GENERAL

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE 2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, AND THEIR LATEST REVISIONS.

2. DURING THIS PROJECT, THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE BRIDGE FOR 60 CONSECUTIVE HOURS. SEE SPECIAL PROVISIONS FOR WORK REQUIREMENTS DURING THIS CLOSURE PERIOD.

3. **EXISTING DIMENSIONS:** THESE PLANS WERE PREPARED BASED ON INFORMATION OBTAINED FROM REFERENCE PLAN SHEETS. DIMENSIONS AND ANGLES OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ENSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN WORKING DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER. NO EXTRA PAYMENT WILL BE MADE FOR OBTAINING THE NECESSARY MEASUREMENTS.

4. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.

EARTHWORK AND RELATED ITEMS

5. ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE: EXISTING WOOD DECK, STEEL BEAMS, BRIDGE RAILING AND THE ABUTMENTS TO THE ELEVATION SHOWN IN THE PLANS.

CONCRETE

6. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH X 1 INCH.

7. ITEM 514.10 "WATER REPELLENT, SILANE" SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES, EXCEPT THE UNDERSIDE OF THE PRESTRESS UNITS BETWEEN DRIP NOTCHES. SEE SUPPLEMENTAL SPECIFICATION 514.

8. ALL SUPERSTRUCTURE REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING, EPOXY COATED. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 510.22. ALL OTHER REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR LEVEL I REINFORCING AND WILL BE PAID FOR UNDER CONTRACT ITEM 507.11.

9. CUTTING AND REPAIRING DAMAGED AREAS OF COATED REINFORCING STEEL SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 507.04.

10. MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS INDICATED IN THE PLANS.

TRAFFIC CONTROL

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SITE SPECIFIC TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE LOCAL TRAFFIC CONTROL PACKAGE IDENTIFYING THE PROJECT BEFORE, DURING AND AFTER THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A DETAILED TRAFFIC CONTROL PLAN TO THE ENGINEER FOR ALL STAGES OF CONSTRUCTION. NO WORK SHALL BEGIN UNTIL THE TRAFFIC CONTROL PLAN HAS BEEN APPROVED. SEE SPECIAL PROVISIONS FOR DETAILS. ALL COST SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION, (TRAFFIC CONTROL, ALL-INCLUSIVE)".

12. THE COST FOR ALL ITEMS REQUIRED TO IMPLEMENT THE CONTRACTOR'S TRAFFIC CONTROL PLAN; INCLUDING BUT NOT LIMITED TO TEMPORARY TRAFFIC BARRIER AND CONSTRUCTION SIGNS WILL BE INCLUDED UNDER ITEM 900.645, "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

13. ALL SIGNS, BARRICADE AND OTHER TRAFFIC CONTROL DEVICES SHALL BE CLEANED WEEKLY OR AS DIRECTED BY THE ENGINEER. EXISTING PERMANENT SIGNS THAT CONFLICT WITH TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE REMOVED AND REPLACED OR COVERED FOR THE PERIOD OF TIME THAT THE TRAFFIC CONTROL PLAN IS IMPLEMENTED. COST FOR THIS WORK SHALL BE CONSIDERED INCIDENTAL TO ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)".

14. THE CONTRACTOR SHALL ADD SIGN G20-5AP TO THE TOP OF ALL TEMPORARY SPEED LIMIT SIGNS AS DETAILED IN THE MUTCD.

15. PRIOR TO AND AFTER THE MAXIMUM 72 HOUR BRIDGE CLOSURE, THE CONTRACTOR SHALL MAINTAIN TWO WAY TRAFFIC WHEN THE CONTRACTOR IS NOT WORKING. DURING THE CONTRACTOR'S WORKING HOURS, THE CONTRACTOR MAY REDUCE TRAFFIC TO ONE-LANE WITH THE USE OF FLAGGERS, DRUMS, BARRICADES, TEMPORARY TRAFFIC BARRIER AND/OR OTHER TRAFFIC CONTROL DEVICES. THIS WORK WILL BE PAID FOR UNDER ITEM 900.645 "SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE) EXCEPT THAT FLAGGER HOURS WILL BE PAID SEPARATELY UNDER ITEM 630.15, "FLAGGERS".

PRESTRESSED CONCRETE

16. ITEM 510.22 "PRESTRESSED CONCRETE VOIDED SLABS" PRESTRESSED PRECAST MEMBERS SHALL:

    A. CONFORM TO SECTION 510 "PRESTRESSED CONCRETE."
    B. BE 4 FOOT WIDE VOIDED SLABS (DEPTH VARIES).
    C. USE CONCRETE WITH f'c = 7 KSI AND f'ci = 5.5 KSI.
    D. BE DESIGNED FOR AN AASHTO HL 93 LIVE LOAD.
    E. CONTAIN CONTINUOUS VOIDS EXCEPT AS SHOWN IN THE PLAN DETAIL.
    F. HAVE VOID DRAINS AT THE ENDS OF EACH VOID. THE VOID DRAINS SHALL BE ¾" DIAMETER, NON-FERROUS, AND CLEANED AFTER ERECTION.
    G. CONTAIN PRESTRESSING STRANDS WHICH ARE 0.6 IN. DIAMETER, 270 KSI, LOW-RELAXATION STRANDS PULLED TO 75% OF THEIR YIELD.
    H. HAVE THE ENDS OF THE STRANDS RECESSED AND GROUTED ACCORDING TO STANDARD PRACTICE.
    I. INCLUDE COLD POURED JOINT FILLER, AND TRANSVERSE TENDONS.
    J. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ¾" X ¾" UNLESS OTHERWISE NOTED.

17. THE FABRICATOR MAY, WITH THE APPROVAL OF THE STRUCTURES ENGINEER, ALTER THE DESIGN AS DETAILED TO MEET THE PLANT'S PRESTRESSING OPERATION AND MATERIAL REQUIREMENTS. AN ALTERNATE STRAND CONFIGURATION MAY BE SUBMITTED FOR APPROVAL, PROVIDED THE DESIGN IS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VERMONT, AND THAT THE DESIGN MEETS ALL OF THE APPLICABLE DESIGN CRITERIA, LOADINGS AND CODES.

18. THE CONTRACTOR SHALL NOTIFY THE VTRANS MATERIALS & RESEARCH STRUCTURAL CONCRETE ENGINEER TWO WEEKS BEFORE THE PRESTRESS FABRICATOR CONSTRUCTS THE UNITS.

19. ITEM 510.22 "PRESTRESSED CONCRETE VOIDED SLABS" TRANSVERSE TENDONS:

    A. POST-TENSIONING STRANDS: 0.6" DIAMETER, 270 KSI, LOW-RELAXATION 7-WIRE STRANDS. THE ASSUMED MODULUS OF ELASTICITY FOR THE STRAND IS 28,500 KSI.
    B. COVER TENDONS WITH A SEAMLESS POLYPROPYLENE SHEATH WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND TENDON.
    C. THE ¾" TENDON PLATES SHALL CONFORM TO AASHTO M270M/M270 GR50.
    D. GALVANIZE PLATES AND CHUCKS AFTER FABRICATION ACCORDING TO AASHTO M232M/M232.
    E. THERE SHALL BE TWO (2) STRANDS PER POST-TENSION DUCT.
    F. TIES SHALL BE TENSIONED TO 33 KIPS FOR EACH 0.5" DIAMETER STRAND AND 47 KIPS FOR EACH 0.6" DIAMETER STRAND.

20. ITEM 510.24 "GROUTING SHEAR KEYS": FILL THE JOINTS BETWEEN THE VOIDED SLABS WITH MORTAR, TYPE IV, AS DESCRIBED IN SUBSECTION 510.13.

21. SERVICE LOADS

MEMBER MOMENT	264.6 K-FT
SUPERIMPOSED DEAD LOAD MOMENT	48.0 K-FT
LIVE LOAD & IMPACT MOMENT	504.3 K-FT
DEAD LOAD REACTION	25.9 K
LIVE LOAD & IMPACT REACTION	46.8 K
TOTAL REACTION	72.7 K
FINAL CAMBER	1.751 IN

CONSTRUCTION SEQUENCE FOR PRESTRESSED VOIDED SLABS

1. **LAY OUT WORKING LINES**:
   A. LAY OUT WORKING LINES FOR THE ENTIRE BRIDGE WIDTH ON THE BEAM SEAT.
   B. MEASURE ALL WORKING LINES FROM A COMMON WORKING POINT
   C. BASE THE WORKING LINES ON THE NOMINAL BEAM WIDTHS.

2. **VERIFY BEAM SEAT ELEVATIONS:**
   A. MEASURE ELEVATIONS AT BEAM SEATS.

3. **ERECT BEAMS:**
   A. PLACE BEAMS TO FIT WITHIN THE WORKING LINES.
   B. AS WORK PROGRESSES, INSTALL HARDWOOD WEDGES BETWEEN ADJACENT BEAMS TO MAINTAIN PROPER JOINT OPENING (A MINIMUM OF ONE WEDGE AT EACH TRANSVERSE TENDON).
   C. DRILL ANCHOR BOLT HOLES.
   D. PLACE ANCHOR BOLTS.
   E. GROUT ANCHOR BOLTS IN SLEEPER SLAB.

4. **INSTALL BACKER ROD:**
   PLACE FILLER BELOW THE KEYWAY BOTTOM, AS SHOWN ON THE PLANS.

5. **INSTALL TRANSVERSE TENDONS:**
   A. FEED TENDONS THROUGH DUCTS.
   B. VERIFY THAT HARDWOOD WEDGES ARE IN PLACE AS REQUIRED TO PREVENT SLIPPAGE OF BEAMS.
   C. POST-TENSION TENDONS USING A CALIBRATED JACK TO APPROXIMATELY 3.0 KIPS TO REMOVE SAG IN THE TENDON AND TO SEAT THE CHUCK.
   D. CURE AS PER SUBSECTION 510.13.

6. **GROUT SHEAR KEYS:**
   A. CLEAN JOINTS WITH AN OIL FREE AIR-BLAST IMMEDIATELY BEFORE GROUT PLACEMENT. VERIFY THAT THE BACKER ROD IS STILL IN PLACE.
   B. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ADDITIONAL JOINT PREPARATION AND GROUT PLACEMENT.
   C. CAREFULLY ROD JOINTS TO ELIMINATE ANY POSSIBILITY OF VOIDS.
   D. THE REQUIREMENTS OF SUBSECTION 510.13 (d) SHALL BE WAIVED. THE CONTRACTOR SHALL NOT LOAD THE BRIDGE UNTIL THE GROUT HAS REACHED A COMPRESSIVE STRENGTH OF 1,000PSI.

7. **POST-TENSION TRANSVERSE TENDONS:**
   A. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 1.5 KSI, BASED ON THE MANUFACTURER'S RECOMMENDATIONS, PRIOR TO STRESSING.
   B. PROVIDE APPROPRIATE CUBE MOLDS AS DESCRIBED IN AASHTO T106M/T106 FOR 3 SETS OF 3 DAY CUBES, 3 SETS OF 28 DAY CUBES AND AT A MINIMUM OF 3 MORE CUBES TO TEST FOR THE 1.5 KSI MINIMUM COMPRESSIVE STRENGTH.

MISCELLANEOUS

22. ALL WORK TO PLACE CONCRETE IN THE BASE OF WINGWALL 2 IN THE DRY SHALL BE INCIDENTAL TO THE ITEM 501.34, "HIGH PERFORMANCE CONCRETE, CLASS B". THE CONCRETE SHALL NOT BE DEPOSITED DIRECTLY INTO THE WATER.

PROJECT NAME: MONTGOMERY
PROJECT NUMBER: BHO 1448(27)

FILE NAME: s96j306gennotes.dgn
PROJECT LEADER: C. CARLSON
DESIGNED BY: H. SALLS
PROJECT NOTES

PLOT DATE: 11-DEC-2013
DRAWN BY: R. PELLETT
CHECKED BY: J. LACROIX