kg 182780 lbs	
2	C		1	wa	PL 20x1525	12	402	M270M-345WT2	2965 kg 6538 lbs	
2	A		1	wb	PL 20x1525	24	232	M270M-345WT2	5852 kg 12901 lbs	
2	Q		1	ta	PL 30x450	25	650		2845 kg 6273 lbs	
2	J		1	tb	PL 50x450	9	780		1727 kg 3808 lbs	
1	N		1	ba	PL 35x600	28	810	M270M-345WT2	4420 kg 9744 lbs	
1	L		1	bb	PL 50x600	9	780	M270M-345WT2	2803 kg 6179 lbs	
3	T		2	x3b	PL 25x215	1	525	MIE M270M-345WT2	84 kg 185 lbs	
3	U		10	x3c	PL 13x215	1	525	M270M-345WT2	33 kg 74 lbs	

Agency of Transportation
X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit
Douglas E Bonneau, P.E. 12/12/12
Douglas E Bonneau, P.E. Date
Structures Project Manager

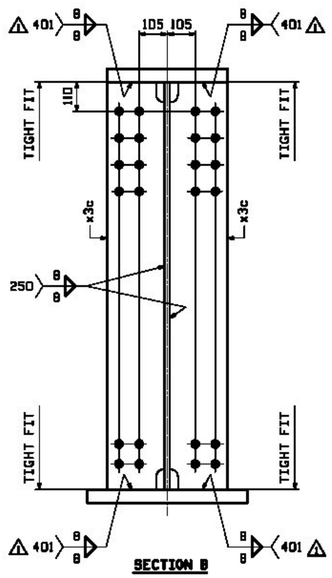
NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.

ONE - GIRDER - 3G3A

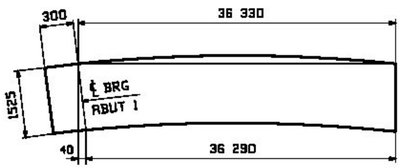
FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A



SECTION B



ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16ø	AS NOTED

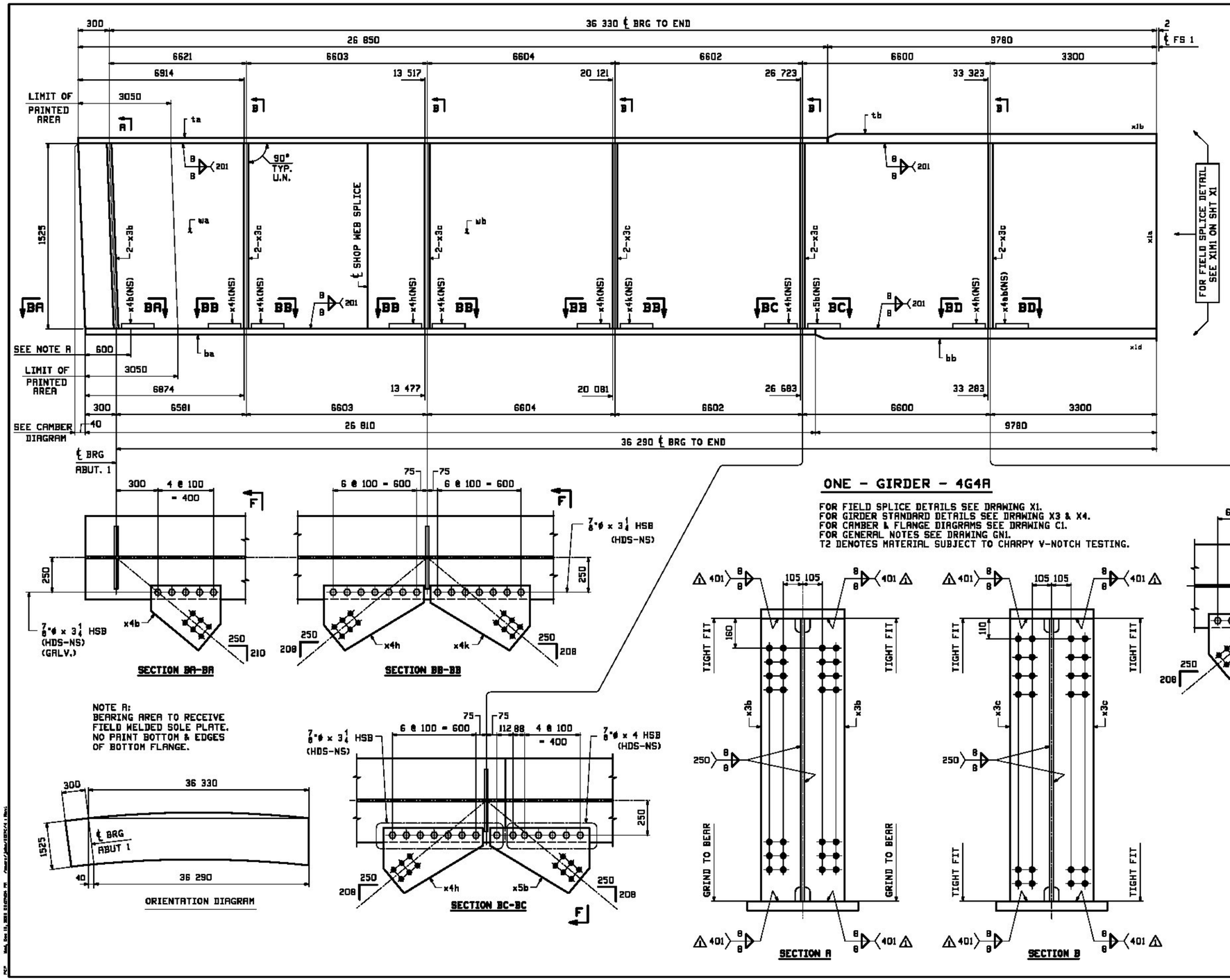
DESCRIPTION: GIRDER DETAIL - 3G3A

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR SS350C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1		DRAWN: CRK	DATE: 08/25
		CHKD: PCP	DATE: 9/17/12
LOCATION: MORRISTOWN, VT		JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1		521	3
CUSTOMER: WINTERSET, INC.			REV. ⚠

Wed, Dec 12, 2012 11:08:05 PM //casco/share/CAD/...
PCP



FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	4	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		4G4A	1		GIRDER				20967 kg 46218 lbs	
2	C		1	wa	PL 20x1525	12	402	M270M-345WT2	2065 kg 4558 lbs	
2	A		1	wb	PL 20x1525	24	232	M270M-345WT2	3832 kg 8751 lbs	
2	Q		1	ta	PL 30x450	25	650		3845 kg 8273 lbs	
2	J		1	tb	PL 50x450	9	780		1727 kg 3808 lbs	
1	N		1	ba	PL 35x600	28	810	M270M-345WT2	4420 kg 9741 lbs	
1	L		1	bb	PL 50x600	9	780	M270M-345WT2	2808 kg 6190 lbs	
3	T		2	x3b	PL 25x215	1	525	MIE M270M-345WT2	84 kg 185 lbs	
3	U		10	x3c	PL 13x215	1	525	M270M-345WT2	33 kg 74 lbs	
5	F		1	x4b	PL 13x500	0	470	(BENT)	24 kg 53 lbs	
5	G		9	x4h	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	G		3	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4ab	PL 13x550	0	479	(BENT)	27 kg 59 lbs	
5	G		1	x5b	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
8	F		50		7/8 ø HSB	0	3 1/4	(RCT) M164M-3	.27 kg .61 lbs	
8	J		20		3/4 ø HSB	0	4	(RCT) M164M-3	.27 kg .61 lbs	
8	P		70		7/8 ø HHN			(RCT) S348 (GR-IH-H)	.13 kg .301 lbs	
8	Q		70		7/8 ø HSN			F436M-3	.013 kg .07 lbs	
8	F		5		7/8 ø HSB	0	3 1/4	(RCT)(GALV) M164M-3	.27 kg .61 lbs	
8	P		5		7/8 ø HHN			(RCT)(GALV) M164 (HDG)	.13 kg .30 lbs	
8	Q		5		7/8 ø HSN			(GALV) F436M-3	.013 kg .07 lbs	

AASHTO
Agency of Transportation
☒ Approved ☐ Rejected
☐ Furnish as Corrected ☐ Revise & Resubmit
Douglas E. Bornman, P.E. 9/21/12
Structures Project Manager Date

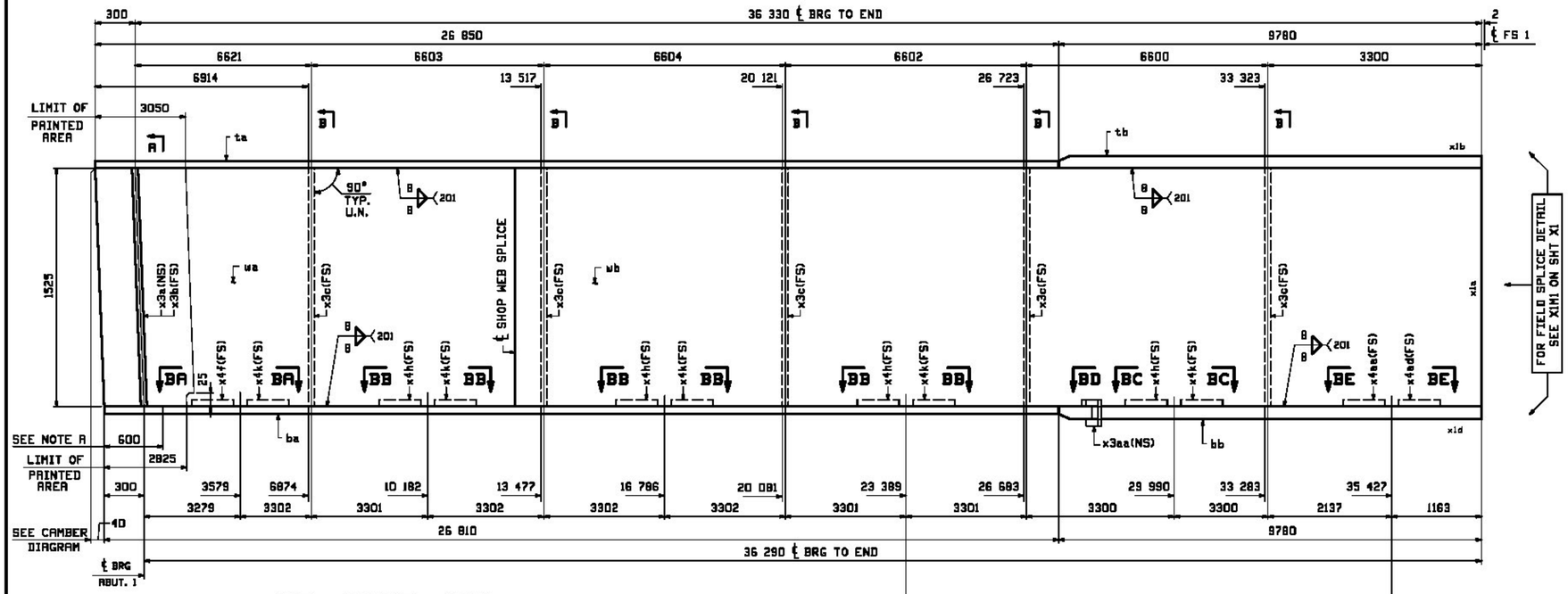
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	13/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 4G4A

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TEKLA STRUCTURES 2012PC

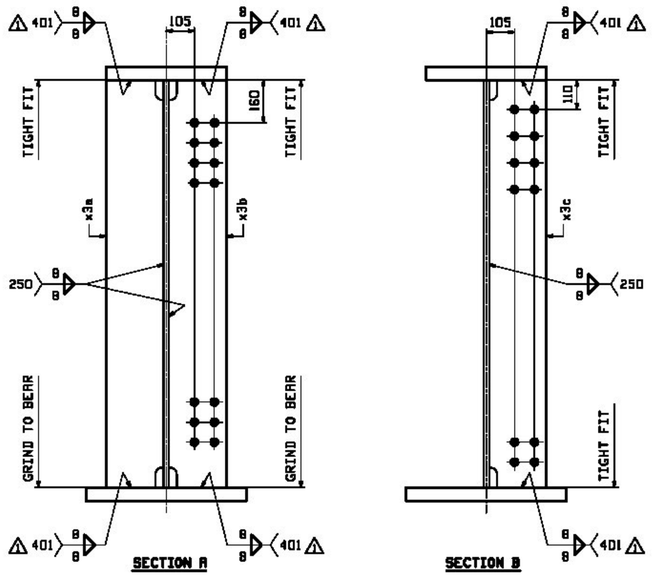
STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/25
		CHKD: PCP	DATE: 9/17/12
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	4
CUSTOMER:	WINTERSET, INC.		REV. ⚠



ONE - GIRDER - 5G5A

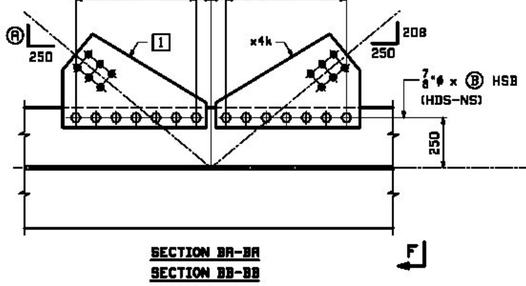
NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



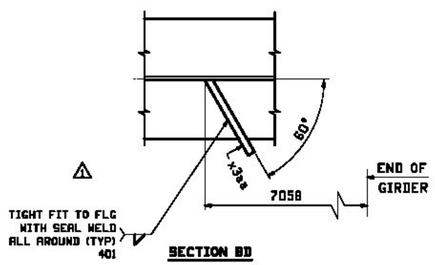
SECTION A

SECTION B



SECTION BA-BA
SECTION BB-BB
SECTION BC-BC

SECTION	1	Ⓐ	Ⓑ
BA-BA	x4f	210	3 1/4
BB-BB	x4h	208	3 1/4
BC-BC	x4h	208	4



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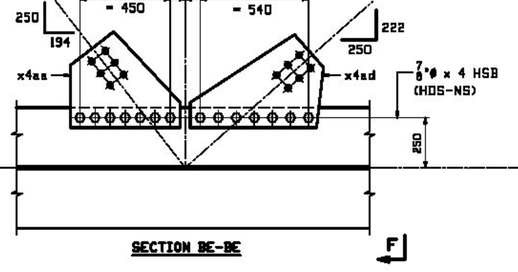

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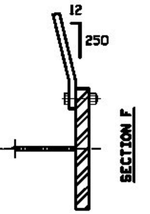
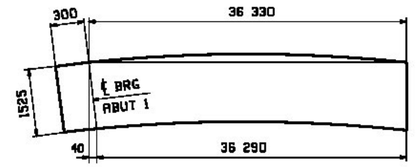




ORIENTATION DIAGRAM

FORM INFO		SHOP	BILL OF MATERIAL						JOB NO.	DRAWING NO.	REV.
									521	5	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		5G5A	1		GIRDER				20809 kg 45870 lbs	
2	C		1	wa	PL 20x1525	12	402	M270M-345MT2	2965 kg 6538 lbs	
2	A		1	wb	PL 20x1525	24	232	M270M-345MT2	5802 kg 12791 lbs	
2	Q		1	ta	PL 30x450	25	650		2845 kg 6273 lbs	
2	J		1	tb	PL 50x450	9	780		1727 kg 3808 lbs	
1	N		1	ba	PL 35x600	28	810	M270M-345MT2	4420 kg 9744 lbs	
1	L		1	bb	PL 50x600	9	780	M270M-345MT2	2808 kg 6190 lbs	
3	T		1	x3a	PL 25x215	1	525	MIE M270M-345MT2	84 kg 185 lbs	
3	T		1	x3b	PL 25x215	1	525	MIE M270M-345MT2	84 kg 185 lbs	
3	U		5	x3c	PL 13x215	1	525	M270M-345MT2	33 kg 74 lbs	
5	R		1	x3aa	PL 6x100	0	395		2 kg 4 lbs	
5	G		1	x4f	PL 13x715	0	470	(BENT)	34 kg 76 lbs	
5	G		4	x4h	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	G		5	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4aa	PL 13x550	0	479	(BENT)	27 kg 59 lbs	
5	J		1	x4ad	PL 13x665	0	464	(BENT)	51 kg 113 lbs	
8	F		56		7/8 ø HSB	0	3 1/4	(RCT) 7982M-2	37 kg 81 lbs	
8	J		28		7/8 ø HSB	0	4	(RCT) 7982M-2	37 kg 81 lbs	
8	P		84		7/8 ø HSN			(RCT) 7962 (GR-2H3)	14 kg 30 lbs	
8	Q		84		7/8 ø HSW			7982M-2	103 kg 227 lbs	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16ø	AS NOTED

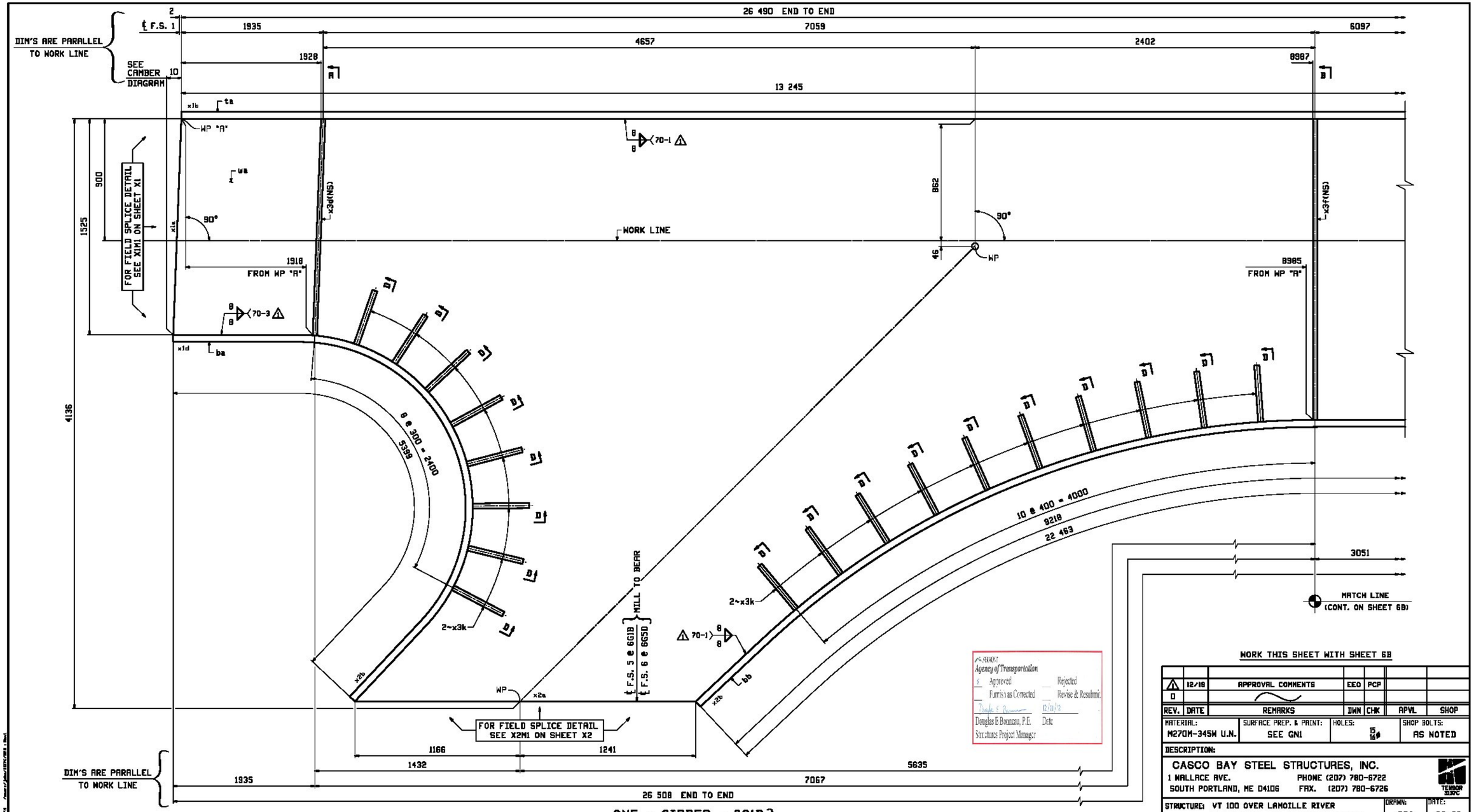
DESCRIPTION: GIRDER DETAIL - 5G5A

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 2030C

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/25
		CHKD: PCP	DATE: 9/17/12
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	5
CUSTOMER:	WINTERSET, INC.		REV. ⚠

VTRANS Agency of Transportation
☒ Approved ☐ Rejected
☐ Furnish as Corrected ☐ Revise & Resubmit
Douglas E. Barneau 12/21/12
Douglas E. Barneau, P.E. Date
Structures Project Manager



WORK THIS SHEET WITH SHEET 6B

ONE - GIRDER - 6G1B
ONE - GIRDER - 6G5D
ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

Agency of Transportation
Approved / Rejected
Furnish as Corrected / Revise & Resubmit
Douglas E Bonneau, P.E. Date
Structures Project Manager

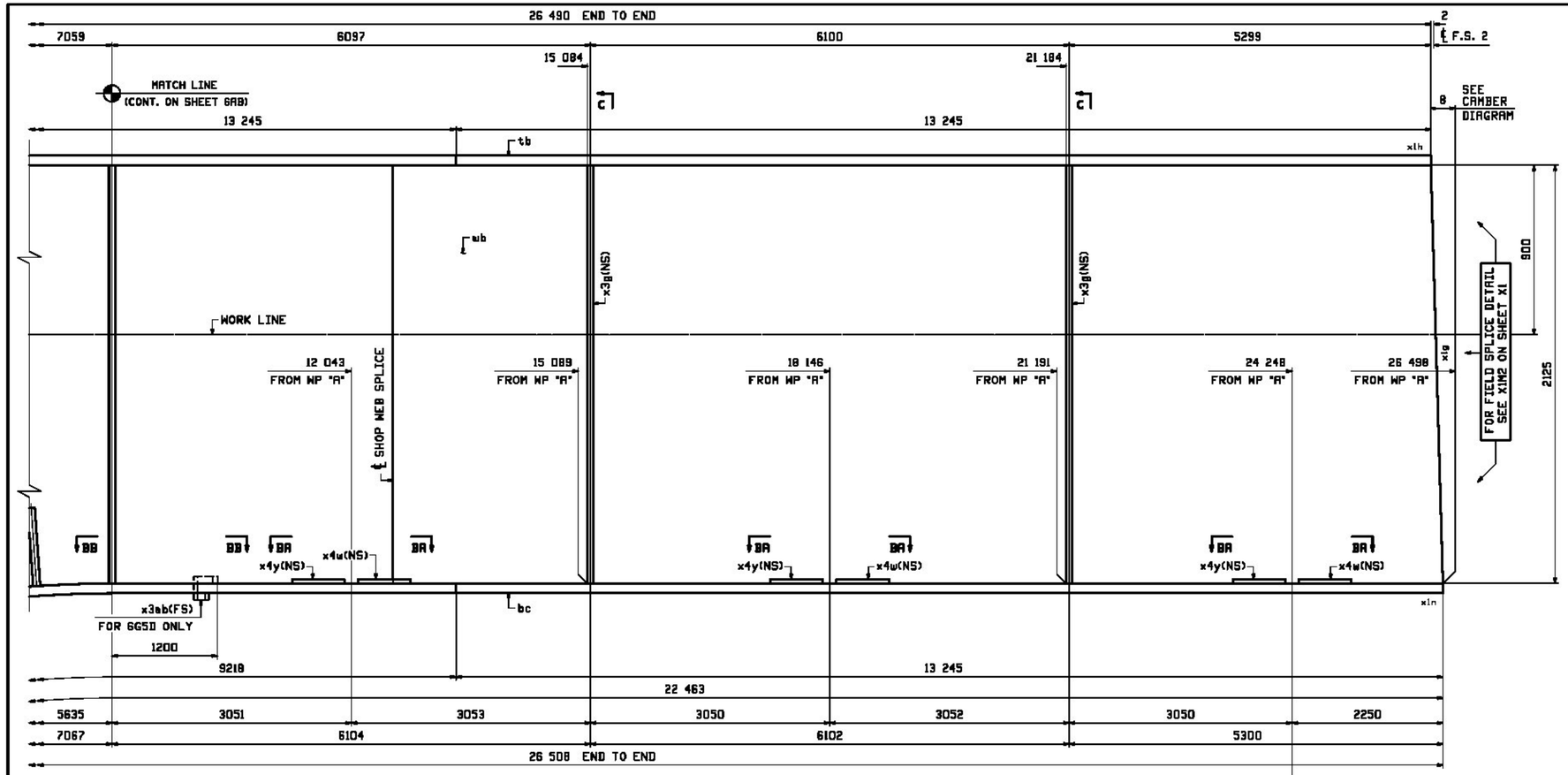
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N.	SURFACE PREP. & PAINT: SEE GN1	HOLES: 15/16 ø	SHOP BOLTS: AS NOTED

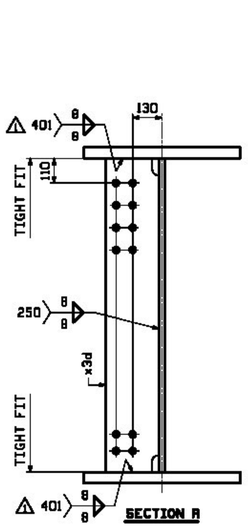
DESCRIPTION:

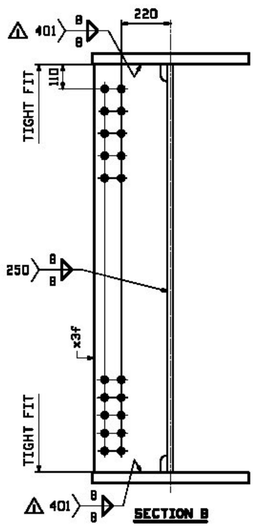
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

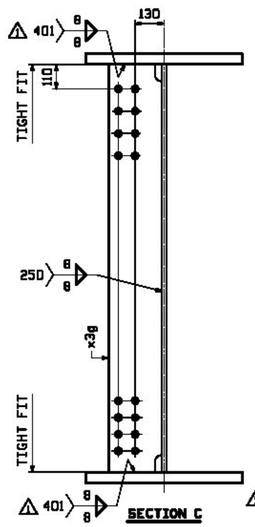
STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/23	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	6AB	
CUSTOMER: WINTERSET, INC.		REV. 1	



FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	6B	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		GG1B	1		GIRDER				8480 kg 18696 lbs	
1	G		1	wa	PL 25x4127	12	453	M270M-HPS485W(70W)	2066 kg 4556 lbs	
1	J		1	wb	PL 20x2125	14	058	M270M-HPS485W(70W)	4880 kg 10760 lbs	
1	A		1	ta	PL 50x700	13	245	M270M-HPS485W(70W)	3635 kg 8015 lbs	
1	A		1	tb	PL 50x700	13	245	M270M-HPS485W(70W)	3635 kg 8015 lbs	
1	E		1	ba	PL 50x700	5	389	M270M-HPS485W(70W)	1429 kg 3150 lbs	
1	C		1	bb	PL 50x700	9	218	M270M-HPS485W(70W)	2533 kg 5584 lbs	
1	A		1	bc	PL 50x700	13	245	M270M-HPS485W(70W)	3635 kg 8015 lbs	
3	V		1	x3d	PL 13x240	1	530	M270M-345W(50W)	37 kg 83 lbs	
3	M		1	x3f	PL 13x330	2	125	M270M-345W(50W)	72 kg 158 lbs	
3	X		2	x3g	PL 13x240	2	125	M270M-345W(50W)	52 kg 115 lbs	
3	Y		36	x3k	PL 35x325	0	400	M270M-HPS485W(70W)	38 kg 79 lbs	
6	K		3	x4w	PL 13x730	0	424	(BENT)	50 kg 70 lbs	
6	K		3	x4y	PL 13x730	0	424	(BENT)	35 kg 70 lbs	
8	J		42		7/8 ø HSB	0	4	(RCT) G2B2M-S	37 kg 81 lbs	
8	P		42		7/8 ø HSN			(RCT) G2B3 (G2-3H3)	14 kg 30 lbs	
8	Q		42		7/8 ø HSW			F436M-S	43 kg 97 lbs	
		GG5D	1		GIRDER				8492 kg 18723 lbs	
1	G		1	wa	PL 25x4127	12	453	M270M-HPS485W(70W)	2066 kg 4556 lbs	
1	J		1	wb	PL 20x2125	14	058	M270M-HPS485W(70W)	4880 kg 10760 lbs	
1	A		1	ta	PL 50x700	13	245	M270M-HPS485W(70W)	3635 kg 8015 lbs	
1	A		1	tb	PL 50x700	13	245	M270M-HPS485W(70W)	3635 kg 8015 lbs	
1	E		1	ba	PL 50x700	5	389	M270M-HPS485W(70W)	1429 kg 3150 lbs	
1	C		1	bb	PL 50x700	9	218	M270M-HPS485W(70W)	2533 kg 5584 lbs	
1	A		1	bc	PL 50x700	13	245	M270M-HPS485W(70W)	3635 kg 8015 lbs	
3	V		1	x3d	PL 13x240	1	530	M270M-345W(50W)	37 kg 83 lbs	
3	M		1	x3f	PL 13x330	2	125	M270M-345W(50W)	72 kg 158 lbs	
3	X		2	x3g	PL 13x240	2	125	M270M-345W(50W)	52 kg 115 lbs	
3	Y		36	x3k	PL 35x325	0	400	M270M-HPS485W(70W)	38 kg 79 lbs	
6	R		1	x3ab	PL 6x100	0	440		2 kg 5 lbs	
6	K		3	x4w	PL 13x730	0	424	(BENT)	32 kg 70 lbs	
6	K		3	x4y	PL 13x730	0	424	(BENT)	32 kg 70 lbs	
8	J		42		7/8 ø HSB	0	4	(RCT) G2B2M-S	37 kg 81 lbs	
8	P		42		7/8 ø HSN			(RCT) G2B3 (G2-3H3)	14 kg 30 lbs	
8	Q		42		7/8 ø HSW			F436M-S	43 kg 97 lbs	





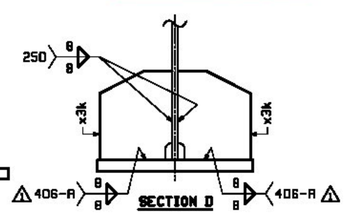


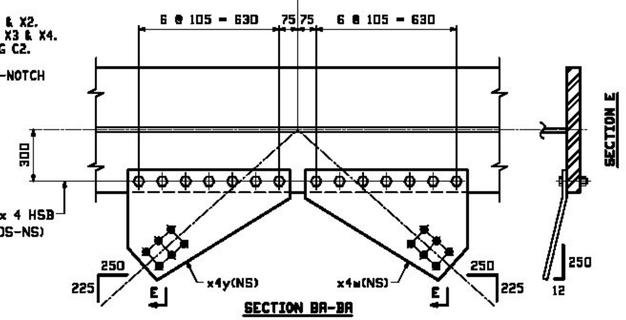
ONE - GIRDER - 6G1B (CONTINUED)

ONE - GIRDER - 6G5D (CONTINUED)

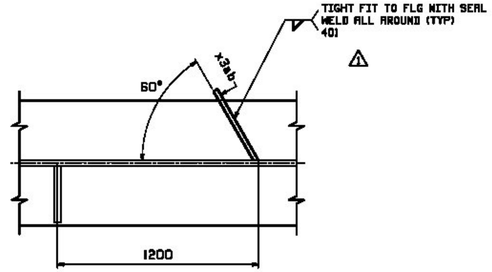
FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

VTRANS
Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas H. Bonneau, P.E. — Date 12/21/12
Structures Project Manager





WORK THIS SHEET WITH SHEET 6AB



REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠ 1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

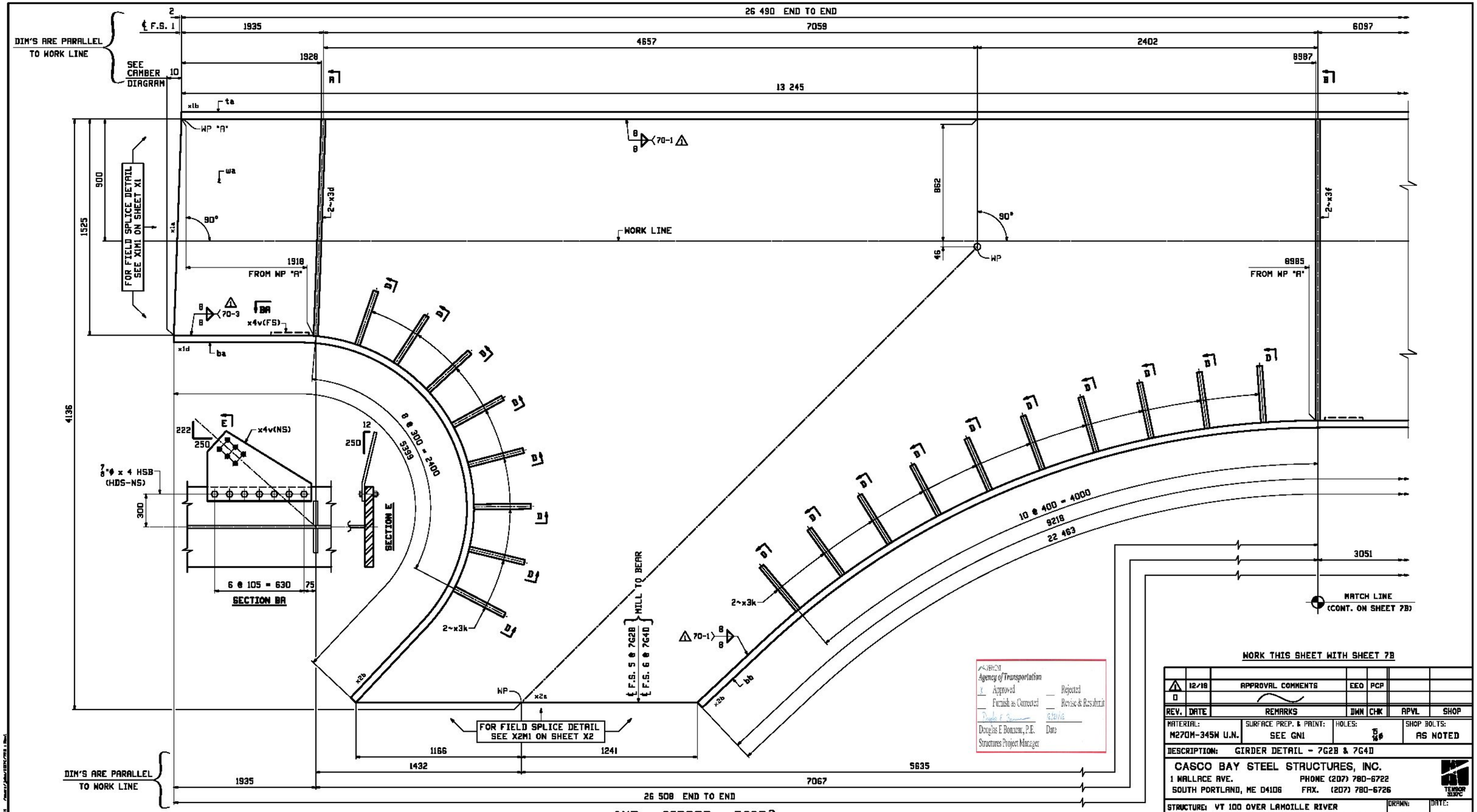
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 6G1B & 6G5D

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR SUSPC

STRUCTURE:	DRAWN:	DATE:
VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	EEO	08/23
	CHKD: PCP	DATE: 09/17
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1	521	6B
CUSTOMER: MINTERSET, INC.		REV. ⚠



WORK THIS SHEET WITH SHEET 7B

ONE - GIRDER - 7G2B
ONE - GIRDER - 7G4D } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

Agency of Transportation
Approved / Rejected
Furnish as Corrected / Revise & Resubmit
Douglas E Bonneau, P.E. — Date
Structures Project Manager

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

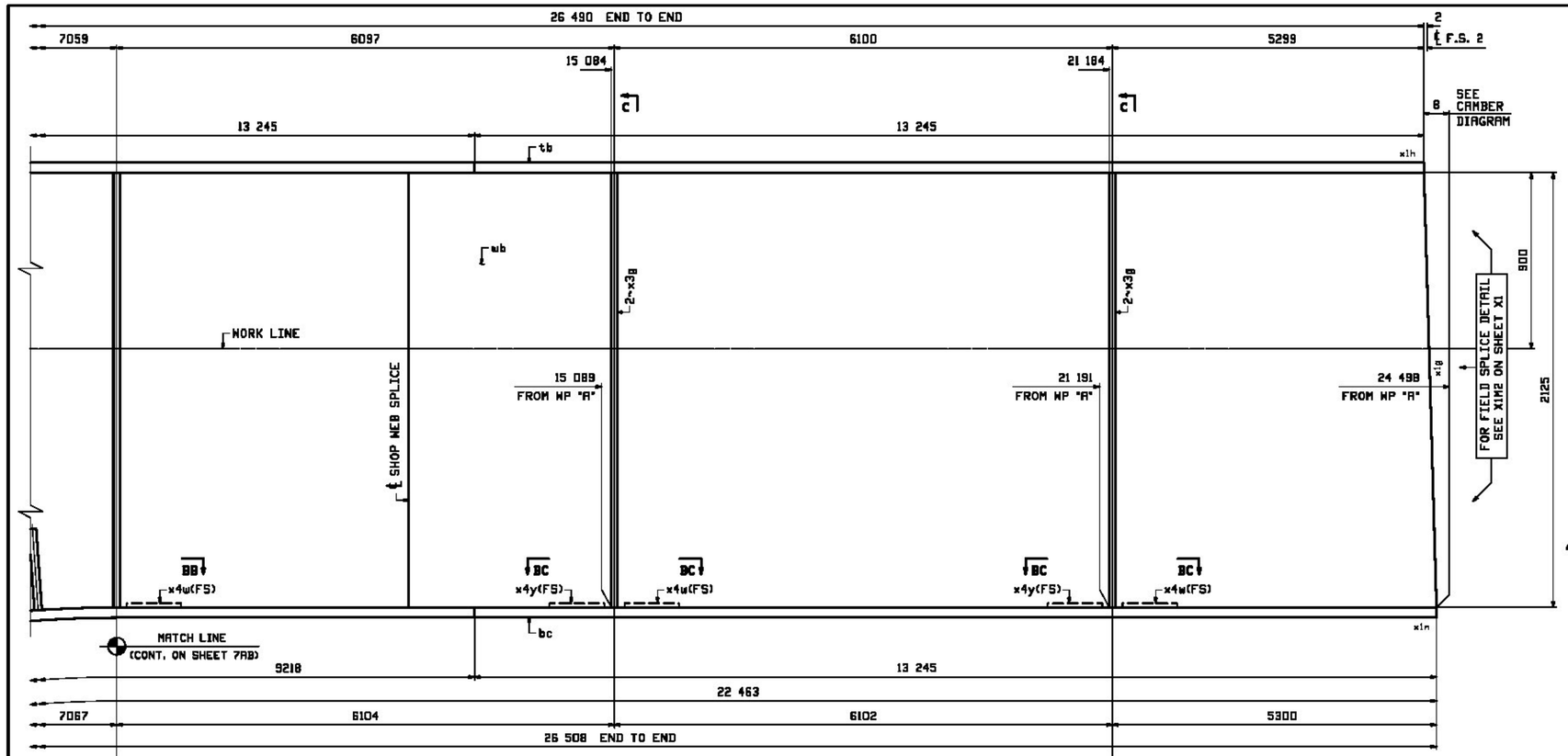
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ϕ	AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G2B & 7G4D

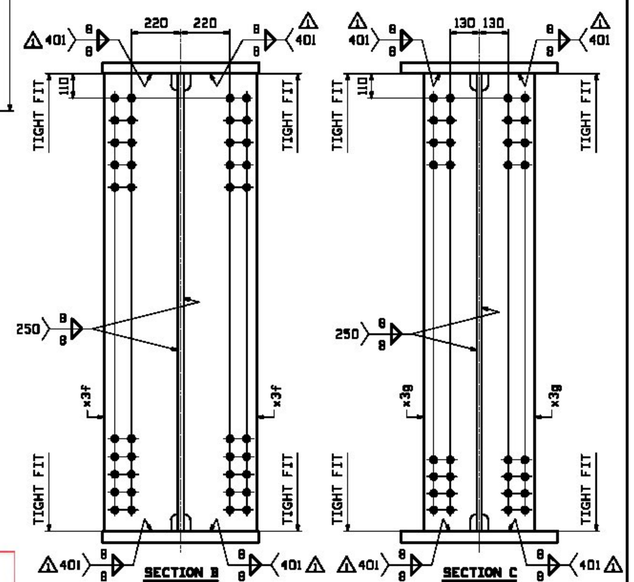
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

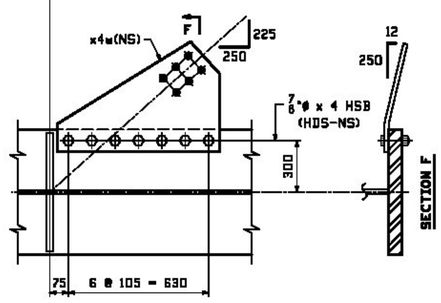
TENSOR 3137C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/24	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	7AB	
CUSTOMER: WINTERSET, INC.		REV. 1	



FORM INFO		SHOP	BILL OF MATERIAL				LENGTH		JOB NO.	DRAWING NO.	REV.
									521	7B	
PAGE	LINE	MARK	QTY	MARK	MATERIAL		m	mm	REMARKS	WT	PROCUREMENT NOTES
		7G2B	1		GIRDER					8933 kg 19,788 lbs	
		7G4D	1		GIRDER					8683 kg 19,239 lbs	
1	G		2	WL	PL 25x4127	J2	453	M270M-HPS485W(T2		10368 kg 22,936 lbs	
1	J		2	wh	PL 20x2125	J4	058	M270M-HPS485W(T2		4660 kg 10,341 lbs	
1	A		2	ta	PL 50x700	J3	245	M270M-HPS485W(T2		3838 kg 8,283 lbs	
1	A		2	tb	PL 50x700	J3	245	M270M-HPS485W(T2		3829 kg 8,323 lbs	
1	E		2	ba	PL 50x700	5	359	M270M-HPS485W(T2		1493 kg 3,272 lbs	
1	C		2	bb	PL 50x700	9	218	M270M-HPS485W(T2		2503 kg 5,564 lbs	
1	A		2	bc	PL 50x700	J3	245	M270M-HPS485W(T2		3829 kg 8,323 lbs	
3	V		4	x3d	PL 13x240	1	530	M270M-345W(T2		37 kg 83 lbs	
3	W		4	x3f	PL 13x330	2	125	M270M-345W(T2		72 kg 158 lbs	
3	X		8	x3g	PL 13x240	2	125	M270M-345W(T2		53 kg 116 lbs	
3	Y		72	x3k	PL 35x325	0	400	M270M-HPS485W(T2		50 kg 78 lbs	
6	K		2	x4v	PL 13x730	0	420	(BENT)		31 kg 68 lbs	
6	K		8	x4w	PL 13x730	0	424	(BENT)		32 kg 70 lbs	
6	K		4	x4y	PL 13x730	0	424	(BENT)		32 kg 70 lbs	
8	J		84		¾ ø HSB	0	4	(RCT) F588M-S		47 kg 61 lbs	
8	P		84		¾ ø HSN			(RCT) A563 (GR.DH3)		34 kg 201 lbs	
8	Q		84		¾ ø HSW			F436M-S		03 kg 207 lbs	

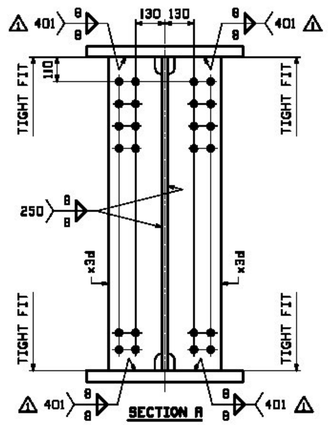


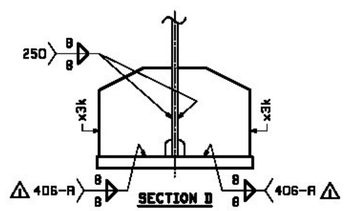


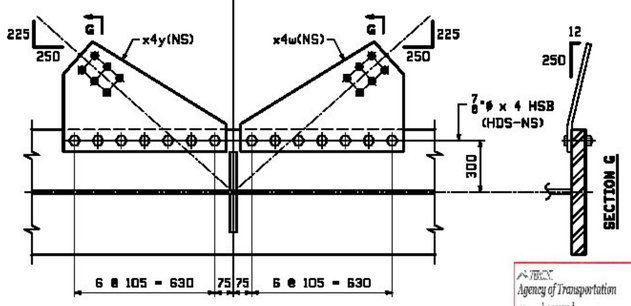
ONE - GIRDER - 7G2B (CONTINUED)

ONE - GIRDER - 7G4D (CONTINUED)

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.







VTRANS
Agency of Transportation
x Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E. Bourneal, P.E. 8/31/12
Structures Project Manager Date

WORK THIS SHEET WITH SHEET 7AB

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 7G2B & 7G4D

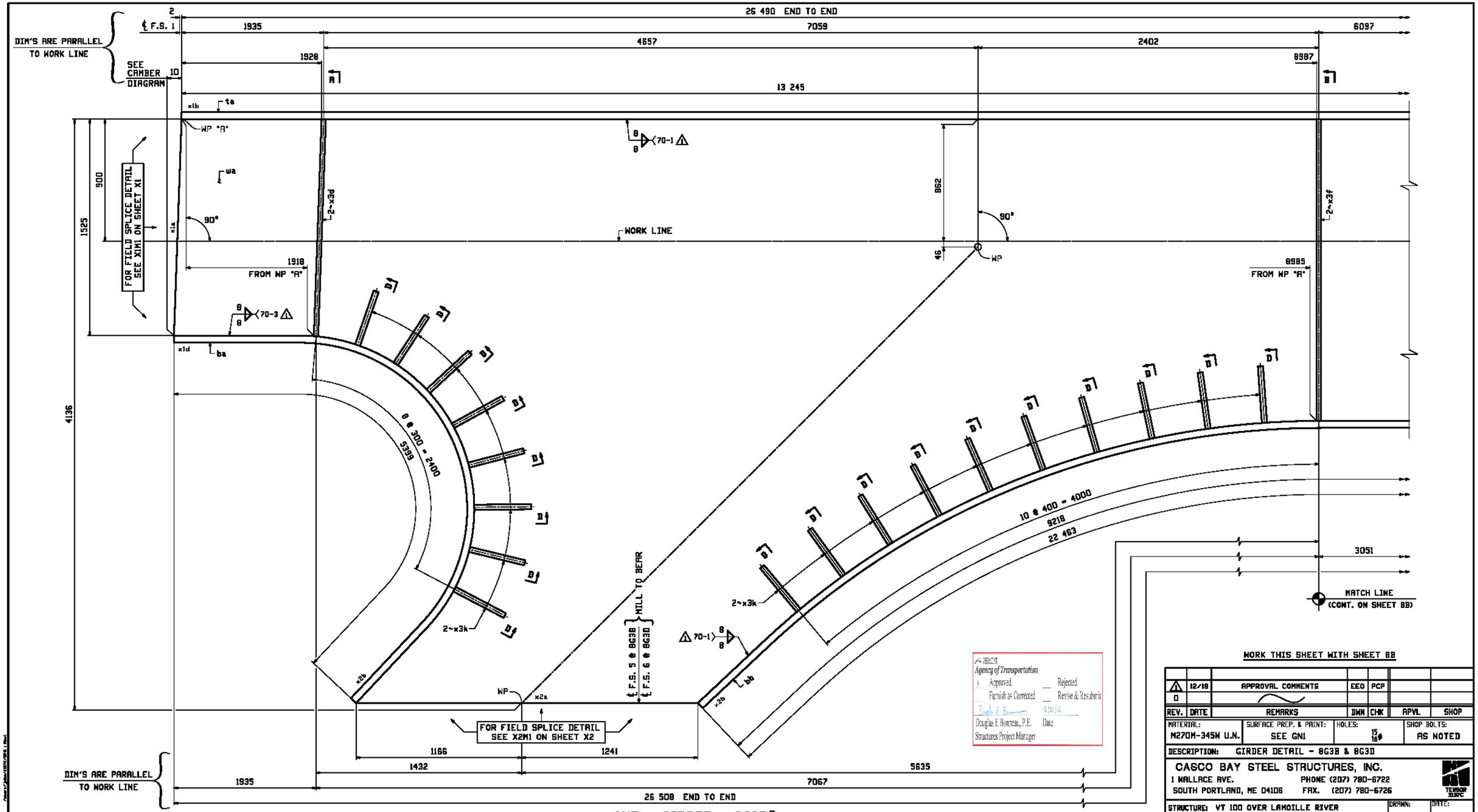
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 350PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
EEO	08/24
CHKD:	DATE:
PCP	09/17
JOB NO.	DWG NO.
521	7B
REV.	

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.



WORK THIS SHEET WITH SHEET BB

ONE - GIRDER - 8G3B
ONE - GIRDER - 8G3D } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

VERCOM
Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E. Bonneau, P.E. — Date
Structures Project Manager

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

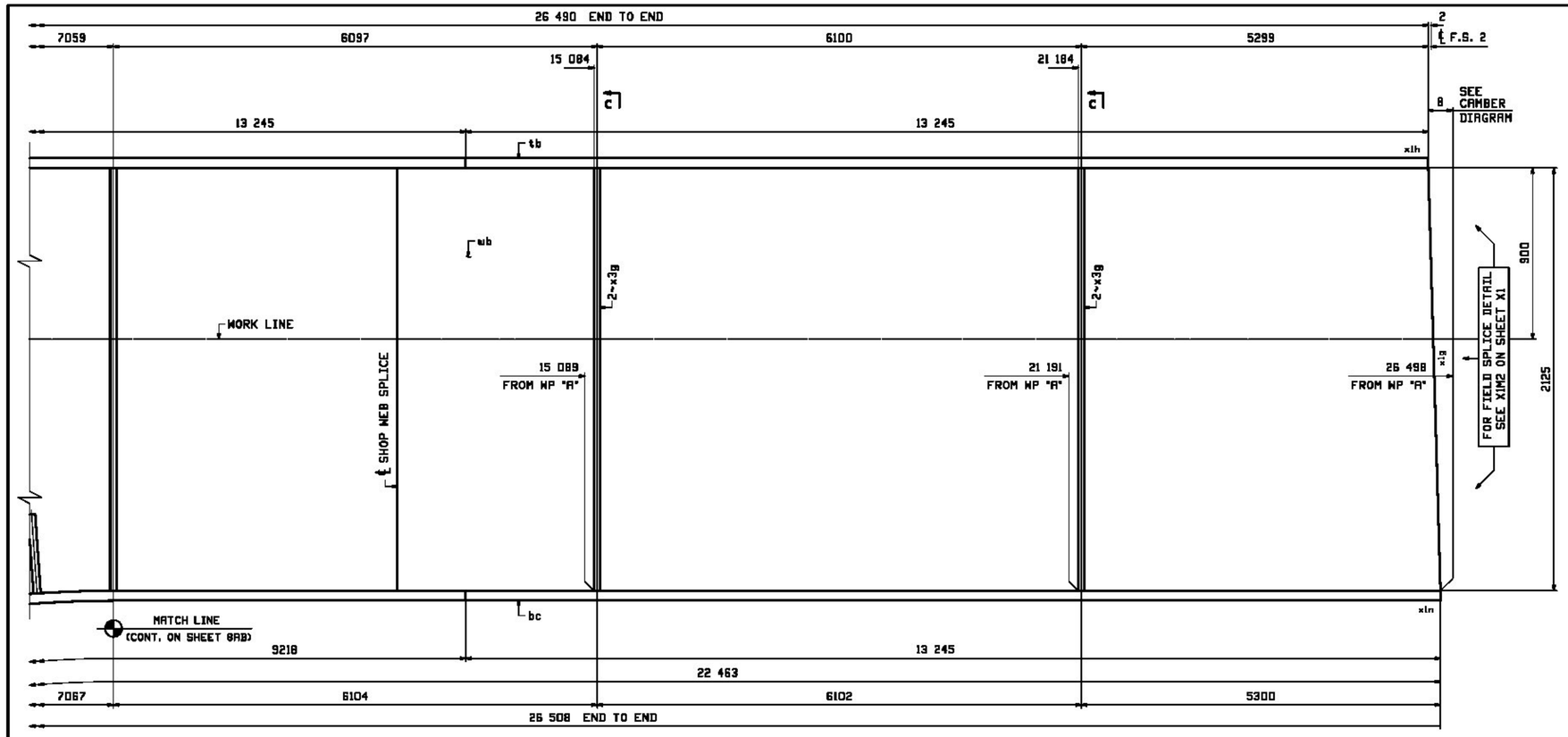
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16 ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 8G3B & 8G3D

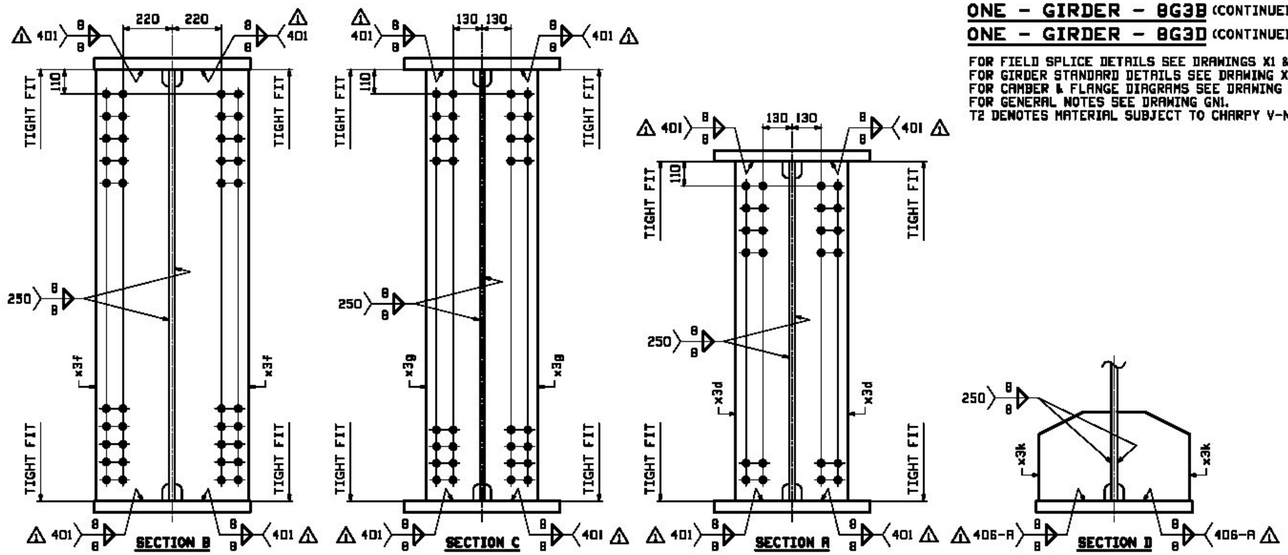
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3037C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/27	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	8AB	
CUSTOMER: WINTERSET, INC.		REV. 1	



ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	8B	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		8G3B	1		GIRDER				8431 kg 18271 lbs	
		8G3D	1		GIRDER				8421 kg 18271 lbs	
1	G		2	wt	PL 25x4127	12	453	M270M-HPS485WT2	0088 kg 22236 lbs	
1	J		2	wb	PL 20x2125	14	058	M270M-HPS485WT2	4650 kg 0340 lbs	
1	A		2	ta	PL 50x700	13	245	M270M-HPS485WT2	3838 kg 8023 lbs	
1	A		2	tb	PL 50x700	13	245	M270M-HPS485WT2	3839 kg 8023 lbs	
1	E		2	ba	PL 50x700	5	399	M270M-HPS485WT2	1493 kg 3270 lbs	
1	C		2	bb	PL 50x700	9	218	M270M-HPS485WT2	2533 kg 3564 lbs	
1	A		2	bc	PL 50x700	13	245	M270M-HPS485WT2	3635 kg 8023 lbs	
3	V		4	x3d	PL 13x240	1	530	M270M-345WT2	37 kg 83 lbs	
3	W		4	x3f	PL 13x330	2	125	M270M-345WT2	72 kg 159 lbs	
3	X		8	x3g	PL 13x240	2	125	M270M-345WT2	52 kg 115 lbs	
3	Y		72	x3k	PL 35x325	0	400	M270M-HPS485WT2	59 kg 78 lbs	



ONE - GIRDER - 8G3B (CONTINUED)
ONE - GIRDER - 8G3D (CONTINUED)

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

WORK THIS SHEET WITH SHEET 8AB

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16 ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 8G3B & 8G3D

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

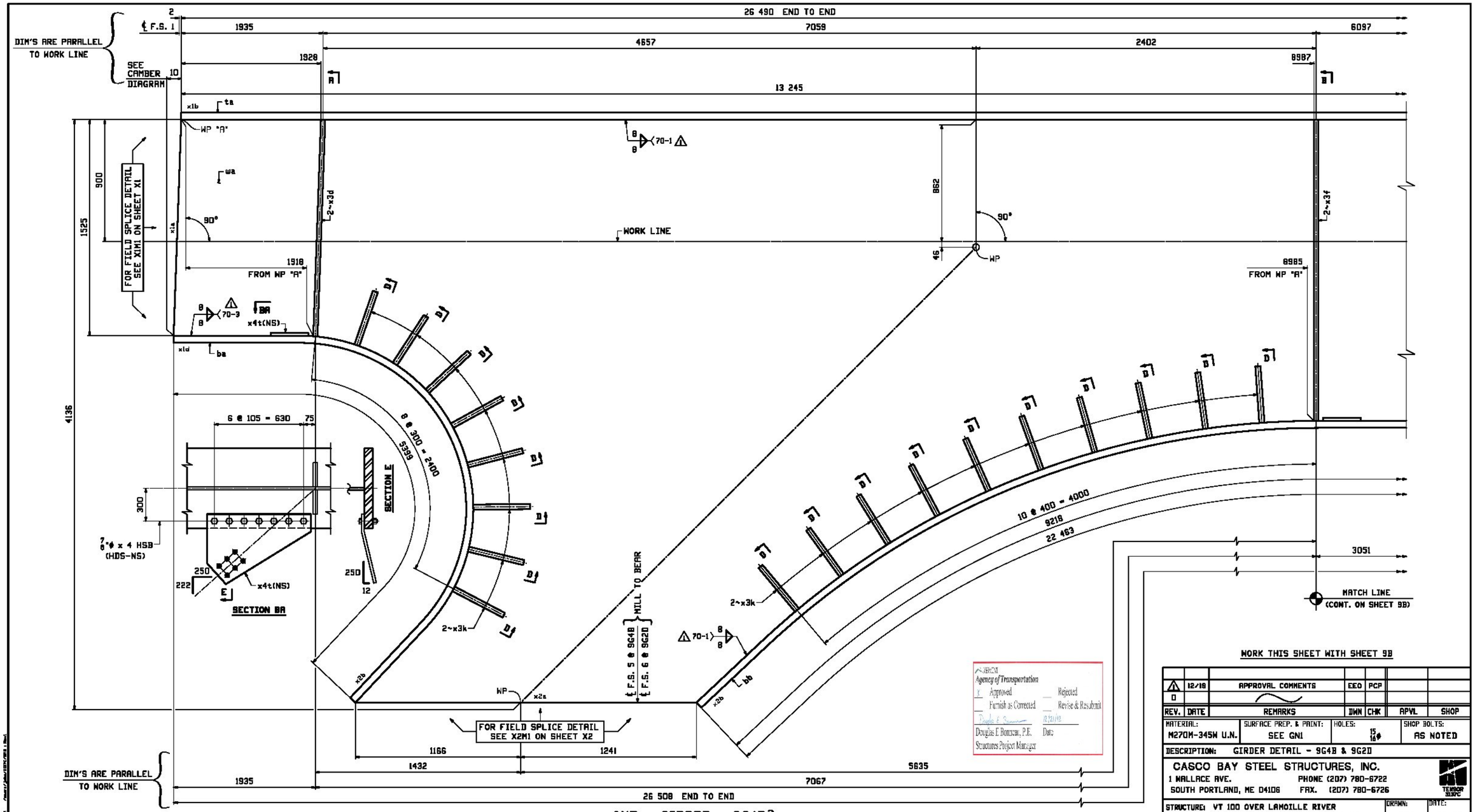
TENSOR 3037C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
EEO	08/27
CHKD:	DATE:
PCP	09/17

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	8B
CUSTOMER:	WINTERSET, INC.		REV. 1

Agency of Transportation
X Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E Bonneau, P.E. 12/21/12
Structures Project Manager — Date



WORK THIS SHEET WITH SHEET 9B

ONE - GIRDER - 9G4B
ONE - GIRDER - 9G2D } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E Bonneau, P.E. — Date
Structures Project Manager

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

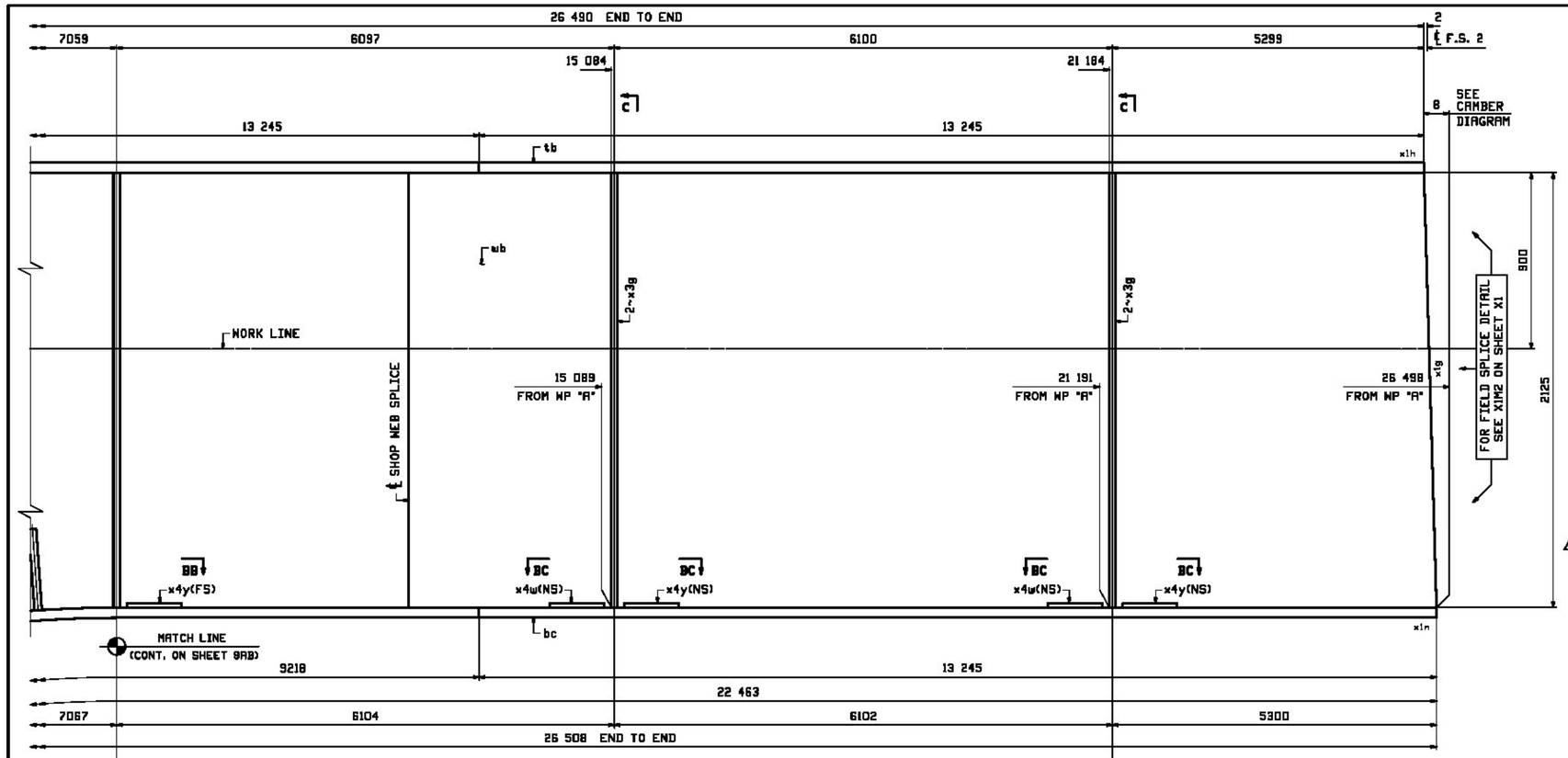
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ϕ	AS NOTED

DESCRIPTION: GIRDER DETAIL - 9G4B & 9G2D

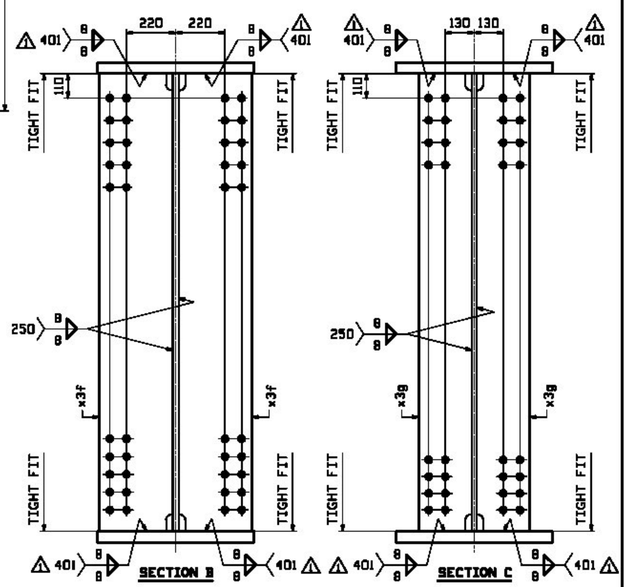
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

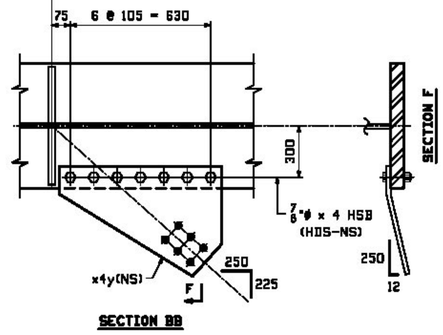
TENSOR 3137C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/27	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	9AB	
CUSTOMER: WINTERSET, INC.		REV. 1	



FORM INFO		SHOP	BILL OF MATERIAL					JOB NO. 521	DRAWING NO. 9B	REV. 1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		9G4B	1		GIRDER				21633 kg 47,708 lbs	
		9G2D	1		GIRDER				20633 kg 47,708 lbs	
1	G		2	we	PL 25x4127	12	453	M270M-HPS485W(T2	(DRW kg) (DRW lbs)	
1	J		2	wh	PL 20x2125	14	058	M270M-HPS485W(T2	4660 kg 10,141 lbs	
1	A		2	ta	PL 50x700	13	245	M270M-HPS485W(T2	3838 kg 8283 lbs	
1	A		2	tb	PL 50x700	13	245	M270M-HPS485W(T2	3829 kg 8283 lbs	
1	E		2	ba	PL 50x700	5	359	M270M-HPS485W(T2	1493 kg 3672 lbs	
1	C		2	bb	PL 50x700	9	218	M270M-HPS485W(T2	2503 kg 5564 lbs	
1	A		2	bc	PL 50x700	13	245	M270M-HPS485W(T2	3829 kg 8283 lbs	
3	V		4	x3d	PL 13x240	1	530	M270M-345W(T2	37 kg 85 lbs	
3	W		4	x3f	PL 13x330	2	125	M270M-345W(T2	72 kg 158 lbs	
3	X		8	x3g	PL 13x240	2	125	M270M-345W(T2	52 kg 115 lbs	
3	Y		72	x3k	PL 35x325	0	400	M270M-HPS485W(T2	50 kg 78 lbs	
6	K		2	x4t	PL 13x730	0	420	(BENT)	31 kg 68 lbs	
6	K		4	x4w	PL 13x730	0	424	(BENT)	32 kg 70 lbs	
6	K		6	x4y	PL 13x730	0	424	(BENT)	32 kg 70 lbs	
8	J		84		¾ ø HSB	0	4	(RCT) M164M-6	47 kg 61 lbs	
8	P		84		¾ ø HSN			(RCT) M563 (6S-3H3)	34 kg 201 lbs	
8	Q		84		¾ ø HSW			F436M-6	40 kg 317 lbs	

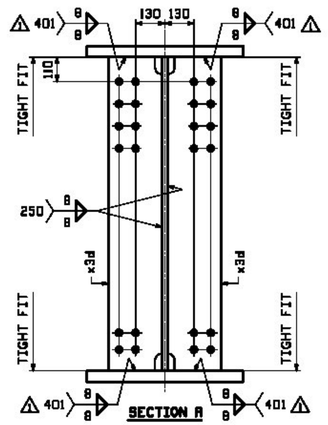


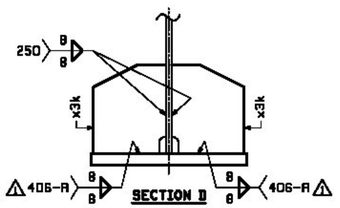


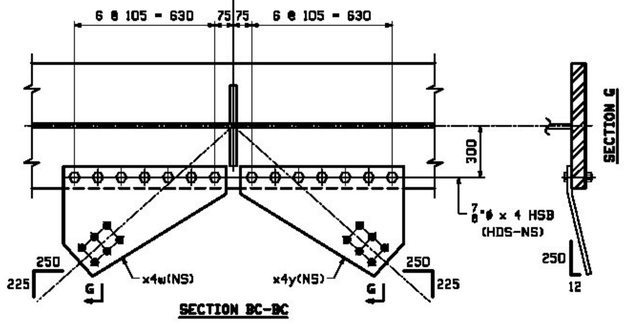
ONE - GIRDER - 9G4B (CONTINUED)

ONE - GIRDER - 9G2D (CONTINUED)

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.







AOT067
Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E. Bourneau, P.E. — Date
Structures Project Manager

WORK THIS SHEET WITH SHEET 9AB

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 9G4B & 9G2D

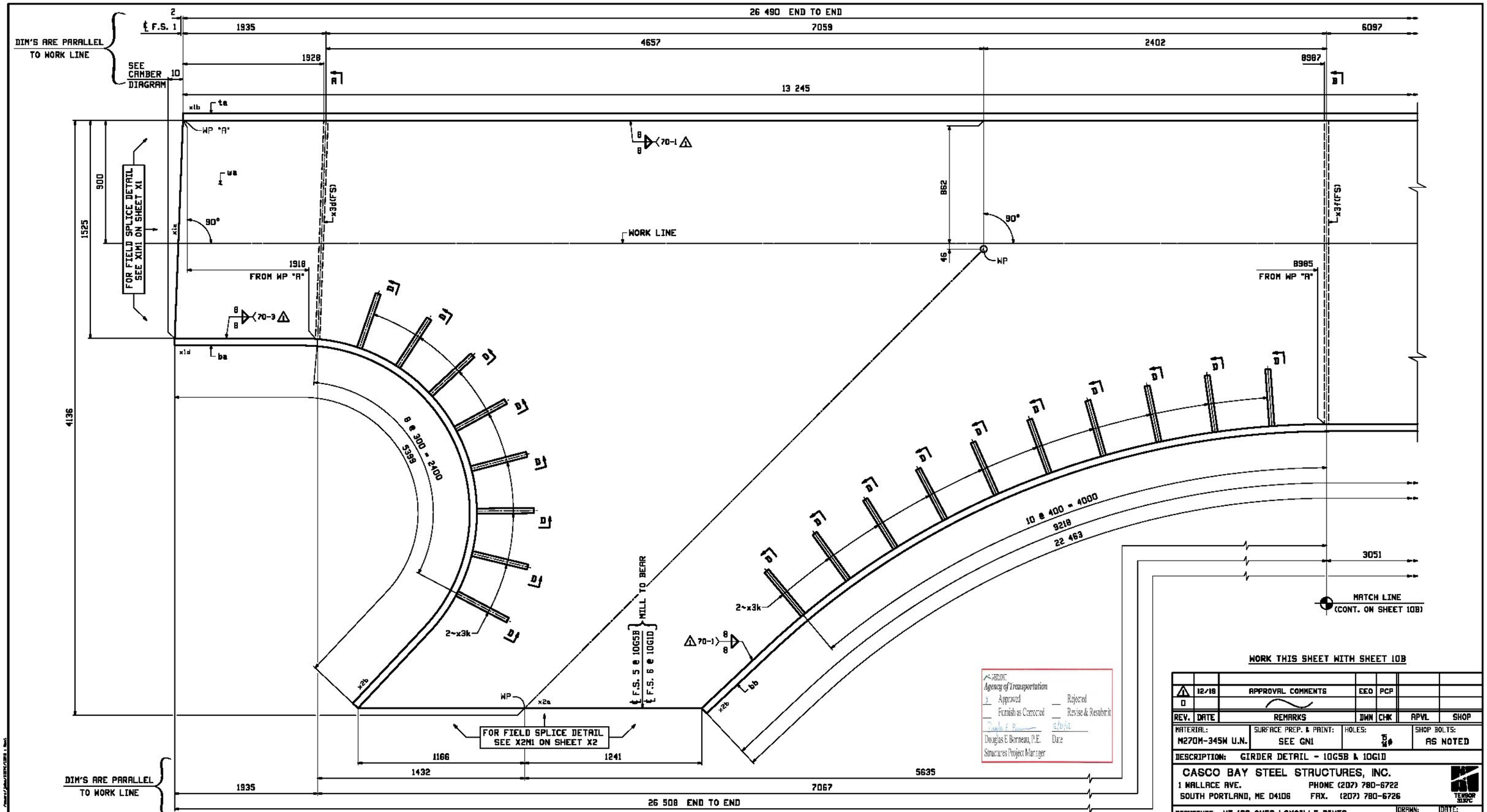
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3030C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
EEO	08/27
CHKD:	DATE:
PCP	09/17

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	9B
CUSTOMER:	WINTERSET, INC.		REV. 1



WORK THIS SHEET WITH SHEET 10B

ONE - GIRDER - 10G5B
ONE - GIRDER - 10G1D
ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E Borneau, P.E. — Date
Structures Project Manager

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

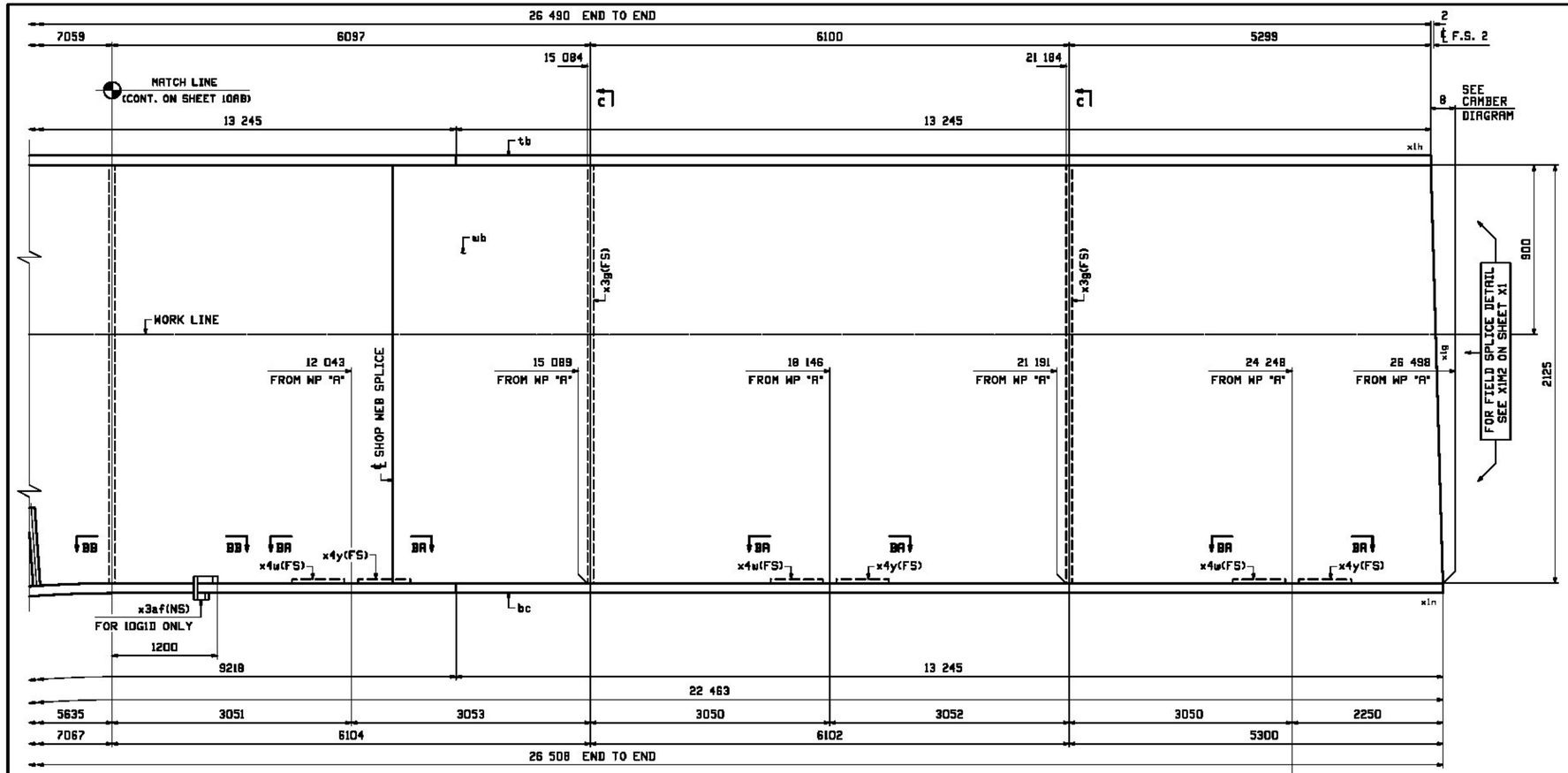
MATERIAL: M270M-345W U.N.	SURFACE PREP. & PAINT: SEE GN1	HOLES: 15/16 ø	SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 10G5B & 10G1D

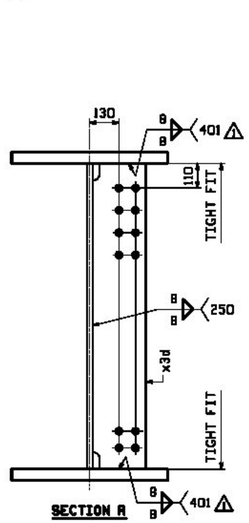
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

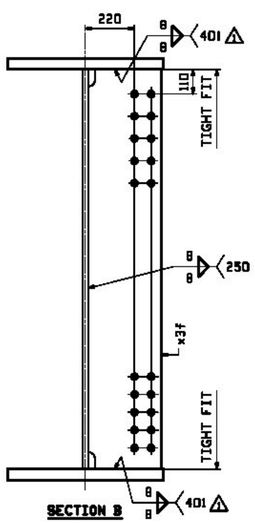
TENSOR 3137C

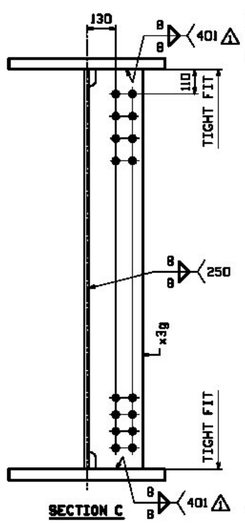
STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/27	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	10AB	
CUSTOMER: WINTERSET, INC.		REV. 1	



FOR INFO		SHOP	BILL OF MATERIAL				LENGTH		JOB NO.	DRAWING NO.	REV.
									521	10B	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL		m	mm	REMARKS	WT	PROCUREMENT NOTES
		10G5B	1		GIRDER					9490 kg 20,926 lbs	
1	G		1	wa	PL 25x4127		12	453	M270M-HPS345WT2	0066 kg 22,236 lbs	
1	J		1	wb	PL 20x2125		14	058	M270M-HPS485WT2	4880 kg 0340 lbs	
1	A		1	ta	PL 50x700		13	245	M270M-HPS345WT2	3635 kg 8013 lbs	
1	A		1	tb	PL 50x700		13	245	M270M-HPS485WT2	3638 kg 8023 lbs	
1	E		1	ba	PL 50x700		5	389	M270M-HPS345WT2	1429 kg 3270 lbs	
1	C		1	bb	PL 50x700		9	218	M270M-HPS345WT2	2833 kg 2061 lbs	
1	A		1	bc	PL 50x700		13	245	M270M-HPS485WT2	3638 kg 8023 lbs	
3	V		1	x3d	PL 13x240		1	530	M270M-345WT2	37 kg 83 lbs	
3	M		1	x3f	PL 13x330		2	125	M270M-345WT2	72 kg 158 lbs	
3	X		2	x3g	PL 13x240		2	125	M270M-345WT2	52 kg 115 lbs	
3	Y		36	x3k	PL 35x325		0	400	M270M-HPS485WT2	28 kg 73 lbs	
6	K		3	x4w	PL 13x730		0	424	(BENT)	50 kg 70 lbs	
6	K		3	x4y	PL 13x730		0	424	(BENT)	35 kg 70 lbs	
8	J		42		⅞ ø HSB		0	4	(RCT) D36M-3	37 kg 81 lbs	
8	P		42		⅞ ø HSN				(RCT) D36J (GR-DH3)	14 kg 30 lbs	
8	Q		42		⅞ ø HSW				F436M-3	03 kg 07 lbs	
		10G1D	1		GIRDER					9492 kg 20,932 lbs	
1	G		1	wa	PL 25x4127		12	453	M270M-HPS345WT2	0066 kg 22,236 lbs	
1	J		1	wb	PL 20x2125		14	058	M270M-HPS485WT2	4880 kg 0340 lbs	
1	A		1	ta	PL 50x700		13	245	M270M-HPS345WT2	3635 kg 8013 lbs	
1	A		1	tb	PL 50x700		13	245	M270M-HPS485WT2	3638 kg 8023 lbs	
1	E		1	ba	PL 50x700		5	389	M270M-HPS485WT2	1429 kg 3270 lbs	
1	C		1	bb	PL 50x700		9	218	M270M-HPS345WT2	2833 kg 2061 lbs	
1	A		1	bc	PL 50x700		13	245	M270M-HPS485WT2	3638 kg 8023 lbs	
3	V		1	x3d	PL 13x240		1	530	M270M-345WT2	37 kg 83 lbs	
3	M		1	x3f	PL 13x330		2	125	M270M-345WT2	72 kg 158 lbs	
3	X		2	x3g	PL 13x240		2	125	M270M-345WT2	52 kg 115 lbs	
3	Y		36	x3k	PL 35x325		0	400	M270M-HPS485WT2	28 kg 73 lbs	
6	R		1	x3af	PL 6x100		0	440		2 kg 5 lbs	
6	K		3	x4w	PL 13x730		0	424	(BENT)	32 kg 70 lbs	
6	K		3	x4y	PL 13x730		0	424	(BENT)	32 kg 70 lbs	
8	J		42		⅞ ø HSB		0	4	(RCT) D36M-3	37 kg 81 lbs	
8	P		42		⅞ ø HSN				(RCT) D36J (GR-DH3)	14 kg 30 lbs	
8	Q		42		⅞ ø HSW				F436M-3	03 kg 07 lbs	



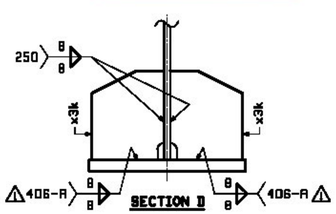


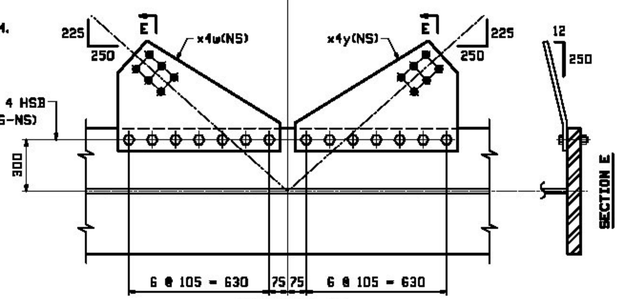


ONE - GIRDER - 10G5B (CONTINUED)
ONE - GIRDER - 10G1D (CONTINUED)

FOR FIELD SPLICE DETAILS SEE DRAWINGS X1 & X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C2.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

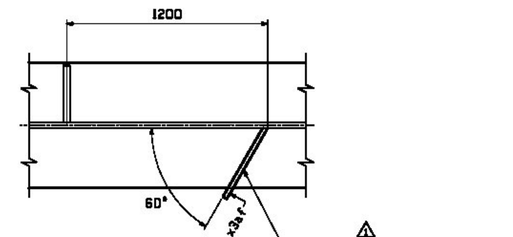
Agency of Transportation
Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E. Bourneau, P.E. Date
Structures Project Manager





SECTION BA-BA

WORK THIS SHEET WITH SHEET 10AB



SECTION BB-BB
(FOR 10G1D ONLY)

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠ 1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	SEE GN1	15/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 10G5B & 10G1D

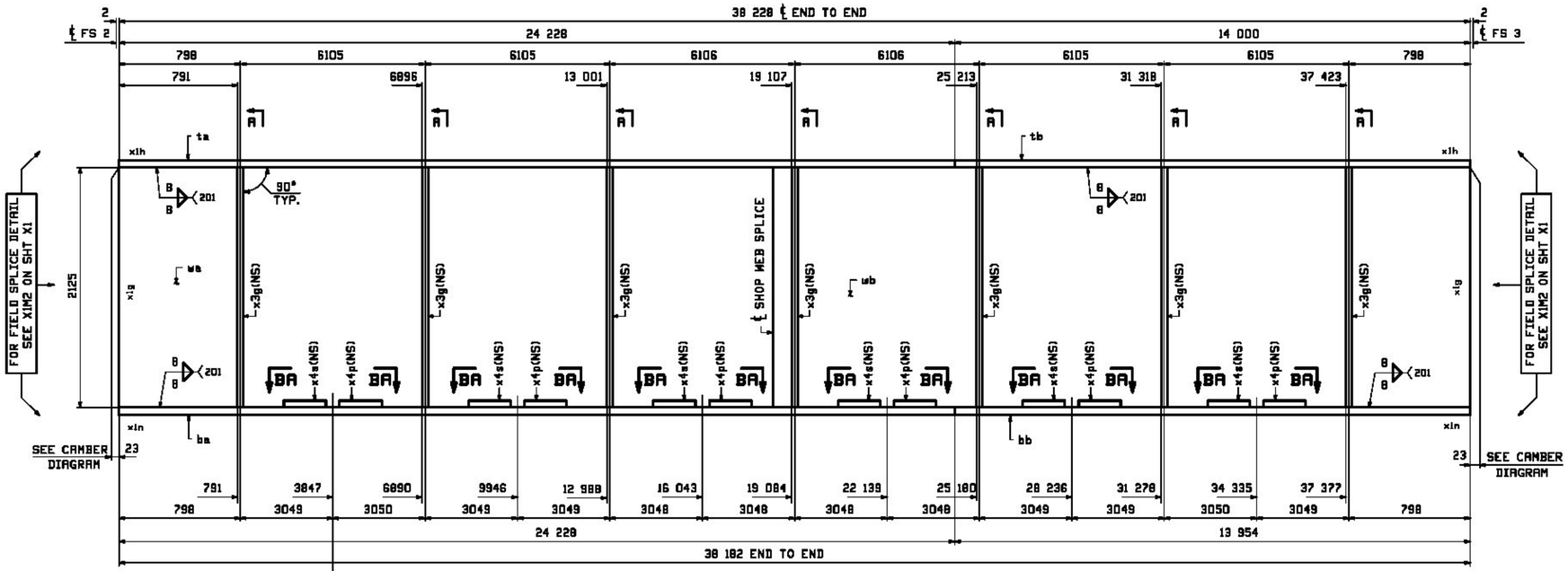
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR SLSPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

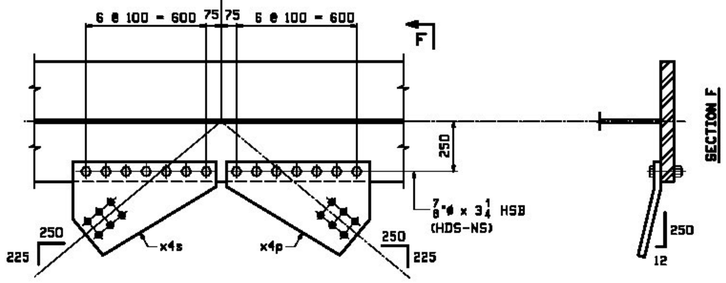
DRAWN:	DATE:
EEO	08/27
CHKD:	DATE:
PCP	09/17

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	10B
CUSTOMER:	WINTERSET, INC.		REV. ⚠

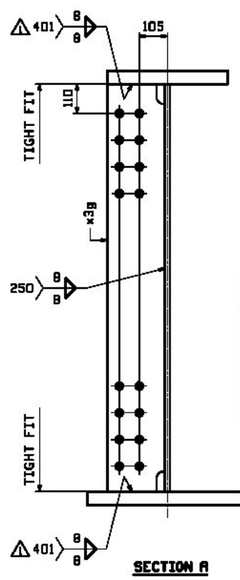


ONE - GIRDER - 11G1C

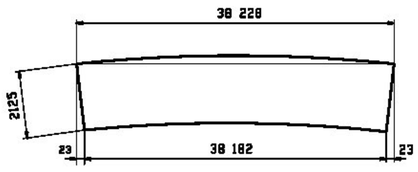
FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BA-BA



SECTION A



ORIENTATION DIAGRAM

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO. 521	DRAWING NO. 11	REV. 1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		11G1C	1		GIRDER				14370 kg 63726 lbs	
1	Y		1	wa	PL 20x2125	18	948	M270M-345WT2	5322 kg 2937 lbs	
1	M		1	wb	PL 20x2125	19	280	M270M-345WT2	5432 kg 4181 lbs	
2	N		1	ta	PL 30x500	24	228		2853 kg 6265 lbs	
2	L		1	tb	PL 30x500	14	000		1849 kg 3624 lbs	
1	S		1	ba	PL 35x600	24	228	M270M-345WT2	3064 kg 6605 lbs	
1	Q		1	bb	PL 35x600	13	954	M270M-345WT2	2390 kg 5071 lbs	
3	X		7	x3g	PL 13x240	2	125	M270M-345WT2	52 kg 115 lbs	
6	K		6	x4p	PL 13x715	0	470	(BENT)	34 kg 76 lbs	
6	K		6	x4s	PL 13x715	0	470	(BENT)	34 kg 76 lbs	
8	F		84		7/8 ø HSB	0	3 1/4	(RCT) R3625A-S	.27 kg .61 lbs	
8	P		84		7/8 ø HHN			(RCT) R5B2 (GR-DH3)	.14 kg .30 lbs	
8	Q		84		7/8 ø HSW			F438A-S	.03 kg .07 lbs	

Agency of Transportation
X Approved
__ Rejected
__ Furnish as Corrected
__ Revise & Resubmit
Douglas E Bonneau, P.E. 12/21/12
Structures Project Manager
Date

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16 ø	AS NOTED

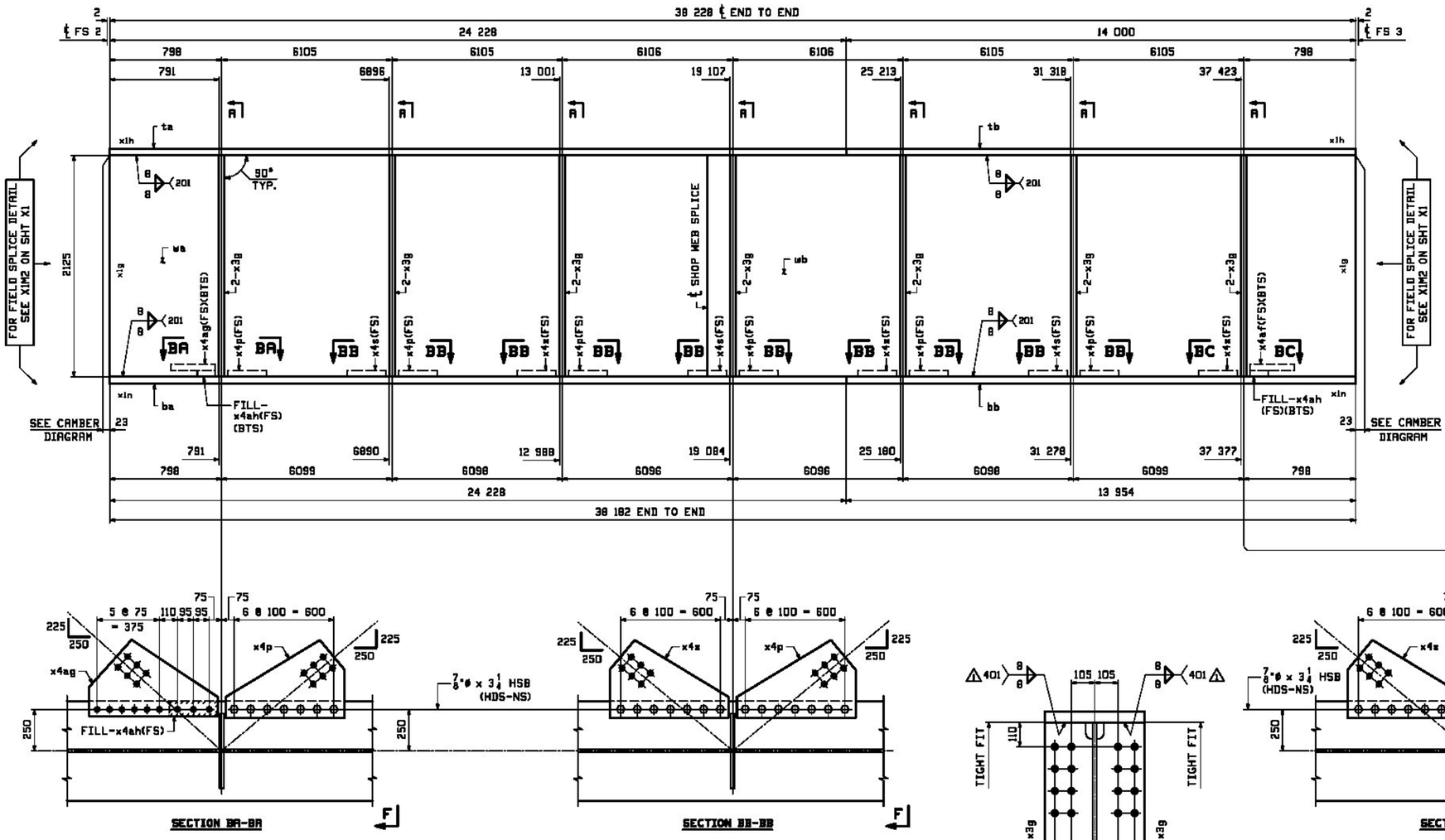
DESCRIPTION: GIRDER DETAIL - 11G1C

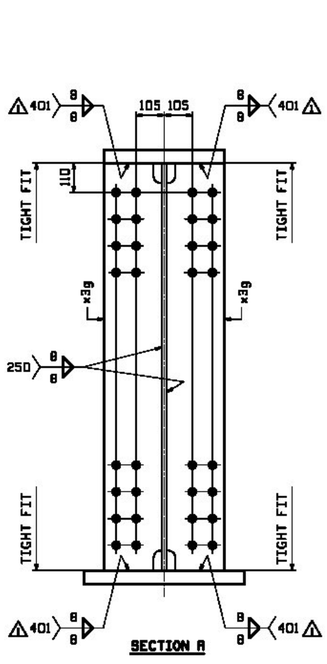
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3137C

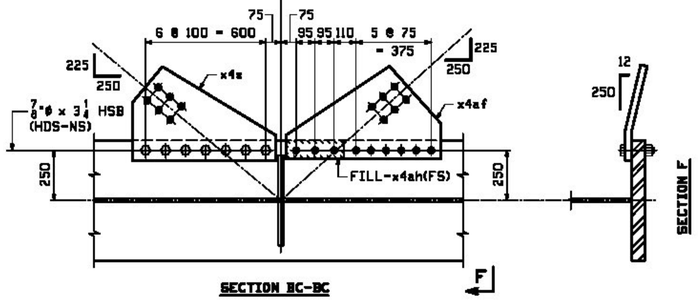
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

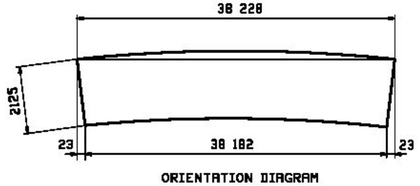
DRAWN:	DATE:
CRK	08/25
CHKD:	DATE:
PCP	9/17/12

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	11
CUSTOMER:	WINTERSET, INC.		REV. 1









ONE - GIRDER - 12G2C

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

FORM INFO PAGE	FORM INFO LINE	SHOP MARK	BILL OF MATERIAL QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		12G2C	1		GIRDER				24881 kg 54780 lbs	
1	Y		1	wa	PL 20x2125	19	848	M270M-345MT2	5322 kg 11697 lbs	
1	M		1	wb	PL 20x2125	19	280	M270M-345MT2	8439 kg 4181 lbs	
2	N		1	ta	PL 30x500	24	228		2853 kg 6285 lbs	
2	L		1	tb	PL 30x500	14	000		1649 kg 3634 lbs	
1	S		1	ba	PL 35x600	24	228	M270M-345MT2	3964 kg 8693 lbs	
1	Q		1	bb	PL 35x600	13	954	M270M-345MT2	2880 kg 6271 lbs	
3	X		14	x3g	PL 13x240	2	125	M270M-345MT2	32 kg 115 lbs	
6	K		6	x4p	PL 13x715	0	470	(BENT)	34 kg 74 lbs	
5	K		5	x4s	PL 13x715	0	470	(BENT)	34 kg 74 lbs	
5	L		1	x4af	PL 13x775	0	460	(BENT)	36 kg 80 lbs	
6	L		1	x4ag	PL 13x775	0	460	(BENT)	36 kg 80 lbs	
6	M		2	x4ah	PL 35x90	0	290	FILL	7 kg 16 lbs	
8	F		84		7/8 ø HSB	0	3 1/4	(RCT) M164M-8	37 kg 81 lbs	
8	P		84		7/8 ø HHN			(RCT) M563 (GR-DH3)	14 kg 30 lbs	
8	Q		84		7/8 ø HSW			F436M-8	213 kg 467 lbs	

JOB NO. 521 | DRAWING NO. 12 | REV. 1

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		

MATERIAL: M270M-345W UN | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16ø | SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 12G2C

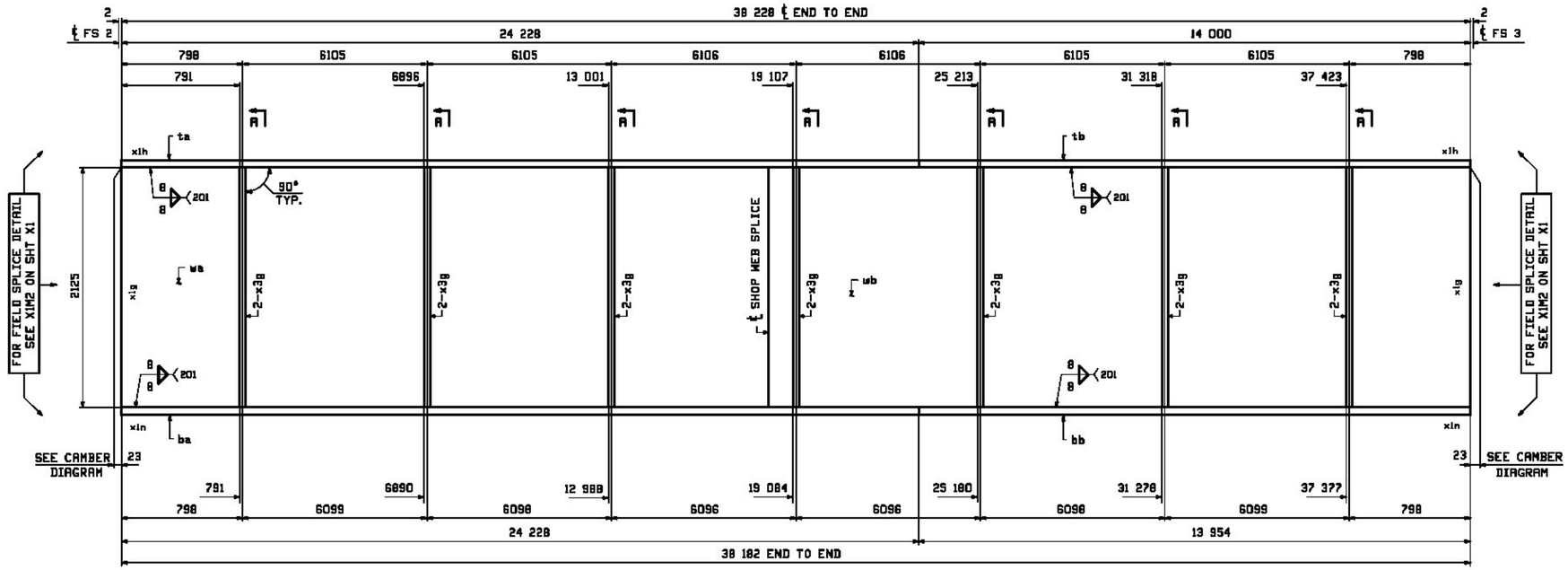
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: CRK | DATE: 08/27
CHKD: PCP | DATE: 9/17/12

LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 12
PROJ NO. STP F 029-1(2)C/1 | REV. 1
CUSTOMER: WINTERSET, INC.

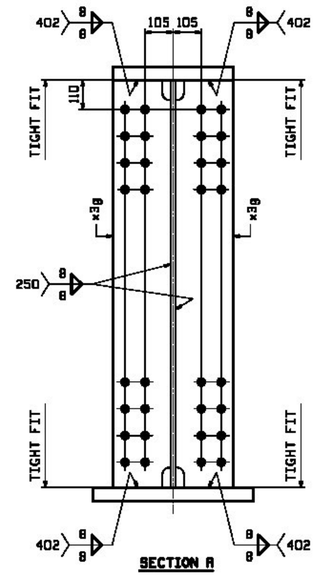
TECON
Agency of Transportation
X Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E Bonneau, P.E. 9/20/12 Date
Structures Project Manager

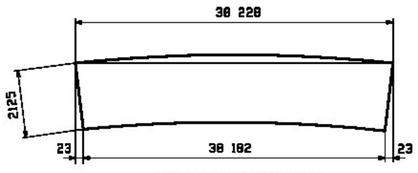


FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	13	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		13G3C	1		GIRDER				24274 kg 53523 lbs	
1	Y		1	wa	PL 20x2125	19	848	M270M-345MT2	5322 kg 11732 lbs	
1	N		1	wb	PL 20x2125	19	280	M270M-345MT2	5439 kg 11991 lbs	
2	N		1	ta	PL 30x500	24	228		2853 kg 6265 lbs	
2	L		1	tb	PL 30x500	14	000		1849 kg 3824 lbs	
1	S		1	ba	PL 35x600	24	228	M270M-345MT2	3964 kg 8620 lbs	
1	Q		1	bb	PL 35x600	13	954	M270M-345MT2	2880 kg 6271 lbs	
3	X		14	x3g	PL 13x240	2	125	M270M-345MT2	32 kg 113 lbs	

ONE - GIRDER - 13G3C

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.





ORIENTATION DIAGRAM

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15 16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 13G3C

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
CRK	08/27
CHKD:	DATE:
PCP	9/17/12

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	13
CUSTOMER:	WINTERSET, INC.		REV. D

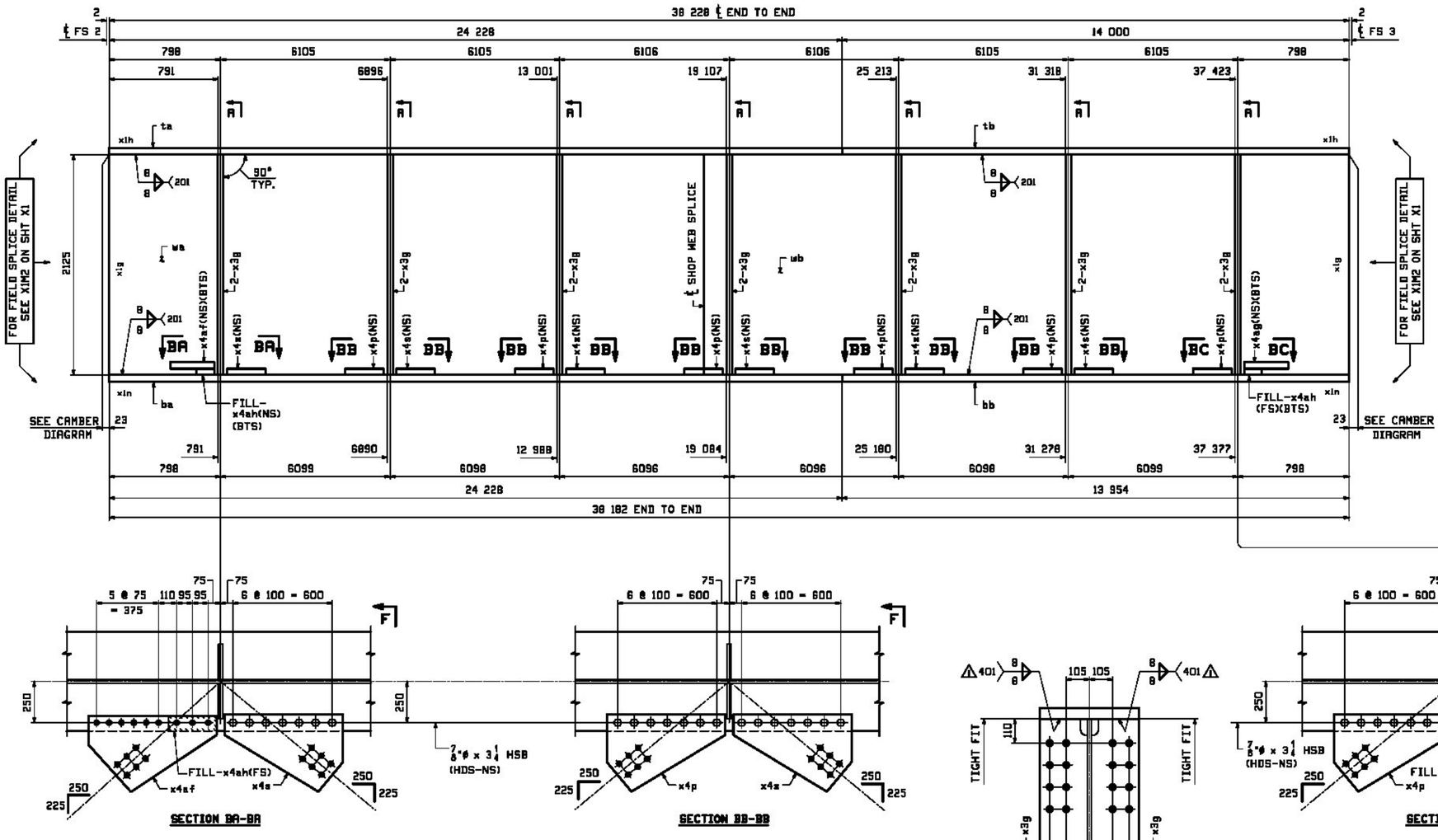
X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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

McFarland Johnson
Date October 24, 2012
By D. Kull

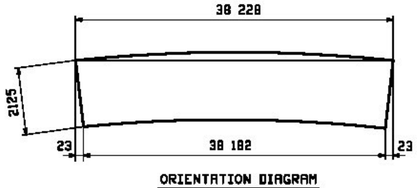
VERMONT
Agency of Transportation
X Approved
Furnish as Corrected
Douglas E Bonneau, P.E.
Structures Project Manager
Rejected
Revise & Resubmit
12/10/12
Date

Thu, Oct 4, 2012 2:58:24 PM //mwf/projects/STP F 029-1(2)C-1/Drawings/13G3C.dgn
ED



SECTION BA-BA

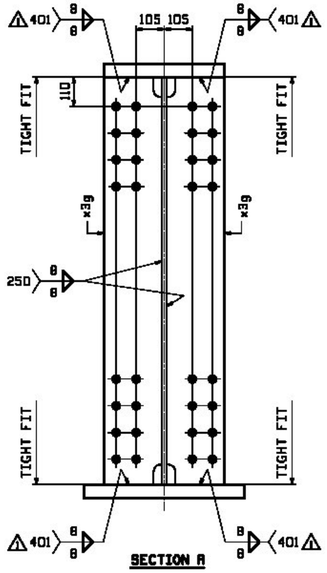
SECTION BB-BB



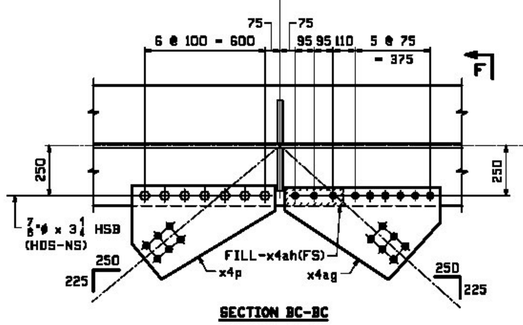
ORIENTATION DIAGRAM

ONE - GIRDER - 14G4C

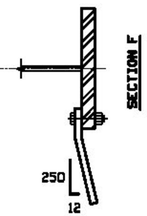
FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A



SECTION BC-BC



Agency of Transportation
x Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Bonneau, P.E. Date
Structures Project Manager

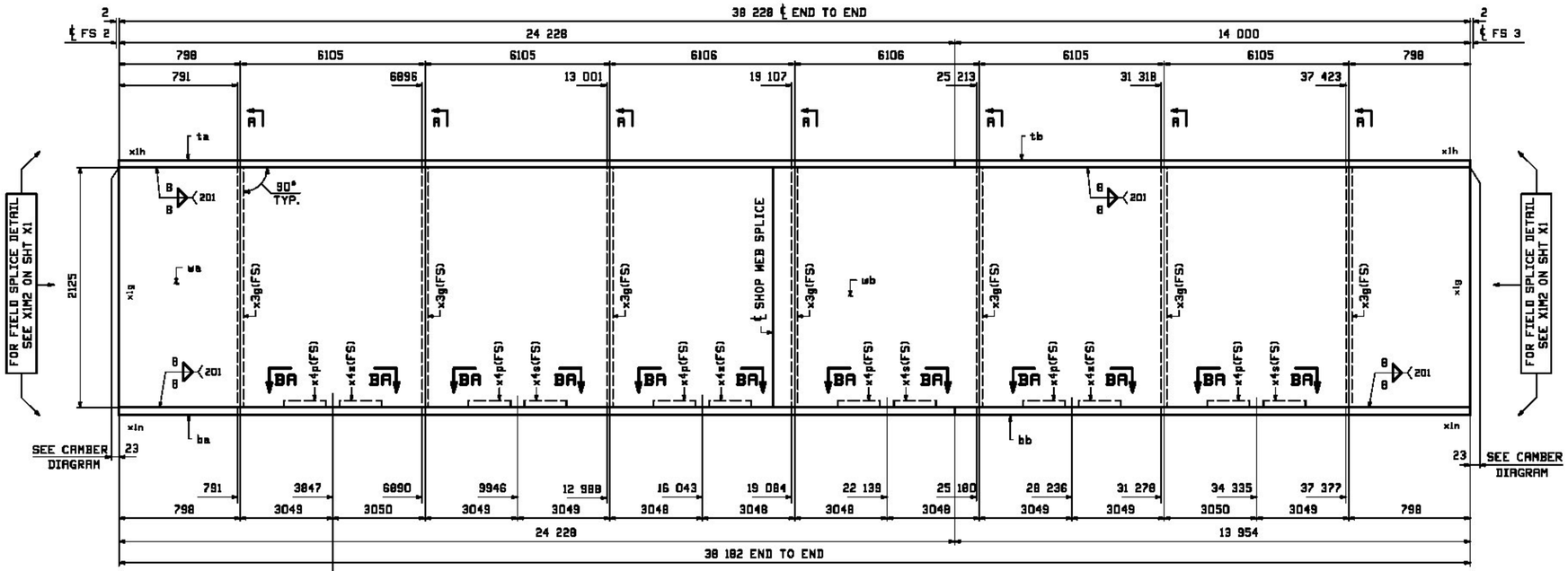
FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	14	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		14G4C	1		GIRDER				24881 kg 54780 lbs	
1	Y		1	wa	PL 20x2125	18	848	M270M-345WT2	5322 kg 11697 lbs	
1	M		1	wb	PL 20x2125	19	280	M270M-345WT2	6459 kg 14181 lbs	
2	N		1	ta	PL 30x500	24	228		2853 kg 6265 lbs	
2	L		1	tb	PL 30x500	14	000		1649 kg 3624 lbs	
1	S		1	ba	PL 35x600	24	228	M270M-345WT2	3964 kg 8693 lbs	
1	Q		1	bb	PL 35x600	13	954	M270M-345WT2	2880 kg 6321 lbs	
3	X		14	x3g	PL 13x240	2	125	M270M-345WT2	32 kg 115 lbs	
6	K		6	x4p	PL 13x715	0	470	(BENT)	34 kg 74 lbs	
5	K		5	x4s	PL 13x715	0	470	(BENT)	34 kg 74 lbs	
5	L		1	x4af	PL 13x775	0	460	(BENT)	36 kg 80 lbs	
6	L		1	x4ag	PL 13x775	0	460	(BENT)	36 kg 80 lbs	
6	M		2	x4ah	PL 35x90	0	290	FILL	7 kg 16 lbs	
8	F		84		7/8 ø HSB	0	3 1/4	(RCT) M164 (A325-3H)	37 kg 81 lbs	
8	P		84		7/8 ø HHN			(RCT) M563 (A563-DH3)	14 kg 30 lbs	
8	Q		84		7/8 ø HSW			F436M-3	213 kg 467 lbs	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W UN	SURFACE PREP. & PAINT: SEE GN1	HOLES: 15/16ø	SHOP BOLTS: AS NOTED
DESCRIPTION: GIRDER DETAIL - 14G4C			

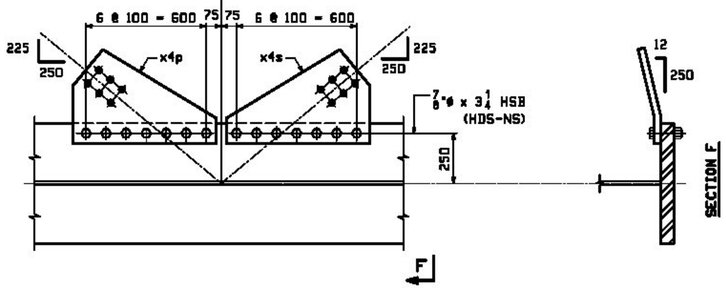
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3132PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/27	
	CHKD: PCP	DATE: 9/17/12	
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. 14	
PROJ NO. STP F 029-1(2)C/1		REV. ⚠	
CUSTOMER: WINTERSET, INC.			



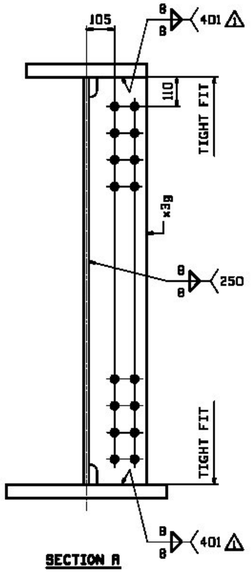
ONE - GIRDER - 15G5C

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C3.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BA-BA

SECTION F



SECTION A



ORIENTATION DIAGRAM

FOR INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	15	⚠1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		15G5C	1		GIRDER				24370 kg 53708 lbs	
1	Y		1	ma	PL 20x2125	19	848	M270M-345WT2	5322 kg 11697 lbs	
1	M		1	mb	PL 20x2125	19	280	M270M-345WT2	5439 kg 11981 lbs	
2	N		1	ta	PL 30x500	24	228		2853 kg 6285 lbs	
2	L		1	tb	PL 30x500	14	000		1649 kg 3634 lbs	
1	S		1	ba	PL 35x600	24	228	M270M-345WT2	3964 kg 8693 lbs	
1	Q		1	bb	PL 35x600	13	954	M270M-345WT2	2880 kg 6271 lbs	
3	X		7	x3g	PL 13x240	2	125	M270M-345WT2	32 kg 115 lbs	
6	K		6	x4p	PL 13x715	0	470	(BENT)	34 kg 76 lbs	
5	K		5	x4s	PL 13x715	0	470	(BENT)	34 kg 76 lbs	
8	F		84		⅞ ø HSB	0	3 1/4	(RCT) M164M-S	27 kg 61 lbs	
8	P		84		7/8 ø HSN			(RCT) M164 (S&T-TH3)	14 kg 31 lbs	
8	Q		84		⅞ ø HSW			F436M-S	403 kg 887 lbs	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	13/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 15G5C

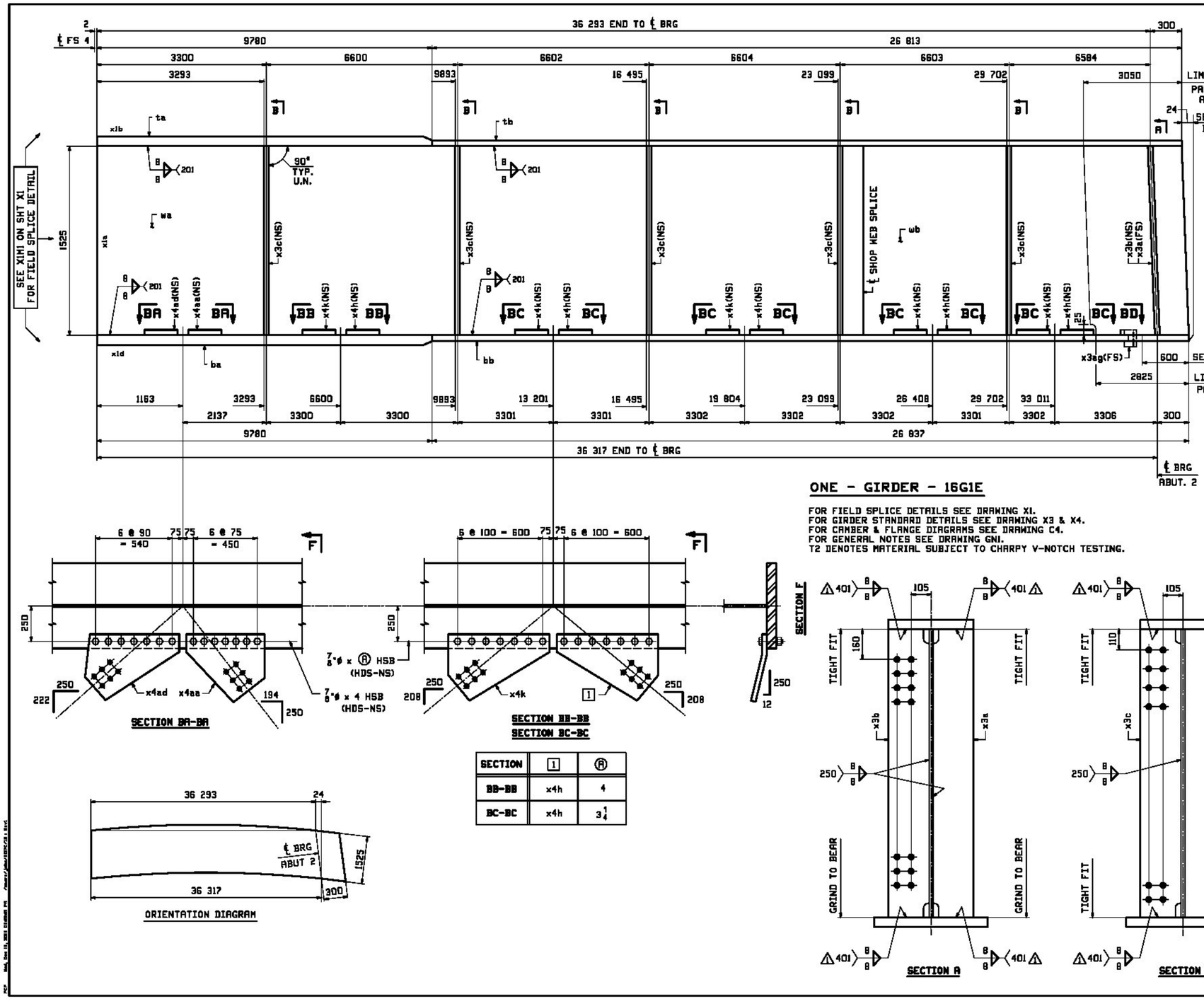
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 3192C

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/27
	CHKD: PCP	DATE: 9/17/12
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. 15
PROJ NO. STP F 029-1(2)C/1		REV. ⚠1
CUSTOMER: WINTERSET, INC.		

Agency of Transportation
✓ Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Bonneau 12/21/12
Douglas E Bonneau, P.E. Date
Structures Project Manager

PCP Wed, Dec 19, 2012 11:08:08 P:\Projects\Jobs\1200\29-1 Bridge\



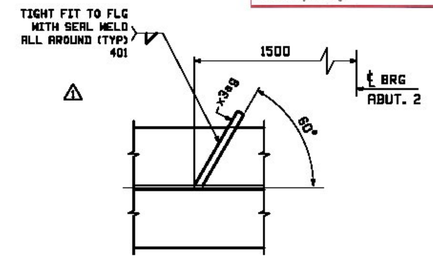
SECTION	1	Ⓐ
BB-BB	x4h	4
BC-BC	x4h	3 1/4

ORIENTATION DIAGRAM

ONE - GIRDER - 16G1E

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C4.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.



SECTION BD

FDM INFO PAGE	FDM INFO LINE	SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		16G1E	1		GIRDER				20809 kg 45873 lbs	
2	A		1	wa	PL 20x1525	24	232	M270M-345MT2	8902 kg 19631 lbs	
2	C		1	wb	PL 20x1525	12	401	M270M-345MT2	7958 kg 17545 lbs	
2	J		1	ta	PL 50x450	9	780		1727 kg 3809 lbs	
2	Q		1	tb	PL 30x450	25	813		8949 kg 19734 lbs	
1	L		1	ba	PL 50x600	9	780	M270M-345MT2	2303 kg 5078 lbs	
1	N		1	bb	PL 35x600	25	837	M270M-345MT2	4424 kg 9753 lbs	
3	T		1	x3a	PL 25x215	1	525	MIE M270M-345MT2	84 kg 185 lbs	
3	T		1	x3b	PL 25x215	1	525	MIE M270M-345MT2	84 kg 185 lbs	
3	U		5	x3c	PL 13x215	1	525	M270M-345MT2	33 kg 74 lbs	
5	R		1	x3ag	PL 6x85	0	395		2 kg 3 lbs	
5	G		5	x4h	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	G		5	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4aa	PL 13x550	0	479	(BENT)	27 kg 58 lbs	
5	J		1	x4ad	PL 13x565	0	464	(BENT)	31 kg 69 lbs	
8	F		58		7/8 ø HSB	0	3 1/4	(RCT) F436M-3	27 kg 61 lbs	
8	J		28		7/8 ø HSB	0	4	(RCT) F436M-3	27 kg 61 lbs	
8	P		84		7/8 ø HAN			(RCT) F436M (GR-DH3)	14 kg 311 lbs	
8	Q		84		7/8 ø HSN			F436M-3	013 kg 07 lbs	

JOB NO. 521 | DRAWING NO. 16 | REV. 1

Agency of Transportation
Approved | Rejected
Furnish as Corrected | Revise & Resubmit
Douglas E Bonneau, P.E. — Structures Project Manager — Date

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

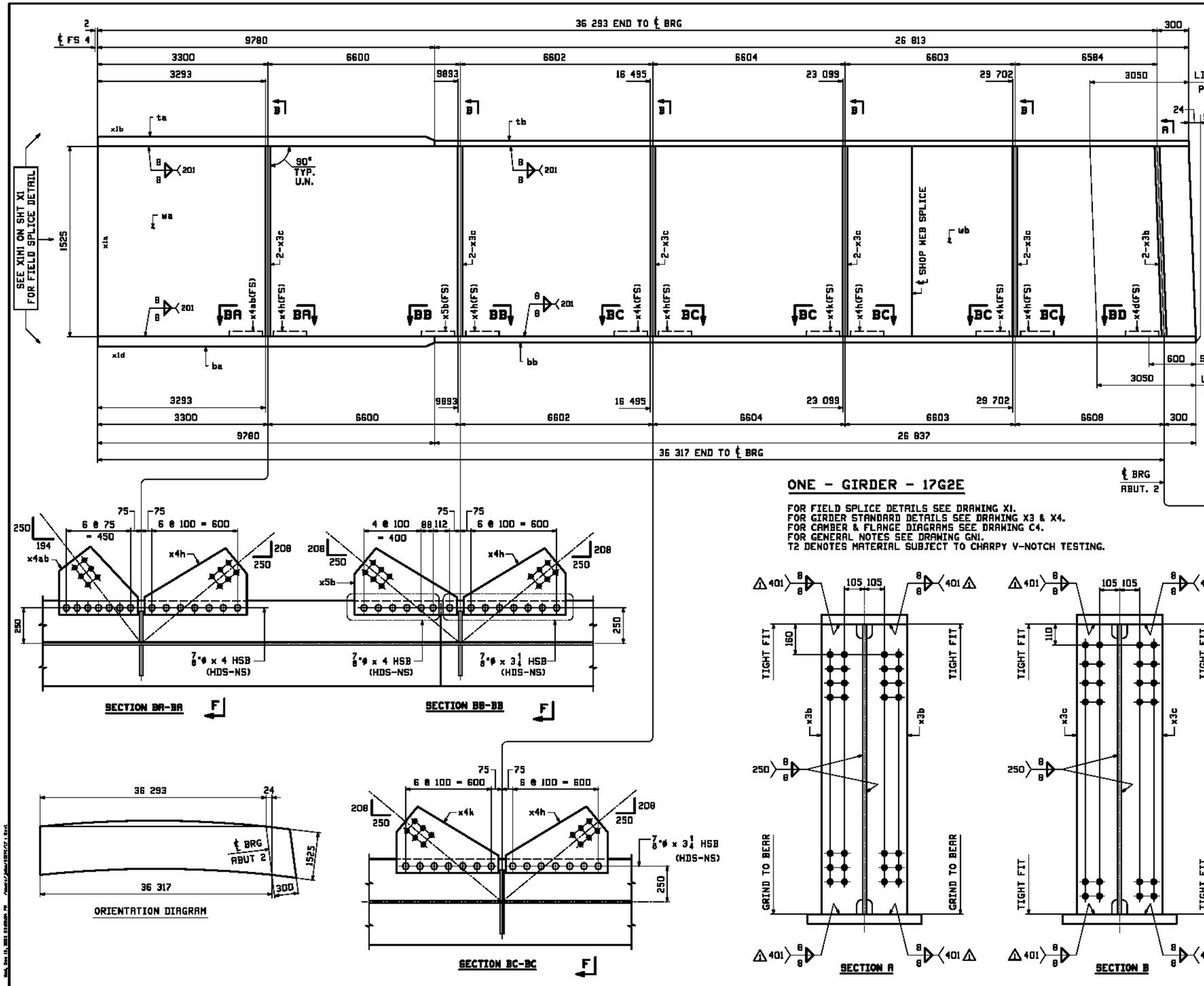
MATERIAL: M270M-345W UN | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15/16ø | SHOP BOLTS: AS NOTED

DESCRIPTION: GIRDER DETAIL - 16G1E

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: CRK | DATE: 08/27
CHKD: PCP | DATE: 9/17/12
LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 16
PROJ NO. STP F 029-1(2)C/1 | REV. 1
CUSTOMER: WINTERSET, INC.



NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.

ONE - GIRDER - 17G2E

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C4.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

SECTION BA-BA F

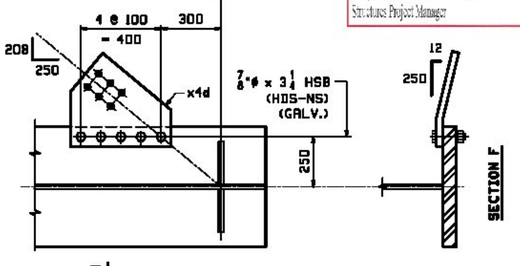
SECTION BB-BB F

ORIENTATION DIAGRAM

SECTION BC-BC F

SECTION A

SECTION B



F SECTION BD-BD

FORM INFO		SHOP	BILL OF MATERIAL						JOB NO.	DRAWING NO.	REV.
									521	17	⚠
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		17G2E	1		GIRDER				20995 kg 46128 lbs	
2	A		1	wa	PL 20x1525	24	232	M270M-345MT2	8002 kg 17631 lbs	
2	C		1	wb	PL 20x1525	12	401	M270M-345MT2	7988 kg 17601 lbs	
2	J		1	ta	PL 50x450	9	780		1727 kg 3809 lbs	
2	Q		1	tb	PL 30x450	25	813		8943 kg 19714 lbs	
1	L		1	ba	PL 50x600	9	780	M270M-345MT2	2303 kg 5076 lbs	
1	N		1	bb	PL 35x600	25	837	M270M-345MT2	4424 kg 9753 lbs	
3	T		2	x3b	PL 25x215	1	525	MIE M270M-345MT2	84 kg 185 lbs	
3	U		10	x3c	PL 13x215	1	525	M270M-345MT2	33 kg 74 lbs	
5	F		1	x4d	PL 13x500	0	467	(BENT)	24 kg 53 lbs	
5	G		9	x4h	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	G		3	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4ab	PL 13x550	0	479	(BENT)	27 kg 59 lbs	
5	G		1	x5b	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
8	F		50		7/8 ø HSB	0	3 1/4	(RCT) F436M-3	.27 kg .61 lbs	
8	J		20		3/4 ø HSB	0	4	(RCT) F436M-3	.27 kg .61 lbs	
8	P		70		7/8 ø HAN			(RCT) F436M (GR-DH3)	.13 kg .301 lbs	
8	Q		70		7/8 ø HSN			F436M-3	.013 kg .07 lbs	
8	F		5		7/8 ø HSB	0	3 1/4	(RCT)(GALV) F436M-3	.27 kg .61 lbs	
8	P		5		7/8 ø HAN			(RCT)(GALV) F436M (GR-DH3)	.13 kg .30 lbs	
8	Q		5		7/8 ø HSN			F436M-3	.013 kg .07 lbs	

SIGNED
Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Brumley, P.E. 10/31/12
Structures Project Manager Date

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
⚠	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

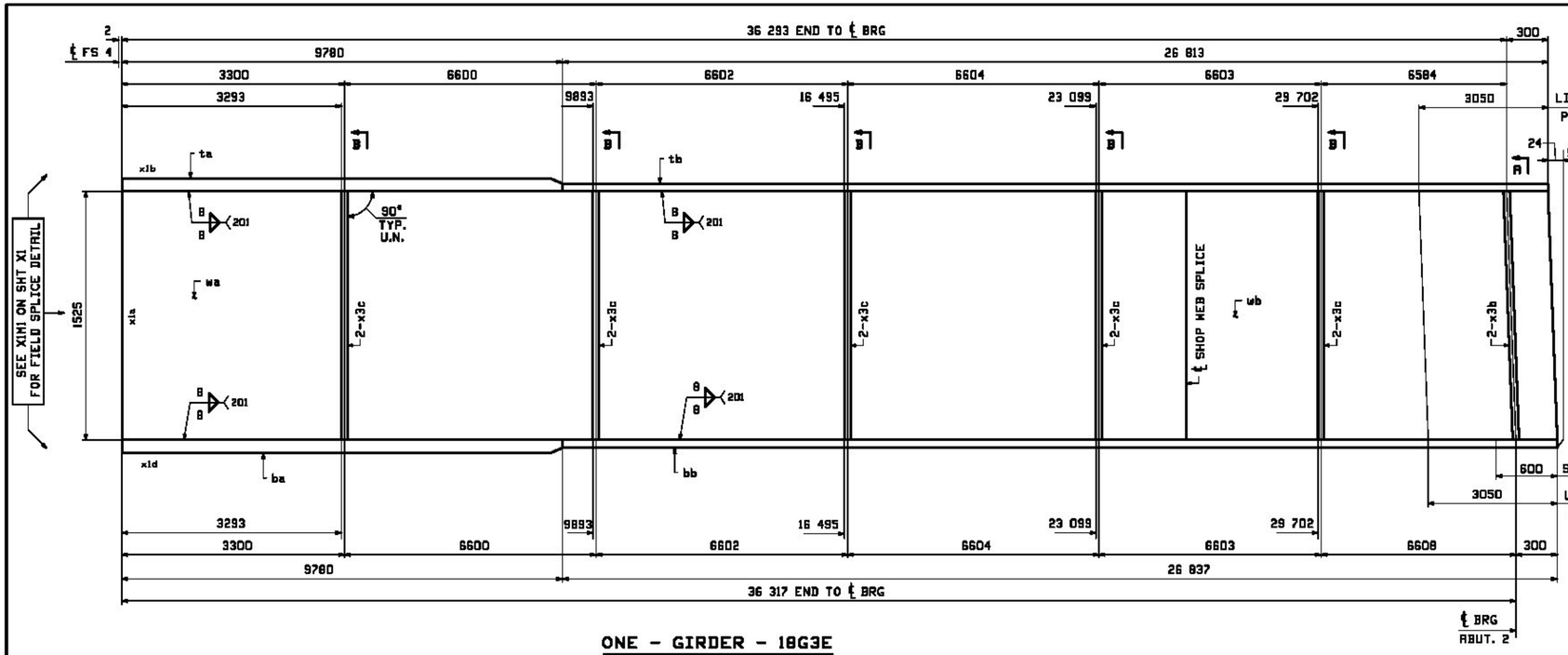
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16ø	AS NOTED

DESCRIPTION: GIRDER DETAIL - 17G2E

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 2135PC

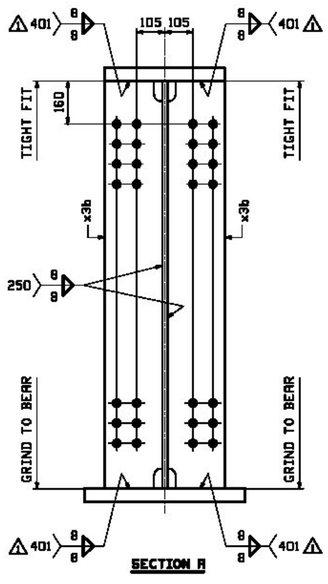
STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: CRK	DATE: 08/27
		CHKD: PCP	DATE: 9/17/12
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	17
CUSTOMER:	WINTERSET, INC.		REV. ⚠



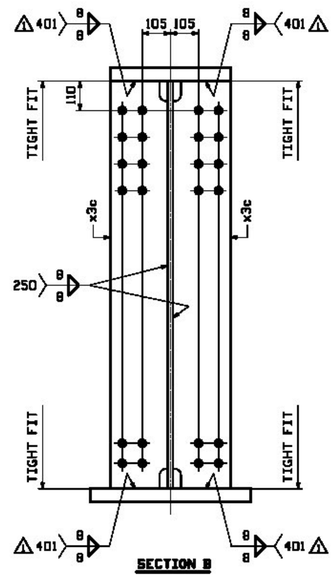
NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.

ONE - GIRDER - 18G3E

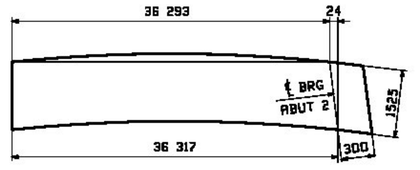
FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C4.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A



SECTION B



ORIENTATION DIAGRAM

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	18	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		17G2E	1		GIRDER				10530 kg 15280 lbs	
2	A		1	wa	PL 20x1525	24	232	M270M-345WT2	9002 kg 19731 lbs	
2	C		1	wb	PL 20x1525	12	401	M270M-345WT2	2988 kg 6546 lbs	
2	J		1	ta	PL 50x450	9	780		1727 kg 3808 lbs	
2	Q		1	tb	PL 30x450	26	813		2842 kg 6264 lbs	
1	L		1	ba	PL 50x600	9	780	M270M-345WT2	2303 kg 5079 lbs	
1	N		1	bb	PL 35x600	26	837	M270M-345WT2	4424 kg 9753 lbs	
3	T		2	x3b	PL 25x215	1	525	M1E M270M-345WT2	84 kg 142 lbs	
3	U		10	x3c	PL 13x215	1	525	M270M-345WT2	33 kg 74 lbs	

Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Bonneau, P.E. 12/21/12
Structures Project Manager Date

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16 ø	AS NOTED

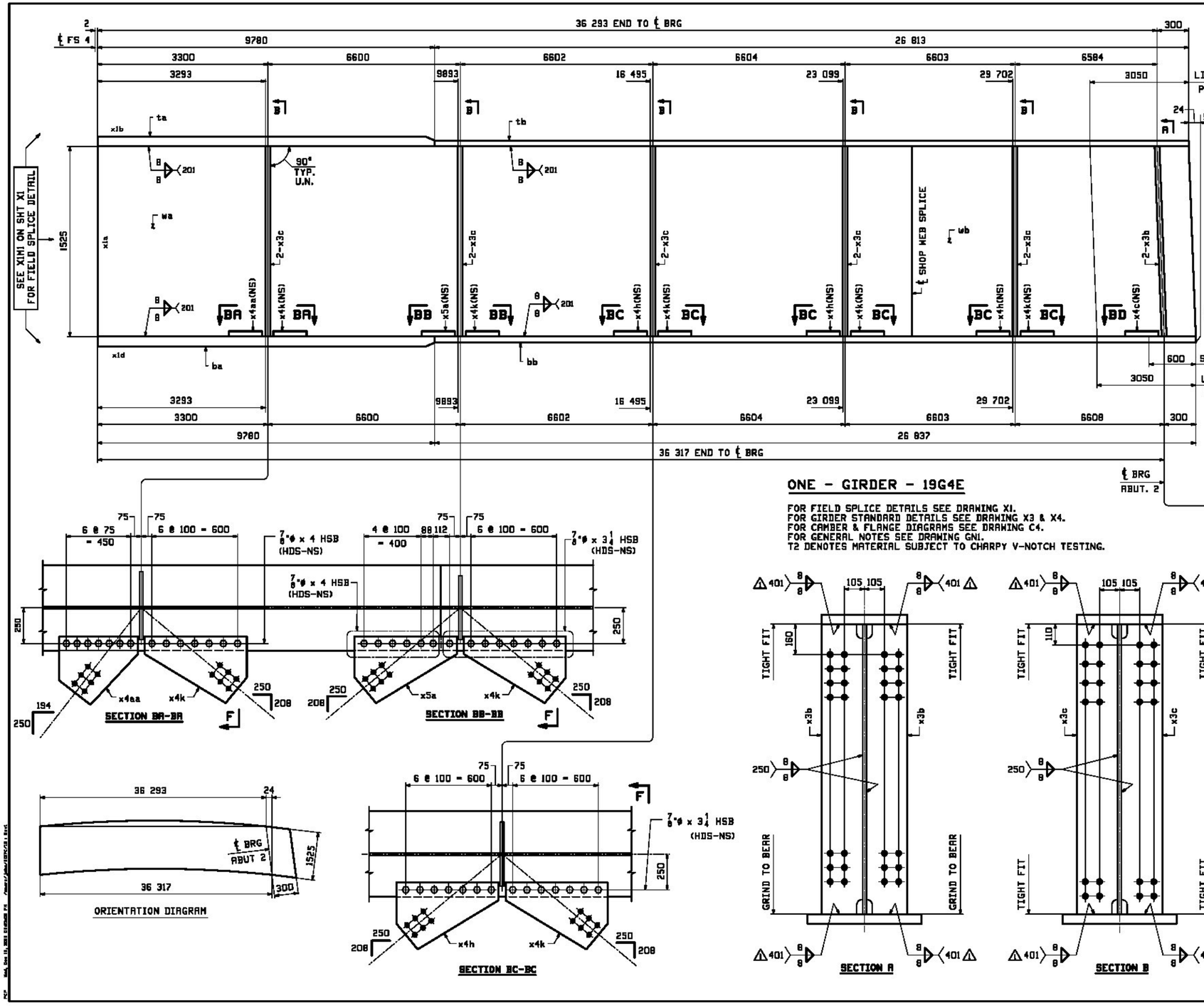
DESCRIPTION: GIRDER DETAIL - 18G3E

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3137C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
CRK	08/28
CHKD:	DATE:
PCP	9/17/12

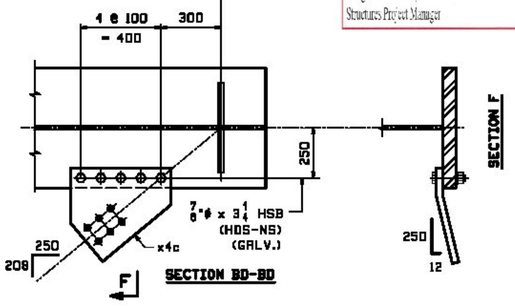
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	18
CUSTOMER:	WINTERSET, INC.		REV. 1



ONE - GIRDER - 19G4E

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C4.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

ORIENTATION DIAGRAM



BILL OF MATERIAL

FORM INFO PAGE	FORM INFO LINE	SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		19G4E	1		GIRDER				22995 kg 50668 lbs	
2	A		1	wa	PL 20x1525	24	232	M270M-345MT2	3002 kg 6731 lbs	
2	C		1	wb	PL 20x1525	12	401	M270M-345MT2	2988 kg 6565 lbs	
2	J		1	ta	PL 50x450	9	780		1727 kg 3809 lbs	
2	Q		1	tb	PL 30x450	25	813		2943 kg 6264 lbs	
1	L		1	ba	PL 50x600	9	780	M270M-345MT2	2303 kg 5078 lbs	
1	N		1	bb	PL 35x600	25	837	M270M-345MT2	4424 kg 9753 lbs	
3	T		2	x3b	PL 25x215	1	525	MIE M270M-345MT2	84 kg 185 lbs	
3	U		10	x3c	PL 13x215	1	525	M270M-345MT2	33 kg 74 lbs	
5	F		1	x4c	PL 13x500	0	467	(BENT)	24 kg 53 lbs	
5	G		3	x4h	PL 13x715	0	467	(BENT)	54 kg 120 lbs	
5	G		5	x4k	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4aa	PL 13x550	0	479	(BENT)	27 kg 59 lbs	
5	G		1	x5a	PL 13x715	0	467	(BENT)	34 kg 75 lbs	
8	F		50		7/8 ø HSB	0	3 1/4	(RCT) M164M-8	47 kg 81 lbs	
8	J		20		3/4 ø HSB	0	4	(RCT) M164M-8	27 kg 61 lbs	
8	P		70		7/8 ø HAN			(RCT) M164 (GR-IH-H)	13 kg 301 lbs	
8	Q		70		7/8 ø HSN			F436M-8	113 kg 07 lbs	
9	F		5		7/8 ø HSB	0	3 1/4	(RCT)(GALV) M164M-8	47 kg 81 lbs	
9	P		5		7/8 ø HAN			(RCT)(GALV) M164 (GR-IH-H)	18 kg 20 lbs	
9	Q		5		3/4 ø HSN			(GALV) F436M-8	03 kg 07 lbs	

JOB NO. 521 | DRAWING NO. 19 | REV. 1

Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Benneau, P.E. 12/2/12
Structures Project Manager Date

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W UN | SURFACE PREP. & PAINT: SEE GN1 | HOLES: 15 x 14ø | SHOP BOLTS: AS NOTED

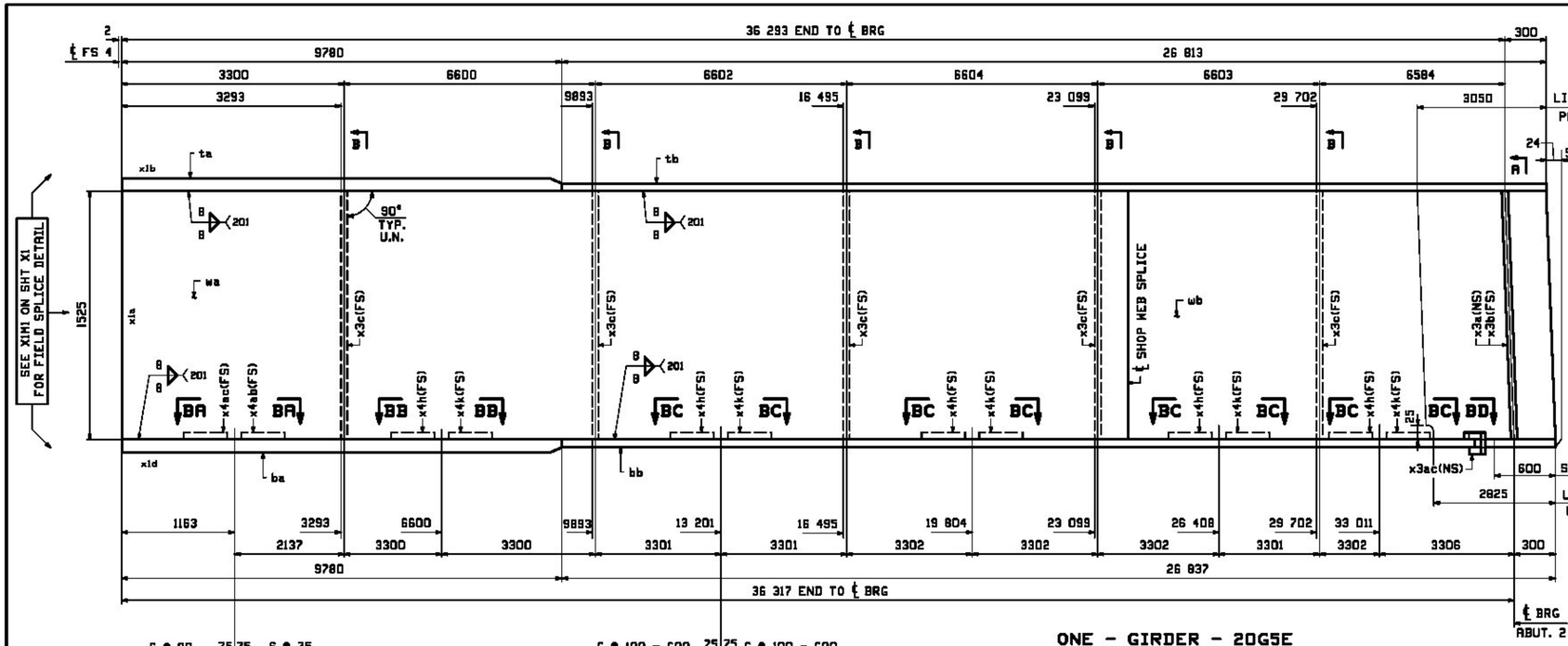
DESCRIPTION: GIRDER DETAIL - 19G4E

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726

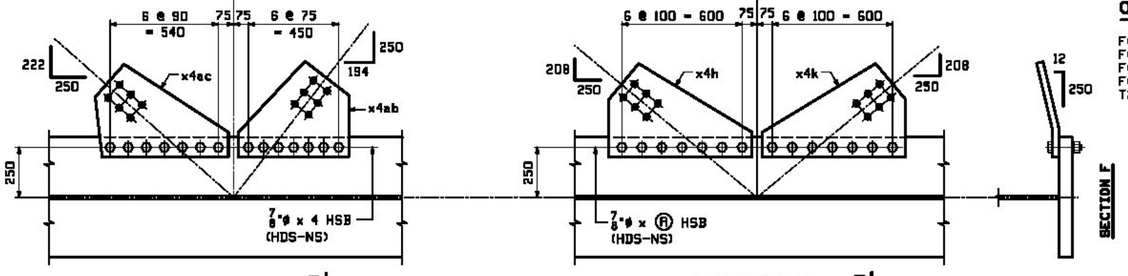
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: CRK DATE: 08/28
CHKD: PCP DATE: 9/17/12

LOCATION: MORRISTOWN, VT | JOB NO. 521 | DWG NO. 19
PROJ NO. STP F 029-1(2)C/1 | REV. 1
CUSTOMER: MINTERSET, INC.



NOTE A:
BEARING AREA TO RECEIVE FIELD WELDED SOLE PLATE. NO PAINT BOTTOM & EDGES OF BOTTOM FLANGE.



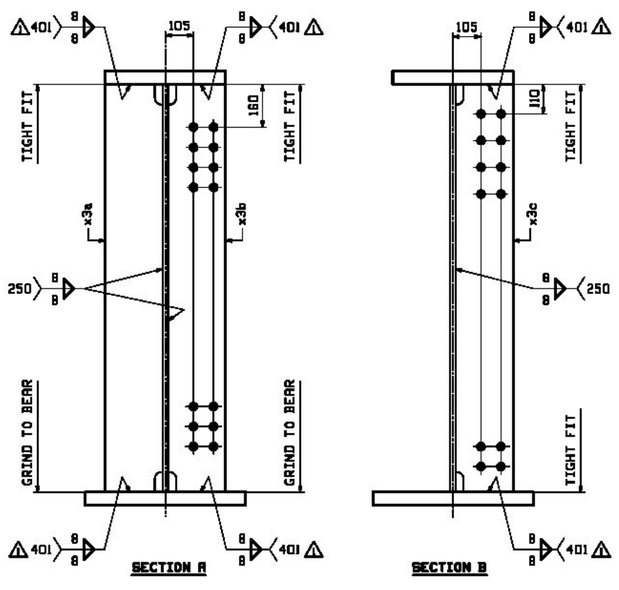
SECTION BA-BA

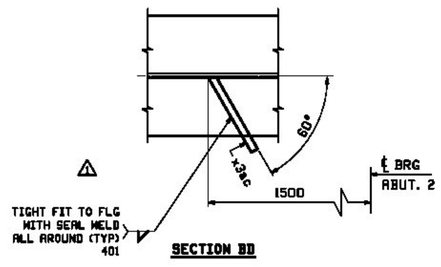
SECTION BB-BB
SECTION BC-BC

SECTION	1	Ⓐ
BB-BB	x4k	4
BC-BC	x4k	3 1/4

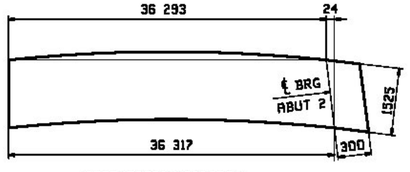
ONE - GIRDER - 20G5E

FOR FIELD SPLICE DETAILS SEE DRAWING X1.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X4.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C4.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.





SECTION BD



ORIENTATION DIAGRAM

FORM INFO		SHOP	BILL OF MATERIAL				LENGTH		JOB NO. 521	DRAWING NO. 20	REV. 1
PAGE	LINE	MARK	QTY	MARK	MATERIAL		m	mm	REMARKS	WT	PROCUREMENT NOTES
		20G5E	1		GIRDER					22020 kg 48523 lbs	
2	A		1	wa	PL 20x1525		24	232	M270M-345W T2	3002 kg 6731 lbs	
2	C		1	wb	PL 20x1525		12	401	M270M-345W T2	2988 kg 6565 lbs	
2	J		1	ta	PL 50x450		9	780		1727 kg 3809 lbs	
2	Q		1	tb	PL 30x450		25	813		2943 kg 6264 lbs	
1	L		1	ba	PL 50x600		9	780	M270M-345W T2	2303 kg 5076 lbs	
1	N		1	bb	PL 35x600		25	837	M270M-345W T2	4424 kg 9753 lbs	
3	T		1	x3a	PL 25x215		1	525	MIL M270M-345W T2	84 kg 185 lbs	
3	T		1	x3b	PL 25x215		1	525	MIL M270M-345W T2	84 kg 185 lbs	
3	U		5	x3c	PL 13x215		1	525	M270M-345W T2	33 kg 74 lbs	
5	R		1	x3ac	PL 6x85		0	395		2 kg 3 lbs	
5	G		5	x4h	PL 13x715		0	467	(BENT)	34 kg 75 lbs	
5	G		5	x4k	PL 13x715		0	467	(BENT)	34 kg 75 lbs	
5	H		1	x4ab	PL 13x550		0	479	(BENT)	27 kg 58 lbs	
5	J		1	x4ac	PL 13x565		0	464	(BENT)	31 kg 69 lbs	
8	F		58		7/8 ø HSB		0	3 1/4	(RCT) M164M-3	47 kg 91 lbs	
8	J		28		7/8 ø HSB		0	4	(RCT) M164M-3	27 kg 61 lbs	
8	P		84		7/8 ø HAN				(RCT) S1043 (GR-IH-N)	14 kg 311 lbs	
8	Q		84		7/8 ø HSN				F436M-3	013 kg 027 lbs	

STATE OF VERMONT
Agency of Transportation
X Approved — Rejected
Furnish as Corrected — Revise & Resubmit
Douglas E Bronsdon — 8/16/12
Douglas E Bronsdon, P.E. — Date
Structures Project Manager

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W UN	SEE GN1	15/16ø	AS NOTED

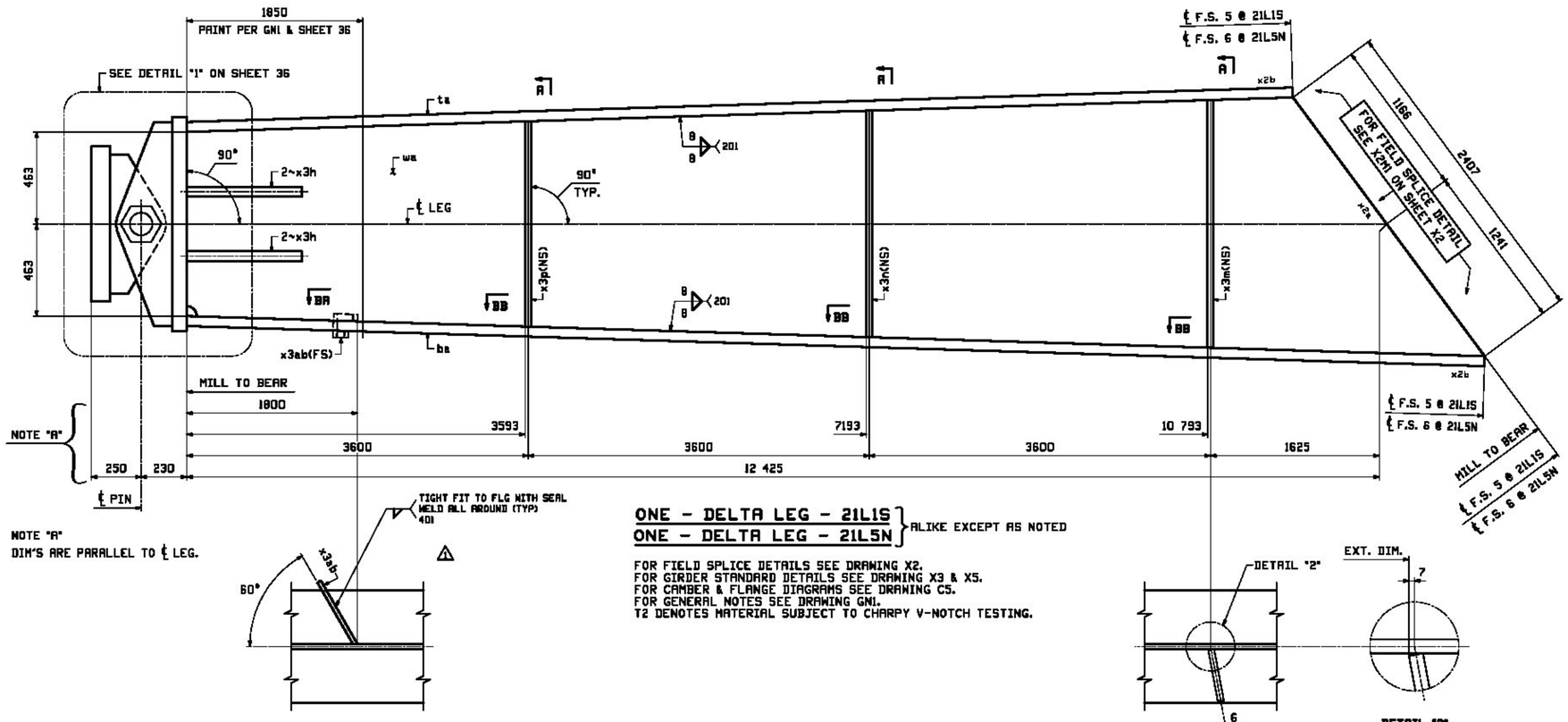
DESCRIPTION: GIRDER DETAIL - 20G5E

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3130PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
CRK	08/28
CHKD:	DATE:
PCP	9/17/12

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	20
CUSTOMER:	MINTERSET, INC.		REV. 1

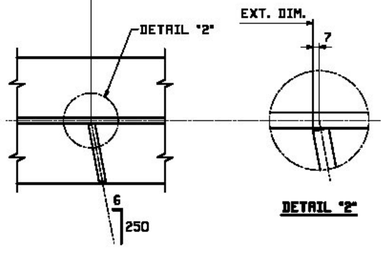


NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

SECTION BA

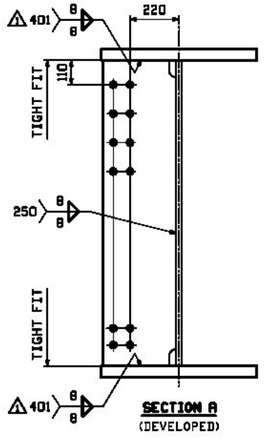
ONE - DELTA LEG - 21L1S
ONE - DELTA LEG - 21L5N
ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION BB

DETAIL "2"



SECTION A
(DEVELOPED)

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	21	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		21L1S	1		DELTA LEG				3073 kg 6054.1 lbs	
		21L5N	1		DELTA LEG				3073 kg 6054.1 lbs	
1	U		2	wa	PL 25x1646	13	340	M2E M270M-345WT2	4309 kg 9500 lbs	
2	G		2	ta	PL 50x700	11	605	M1E M270M-345WT2	3190 kg 7029 lbs	
2	E		2	ba	PL 50x700	13	311	M1E M270M-345WT2	3657 kg 8089 lbs	
5	R		8	x3h	PL 50x340	0	800	M1E	107 kg 235 lbs	
5	H		2	x3m	PL 13x330	1	598		54 kg 115 lbs	
5	J		2	x3n	PL 13x330	1	374		48 kg 102 lbs	
5	K		2	x3p	PL 13x330	1	150		38 kg 69 lbs	
6	R		2	x3ab	PL 6x100	0	440		2 kg 5 lbs	
			2	36BA1	BEARING ASSEMBLY				2150 kg 4740 lbs	

Agency of Transportation
Approved / Rejected
Furnish as Corrected / Revise & Resubmit
Douglas E. Bonneau, P.E. Date
Structures Project Manager

WORK THIS SHEET WITH SHEET 36

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

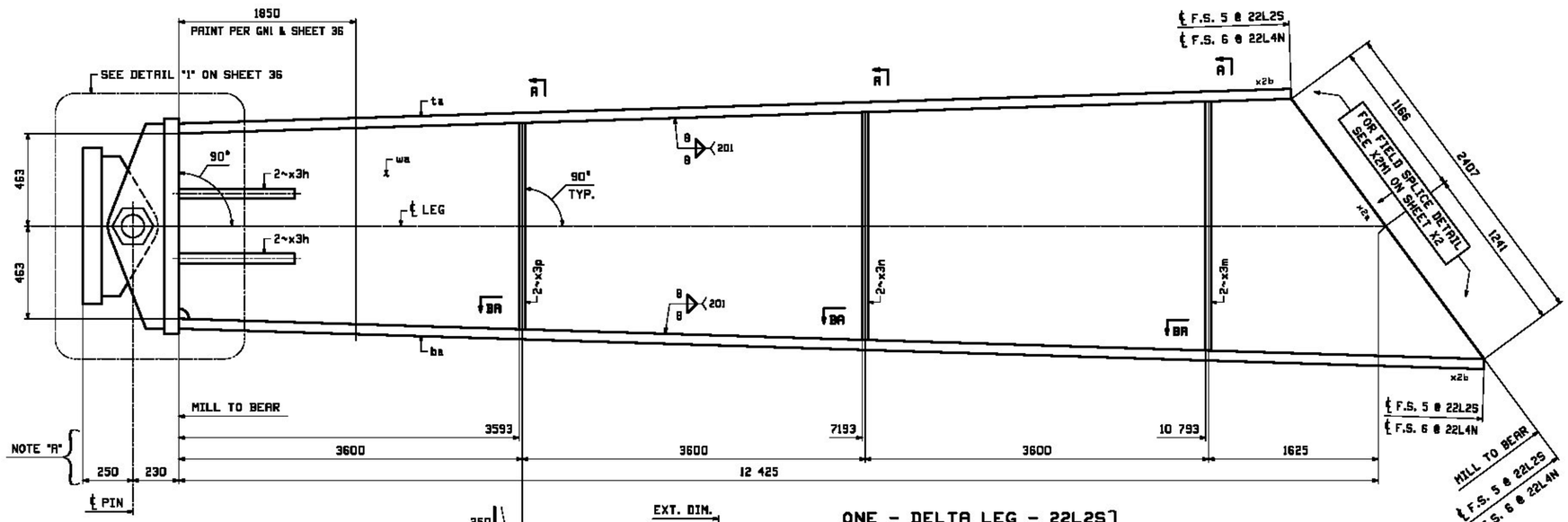
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	AS NOTED	15/16	NONE

DESCRIPTION: GIRDER DETAIL - 21L1S & 21L5N

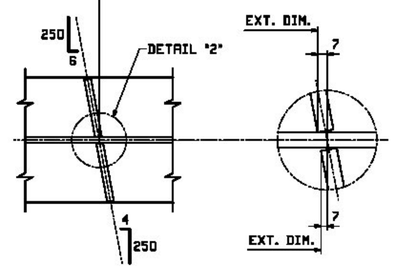
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3137C

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/28
		CHKD: PCP	DATE: 09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	21
CUSTOMER:	WINTERSET, INC.		REV. 1

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	22	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH ft	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		22L2S	1		DELTA LEG				4010 kg 8086 lbs	
		22L4N	1		DELTA LEG				4010 kg 8086 lbs	
1	U		2	wa	PL 25x1646	13	340	M2E M270M-345WT2	4309 kg 3500 lbs	
2	G		2	ta	PL 50x700	11	605	M1E M270M-345WT2	3190 kg 2029 lbs	
2	E		2	ba	PL 50x700	13	311	M1E M270M-345WT2	3657 kg 8083 lbs	
5	R		8	x3h	PL 50x340	0	800	M1E	107 kg 235 lbs	
5	H		4	x3m	PL 13x330	1	598		54 kg 115 lbs	
5	J		4	x3n	PL 13x330	1	374		48 kg 102 lbs	
5	K		4	x3p	PL 13x330	1	150		38 kg 69 lbs	
			2	36BA1	BEARING ASSEMBLY				2150 kg 4740 lbs	



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

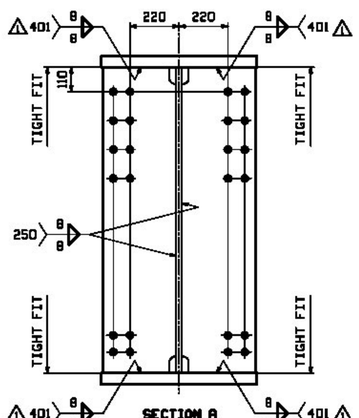


SECTION BA

DETAIL "2"

ONE - DELTA LEG - 22L2S
ONE - DELTA LEG - 22L4N
} ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A
(DEVELOPED)

Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E. Bonneau, P.E. 12/2/12
Structures Project Manager Date

WORK THIS SHEET WITH SHEET 36

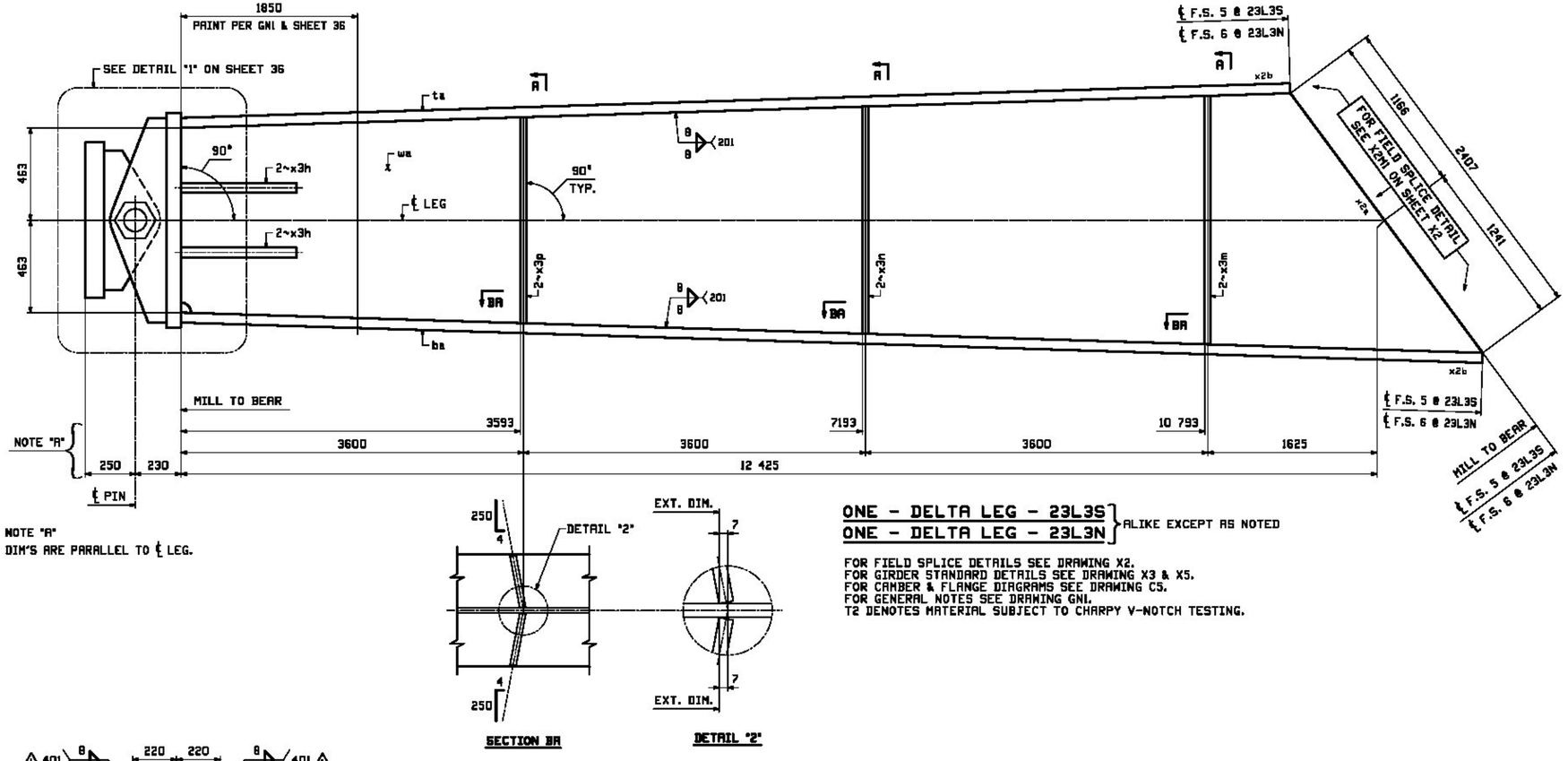
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	AS NOTED	5/16	NONE

DESCRIPTION: GIRDER DETAIL - 22L2S & 22L4N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3037C

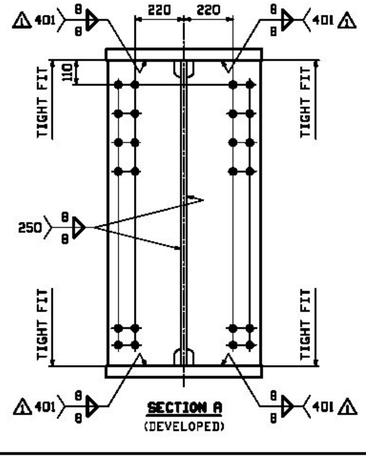
STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/31
		CHKD: PCP	DATE: 09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	22
CUSTOMER:	WINTERSET, INC.		REV. 1



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

SECTION BA

DETAIL "2"



SECTION A
(DEVELOPED)

ONE - DELTA LEG - 23L3S
ONE - DELTA LEG - 23L3N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	23	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		23L3S	1		DELTA LEG				4010 kg 8888 lbs	
		23L3N	1		DELTA LEG				4010 kg 8888 lbs	
1	U		2	wa	PL 25x1845	13	340	M2E M270M-345WT2	10879 kg 24006 lbs	
2	G		2	ta	PL 50x700	11	605	M1E M270M-345WT2	3190 kg 7036 lbs	
2	E		2	ba	PL 50x700	13	311	M1E M270M-345WT2	3657 kg 8063 lbs	
5	R		8	x3h	PL 50x340	0	800	M1E	107 kg 235 lbs	
5	H		4	x3m	PL 13x330	1	598		54 kg 118 lbs	
5	J		4	x3n	PL 13x330	1	374		42 kg 102 lbs	
5	K		4	x3p	PL 13x330	1	150		38 kg 83 lbs	
									3190 kg 7040 lbs	
			2	36BA1	BEARING ASSEMBLY					

APPROVED:
Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Bormeau 8/31/18
Douglas E Bormeau, P.E. Date
Structures Project Manager

WORK THIS SHEET WITH SHEET 36

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N.
SURFACE PREP. & PAINT: AS NOTED
HOLES: 13/16ø
SHOP BOLTS: NONE

DESCRIPTION: GIRDER DETAIL - 23L3S & 23L3N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

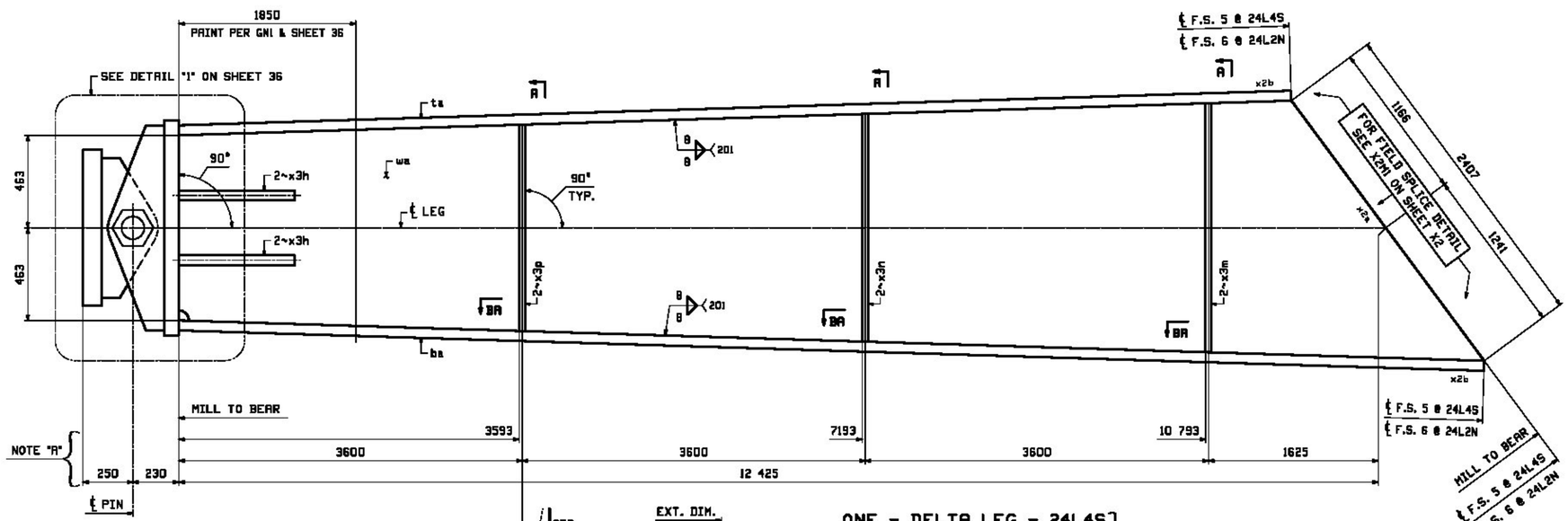
TENSAR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

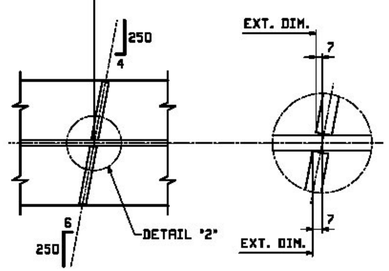
DRAWN: EEO DATE: 08/31
CHKD: PCP DATE: 09/17

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.

JOB NO. 521
DWG NO. 23
REV. 1



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

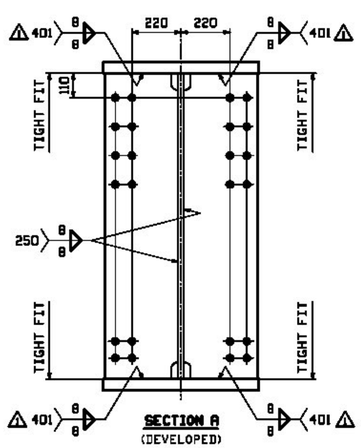


SECTION BA

DETAIL "2"

ONE - DELTA LEG - 24L4S
ONE - DELTA LEG - 24L2N
} ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GN1.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



SECTION A
(DEVELOPED)

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	24	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		24L4S	1		DELTA LEG				4010 kg 8086 lbs	
		24L2N	1		DELTA LEG				4010 kg 8086 lbs	
1	U		2	wa	PL 25x1646	13	340	M2E M270M-345WT2	4309 kg 3500 lbs	
2	G		2	ta	PL 50x700	11	605	M1E M270M-345WT2	3190 kg 7029 lbs	
2	E		2	ba	PL 50x700	13	311	M1E M270M-345WT2	3657 kg 8089 lbs	
5	R		8	x3h	PL 50x340	0	800	M1E	107 kg 235 lbs	
5	H		4	x3m	PL 13x330	1	598		54 kg 115 lbs	
5	J		4	x3n	PL 13x330	1	374		48 kg 102 lbs	
5	K		4	x3p	PL 13x330	1	150		38 kg 69 lbs	
			2	36BA1	BEARING ASSEMBLY				2150 kg 4740 lbs	

Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E. Bonneau 12/2/12
Douglas E Bonneau, P.E. Date
Structures Project Manager

WORK THIS SHEET WITH SHEET 36

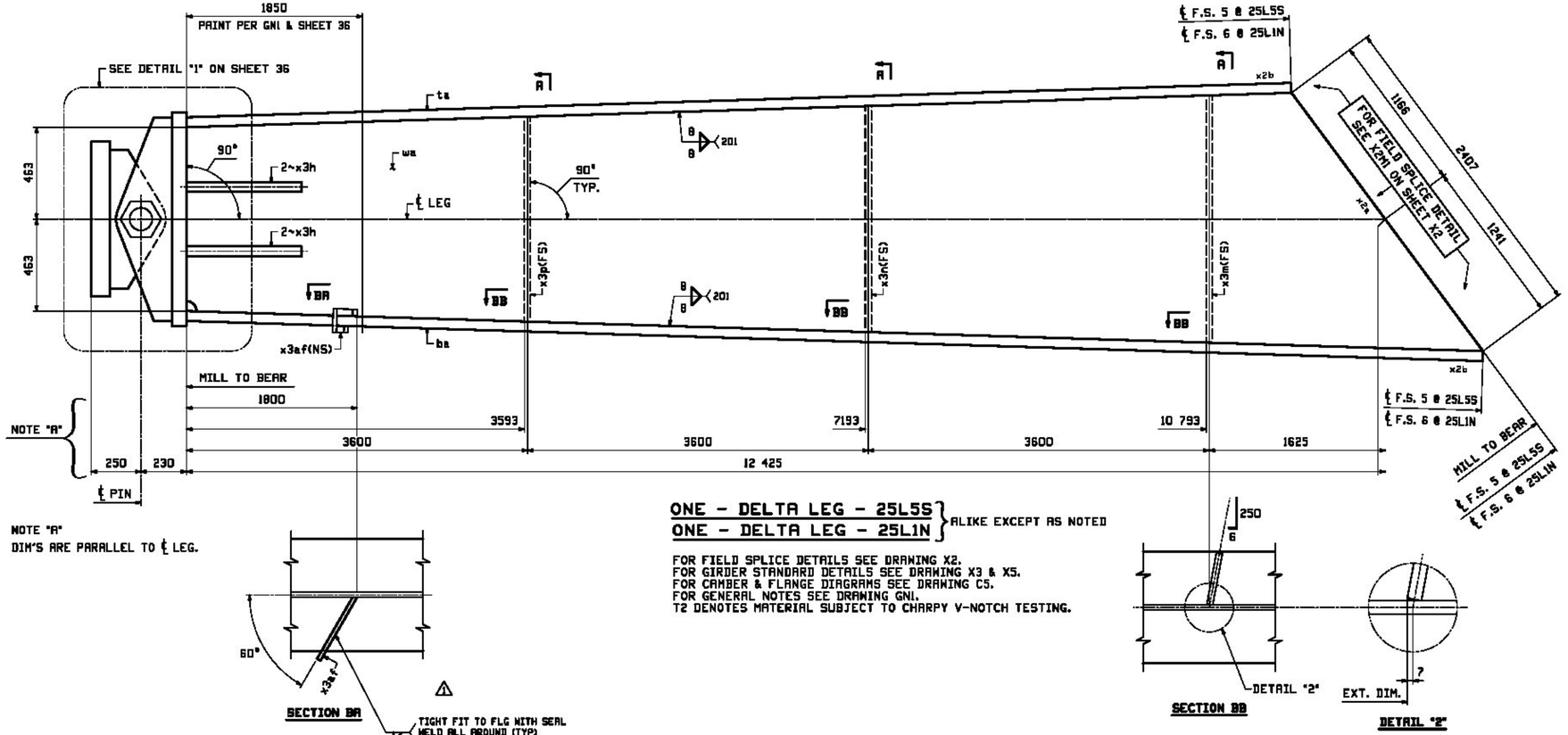
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	AS NOTED	15/16 ø	NONE

DESCRIPTION: GIRDER DETAIL - 24L4S & 24L2N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3137C

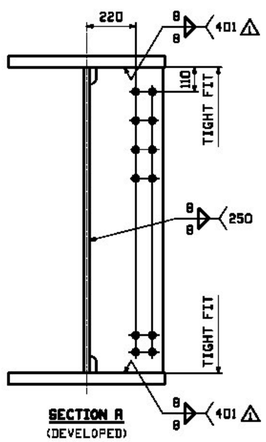
STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 08/31
		CHKD: PCP	DATE: 09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	24
CUSTOMER:	WINTERSET, INC.		REV. 1



NOTE "A"
DIM'S ARE PARALLEL TO ℄ LEG.

ONE - DELTA LEG - 25L5S
ONE - DELTA LEG - 25L1N } ALIKE EXCEPT AS NOTED

FOR FIELD SPLICE DETAILS SEE DRAWING X2.
FOR GIRDER STANDARD DETAILS SEE DRAWING X3 & X5.
FOR CAMBER & FLANGE DIAGRAMS SEE DRAWING C5.
FOR GENERAL NOTES SEE DRAWING GNI.
T2 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.



FOR SHOP INFO		SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		25L5S	1		DELTA LEG				3973 kg 8756.1 lbs	
		25L1N	1		DELTA LEG				3973 kg 8756.1 lbs	
1	U		2	wa	PL 25x1845	13	340	M2E M270M-345WT2	18079 kg 39065 lbs	
2	G		2	ta	PL 50x700	11	605	M1E M270M-345WT2	3190 kg 7029.8 lbs	
2	E		2	ba	PL 50x700	13	311	M1E M270M-345WT2	3657 kg 8059 lbs	
5	R		8	x3h	PL 50x340	0	800	M1E	107 kg 235 lbs	
5	H		2	x3m	PL 13x330	1	598		54 kg 118 lbs	
5	J		2	x3n	PL 13x330	1	374		43 kg 102 lbs	
5	K		2	x3p	PL 13x330	1	150		35 kg 69 lbs	
6	R		2	x3af	PL 6x100	0	440		2 kg 5 lbs	
			2	36BRI	BEARING ASSEMBLY				2190 kg 4740 lbs	

JOB NO. 521 | DRAWING NO. 25 | REV. 1

Agency of Transportation
℄ Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E Bonneau, P.E. Date
Structures Project Manager

WORK THIS SHEET WITH SHEET 36

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W U.N. | SURFACE PREP. & PAINT: AS NOTED | HOLES: 15/16ø | SHOP BOLTS: NONE

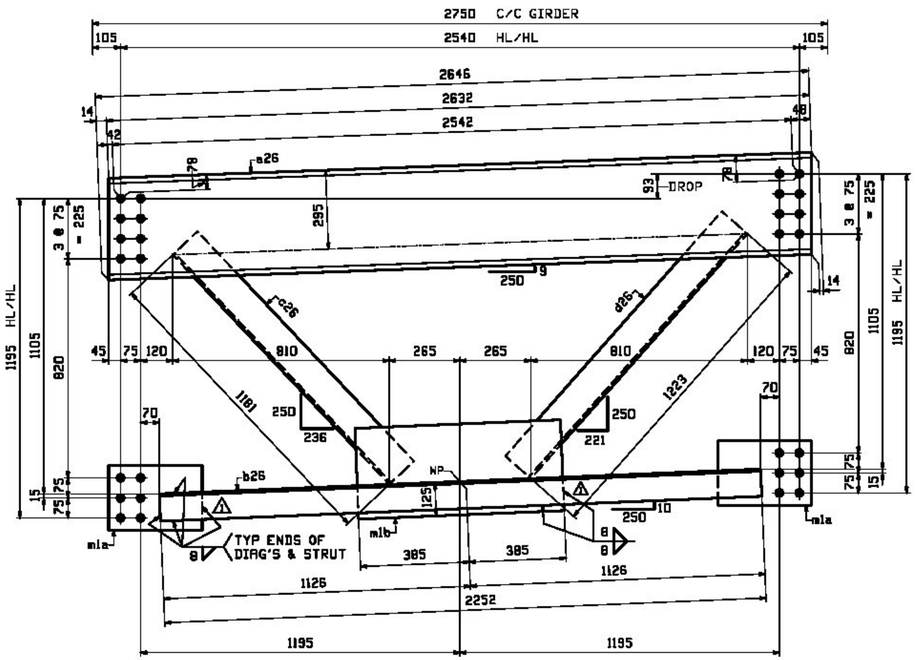
DESCRIPTION: GIRDER DETAIL - 25L5S & 25L1N

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726
TENSAR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

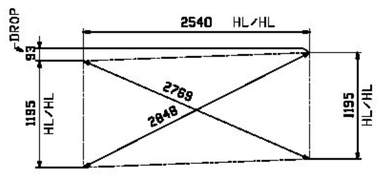
DRAWN: EEO	DATE: 08/31		
CHKD: PCP	DATE: 09/17		
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. 25	
PROJ NO. STP F 029-1(2)C/1		REV. 1	
CUSTOMER: WINTERSET, INC.			

ADM INFO		SHIP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	26	1
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		26CF1	2		END CROSSFRAMES			PAINTED	254 kg 559 lbs	
4	B		2	a26	C 380x50.4	2	646		133 kg 294 lbs	
4	D		2	b26	L 102x102x9.5	2	252		33 kg 72 lbs	
4	C		2	c26	L 127x127x9.5	1	181		22 kg 48 lbs	
4	C		2	d26	L 127x127x9.5	1	223		22 kg 49 lbs	
4	E		4	m1a	PL 13x240	0	350		9 kg 18 lbs	
4	F		2	m1b	PL 13x340	0	770		27 kg 59 lbs	
		26CF2	2		END CROSSFRAMES			PAINTED	254 kg 559 lbs	
4	B		2	f26	C 380x50.4	2	646		133 kg 294 lbs	
4	D		2	b26	L 102x102x9.5	2	252		33 kg 72 lbs	
4	C		2	c26	L 127x127x9.5	1	181		22 kg 48 lbs	
4	C		2	d26	L 127x127x9.5	1	223		22 kg 49 lbs	
4	E		4	m1a	PL 13x240	0	350		9 kg 18 lbs	
4	F		2	m1b	PL 13x340	0	770		27 kg 59 lbs	

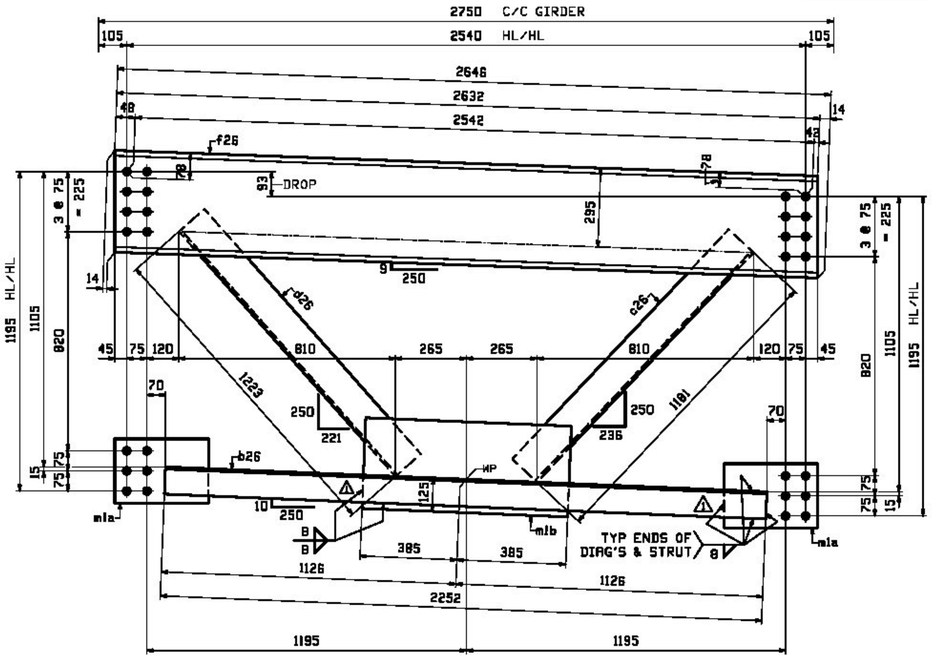


2 ~ END CROSSFRAMES - 26CF1 ← PAINTED (SEE DWG GN1)

TYPE D1 - LOOKING UP-STATION

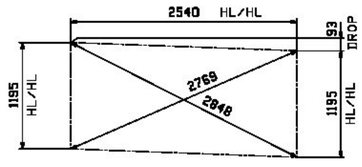


CROSS CHECK - 26CF1



2 ~ END CROSSFRAMES - 26CF2 ← PAINTED (SEE DWG GN1)

TYPE D1 - LOOKING UP-STATION



CROSS CHECK - 26CF2

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.

Agency of Transportation
Approved / Rejected
Furnish as Corrected / Revise & Resubmit
Douglas E Bonneau, P.E. — Date 12/21/12
Structures Project Manager

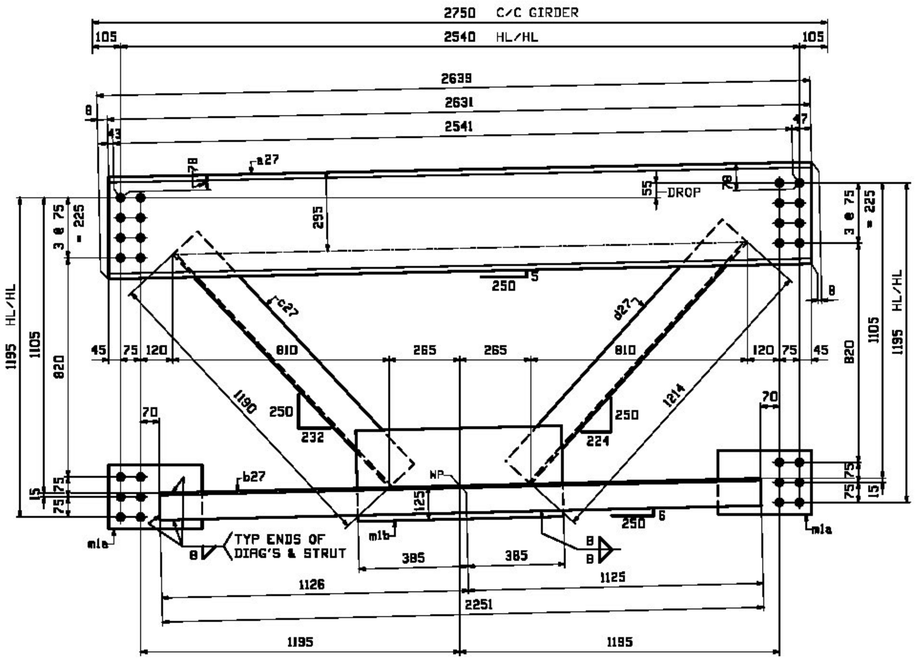
REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
1	12/19	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL: M270M-345W	SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: 15/16" ø	SHOP BOLTS: NONE
DESCRIPTION: END CROSSFRAMES			

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726
TENSOR 3137C

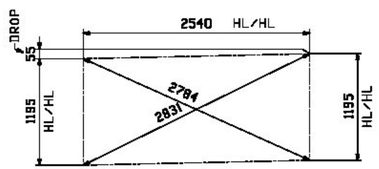
STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/16	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	26	
CUSTOMER: WINTERSET, INC.		REV. 1	

FAB'N INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	27	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		27CF1	2		END CROSSFRAMES			PAINTED	254 kg 558 lbs	
4	B		2	a27	C 380x50.4	2	639		133 kg 293 lbs	
4	D		2	b27	L 102x102x9.5	2	251		33 kg 72 lbs	
4	C		2	c27	L 127x127x9.5	1	190		22 kg 48 lbs	
4	C		2	d27	L 127x127x9.5	1	214		25 kg 55 lbs	
4	E		4	mla	PL 13x240	0	350		9 kg 19 lbs	
4	F		2	mlb	PL 13x340	0	770		27 kg 59 lbs	
		27CF2	2		END CROSSFRAMES			PAINTED	254 kg 558 lbs	
4	B		2	f27	C 380x50.4	2	639		133 kg 293 lbs	
4	D		2	b27	L 102x102x9.5	2	251		33 kg 72 lbs	
4	C		2	c27	L 127x127x9.5	1	190		22 kg 48 lbs	
4	C		2	d27	L 127x127x9.5	1	214		25 kg 55 lbs	
4	E		4	mla	PL 13x240	0	350		9 kg 19 lbs	
4	F		2	mlb	PL 13x340	0	770		27 kg 59 lbs	

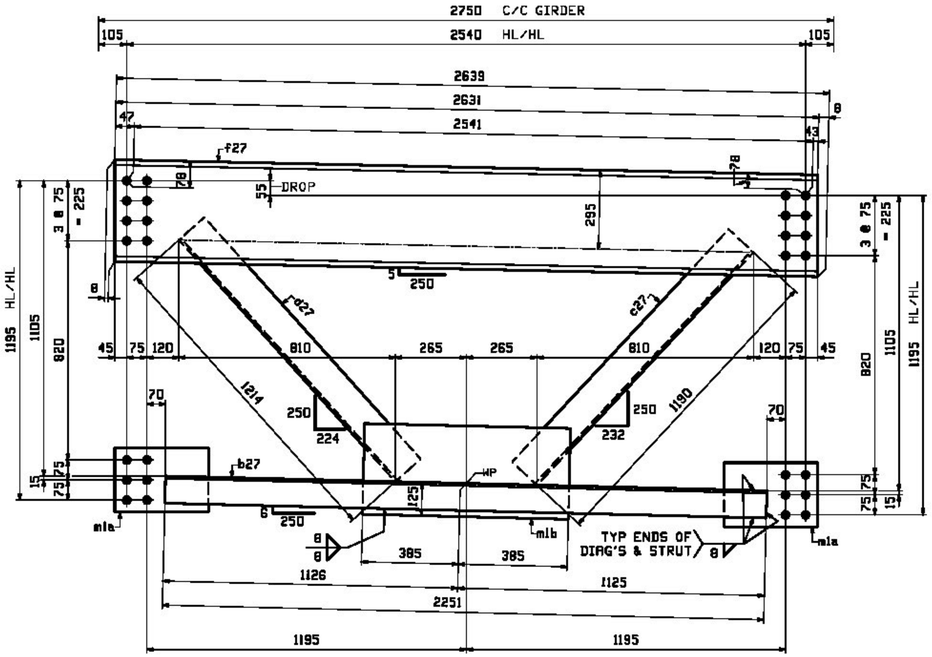


2 ~ END CROSSFRAMES - 27CF1 ←PAINTED (SEE DWG GN1)

TYPE DI - LOOKING UP-STATION

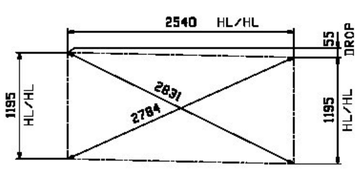


CROSS CHECK - 27CF1



2 ~ END CROSSFRAMES - 27CF2 ←PAINTED (SEE DWG GN1)

TYPE DI - LOOKING UP-STATION



CROSS CHECK - 27CF2

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.

0					
REV.	DATE	REMARKS	DWN	CHK	APVL / SHOP
MATERIAL: M270M-345W		SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: 15/16"ø		SHOP BOLTS: NONE
DESCRIPTION:		CROSSFRAMES			

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR SUSPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/16	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	27	
CUSTOMER: WINTERSET, INC.		REV. △	

X Reviewed ____ Furnish As Corrected
____ Rejected ____ Revise and Resubmit

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

Date October 24, 2012

McFarland Johnson

By D. Kull

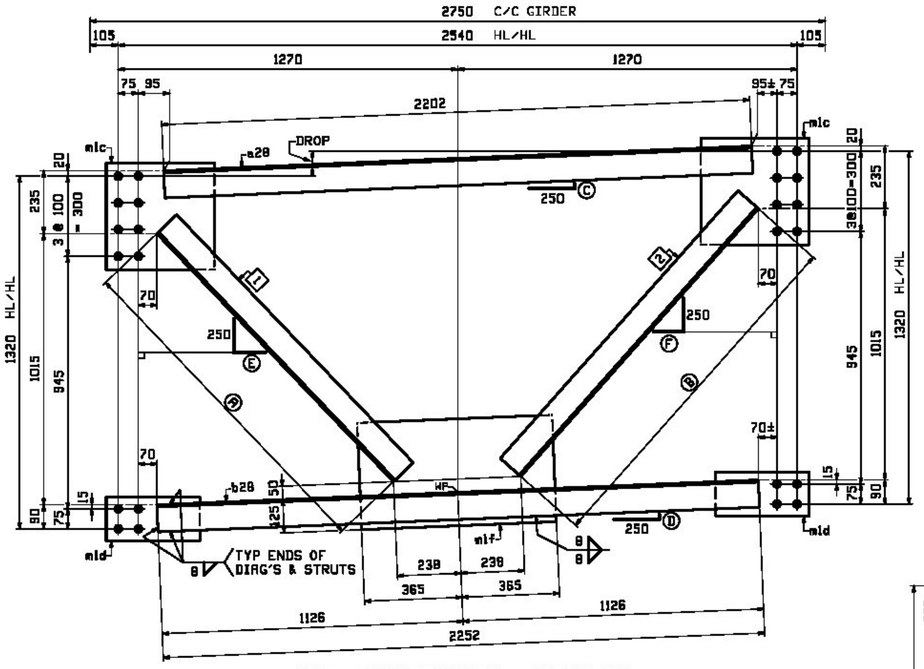
VERMONT
Agency of Transportation

X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit

Douglas E. Bonneau 12/10/12

Douglas E Bonneau, P.E. Date
Structures Project Manager

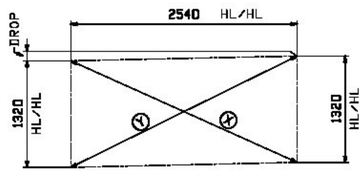
Date, Sep 11, 2013 10:02:08 PM /users/jdale/STRUCTURE/ Name



INT. CROSSFRAMES - MARK "A"

TYPE D2 - LOOKING UP-STATION

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓧ	Ⓨ	1	2
28CF1	10	93	1283	1339	11	10	238	222	2821	2907	c28	d28
28CF2	10	55	1294	1328	6	6	235	225	2838	2888	f28	g28



CROSS CHECK - MARK "A"

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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

Date October 24, 2012

McFarland Johnson

By D. Kull

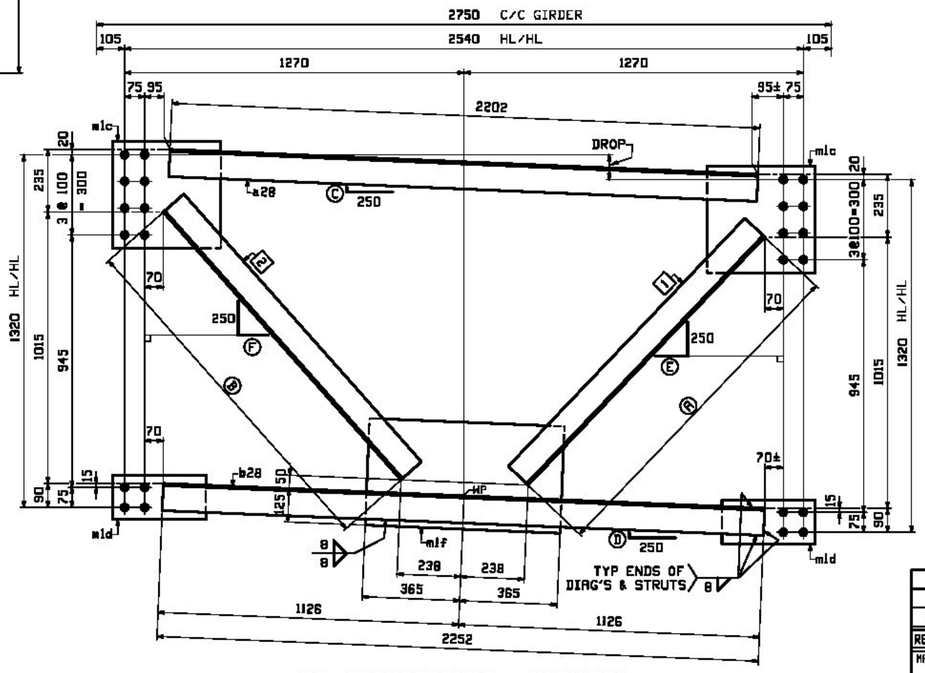
VERMONT
Agency of Transportation

X Approved
Furnish as Corrected
Rejected
Revise & Resubmit

Douglas E. Bonneau 12/10/12

Douglas E Bonneau, P.E. Date

Structures Project Manager

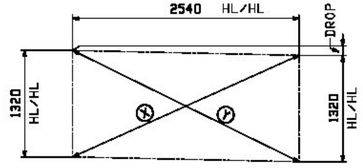


INT. CROSSFRAMES - MARK "B"

TYPE D2 - LOOKING UP-STATION

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓧ	Ⓨ	1	2
28CF3	10	93	1283	1339	11	10	238	222	2821	2907	c28	d28
28CF4	10	55	1294	1328	6	6	235	225	2838	2888	f28	g28

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.



CROSS CHECK - MARK "B"

BILL OF MATERIAL

JOB NO. 521 | DRAWING NO. 28 | REV.

FORM INFO PAGE	FORM INFO LINE	SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		28CF1	10		CROSSFRAMES				178 kg 392 lbs	
		28CF3	10		CROSSFRAMES				178 kg 392 lbs	
4	J		20	a28	L 102x102x9.5	2	202		32 kg 71 lbs	
4	J		20	b28	L 102x102x9.5	2	252		33 kg 72 lbs	
4	K		20	c28	L 102x102x9.5	1	283		18 kg 41 lbs	
4	K		20	d28	L 102x102x9.5	1	339		20 kg 43 lbs	
4	M		40	mlc	PL 13x400	0	405		17 kg 38 lbs	
4	N		40	mld	PL 13x165	0	350		8 kg 18 lbs	
4	P		20	mlf	PL 13x400	0	730		30 kg 66 lbs	
		28CF2	10		CROSSFRAMES				178 kg 392 lbs	
		28CF4	10		CROSSFRAMES				178 kg 392 lbs	
4	J		20	a28	L 102x102x9.5	2	202		32 kg 71 lbs	
4	J		20	b28	L 102x102x9.5	2	252		33 kg 72 lbs	
4	K		20	f28	L 102x102x9.5	1	294		18 kg 40 lbs	
4	K		20	g28	L 102x102x9.5	1	328		18 kg 41 lbs	
4	M		40	mlc	PL 13x400	0	405		17 kg 38 lbs	
4	N		40	mld	PL 13x165	0	350		8 kg 18 lbs	
4	P		20	mlf	PL 13x400	0	730		30 kg 66 lbs	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16 ø	NONE

DESCRIPTION: CROSSFRAMES

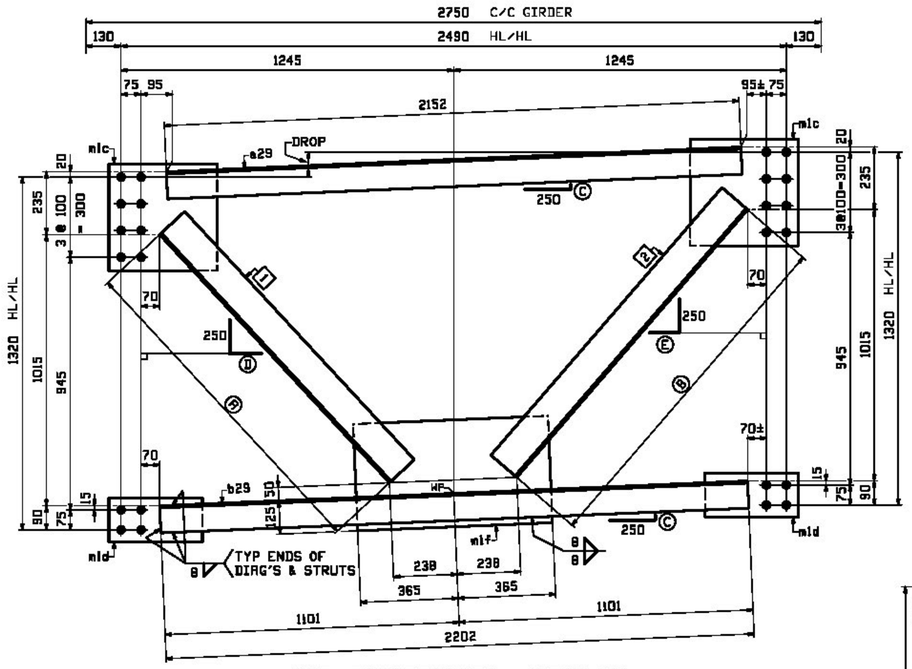
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR SLSPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: JTB DATE: 08/16
CHKD: PCP DATE: 09/17

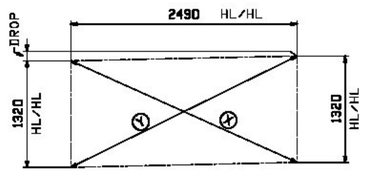
LOCATION: MORRISTOWN, VT
JOB NO. 521
DWG NO. 28
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: MINTERSET, INC.
REV. D



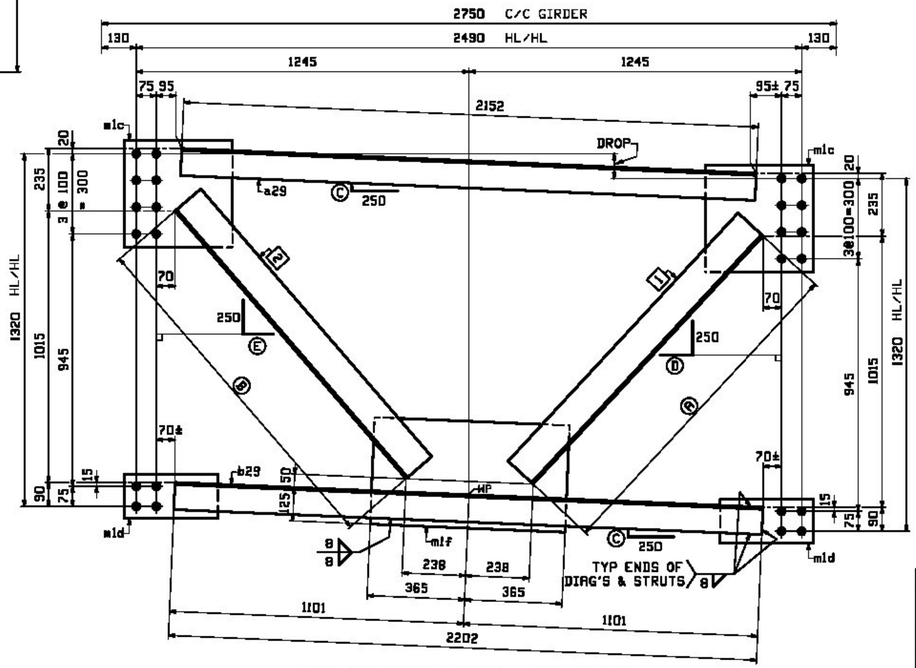
INT. CROSSFRAMES - MARK "A"

TYPE D3 - LOOKING UP-STATION

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
29CF1	2	93	1266	1323	11	232	216	2776	2863	c29	d29
29CF2	2	55	1277	1311	6	228	219	2793	2844	f29	g29



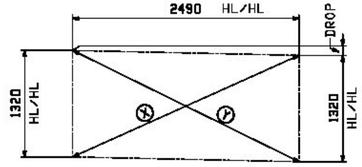
CROSS CHECK - MARK "A"



INT. CROSSFRAMES - MARK "B"

TYPE D3 - LOOKING UP-STATION

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
29CF3	2	93	1266	1323	11	232	216	2776	2863	c29	d29
29CF4	2	55	1277	1311	6	228	219	2793	2844	f29	g29



CROSS CHECK - MARK "B"

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	29	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		29CF1	2		CROSSFRAMES				1188 kg 2620 lb	
		29CF3	2		CROSSFRAMES				1185 kg 2610 lb	
4	J		4	a29	L 102x102x9.5	2	152		31 kg 68 lb	
4	J		4	b29	L 102x102x9.5	2	202		32 kg 71 lb	
4	L		4	c29	L 127x127x9.5	1	266		39 kg 86 lb	
4	L		4	d29	L 127x127x9.5	1	323		47 kg 104 lb	
4	M		8	mlc	PL 13x400	0	405		17 kg 38 lb	
4	N		8	mld	PL 13x165	0	350		6 kg 13 lb	
4	P		4	mlf	PL 13x400	0	730		30 kg 66 lb	
		29CF2	2		CROSSFRAMES				1188 kg 2620 lb	
		29CF4	2		CROSSFRAMES				1182 kg 2610 lb	
4	J		4	a29	L 102x102x9.5	2	152		31 kg 68 lb	
4	J		4	b29	L 102x102x9.5	2	202		32 kg 71 lb	
4	L		4	f29	L 127x127x9.5	1	277		40 kg 88 lb	
4	L		4	g29	L 127x127x9.5	1	311		44 kg 97 lb	
4	M		8	mlc	PL 13x400	0	405		17 kg 38 lb	
4	N		8	mld	PL 13x165	0	350		6 kg 13 lb	
4	P		4	mlf	PL 13x400	0	730		30 kg 66 lb	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16 ø	NONE

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TEMSOR 3139PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
JTB	08/20
CHKD:	DATE:
PCP	09/17

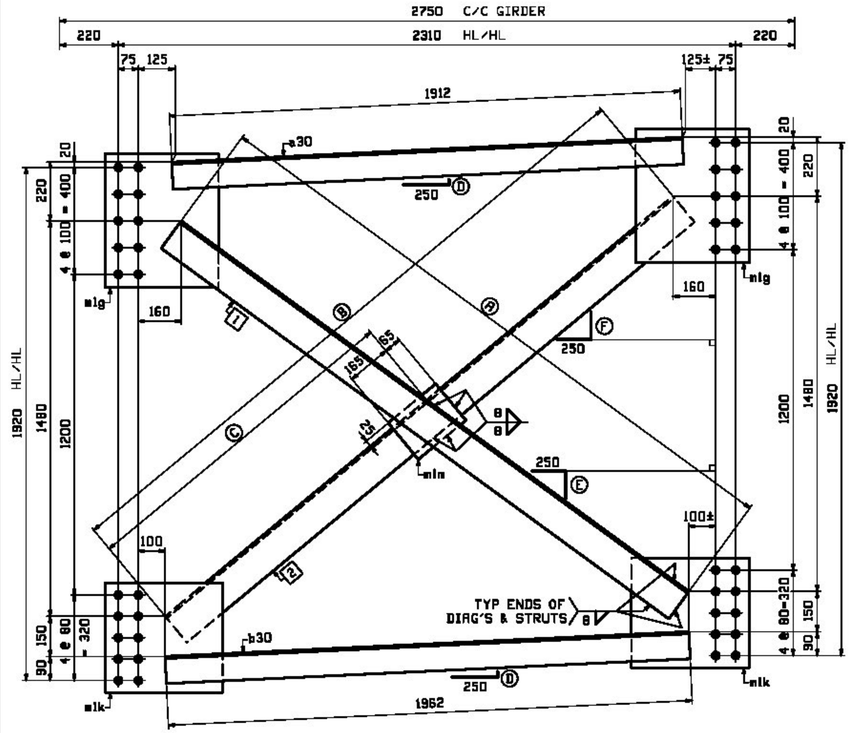
LOCATION: MORRISTOWN, VT
JOB NO. 521
DWG NO. 29
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.
REV. △

Reviewed / Furnish As Corrected
Rejected / Revise and Resubmit

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

Date October 24, 2012
McFarland Johnson
By D. Kull

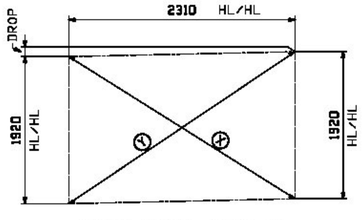
VERMONT
Agency of Transportation
X Approved / Furnish as Corrected
Rejected / Revise & Resubmit
Douglas E Bonneau, P.E.
Structures Project Manager
12/10/12 Date



INT. CROSSFRAMES - MARK "A"

TYPE D4 - LOOKING UP-STATION

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓧ	Ⓨ	1	2
30CF1	2	93	2352	2467	1270	12	183	207	2945	3064	c30	d30
30CF2	2	55	2375	2443	1258	7	188	202	2969	3039	f30	g30



CROSS CHECK - MARK "A"

VERMONT
Agency of Transportation
X Approved
Furnish as Corrected
Douglas E. Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager
Rejected
Revise & Resubmit
12/10/12
Date

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

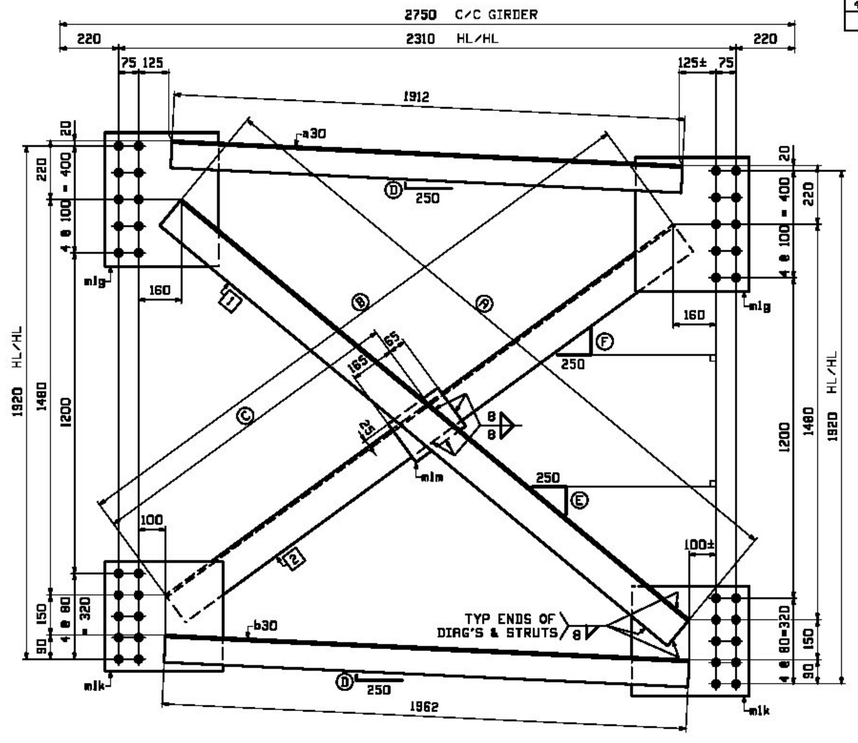
This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during the review do not relieve the Contractor from compliance with the requirements of the Plans and Specifications. Review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

Date October 24, 2012

McFarland Johnson

By D. Kull

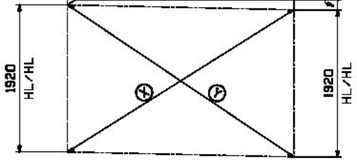
FOR INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	30	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		30CF1	2		CROSSFRAMES				229 kg 504 lbs	
		30CF3	2		CROSSFRAMES				229 kg 504 lbs	
4	T		4	a30	L 102x102x9.5	1	912		28 kg 62 lbs	
4	T		4	b30	L 102x102x9.5	1	962		29 kg 63 lbs	
4	V		4	c30	L 127x127x9.5	2	352		43 kg 95 lbs	
4	V		4	d30	L 127x127x9.5	2	467		57 kg 126 lbs	
4	N		8	mlg	PL 13x425	0	500		22 kg 48 lbs	
4	X		8	mlk	PL 13x410	0	440		18 kg 41 lbs	
4	Y		4	mln	PL 13x177	0	230		4 kg 9 lbs	
		30CF2	2		CROSSFRAMES				229 kg 504 lbs	
		30CF4	2		CROSSFRAMES				229 kg 504 lbs	
4	T		4	a30	L 102x102x9.5	1	912		28 kg 62 lbs	
4	T		4	b30	L 102x102x9.5	1	962		29 kg 63 lbs	
4	V		4	f30	L 127x127x9.5	2	375		43 kg 96 lbs	
4	V		4	g30	L 127x127x9.5	2	443		45 kg 99 lbs	
4	N		8	mlg	PL 13x425	0	500		22 kg 48 lbs	
4	X		8	mlk	PL 13x410	0	440		18 kg 41 lbs	
4	Y		4	mln	PL 13x177	0	230		4 kg 9 lbs	



INT. CROSSFRAMES - MARK "B"

TYPE D4 - LOOKING UP-STATION

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓧ	Ⓨ	1	2
30CF3	2	93	2467	2352	1216	12	207	183	2945	3064	d30	c30
30CF4	2	55	2443	2375	1226	7	202	188	2969	3039	g30	f30



CROSS CHECK - MARK "B"

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

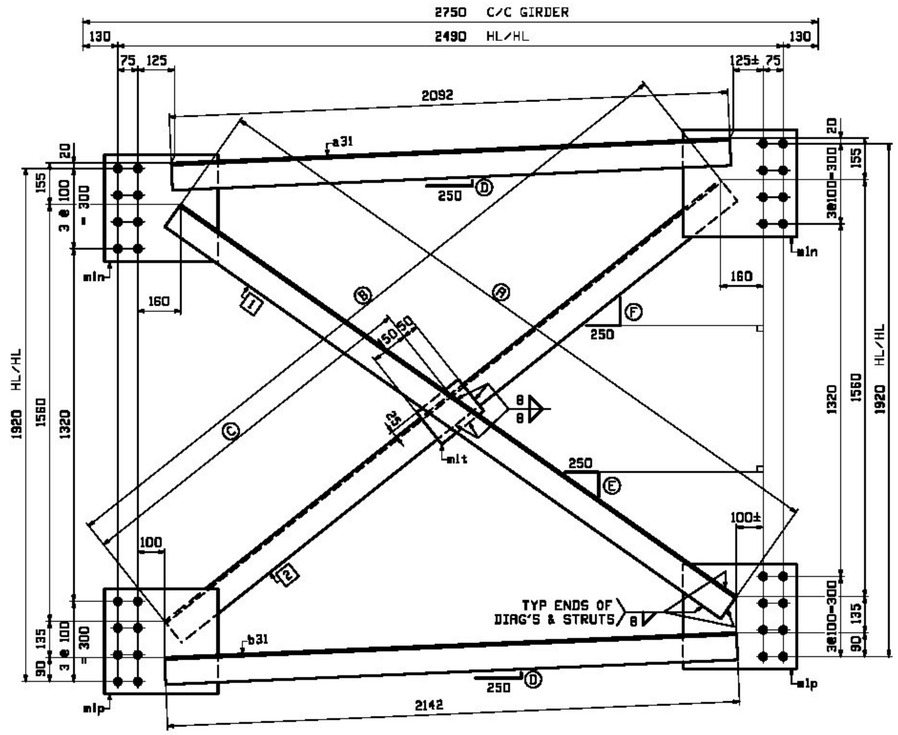
MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16 ø	NONE

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSION ZONE

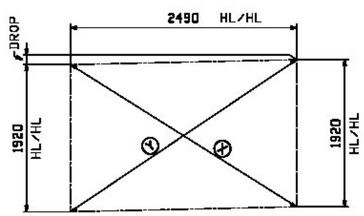
STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/20
		CHKD: PCP	DATE: 09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	30
CUSTOMER:	WINTERSET, INC.		REV. D



INT. CROSSFRAMES - MARK "A"

TYPE D5 - LOOKING UP-STATION

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓧ	Ⓨ	1	2
31CF1	11	93	2545	2657	1364	11	176	199	3088	3202	c31	d31
31CF2	11	55	2567	2633	1353	6	181	194	3111	3178	f31	g31



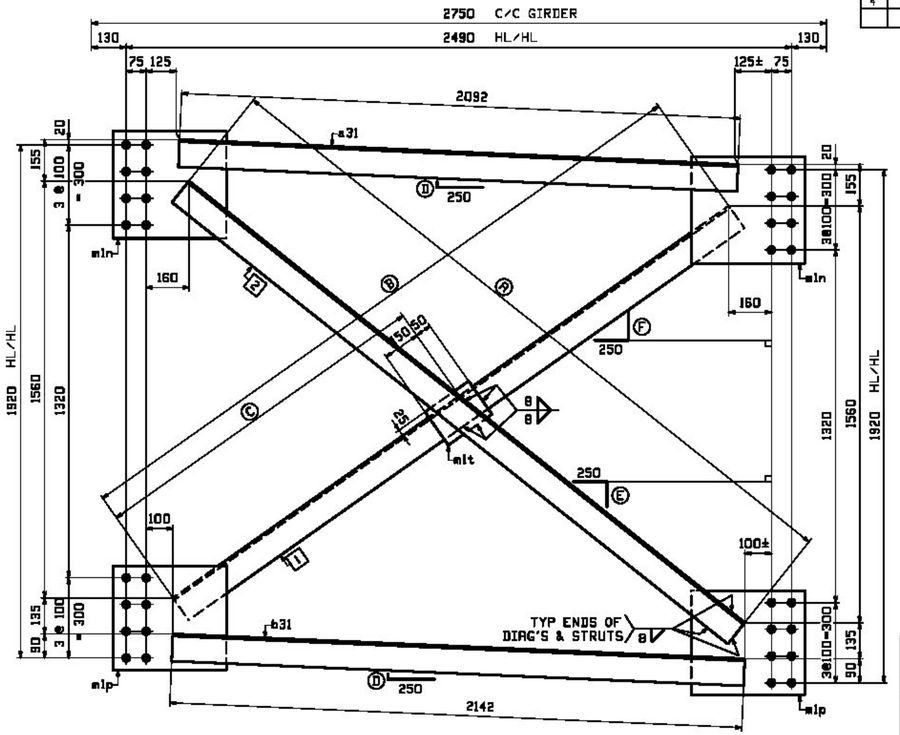
CROSS CHECK - MARK "A"

VERMONT
Agency of Transportation
X Approved
Furnish as Corrected
Douglas E Bonneau
Douglas E Bonneau, P.E.
Structures Project Manager
Rejected
Revise & Resubmit
12/10/12
Date

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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

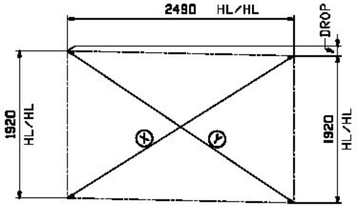
McFarland Johnson
Date October 24, 2012
By D. Kull



INT. CROSSFRAMES - MARK "B"

TYPE D5 - LOOKING UP-STATION

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓧ	Ⓨ	1	2
31CF3	11	93	2657	2545	1312	11	199	176	3088	3202	c31	d31
31CF4	11	55	2633	2567	1303	6	194	181	3111	3178	f31	g31



CROSS CHECK - MARK "B"

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.

BILL OF MATERIAL

JOB NO. 521 | DRAWING NO. 31 | REV.

FAB INFO PAGE	FAB INFO LINE	SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		31CF1	11		CROSSFRAMES				210 kg 462 lb	
		31CF3	11		CROSSFRAMES				210 kg 462 lb	
4	S		22	a31	L 102x102x9.5	2	092		31 kg 67 lb	
4	S		22	b31	L 102x102x9.5	2	142		41 kg 88 lb	
4	U		22	c31	L 102x102x9.5	2	545		157 kg 346 lb	
4	U		22	d31	L 102x102x9.5	2	657		188 kg 414 lb	
4	N		44	min	PL 13x400	0	425		17 kg 38 lb	
4	X		44	mlp	PL 13x390	0	440		18 kg 38 lb	
4	Y		22	mlt	PL 13x142	0	200		5 kg 11 lb	
		31CF2	11		CROSSFRAMES				210 kg 462 lb	
		31CF4	11		CROSSFRAMES				210 kg 462 lb	
4	S		22	a31	L 102x102x9.5	2	092		31 kg 67 lb	
4	S		22	b31	L 102x102x9.5	2	142		41 kg 88 lb	
4	U		22	f31	L 102x102x9.5	2	567		157 kg 346 lb	
4	U		22	g31	L 102x102x9.5	2	633		188 kg 414 lb	
4	N		44	min	PL 13x400	0	425		17 kg 38 lb	
4	X		44	mlp	PL 13x390	0	440		18 kg 38 lb	
4	Y		22	mlt	PL 13x142	0	200		5 kg 11 lb	

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PRINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15 @ 18 mm ø	NONE

DESCRIPTION: CROSSFRAMES

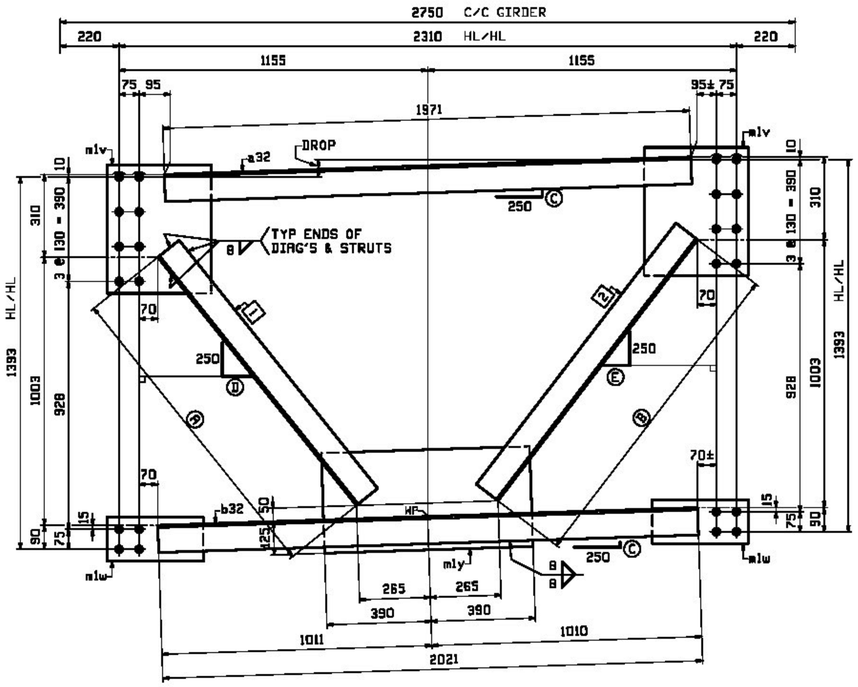
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR 33/2C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	JTB	DATE:	08/20
CHKD:	PCP	DATE:	09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	31
CUSTOMER:	WINTERSET, INC.		REV. △

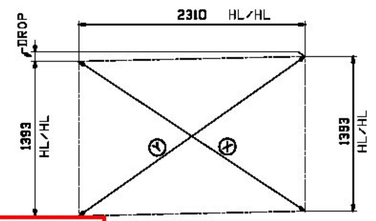
FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	32	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		32CF1	2		CROSSFRAMES				174 kg 383 lb	
		32CF3	2		CROSSFRAMES				174 kg 383 lb	
5	B		4	a32	L 102x102x9.5	1	971		88 kg 193 lb	
5	C		4	b32	L 102x102x9.5	2	021		30 kg 85 lb	
5	L		4	c32	L 102x102x9.5	1	190		17 kg 38 lb	
5	L		4	d32	L 102x102x9.5	1	230		16 kg 40 lb	
5	D		8	mlv	PL 13x360	0	480		16 kg 42 lb	
5	E		8	mlw	PL 13x165	0	360		8 kg 18 lb	
5	F		4	mly	PL 13x375	0	780		30 kg 86 lb	
		32CF2	2		CROSSFRAMES				174 kg 383 lb	
		32CF4	2		CROSSFRAMES				174 kg 383 lb	
5	B		4	a32	L 102x102x9.5	1	971		88 kg 193 lb	
5	C		4	b32	L 102x102x9.5	2	021		30 kg 85 lb	
5	L		4	f32	L 102x102x9.5	1	198		18 kg 38 lb	
5	L		4	g32	L 102x102x9.5	1	222		16 kg 38 lb	
5	D		8	mlv	PL 13x360	0	480		16 kg 42 lb	
5	E		8	mlw	PL 13x165	0	360		8 kg 18 lb	
5	F		4	mly	PL 13x375	0	780		30 kg 86 lb	



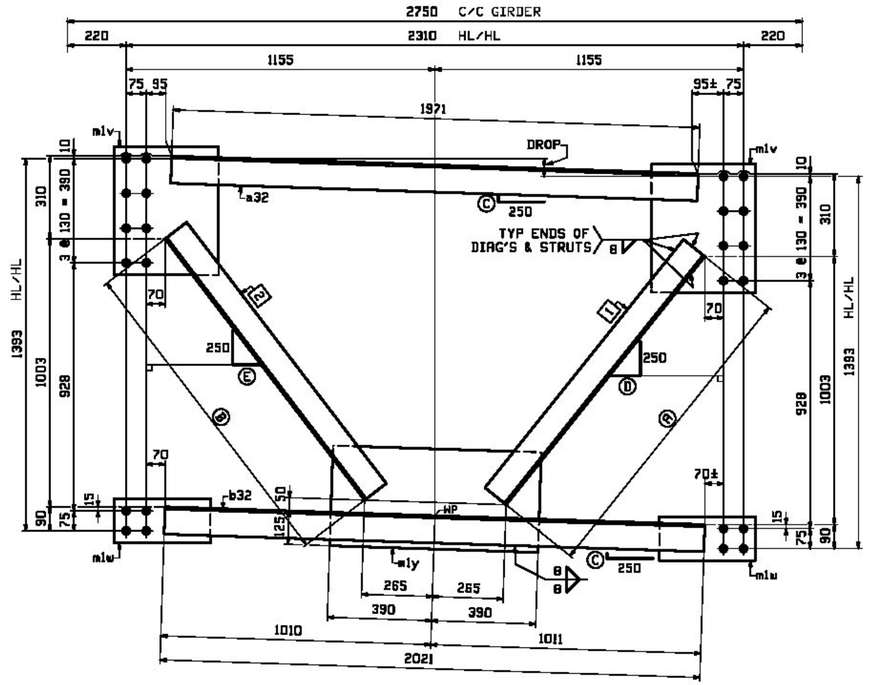
INT. CROSSFRAMES - MARK "A"

TYPE DGA

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
32CF1	2	66	1190	1230	8	200	191	2664	2732	c32	d32
32CF2	2	39	1198	1222	5	198	193	2678	2718	f32	g32



CROSS CHECK - MARK "A"

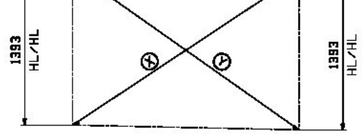


INT. CROSSFRAMES - MARK "B"

TYPE DGA

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
32CF3	2	66	1190	1230	8	200	191	2664	2732	c32	d32
32CF4	2	39	1198	1222	5	198	193	2678	2718	f32	g32

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.



CROSS CHECK - MARK "B"

VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
— Rejected — Revise and Resubmit

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Date October 24, 2012

McFarland Johnson

By D. Hull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL: M270M-345W	SURFACE PREP. & PAINT: SEE DWG GN1	HOLES: 15/16 ϕ	SHOP BOLTS: NONE

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

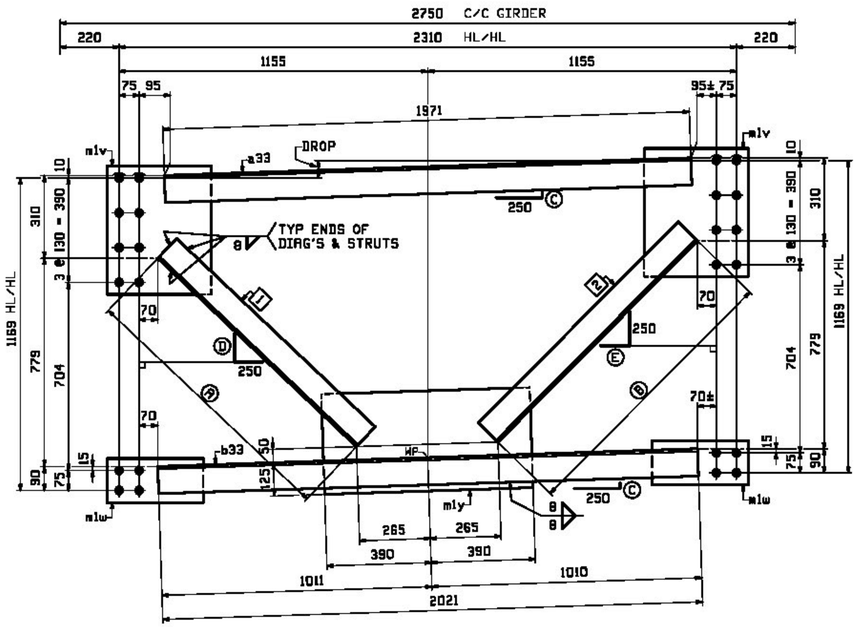
TENSOR 3139PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
JTB	08/20
CHKD:	DATE:
PCP	09/17

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.

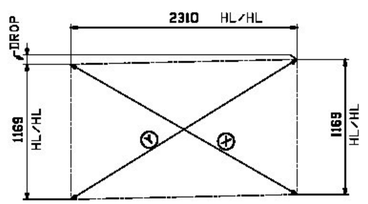
JOB NO.	DWG NO.
521	32
	REV. △



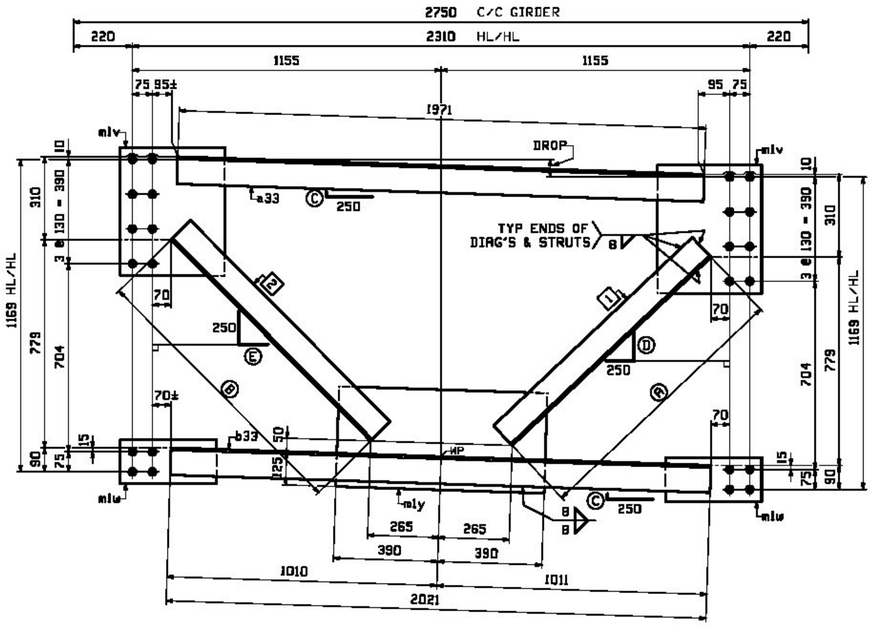
INT. CROSSFRAMES - MARK "A"

TYPE D6B

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
33CF1	2	66	1024	1061	8	237	248	2560	2619	c33	d33
33CF2	2	39	1032	1053	5	240	251	2572	2607	f33	g33



CROSS CHECK - MARK "A"

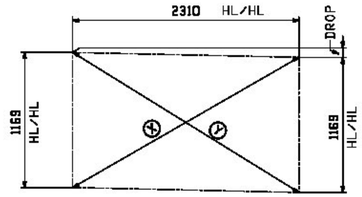


INT. CROSSFRAMES - MARK "B"

TYPE D6B

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
33CF3	2	66	1024	1061	8	237	248	2560	2619	c33	d33
33CF4	2	39	1032	1053	5	240	251	2572	2607	f33	g33

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.



CROSS CHECK - MARK "B"

FORM INFO		SHOP MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		33CF1	2		CROSSFRAMES				169 kg 372 lb	
		33CF3	2		CROSSFRAMES				169 kg 372 lb	
5	B		4	a33	L 102x102x9.5	1	971		88 kg 193 lb	
5	C		4	b33	L 102x102x9.5	2	021		30 kg 85 lb	
5	M		4	c33	L 102x102x9.5	1	024		15 kg 33 lb	
5	M		4	d33	L 102x102x9.5	1	061		16 kg 34 lb	
5	D		8	mlv	PL 13x360	0	480		16 kg 48 lb	
5	E		8	mlw	PL 13x165	0	360		8 kg 18 lb	
5	F		4	mly	PL 13x375	0	780		30 kg 88 lb	
		33CF2	2		CROSSFRAMES				168 kg 372 lb	
		33CF4	2		CROSSFRAMES				169 kg 372 lb	
5	B		4	a33	L 102x102x9.5	1	971		88 kg 193 lb	
5	C		4	b33	L 102x102x9.5	2	021		30 kg 85 lb	
5	M		4	f33	L 102x102x9.5	1	032		15 kg 33 lb	
5	M		4	g33	L 102x102x9.5	1	053		15 kg 34 lb	
5	D		8	mlv	PL 13x360	0	480		16 kg 48 lb	
5	E		8	mlw	PL 13x165	0	360		8 kg 18 lb	
5	F		4	mly	PL 13x375	0	780		30 kg 88 lb	

BILL OF MATERIAL

JOB NO. 521

DRAWING NO. 33 REV.

VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12

Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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Date October 24, 2012

McFarland Johnson

By D. Kull

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PRINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16 ø	NONE

DESCRIPTION: CROSSFRAMES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

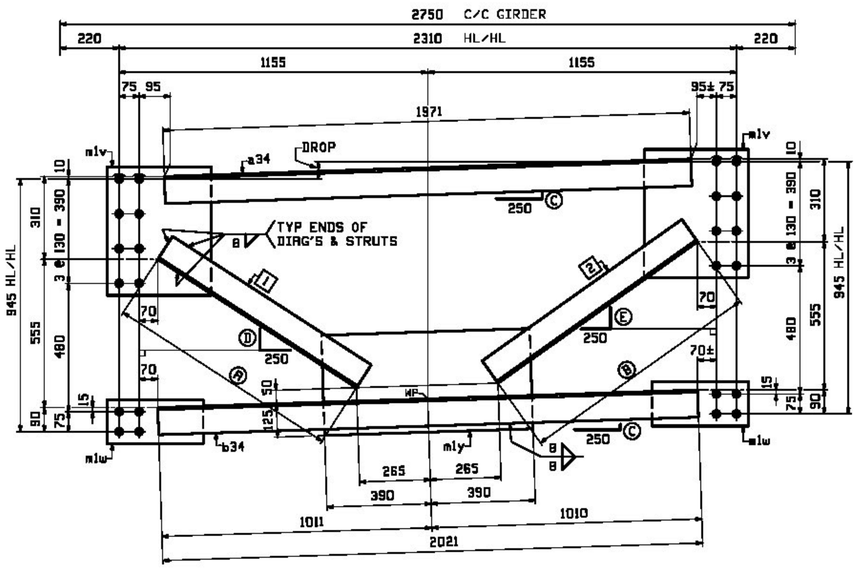
TENSAR SLOPE

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
JTB	08/21
CHKD:	DATE:
PCP	09/17

LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1	521	33
CUSTOMER: WINTERSET, INC.		REV. △

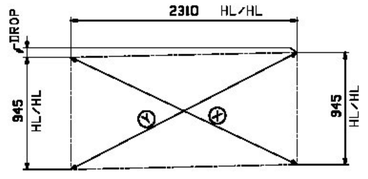
FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	34	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		34CF1	2		CROSSFRAMES				185 kg 353 lb	
		34CF3	2		CROSSFRAMES				169 kg 383 lb	
5	B		4	a34	L 102x102x9.5	1	971		28 kg 61 lb	
5	C		4	b34	L 102x102x9.5	2	021		30 kg 65 lb	
5	N		4	c34	L 102x102x9.5	0	865		12 kg 26 lb	
5	N		4	d34	L 102x102x9.5	0	915		13 kg 28 lb	
5	D		8	mlv	PL 13x360	0	480		16 kg 49 lb	
5	E		8	mlw	PL 13x165	0	360		6 kg 13 lb	
5	F		4	mly	PL 13x375	0	780		30 kg 66 lb	
		34CF2	2		CROSSFRAMES				185 kg 353 lb	
		34CF4	2		CROSSFRAMES				169 kg 383 lb	
5	B		4	a34	L 102x102x9.5	1	971		28 kg 61 lb	
5	C		4	b34	L 102x102x9.5	2	021		30 kg 65 lb	
5	N		4	f34	L 102x102x9.5	0	891		13 kg 28 lb	
5	N		4	g34	L 102x102x9.5	0	909		13 kg 28 lb	
5	D		8	mlv	PL 13x360	0	480		16 kg 49 lb	
5	E		8	mlw	PL 13x165	0	360		6 kg 13 lb	
5	F		4	mly	PL 13x375	0	780		30 kg 66 lb	



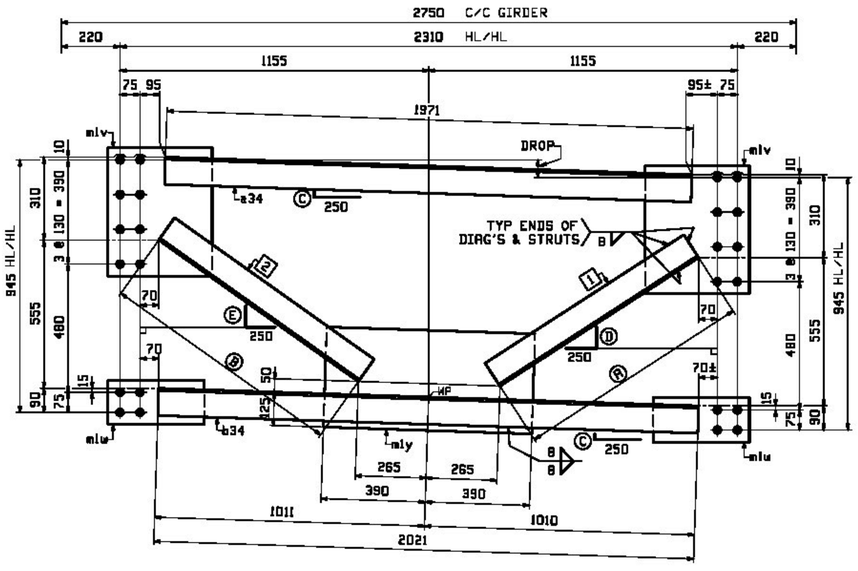
INT. CROSSFRAMES - MARK "A"

TYPE D6C

MARK "A"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
34CF1	2	66	885	915	8	162	177	2472	2522	c34	d34
34CF2	2	39	891	909	5	165	174	2481	2511	f34	g34



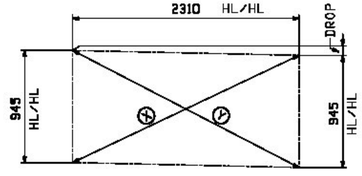
CROSS CHECK - MARK "A"



INT. CROSSFRAMES - MARK "B"

TYPE D6C

MARK "B"	QTY	DROP	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓧ	Ⓨ	1	2
34CF3	2	66	885	915	8	162	177	2472	2522	c34	d34
34CF4	2	39	891	909	5	165	174	2481	2511	f34	g34



CROSS CHECK - MARK "B"

VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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Date October 24, 2012

McFarland Johnson

By D. Kull

NOTE:
FOR GENERAL NOTES AND WELD TERMINATION DETAIL SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	15/16 ø	NONE

DESCRIPTION: CROSSFRAMES

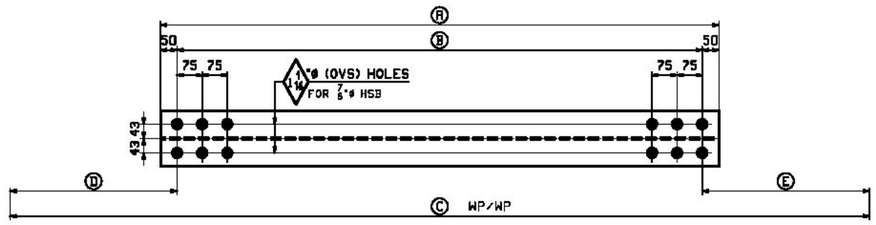
CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. SOUTH PORTLAND, ME 04106
PHONE (207) 780-6722 FAX. (207) 780-6726

TENSOR 2013PC

STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/21
		CHKD: PCP	DATE: 09/17
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	34
CUSTOMER:	WINTERSET, INC.		REV. △

Mon, Aug 13, 2012 10:00:00 PM
P:\Projects\Bridges\STP\029-1 (2) C/1\Shop Drawings\Crossframes\34CF1-2 & 34CF3-4.dgn
PCP

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	35	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
					LATERAL BRACING					
8	B	35LB1	2		WT 155x19.35	3	018	PRINTED	88 kg 192 lbs	
6	B	35LB3	36		WT 155x19.35	3	036	NO PRINT	58 kg 130 lbs	
6	B	35LB5	2		WT 155x19.35	3	040	PRINTED	95 kg 192 lbs	
6	E	35LB6	24		WT 155x19.35	2	906	NO PRINT	38 kg 163 lbs	
6	E	35LB7	4		WT 155x19.35	2	883	NO PRINT	34 kg 151 lbs	
6	D	35LB8	4		WT 155x19.35	2	843	NO PRINT	88 kg 191 lbs	
6	E	35LB9	20		WT 155x19.35	2	778	NO PRINT	54 kg 118 lbs	
6	C	35LB10	4		WT 155x19.35	2	475	NO PRINT	48 kg 105 lbs	



LATERALS - MARK "A"

	MARK "A"	QTY	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
PAINTED (SEE DWG GN1) →	35LB1	2	3018	2918	4280	681	681
	35LB3	36	3036	2936	4298	681	681
PAINTED (SEE DWG GN1) →	35LB5	2	3040	2940	4302	681	681
	35LB6	24	2906	2806	4108	651	651
	35LB7	4	2883	2783	4147	648	716
	35LB8	4	2843	2743	4110	716	651
	35LB9	20	2778	2678	4110	716	716
	35LB10	4	2475	2375	3485	555	555

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W	SEE DWG GN1	AS NOTED	NONE

DESCRIPTION: LATERAL BRACING

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TEKSOR 33.3PC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C⁄1	DRAWN: JTB	DATE: 08⁄21
	CHKD: PCP	DATE: 09⁄17
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. 35
PROJ NO. STP F 029-1(2)C⁄1		
CUSTOMER: WINTERSET, INC.		REV. △

X Reviewed
Rejected
Furnish As Corrected
Revise and Resubmit

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Date October 24, 2012

McFarland Johnson

By D. Kull

VERMONT
Agency of Transportation

X Approved
Furnish as Corrected
Rejected
Revise & Resubmit

Douglas E. Bonneau 12/10/12

Douglas E Bonneau, P.E. Date
Structures Project Manager

Wed, Oct 24, 2012 - 8:23:51 AM J:\Jobs\2012\521\CAD\Dwg\35.dwg

Vermont Agency of Transportation

RECEIVED

CK'D BY D. Bonneau OK'D BY D. Bonneau

January 8, 2013

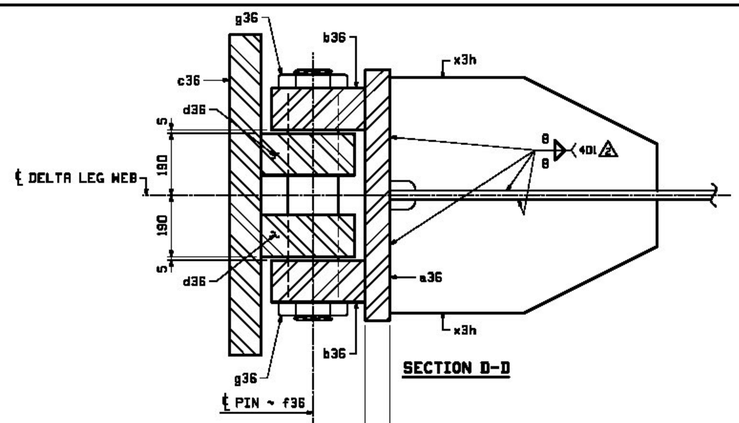
RESUBMIT No Approved

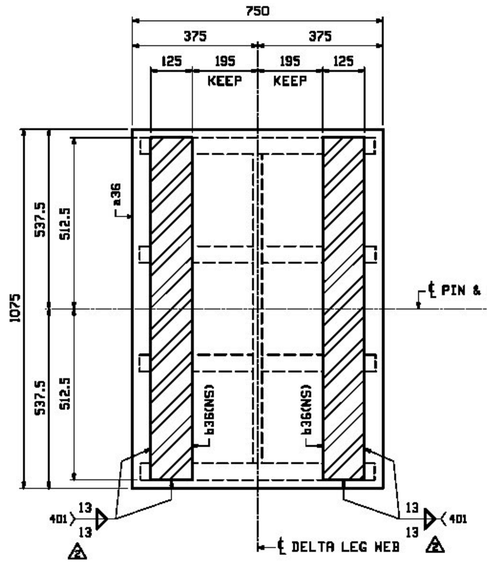
BY Tina Bohl DATE 01/08/13

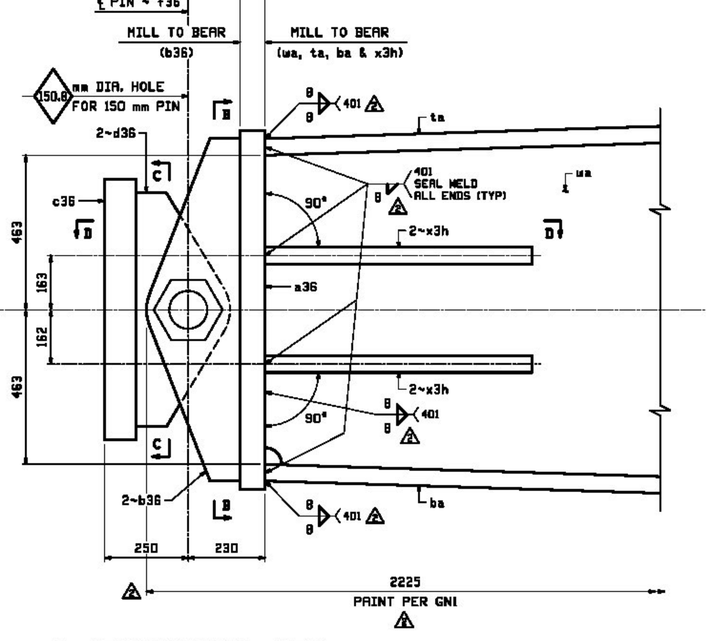
FHWA INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	36	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		36BA1	10		BEARING ASSEMBLY				8190 kg 17728 lbs	
5	S		10	a36	PL 75x750	1	075		475 kg 1048 lbs	
5	T		20	b36	PL 125x289	1	025	MIE	991 kg 2185 lbs	
5	V		10	c36	PL 95x780	0	960		550 kg 1212 lbs	
5	U		20	d36	PL 125x301	0	700		807 kg 1780 lbs	
5	W		12	f36	ROD 150	0	733	2008 GR 250/345W PIN M270M	1107 kg 2244 lbs	
5	X		24	g36	RECESSED PIN NUT			2008 SS 150mm PIN M270M	400 kg 400 lbs	

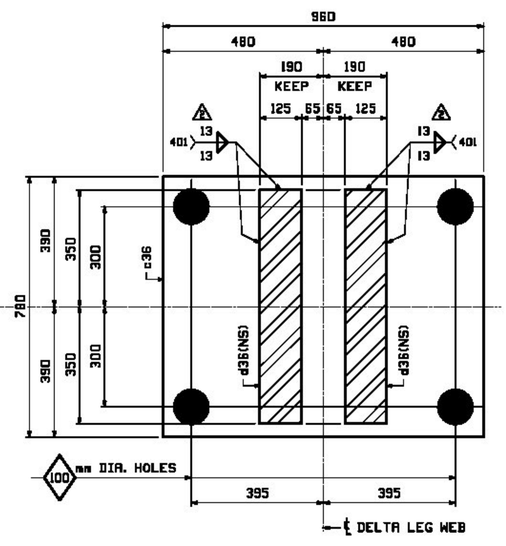
NOTE "X"

2 EXTRA PINS (f36) AND 4 EXTRA RECESSED PIN NUTS (g36) ARE PROVIDED FOR THE RESIDENT ENGINEER, PER NOTE 9 ON DESIGN SHEET 4 OF 123.

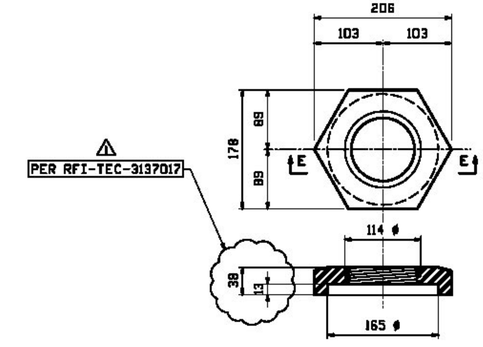








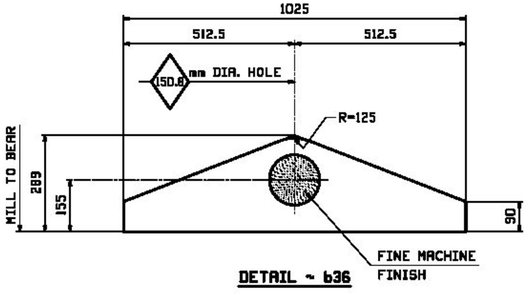
GALVANIZE ALL SURFACES EXCEPT FINE MACHINE FINISH IN 150.80 mm ϕ HOLES. APPLY SEALER.

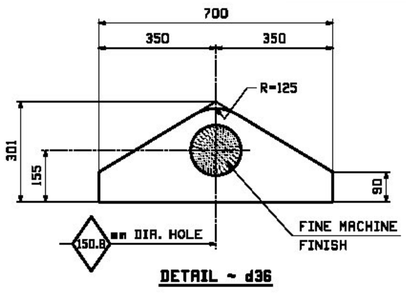


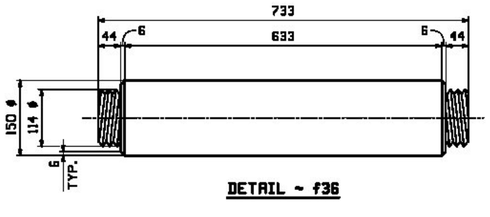
DO NOT SHIP FROM THIS SHEET

10 ~ BEARING ASSEMBLY ~ 36BA1

DETAIL "1"







REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	12/19	APPROVAL COMMENTS	EEO	PCP		
1	11/2/12	REV'D THICKNESS OF RECESSED NUT (g36)	EEO	WL		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:
M270M-345W U.N.	AS NOTED	AS NOTED	NONE

DESCRIPTION: STANDARD DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

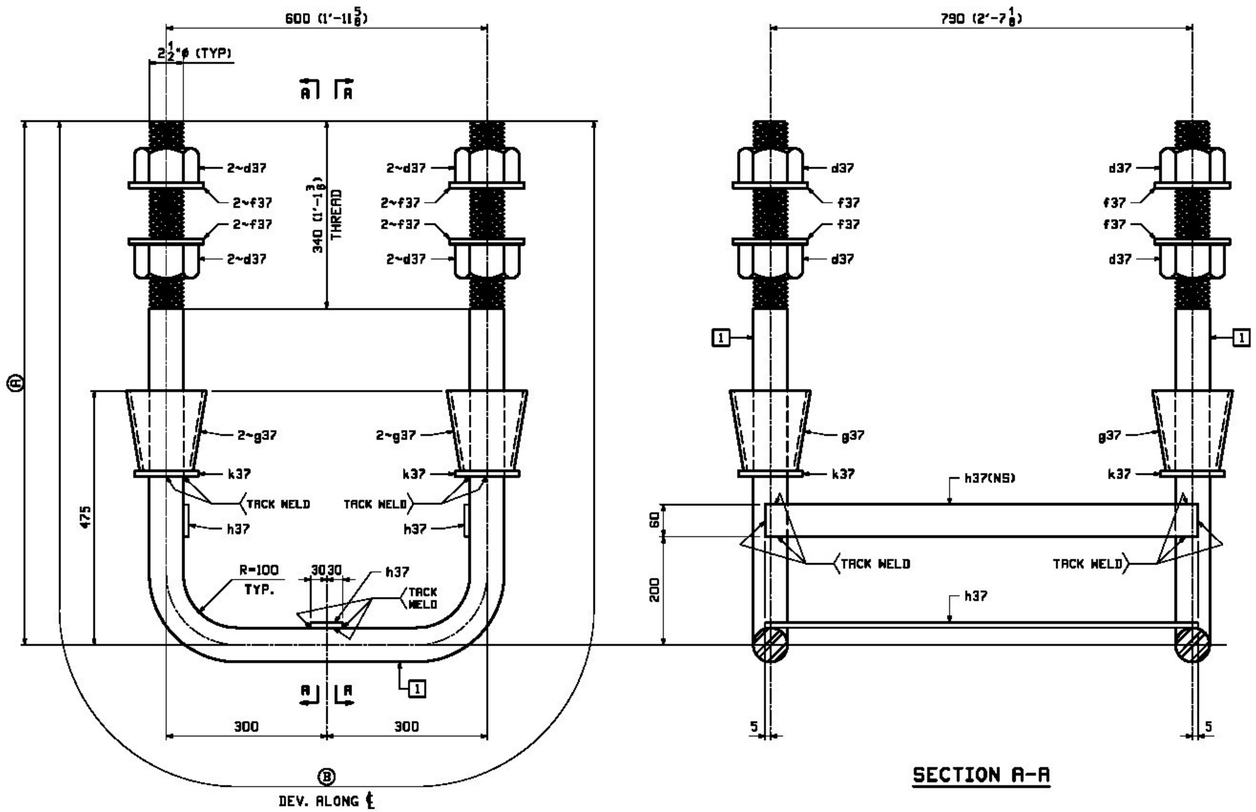
TENSAR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: EEO DATE: 08/29
CHKD: PCP DATE: 09/17

LOCATION: MORRISTOWN, VT
PROJ NO. STP F 029-1(2)C/1
CUSTOMER: WINTERSET, INC.

JOB NO. 521
DWG NO. 36
REV. 2

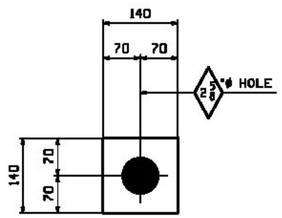


SECTION A-A

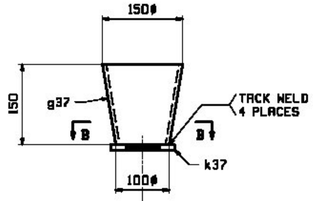
ANCHOR BOLT DETAIL ~ MARK

NORTH & SOUTH SLANT LEGS

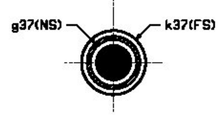
	MARK	QTY	Ⓐ	Ⓑ	1
LINES 1 & 5	37AB1	4	860	2206 (7'-2 7/8)	a37
LINES 2 & 4	37AB2	4	930	2346 (7'-8 3/8)	b37
LINE 3	37AB3	2	970	2426 (7'-11 1/2)	c37



DETAIL ~ f37



SUB-ASS'Y DETAIL ~ g37 & k37



SECTION B-B

FORM INFO		SHOP	BILL OF MATERIAL					JOB NO.	DRAWING NO.	REV.
								521	37	
PAGE	LINE	MARK	QTY	MARK	MATERIAL	LENGTH m	LENGTH mm	REMARKS	WT	PROCUREMENT NOTES
		37AB1	4		ANCHOR BOLT ASSEMBLY			GALV.	150 kg 330 lbs	
10	B		8	a37	2 1/2 ø R00	7	2 7/8	F1554M-55	88 kg 191 lbs	TYPE 3D
10	D		32	d37	2 1/2 ø HHN			A563	3 kg 6 lbs	
10	C		32	f37	PL 10x140	0	140	A270M-345M	2 kg 5 lbs	
10	F		16	g37	CONC			PER DESIGN SHEET 32 A270M-250	.00 kg .00 lbs	
10	E		12	h37	PL 6x60	0	800	A270M-250	2 kg 5 lbs	
10	G		16	k37	2 1/2 ø HHN			F436	.00 kg .00 lbs	
		37AB2	4		ANCHOR BOLT ASSEMBLY			GALV.	155 kg 343 lbs	
10	B		8	b37	2 1/2 ø R00	7	3 3/8	F1554M-55	96 kg 212 lbs	TYPE 3D
10	D		32	d37	2 1/2 ø HHN			A563	3 kg 6 lbs	
10	C		32	f37	PL 10x140	0	140	A270M-345M	2 kg 5 lbs	
10	F		16	g37	CONC			PER DESIGN SHEET 32 A270M-250	.00 kg .00 lbs	
10	E		12	h37	PL 6x60	0	800	A270M-250	2 kg 5 lbs	
10	G		16	k37	2 1/2 ø HHN			F436	.00 kg .00 lbs	
		37AB3	2		ANCHOR BOLT ASSEMBLY			GALV.	160 kg 358 lbs	
10	B		4	c37	2 1/2 ø R00	7	11 1/2	F1554M-55	60 kg 132 lbs	TYPE 3D
10	D		16	d37	2 1/2 ø HHN			A563	3 kg 6 lbs	
10	C		16	f37	PL 10x140	0	140	A270M-345M	2 kg 5 lbs	
10	F		8	g37	CONC			PER DESIGN SHEET 32 A270M-250	.00 kg .00 lbs	
10	E		8	h37	PL 6x60	0	800	A270M-250	2 kg 5 lbs	
10	G		8	k37	2 1/2 ø HHN			F436	.00 kg .00 lbs	

VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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McFarland Johnson — Date October 24, 2012 — By D. Kull

NOTES:

1. SEE SHEET GN1 FOR GENERAL NOTES.
2. ASSEMBLIES TO BE GALVANIZED AFTER FABRICATION.
3. DIMENSIONS SHOWN IN PARENTHESES ARE IN ENGLISH UNITS.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
2	10/10	REV'D MARK IN B.O.M.	EEO	PCP		
1	10/12/12	REV'D ANCHOR BOLT MATERIAL	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

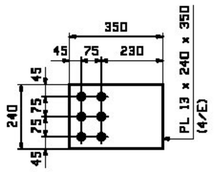
DESCRIPTION: ANCHOR BOLT DETAILS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR 3130C

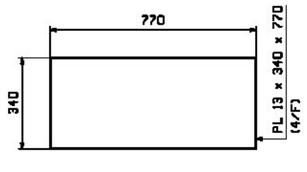
STRUCTURE:	VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: EEO	DATE: 09/26
		CHKD: WL	DATE: 09/28
LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	37
CUSTOMER:	WINTERSET, INC.		REV. 2

Wed, Oct 10, 2012 Eamon M. J:\work\jobs\1575\37.1.dwg



16 ~ mla

BTM GUSSET - TYPE D1



8 ~ mlb

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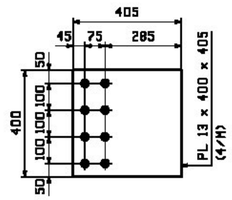
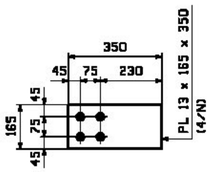


96 ~ mlc

TOP GUSSET - TYPES D2 & D3



96 ~ mld

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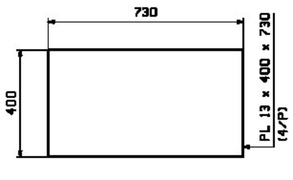

48 ~ mlf

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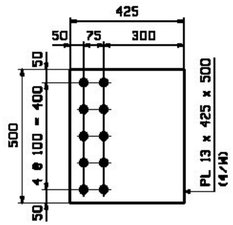

16 ~ mlg

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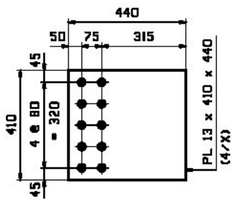

16 ~ mlk

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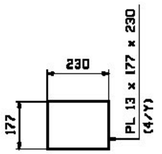

8 ~ mlm

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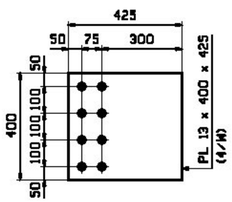
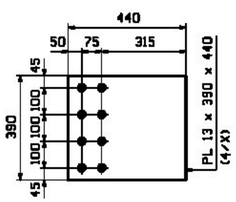


88 ~ mln

TOP GUSSET - TYPE D5



88 ~ mlp

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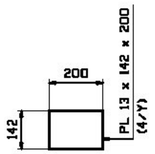

44 ~ mlt

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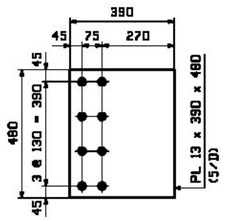
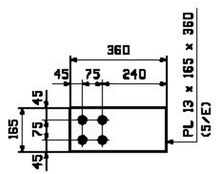


48 ~ mlv

TOP GUSSET - TYPE D6



48 ~ mlw

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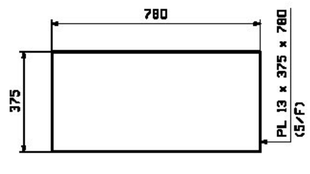

24 ~ mly

CENTER GUSSET - TYPE D6

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PRINT:	HOLES:	SHOP BOLTS:
M270-345W	SEE DWG GN1	15/16" ø	NONE

DESCRIPTION: CROSSFRAME STANDARDS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR GROUP

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/13
	CHKD: PCP	DATE: 09/17
LOCATION: MORRISTOWN, VT	JOB NO. 521	DWG NO. M1
PROJ NO. STP F 029-1(2)C/1		
CUSTOMER: WINTERSET, INC.		REV. △

VERMONT
Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas E. Bonneau
Douglas E Bonneau, P.E. 12/10/12
Structures Project Manager Date

X Reviewed ___ Furnish As Corrected
___ Rejected ___ Revise and Resubmit

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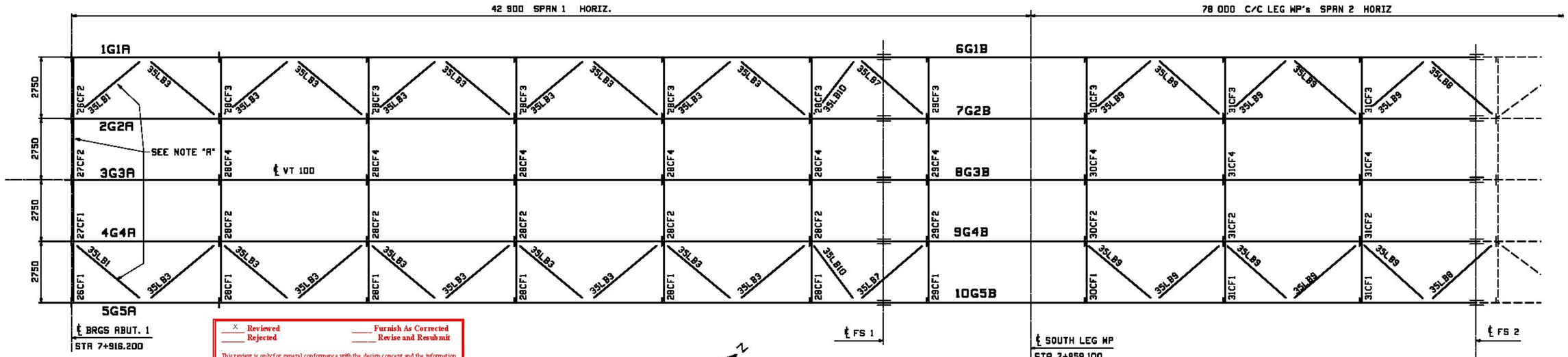
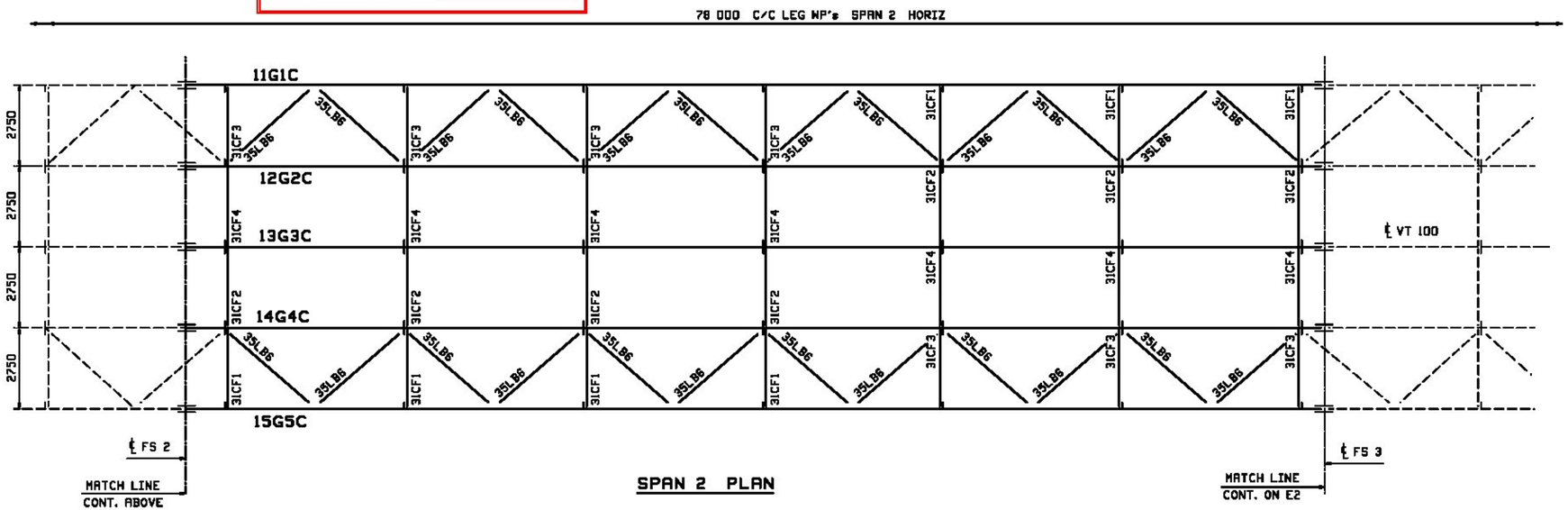
McFarland Johnson
Date October 24, 2012
By D. Kull

Tue, Sep 11, 2012 10:26:24 PM //mcfarland/BDC/C1 | Mod3
PCP



SPAN 1 PLAN

SPAN 2 PLAN



SPAN 2 PLAN

WORK THIS DRAWING WITH DRAWINGS E2 & E3

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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McFarland Johnson

Date October 24, 2012

By D. Kull

VERMONT Agency of Transportation

X Approved — Rejected

Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12

Douglas E Bonneau, P.E. — Date

Structures Project Manager

NOTE "A"
CONNECTIONS FOR PAINTED END DIAPHRAGMS AND PAINTED LATERALS AT ABUTMENTS 1 AND 2 SHALL USE A325 TYPE 1 GALV. FIELD BOLTS. ALL OTHER CONNECTIONS SHALL USE A325 TYPE 3 BOLTS. SEE FIELD BOLT LIST ON DRAWING E2.

NOTE:
FOR GENERAL NOTES SEE DRAWING GN1.

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: FRAMING PLAN

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

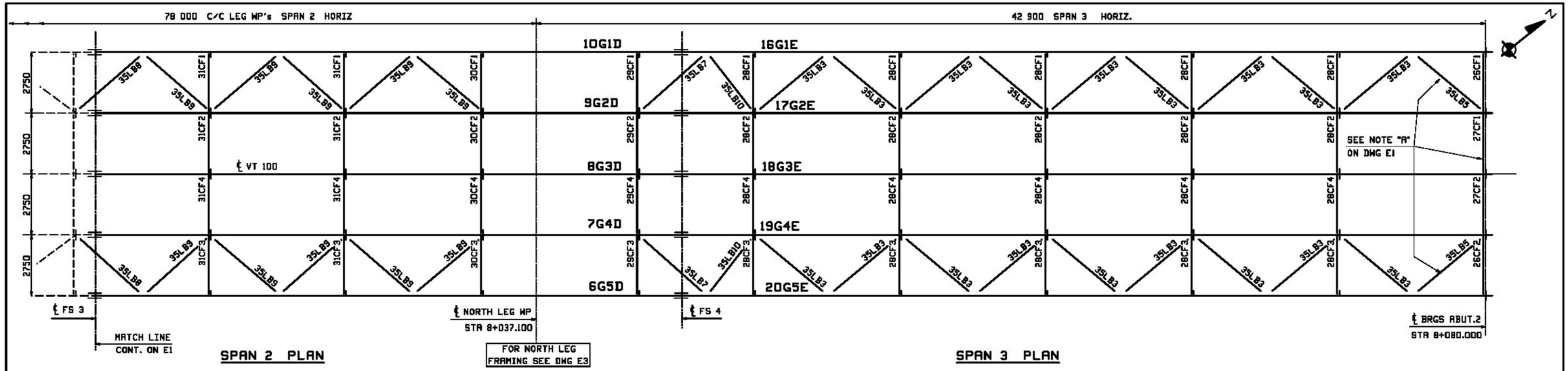
TENSOR 3132C

STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN:	DATE:
JTB	08/21
CHKD:	DATE:
PCP	09/17

LOCATION:	MORRISTOWN, VT	JOB NO.	DWG NO.
PROJ NO.	STP F 029-1(2)C/1	521	E1
CUSTOMER:	MINTERSET, INC.		REV. △

Mon, Oct 15, 2012 8:58:48 AM J:\work\jobs\521\C\01.dwg



SPAN 2 PLAN

SPAN 3 PLAN

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									**FIELD SPLICES 1 & 4**
2	640	7/8	6	64	10	115	30 50 35	1	TOP FLANGE SPLICE
3	1080	7/8	3 1/2	108	10	53	14 25 14	1	WEB SPLICE
4	720	7/8	8	72	10	115	30 50 35	1	BOTTOM FLANGE SPLICE
5									
6									**FIELD SPLICES 2 & 3**
7	580	7/8	6	58	10	115	30 50 35	1	TOP FLANGE SPLICE
8	1500	7/8	3 1/4	150	10	48	14 20 14	1	WEB SPLICE
9	432	7/8	6	72	6	115	30 50 35	1	BOTTOM FLANGE SPLICE
10	264	7/8	6	66	4	115	30 50 35	1	BOTTOM FLANGE SPLICE (LINES 2 & 4)
11	36	7/8	8 1/2	9	4	128	30 50 35 13	1	BTM FLANGE SPLICE W/LATERAL GUSSET
12									
13									**FIELD SPLICES 5 & 6**
14	880	7/8	5 3/4	88	10	110	30 50 30	1	TOP FLANGE SPLICE
15	1040	7/8	3 1/2	104	10	53	14 25 14	1	WEB SPLICE
16	880	7/8	5 3/4	88	10	110	30 50 30	1	BOTTOM FLANGE SPLICE
17									
18									**INT. CROSSFRAMES D2 & D3**
19	788	7/8	2 1/2	8	98	26	13 13	1	TOP GUSSET TO CONNECTION PLATE
20	384	7/8	2 1/2	4	96	26	13 13	1	BTM GUSSET TO CONNECTION PLATE
21									
22									**INT. CROSSFRAMES D4**
23	180	7/8	2 1/2	10	18	26	13 13	1	TOP GUSSET TO CONNECTION PLATE
24	180	7/8	2 1/2	10	18	26	13 13	1	BTM GUSSET TO CONNECTION PLATE
25									

WASHER CODES
1: 1 Hard Flat Washer
2: 2 Hard Flat Washers

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
26									**INT. CROSSFRAMES D5**
27	704	7/8	2 1/2	8	88	26	13 13	1	TOP GUSSET TO CONNECTION PLATE
28	704	7/8	2 1/2	8	88	26	13 13	1	BTM GUSSET TO CONNECTION PLATE
29									
30									**INT. CROSSFRAMES D6**
31	384	7/8	2 1/2	8	48	26	13 13	1	TOP GUSSET TO CONNECTION PLATE
32	192	7/8	2 1/2	4	48	26	13 13	1	BTM GUSSET TO CONNECTION PLATE
33									
34									**LATERALS**
35	1104	7/8	2 1/2	6	184	23	10 13	2	LATERAL WT TO CONNECTION PLATE

WASHER CODES
1: 1 Hard Flat Washer
2: 2 Hard Flat Washers

FIELD BOLT LIST — A325 Type 1 (GALV) BOLTS

LINE	NO REQ'D.	BOLT DIAM.	BOLT LEN.	BOLTS /CONN.	# OF CONN.	GRIP	THICKNESS OF PCS. CONNECTED	WASH CODE	PIECES CONNECTED AND REMARKS
36									**ABUTMENT CROSSFRAMES**
37	128	7/8	2 3/4	8	16	35	10 25	1	TOP STRUT WEB TO BRG STIFFENER
38	96	7/8	3	8	16	38	13 25	1	BTM GUSSET TO BRG STIFFENER
39									
40									**LATERALS** (PAINTED AT ABUT 1 & 2)
41	48	7/8	2 1/2	6	8	23	10 13	2	LATERAL WT TO CONNECTION PLATE

WASHER CODES
1: 1 Hard Flat Washer
2: 2 Hard Flat Washers

FIELD BOLT SUMMARY — EXACT COUNT - NONE EXTRA

LINE	NO. OF BOLTS	BOLT DIAM.	TYPE	BOLT LEN	ACTUAL COUNT	REMARKS
1	48	7/8	A325 Type 1	2 1/2	48	(GALVANIZED)
2	128	7/8		2 3/4	128	(GALVANIZED)
3	88	7/8	A325 Type 1	3	88	(GALVANIZED)
4	320	Hard Flat Washers for 7/8"ø BOLT				F436-1 (GALVANIZED)
5						
6						
7						
8	4560	7/8	A325 Type 3	2 1/2	4560	
9	1500	7/8		3 1/2	1500	
10	2120	7/8		3 1/2	2120	
11	1820	7/8		5 1/2	1820	
12	2616	7/8		6	2616	
13	36	7/8	A325 Type 3	6 1/2	36	
14	19856	Hard Flat Washers for 7/8"ø BOLT				F436-3
15						
16						
17						

1. All bolt diameters and lengths are shown in inches (english unit of measurement).
2. All grip values are shown in metric units.

VERMONT Agency of Transportation

X Approved — Rejected
Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau 12/10/12
Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
Rejected — Revise and Resubmit

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Date October 24, 2012

McFarland Johnson — By D. Hall

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
0						

MATERIAL: | SURFACE PREP. & PAINT: | HOLES: | SHOP BOLTS:

DESCRIPTION: FRAMING PLAN & FIELD BOLTS

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSOR BUREC

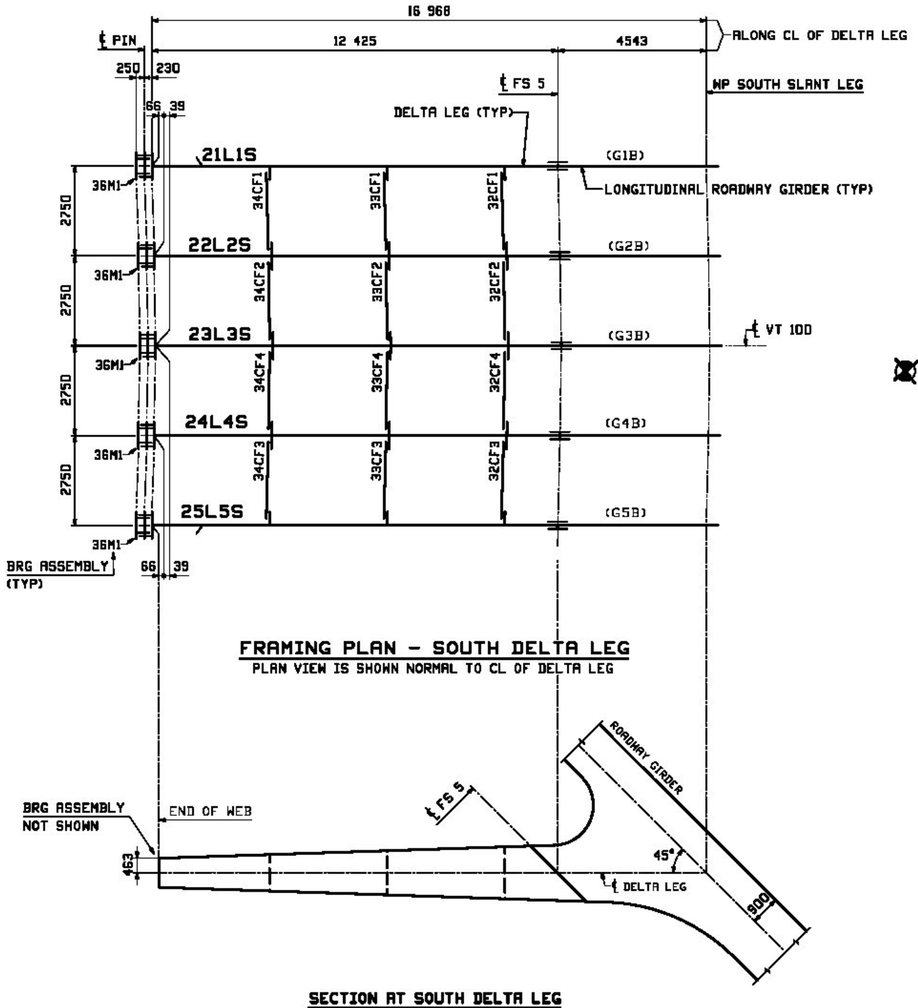
STRUCTURE: VT 100 OVER LAMOILLE RIVER
MORRISTOWN, VT LAMOILLE COUNTY
STP F 029-1 (2) C/1

DRAWN: JTB — DATE: 08/21
CHKD: PCP — DATE: 09/17

LOCATION: MORRISTOWN, VT — JOB NO. 521 — DWG NO. E2
PROJ NO. STP F 029-1(2)C/1 — REV. △
CUSTOMER: WINTERSET, INC.

WORK THIS DRAWING WITH DRAWINGS E1 & E3

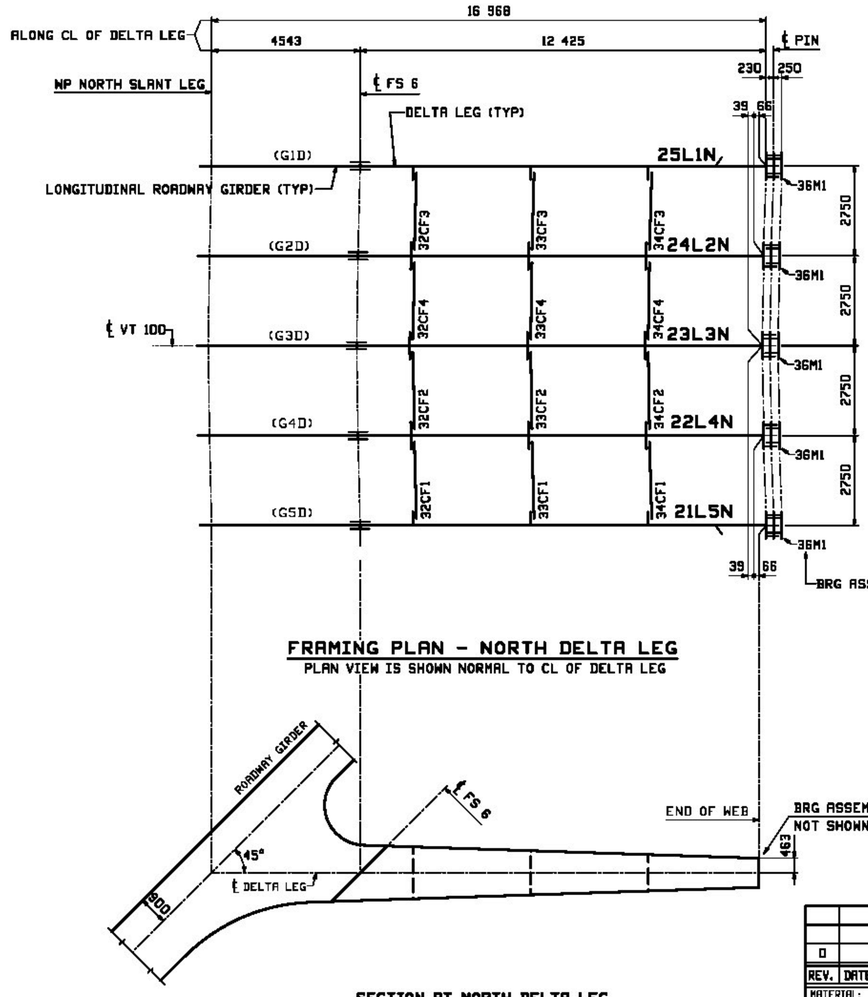
E2 Wed, Oct 24, 2012 8:08:54 AM J:\work\jobs\521\E2-1.dwg



FRAMING PLAN – SOUTH DELTA LEG

PLAN VIEW IS SHOWN NORMAL TO CL OF DELTA LEG

SECTION AT SOUTH DELTA LEG



FRAMING PLAN – NORTH DELTA LEG

PLAN VIEW IS SHOWN NORMAL TO CL OF DELTA LEG

SECTION AT NORTH DELTA LEG

VERMONT
Agency of Transportation

X Approved — Rejected
— Furnish as Corrected — Revise & Resubmit

Douglas E. Bonneau — 12/10/12

Douglas E Bonneau, P.E. — Date
Structures Project Manager

X Reviewed — Furnish As Corrected
— Rejected — Revise and Resubmit

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

Date October 24, 2012

McFarland Johnson — By D. Kull

WORK THIS DRAWING WITH DRAWINGS E1 & E2

REV.	DATE	REMARKS	DWN	CHK	APVL	SHOP
D						

MATERIAL:	SURFACE PREP. & PAINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: FRAMING PLAN

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. — PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 — FAX. (207) 780-6726
TENSOR SUSPC

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1		DRAWN: JTB	DATE: 08/21
		CHKD: PCP	DATE: 09/17
LOCATION: MORRISTOWN, VT		JOB NO.	DWG NO.
PROJ NO. STP F 029-1(2)C/1		521	E3
CUSTOMER: WINTERSET, INC.			REV. △

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 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.

MATERIAL SPECIFICATIONS

1) ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270M GRADE 345W WITH THE FOLLOWING EXCEPTIONS:

   A. WEBS, FLANGES AND ALL INTERMEDIATE STIFFENERS OF THE "B" AND "D" GIRDERS WHICH SHALL BE M270M, GRADE HPS 485W.
   B. BEARING ASSEMBLY MATERIAL SHALL BE AASHTO M270M GRADE 345W GALVANIZED AS PER SUBSECTION 531.04(B) AND 506.15(A), EXCEPT AS NOTED ON DETAIL DRAWINGS. AREAS OF DAMAGED GALVANIZING SHOULD BE REPAIRED PER SECTION 513.
   C. ALL PINS SHALL BE ASTM 276 2205 STAINLESS STEEL WITH POLISHED FINISH.

2) MATERIAL NOTED "H2-3", "CVN" OR "T2" 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:
   -ASTM A325 (AASHTO M164) TYPE 3 W/ A563 GRADE DH3 NUTS & F436W WASHERS IN NON-PAINTED AREAS.
   -ASTM A325 (AASHTO M164) TYPE 1 (MECH. GALV.) W/ MECH. GALV. A563 GRADE DH NUTS & F436 WASHERS IN PAINTED AREAS AND FIELD CONNECTIONS.

4) BOLTS & NUTS SHALL BE ROTATIONAL CAPACITY TESTED.

5) DO NOT MIX NUTS & BOLTS FROM DIFFERENT CONTAINERS UNLESS ALL BOLTS & NUTS HAVE THE SAME LOT NUMBER.

6) ALL TYPE 1 BOLTS SHALL BE GALVANIZED PER AASHTO M298. ⚠

FABRICATION

1) ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).

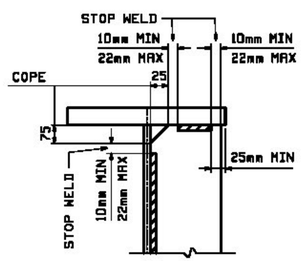
WELDING

1) THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-2010 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

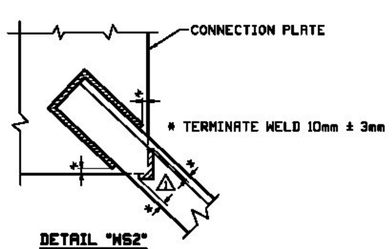
2) WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3) NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION AND AS NOTED ON DETAIL DRAWINGS.

4) SEE DETAILS "WS1 & WS2" ON THIS DRAWING FOR WELD TERMINATION DETAILS.



DETAIL "WS1"
STIFFENER WELD TERMINATION



DETAIL "WS2"
TYP. WELD TERMINATION

FIELD CONNECTIONS

1) ALL FIELD CONNECTIONS SHALL BE MADE WITH 7/8" DIAMETER HIGH STRENGTH A-325 BOLTS TYPE 3, EXCEPT IN PAINTED AREAS SHALL BE A325 TYPE 1 GALV. INSTALLED PER SECTION 506.19(c). SEE DWG E2 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.

4). AT OVERSIZED HOLE LOCATIONS A HARDENED WASHER SHALL BE PLACED UNDER BOTH THE HEAD AND THE NUT.

PAINTING

1) THE END 3050mm OF GIRDERS AND DIAPHRAGMS & LATERALS AT ABUTMENTS 1 & 2 SHALL BE PAINTED SEE SKETCH "P1", (UN).

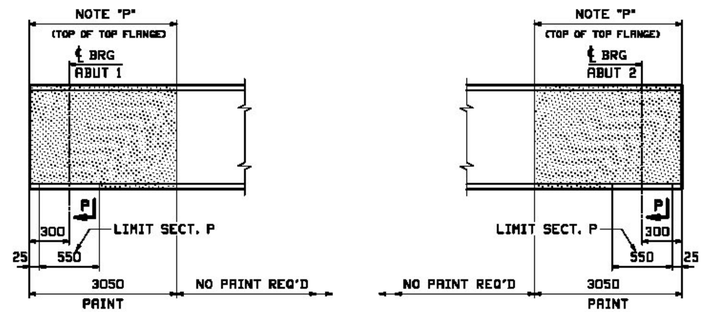
2) THE END 1850mm OF DELTA LEGS (EXCLUDING BEARINGS) SHALL BE PAINTED. SEE DELTA LEG AND BEARING ASSEMBLY DETAIL DRAWINGS FOR PAINT LIMITS AND AREAS OF GALVANIZING OR METALIZING AT DELTA LEG BEARINGS.

3) THE PAINT SYSTEM AND ITS APPLICATION SHALL CONFORM TO SECTIONS 513 AND 708 OF THE STANDARD SPECIFICATIONS.

4) PAINT SYSTEM SHALL BE AS FOLLOWS:
   PRIMER: CARBOLINE 859 ORGANIC ZINC RICH PRIMER - 3.0 - 5.0 MILS DFT.
   INTERMEDIATE: CARBOLINE 888 EPOXY 4.0-6.0 MILS DFT.
   TOPCOAT: CARBOLINE 133 LH ALIPHATIC POLYURETHANE - 3.0-5.0 MILS DFT.
   TOPCOAT COLOR: BROWN FED. COLOR #20059. - SUBMIT COLOR SAMPLE TO DEPARTMENT.

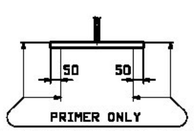
5) PRIME COAT ONLY WITHIN 3" OF OPEN HOLES IN PAINTED AREAS.

6) FIELD APPLIED BROWN GREASE, CONFORMING TO SUBSECTION 708.04, SHALL BE APPLIED PER SUBSECTION 513.06 TO THE SPECIFIED SURFACES WITHIN THE PAINTED ZONE.

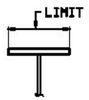


SKETCH "P1"

NOTE "P"
PAINT WITH A LIGHT RUST-PREVENTATIVE COAT OF PRIMER (SEE TYPICAL SECTION AT TOP FLG).



SECTION P



SECTION AT TOP FLG
SEE NOTE "P"

Agency of Transportation
X Approved ___ Rejected
___ Furnish as Corrected ___ Revise & Resubmit
Douglas F. Bourneau, P.E. Date
Structures Project Manager

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
⚠ 1	12/18	APPROVAL COMMENTS	EEO	PCP		
0						

MATERIAL:	SURFACE PREP. & PRINT:	HOLES:	SHOP BOLTS:

DESCRIPTION: GENERAL NOTES

CASCO BAY STEEL STRUCTURES, INC.
1 WALLACE AVE. PHONE (207) 780-6722
SOUTH PORTLAND, ME 04106 FAX. (207) 780-6726

TENSAR SLOPE

STRUCTURE: VT 100 OVER LAMOILLE RIVER MORRISTOWN, VT LAMOILLE COUNTY STP F 029-1 (2) C/1	DRAWN: JTB	DATE: 08/21	
	CHKD: PCP	DATE: 09/17	
LOCATION: MORRISTOWN, VT	JOB NO.	DWG NO.	
PROJ NO. STP F 029-1(2)C/1	521	GN1	
CUSTOMER: WINTERSET, INC.		REV. ⚠ 1	

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