

## GENERAL NOTES

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO 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.
- DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGE SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM LIMITED FIELD INVESTIGATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER BEFORE ADVANCING THE WORK. WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 20 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.

## CONSTRUCTION NOTES

- A THOROUGH INSPECTION SHALL BE MADE OF SUBSTRUCTURE AREAS. AREAS OF CONCRETE FOUND TO BE SPALLED, DELAMINATED OR OTHERWISE UNSOUND SHALL BE REPAIRED. THE AREAS THAT NEED TO BE REPAIRED SHALL BE PAID FOR AS ITEM 580J3, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I," ITEM 580J4, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II" OR ITEM 580J5, "REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III" IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- NO BACKFILL WILL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THE RESIDENT ENGINEER HAS APPROVED THIS WORK. THE HEIGHT OF BACKFILL BEHIND THE ABUTMENTS SHALL BE LIMITED TO THE BRIDGE SEAT ELEVATIONS UNTIL THE NEW STEEL BEAMS HAVE BEEN SET. THE CONTRACTOR, AT THE EXPENSE OF THE CONTRACTOR, SHALL REPAIR DAMAGE TO CONCRETE WALLS RESULTING FROM IMPROPER BACKFILLING.

## REMOVAL NOTES

- ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE" SHALL INCLUDE:
  - REMOVAL AND DISPOSAL OF EXISTING BRIDGE AND APPROACH RAILING AND POSTS, CONCRETE CURBS, CONCRETE BRIDGE DECK AND CURTAIN WALLS.
  - REMOVAL AND DISPOSAL OF STRUCTURAL STEEL BEAMS AND DIAPHRAGMS.
  - REMOVAL AND DISPOSAL OF BEARING DEVICES.
  - REMOVAL AND DISPOSAL OF PORTIONS OF EXISTING WINGWALLS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE REMOVAL OF THE EXISTING BRIDGE PAVEMENT SHALL BE PAID FOR AS ITEM 529J0, "REMOVAL OF BRIDGE PAVEMENT".
- LIMITS OF WINGWALL REMOVAL ARE APPROXIMATE. THE ENGINEER SHALL ESTABLISH ACTUAL LIMITS AFTER A COOPERATIVE INSPECTION BY THE CONTRACTOR AND THE ENGINEER. EXISTING ELEVATIONS SHALL BE FIELD VERIFIED TO ENSURE THAT THE REMOVAL LIMITS ARE ADEQUATE TO OBTAIN THE REQUIRED DIMENSIONS AND ELEVATIONS OF THE NEW CONSTRUCTION. ASSOCIATED COSTS SHALL BE INCLUDED IN ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".
- ANY MATERIAL REMOVED AROUND THE EXISTING ABUTMENTS OUTSIDE THE LIMITS OF COMMON EXCAVATION SHALL BE PAID FOR AS ITEM 204.25, "STRUCTURE EXCAVATION".
- SAWCUTS SHALL BE ONE-INCH DEEP ALONG ALL EXPOSED REMOVAL LINES WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".
- IT IS ASSUMED THAT THE APPROACHES TO THIS BRIDGE ARE CONSTRUCTED OF PORTLAND CEMENT CONCRETE PAVEMENT, OVERLAID WITH SEVERAL INCHES OF BITUMINOUS CONCRETE PAVEMENT. THE CONTRACTOR SHALL REMOVE THE CEMENT CONCRETE PAVEMENT WITHIN THE LIMITS OF THE SUBBASE WORK, AS DIRECTED BY THE ENGINEER. PAYMENT FOR REMOVAL OF CEMENT CONCRETE PAVEMENT SHALL BE MADE AS ITEM 203J6, "SOLID ROCK EXCAVATION" AND PAYMENT FOR REMOVAL OF BITUMINOUS CONCRETE PAVEMENT SHALL BE MADE AS ITEM 203.28, "EXCAVATION OF SURFACES AND PAVEMENTS".
- THE EXISTING STRUCTURAL STEEL ON THIS PROJECT WAS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. 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 STRUCTURAL STEEL.

## CONCRETE NOTES

- CONCRETE PAYMENT AND CLASSIFICATION SHALL BE AS FOLLOWS:
  - ITEM 50I.33, CONCRETE, HIGH PERFORMANCE CLASS A (DECK, BRIDGE CURB, BRIDGE SIDEWALK, HAUNCHES, BACKWALLS)
  - ITEM 50I.34, CONCRETE, HIGH PERFORMANCE CLASS B (ABUTMENTS, WINGWALLS, APPROACH SLABS)
- ITEM 514J0, "WATER REPELLENT, SILANE" SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BRIDGE SUPERSTRUCTURE EXCEPT ON THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES. WATER REPELLENT SHALL ALSO BE APPLIED TO EXPOSED EXISTING AND NEW CONCRETE ON THE SUBSTRUCTURES.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25mm BY 25mm, UNLESS OTHERWISE NOTED. A 13mm RADIUS SHALL BE USED ON THE TOP INSIDE CORNER OF THE CURBS.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT UNLESS OTHERWISE INDICATED. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- THE CONCRETE DECK SHALL BE PLACED IN ONE CONTINUOUS POUR, NOT TO EXCEED 8 HOURS. NO COLD JOINTS WILL BE ALLOWED. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A CONSTRUCTION JOINT SHALL BE USED. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS BETWEEN POURS.

## BEARING NOTES

- BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 53I AND 73I.
- FABRICATION DRAWINGS CONFORMING TO SUBSECTION 53I.03 SHALL INCLUDE WELDING AND BONDING PROCEDURES.
- ALL MATERIALS FOR BEARINGS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION 53I. PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCIDENTAL TO ITEM 53I.10.
- DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 380mm EMBEDDED INTO CONCRETE. HOLES FOR ANCHOR BOLTS SHALL BE 75mm IN DIAMETER. IF ANCHOR BOLTS ARE TO BE GROUTED WITH MORTAR, TYPE IV AND 63mm IN DIAMETER IF ANCHOR BOLTS ARE TO BE INSTALLED USING EPOXY MORTAR PER STANDARD SPECIFICATION 53I. ALL COSTS SHALL BE INCLUDED IN ITEM 53I.10, "BEARING DEVICE ASSEMBLY".
- ANCHOR BOLTS SHALL BE SWEDGED WITH 100mm OF THREAD. EXPANSION BEARING NUTS SHALL BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF 3mm. THREADS SHALL BE BURRED ABOVE THE NUT TO PREVENT NUT REMOVAL.
- EXISTING ANCHOR BOLTS SHALL BE CUT FLUSH WITH EXISTING SUBSTRUCTURE SEATS, OR REMOVED AND FILLED WITH MORTAR TYPE IV. COSTS SHALL BE INCIDENTAL TO ITEM 53I.10, "BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD".

## STRUCTURAL STEEL NOTES

- ALL STRUCTURAL STEEL SHALL BE PROTECTED WITH AN APPROVED PAINTING SYSTEM FROM THE VTRANS QUALIFIED PRODUCTS LIST FOR PROTECTIVE COATINGS FOR NEW AND 100% BARE EXISTING STEEL FOR BRIDGES, AND SHALL BE PAID FOR AS ITEM 513.25 "STRUCTURAL PAINTING, SHOP APPLIED". THE PAINT COLOR CHIP NUMBER SHALL BE - NO. 14062.
- THE PAINT SYSTEM USED IN THE FIELD AND THE SHOP APPLIED PAINT SYSTEM SHALL BE COMPATIBLE AND PROVIDED BY THE SAME MANUFACTURER.
- THE CONTRACTOR SHALL FIELD VERIFY THE CENTERLINE TO CENTERLINE LENGTHS AND THE SKEW ANGLE AT EACH ABUTMENT. THAT VERIFIED INFORMATION SHALL BE PROVIDED TO THE ENGINEER AND TO THE FABRICATOR BEFORE FABRICATION DRAWINGS ARE COMPLETED.
- ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "AMERICAN INSTITUTE OF STEEL CONSTRUCTION" (AISC).
- ALL BOLTED FIELD CONNECTIONS SHALL BE MADE WITH 22mm DIAMETER HIGH STRENGTH BOLTS IN 24mm DIAMETER HOLES UNLESS OTHERWISE NOTED. BOLTS SHALL CONFORM TO SUBSECTION 714.05.
- STRUCTURAL STEEL CONNECTIONS NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL WELDS SHALL BE PAINTED TO HAVE THE APPEARANCE AS SPECIFIED FOR THE NEW PAINTED STEEL BEAM.
- ALL WELDING AND DIMENSIONAL TOLERANCES OF WELDED MEMBERS SHALL CONFORM TO THE LATEST ANSI/AASHTO/AWS CODES AND THEIR LATEST REVISIONS.
- SHEAR STUD CONNECTORS SHALL BE FIELD WELDED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT AND SHALL BE PAID AS ITEM 508J5, "SHEAR CONNECTORS (870 - 22 X 180)".
- ANY HOLES IN FASCIA BEAM WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS, TYPE 1 OR TYPE 2 AND SHALL CONFORM TO AASHTO M164M.
- AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN UNDER DIRECTION OF THE RESIDENT ENGINEER FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.
- THE ENDS OF THE BEAMS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.

## REINFORCING STEEL NOTES

- ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE (CRSI)".
- REINFORCING STEEL IN THE DECK, SIDEWALK, RAILING, CURB AND APPROACH SLAB SHALL BE EPOXY COATED.
- MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
 

ALONG BACK FACES OF WALLS AGAINST EARTH:	50
ALONG TOP SURFACE OF DECK SLAB:	65
ALONG BOTTOM SURFACE OF DECK SLAB:	40
ELSEWHERE UNLESS OTHERWISE INDICATED:	80
- REINFORCEMENT STEEL PLACEMENT TOLERANCES SHALL BE:
 

SPACING = +/- 25
CLEARANCE = +/- 6
- DRILLING AND GROUTING DOWELS SHALL BE PAID AS ITEM 507J6, "DRILLING AND GROUTING DOWELS". ALL DRILLED HOLES SHALL HAVE A MINIMUM OF 150 CLEAR COVER.

## TRAFFIC CONTROL NOTES

- THE EXISTING BRIDGE IS TO BE CLOSED TO TRAFFIC DURING CONSTRUCTION. THE CONTRACTOR SHALL INSTALL A TEMPORARY TWO-WAY BRIDGE WITH SIDEWALK AND ASSOCIATED DETOUR UPSTREAM OF THE EXISTING BRIDGE AS SHOWN IN THESE PLANS. THE CONTRACTOR SHALL NOTIFY THE TOWN IN WRITING AT LEAST 2 WEEKS PRIOR TO CLOSURE OF THE EXISTING BRIDGE.
- ALL WORK ASSOCIATED WITH THE INSTALLATION AND REMOVAL OF THE TEMPORARY BRIDGE, TEMPORARY SIDEWALK, SUBBASE FOR APPROACHES, PAVEMENT, PAVEMENT MARKINGS, BRIDGE RAILINGS, APPROACH GUARDRAIL, FLEXIBLE DELINEATORS, AND ALL OTHER NECESSARY ITEMS SHALL BE PAID AS ITEM 528J1, "TWO-WAY TEMPORARY BRIDGE (133 SM-EST.)", EXCEPT FOR ITEM 62I.90, "TEMPORARY TRAFFIC BARRIER", WHICH SHALL BE PAID FOR SEPARATELY.
- INSTALLATION, MAINTENANCE, AND REMOVAL OF APPROACH RAILING USED IN CONNECTION WITH THE TEMPORARY BRIDGE SHALL BE CONSIDERED INCIDENTAL TO ITEM 528J1, "TWO-WAY TEMPORARY BRIDGE (133 SM-EST.)" APPROACH RAIL SHALL EXTEND 7.65 M FROM EACH CORNER OF TEMPORARY BRIDGE. ADDITIONALLY APPROACH RAIL SHALL EXTEND FROM STA. 20+024 RT TO STA. 20+044 RT.
- CONCRETE BARRIER USED BETWEEN THE TEMPORARY SIDEWALK AND THE HOUSE OF PIZZA PARKING LOT SHALL BE PAID FOR AS ITEM 62I.90, "TEMPORARY TRAFFIC BARRIER."
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVES DURING CONSTRUCTION, EXCEPT ACCESS TO THE HOUSE OF PIZZA IN THE AREA OF THE TEMPORARY DETOUR (STA. 1+078 RT - STA. 1+095 RT). COST SHALL BE PAID AS ITEM 64I.10, "TRAFFIC CONTROL".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROJECT CONSTRUCTION SIGNING AND BARRICADES. ALL SIGNING AND BARRICADES REQUIRED FOR BRIDGE CLOSURE SHALL BE INSTALLED AND MAINTAINED AS SHOWN ON THE APPLICABLE VTRANS E SERIES STANDARD DRAWINGS AND ON SHEET 10. THE COST OF SIGNING AND BARRICADES REQUIRED SHALL BE PAID FOR AS ITEM 64I.10 "TRAFFIC CONTROL".
- THE CONTRACTOR SHALL PROVIDE ITEM 62I.90, "TEMPORARY TRAFFIC BARRIER", AS SHOWN ON SHEET 10 OR AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.
- AFTER REMOVAL OF THE TEMPORARY BRIDGE APPROACHES FROM THE PAVED PORTIONS OF THE HOUSE OF PIZZA AND THE FIRE STATION PARKING LOTS AND DRIVES THE AREAS SHALL BE INSPECTED BY THE ENGINEER. ANY AREAS OF DAMAGE WILL BE REPAIRED TO ORIGINAL OR BETTER CONDITION, WITH COST TO BE INCIDENTAL TO ITEM 528J1, "TWO-WAY TEMPORARY BRIDGE (133 SM-EST.)".
- ALL DETAILS NOT SPECIFIED SHALL BE IN ACCORDANCE WITH THE MUTCD AND VTRANS E SERIES STANDARDS.

## STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	<b>HARDWICK</b>	Bridge No.	67
Highway No.	VT 15	Log Sta.	
		Surv. Sta.	

### VT 15 OVER COOPER BROOK

#### PROJECT NOTES

Designed By	A.P. GUYETTE	Drawn By	A.P. GUYETTE
Checked By	Date	Bridge Design Supervisor	
E. P. DETRICK	1/09	J.W. TUCKER	Date 1/09

PROJECT	<b>HARDWICK</b>	PROJECT NO.	<b>BHF 030-2 (18) S</b>
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