

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 WITH 2013 REVISIONS.
2. THE BRIDGE IS DESIGNED FOR HL-93 LIVE LOAD.
3. ITEM 529.15 "REMOVAL OF STRUCTURE" SHALL BE USED FOR THE REMOVAL OF THE EXISTING STRUCTURE (SUPERSTRUCTURE AND PIERS) AND ANY PORTION OF THE ABUTMENTS OUTSIDE THE LIMITS OF STRUCTURE EXCAVATION OR UNCLASSIFIED CHANNEL EXCAVATION.
4. ALL DIMENSIONS SHOWN IN THE PLANS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
5. THE EXISTING BRIDGE WILL BE CLOSED DURING ITS REMOVAL AND REPLACEMENT DURING THE ALLOWABLE CLOSURE PERIOD. SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
6. VALUE ENGINEERING PROPOSALS WILL NOT BE ACCEPTED FOR CONSTRUCTION OF THIS PROJECT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY CAUSED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE.
8. PRIOR TO ANY FABRICATION THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A DETAILED SCHEDULE AND WORK PLAN DESCRIBING ALL ASPECTS OF THE INSTALLATION AND COORDINATED CONSTRUCTION OF ALL BRIDGE COMPONENTS.

EARTHWORK AND RELATED ITEMS:

9. THE "STONE FILL, TYPE IV" UNDER THE BRIDGE AS SHOWN IN THE PLANS SHALL BE PLACED BEFORE THE NEW STEEL GIRDERS ARE SET.
10. 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. THIS WORK WILL BE PAID UNDER ITEM 613.11, STONE FILL CLASS II.
11. ALL DEWATERING NECESSARY TO PERFORM WORK ON SUBSTRUCTURE COMPONENTS WILL BE PAID FOR UNDER ITEM 204.25, "STRUCTURE EXCAVATION".

H PILES:

12. THE PILES SHALL BE HP 14 X 102 IN CONFORMANCE WITH SUBSECTION 730.01.
13. TO PREVENT DAMAGE TO THE PILES, PILE SHOES ARE REQUIRED FOR DRIVEN PILES AND SHALL CONFORM TO SUBSECTION 505.04(F).
14. FOR ESTIMATING PURPOSES THE PILE TIP ELEVATIONS WERE ASSUMED AS SHOWN ON THE BORING LOGS. THE ACTUAL IN PLACE LENGTHS MAY VARY.
15. TO ENSURE THAT THE NOMINAL CAPACITY HAS BEEN ATTAINED AND TO PREVENT THE OVERSTRESSING OF THE PILES DURING DRIVING OPERATIONS, DYNAMIC TESTING SHALL BE PERFORMED ON A MINIMUM OF ONE PILE AT EACH ABUTMENT. PAYMENT WILL BE MADE UNDER ITEM 505.45, "DYNAMIC PILE LOADING TEST".
16. THE TOPS OF THE PILES AFTER DRIVING OR PLACEMENT SHALL NOT VARY FROM THE POSITION SHOWN ON THE PLANS BY MORE THAN 3 INCHES. THE PILE ORIENTATION SHALL NOT VARY BY MORE THAN 5 DEGREES. THE CONTRACTOR SHALL DEMONSTRATE HOW THE TOLERANCES WILL BE MET TO THE SATISFACTION OF THE ENGINEER. THESE MEASURES SHALL BE DETAILED IN A SUBMITTAL TO BE ACCEPTED BEFORE PILE DRIVING COMMENCES.
17. THE PILES SHALL BE DRIVEN TO A NOMINAL AXIAL PILE DRIVING RESISTANCE (RNDR) OF 410 KIPS AS DETERMINED BY THE RESULTS OF DYNAMIC TESTING, AS INTERPRETED BY THE RESIDENT ENGINEER.

STRUCTURAL STEEL:

18. THE EXISTING STRUCTURAL STEEL IS PAINTED WITH MATERIAL THAT MAY CONTAIN LEAD. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE REGULATIONS WHEN HANDLING AND WORKING WITH THIS STEEL. THE REMOVED STRUCTURAL STEEL IS THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS, AND EMPLOYEES HARMLESS CONCERNING THE CONTRACTOR'S USE OR DISPOSITION OF THE REMOVED EXISTING STRUCTURAL STEEL.
19. ALL STRUCTURAL STEEL SHALL BE METALIZED IN ACCORDANCE WITH ITEM 900.645, "SPECIAL PROVISION (METALIZING OF STRUCTURAL STEEL)".
20. ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
21. ALL HOLES IN THE WEBS OF THE GIRDERS THAT ARE NOT OTHERWISE FILLED, SHALL BE FILLED WITH EITHER BUTTON HEAD OR HEX HEAD BOLTS. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SUBSECTION 506.19.
22. ALL WELDING SHALL CONFORM TO PROVISIONS OF SUBSECTION 506.10.
23. ALL STRUCTURAL STEEL SHALL MEET ALL REQUIREMENTS OF AASHTO M270 GRADE 50 KSI.
24. THIS PROJECT INVOLVES THE COMPLETE 2-SPAN UNIT (GIRDERS AND DIAPHRAGMS) BEING FULLY ERECTED IN THREE SEPARATE LOCATIONS. PAYMENT WILL BE INCLUDED IN THE UNIT PRICE BID FOR CONTRACT ITEM 506.56:
 - 1) AT STEEL FABRICATION PLANT: COMPLETE ERECTION IS REQUIRED FOR MATCH DRILLING OF THE SPLICE PLATES.
 - 2) AT PRECAST PLANT: THE COMPLETE UNIT AT THE PRECAST PLANT PRIOR TO CASTING THE INTEGRAL PIER CAP.
 - 3) AT THE BRIDGE SITE IN ITS FINAL POSITION.
25. AFTER THE GIRDERS HAVE BEEN ERECTED AT THE BRIDGE SITE, ELEVATIONS SHALL BE TAKEN ALONG THE TOP OF THE GIRDERS AND THE PIER CAP AS DIRECTED BY THE RESIDENT ENGINEER FOR USE IN DETERMINING FINISHED GRADES OF THE DECK.
26. GIRDER WEBS AND CROSS FRAMES SHALL BE PLUMB IN FINAL CONDITION.
27. STRUCTURAL STEEL MEMBERS DESIGNATED "CVN" IN THE PLANS SHALL BE "CHARPY V NOTCH" TESTED IN ACCORDANCE WITH SUBSECTION 714.01.

CONCRETE AND REINFORCING STEEL:

28. THE PRECAST CONCRETE ABUTMENTS (WITH WINGS), PIER CAP, AND APPROACH SLABS ARE OPTION ITEMS. THE CONTRACTOR SHALL BID EITHER CONTRACT ITEM 540.10 OR CONTRACT ITEM 900.645 FOR EACH OPTION ITEM.
29. WATER REPELLENT, SILANE, SHALL BE APPLIED TO ALL EXPOSED CONCRETE (CAST-IN-PLACE AND PRECAST) SURFACES, EXCEPT THE UNDERSIDE OF THE DECK BETWEEN DRIP NOTCHES. PAYMENT FOR SILANE WILL BE MADE UNDER ITEM 514.10.
30. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
31. ALL REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR "REINFORCING STEEL, LEVEL II", EXCEPT FOR THE REINFORCING STEEL IN THE DRILLED SHAFTS WHICH SHALL MEET THE REQUIREMENTS OF SECTION 507 FOR "REINFORCING STEEL, LEVEL I". SEE TABLE ON SHEET 4 FOR PAYMENT OF REINFORCING STEEL.
32. CONCRETE USED FOR THE APPROACH SLAB CLOSURE POURS SHALL BE ITEM 900.608, "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)".
33. ALL PRECAST SUBSTRUCTURE AND APPROACH SLAB CONCRETE SHALL MEET THE REQUIREMENTS OF SECTION 540 - PRECAST CONCRETE.
34. FLEMING BRACKETS OR SIMILAR FALSEWORK SHALL BE SPACED AS REQUIRED BY DESIGN, BUT SHALL BE LIMITED TO A MAXIMUM OF 4 FEET. BRACKETS SHALL EXTEND FOR A MINIMUM OF 75% OF THE WEB DEPTH. THE DESIGN OF THE FALSEWORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. STAY-IN-PLACE FORMS SHALL NOT BE USED.

35. PLACE THE DECK IN ONE CONTINUOUS PLACEMENT FROM END TO END; EXCEPT FOR THE CLOSURE POUR SECTIONS AT THE ABUTMENTS WHICH SHALL BE PLACED AT LEAST 72 HOURS AFTER THE DECK POUR HAS BEEN COMPLETED.

PRECAST ABUTMENTS AND POST-TENSIONING:

36. THE UNIT PRICE FOR EACH PRECAST ABUTMENT SHALL INCLUDE THE ASSOCIATED PRECAST WINGWALLS AND THEIR CONNECTIONS. PAYMENT FOR THIS WORK WILL BE MADE UNDER THE APPROPRIATE PRECAST CONCRETE ABUTMENT ITEM.
37. ALL MECHANICAL CONNECTORS SHALL BE GROUTED SPLICE COUPLERS UNLESS OTHERWISE NOTED AND SHALL BE CAPABLE OF ATTAINING 125% OF THE SPECIFIED YIELD STRENGTH OF THE REINFORCING BAR BEING SPLICED.
38. FOR PRECAST UNITS THE COST OF REINFORCING STEEL AND GROUTED SPLICE COUPLERS WILL BE INCLUDED IN THE APPROPRIATE PRECAST CONCRETE ABUTMENT ITEM.
39. IF VERTICAL CONSTRUCTION JOINTS ARE REQUIRED BY THE CONTRACTOR FOR SHIPMENT OF THE ABUTMENTS AND/OR WINGWALLS, THEN THE SECTIONS SHALL BE KEYED AND MATCH CAST. A JOINT DETAIL SHALL BE SHOWN ON THE FABRICATION DRAWINGS.
40. CONTRACTOR/FABRICATOR SHALL SHOP VERIFY PROPER FIT OF ALL BRIDGE SUBSTRUCTURE ELEMENTS TO BE CONNECTED PRIOR TO SHIPPING TO THE FIELD.
41. POST-TENSIONING AND ASSOCIATED ITEMS ARE ONLY REQUIRED IF THE PILE CAP IS CONSTRUCTED IN 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 WILL BE INCLUDED UNDER THE APPROPRIATE PRECAST CONCRETE ABUTMENT ITEM. POST-TENSIONING STRANDS SHALL BE COVERED WITH A SEAMLESS POLYPROPYLENE SHEATH (WITH CORROSION INHIBITOR GREASE BETWEEN SHEATH AND STRAND) FOR THE LENGTH OF THE STRAND, EXCEPT AT ANCHORAGE LOCATIONS.
42. GALVANIZE POST-TENSIONING ANCHOR ASSEMBLIES AFTER FABRICATION ACCORDING TO AASHTO M232M/M232.
43. THE CONCRETE FOR THE ABUTMENT #1 AND ABUTMENT #2 PILE CAVITIES SHALL MEET THE REQUIREMENTS OF, AND WILL BE PAID FOR, UNDER ITEM 900.608 "SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, RAPID SET)".
44. THE CORRUGATED STEEL PIPE SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF SUBSECTION 711.01 AND AASHTO M218. ALL COSTS ASSOCIATED WITH PLACING THE CORRUGATED STEEL PIPE WILL BE INCLUDED IN THE BID PRICE FOR THE APPROPRIATE PRECAST CONCRETE ABUTMENT ITEM.
45. DESIGN CRITERIA:
 - a. CONCRETE COMPRESSIVE STRENGTH: $f'c = 5000$ PSI
 - b. POST-TENSIONING STRANDS: 0.5 INCH DIAMETER, 270 KSI, LOW RELAXATION 7-WIRE STRANDS
 - c. ASSUMED MODULUS OF ELASTICITY: 28,500 KSI
 - d. TWO STRANDS PER CONDUIT
 - e. JACKING FORCE PER STRAND: 32 KIPS

PROJECT NAME: NEW HAVEN
 PROJECT NUMBER: BRF 0183 (I)

FILE NAME: z10j070genno+es.dgn PLOT DATE: 23-JUNE-2015
 PROJECT LEADER: G.K. DONINGTON DRAWN BY: S. BROWN
 DESIGNED BY: R. GAUDREAU CHECKED BY: A. STOCKIN
 PROJECT NOTES SHEET 3 OF 67

