

PROJECT NOTES

GENERAL

- 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 STANDARD SPECIFICATIONS FOR HIGHWAY STRUCTURES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS, AND THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION 2005 AND ITS LATEST REVISIONS.
- THE BRIDGE IS TO REMAIN POSTED WITH A MAXIMUM WEIGHT LIMIT OF 10,000 POUNDS.
- DESIGN INTENT FOR THE SUPERSTRUCTURE REHABILITATION:
IN THE EXISTING BRIDGE, THE STEEL BEAMS AND THE TIMBER TRUSSES WORK TOGETHER TO SPAN FOR DEAD, SNOW, AND LIVE LOADS. THE EXISTING BEAMS HAVE ADEQUATE STRENGTH TO SUPPORT THE TOTAL GRAVITY LOADS ACTING ON THE BRIDGE, HOWEVER THEY ARE TOO FLEXIBLE COMPARED TO THE STIFFNESS OF THE TRUSSES. AS A RESULT, BEAM DEFLECTIONS RESULT IN THE TRANSFER OF LIVE LOADS TO THE TRUSSES, EXCEEDING THE LOAD RATING CAPACITY OF THE TRUSSES, EVEN IF REPAIRED TO SOUND CONDITION.

THE GOALS OF THE SUPERSTRUCTURE REHABILITATION PROJECT ARE (1) TO REPAIR EXISTING DETERIORATION OF THE LUMBER AND TIMBER MEMBERS, AND (2) TO UPGRADE THE BRIDGE FOR LIVE LOADING IN SUCH A MANNER AS TO PREVENT CONTINUED OVERLOADING OF THE TRUSSES. THE NEW STEEL BEAMS HAVE BEEN SIZED FOR STIFFNESS TO LIMIT THE PORTION OF LIVE LOAD CARRIED BY EACH TRUSS TO NO MORE THAN 15% OF THE AXLE LIVE LOADS. THE FLEXIBILITY OF THE TIMBER FLOOR BEAM SYSTEM HELPS IN LIMITING THE AMOUNT OF LIVE LOAD CARRIED BY EACH TRUSS.

THE NEW STEEL BEAMS HAVE ADEQUATE STRENGTH TO SUPPORT THE TOTAL GRAVITY LOADS ACTING ON THE BRIDGE, WITHOUT CONTRIBUTION FROM THE TRUSSES AS SPANNING MEMBERS.

THE REHABILITATED TRUSSES HAVE BEEN DESIGNED TO SUPPORT:
A. 100% OF THE DEAD LOAD FROM ROOF, WALLS, AND TRUSS SELF-WEIGHT
B. TRIBUTARY DEAD LOAD FROM THE TIMBER FLOOR SYSTEM
C. 100% OF THE SNOW LOAD
D. 15% OF THE AXLE LIVE LOAD
- ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING RIGHT-OF-WAY. NO PROVISIONS HAVE BEEN MADE FOR WORK OR ACTIVITIES OUTSIDE THESE RIGHT-OF-WAY LIMITS. SHOULD THE CONTRACTOR REQUIRE ANY ADDITIONAL RIGHT-OF-WAY IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL EASEMENTS, AND BEAR THE COSTS OF SUCH EASEMENTS WITHOUT FURTHER COMPENSATION.
- IN-STREAM CONSTRUCTION SHALL BE RESTRICTED TO JUNE 1 TO OCTOBER 1, UNLESS THE CONTRACTOR OBTAINS WRITTEN PERMISSION FROM THE AGENCY OF NATURAL RESOURCES TO DO WORK OUTSIDE OF THE TIME FRAME.
- SALVAGED SIGNS NOT REUSED SHALL REMAIN THE PROPERTY OF THE TOWN OF CHARLOTTE. THE CONTRACTOR SHALL DELIVER THE SIGNS TO THE TOWN.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT SILTATION OR POLLUTION, ESPECIALLY THE DISCHARGE OF RAW CONCRETE, INTO ANY BROOK, STREAM, OR RIVER.
- FEATURES OF THE EXISTING BRIDGE SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM LIMITED FIELD INVESTIGATION AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS. DETAILS OF THE STONE MASONRY ABUTMENTS THAT ARE ASSUMED TO EXIST BENEATH THE CONCRETE FACING ARE UNKNOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS IMPACTED BY THE NEW WORK 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.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS NOTED OTHERWISE.
- ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE, SHALL INCLUDE ANY WORK NECESSARY FOR REMOVING AND DISPOSING OF SUPERSTRUCTURE MEMBERS AND PORTIONS OF MEMBERS, AS WELL AS REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR RE-USE, INCLUDING REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR THE CONTRACTOR'S METHODS OF REHABILITATION. PARTIAL REMOVAL OF STRUCTURE ITEM 529.20 SHALL ALSO INCLUDE ALL WORK ASSOCIATED WITH REMOVAL OF EXISTING CONCRETE IN BACKWALLS, REMOVAL OF EXISTING STEEL BEAMS, AND REMOVAL OF TIMBER AND LUMBER AS SPECIFIED IN THE PLANS.
- NO BURNING OF REMOVED MATERIALS AT THE PROJECT SITE WILL BE ALLOWED. THE EXISTING COVERED BRIDGE TIMBERS AND LUMBER MAY CONTAIN HAZARDOUS WOOD PRESERVATIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS AND EMPLOYEES HARMLESS REGARDING THE CONTRACTOR'S HANDLING OF THESE MATERIALS AND SUBSEQUENT USE, RE-USE, OR DISPOSAL OF THESE MATERIALS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL BURIED AND AERIAL UTILITIES AND POLES PRIOR TO STARTING WORK. SOME UTILITIES MAY HAVE BEEN RELOCATED SINCE THE PREPARATION OF THESE PLANS AND THE CONTRACTOR WILL NEED TO COORDINATE WITH ALL UTILITY OWNERS TO CONFIRM ACTUAL LOCATIONS PRIOR TO CONSTRUCTION. SEE THE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- THE LIMITS OF THE COFFERDAM ARE SHOWN IN THESE PLANS. IF THE CONTRACTOR NEEDS ADDITIONAL SPACE FOR COFFERDAM THE CONTRACTOR WILL BE RESPONSIBLE FOR PERMITTING ADDITIONAL IN STREAM IMPACTS.
- CONTRACTOR SHALL TAKE SPECIAL CARE TO NOT DAMAGE ANY PORTIONS OF THE EXISTING COVERED BRIDGE THAT ARE TO BE RETAINED DURING THE REHABILITATION PROJECT, AND TO AVOID MOVEMENT OF THE TRUSS THAT COULD RESULT IN DISTORTION OR MISALIGNMENT OF THE TRUSS AND ITS JOINTS. MEMBERS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT CONTRACTOR'S SOLE EXPENSE.

TRAFFIC MAINTENANCE DURING CONSTRUCTION

- BRIDGE NO. 29 SHALL REMAIN CLOSED TO VEHICULAR TRAFFIC FOR THE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL IMPLEMENT THE ROAD CLOSURE, TRAFFIC CONTROL, AND DETOUR AS SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF TWO (2) WEEKS PRIOR TO CLOSING THE ROAD.
- 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 ITEM 641.10, "TRAFFIC CONTROL". THIS INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING ITEMS:

TEMPORARY TRAFFIC BARRIERS
RETROREFLECTIVE DRUMS
TEMPORARY CONSTRUCTION SIGNS AND POSTS
BARRICADES
- TEMPORARY TRAFFIC BARRIER SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 621.
- ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS" BOOK (SHS) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).

REMOVAL AND REPAIR NOTES

- THE CONTRACTOR'S METHODS FOR PARTIAL REMOVAL OF THE EXISTING STRUCTURE SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY REMOVAL WORK.
- SAWCUTS SHALL BE 1 INCH DEEP AT THE LOCATIONS SHOWN AND ALONG ALL EXPOSED REMOVAL LINES WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE.
- EXISTING REINFORCING STEEL EXPOSED DURING REMOVAL OPERATIONS, WITHIN THE LIMITS OF THE NEW SUBSTRUCTURE, SHALL BE RETAINED AND INCORPORATED INTO THE NEW SUBSTRUCTURE UNLESS OTHERWISE NOTED. EXISTING REINFORCING STEEL TO BE RETAINED SHALL BE CLEANED OF ALL CONCRETE, DIRT, RUST, PAINT, OIL AND OTHER FOREIGN SUBSTANCES. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, "PARTIAL REMOVAL OF STRUCTURE".
- THE ENGINEER SHALL ORDER REPLACEMENT OF ANY EXISTING SUBSTRUCTURE REINFORCING STEEL THAT IS DETERIORATED (WITH MORE THAN 25% SECTION LOSS) WITH NEW REINFORCING STEEL OF THE SAME SIZE. ALL REINFORCING STEEL SHALL HAVE A MINIMUM 2'-2" LAP SPLICE. ALL NEW SUBSTRUCTURE REINFORCING SHALL BE PAID UNDER ITEM 507.11 REINFORCING STEEL, LEVEL I.

STONE FILL

- STONE FILL MAY NEED TO BE PLACED STEEPER THAN 2H:1V IN AREAS NEXT TO ABUTMENTS. THIS SHALL BE DONE AS DIRECTED BY THE ENGINEER.

SUBSTRUCTURE REHABILITATION

- EXISTING ABUTMENTS SHALL BE INSPECTED FOR DETERIORATED CONCRETE JOINTLY BY CONTRACTOR AND RESIDENT ENGINEER. ALL DETERIORATED CONCRETE SHALL BE REMOVED AND PATCHED. THE OUTSIDE LIMITS OF REMOVAL SHALL BE SAW CUT TO A 1" MINIMUM DEPTH TO PROVIDE CLEAN REMOVAL LINES. THE EXISTING CONCRETE SHALL BE BLAST CLEANED PRIOR TO PLACING NEW CONCRETE. ALL REMOVAL AND CLEANING SHALL BE AS SPECIFIED IN SECTION 580 AND PAID FOR UNDER ITEMS 580.13, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS I, 580.14, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II, AND 580.15, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III.
- HOLES DRILLED IN EXISTING CONCRETE SHALL BE DRILLED 1" GREATER IN DIAMETER THAN THE BAR DIAMETER AND GROUTED WITH TYPE IV MORTAR OR OTHER APPROVED MATERIAL. BARS SHALL HAVE A MINIMUM EMBEDMENT LENGTH OF 1'-0" UNLESS NOTED OTHERWISE. ALL COSTS FOR DRILLING AND GROUTING SHALL BE INCLUDED IN ITEM 507.16, DRILLING AND GROUTING OF DOWELS.

CONCRETE

- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" BY 1".
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.
- 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 PLACEMENT TOLERANCES SHALL BE:

SPACING ± 1"
CLEARANCE ± ¼"

- ALL SUBSTRUCTURE CONCRETE SHALL BE CONCRETE, CLASS B, UNLESS OTHERWISE NOTED.
- SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED ½" PER FOOT TOWARDS MID-SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTH STEEL TROWEL FINISHED.
- WATER REPELLENT SILANE SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES.
- PER SUBSECTION 501.09, THE CONTRACTOR SHALL SUBMIT A CONCRETE FORMWORK DESIGN FOR THE ABUTMENTS.

REINFORCING NOTES

- ALL REINFORCING STEEL SHALL BE LEVEL 1 UNCOATED (BLACK, CARBON STEEL).
- ALL REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 2" TO OUTER SURFACES.

STRUCTURAL STEEL

- ITEM 506.60, STRUCTURAL STEEL SHALL INCLUDE:
-THREADED ROD ASSEMBLY (DETAIL 200, SHEET 44).
-BEAM TO FLOORBEAM CONNECTION ANGLE (DETAIL 203, SHEET 44).
- ALL STRUCTURAL STEEL PAID UNDER ITEM 506.60, STRUCTURAL STEEL AND ITEM 506.50, STRUCTURAL STEEL, ROLLED BEAM SHALL CONFORM TO AASHTO M 270M/M 270 GRADE 50.
- ALL STRUCTURAL STEEL SHALL BE GALVANIZED PER SUBSECTION 726.08. ALL COSTS FOR GALVANIZING SHALL BE PAID UNDER THE APPROPRIATE ITEM 506.60 STRUCTURAL STEEL, OR ITEM 506.50 STRUCTURAL STEEL, ROLLED BEAM.
- ALL STEEL-TO-STEEL FIELD CONNECTIONS SHALL BE MADE WITH ¾" DIAMETER HIGH-STRENGTH BOLTS IN 13/16" DIAMETER HOLES, PER SECTION 506.
- THE FAYING SURFACES ON THE CONNECTION PLATES SHALL BE PREPARED AS CLASS "C". THESE SURFACES SHALL BE PROTECTED FROM DAMAGE AND CORROSION PRIOR TO CONSTRUCTING THE CONNECTION.
- ANY CONNECTIONS THAT ARE NOT DETAILED ON THE PLANS SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE STRUCTURES ENGINEER FOR APPROVAL.
- ALL WELDING SHALL CONFORM TO THE PROVISIONS OF SUBSECTION 506.10.
- ALL MEMBERS MARKED (CVN) MUST MEET THE CHARPY V-NOTCH TESTING REQUIREMENTS AS INDICATED IN SUBSECTION 714.01.
- BEARING STIFFENERS AND BEAM ENDS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
- BEAMS AND DIAPHRAGMS SHALL BE FABRICATED SO THAT BEAM WEBS ARE PLUMB UNDER FULL DEAD LOAD.
- 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).

BEARING NOTES

- BEARINGS SHALL CONFORM TO AND BE PAID UNDER ITEM 900.620 SPECIAL PROVISION (BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD).
- THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
- ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS) SHALL BE AASHTO M 270M/M 270 GRADE 345 (GRADE 50).
- ANCHOR BOLTS SHALL HAVE A MINIMUM EMBEDMENT OF 1'-3" INTO THE CONCRETE AND SHALL CONFORM TO SUBSECTION 714.08.
- ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTION 531.04(b). REPAIRS DUE TO FIELD WELDING OR HANDLING SHALL BE PAINTED WITH A ZINC RICH PAINT IN ACCORDANCE WITH 900.620 SPECIAL PROVISION (BEARING DEVICE ASSEMBLY, PREFORMED FABRIC PAD).

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