

## PROJECT NOTES

### GENERAL

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, AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, AND ITS LATEST REVISIONS.
2. ALL PRECAST CONCRETE ELEMENTS TO BE FABRICATED TO THE SPECIFIED DIMENSIONS WITHIN THE TOLERANCES DICTATED IN THE PRECAST/PRESTRESSED CONCRETE INSTITUTE TOLERANCE MANUAL FOR PRECAST AND PRESTRESSED CONCRETE CONSTRUCTION, MNL 135-00, AND ITS LATEST REVISIONS.
3. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
4. ADJUSTMENTS TO THE BITUMINOUS WEARING SURFACE ON THE BRIDGE SHALL BE MADE TO ACCOUNT FOR THE DIFFERENCE BETWEEN BEAM CAMBER AND THE THEORETICAL ROADWAY PROFILE. THE WEARING SURFACE SHALL BE SHIMMED TRANSVERSELY AS NECESSARY TO ACCOUNT FOR POTENTIAL DIFFERENTIAL CAMBER OF THE ADJACENT BEAMS.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DOCUMENT THE CONDITION OF ALL STRUCTURES THAT HAVE THE POTENTIAL FOR DAMAGE FROM CONSTRUCTION ACTIVITIES. THIS DOCUMENTATION SHALL BE IN THE FORM OF VIDEO OR PICTURES, WITH SUFFICIENT DESCRIPTION, AND SHALL BE SUPPLIED TO THE ENGINEER PRIOR TO ANY EXCAVATION OR DRIVING OF SHEET PILING. THE COST OF PREPARING THIS DOCUMENTATION WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO ALL CONTRACT ITEMS. SEE SPECIAL PROVISIONS.
6. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOAD.
7. REMOVAL OF EXISTING BRIDGE PAVEMENT SHALL BE PAID AS ITEM 529.10, "REMOVAL OF BRIDGE PAVEMENT".
8. ITEM 529.15 "REMOVAL OF STRUCTURE" IS FOR THE COMPLETE REMOVAL AND DISPOSAL OF THE EXISTING BRIDGE SUBSTRUCTURE AND SUPERSTRUCTURE, INCLUDING ALL BRIDGE RAIL, BEARINGS AND ANCHOR BOLTS, WHERE THE REMOVAL IS OUTSIDE OF THE AREAS COVERED BY ANY OF THE EXCAVATION ITEMS.
9. NO SUBSTITUTION FOR PRECAST CONCRETE WILL BE PERMITTED.

### TRAFFIC CONTROL

10. THE CONTRACTOR SHALL IMPLEMENT THE ROAD CLOSURE, TRAFFIC CONTROL, AND DETOUR AS SHOWN ON THE PLANS.
11. THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF TWO (2) WEEKS PRIOR TO CLOSING THE ROAD.
12. FULL ACCESS TO ALL SIDE ROADS AND DRIVES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL (BRF 0162(17))".
13. UNLESS COVERED UNDER INDIVIDUAL PAY ITEMS OR NOTED OTHERWISE, ALL COSTS FOR WORK SHOWN ON THE TRAFFIC CONTROL SHEETS AND FOR TEMPORARY TRAFFIC CONTROL DEVICES WILL BE CONSIDERED TO BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR TRAFFIC CONTROL, ITEM 641.10, "TRAFFIC CONTROL (BRF 0162(17))". THIS INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING ITEMS:
  - TEMPORARY TRAFFIC BARRIERS
  - RETROREFLECTIVE DRUMS
  - SIGNS
  - SIGN POSTS
14. TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621.
15. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

### EARTHWORK

16. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 301.06 REGARDING THE COMPACTION OF THE SUBBASE MATERIAL.
17. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW BEAMS ARE SET.
18. TEMPORARY CONSTRUCTION FILLS WITHIN THE WATERCOURSE FOR ANY PURPOSE SHALL CONSIST OF CLEAN STONE FILL ONLY. NO OTHER FILLING IN THE STREAM SHALL OCCUR WITHOUT THE APPROVAL OF THE STREAM ALTERATION ENGINEER.

### CONCRETE

19. ITEM 514.10, "WATER REPELLENT, SILANE", SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON THE BRIDGE SUPERSTRUCTURE AND SUBSTRUCTURE, WITH THE EXCEPTION OF THE BOTTOM OF THE PRECAST NEXT BEAMS BETWEEN THE DRIP NOTCHES.
20. ALL PRECAST SUBSTRUCTURE AND APPROACH SLAB CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 540 - PRECAST CONCRETE.
21. THE CONNECTION BETWEEN APPROACH SLAB UNITS SHALL MEET THE REQUIREMENTS OF ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE RAPID SET) (FPQ)".
22. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
23. ALL REINFORCEMENT IN THE PILE CAP AND APPROACH SLAB SHALL ADHERE TO THE REQUIREMENTS OF LEVEL I REINFORCING STEEL IN ACCORDANCE WITH SECTION 507. ALL REINFORCING STEEL IN THE NEXT D BEAMS, CURBS, PARAPETS, CURTAIN WALLS, CHEEKWALLS AND WINGWALLS SHALL ADHERE TO THE REQUIREMENTS OF LEVEL II REINFORCING STEEL IN ACCORDANCE WITH SECTION 507.

CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04 OF THE STANDARD SPECIFICATIONS.
- 24.

### PRECAST ABUTMENTS AND POST-TENSIONING

25. IF VERTICAL CONSTRUCTION JOINTS ARE REQUIRED BY THE CONTRACTOR FOR SHIPMENT OF THE ABUTMENTS, THEN THE SECTIONS SHALL BE KEYED AND MATCH CAST. A JOINT DETAIL SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
26. POST-TENSIONING AND ASSOCIATED ITEMS ARE ONLY REQUIRED IF THE PILE CAP IS CONSTRUCTED OF MORE THAN ONE UNIT. ANY POST-TENSIONING STRANDS AND CONDUIT SHALL ADHERE TO THE REQUIREMENTS OF SECTION 510 - PRESTRESSED CONCRETE. GALVANIZED ANCHOR ASSEMBLIES, CONDUIT AND POST-TENSIONING STRANDS SHALL BE INCLUDED UNDER ITEM 540.10, "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 1) (BRIDGE 16)" AND/OR "PRECAST CONCRETE STRUCTURE (ABUTMENT NO. 2) (BRIDGE 16)" AS APPROPRIATE. POST-TENSIONING STRANDS SHALL BE COVERED WITH SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF THE STRAND, EXCEPT AT ANCHORAGE LOCATIONS.
27. GALVANIZE ANCHOR ASSEMBLIES AFTER FABRICATION ACCORDING TO AASHTO M232M/M232.
28. DESIGN VALUES
  - A. CONCRETE COMPRESSIVE STRENGTH:  $f'c = 5,000$  PSI.
  - B. POST-TENSIONING STRANDS: 0.5 INCH DIAMETER, 270 KSI, LOW RELAXATION 7-WIRE STRANDS.
  - C. ASSUMED MODULUS OF ELASTICITY IS 28,500 KSI.
  - D. THERE SHALL BE 2 STRANDS PER CONDUIT.
  - E. THE JACKING FORCE PER STRAND = 32 KIPS.
29. THE CONCRETE FOR THE ABUTMENT NO. 1 AND ABUTMENT NO. 2 PILE CAVITIES SHALL MEET THE REQUIREMENTS OF ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE RAPID SET) (FPQ)".
30. TWO 75 KSI 1" DIAMETER ROCK ANCHORS EMBEDDED 10 FEET INTO BEDROCK AT EACH ABUTMENT ARE REQUIRED TO ENSURE STABILITY DURING EXTREME CONDITIONS. MINIMUM ROCK ANCHOR GROUT HOLE SHALL BE 3 1/2" IN DIAMETER. EACH ROCK ANCHOR SHALL BE POST-TENSIONED TO 7 KIPS. THE TOTAL LENGTH OF THE ANCHORS SHALL INCLUDE A MINIMUM OF 20 FEET OF LENGTH FROM THE TOP OF PILE CAP TO ALLOW FOR FLEXIBILITY OF THE ANCHOR WITH ADEQUATE FREE STRESSING LENGTH. ROCK ANCHORS SHALL BE TESTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS. TESTING FOR ROCK ANCHORS SHALL BE PAID FOR AS ITEM 900.620 SPECIAL PROVISION (ROCK ANCHOR TESTING).
31. PROPOSED SEQUENCE OF CONSTRUCTION
  - A. DRIVE PILES BEHIND EXISTING ABUTMENTS PRIOR TO THE WEEKEND CLOSURE USING ALTERNATING ONE-WAY TRAFFIC ON THE BRIDGE.
  - B. CLOSE BRIDGE TO TRAFFIC, REMOVE EXISTING STRUCTURE.
  - C. EXCAVATE AROUND PILES AND GRADE TO FINAL PILE CAP ELEVATION.
  - D. PLACE PRECAST ABUTMENTS AND INSTALL TRANSVERSE STRANDS (IF MORE THAN ONE UNIT).
  - E. APPLY EPOXY TO MATCH CAST FACES OF VERTICAL CONSTRUCTION JOINT
  - F. USE A CALIBRATED JACK TO TENSION 3 KIPS TO REMOVE SAG IN STRANDS.
  - G. CHECK ALIGNMENT OF PILE CAP ELEMENTS.
  - H. STRESS POST-TENSIONING STRANDS USING A CALIBRATED JACK OPERATED BY QUALIFIED PERSONNEL WHO HAVE PREVIOUS EXPERIENCE IN POST-TENSIONING.
  - I. FILL PILE CAVITIES WITH ITEM 900.68, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE RAPID SET) (FPQ)".
  - J. PLACE PRECAST WINGWALLS AND GROUT SPLICE CONNECTORS. BACKFILL MAY BE COMPLETED AFTER SPLICE CONNECTOR GROUT HAS REACHED 85% OF 5,000 PSI.
  - L. ROCK ANCHORS MAY BE INSTALLED AFTER THE BRIDGE IS ERECTED, USING ALTERNATING ONE-WAY TRAFFIC ON THE BRIDGE.
32. ALTERNATE SEQUENCE OF CONSTRUCTION MAY BE SUBMITTED FOR APPROVAL BY THE PROJECT MANAGER.

PROJECT NAME: ROCHESTER  
PROJECT NUMBER: BRF 0162(17)

FILE NAME: z85e035prn.dgn PLOT DATE: 8/19/2013  
PROJECT LEADER: G.S. GOODRICH DRAWN BY: B.J. MASSE  
DESIGNED BY: L.S. CHERVINCKY CHECKED BY: G.S. GOODRICH  
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