

**GENERAL NOTES**

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AND ITS LATEST REVISIONS, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SEVENTH EDITION, DATED 2014, AND ITS LATEST REVISIONS.
2. THE FOLLOWING WILL BE PAID FOR UNDER ITEM 529.15 "REMOVAL OF STRUCTURE": REMOVAL AND DISPOSAL OF THE EXISTING CONCRETE T-BEAM BRIDGE INCLUDING ABUTMENTS, WINGWALLS, BRIDGE PAVEMENT AND BRIDGE RAILING.
3. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
4. PAYMENT FOR DEWATERING WILL BE INCLUDED TO THE APPROPRIATE ITEM 208.40. A STREAM PHASING SEQUENCE IS SHOWN ON SHEET 48. THIS SEQUENCE OF CONSTRUCTION WAS USED TO DEFINE THE LIMITS OF STREAM DISTURBANCE AND RELOCATION FOR PERMITTING THE PROJECT. THE SEQUENCE REQUIRES THE COFFERDAM FOR ABUTMENT 1 TO BE REMOVED PRIOR TO INSTALLING THE COFFERDAM FOR ABUTMENT 2. IF THE CONTRACTOR PROPOSES A DIFFERENT SEQUENCE OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE APPROPRIATE REGULATORY AGENCIES PRIOR TO PERFORMING THE WORK.
5. ALL PRECAUTIONS SHALL BE TAKEN TO PREVENT SEDIMENT OR POLLUTION FROM ENTERING INTO KEDRON BROOK. ALL WATER PUMPED FROM EXCAVATION AREAS SHALL BE CLARIFIED PRIOR TO BEING ALLOWED TO MIX WITH THE STREAM FLOW. STATE WATER QUALITY STANDARDS SHALL BE MAINTAINED AT ALL TIMES. PAYMENT WILL BE MADE UNDER SPECIAL PROVISION (IN-WATER SEDIMENT ISOLATION DEVICE).
6. ONE TREE AT STATION 4+22 LT SHALL BE REMOVED. ALL REMAINING TREES SHALL BE PROTECTED IN ACCORDANCE WITH SUBSECTION 656.10. SEE SHEET 10.

**MICROPILE FOUNDATIONS**

7. THE MICROPILES ARE DESIGNED TO SUPPORT A MAXIMUM STRENGTH LIMIT STATE AXIAL LOAD OF 230 KIPS PER PILE IN COMPRESSION. THE REQUIRED NOMINAL AXIAL RESISTANCES ARE 322 KIPS PER PILE (COMPRESSION) AND 168 KIPS PER PILE (TENSION).
8. MINIMUM MICROPILE STEEL CASING THICKNESS = 0.545 INCHES  
MINIMUM OUTSIDE DIAMETER OF MICROPILE CASING = 9.625 INCHES  
MINIMUM UNCASSED DIAMETER = 8.535 INCHES
9. EXTEND CASING A MINIMUM OF 1 (ONE) FOOT BELOW TOP OF COMPETENT LEDGE; EXTEND UNCASSED PORTION OF MICROPILE A MINIMUM OF 6 (SIX) FEET BELOW THE BOTTOM CASING FOR THE FRONT, BATTERED PILES AND 4 (FOUR) FEET FOR THE PLUMB BACK PILES.
10. TOP OF THE PILES SHALL BE CUT OFF AT ELEVATION 971.50'. ESTIMATED IN PLACE CASING LENGTH VARIES 23 FEET TO 28 FEET. ACTUAL LENGTHS MAY VARY SLIGHTLY DEPENDING ON LEDGE ELEVATION.
11. THE CONTRACTOR IS ADVISED THAT DIFFICULT DRILLING CONDITIONS ARE ANTICIPATED. THE CONTRACTOR SHALL MAKE PROVISIONS TO MAINTAIN THE TOLERANCES FOR LOCATION AND BATTER OF THE MICROPILES ESTABLISHED IN THE SPECIAL PROVISIONS AND AS NECESSARY TO ASSURE COMPATIBILITY WITH THE LOCATION OF THE PRECAST FOOTINGS.

**PRE-CAST CONCRETE**

12. THE MICROPILE FOUNDATION AND PEDESTAL WALLS ARE DESIGNED FOR THE REACTIONS AND BEHAVIOR SUMMARIZED BELOW. IF THE PROPOSED FRAME REACTIONS AND GEOMETRY VARY BEYOND THE LIMITS DEFINED BELOW, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILITY OF THE FOUNDATION, DESIGN THE NECESSARY REVISIONS TO THE FOUNDATION AND SUBMIT STRUCTURAL CALCULATIONS FOR THE REVISED DESIGN IN ACCORDANCE WITH SECTION 540.04.
  - A. FRAME STIFFNESS: WHEN MODELING THE STIFFNESS OF THE FRAME FOR PURPOSES OF DESIGNING THE FOUNDATION, THE FRAME LEG WAS ASSUMED TO HAVE A MINIMUM THICKNESS OF 12 INCHES. IF THE FABRICATOR'S PROPOSED FRAME LEG THICKNESS IS LESS THAN 12 INCHES, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILITY OF THE FOUNDATION.
  - B. FRAME REACTIONS AT TOP OF PEDESTAL: THE FOUNDATION WAS DESIGNED FOR A MAXIMUM UN-FACTORED REACTIONS OF:
    - DEAD LOAD - 8.6 KIPS PER FOOT OF FRAME
    - LIVE LOAD - 5.5 KIPS PER FOOT OF FRAME
  - C. TOP OF PEDESTAL: THE PEDESTAL IS DESIGNED FOR A MAXIMUM ELEVATION 977.66 FEET. IF THE PROPOSED FABRICATORS DESIGN REQUIRES A HIGHER PEDESTAL ELEVATION, THE FABRICATOR SHALL ASSUME DESIGN RESPONSIBILITY OF THE FOUNDATION.
13. THE PRECAST FRAME AND WINGWALLS SHALL BE DESIGNED BY THE PRECAST FABRICATOR, INCLUDING THE ANCHORAGE AND CONNECTIONS BETWEEN ELEMENTS. ALL ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE FABRICATORS RECOMMENDATIONS. THE CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS AND CALCULATIONS TO THE ENGINEER IN ACCORDANCE WITH SECTION 105.

**DESIGN CRITERIA:**

- LIVE LOAD = HL-93
- UNIT WEIGHT OF BACKFILL = 140 LBS/CF
- ACTIVE EARTH PRESSURE COEFFICIENT FOR BACKFILL  $K_a = 0.27$
- AT REST EARTH PRESSURE COEFFICIENT FOR BACKFILL  $K_0 = 0.43$
- PASSIVE EARTH PRESSURE COEFFICIENT FOR BACKFILL  $K_p = 3.69$  (DIRECTION TOWARD THE BACKFILL)
- LATERAL STIFFNESS OF PILE SUPPORTED FOUNDATION  $K_{FND} = 8$  kips/INCH PER FOOT OF FRAME (HORIZONTAL DIRECTION AWAY FROM BACKFILL)

14. THE FABRICATOR SHALL BE RESPONSIBLE FOR SUPPLYING THE STATE WITH THE LRFR LOAD RATING FACTOR FOR THE FRAME TO COMPLETE THE CHART SHOWN ON THE PRELIMINARY INFORMATION SHEET.
15. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1".
16. CLEAR COVER ON REINFORCING STEEL SHALL BE PER THE FOLLOWING TABLE UNLESS NOTED OTHERWISE.

LOCATION	CLEAR COVER (INCHES)
UNDERSIDE OF FRAME ROOF	1.5
EXPOSED TO EARTH OR WEATHER	2
TOP OF FRAME AND APPROACH SLABS	2.5
DIRECT EXPOSURE TO DEICING SALTS (RAILING SEAT AND FRAME FASCIA)	3
CAST AGAINST EARTH	3

17. REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE:
  - SPACING: +/- 1 INCH
  - CLEARANCE: +/- 1/4 INCH
18. THE LUMP SUM COST FOR ITEM 540.10 "PRECAST CONCRETE STRUCTURE" (SUPERSTRUCTURE FRAME AND WINGWALLS) SHALL INCLUDE THE PRECAST RIGID FRAME, WINGWALLS AND MECHANICAL CONNECTIONS.
19. PRECAST TOLERANCES SHALL BE SHOWN ON THE FABRICATION PLANS AND SHALL BE IN ACCORDANCE WITH PCI MANUAL 135-00.
20. ALL REINFORCING STEEL IN THE PRECAST PEDESTAL WALLS AND FOUNDATION SHALL BE LEVEL 1. REINFORCING IN THE JOINT AND BLOCKOUTS OF THE FOUNDATION AND PEDESTAL WALLS WILL BE PAID UNDER ITEM 507.11, REINFORCING STEEL, LEVEL 1 (FPQ).
21. ALL REINFORCING STEEL IN THE PRECAST RIGID FRAME, APPROACH SLABS AND WINGWALLS SHALL BE LEVEL 11. REINFORCING IN THE JOINTS BETWEEN THE PRECAST RIGID FRAME SECTIONS AND THE JOINTS BETWEEN THE PRECAST APPROACH SLAB SECTIONS WILL BE PAID UNDER ITEM 507.12, REINFORCING STEEL, LEVEL 11 (FPQ).
22. THE PRECAST STRUCTURE DETAILS ARE SHOWN FOR REFERENCE ONLY. THE ACTUAL DIMENSIONS AND CONFIGURATION WILL BE DEPENDENT ON THE FABRICATOR. THE INSIDE CLEAR DIMENSION OF THE FRAME SHALL BE 30'-0" AND THE THICKNESS OF THE ROOF SLAB SHALL BE NO MORE THAN 1'-6" THICK.
23. NO HOLES SHALL BE DRILLED IN THE RIGID FRAME WITHOUT THE APPROVAL OF THE FABRICATOR AND THE AGENCY, UNLESS NOTED OTHERWISE.
24. THE USE OF EQUIPMENT AND THE METHOD OF BACKFILLING AROUND THE BURIED STRUCTURE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. CARE SHALL BE TAKEN WHEN BACKFILLING AGAINST JOINT SEALING MATERIALS.
25. JOINTS BETWEEN ALL ABUTTING PRECAST UNITS SHALL BE WATERTIGHT AND MECHANICALLY CONNECTED.
26. WATER REPELLENT SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT FOR THE INTERIOR OF THE NEW STRUCTURE AND WILL BE PAID UNDER CONTRACT ITEM 514.10, WATER REPELLENT, SILANE.

**TRAFFIC CONTROL**

27. THE INCLUDED TRAFFIC CONTROL PLANS AND DETAILS ARE SCHEMATIC ONLY AND SHOULD BE USED AS A REFERENCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND IMPLEMENTATION OF SITE SPECIFIC TRAFFIC CONTROL PLAN FOR ALL PHASES OF CONSTRUCTION. THE PLAN SHALL CLEARLY DETAIL HOW TRAFFIC WILL BE MAINTAINED PRIOR TO, DURING AND AFTER THE CLOSURE PERIOD FOR THE DETOUR. THE CONTRACTOR SHALL SUBMIT DETAILED TRAFFIC CONTROL PLANS TO THE ENGINEER FOR APPROVAL PER SUBSECTION 105.03. ALL COSTS SHALL BE INCLUDED IN ITEM 900.645 SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE).
28. IF ALTERNATING 1-WAY TRAFFIC IS INCLUDED IN THE TRAFFIC CONTROL PLAN, LANE WIDTH MUST BE A MINIMUM OF 11'. SEE SPECIAL PROVISION 12b.
29. ALL TRAFFIC SIGNS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

**HIGH PERFORMANCE CONCRETE, RAPID SET**

30. HIGH PERFORMANCE CONCRETE, RAPID SET SHALL BE WET-CURED UNTIL IT HAS OBTAINED THE FOLLOWING COMPRESSIVE STRENGTH AS VERIFIED BY TESTING OF FIELD CYLINDERS.

LOCATION	MINIMUM COMPRESSIVE STRENGTH
BLOCKOUTS IN PRECAST FOOTINGS	3,000 PSI
GAPS BETWEEN FRAME SECTIONS	4,000 PSI

PROJECT NAME:	WOODSTOCK
PROJECT NUMBER:	BRF 015(21)
FILE NAME: z10c426gen notes.dgn	PLOT DATE: 9/24/2015
PROJECT LEADER: G. BOGUE	DRAWN BY: L. BUXTON
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PROJECT NOTES	SHEET 5 OF 50

