

DESIGN LOADS, MATERIALS, AND SPECIFICATIONS

- DESIGN LOADING: HL-93
- DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
- SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th ED., 2020 AS AMENDED
NHDOT 2016 STANDARD SPECIFICATION AS AMENDED
- FOUNDATION DATA: ABUTMENTS AND WINGS:
FOOTINGS SUPPORTED ON BEARING PILES

BEARING PILES:
HP12x53 WITH APPROVED PILE POINTS (AASHTO M270, ASTM A709 GRADE 50)
MAX FACTORED COMPRESSIVE AXIAL LOAD IS XX TONS/PILE (STRENGTH I)

PIER:
SPREAD FOOTING SUPPORTED ON STRUCTURAL FILL ON UNDISTURBED SOIL WITH A
NOMINAL BEARING CAPACITY OF XX TSF IN COMBINATION WITH A RESISTANCE FACTOR
OF XX.

REINFORCING STEEL: AASHTO M 31 (ASTM A615) GRADE 60 EPOXY COATED BARS:
DECK, BRUSH CURBS, SIDEWALKS, APPROACH SLABS, APPROACH SLAB DOWELS,
BACKWALL, BLOCKOUT FOR EXPANSION JOINT (ABOVE CONSTRUCTION JOINT), CORNERS
OF ABUTMENTS ABOVE TOP OF BACKWALL, AND WALL CAPS.

STRUCTURAL STEEL: AASHTO M 270, GRADE 50W (ASTM A709, GRADE 50W), UNPAINTED (EXCEPT NOTED
OTHERWISE).

CONCRETE: DECK, BRUSH CURBS, SIDEWALKS, WALL CAPS, AND ABUTMENTS (ABOVE BEARING SEAT
CONSTRUCTION JOINT) (QC/QA CLEAR COVER PERFORMANCE REQUIREMENTS WAIVED FOR BACKWALL
CONCRETE):
ITEM 520.7002X, CONCRETE BRIDGE DECK (QC/QA) (F)
4,000 PSI (AT 28 DAYS)

APPROACH SLABS:
ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F)
4,000 PSI (AT 28 DAYS) (QC/QA CLEAR COVER PERFORMANCE REQUIREMENTS WAIVED)

WINGWALLS, WALL PIERS, PIER COLUMNS, PIER CAPS, AND ABUTMENTS (BELOW BEARING
SEAT CONSTRUCTION JOINT):
3,000 PSI (AT 28 DAYS)

FOOTINGS (ABUTMENTS, WINGWALLS, AND PIERS):
ITEM 520.211, CONCRETE CLASS B, FOOTINGS (ON ROCK)
ITEM 520.213, CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)
3,000 PSI (AT 28 DAYS)

TREMIE SEAL (FOUNDATION SEAL AT PIER X):
ITEM 520.6, CONCRETE CLASS T, FOUNDATION SEAL
3,000 PSI (AT 28 DAYS)

PRECAST MSE ARCHITECTURAL PANELS AND CAPS:
ITEM 592.1, MECHANICALLY STABILIZED EARTH RETAINING WALL
CONCRETE CLASS AAA
5,000 PSI (AT 28 DAYS)
- PRESTRESSED CONCRETE: NEBT XXXX GIRDERS:
ITEM 528.11XX, PRESTRESSED CONCRETE GIRDERS, NEBT XXXX (F)
CONCRETE CLASS AAA
X,XXX PSI (AT 28 DAYS)

PARTIAL DEPTH DECK PANELS:
ITEM 528.51, PRESTRESSED CONCRETE DECK PANELS (F)
CONCRETE CLASS AAA
X,XXX PSI (AT 28 DAYS)
- SEISMIC: PEAK GROUND ACCELERATION (PGA) = X
SITE CLASS = X
ZONE = X

DESIGNER TO REVISE NOTE
TO THE DESIGN SPECIFICATION

ASK DCE

- FOR SURVEY LAYOUT SEE BRIDGE SHEET XX.
- FOR BORING NOTES SEE BRIDGE SHEET XX.
- FOR HYDRAULIC DATA SEE BRIDGE SHEET XX.
- FOR DECK SLAB ELEVATION NOTES SEE BRIDGE SHEET XX.
- FOR EXPANSION JOINT NOTES SEE BRIDGE SHEET XX.

BRIDGE REMOVAL NOTES

- THE CONTRACTOR'S METHOD FOR REMOVAL OF THE EXISTING BRIDGE SHALL BE SUBMITTED FOR DOCUMENTATION, IN ACCORDANCE WITH SECTION 105.02, PRIOR TO THE COMMENCEMENT OF ANY REMOVAL OPERATIONS.
- ALL COSTS FOR REMOVAL OF THE ENTIRE EXISTING X'-X"x X'-X" STRUCTURAL PLATE PIPE ARCH SHALL BE SUBSIDIARY TO ITEMS 504.1 AND 207.3. NO PAYMENT SHALL BE MADE FOR THE VOLUME DISPLACED BY THE EXISTING ARCH.
- ITEM 502.10X, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE REMOVAL OF THE ENTIRE SUPERSTRUCTURE.
- ITEM 502.10X, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE COMPLETE REMOVAL OF THE BRIDGE SUPERSTRUCTURE AND THE PIER PILE BENTS.
- THE EXISTING BRIDGE SUBSTRUCTURES WITHIN THE LIMITS OF BRIDGE AND CHANNEL EXCAVATION SHALL BE COMPLETELY REMOVED UNDER THE PROVISIONS OF SECTIONS 207 AND 504 OF THE STANDARD SPECIFICATIONS AS APPROPRIATE.
- THE EXISTING BRIDGE SUBSTRUCTURES OUTSIDE THE LIMITS OF BRIDGE AND CHANNEL EXCAVATION SHALL BE REMOVED UNDER THE PROVISIONS OF SECTION 502 OF THE STANDARD SPECIFICATIONS.
- SALVAGE DEBRIS SHEILDING AND APPURTENACESTO THE BUREAU OF BRIDGE MAINTENANCE PRIOR TO START OF REMOVAL OPERATIONS. ALL COSTS INCLUDE IN ITEM 502.

TEMPORARY BRIDGE NOTES

- VEHICULAR TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION ON A TEMPORARY BRIDGE, ITEM 501.10X. SEE ROADWAY PLANS FOR THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE TEMPORARY DIVERSION.
- THE TEMPORARY BRIDGE, INCLUDING RAILING AND SUBSTRUCTURES, SHALL BE DESIGNED AS SPECIFIED IN SECTION 501. ADEQUATE CONNECTIONS AND TRANSITIONS SHALL BE PROVIDED FOR TEMPORARY GUARDRAIL IN THE TEMPORARY ROAD DIVERSION. SEE ROADWAY PLANS FOR BITUMINOUS PAVEMENT REQUIREMENTS.
- THE MINIMUM CLEAR ROADWAY WIDTH OF THE TEMPORARY BRIDGE SHALL BE XXX FEET FACE OF RAIL TO FACE OF RAIL.
- THE MINIMUM CLEAR SPAN LENGTH OF THE TEMPORARY BRIDGE SHALL BE XXX FT BETWEEN ABUTMENT FACES MEASURED NORMAL TO THE ROADWAY OR FEATURE CROSSED, OR AS SHOWN ON THE PLANS.
- THE MINIMUM UNDER BRIDGE VERTICAL CLEARANCE SHALL BE XXX FT, INCLUDING ANY ANTICIPATED SAG AND DEAD LOAD DEFLECTION.
- FOR MODULAR PREFABRICATED PANEL BRIDGE SYSTEMS "CAMBER" OR "COMPRESSION" PANELS SHALL BE USED TO COMPENSATE FOR ANTICIPATED SAG AND DEAD LOAD DEFLECTION.
- SCREENING SHALL BE PROVIDED, AS DIRECTED, TO PROTECT THE TRAVELLED WAY BELOW THE BRIDGE FROM FALLING SNOW DURING SNOW REMOVAL OPERATIONS. ALL COSTS SHALL BE INCLUDED IN ITEM 501.101.
- THE TEMPORARY BRIDGE SHALL BE SIZED TO PROVIDE A WATERWAY AREA BELOW ELEVATION XXX.X OF NOT LESS THAN XXXX SQUARE FEET. PLACEMENTS OF ABUTMENTS WITHIN THE DELINEATED ORDINARY HIGH WATER ON THE SITE PLAN IS PROHIBITED. A SINGLE PIER BENT IN ALIGNMENT WITH THE EXISTING PIER IS ALLOWED. FILLS FOR TEMPORARY DIVERSIONS NOT INCLUDED IN THE PROPOSED ROADWAY EMBANKMENTS SHALL BE REMOVED OR RECONSTRUCTED AS DETAILED IN THE PLANS. SEE ROADWAY PLANS AND CROSS-SECTIONS.
- ALL COSTS ASSOCIATED WITH THE DESIGN, CONSTRUCTION, MAINTENANCE, AND REMOVAL OF THE TEMPORARY BRIDGE, TEMPORARY ABUTMENTS, AND PIER, AND TEMPORARY BRIDGE RAIL ANAD BRIDGE RAIL TRANSITIONS, SHALL BE PAID FOR UNDER ITEM 501.10X, TEMPORARY BRIDGE. DETAILED PLANS AND CLCULATIONS SHALL BE SUBMITTED FOR DOCUMENTATION AS REQUIRED IN SECTION 501.
- SEE HIGHWAY DESIGN PLANS FOR PAYMENT OF THE CONSTRUCTION AND REMOVAL OF THE APPROACHES TO THE TEMPORARY BRIDGE.

ACCESS FOR BRIDGE CONSTRUCTION

- ITEM 500.02, ACCESS FOR BRIDGE CONSTRUCTION, SHALL CONSIST OF THE DESIGN, CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ANY TEMPORARY ACCESS BY THE CONTRACTOR. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
- TEMPORARY FILLS SHALL REMAIN WITHIN WETLAND IMPACT AREAS SHOWN IN THE WETLAND PERMIT AND WITHIN EASEMENTS SHOWN ON THE SITE PLANS. A GEOTEXTILE FABRIC SHALL BE PLACED UNDER ALL TEMPORARY FILLS TO MINIMIZE DISRUPTION OF NATIVE SOILS AND VEGETATION. ALL COSTS SUBSIDIARY TO ITEM 500.02.
- SEE THE SITE PLAN FOR APPROXIMATE LIMITS OF TEMPORARY FILLS FOR PIER CONSTRUCTION. TEMPORARY FILLS SHALL BE RESTRICTED TO ONE SIDE OF THE PIER AT A TIME.
- ANY ADDITIONAL GEOTECHNICAL INVESTIGATION AND ENGINEERING WORK REQUIRED FOR DESIGN OF TEMPORARY ACCESS SHALL BE SUBSIDIARY TO ITEM 500.02.

PILE NOTES

(USE NOTES GIVEN BY GEOTECHNICAL ENGINEER)
(BELOW ARE SAMPLES OF POSSIBLE PILE NOTES)

- MAXIMUM FACTORED PILE LOAD: ABUTMENT A - XX TONS PER PILE
ABUTMENT B - XX TONS PER PILE
- STEEL H-PILES SHALL CONFORM TO AASHTO M 270, GRADE 50 (ASTM A709, GRADE 50). ALL PILES SHALL BE HPXXXXX. PILE POINTS ARE REQUIRED.
- THE PILES SHALL BE DRIVEN IN ACCORDANCE WITH SECTION 510 TO A NOMINAL GEOTECHNICAL RESISTANCE EQUAL TO THE MAXIMUM FACTORED LOAD DIVIDED BY A RESISTANCE FACTOR OF 0.65. THE DEPARTMENT WILL CONDUCT PILE DYNAMIC ANALYZER (PDA) TESTS IN ACCORDANCE WITH SECTION 510 TO VERIFY THE NOMINAL GEOTECHNICAL RESISTANCE AND THE ACCEPTABILITY OF THE CONTRACTOR'S DRIVING SYSTEM.
- PILES USED FOR PDA TESTING SHALL HAVE ADDED LENGTH ABOVE WATER TO ATTACH STRAIN GAUGES TYPICALLY 3 FT BELOW TOP OF PILE.
- ESTIMATED PILE LENGTHS: ABUTMENT A: XX FT - NORTHERN X PILES
XX FT - SOUTHERN X PILES
ABUTMENT B: XX FT

- ONE SPLICE PER PILE WITHIN THE ESTIMATED LENGTH AND SPLICES REQUIRED FOR PILES THAT EXCEED THE ESTIMATED LENGTH WILL BE PAID. NO PAYMENT FOR ADDITIONAL PILE SPLICES WITHIN THE ESTIMATED LENGTH WILL BE PAID UNLESS ORDERED. APPROVED ADDITIONAL PILE SPLICES WILL BE PAID UNDER ITEM 510.9. PILE SPLICE LOCATIONS ARE LIMITED WITH INTEGRAL BRIDGES.
- PILE LOCATION AND ALIGNMENT TOLERANCES AT ABUTMENTS SHALL CONFORM TO THE REQUIREMENTS IN SECTION 510.3.6.4 FOR BENT CAPS SUPPORTED BY PILES.
- PILE LAYOUT DIMENSIONS ARE GIVEN AT THE BOTTOM OF THE STUB ABUTMENTS OR FOOTINGS.
- PILES AT ABUTMENTS SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE MSE WALLS.
- PLACE REINFORCING TO CLEAR PILES.

FOUNDATION PRELOAD NOTES

(USE NOTES GIVEN BY GEOTECHNICAL ENGINEER)
(BELOW ARE SAMPLES OF POSSIBLE PRELOAD NOTES)

- PRELOADING EMBANKMENT FILLS WILL BE REQUIRED IN ORDER TO MINIMIZE DOWNDRAG AND LATERAL SOIL MOVEMENT EFFECTS ON PROPOSED ABUTMENT PILES. THE PILES SHALL NOT BE CONSTRUCTED UNTIL THE BRIDGE PRELOAD WAITING PERIOD HAS BEEN COMPLETED.
- GEOTECHNICAL INSTRUMENTATION REQUIRED THROUGH SECTION 210 SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF THE BRIDGE PRELOAD.
- THE MINIMUM TOP OF THE FULL HEIGHT PRELOAD IS THE ROADWAY SAND BASE COURSE LAYER WITHIN THE LONGITUDINAL AND TRANSVERSE PRELOAD LIMITS DESCRIBED BELOW. THE REMAINING MATERIAL ABOVE THESE ELEVATIONS CAN BE PLACED AT ANY TIME WITHIN THE CONSTRUCTION SEQUENCE, WITHOUT A WAITING PERIOD.
- FULL HEIGHT LONGITUDINAL PRELOAD LIMITS SHALL EXTEND FROM STA XXX+XX TO STA XXX+XX. PVC DRAIN SPACING "S", SHALL BE X FEET AND THE WAITING PERIOD SHALL BE X MONTHS WITHIN THIS AREA.
- FULL HEIGHT TRANSVERSE PRELOAD LIMITS SHALL EXTEND OUTWARD FROM THE CREST OF EXISTING ROADWAY EMBANKMENT TO THE CREST OF PROPOSED EMBANKMENT SLOPES. THE SIDE SLOPE SHALL HAVE A MINIMUM SLOPE OF 1.5H:1V.
- THE WAITING PERIOD FOR THE PRELOAD AFTER IT HAS BEEN CONSTRUCTED TO FULL HEIGHT IS XX DAYS. REMOVAL OF TEMPORARY SURCHARGE SHALL BE PAID UNDER ITEM 203.7, REHANDLING SURCHARGE MATERIAL (ROADWAY ITEM).

COFFERDAMS

(USE NOTES GIVEN BY GEOTECHNICAL ENGINEER)
(BELOW ARE SAMPLES OF POSSIBLE COFFERDAM NOTES)

- ALL ITEMS COVERED UNDER SECTION 503 OF THE SPECIFICATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF NH. THE CONTRACTOR SHALL SUBMIT STAMPED WORKING DRAWINGS AND CALCULATIONS FOR REVIEW AND DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02.
- COFFERDAMS SHALL BE REQUIRED AT EACH ABUTMENT LOCATION TO CONTROL THE STREAM INFLOW AND ADEQUATELY DEWATER THE FOOTING EXCAVATION. SUMP PUMPING AREAS AROUND THE ENTIRE PERIMETER MAY BE REQUIRED TO ADEQUATELY CONTROL THE GROUND WATER WITHIN THE FOOTING EXCAVATION. IT MAY BE POSSIBLE TO USE A WATER DIVERSION STRUCTURE SUCH AS SANDBAG DIKE IN LIEU OF A SHEETED COFFERDAM AS A MEANS OF CONTROLLING INFLOW FROM THE STREAM. IF WATER DIVERSION IS USED IT WILL BE PAID FOR AS A COFFERDAM.
- COFFERDAMS ARE REQUIRED AT EACH ABUTMENT LOCATION TO CONTROL THE RIVER INFLOW AND ADEQUATELY DEWATER THE FOOTING EXCAVATION AND TO CONSTRUCT ABUTMENTS, WINGWALLS, AND STONE FILLS. STEEL SHEETING MAY BE REQUIRED DEPENDING ON THE AVERAGE RIVER LEVEL CONDITIONS AT THE TIME OF CONSTRUCTION AND THE CONTRACTOR'S METHOD OF DEWATERING. ALL COSTS FOR MATERIALS, INSTALLATION, MAINTENANCE, AND REMOVAL SHALL BE INCLUDED IN ITEM 503.20X, COFFERDAMS. ALL WORK REQUIRED TO MAINTAIN A DEWATERED CONDITION SHALL BE INCLUDED IN ITEM 503.20X.
- CONTROL OF WATER WITHIN THE COFFERDAMS SHALL BE CONDUCTED IN SUCH A MANNER AS TO PREVENT DISTURBANCE OF THE BEARING SOIL. PUMPING AREAS SHALL BE LOCATED OUTSIDE THE FOOTING SUPPORT LIMITS AND PROPERLY FILTERED TO PREVENT THE PUMPING OF FINES.
- ANY FOUNDATION SOIL WEAKENED AS A RESULT OF INSUFFICIENT CARE TAKEN IN MAINTAINING A DEWATERED CONDITION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL AT THE EXPENSE OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE REQUIRED TO POUR SUBSTRUCTURE CONCRETE IN THE DRY.
- DEWATERING SHALL BE CONTINUOUS UNTIL SUBSTRUCTURES ARE BACKFILLED TO THE ELEVATION OF THE SURROUNDING WATER TABLE, UNLESS OTHERWISE DIRECTED.
- ALL MEANS AND METHODS ASSOCIATED WITH HANDLING WATER DURING CONSTRUCTION OF FOUNDATIONS SHALL BE LOCATED WITHIN THE LIMITS OF WORK SHOWN ON THE WETLANDS PERMIT APPROVED FOR THE PROJECT.
- THE COFFERDAM DESIGN SHALL ACCOUNT FOR THE EFFECTS OF UNBALANCED EARTH PRESSURE AND PILE DRIVING ON THE COFFERDAM STABILITY.
- SHEETING OR A SUPPORT SYSTEM SHALL BE REQUIRED FOR MAINTENANCE OF TRAFFIC AND PROTECTION OF EXISTING BRIDGE FOUNDATIONS DURING CONSTRUCTION OF THE PROPOSED BRIDGE. THE LOCATION AND LIMITS FOR TEMPORARY SUPPORTS DETAILED ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED AS REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION. ALL COSTS FOR THIS SUPPORT SYSTEM SHALL BE INCLUDED IN ITEM 503.20X.
- IN SOME LOCATIONS PRE-EXCAVATION OF COBBLES AND BOULDERS MAY BE REQUIRED PRIOR TO PLACING STEEL SHEETING. DURING EXCAVATION THE CONTRACTOR SHALL DISTURB THE AREA AS LITTLE AS POSSIBLE AND USE NECESSARY PRECAUTIONS TO MINIMIZE THE IMPACTS TO THE RIVER. ALL COSTS INCLUDED IN ITEM 503.20X AND 503.20X.

COFFERDAM NOTES CONTINUED ON NEXT SHEET.

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN BRIDGE TRAINING		BRIDGE NO.			STATE PROJECT 12345				
LOCATION									
SAMPLE PROJECT NOTES (1 OF 7)									BRIDGE SHEET
SUBDIRECTORY	REVISIONS AFTER PROPOSAL	BY	DATE	BY	DATE	XX OF			
SAMPLE PLANS		DESIGNED	NHDOT	CHECKED	XXX	XX/XX	FILE NUMBER		
.DGN LOCATOR		DRAWN	XXX	CHECKED	XXX	XX/XX			
Notes		QUANTITIES	XXX	CHECKED	XXX	XX/XX			
SHEET SCALE		ISSUE DATE	1/2015	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS			
AS NOTED		REV. DATE	4/24/24		1	1			

**SAMPLE
NOTES**

COFFERDAMS CONT:

12. EXCAVATION BACKSLOPES BELOW IN-SERVICE ROADWAYS THAT ARE USED IN COMBINATION WITH, OR IN PLACE OF, A COFFERDAM SHALL MEET THE FOLLOWING CRITERIA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF ALL EXCAVATION BACKSLOPES.

A) THE EXCAVATION BACKSLOPE SHALL BE NO STEEPER THAN 1.5H:1V. A FLATTER BACKSLOPE SHALL BE USED IF THE CONTRACTOR'S CALCULATIONS INDICATE INSUFFICIENT SLOPE STABILITY AT 1.5H:1V.

B) FOR CASES WHERE THE EXISTING GUARDRAIL IS USED FOR TRAFFIC BARRIER ABOVE THE EXCAVATION, THE CREST OF EXCAVATED BACKSLOPES SHALL BE OFFSET A MINIMUM OF 3 FEET FROM FACE OF EXISTING GUARDRAIL. THE EXISTING GROUND SURFACES BETWEEN THE GUARDRAIL AND THE EXCAVATED SHALL BE MAINTAINED IN ITS ORIGINAL CONFIGURATION.

C) FOR CASES WHERE CONCRETE TRAFFIC BARRIERS ARE USED IN PLACE OF EXISTING GUARDRAIL, THE CREST OF EXCAVATED BACKSLOPES SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE OUTSIDE EDGE OF THE CONCRETE BARRIER.

13. THE CONTRACTOR SHOULD BE PREPARED TO PERFORM ANY SUBSURFACE INVESTIGATIONS NEEDED FOR THE COFFERDAM DESIGN. ALL COSTS ASSOCIATED WITH THE COMPLETION OF SUBSURFACE INVESTIGATIONS, THE REDESIGN, OR THE REINSTALLATION OF COFFERDAMS DUE TO SUBSURFACE CONDITIONS ENCOUNTERED DURING THE COFFERDAM INSTALLATION THAT ARE DIFFERENT FROM WHAT THE COFFERDAM DESIGNER ASSUMED AND/OR INTERPRETED FROM THE AVAILABLE SUBSURFACE INFORMATION, SHALL BE SUBSIDIARY TO THE ASSOCIATED COFFERDAM ITEM. SECTION 102.05 SHALL BE REFERENCED REGARDING THE SUBSURFACE INFORMATION PROVIDED IN THE CONTRACT.

14. COFFERDAMS LOCATED WITHIN THE DEFLECTION DISTANCE OF THE TRAFFIC BARRIER SHALL BE DESIGNED TO WITHSTAND A TRAFFIC BARRIER COLLISION LOAD OF 2.7 K/FT APPLIED AT 32" ABOVE THE GROUND SURFACE BEHIND THE COFFERDAM. THIS LOAD MAY BE REDUCED LINEARLY BY THE OFFSET OF THE BARRIER TO THE COFFERDAM (E.G., IF THE BARRIER SYSTEM HAS A 4 FT DEFLECTION AND IT IS SET 2 FT FROM THE FACE OF COFFERDAM, THE COLLISION LOAD MAY BE REDUCED BY ONE HALF). SEE BRIDGE DESIGN MANUAL CHAPTER 7 FOR TRAFFIC BARRIER DEFLECTION DISTANCES. THE COFFERDAM SHALL EXTEND UP TO A HEIGHT THAT IS EQUAL TO OR HIGHER THAN THE TOP OF THE ADJACENT TRAFFIC BARRIER.

USE THIS NOTE ONLY IF UNIQUE FORM LINER IS BEING USED

USE THIS NOTE IF USING A FORM LINER

FOUNDATION NOTES

(SEE NOTES GIVEN BY GEOTECHNICAL ENGINEER)
(BELOW ARE SAMPLES OF FOUNDATION NOTES)

- ALL MISCELLANEOUS FILL THAT IS ENCOUNTERED BELOW THE PROPOSED ABUTMENT FOOTINGS SHALL BE REMOVED DOWN TO THE GLACIAL TILL SURFACE AND REPLACED WITH STRUCTURAL FILL. LATERAL LIMITS FOR REMOVAL OF ANY UNSUITABLE MATERIAL AND PLACEMENT OF STRUCTURAL FILL FOR THE FOOTINGS SHALL BE A 1H:2V SLOPE EXTENDING FROM A POINT ON TOP OF GLACIAL TILL 2' OUTSIDE THE PROPOSED EDGE OF FOOTINGS.
- CLEAN STONE FILL, MEETING THE REQUIREMENTS OF SECTIN 508.2.1.3, MAY BE SUBSTITUTED FOR STRUCTURAL FILL IF THE MAXIMUM DEPTH IS LESS THAN 12" AND DIRECTED BY THE ENGINEER.
- PROTRUDING BOULDERS OR COBBLES ENCOUNTERED AT THE FINAL EXCAVATION DEPTH SHALL BE REMOVED OR SPLIT TO PROVIDE A LEVEL BEARING SURFACE.
- ALL FOOTINGS SHALL BE FOUNDED ON A 1'-0" THICK LAYER OF STRUCTURAL FILL PLACED OVER UNDISTURBED SOIL. CLEAN STONE FILL, MEETING THE REQUIREMENTS OF SECTION 508.2.1.3, MAY BE SUBSTITUTED FOR STRUCTURAL FILL IF THE MAXIMUM DEPTH IS LESS THAN 1'-0" AND DIRECTED BY THE ENGINEER.
- FOR LOCATIONS REQUIRING ROCK REMOVAL, THE REQUIRED ELEVATION FOR ROCK REMOVAL SHALL BE X' MIN AND X' MAX BELOW THE BOTTOM OF FOOTING. ANY ROCK REMOVED BELOW THE MAXIMUM REMOVAL WILL BE CONSIDERED AS EXCESS REMOVAL AND WILL NOT BE PAID. NO PAYMENT WILL BE MADE FOR GRANULAR BACKFILL THAT IS REQUIRED TO REPLACE EXCESS ROCK REMOVAL.
- ROCK BRIDGE EXCAVATION MAY USE EITHER DRILLING AND BLASTING MEHTODS OR MECHANICAL METHODS AND WILL BE PAID FOR UNDER ITEM 504.2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OR REPAIRS TO THE COFFERDAM THAT RESULT FROM BLASTING.
- THE FOOTING THICKNESS MAY VARY FROM 3'-0" MIN TO 4'-0" MAX WITH THE TOP OF FOOTING AT THE ELEVATION AS DETAILED ON THE PLANS. FOOTING DESIGN IS BASED ON A 3'-0" THICKNESS AND REINFORCEMENT SHALL BE PLACED AS SHOWN IN THE PLANS.
- FRACTURES OR SEAMS IN THE BEDROCK SURFACES EXPOSED AT THE BOTTOM OF THE FOUNDATION EXCAVATION SHALL BE CLEANED AND GROUTED IN ACCORDANCE WITH 504.3.2 OR CHINKED WITH CLEAN STONE FOR STRUCTURAL FILL AS DIRECTED TO PREVENT MIGRATION OF MSE BACKFILL MATERIALS INTO ANY BEDROCK FRACTURES.

FOUNDATION ON SUBFOOTING NOTES

(SEE NOTES GIVEN BY GEOTECHNICAL ENGINEER)
(BELOW ARE SAMPLES OF FOUNDATION NOTES)

- A CONCRETE SUBFOOTING SHALL BE USED ONLY WHERE THE EXISTING BEDROCK LINE IS MORE THAN 4'-0" BELOW TOP OF FOOTING. NO PAYMENT SHALL BE MADE FOR CONCRETE SUBFOOTINGS WHERE THE CONTRACTOR HAS REMOVED ROCK BELOW THE PAY LIMITS FOR ITEM 504.2, ROCK BRIDGE EXCAVATION, EXCEPT WHERE BEDROCK HAS BEEN REMOVED TO MINIMIZE STEEP SLOPES AS DESCRIBED IN FOUNDATION NOTE X. THE CONCRETE SUBFOOTING, IF NECESSARY, SHALL BE PAID AS ITEM 520.211. MINIMUM SUBFOOTING DEPTH SHALL BE 1'-0".
- THE TOP OF CONCRETE SUBFOOTINGS THAT ARE TO BE IN CONTACT WITH FOOTINGS SHALL HAVE A ROUGHENED SURFACE.
- THE FINAL BEDROCK SURFACE SHALL BE NO STEEPER THAN 5H:1V AND FREE OF ANY SHARP PROTRUSIONS. TRANSVERSE AND LONGITUDINAL BEDROCK SLOPES STEEPER THAN 5H:1V SHALL BE STEPPED IN LEVEL INCREMENTS WITH A MINIMUM HORIZONTAL STEP LENGTH OF 2 FEET, OR AS DIRECTED. THE USE OF STEEL DOWELS OR OTHER MEASURES TO CONSTRUCT THE WALL FOUNDATION ON A SLOPING BEDROCK SURFACE SHALL BE AS DIRECTED AND PAID UNDER ITEM 1008.99.
- ALL SUBFOOTING AND FOOTING CONCRETE SHALL BE PLACED IN THE DRY.
- PRIOR TO PLACEMENT OF CONCRETE, THE BEDROCK SURFACE SHALL BE COMPLETELY CLEANED OF LOOSE BEDROCK AND DEBRIS. ANY OPEN JOINTS OR SEAMS SHALL BE CLEANED AND GROUTED IN ACCORDANCE WITH SECTION 504, SUBSIDIARY TO ITEM 504.2.
- ALL FOOTING CONCRETE SHALL BE PAID AS ITEM 520.211, CONCRETE CLASS B, FOOTINGS (ON ROCK).
- SUBFOOTINGS SHALL BE CONSTRUCTED ON A 1'-0" THICK LAYER OF STRUCTURAL FILL.

ABUTMENT AND WINGWALL NOTES

- ITEM 534.3, WATER-REPELLENT (SILANE-SILOXANE), SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES OF ABUTMENTS (INCLUDING BRIDGE SEATS), WINGS, AND BACKWALLS TO 1'-0" BELOW FILL LINES.
- ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2' WIDE WITH PROTECTION BOARD (SUBSIDIARY), SHALL BE PLACED CENTERED OVER THE BEARING SEAT CONSTRUCTION JOINT AND CENTERED OVER THE VERTICAL CONSTRUCTION JOINTS.
- WEEPERS SHALL BE PLACED SYMMETRICALLY 10'-0" APART AND CENTERED AT 1'-0" ABOVE THE TOP OF FOOTINGS. WEEPERS SHALL BR 4" Ø AND SLOPED TO DRAIN WITH A 12:1 SLOPE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 520.12.
- ITEM 538.X, RIPRAP CLASS X, SHALL BE X'-X" THICK, UNLESS NOTED OTHERWISE.
- SLEEVES SHALL BE PROVIDED IN THE ABUTMENT X BACKWALL, BETWEEN GIRDERS #X AND #X, TO ALLOW FOR THE INSTALLATION OF UTILITIES AND CONDUIT. SEE BRIDGE SHEET XX FOR DETAILS.
- ABUTMENTS SHALL BE BACKFILLED TO THE LEVEL OF THE BRIDGE SEAT ELEVATION PRIOR TO ERECTING THE GIRDERS.
- ABUTMENT DIMENSIONS AND MSE LAYOUT ASSUME 5½" WALL PANELS EXCLUDING 1½" ALLOWANCE FOR RUSTICATION.
- ABUTMENT BEARING SEAT ELEVATIONS SHALL HAVE A TOLERANCE OF ¼".
- PLACE ½" THICK CORK FILLER TO ½" BELOW EXPOSED SURFACE, BETWEEN ABUTMENT AND WINGWALL (SUBSIDIARY TO ITEM 520.12). SEAL FRONT FACE OF JOINT FROM 6" ABOVE OF FOOTING TO TOP OF WING, ACROSS TOP, AND 1'-6" DOWN BACK WITH ½"x ½" SILICONE JOINT SEALANT, ITEM 562.1. DO NOT PLACE SILICONE JOINT SEALANT UNTIL WINGWALL HAS BEEN BACKFILLED.
- EXPOSED FACE OF ABUTMENTS AND WINGWALLS SHALL BE CAST WITH A FORM LINER PATTERN XXXX MANUFACTURED BY XXXXXXXX OR APPROVED EQUAL. THE FORM LINER SHALL BE PLACED AS SHOWN ON THE PLANS AND BE PAID FOR UNDER ITEM 520.351, FORM LINER FOR CONCRETE (F).
- EXPOSED FACE OF ABUTMENTS AND WINGWALLS SHALL BE CAST WITH A FORM LINER PATTERN NO. 1515 SC ASHLAR CUT STONE PATTERN MANUFACTURED BY THE SPEC FORMLINES, INC. OR APPROVED EQUAL. THE FORM LINER SHALL BE PLACED AS SHOWN ON THE PLANS AND BE SUBSIDIARY TO ITEM 528.12, CONCRETE CLASS A, ABOVE FOOTINGS (F).
- ALL ANCHOR BOLTS AT THE ABUTMENT SHALL BE CAST-IN-PLACE OR CORE DRILLED, USING A TEMPLATE. ROCK DRILLING IS NOT ALLOWED. ALL BLOCKOUT MATERIAL OR FORM WORK SHALL BE REMOVED PRIOR TO GROUTING.

FOR STRAIGHT GIRDERS WITH A VERY LARGE SKEW, DESIGNER SHALL CONSIDER SDLF CONDITION AND REVISE NOTE ACCORDINGLY

PIER NOTES

- THE CONTRACTOR IS REQUIRED TO POUR ALL PIER CONCRETE, EXCEPT FOR THE FOUNDATION SEAL (PIER SUBFOOTING), IN THE DRY.
- WATER LEVELS WITHIN THE COFFERDAM AT THE PIER SHALL BE MAINTAINED AT THE SAME LEVEL AS THE RIVER UNTIL THE FOUNDATION SEAL (ITEM 520.6) IS IN PLACE AND CURED.
- FOUNDATION FOR THE PIER SHALL CONSIST OF A SPREAD FOOTING ON A CONCRETE TREMIE SEAL. THE TREMIE SEAL, ITEM 520.6, SHALL BE Poured TO ELEVATION XXX.XX AND SHALL BR XX' THICK (MINIMUM). TOP SURFACE OF THE TREMIE SEAL WHICH WILL BE IN CONTACT WITH THE PIER FOOTING SHALL HAVE A ROUGHENED SURFACE.
- THE DESIGN MAXIMUM VENT ELEVATION FOR THE TREMIE SEAL IS XXX.XX. VENT ELEVATIONS HIGHER THAN XXX.XX WILL REQUIRE A DEEPER SEAL POUR. THE FACTOR OF SAFETY FOR THE SEAL SHALL BE AT LEAST 1.10. THE USE OF A HIGHER VENT ELEVATION SHALL BE SUBMITTED TO THE BUREAU OF BRIDGE DESIGN FOR APPROVAL IN ACCORDANCE WITH 105.2.
- COAT ALL SURFACES OF THE PIER ABOVE THE FOOTING, INCLUDING THE BEARING SEAT AND PEDESTALS, WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE).
- ALL ANCHOR BOLTS AT THE PIER SHALL BE SET BY A TEMPLATE BEFORE CONCRETE IS PLACED. DRILLING IS NOT ALLOWED. ALL BLOCKOUT MATERIAL OR FORM WORK SHALL BE REMOVED PRIOR TO GROUTING.
- PIER BEARING SEAT ELEVATIONS SHALL HAVE A CONSTRUCTION TOLERANCE OF 1/8".

TYPICALLY USE 10' UNLESS THE BEAMS ARE VERY SHALLOW OR DEEP, THAN USE 1.5 TIMES DEPTH INCLUDING DRIP BARS AND CONSIDERATION OF SKEW EFFECTS

APPROACH SLAB NOTES

- ITEM 544.7, SYNTHETIC FIBER REINFORCEMENT (F), (MACRO) SHALL BE ADDED TO THE CONCRETE USED FOR APPROACH SLABS USING A DOSAGE RATE SHOWN IN THE SPECIAL PROVISION.
- FILL SPACE BETWEEN TIPPED DOWN APPROACH SLAB AND ROADWAY CURB WITH ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (QC/QA) (F) (6" MIN DEPTH). EXTEND CONCRETE FROM ABUTMENT END OF APPROACH SLAB 6' ALONG SLAB, OR AS DIRECTED BY ENGINEER (QC/QA TESTING REQUIREMENTS WAIVED).
- ITEM 520.0302 SHALL BE FORMED INTO 1'-0"x 2'-0" BLOCKS ON APPROACH SLAB SEAT TO SUPPORT APPROACH CURBS. 8 INCHES OF THE CONCRETE BLOCK SHALL REST ON THE APPROACH SLAB SEAT AND 16 INCHES ON SOIL (QC/QA CLEAR COVER REQUIREMENTS SHALL BE WAIVED).

STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES

- ALL STRUCTURAL STEEL SHALL BE PAID UNDER ITEM 550.1, STRUCTURAL STEEL (F), INCLUDING THE GIRDERS, CROSS FRAMES, GUSSET PLATES, FILL PLATES, CONNECTION PLATES, SPLICE PLATES, STIFFENERS, DRIP BARS, PIER NOSE ARMOR, AND FASTENERS.
- THE NHDOT WILL INSPECT THE SHOP FABRICATION OF THE STRUCTURAL STEEL.
- NOTCH TOUGHNESS REQUIREMENTS SHALL BE IN ACCORDANCE TO NHDOT STANDARD SPECIFICATIONS SECTION 550.2.3.
- ALL BOLTED CONNECTIONS SHALL BE SLIP CRITICAL (CLASS B) MADE WITH ¾" Ø HIGH STRENGTH BOLTS IN 1½" Ø HOLES. ALL FASTENERS SHALL CONFORM TO REQUIREMENTS OF ASTM F3125 GRADE A325, TYPE 3 (IN PAINTED AREAS, BOLTS SHALL BE TYPE 1 GALVANIZED).
- DIRECT TENSION INDICATORS SHALL BE INSTALLED WITH HIGH STRENGTH BOLTS.
- THE FINAL ERECTED POSITION OF STRAIGHT I-GIRDERS W/ OR W/O A SKEW SHALL BE VERTICAL OR PLUMB AND ACHIEVED BY DETAILING FOR "TOTAL DEAD LOAD FIT (TDLF)" CONDITION. HORIZONTALLY CURVED I-GIRDERS W/ OR W/O A SKEW SHALL BE DETAILED FOR "STEEL DEAD LOAD FIT (SDLF)" CONDITION.
- GIRDERS SHALL BE CAMBERED FOR VERTICAL CURVATURE AND TO FULL DEAD LOAD DEFLECTION. THE CAMBER SHALL BE ACHIEVED BY CUTTING THE WEB PLATE ACCORDING TO DIMENSIONS SHOWN ON THE GIRDER WEB LAYOUT ON BRIDGE SHEET XX. CAMBER TOLERANCE IS +XX", -0.
- BEARING STIFFENERS AND THE ENDS OF GIRDERS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.
- ALL WELDS SHALL HAVE CORROSION RESISTANCE AND WEATHERING APPEARANCE AS SPECIFIED FOR WEATHERING STRUCTURAL STEEL.
- THE STRUCTURAL STEEL FABRICATOR SHALL ARRANGE FOR NON-DESTRUCTIVE TESTING OF THE WELDS. ALL COSTS TO BE INCLUDED IN ITEM 550.1.
- SHOP DRAWINGS SHALL INDICATE THE METHOD AND SEQUENCE TO BE FOLLOWED IN WELDING THE GIRDER COMPONENTS.
- CROSS FRAMES SHALL BE FABRICATED IN THE SHOP WITH ¼" FILLET WELDS, UNLESS NOTED OTHERWISE. GRAVITY AXES OF THE MEMBERS SHALL INTERSECT AS NEARLY AS PRACTICABLE AT THE CENTERLINE OF THE GIRDER.
- LOCATION OF WELDED SHOP SPLICES SHALL BE APPROVED BY THE BUREAU OF BRIDGE DESIGN. WEB SPLICES SHALL BE LOCATED A MINIMUM OF 9" FROM WELDED FLANGE SPLICES. WEB AND FLANGE SPLICES SHALL BE LOCATED A MINIMUM OF 6" FROM TRNSVERSE STIFFENERS OR CONNECTION PLATES.
- HOLES FOR FIELD SPLICES SHALL BE DRILLED IN THE SHOP WHILE GIRDERS ARE ASSEMBLED TO FINAL BEARING ELEVATIONS.
- FIELD WELDING OF ATTACHMENTS TO, OR PLACEMENT OF HOLES IN, ANY PORTION OF THE PLATE GIRDERS FOR CONSTRUCTION PURPOSES IS NOT PERMITTED, UNLESS APPROVED BY THE BUREAU OF BRIDGE DESIGN.
- THE CONTRACTOR SHALL SUBMIT A HANDLING AND ERECTION PROCEDURE TO THE ENGINEER PRIOR TO HANDLING THE STRUCTURAL STEEL IN ACCORDANCE WITH SECTIONS 550.3.14 AND 550.3.15. THE ERECTION PROCEDURE SHALL INDICATE THE LOCATION AND NUMBER OF LIFTING POINTS AS DETERMINED BY CHECKING THE L/B RATIOS IN ACCORDANCE WITH SECTION 550.3.14.2.4 TO GUARD AGAINST LATERAL BUCKLING OF THE GIRDERS. THESE DRAWINGS SHALL BE DOCUMENTED BEFORE ERECTION STARTS.
- STEEL ERECTION SHALL NOT BE PERMITTED UNTIL THE ABUTMENTS HAVE BEEN BACKFILLED TO THE LEVEL OF THE BRIDGE SEATS.
- ALL SHEAR CONNECTORS SHALL BE FIELD WELDED TO THE TOP FLANGE WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT. RELOCATE SHEAR CONNECTORS AT SPLICE LOCATIONS TO AVOID INTERFERENCE WITH FASTENERS.
- SCREED RAIL SUPPORTS REQUIRED FOR PLACEMENT OF THE DECK SLAB CONCRETE SHALL BE LOCATED AT THE CENTERLINE OF GIRDERS.
- ALL WELDING AND FABRICATION SHALL BE PERFORMED IN CONFORMANCE WITH NHDOT STANDARD SPECIFICATION SECTION 550.
- ALL STRUCTURAL STEEL (INCLUDING BRIDGE SHOES) SHALL BE PAINTED WITHIN 10 FEET OF THE CENTERLINE OF BEARING, BOTH ENDS OF THE BRIDGE, EXCEPT FASCIA SURFACES OF THE EXTERIOR GIRDERS (E.G.: BOTTOM OF TOP FLANGE, THE WEB, TOP AND EDGE OF THE BOTTOM FLANGE) SHALL NOT BE PAINTED.
- THE TOP OF THE TOP FLANGE SHALL BE PAINTED WITH A LIGHT RUST PREVENTIVE COAT OF PRIMER ONLY IN THE LOCATIONS WHERE THE WEB AND BOTTOM FLANGES ARE PAINTED (I.E., FOR PAINTED GIRDERS, FULL LENGTH OF TOP FLANGE; FOR WEATHERING STEEL GIRDERS, TOP FLANGE WITHIN 10 FT OF CL ABUTMENT BEARINGS). ALL COSTS INCLUDED IN ITEM 550.1, STRUCTURAL STEEL (F).
- THE BRIDGE DECK POURING SEQUENCE SHALL BE SUBMITTED IN ACCORDANCE WITH 105.02 AND SUBJECT TO APPROVAL OF THE BUREAU OF BRIDGE DESIGN. BRIDGE DECK CONCRETE SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE POURING SEQUENCE, EXCLUDING EXPANSION JOINT BLOCKOUTS.
- TWO X" DIAMETER CONDUITS SHALL BE INSTALLED IN THE BRUSH CURB OF THE DOWNSTREAM SIDE OF THE BRIDGE. CONDUITS SHALL BE PLACED FOR THE FULL LENGTH OF PROPOSED DECK AND WINGWALLS AS SHOWN IN THE PLANS (SEE BRIDGE RAIL AND APPROACH RAIL SHEETS FOR DETAILS). ALL COSTS TO BE INCLUDED IN ITEM 614.XXXXX.

SAMPLE NOTES

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN BRIDGE Training			BRIDGE NO.			STATE PROJECT 12345			
LOCATION									
SAMPLE PROJECT NOTES (2 OF 7)								BRIDGE SHEET	
REVISIONS AFTER PROPOSAL		BY		DATE		BY		DATE	
		DESIGNED		NHDOT 1/2015		CHECKED		XXX XX/XX	
		DRAWN		XXX		CHECKED		XXX XX/XX	
		QUANTITIES		XXX		CHECKED		XXX XX/XX	
		ISSUE DATE		1/2015		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE		9/18/23				1	
SUBDIRECTORY			.DGN LOCATOR			SHEET SCALE			
SAMPLE PLANS			notes1			AS NOTED			

HLMR BEARING SHOE NOTES

(PLACE THESE NOTES ON THE BEARING SHEET)

- FIXED AND GUIDED HIGH-LOAD MULTI-ROTATIONAL BEARINGS, INCLUDING MASONRY PLATE, SOLE PLATE, ANCHOR BOLTS, NUTS AND WASHERS, AND BEARING PAD SHALL BE PAID AS ITEM 550.210, BRIDGE SHOES-HLMR (F).
- ALL STEEL PLATES (INCLUDING SHIMS) SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50), SHOP PAINTED DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550, EXCEPT STAINLESS STEEL SHALL CONFORM TO ASTM A240 TYPE 304. PTFE SURFACES SHALL BE UNFILLED SHEET CONFORMING TO SECTION 550.2.10 OF THE NHDOT STANDARD SPECIFICATIONS.
- THE STAINLESS STEEL SURFACE IN CONTACT WITH THE PTFE SHALL HAVE A #8 MIRROR FINISH.
- THE PREFORMED FABRIC PADS SHALL BE TYPE 1 AND CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.
- ALL THREADED RODS, NUTS, AND WASHERS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATIONS AND GALVANIZED CONFORMING TO AASHTO M 232 (ASTM A153).
- BEARING SURFACES IN CONTACT TO BE WELDED SHALL BE FINISHED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS SECTION 11.4.6.
- ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- RECESS AND BOND THE PTFE TO THE TOP OF THE POT BEARING AND SIDES OF THE GUIDE BARS WITH AN APPROVED ADHESIVE. THE SURFACE PREPARATION OF THE PTFE AND MATING STEEL SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- THE BONDED PTFE, STAINLESS STEEL PLATES, AND ADHESIVES USED SHALL BE THOSE MANUFACTURED BY AN APPROVED SUPPLIER, WITH PROVEN EXPERIENCE IN THE FIELD.
- BEARING HEIGHT MUST ALLOW SUFFICIENT CLEARANCE FOR ALL ANCHOR BOLTS TO BE REMOVED AND RE-INSTALLED AFTER GIRDERS ARE WELDED TO SOLE PLATES. BEAM SEAT ELEVATIONS SHALL BE ADJUSTED ON ACTUAL BEARING HEIGHT.
- OTHER TYPES OF HIGH-LOAD MULTI-ROTATIONAL BEARINGS WILL BE ACCEPTED PROVIDED THEY MEET THE DESIGN REQUIREMENTS. THE BUREAU OF BRIDGE DESIGN SHALL MAKE THE FINAL DETERMINATION OF A BEARING'S ABILITY TO MEET THE REQUIREMENTS.
- BEARING DEVICES SHALL NOT BE DISASSEMBLED DURING INSTALLATION. INSTALLATION PROCEDURES SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE BUREAU OF BRIDGE DESIGN.
- THE TOP OF THE SOLE PLATES SHALL BE BEVELED TO MATCH THE APPROXIMATE GRADE.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
- SEE SPECIAL PROVISION SECTION 550 FOR ADDITIONAL INFORMATION.

DESIGNER TO CHOOSE WHICH NOTE TO USE DEPENDING ON THE DESIGN METHOD USED. IF METHOD B IS USED, THE GRADE (3 OR 4) NEEDS TO BE SPECIFIED PER AASHTO 14.7.5.2

DESIGNER SHALL CONFIRM PAINT COLOR

DESIGNER SHALL SPECIFY TEMPERATURE RANGE AS REQ'D PER DESIGN

DESIGNER SHALL CONFIRM PAINT COLOR

FIXED STEEL BRIDGE SHOE NOTES

(PLACE THESE NOTES ON THE BEARING SHEET)

- FIXED SHOE ASSEMBLIES, INCLUDING ANCHOR RODS, SHALL BE PAID FOR UNDER ITEM 550.2, BRIDGE SHOES (F).
- ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- ALL STEEL PLATES (INCLUDING SHIMS) SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50) AND SHALL BE SHOP PAINTED DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550, EXCEPT STAINLESS STEEL PLATES SHALL BE ASTM A240 TYPE 304. SHIM PLATES SHALL BE PAINTED WITH PRIMER, OR SHALL BE GALVANIZED OR STAINLESS STEEL.
- ANCHOR RODS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 AND 550.2.9 OF THE NHDOT STANDARD SPECIFICATIONS.
- BEARING SURFACES MARKED "f", OR SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 11.4.6.
- LEAVE A ¼" GAP BETWEEN THE SOLE PLATE AND BOTTOM NUT. DOUBLE NUT THE ANCHOR RODS.
- THE PREFORMED FABRIC PADS SHALL CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.

EXPANSION STEEL BRIDGE SHOE NOTES

(PLACE THESE NOTES ON THE BEARING SHEET)

- EXPANSION SHOE ASSEMBLIES, INCLUDING ANCHOR RODS, SHALL BE PAID AS ITEM 550.2, BRIDGE SHOES (F).
- ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- ALL STEEL PLATES (INCLUDING SHIMS) SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50) AND SHALL BE SHOP PAINTED DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550, EXCEPT STAINLESS STEEL PLATES SHALL BE ASTM A240 TYPE 304. SHIM PLATES SHALL BE PAINTED WITH PRIMER, OR SHALL BE GALVANIZED OR STAINLESS STEEL.
- ANCHOR RODS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 AND 550.2.9 OF THE NHDOT STANDARD SPECIFICATIONS.
- BEARING SURFACES MARKED "f", OR SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 11.4.6.
- PTFE (TEFLON) SHALL BE FABRICATED AS UNFILLED SHEET (½" MIN THICKNESS) IN ACCORDANCE WITH AASHTO LRFD DESIGN SPECIFICATIONS SECTION 14.7.2.
- THE PTFE SHALL CONFORM TO SECTION 550.2.10 OF THE NHDOT STANDARD SPECIFICATIONS. THE COEFFICIENT OF FRICTION BETWEEN THE PTFE AND STAINLESS STEEL SURFACES SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS SECTION 18.1.5.2.3. THE DESIGN COEFFICIENT OF FRICTION SHALL BE PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 14.7.2.5.
- THE PTFE SHALL BE BONDED TO THE STEEL BY AN EPOXY RESIN SATISFYING THE REQUIREMENTS OF AASHTO M 235M/M 235 (ASTM C881/C881M), FEP FILM, OR EQUAL, AS APPROVED BY THE ENGINEER.
- THE STAINLESS STEEL SURFACES IN CONTACT WITH THE TEFLON SHALL HAVE A #8 MIRROR FINISH.
- THE PREFORMED FABRIC PADS SHALL CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.

DESIGNER SHALL CONFIRM PAINT COLOR

ELASTOMERIC BEARING NOTES



(PLACE THESE NOTES ON THE BEARING SHEET)

- BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, SOLE PLATES, MASONRY PLATES, BOLSTERS, KEEPER PLATES, ANCHOR RODS, NUTS, AND WASHERS, SHALL BE PAID AS ELASTOMERIC BEARING ASSEMBLIES (F), ITEM 548.21.
- ELASTOMERIC BEARING PADS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60 WITH A SHEAR MODULUS OF 0.XX KSI (±15%).
- ELASTOMERIC BEARING PADS SHALL BE VIRGIN NATURAL RUBBER WITH A SHEAR MODULUS OF 0.XX KSI (±15%) AND A MINIMUM LOW-TEMPERATURE GRADE X.
- ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATIONS. ANCHOR RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION AND CONFORM TO AASHTO M 232 ASTM A153.
- SOLE PLATES AND MASONRY PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50) AND SHALL BE SHOP PAINTED PER SPECIAL PROVISION 550.
- STEEL LAMINATES FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO ASTM A1011 WITH A MINIMUM GRADE OF 36.
- SOLE AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP 10) AFTER THE VULCANIZING PROCEDURE PRIOR TO PAINTING. SHOP PAINT PLATES DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND APPLY FINISH COATS TO THE SOLE PLATES.
- IF STEEL GIRDERS ARE ERECTED WITH BEARINGS PLUMB AT AN AMBIENT TEMPERATURE HIGHER THAN XX°F OR LOWER THAN XX°F, AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE-SIXTH OF THE BEARING HEIGHT AT 60°F±10°F, THE GIRDERS SHALL BE JACKED AND THE BEARINGS RESET TO PLUMB (UNDEFORMED SHAPE) AT 60°F±10°F AS DIRECTED BY THE ENGINEER. ALL COST SUBSIDIARY TO ITEM 548.XX.
- THE FABRICATOR SHALL CLEARLY MARK THE BEARING ASSEMBLIES TO ENSURE PROPER ORIENTATION IN THE FIELD.
- KEEPER ASSEMBLIES SHALL BE PAINTED. ALL COSTS INCLUDED IN ITEM 548.21.
- THE CONTINUOUS WELD CONNECTING THE BOTTOM FLANGE OF GIRDERS TO THE TOP OF THE SOLE STEEL PLATES SHALL BE ALLOWED TO COOL AFTER EACH PASS. THE TEMPERATURE OF THE STEEL ADJACENT TO THE ELASTOMER SHALL NOT EXCEED 200°F (TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURES AND TEMPERATURE INDICATING CRAYON, OR OTHER DEVICES APPROVED BY THE ENGINEER). ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- THE GIRDER BOTTOM FLANGE SHALL NOT BE FIELD WELDED TO THE TOP OF THE STEEL SOLE PLATE UNTIL THE CONCRETE DECK IS Poured.
- THE TOP OF ALL SOLE PLATES SHALL BE BEVELED TO MATCH THE APPROXIMATE GRADE OF X.XX% FOR ABUTMENT "A" AND X.XX% FOR ABUTMENT "B". BEVELED WASHERS SHALL BE REQUIRED BENEATH THE NUTS FOR THE FIXED BEARINGS.
- FOLLOWING THE MANUFACTURE OF ELASTOMERIC BEARINGS AND VERIFICATION OF THE INTERNAL STEEL LAMINATES, THE PIN GROOVE OPENING SHALL BE COATED WITH AN APPROVED ASPHALTIC SEALER AND THE SPACE FILLED WITH SILICONE CAULKING.
- APPLY AN APPROVED SEALANT ALONG THE TRANSVERSE EDGES UP AND AROUND TO THE FILLET WELD TERMINATION ON THE SOLE PLATE. COST SHALL BE INCLUDED IN ITEM 548.21.
- BEARING HEIGHT SHOWN ON THE PLANS IS FOR THE NO-LOAD CONDITION. FOR COMPRESSIVE DEFLECTION DUE TO DEAD LOAD SEE THE FOLLOWING TABLE:

BEARING DESIGN LOADS AND DEFLECTION (SERVICE I LIMIT STATE - DESIGN METHOD A)					
	COMPRESSIVE LOAD (KIPS)				INITIAL TOTAL DL COMPRESSIVE DEFLECTION (IN)
	DC	DW	LL W/Ø IMPACT	TOTAL	
ABUTMENT A					
PIER 1					
PIER 2					
ABUTMENT B					

BORING NOTES

(PLACE THESE NOTES ON THE BORINGS LAYOUT SHEET)
(EDIT AS NOTED ON GEOTECHNICAL REPORT)

- BORINGS INDICATED THUS  WERE MADE BY THE NHDOT IN XXXX AND XXXX OF XXXX. FIGURES IN THE "BLOWS PER" COLUMN INDICATE THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" STANDARD SPLIT SPOON SAMPLER 6", USING A 140 LB WEIGHT FALLING 30 INCHES.
- BORINGS ARE FOR DESIGN PURPOSES SHOWING CONDITIONS AT BORING POINTS ONLY, AND DO NOT NECESSARILY INDICATE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.
- THE GEOTECHNICAL REPORT IS AVAILABLE ONLINE IN THE BID PACKAGE ON THE INVITATION TO BID WEB PAGE DURING THE BIDDING PERIOD. AFTER THE CONTRACT HAS BEEN AWARDED THE REPORT IS AVAILABLE IN THE NHDOT BUREAU OF MATERIALS AND RESEARCH OFFICE.
- ROCK CORES WERE MADE USING A NX 2" I.D. CORE BARREL.
- WATER LEVELS INDICATED THUS  WERE MEASURED AT THE TIME OF EXPLORATION. THE WATER LEVELS ENCOUNTERED DURING CONSTRUCTION MAY VARY CONSIDERABLY DUE TO PREVAILING CLIMATE, RAINFALL, OR OTHER FACTORS.
- THE SURFACE ELEVATION ON EACH BORING LOG IS THE ELEVATION OF THE EXISTING GROUND AT THE TIME THE BORING WAS TAKEN.

(PLACE THIS CHART ON THE GENERAL PLAN)

HYDRAULIC DATA	
DRAINAGE AREA	XX SQ. MILES
DESIGN FLOOD DISCHARGE (XX YR)	XX CFS
DESIGN FLOOD ELEVATION (XX YR)	XX FEET
DESIGN FLOOD VELOCITY (XX YR)	XX FPS
SCOUR CHECK DISCHARGE (500 YR)	XX CFS
ANTICIPATED DEPTH OF SCOUR (100 YR)	XX FEET (XX LOCATION)
ANTICIPATED DEPTH OF SCOUR (500 YR)	XX FEET (XX LOCATION)
BRIDGE FULL WATERWAY OPENING ⊥ TO RIVER	XX SQ. FEET

REINFORCEMENT NOTES

- REINFORCEMENT IN THE FOOTINGS, APPROACH SLABS, AND FACE OF CONCRETE CURBS SHALL HAVE A 3" CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE 2½" CLEAR COVER, UNLESS OTHERWISE NOTED.
- PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES, PILES, AND EXPANSION JOINT STEEL.
- THE DECK REINFORCING LAYOUT SHOWN ON THE CONTRACT PLANS IS BASED ON AN ASSUMED EXPANSION JOINT DESIGN. DECK REINFORCEMENT MAY REQUIRE ADJUSTMENT IN THE FIELD DURING INSTALLATION BASED ON DETAILS SHOWN ON THE APPROVED EXPANSION JOINT SHOP DRAWINGS.
- REINFORCING IN THE TOP OF PIER AND ABUTMENT CAP BEAMS SHALL BE ADJUSTED TO CLEAR ANCHOR BOLTS.
- ANY EPOXY COATED REBARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2 OR 544.21.
- REINFORCING LEGEND:

ALT = ALTERNATE	BOT = BOTTOM	BRG = BEARING
CLR = CLEAR	DOW = DOWEL	EQ = EQUAL
FS = FAR SIDE	MAX = MAXIMUM	MC = MECHANICAL CONNECTOR
MID = MIDDLE	MIN = MINIMUM	NS = NEAR SIDE
SECT = SECTION	SP = SPACE	SPL = SPLICE
SYM = SYMMETRICAL	TYP = TYPICAL	E = EPOXY COATED
SS = STAINLESS STEEL		CPL = COUPLER

STAINLESS STEEL REINFORCEMENT NOTES

- REINFORCING BAR MARKS APPENDED WITH AN "SS", INDICATE STAINLESS STEEL BARS.
- STAINLESS STEEL REINFORCING SHALL NOT BE "HOT" BENT OR "HEAT STRAIGHTENED".
- DO NOT USE GRINDING TOOLS OR ABRASIVE CUT-OFF DISCS ON STAINLESS STEEL REINFORCING IF SUCH SUCH EQUIPMENT HAS BEEN PREVIOUSLY USED ON CARBON STEEL.
- STAINLESS STEEL REINFORCING SHALL BE SUPPORTED AND SPACED WITH PLASTIC CHAIRS AND SPACERS.
- TIE WIRE FOR STAINLESS STEEL REINFORCING SHALL BE STAINLESS STEEL WITH A LEVEL OF CORROSION RESISTANCE EQUIVALENT TO THE STAINLESS STEEL REINFORCEMENT.
- STAINLESS STEEL COUPLERS SHALL BE USED WHEN CONNECTING STAINLESS STEEL WITH A MECHANICAL CONNECTION.

SAMPLE NOTES

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN BRIDGE Training			BRIDGE NO.			STATE PROJECT 12345			
LOCATION									
SAMPLE PROJECT NOTES (3 OF 7)								BRIDGE SHEET	
REVISIONS AFTER PROPOSAL		BY		DATE		BY		DATE	
		DESIGNED		NHDOT 1/2015		XXX		XX/XX	
		DRAWN		XXX		XX/XX		CHECKED XXX XX/XX	
		QUANTITIES		XXX		XX/XX		CHECKED XXX XX/XX	
		ISSUE DATE		1/2015		FEDERAL PROJECT NO.		SHEET NO.	
		SUBDIRECTORY		.DGN LOCATOR		SHEET SCALE		TOTAL SHEETS	
		SAMPLE PLANS		Notes		AS NOTED		1	
		REV. DATE		4/26/24				1	

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE	TOTAL SHEETS
SAMPLE PLANS	Notes	AS NOTED	1

HLMR BEARING SHOE NOTES

(PLACE THESE NOTES ON THE BEARING SHEET)

- FIXED AND GUIDED HIGH-LOAD MULTI-ROTATIONAL BEARINGS, INCLUDING MASONRY PLATE, SOLE PLATE, ANCHOR BOLTS, NUTS AND WASHERS, AND BEARING PAD SHALL BE PAID AS ITEM 550.210, BRIDGE SHOES-HLMR (F).
- ALL STEEL PLATES (INCLUDING SHIMS) SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50), SHOP PAINTED DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550, EXCEPT STAINLESS STEEL SHALL CONFORM TO ASTM A240 TYPE 304. PTFE SURFACES SHALL BE UNFILLED SHEET CONFORMING TO SECTION 550.2.10 OF THE NHDOT STANDARD SPECIFICATIONS.
- THE STAINLESS STEEL SURFACE IN CONTACT WITH THE PTFE SHALL HAVE A #8 MIRROR FINISH.
- THE PREFORMED FABRIC PADS SHALL BE TYPE 1 AND CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.
- ALL THREADED RODS, NUTS, AND WASHERS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATIONS AND GALVANIZED CONFORMING TO AASHTO M 232 (ASTM A153).
- BEARING SURFACES IN CONTACT TO BE WELDED SHALL BE FINISHED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS SECTION 11.4.6.
- ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- RECESS AND BOND THE PTFE TO THE TOP OF THE POT BEARING AND SIDES OF THE GUIDE BARS WITH AN APPROVED ADHESIVE. THE SURFACE PREPARATION OF THE PTFE AND MATING STEEL SHALL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- THE BONDED PTFE, STAINLESS STEEL PLATES, AND ADHESIVES USED SHALL BE THOSE MANUFACTURED BY AN APPROVED SUPPLIER, WITH PROVEN EXPERIENCE IN THE FIELD.
- BEARING HEIGHT MUST ALLOW SUFFICIENT CLEARANCE FOR ALL ANCHOR BOLTS TO BE REMOVED AND RE-INSTALLED AFTER GIRDERS ARE WELDED TO SOLE PLATES. BEAM SEAT ELEVATIONS SHALL BE ADJUSTED ON ACTUAL BEARING HEIGHT.
- OTHER TYPES OF HIGH-LOAD MULTI-ROTATIONAL BEARINGS WILL BE ACCEPTED PROVIDED THEY MEET THE DESIGN REQUIREMENTS. THE BUREAU OF BRIDGE DESIGN SHALL MAKE THE FINAL DETERMINATION OF A BEARING'S ABILITY TO MEET THE REQUIREMENTS.
- BEARING DEVICES SHALL NOT BE DISASSEMBLED DURING INSTALLATION. INSTALLATION PROCEDURES SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE BUREAU OF BRIDGE DESIGN.
- THE TOP OF THE SOLE PLATES SHALL BE BEVELED TO MATCH THE APPROXIMATE GRADE.
- ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.
- SEE SPECIAL PROVISION SECTION 550 FOR ADDITIONAL INFORMATION.

DESIGNER TO CHOOSE WHICH NOTE TO USE DEPENDING ON THE DESIGN METHOD USED. IF METHOD B IS USED, THE GRADE (3 OR 4) NEEDS TO BE SPECIFIED PER AASHTO 14.7.5.2

DESIGNER SHALL CONFIRM PAINT COLOR

DESIGNER SHALL SPECIFY TEMPERATURE RANGE AS REQ'D PER DESIGN

ELASTOMERIC BEARING NOTES



(PLACE THESE NOTES ON THE BEARING SHEET)

- BEARING ASSEMBLIES, INCLUDING ELASTOMERIC BEARING PADS, SOLE PLATES, MASONRY PLATES, BOLSTERS, KEEPER PLATES, ANCHOR RODS, NUTS, AND WASHERS, SHALL BE PAID AS ELASTOMERIC BEARING ASSEMBLIES (F), ITEM 548.21.
- ELASTOMERIC BEARING PADS SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60 WITH A SHEAR MODULUS OF 0.XX KSI (±15%).
- ELASTOMERIC BEARING PADS SHALL BE VIRGIN NATURAL RUBBER WITH A SHEAR MODULUS OF 0.XX KSI (±15%) AND A MINIMUM LOW-TEMPERATURE GRADE X.
- ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATIONS. ANCHOR RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION AND CONFORM TO AASHTO M 232 ASTM A153.
- SOLE PLATES AND MASONRY PLATES SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50) AND SHALL BE SHOP PAINTED PER SPECIAL PROVISION 550.
- STEEL LAMINATES FOR ELASTOMERIC BEARING PADS SHALL CONFORM TO ASTM A1011 WITH A MINIMUM GRADE OF 36.
- SOLE AND MASONRY PLATES SHALL BE BLAST CLEANED (SSPC-SP 10) AFTER THE VULCANIZING PROCEDURE PRIOR TO PAINTING. SHOP PAINT PLATES DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550. AFTER WELDING TO THE GIRDER FLANGE, CLEAN AND APPLY FINISH COATS TO THE SOLE PLATES.
- IF STEEL GIRDERS ARE ERECTED WITH BEARINGS PLUMB AT AN AMBIENT TEMPERATURE HIGHER THAN XX°F OR LOWER THAN XX°F, AND THE BEARING SHEAR DEFLECTION EXCEEDS ONE-SIXTH OF THE BEARING HEIGHT AT 60°F±10°F, THE GIRDERS SHALL BE JACKED AND THE BEARINGS RESET TO PLUMB (UNDEFORMED SHAPE) AT 60°F±10°F AS DIRECTED BY THE ENGINEER. ALL COST SUBSIDIARY TO ITEM 548.XX.
- THE FABRICATOR SHALL CLEARLY MARK THE BEARING ASSEMBLIES TO ENSURE PROPER ORIENTATION IN THE FIELD.
- KEEPER ASSEMBLIES SHALL BE PAINTED. ALL COSTS INCLUDED IN ITEM 548.21.
- THE CONTINUOUS WELD CONNECTING THE BOTTOM FLANGE OF GIRDERS TO THE TOP OF THE SOLE STEEL PLATES SHALL BE ALLOWED TO COOL AFTER EACH PASS. THE TEMPERATURE OF THE STEEL ADJACENT TO THE ELASTOMER SHALL NOT EXCEED 200°F (TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURES AND TEMPERATURE INDICATING CRAYON, OR OTHER DEVICES APPROVED BY THE ENGINEER). ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- THE GIRDER BOTTOM FLANGE SHALL NOT BE FIELD WELDED TO THE TOP OF THE STEEL SOLE PLATE UNTIL THE CONCRETE DECK IS Poured.
- THE TOP OF ALL SOLE PLATES SHALL BE BEVELED TO MATCH THE APPROXIMATE GRADE OF X.XX% FOR ABUTMENT "A" AND X.XX% FOR ABUTMENT "B". BEVELED WASHERS SHALL BE REQUIRED BENEATH THE NUTS FOR THE FIXED BEARINGS.
- FOLLOWING THE MANUFACTURE OF ELASTOMERIC BEARINGS AND VERIFICATION OF THE INTERNAL STEEL LAMINATES, THE PIN GROOVE OPENING SHALL BE COATED WITH AN APPROVED ASPHALTIC SEALER AND THE SPACE FILLED WITH SILICONE CAULKING.
- APPLY AN APPROVED SEALANT ALONG THE TRANSVERSE EDGES UP AND AROUND TO THE FILLET WELD TERMINATION ON THE SOLE PLATE. COST SHALL BE INCLUDED IN ITEM 548.21.
- BEARING HEIGHT SHOWN ON THE PLANS IS FOR THE NO-LOAD CONDITION. FOR COMPRESSIVE DEFLECTION DUE TO DEAD LOAD SEE THE FOLLOWING TABLE:

BEARING DESIGN LOADS AND DEFLECTION (SERVICE I LIMIT STATE - DESIGN METHOD A)					
	COMPRESSIVE LOAD (KIPS)				INITIAL TOTAL DL COMPRESSIVE DEFLECTION (IN)
	DC	DW	LL W/Ø IMPACT	TOTAL	
ABUTMENT A					
PIER 1					
PIER 2					
ABUTMENT B					

BORING NOTES

(PLACE THESE NOTES ON THE BORINGS LAYOUT SHEET)
(EDIT AS NOTED ON GEOTECHNICAL REPORT)

- BORINGS INDICATED THUS  WERE MADE BY THE NHDOT IN XXXX AND XXXX OF XXXX. FIGURES IN THE "BLOWS PER" COLUMN INDICATE THE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" STANDARD SPLIT SPOON SAMPLER 6", USING A 140 LB WEIGHT FALLING 30 INCHES.
- BORINGS ARE FOR DESIGN PURPOSES SHOWING CONDITIONS AT BORING POINTS ONLY, AND DO NOT NECESSARILY INDICATE MATERIAL TO BE ENCOUNTERED DURING CONSTRUCTION.
- THE GEOTECHNICAL REPORT IS AVAILABLE ONLINE IN THE BID PACKAGE ON THE INVITATION TO BID WEB PAGE DURING THE BIDDING PERIOD. AFTER THE CONTRACT HAS BEEN AWARDED THE REPORT IS AVAILABLE IN THE NHDOT BUREAU OF MATERIALS AND RESEARCH OFFICE.
- ROCK CORES WERE MADE USING A NX 2" I.D. CORE BARREL.
- WATER LEVELS INDICATED THUS  WERE MEASURED AT THE TIME OF EXPLORATION. THE WATER LEVELS ENCOUNTERED DURING CONSTRUCTION MAY VARY CONSIDERABLY DUE TO PREVAILING CLIMATE, RAINFALL, OR OTHER FACTORS.
- THE SURFACE ELEVATION ON EACH BORING LOG IS THE ELEVATION OF THE EXISTING GROUND AT THE TIME THE BORING WAS TAKEN.

(PLACE THIS CHART ON THE GENERAL PLAN)

HYDRAULIC DATA	
DRAINAGE AREA	XX SQ. MILES
DESIGN FLOOD DISCHARGE (XX YR)	XX CFS
DESIGN FLOOD ELEVATION (XX YR)	XX FEET
DESIGN FLOOD VELOCITY (XX YR)	XX FPS
SCOUR CHECK DISCHARGE (500 YR)	XX CFS
ANTICIPATED DEPTH OF SCOUR (100 YR)	XX FEET (XX LOCATION)
ANTICIPATED DEPTH OF SCOUR (500 YR)	XX FEET (XX LOCATION)
BRIDGE FULL WATERWAY OPENING ⊥ TO RIVER	XX SQ. FEET

FIXED STEEL BRIDGE SHOE NOTES

(PLACE THESE NOTES ON THE BEARING SHEET)

- FIXED SHOE ASSEMBLIES, INCLUDING ANCHOR RODS, SHALL BE PAID FOR UNDER ITEM 550.2, BRIDGE SHOES (F).
- ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- ALL STEEL PLATES (INCLUDING SHIMS) SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50) AND SHALL BE SHOP PAINTED DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550, EXCEPT STAINLESS STEEL PLATES SHALL BE ASTM A240 TYPE 304. SHIM PLATES SHALL BE PAINTED WITH PRIMER, GALVANIZED, OR STAINLESS STEEL.
- ANCHOR RODS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 AND 550.2.9 OF THE NHDOT STANDARD SPECIFICATIONS.
- BEARING SURFACES MARKED "f", OR SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 11.4.6.
- LEAVE A ¼" GAP BETWEEN THE SOLE PLATE AND BOTTOM NUT. DOUBLE NUT THE ANCHOR RODS.
- THE PREFORMED FABRIC PADS SHALL CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.

EXPANSION STEEL BRIDGE SHOE NOTES

(PLACE THESE NOTES ON THE BEARING SHEET)

- EXPANSION SHOE ASSEMBLIES, INCLUDING ANCHOR RODS, SHALL BE PAID AS ITEM 550.2, BRIDGE SHOES (F).
- ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
- ALL STEEL PLATES (INCLUDING SHIMS) SHALL CONFORM TO AASHTO M 270 GRADE 50 (ASTM A709 GRADE 50) AND SHALL BE SHOP PAINTED DARK BROWN COLOR (FED #20062) PER STANDARD SPECIFICATIONS SECTION 550, EXCEPT STAINLESS STEEL PLATES SHALL BE ASTM A240 TYPE 304. SHIM PLATES SHALL BE PAINTED WITH PRIMER, GALVANIZED, OR STAINLESS STEEL.
- ANCHOR RODS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 AND 550.2.9 OF THE NHDOT STANDARD SPECIFICATIONS.
- BEARING SURFACES MARKED "f", OR SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 11.4.6.
- PTFE (TEFLON) SHALL BE FABRICATED AS UNFILLED SHEET (½" MIN THICKNESS) IN ACCORDANCE WITH AASHTO LRFD DESIGN SPECIFICATIONS SECTION 14.7.2.
- THE PTFE SHALL CONFORM TO SECTION 550.2.10 OF THE NHDOT STANDARD SPECIFICATIONS. THE COEFFICIENT OF FRICTION BETWEEN THE PTFE AND STAINLESS STEEL SURFACES SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS SECTION 18.1.5.2.3. THE DESIGN COEFFICIENT OF FRICTION SHALL BE PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 14.7.2.5.
- THE PTFE SHALL BE BONDED TO THE STEEL BY AN EPOXY RESIN SATISFYING THE REQUIREMENTS OF AASHTO M 235M/M 235 (ASTM C881/C881M), FEP FILM, OR EQUAL, AS APPROVED BY THE ENGINEER.
- THE STAINLESS STEEL SURFACES IN CONTACT WITH THE TEFLON SHALL HAVE A #8 MIRROR FINISH.
- THE PREFORMED FABRIC PADS SHALL CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.

DESIGNER SHALL CONFIRM PAINT COLOR

REINFORCEMENT NOTES

- REINFORCEMENT IN THE FOOTINGS, APPROACH SLABS, AND FACE OF CONCRETE CURBS SHALL HAVE A 3" CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE 2½" CLEAR COVER, UNLESS OTHERWISE NOTED.
- PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES, PILES, AND EXPANSION JOINT STEEL.
- THE DECK REINFORCING LAYOUT SHOWN ON THE CONTRACT PLANS IS BASED ON AN ASSUMED EXPANSION JOINT DESIGN. DECK REINFORCEMENT MAY REQUIRE ADJUSTMENT IN THE FIELD DURING INSTALLATION BASED ON DETAILS SHOWN ON THE APPROVED EXPANSION JOINT SHOP DRAWINGS.
- REINFORCING IN THE TOP OF PIER AND ABUTMENT CAP BEAMS SHALL BE ADJUSTED TO CLEAR ANCHOR BOLTS.
- ANY EPOXY COATED REBARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2 OR 544.21.
- REINFORCING LEGEND: ALT = ALTERNATE BOT = BOTTOM BRG = BEARING
CLR = CLEAR DOW = DOWEL EQ = EQUAL
FS = FAR SIDE MAX = MAXIMUM MC = MECHANICAL CONNECTOR
MID = MIDDLE MIN = MINIMUM NS = NEAR SIDE
SECT = SECTION SP = SPACE SPL = SPLICE
SYM = SYMMETRICAL TYP = TYPICAL E = EPOXY COATED
SS = STAINLESS STEEL CPL = COUPLER

STAINLESS STEEL REINFORCEMENT NOTES

- REINFORCING BAR MARKS APPENDED WITH AN "SS", INDICATE STAINLESS STEEL BARS.
- STAINLESS STEEL REINFORCING SHALL NOT BE "HOT" BENT OR "HEAT STRAIGHTENED".
- DO NOT USE GRINDING TOOLS OR ABRASIVE CUT-OFF DISCS ON STAINLESS STEEL REINFORCING IF SUCH SUCH EQUIPMENT HAS BEEN PREVIOUSLY USED ON CARBON STEEL.
- STAINLESS STEEL REINFORCING SHALL BE SUPPORTED AND SPACED WITH PLASTIC CHAIRS AND SPACERS.
- TIE WIRE FOR STAINLESS STEEL REINFORCING SHALL BE STAINLESS STEEL WITH A LEVEL OF CORROSION RESISTANCE EQUIVALENT TO THE STAINLESS STEEL REINFORCEMENT.
- STAINLESS STEEL COUPLERS SHALL BE USED WHEN CONNECTING STAINLESS STEEL WITH A MECHANICAL CONNECTION.

SAMPLE NOTES

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN BRIDGE Training			BRIDGE NO.			STATE PROJECT 12345			
LOCATION									
SAMPLE PROJECT NOTES (3 OF 7)									BRIDGE SHEET
REVISIONS AFTER PROPOSAL			BY		DATE		BY		DATE
			DESIGNED		NHDOT 1/2015		XXX		XX/XX
			DRAWN		XXX		XX/XX		CHECKED
			QUANTITIES		XXX		XX/XX		CHECKED
			ISSUE DATE		1/2015		FEDERAL PROJECT NO.		SHEET NO.
			SUBDIRECTORY		.DGN LOCATOR		SHEET SCALE		REV. DATE
			SAMPLE PLANS		Notes		AS NOTED		4/26/24
							1		TOTAL SHEETS
									1

PRECAST BOX CULVERT, WINGWALL, AND FOUNDATION NOTES

- INSTALLATION OF THE PRECAST BOX CULVERT SHALL CONSIST OF UNITS TOTALING AN OUT-TO-OUT DIMENSION OF XXX'-XX" ALONG THE CENTERLINE OF THE CULVERT.
- ALL COSTS FOR FABRICATION, ERECTION/INSTALLATION OF THE BOX CULVERT AS WELL AS THE PRECAST HEADWALLS, WING FOOTINGS, AND WINGWALLS, SHALL BE INCLUDED IN ITEM 529.002, PRECAST CONCRETE BOX CULVERT (BRIDGE).
- THE DIMENSIONS AND GEOMETRIC LAYOUT OF THE STRUCTURE (LAYOUT DIMENSIONS, ELEVATIONS AND WORKING POINT COORDINATES) WERE DEVELOPED BASED ON THE PRECAST BOX CULVERT AND WINGWALL DIMENSIONS SHOWN IN THESE PLANS. IF THE DIMENSIONS OR GEOMETRY OF THE PRECAST BOX CULVERT OR THE PRECAST WINGWALLS ARE ALTERED BY THE FABRICATOR FROM WHAT IS SHOWN, THE FABRICATOR SHOULD ADJUST THE AFFECTED DIMENSIONS, ELEVATIONS, AND WORKING POINT COORDINATES ACCORDINGLY. ANY REQUIRED CHANGES TO THE DIMENSIONS OR GEOMETRIC LAYOUT ON THE PLANS SHALL BE SUBSIDIARY TO ITEM 529.002.
- JOINTS BETWEEN BOX CULVERT SECTIONS SHALL BE WATERTIGHT.
- FOR CULVERTS WITH 5 FT OR MORE OF COVER, BARRIER MEMBRANE, PEEL AND STICK (F) SHALL BE APPLIED IN A 2'-0" WIDE STRIP CENTERED ON ALL JOINTS IN THE TOP SLAB AND EXTEND 1 FT DOWN CULVERT SIDES. PROTECTION BOARD SHALL BE USED TO PROTECT THE MEMBRANE FROM DAMAGE. ALL COSTS SUBSIDIARY TO ITEM 529.002.
- FOR CULVERTS WITH LESS THAN OR EQUAL TO 5 FT OF COVER, BARRIER MEMBRANE, PEEL AND STICK (F) SHALL BE INSTALLED OVER THE ENTIRE TOP SURFACE OF THE BOX CULVERT AND SHALL EXTEND 1 FT DOWN CULVERT SIDES. PROTECTION BOARD SHALL BE USED TO PROTECT THE MEMBRANE FROM DAMAGE. ALL COSTS SUBSIDIARY TO ITEM 529.002.
- BARRIER MEMBRANE, PEEL AND STICK (F) SHALL BE PLACED IN A 1'-0" WIDE STRIP CENTERED ABOUT JOINTS BETWEEN THE BOX CULVERT AND HEADWALLS. PROTECTION BOARD SHALL BE USED TO PROTECT THE MEMBRANE FROM DAMAGE. ALL COSTS SUBSIDIARY TO ITEM 529.002.
- GALVANIZED STEEL ANGLES AND BOLTS AS SHOWN IN THE BOX CULVERT JOINT DETAIL (BRIDGE SHEET XX) SHALL BE UTILIZED TO DRAW CULVERT SECTIONS TOGETHER. THESE HARDWARE ASSEMBLIES SHALL BE ATTACHED TO THE OUTSIDE SURFACES OF THE CULVERT SECTIONS AND SHALL BE LEFT IN PLACE. FERRULE LOOP INSERTS FOR ATTACHMENT SHALL BE PROVIDED IN THE CULVERT SECTIONS. ALL COST FOR ASSEMBLY SHALL BE INCLUDED IN ITEM 529.002.
- ALL EXPOSED CONCRETE SURFACES OF THE PRECAST CONCRETE BOX CULVERT, HEADWALLS, AND WINGWALLS, EXCEPT INSIDE SURFACES OF THE BOX CULVERT SECTIONS, SHALL BE COATED WITH WATER REPELLENT (SILANE-SILOXANE) TO 1'-0" BELOW FILL LINES. ALL COSTS SUBSIDIARY TO ITEM 529.002.
- REMOVE X'-X" (MIN) OF EXISTING CULVERT CONCRETE BY SAW CUTTING A 1" DEEP LINE TO PROVIDE CLEAN REMOVAL LINES. THE EXISTING REINFORCEMENT IS TO REMAIN. ALL COST SHALL BE INCLUDED IN ITEM 504.2, ROCK BRIDGE EXCAVATION. MECHANICAL CONNECTORS SHALL BE PROVIDED IN THE PRECAST UNIT AND STEEL REINFORCING SHALL BE MADE CONTINUOUS FROM THE CAST-IN-PLACE BOX CULVERT TO THE PRECAST UNITS. FORMS FOR THE TRANSITION POUR MUST PROVIDE A SMOOTH INTERIOR TRANSITION FROM THE EXISTING CAST-IN-PLACE CULVERT TO THE NEW PRECAST UNITS. THE CONCRETE AND ALL COSTS FOR FORMING THE TRANSITION SHALL BE PAID FOR UNDER CONCRETE CLASS B, FOOTING (ON SOIL) (F), ITEM 520.213.
- ALL EXCAVATION FOR THE PROPOSED BOX CULVERT WILL BE PAID FOR UNDER THE PROVISIONS OF SECTION 504, BRIDGE EXCAVATION.
- CONSTRUCT THE BOX CULVERT AND WING FOOTINGS ON STRUCTURAL FILL, ITEM 508. (MINIMUM X'-X" BELOW BOX CULVERT AND WING FOOTINGS. PLACEMENT OF STRUCTURAL FILL SHALL BE COMPLETED IN THE DRY.
- PROTRUDING BOULDERS OR COBBLES ENCOUNTERED AT THE FINAL EXCAVATION DEPTH SHALL BE REMOVED OR SPLIT TO PROVIDE A LEVEL BEARING SURFACE.
- EXCAVATION FOR THE BOX CULVERT, TOE WALLS, AND WING FOOTINGS SHALL BE COMPLETED IN THE DRY.
- CONTROL OF WATER WITHIN CULVERT AND WINGWALL EXCAVATION SHALL BE CONDUCTED IN ACCORDANCE WITH 503 AND PAID UNDER ITEM 503.20X. PUMPING AREAS SHALL BE LOCATED OUTSIDE THE FOOTING SUPPORT LIMITS AND PROPERLY FILTERED TO PREVENT THE PUMPING OF FINES.
- ANY FOUNDATION MATERIALS WEAKENED AS A RESULT OF INSUFFICIENT CARE TAKEN IN MAINTAINING A DEWATERED CONDITION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL AT THE EXPENSE OF THE CONTRACTOR.

PRESTRESSED BOX BEAM NOTES

- THE CONCRETE COMPRESSIVE STRENGTH OF THE PRECAST BOX BEAM UNITS SHALL BE X,XXX PSI AT RELEASE AND X,XXX PSI AT 28 DAYS.
- PRESTRESSING STRANDS SHALL BE 0.6" DIA UNCOATED SEVEN-WIRE STRAND CONFORMING TO AASHTO M 203 (ASTM A416) GRADE 270 LOW RELAXATION. ALL STRANDS SHALL BE PRE-TENSIONED TO 44 KIPS PER STRAND (75% INITIAL PULL).
- POST-TENSIONING STRANDS SHALL BE 0.6" DIA SEVEN-WIRE STRAND CONFORMING TO AASHTO M 203 (ASTM A416) GRADE 270 LOW RELAXATION. POST-TENSIONING STRANDS SHALL BE COMPLETELY COATED WITH A CORROSION PREVENTATIVE COATING SUCH AS FLO-GARD, AS MANUFACTURED BY INSTEEL INDUSTRIES, INC., SANDERSON, FL., OR POLYSTRAND, AS MANUFACTURED BY LANG TENDONS, INC., TOUGHKENAMOM, PA., OR AN APPROVED EQUAL. IF THE FLO-GARD COATING SYSTEM IS SUPPLIED, GROUT SHALL BE EXCLUDED FROM THE LATERAL POST-TENSIONING DUCTS DURING GROUTING OF SHEAR KEYS BETWEEN THE BEAMS. THE CONTRACTOR'S PROPOSED METHOD FOR EXCLUDING GROUT FROM THE POST-TENSIONED DUCTS SHALL BE SUBMITTED WITH THE SHOP DRAWINGS. THE POST-TENSIONED ANCHORAGE SYSTEM SHALL BE MONO-STRAND CORROSION PROTECTION SYSTEM AS MANUFACTURED BY HAYES INDUSTRIES, INC., HOUSTON, TX., OR APPROVED EQUAL.
- TRANSVERSE POST-TENSIONING OF THE PRECAST BOX BEAMS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 528 OF THE NHDOT STANDARD SPECIFICATIONS.
- ALL REINFORCING STEEL FOR THE SUPERSTRUCTURE SHALL CONFORM TO AASHTO M 31 (ASTM A615) GRADE 60 AND SHALL BE EPOXY COATED.
- THE PRECAST BOX BEAM REINFORCING STEEL SHALL HAVE A MINIMUM CLEAR COVER OF 1¼" UNLESS OTHERWISE NOTED.
- THE COST OF PRE-STRESSING STRANDS, POST-TENSIONING STRANDS AND ANCHORAGES, AND REINFORCING STEEL CAST INTO THE PRECAST BOX BEAM UNITS SHALL BE PAID UNDER ITEM 528.32XX. ALL OTHER STEEL IN THE SUPERSTRUCTURE SHALL BE INCLUDED IN 544.2.
- LIFTING DEVICES SHALL BE WITHIN 24 INCHES OF EACH END OF THE PRECAST BOX BEAM UNITS. COST SHALL BE INCLUDED IN ITEM 528.32XX.
- 1" DIA DRAINS SHALL BE PROVIDED AT THE LOW END OF ALL BOX BEAM VOIDS.
- THE BOX BEAM SHEAR KEYS SHALL BE BLAST CLEANED PRIOR TO SHIPPING.
- THE TOP SURFACE OF BOX BEAMS SHALL BE RAKED TRANSVERSELY TO A ¼" AMPLITUDE.
- DRILLING INTO BOX BEAMS SHALL NOT BE ALLOWED.
- DIFFERENTIAL CAMBER (AT ERECTION) BETWEEN ADJACENT MEMBERS SHALL BE LIMITED TO 1 INCH. VALUES FOR MID-SPAN CAMBER AT TRANSFER SHALL BE DETAILED ON THE SHOP DRAWINGS.
- PROVIDE INSERTS TO SUPPORT THE CONTRACTOR'S OVERHANG BRACKETS IN THE TOP SLAB ON EXTERIOR UNITS AT THE SPACING REQUESTED BY THE GENERAL CONTRACTOR. INSERTS SHALL BE SHOWN ON THE SHOP DRAWINGS. ALL COSTS SHALL BE INCLUDED IN ITEM 528.32XX.
- CLOSED CELL EXPANSION MATERIAL SHALL BE SUBSIDIARY TO ITEM 520.XX AS SHOWN ON THE PLANS AND A PRODUCT LISTED ON THE QPL SECTION 559 E.
- CAMBER GROWTH OF BOX BEAMS SHALL BE MONITORED AND CONTROLLED IN ACCORDANCE WITH THE SPECIAL PROVISION. CAMBER GROWTH MONITORING AND CONTROLLING PROCEDURES SHALL BE INCLUDED ON THE SHOP DRAWINGS FOR REVIEW AND APPROVAL.

PRESTRESSED NEBT GIRDER NOTES

- PRESTRESSING STRANDS SHALL BE UNCOATED 0.6" DIAMETER SEVEN WIRE STRAND, CONFORMING TO AASHTO M 203 (ASTM A416), GRADE 270 LOW RELAXATION. INITIAL PRESTRESSING FORCE EQUAL TO 44 KIPS PER STRAND.
- MINIMUM CONCRETE STRENGTH AT RELEASE IS X,XXX PSI, AT 28 DAYS IS X,XXX PSI.
- REINFORCING STEEL, SLEEVES, THREADED INSERTS, STEEL STRANDS, SOLE PLATES, AND SHEAR CONNECTORS USED IN PRESTRESSED GIRDERS SHALL BE INCLUDED IN ITEM 528.11XXX, PRESTRESSED CONCRETE GIRDERS NEBT XXXX (F).
- THE GIRDER HANDLING AND ERECTION PLAN SHALL BE SUBMITTED FOR DOCUMENTATION IN ACCORDANCE WITH 105.02.
- PRESTRESSED CONCRETE GIRDERS SHALL NOT BE ERECTED UNTIL THE ABUTMENTS HAVE BEEN BACKFILLED TO THE LEVEL OF THE BEAM SEATS.
- DRILLING OF HOLES IN THE PRESTRESSED GIRDERS AND THE USE OF POWER ACTUATED TOOLS ON THE GIRDERS WILL NOT BE PERMITTED.
- SCREED RAIL SUPPORTS REQUIRED FOR THE PLACEMENT OF THE DECK SHALL BE LOCATED AT THE CENTERLINE OF THE GIRDERS.
- TEMPORARY BRACING SHALL BE PROVIDED TO STABILIZE GIRDERS UNTIL DIAPHRAGMS ARE IN PLACE.
- THREADED INSERTS FOR THE CONCRETE DIAPHRAGMS SHALL BE CAPABLE OF WITHSTANDING A 25 KIP PULL (ULTIMATE LOAD). INSERTS SHALL BE SUPPLIED WITH COMPATIBLE THREADED PLUGS.
- ALL STRAND ENDS SHALL BE RECESSED AND PATCHED. THE RECESS SHALL BE 1½" SQUARE AND ¾" DEEP. THE PROJECTING STRAND SHALL BE BURNED OUT AND THE RECESS CLEANED PRIOR TO PATCHING WITH AN APPROVED MATERIAL. THE ENTIRE END CROSS-SECTION OF THE GIRDER SHALL THEN BE COATED WITH AN APPROVED BITUMASTIC MATERIAL. ALL COSTS ARE TO BE INCLUDED IN ITEM 528.11XXX.
- ALL REINFORCING STEEL IN THE GIRDERS SHALL BE EPOXY COATED AND CONFORM TO SECTION 544.2.
- THE TOP SURFACE OF THE UPPER FLANGE OF THE PRECAST GIRDERS SHALL BE RAKED (PERPENDICULAR TO THE CENTERLINE) TO A SURFACE ROUGHNESS OF ¼"±, EXCEPT THE FLATTENED AREAS OF 4"x 4" SHALL BE PROVIDED AT THE CENTERLINE OF BEARINGS AND TENTH POINTS TO FACILITATE TAKING ELEVATIONS FOR MEASURING CAMBER AND DEFLECTION. THESE AREAS SHALL BE STEEL TROWEL FINISHED.
- THREADED INSERTS FOR THE UTILITY SUPPORTS SHALL ACCOMMODATE A ¾" ASTM A325 BOLT AND SHALL HAVE A MINIMUM ALLOWABLE SHEAR CAPACITY OF 4 KIPS.
- THE ENDS OF THE GIRDERS SHALL BE VERTICAL WITHIN ¼"± UNDER FULL DEAD LOAD AND GRADE.
- FABRICATION SCHEDULES SHALL BE SUBMITTED TO THE BUREAU OF MATERIALS AND RESEARCH 60 DAYS IN ADVANCE OF THE START OF FABRICATION TO ALLOW INSPECTION OF THE PLANT AND PROCEDURES AS REQUIRED BY THE NHDOT SPECIFICATIONS.

TIE-BACK WALL DESIGN AND MATERIALS NOTES

- DESIGN METHOD:
LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
- SPECIFICATION:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th ED, AS AMENDED
NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED
- DESIGN CRITERIA:
EXISTING SLOPE (FILL SIDE) = XX°
EXISTING SLOPE (DREDGE SIDE) = -XX° (DOWNHILL)
ANGLE OF REPOSE (FILL SIDE) = XX°
ANGLE OF REPOSE (DREDGE SIDE) = XX°
FRICTION ANGLE OF INTERFACE MATERIALS = XX°
UNIT WEIGHT OF SOIL = 120 PCF
MINIMUM BOND LENGTH = XX FT
DESIGN LOAD = XX KIPS
LOCK OFF LOAD IS 90% OF DESIGN LOAD
TEST LOAD IS 150% OF DESIGN LOAD
SOIL TO GROUT MINIMUM ULTIMATE BOND STRENGTH = XX LBS/FT
SOIL TO GROUT FACTOR OF SAFETY = X.X
SOIL TO GROUT MINIMUM ALLOWABLE BOND STRENGTH = XX LBS/FT
- STRUCTURAL STEEL:
SHEET PILE
REGULAR CARBON STEEL, fy OF 38,500 psi x 0.65 = fs OF 25,000 psi
WHALER
fy OF 50,000 psi x 0.60 = fs OF 30,000 psi
THREADED BAR
fu OF 75,000 psi x 0.50 = fs OF 37,500 psi
- TIE-BACK ANCHORS:
SHEET PILE WALL
ASTM A722, GRADE 150 HIGH STRENGTH STEEL BARS (1.25" DIA)
DESIGN LOAD = 75 KIPS

TIE-BACK WALL NOTES

- A MINIMUM OF THREE PERFORMANCE TESTS FOR THE TIE-BACK ANCHORS WILL BE REQUIRED FOR EACH PHASE AND EACH ABUTMENT LOCATION. ALL COSTS SHALL BE INCLUDED IN ITEM 545.1.
- CORROSION PROTECTION SHALL BE PROVIDED FOR ALL TIE-BACKS. MINIMUM REQUIREMENTS OF THE PROPOSED DOUBLE CORROSION PROTECTION SYSTEM ARE SHOWN ON BRIDGE SHEET XX. FINAL DETAILS OF THE DOUBLE CORROSION PROTECTION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ALL COSTS SHALL BE INCLUDED IN ITEMS 545.1 AND 545.2.
- ALL COSTS FOR TIE-BACK ANCHORS, GROUTING, STRESSING AND TESTING, WHALERS, PIPE SLEEVES, ANCHOR PLATES, BEVELED PLATES, AND ALL ASSOCIATED HARDWARE SHALL BE INCLUDED IN ITEMS 545.1 AND 545.2 AS APPROPRIATE.
- ALL HARDWARE FOR THE TIE-BACK ANCHORS SHALL BE EPOXY COATED.
- SEE SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL DESIGN THE BOND LENGTH AND HOLE DIAMETER IN ACCORDANCE WITH THE MINIMUM HOLE DIAMETER AND PERFORMANCE/PROOF TEST REQUIREMENTS. THE MINIMUM BOND LENGTH SHALL BE XX FEET.
- ANCHOR DETAILS (E.G., BAR DIAMETER, STRESSING LENGTH, BOND LENGTH, ETC) SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. ALL COSTS INCLUDED IN ITEMS 545.1 AND 545.2.

SAMPLE NOTES

STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN BRIDGE Training			BRIDGE NO.			STATE PROJECT 12345				
LOCATION										
SAMPLE PROJECT NOTES (4 OF 7)									BRIDGE SHEET	
REVISIONS AFTER PROPOSAL			BY		DATE		BY		DATE	XX OF
			DESIGNED		1/2015		CHECKED		xxx	xx/xx
			DRAWN		xxx		CHECKED		xxx	xx/xx
			QUANTITIES		xxx		CHECKED		xxx	xx/xx
			ISSUE DATE		1/2015		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
			REV. DATE		9/18/23				1	1

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
SAMPLE PLANS	notes1	AS NOTED

MSE WALL NOTES

- ALL COSTS ASSOCIATED WITH THE DESIGN, FABRICATION, AND CONSTRUCTION OF MSE WALLS INCLUDING CAST-IN-PLACE LEVELING PADS, PRECAST CONCRETE WALL PANELS, TENSILE REINFORCEMENT, CAST-IN-PLACE AND PRECAST COPINGS, AND ALL OTHER APPURTENANCES SHALL BE INCLUDED IN ITEM 592.1, MECHANICALLY STABILIZED EARTH RETAINING WALL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INTERNAL STABILITY OF THE SELECTED MSE WALL SYSTEM AND SHALL SUBMIT STAMPED WORKING PLANS AND CALCULATIONS FOR APPROVAL IN ACCORDANCE WITH SECTION 105.02. ALL PLANS AND CALCULATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF NEW HAMPSHIRE.
- DIMENSIONS FOR REINFORCED SOIL ZONE SHOWN ON THE PLANS ARE MINIMUM DIMENSIONS. THE ACTUAL SIZE OF THE REINFORCED SOIL ZONE FOR ALL MECHANICALLY STABILIZED EARTH WALLS (ABUTMENTS AND WINWALLS) SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 592. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CHANGES FOR ALL COMPONENTS AND DIMENSIONS TO FIT THE DESIGN.
- THE CONTRACTOR MAY PROPOSE MODIFICATIONS TO THE BEARING ELEVATIONS SHOWN AT THE TOP OF LEVELING PADS. ADJUSTED ELEVATIONS SHALL NOT BE HIGHER THAN ELEVATIONS GIVEN IN THE PLANS AND SHALL MEET THE MINIMUM REQUIREMENTS AS DETAILED ON THE CONTRACT DRAWINGS. STEP ANGLES SHALL BE NO STEEPER THAN 2H:1V AND STEP LENGTHS SHALL HAVE A MINIMUM DIMENSION OF 5 FEET. ALL MODIFICATIONS SHALL BE INCLUDED IN THE SUBMITTAL OF PLANS AND CALCULATIONS.
- EXPOSED MSE WALL PANELS SHALL BE CAST WITH A CUT ASHLAR STONE PATTERN FORM LINER PATTERN NO. 1515 SC ASHLAR MANUFACTURED BY SPEC FORMLINERS, INC. OR APPROVED EQUAL. THE COST OF THE FORM LINER SHALL BE SUBSIDIARY TO ITEM 592.1, MECHANICALLY STABILIZED EARTH RETAINING WALL.
- FORM LINER FINISH SHALL EXTEND TO A MINIMUM OF 1'-0" BELOW THE PROPOSED GRADE AT FACE OF WALL.
- IMPERVIOUS MEMBRANE SHALL BE PROVIDED WITHIN THE REINFORCED SOIL ZONE AND COVERED WITH GEOTEXTILE NON-WOVEN, EXTENDED BEYOND THE LIMITS OF TENSILE REINFORCEMENT, AS OUTLINED IN THE PLANS. PRIOR TO PLACING THE IMPERVIOUS MEMBRANE, THE SUBGRADE SHALL BE GRADED TO A SMOOTH SLOPE WITH NO IRREGULARITIES OR STONE PROTRUSIONS. GEOTEXTILE AND IMPERVIOUS MEMBRANE SHALL BE LOCATED A MINIMUM OF 6" BELOW BOTTOM OF BEAM GUARDRAIL POSTS TO AVOID DAMAGE DURING INSTALLATION OF THE POSTS. LIMITS OF IMPERVIOUS MEMBRANE AND GEOTEXTILE SHALL EXTEND 5'-0" BEYOND THE ENDS OF THE MSE WALL.
- ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), SHALL BE APPLIED TO THE ENTIRE COPING AND ALL EXPOSED MSE WALL SURFACES EXCEPT AS NOTED, TO 1'-0" BELOW PROPOSED GROUND.
- QUANTITY ESTIMATES ARE BASED ON L=XH OR 8'-0", WHICHEVER IS GREATER, FOR MSE BREAST WALLS AND L=XH OR 8'-0", WHICHEVER IS GREATER, FOR MSE WINGWALLS WITH SLOPING BACKFILL.
- THE CONTRACTOR SHALL FILL ALL LIFTING DEVICE RECESSES IN THE PRECAST COPING WITH NON-SHRINK GROUT AFTER INSTALLATION. ALL COSTS SUBSIDIARY TO ITEM 592.1.
- CONCRETE FOR THE CAST-IN-PLACE COPING SHALL CONFORM TO SECTION 520, CONCRETE CLASS AA. ALL COSTS FOR THE COPING, INCLUDING REINFORCING, ARE SUBSIDIARY TO ITEM 592.1.
- LEVELING PAD CONCRETE SHALL CONFORM TO SECTION 520, CLASS B.
- FULL-HEIGHT PORTIONS OF MSE WALL AND WINGWALLS WITH A LEVELING PAD AT OR BELOW EL XXX.XX SHALL HAVE A 1'-0" THICK LAYER OF ITEM 508. BEHIND THE REINFORCED SOIL ZONE. THE 1'-0" THICK LAYER OF STRUCTURAL FILL FOR WINGWALLS WITH A LEVELING PAD ABOVE EL XXX.XX SHALL EXTEND TWO FEET MINIMUM BEYOND EDGES OF THE PAD.
- REINFORCING STRAPS SHALL BE ADJUSTED AS REQUIRED TO MAINTAIN A 3" MINIMUM CLEARANCE FROM STEEL PILES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS WHEN LAYING OUT THE MSE SOIL REINFORCING STRAPS TO PREVENT CONFLICTS WITH APPROACH AND BEAM GUARDRAIL POSTS AND DRAINAGE STRUCTURES.
- THE CONTRACTOR MAY SUBSTITUTE A PRECAST WALL CAP FOR THE CAST-IN-PLACE CAP SHOWN IN THE PLANS. THE TOP OF THE CAP SHALL FOLLOW A SMOOTH PROFILE. NO STEPS SHALL BE ALLOWED. EXPANSION JOINTS IN THE WALL CAP SHALL BE PROVIDED AS SHOWN ON BRIDGE SHEET XX. ALL DETAILS FOR THIS SUBSTITUTION SHALL BE INCLUDED IN SHOP DRAWINGS FOR THE MSE WALL.
- TO AVOID INTERFERENCE BETWEEN REINFORCEMENT ELEMENTS AND COLUMNS AT ABUTMENT X, REINFORCEMENT ELEMENTS SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO LRFD SECTION 11.10.10.4. REINFORCEMENT ELEMENTS MAY BE SPLAYED AT A HORIZONTAL ANGLE UP TO BUT NOT GREATER THAN 15 DEGREES FROM PERPENDICULAR TO THE BACKFACE OF THE MSE WALL PANEL.
- FOR MSE WALL DETAILS, SEE BRIDGE SHEET XX.
- THERE IS POTENTIAL FOR CONFLICTS BETWEEN THE REINFORCING STRAPS AND THE BURIED APPROACH SLABS, PARTICULARLY AT THE XX WINGWALL. THE TOP ROW OF REINFORCING STRAPS SHALL BE LOCATED NO HIGHER THAN 6" BELOW THE BOTTOM OF APPROACH SLABS. SEE SPECIAL PROVISION 592 FOR ADDITIONAL INFORMATION.
- PRECAST WALL COPING SHALL BE ANCHORED AS NECESSARY TO PREVENT SLIDING ALONG TOP OF WALL AFTER INSTALLATION. ANCHOR DETAILS SHALL BE DETERMINED BY MSE FABRICATOR. ALL ANCHORS AND HARDWARE SHALL BE GALVANIZED AND ANY RECESS FILLED WITH NON-SHRINK GROUT AFTER INSTALLATION. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 592.1.
- MSE WALL LAYOUT DIMENSIONS ASSUME 5½" WALL PANELS EXCLUDING 2" ALLOWANCE FOR RUSTIFICATION.

UTILITY NOTES

- ALL NECESSARY MATERIAL INCLUDING CONDUIT, HANGER SYSTEMS, COUPLINGS, PULL WIRES, EXPANSION COUPLINGS, AND END CAPS FOR THE ITS CONDUITS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. PAY LIMITS FOR STEEL CONDUIT SHALL BE FROM PULL-BOX TO PULL-BOX INCLUDING THE PORTIONS ACROSS THE BRIDGE AND ANY SWEEPS OR BENDS REQUIRED BETWEEN THE PULL-BOXES AND THE BRIDGES. ALL COSTS SHALL BE INCLUDED IN ITEM 614.XXXXX.
- EXPANSION COUPLINGS CAPABLE OF XX" TOTAL LONGITUDINAL MOVEMENT SHALL BE PROVIDED AT EACH ABUTMENT FOR ITS CONDUITS. COSTS SHALL BE INCLUDED IN ITEM 614.XXXXX.

MSE WALL GEOTECHNICAL NOTES

*(USE NOTES GIVEN BY GEOTECHNICAL ENGINEER)
(BELOW ARE SAMPLES OF POSSIBLE MSE WALL NOTES)*

- A MAXIMUM ULTIMATE BEARING PRESSURE OF X.X TONS PER SQUARE FOOT (TSF) IS RECOMMENDED FOR THE MSE WALL SUPPORTED ON GLACIAL OUTWASH IN CONJUNCTION WITH A SAFETY FACTOR OF X.X FOR THE NON-SEISMIC CASE AND X.X FOR THE SEISMIC CASE. THE BEARING PRESSURE INFORMATION IS INCLUDED IN THE 592.1 SPECIAL PROVISION.
- THE MSE WALL CAN BE STEPPED TO ACCOMMODATE THE SLOPING GROUND SURFACE IN FRONT OF THE WALL. FOR THE PRECAST PANEL FACINGS, VERTICAL STEP HEIGHTS IN INCREMENTS OF 2.5 FEET AND STEP WIDTHS IN INCREMENTS OF 5 FEET ARE RECOMMENDED IN ORDER TO BETTER ACCOMMODATE THE MORE STANDARD MSE PANEL DIMENSIONS. THE SEGMENTAL BLOCK FACINGS CAN BE STEPPED AT MORE FREQUENT VERTICAL AND HORIZONTAL INTERVALS, DUE TO THE SMALL BLOCK DIMENSIONS.
- THE DESIGN LIFE OF THE MSE STRUCTURE BASED ON CORROSION SHALL BE 125 YEARS FOR ALL INEXTENSIBLE TENSILE REINFORCEMENT LOCATED ABOVE THE IMPERVIOUS MEMBRANE, AND 100 YEARS FOR ALL INEXTENSIBLE TENSILE REINFORCEMENT LOCATED BELOW THE IMPERVIOUS MEMBRANE.
- THE MSE DESIGN SHOULD BE BASED ON A FRICTION ANGLE OF 34 DEGREES AND A SOIL UNIT WEIGHT OF 125 POUNDS PER CUBIC FOOT FOR THE REINFORCED SOIL, AND A FRICTION ANGLE OF 34 DEGREES AND A SOIL UNIT WEIGHT OF 120 POUNDS PER CUBIC FOOT FOR THE RETAINED SOIL.
- THE SLIDING RESISTANCE OF THE MSE WALL SHOULD BE BASED ON A COEFFICIENT OF SLIDING EQUAL TO 0.XX (TAN XX DEGREES) BETWEEN THE MSE WALL AND THE UNDERLYING MATERIALS.
- EMBANKMENT FILL SLOPES - THE PROPOSED 1.5H:1V EMBANKMENT SLOPES SHOULD BE STABILIZED WITH A MINIMUM OF 2 FEET OF CLASS B STONE FILL (ITEM 585.2). IF A VEGETATED SURFACE IS DESIRED, THEN THE SURFACE OF THE STONE FILL SHOULD BE CHINKED IN ACCORDANCE WITH SECTION 585.3.1 SUCH THAT THE OVERLYING HUMUS DOES NOT INFILTRATE AND POTENTIALLY REDUCE THE FREE DRAINING CAPABILITY OF THE STONE FILL. ALL MATERIALS AND WORK FOR CHINKING THE STONE FILL IS SUBSIDIARY TO THE 585 ITEM. THE PLAN QUANTITY OF THE RESPECTIVE STONE FILL ITEM SHOULD BE USED AS THE BASIS OF PAYMENT. THE DESIGN THICKNESS OF HUMUS SHOULD BE BASED ON THE THICKNESS THAT IS CONSIDERED NECESSARY TO REASONABLY ESTABLISH GROUND ABOVE THE CHINKED STONE FILL (I.E., 6 INCHES, OR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER). THE HUMUS QUANTITY ESTIMATE SHOULD NOT BE INCREASED BEYOND THE DESIGN THICKNESS QUANTITY TO ACCOUNT FOR ANY HUMUS THAT IS PLACED WITHIN THE STONE FILL MASS. THE PLAN QUANTITY OF HUMUS SHOULD BE THE BASIS OF PAYMENT DURING THE CONSTRUCTION PHASE.

FINGER EXPANSION JOINT NOTES

(PLACE THESE NOTES ON THE EXPANSION JOINT SHEET)

- EXPANSION JOINT STEEL SHALL BE AASHTO M 223 (ASTM A572) GR 50. MINOR STEEL PLATES MAY CONFORM TO AASHTO M183 (ASTM A36). ALL STEEL SHALL BE GALVANIZED. THE ENTIRE ASSEMBLY SHALL BE PAID AS ITEM 561.30XX, PREFABRICATED EXPANSION JOINT, FINGER JOINT (F).
- BOLTS IN THE CURBS OR SIDEWALKS SHALL BE STAINLESS STEEL COUNTERSUNK HEAD BOLTS WITH SOCKET HEADS AND SHALL CONFORM TO ASTM A276, TYPE 304. BOLTS IN THE ROADWAY SHALL BE GALVANIZED HIGH-STRENGTH BOLTS AND SHALL CONFORM TO ASTM A325. ANCHOR RODS SHALL BE GALVANIZED AND CONFORM TO ASTM A307.
- SPLICES FOR EXPANSION JOINT STEEL SHALL DEVELOP FULL STRENGTH.
- THE EXPANSION JOINT SHALL BE PRESET TO THE TEMPERATURE ANTICIPATED AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR (SEE TEMPERATURE ADJUSTMENT TABLE). THE MAXIMUM FACTORED MOVEMENT IS XX INCHES.
- PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
- JOINT SUPPORT AND CURB PLATES SHALL BE SHOP WELDED TO THE EXPANSION JOINT STEEL AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS SLOPE AND PROFILE GRADE.
- IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES. WELDING OF SHIPPING DEVICES TO THE FINGER PLATE SHALL NOT BE ALLOWED.
- THE FINGER PLATES SHALL BE CUT FROM ONE CONTINUOUS X'-X" WIDE x 2¼" THICK PLATE AS SHOWN ON THE FINGER CUTTING DETAIL AND FURNISHED IN X DIFFERENT LENGTHS.
- THE HOPPERS AND DOWNSPOUTS SHALL BE A36 STEEL AND GALVANIZED IN ACCORDANCE WITH SECTION 550. PAYMENT FOR HOPPERS, DOWNSPOUTS, BLOCKING PADS, AND ATTACHMENTS WILL BE SUBSIDIARY TO ITEM 561.30XX.
- ELEVATIONS SHOWN AT THE TOP OF FINGER PLATES ARE ¾" LOWER THAN THE PROPOSED FINISHED ROADWAY GRADE.
- THE FABRIC TROUGH SHALL BE 3-PLY PREFORMED FABRIC MATERIAL AND SHALL BE CUT DURING SHOP PRE-ASSEMBLY AS REQUIRED TO CONFORM TO THE ROADWAY CROSS SLOPE AND GRADE. PLACEMENT OF THE TROUGH MAY BE SUPPLIED IN X LENGTHS WITH 1'-0" OVERLAP AS REQUIRED. SEE BRIDGE SHEET XX FOR FABRIC TROUGH SPLICE DETAIL.
- FASCIA AND CURB PLATES SHALL BE SHOP WELDED AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
- THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER THE APPROACH FILLS HAVE BEEN CONSTRUCTED TO THE BOTTOM OF THE APPROACH SLAB.
- RUBBER BLOCKS USED BETWEEN ABUTMENT CONCRETE AND DOWNSPOUTS SHALL BE MOLDED TO A THICKNESS OF X" AND CUT BY THE FABRICATOR TO LENGTHS AND WIDTHS SPECIFIED IN THE PLANS. RUBBER BLOCKS SHALL BE OZONE, WATER, AND TEMPERATURE RESISTANT AND BONDED TO THE FACE OF ABUTMENT CONCRETE WITH A COMPATIBLE ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- AFTER BOLT INSTALLATION, FILL COUNTERSUNK HOLES WITH ITEM 561.1, SILICONE JOINT SEALANT (F) (APPROX 1 LF/HOLE).
- SEE BRIDGE SHEET XX FOR HOPPER DETAILS.

MODULAR EXPANSION JOINT NOTES

(PLACE THESE NOTES ON THE EXPANSION JOINT SHEET)

- THE MODULAR JOINT SHOWN IS REPRESENTATIVE OF THE TYPE OF EXPANSION JOINT ACCEPTABLE FOR USE. THE EXACT JOINT CONFIGURATION WILL DEPEND UPON THE MANUFACTURER'S DETAILS. SHOP DRAWINGS OF MODULAR EXPANSION JOINT SYSTEM INCLUDING BARRIER/CURB DETAILS, PLACEMENT DETAILS, AND SHIPPING DEVICES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE ENTIRE ASSEMBLY AT EACH ABUTMENT, INCLUDING ELASTOMERIC SEALS, SHALL BE PAID AS ITEM 561.200X, PREFABRICATED MODULAR BRIDGE JOINT SYSTEM (F).
- EXPANSION JOINT STEEL, INCLUDING THE DECK AND ABUTMENT SUPPORT PLATES, SHALL BE AASHTO M 223 (ASTM A572) GRADE 50. MINOR STEEL PLATES AND EXTRUSIONS MAY CONFORM TO AASHTO M 183 (ASTM A36). ALL STEEL SHALL BE GALVANIZED.
- SPLICES FOR EXPANSION JOINT STEEL SHALL DEVELOP FULL STRENGTH.
- ELASTOMERIC SEALS SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH AT EACH JOINT. NO SPLICES WILL BE ALLOWED.
- THE EXPANSION JOINT MANUFACTURER SHALL INCLUDE A TEMPERATURE SETTING TABLE FOR EACH EXPANSION JOINT LOCATION ON THE SHOP DRAWINGS.
- MINIMUM INSTALLATION WIDTH "T" = XX" AT 60°F. ADJUSTMENT IN OPENING FOR A 15°F CHANGE IN TEMPERATURE = XX".
- THE MODULAR BRIDGE JOINT SYSTEM HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF XX". THE CONTRACTOR SHALL USE MODULAR BRIDGE JOINT SYSTEM STM SERIES BY WATSON BOWMAN ACME OR D SERIES BY D.S. BROWN. THIS DESIGN INCLUDES MOVEMENT DUE TO SKEW, TEMPERATURE, AND MINIMUM INSTALLATION.
- JOINT SUPPORT PLATES AND HARDWARE SHALL BE SHOP WELDED TO THE EXPANSION JOINT STEEL AND SHALL BE DETAILED TO ALLOW FOR ALL NECESSARY ADJUSTMENTS TO ACCOMMODATE ROADWAY CROSS SLOPE, GRADE, AND TEMPERATURE SETTINGS.
- SUPPORT BOXES AND BARS SHALL BE DESIGNED BY THE MANUFACTURER UTILIZING MULTIPLE SUPPORT BAR SYSTEMS AND FULL-PENETRATION WELDED CONNECTION BETWEEN THE CENTER BEAMS AND SUPPORT BARS. NO SINGLE-SUPPORT BAR WITH YOKE (STIRRUP) WILL BE ALLOWED. TYPE, SIZE, AND LOCATION SHALL BE DETERMINED BY THE MANUFACTURER.
- STIFFENER PLATES, STUDS, AND ANCHORAGES MAY NEED TO BE SHIFTED FROM THE LAYOUT AS SHOWN ON THE PLANS BASED ON THE MANUFACTURER'S DESIGN OF THE SUPPORT BOXES AND BARS.
- PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
- ELEVATIONS SHOWN AT THE TOP OF THE EXPANSION JOINT STEEL ARMOR ANGLES AND BEAMS ARE ⅛" LOWER THAN ADJACENT PROPOSED FINISHED ROADWAY GRADE.
- NO REINFORCING STEEL SHALL BE CUT TO CLEAR THE BRIDGE EXPANSION DEVICE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- IMMEDIATELY AFTER THE JOINT HAS BEEN SECURED TO THE STRUCTURAL STEEL AND BACKWALL, REMOVE SHIPPING DEVICES AND GRIND SMOOTH ANY WELDS ON EXPOSED SURFACES. REPAIR ANY DAMAGE TO GALVANIZED SURFACES PER SECTION 550.
- THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER THE APPROACH FILLS HAVE BEEN CONSTRUCTED TO THE BOTTOM OF THE APPROACH SLAB.
- ITEM 544.7, SYNTHETIC FIBER REINFORCEMENT (F) (MACRO) SHALL BE ADDED TO THE CONCRETE USED IN THE EXPANSION JOINT BLOCKOUT WITH A DOSAGE RATE SHOWN IN THE SPECIAL PROVISION,

DECK SLAB ELEVATION NOTES

(PLACE THESE NOTES WITH THE BOTTOM OF SLAB ELEVATION TABLES)

- BEFORE THE PRECAST DECK PANELS ARE INSTALLED, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE IN THE TABLE IS THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF THE GIRDER TO THE BOTTOM OF DECK SLAB AT THE ¼ OF GIRDERS. SEE ELEVATION TABLE AND HAUNCH DETAIL THIS SHEET.
- ELEVATIONS SHOWN IN THE TABLE ARE FINISHED BOTTOM OF SLAB ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION (INCLUDING PRECAST DECK PANELS) LESS THE DEFLECTION DUE TO GIRDER WEIGHT.

SLOPE PAVING NOTES

- ALL COSTS ASSOCIATED WITH THE CONSTRUCTION OF THE SLOPE PAVING, INCLUDING WELDED WIRE FABRIC AND JOINT FILLER, SHALL BE INCLUDED IN ITEM 582.1, SLOPE PAVING WITH CONCRETE (F). SEE SECTION 582 OF THE NHDOT SPECIFICATIONS.
- ONCE CURING OF SLOPE PAVING IS COMPLETE, THE ENTIRE SURFACE SHALL BE COATED WITH ITEM 534.3, WATER REPELLENT (SILANE/SILOXANE).

SAMPLE NOTES

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN BRIDGE TRAINING			BRIDGE NO.			STATE PROJECT 12345			
LOCATION									
SAMPLE PROJECT NOTES (5 OF 7)									BRIDGE SHEET
REVISIONS AFTER PROPOSAL			BY		DATE		BY		DATE
			DESIGNED		1/2015		XXX		XX/XX
			DRAWN		XXX		XX/XX		CHECKED
			QUANTITIES		XXX		XX/XX		CHECKED
			ISSUE DATE		1/2015		FEDERAL PROJECT NO.		SHEET NO.
			SUBDIRECTORY		.DGN LOCATOR		SHEET SCALE		REV. DATE
			SAMPLE PLANS		notes1		AS NOTED		9/18/23
							1		TOTAL SHEETS
									1

DESIGNER TO REVISE NOTES AS NEEDED FOR PROJECT

BRIDGE PRESERVATION/REHABILITATION NOTES

DESIGN LOADS, MATERIALS, AND SPECIFICATIONS

(DECK REPLACEMENT)

- DESIGN LOADING: HL-93 (NEW DECK)
- DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD) (NEW DECK)
- SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9 TH ED., 2020 AS AMENDED NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED
- REINFORCING STEEL: AASHTO M 31 (ASTM A615) GRADE 60 EPOXY COATED BARS: DECK, BRUSH CURBS, SIDEWALKS, BACKWALL BLOCKOUT FOR EXPANSION JOINT (ABOVE CONSTRUCTION JOINT), CORNERS OF ABUTMENTS ABOVE TOP OF BACKWALL.
- CONCRETE: SUBSTRUCTURE REPAIR: ITEM 520.02012, CONCRETE CLASS AA, ABOVE FOOTINGS (ABUT/WALL/PIER REPAIR) 4,000 PSI (AT 28 DAYS)

DECK, BRUSH CURBS, SIDEWALKS, WALL CAPS, AND ABUTMENT BACKWALL RECONSTRUCTION: ITEM 520.7002X, CONCRETE BRIDGE DECK (QC/QA) (F) 4,000 PSI (AT 28 DAYS)

DESIGNER TO REVISE NOTE TO THE DESIGNED SPECIFICATION

MATERIALS AND SPECIFICATIONS

(DECK/EXPANSION JOINT REHABILITATION)

- SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9 TH ED., 2020 AS AMENDED NHDOT 2016 STANDARD SPECIFICATIONS AS AMENDED (EXPANSION JOINTS AND REINFORCING SPLICE/DEVELOPMENT LENGTHS)
- REINFORCING STEEL: AASHTO M 31 (ASTM A615) GRADE 60 EPOXY COATED BARS: DECK AND BACKWALL BLOCKOUT FOR EXPANSION JOINT (ABOVE CONSTRUCTION JOINT), CORNERS OF ABUTMENTS ABOVE TOP OF BACKWALL, AND STUB WALLS.

BLACK BARS: IF EXISTING DECK IS BLACK BARS, ANY REPLACEMENT BAR IN PARTIAL AND FULL-DEPTH REPAIR AND COPING, SHALL BE BLACK BAR.
- CONCRETE: PARTIAL-DEPTH DECK REPAIR: ITEM 520.01, CONCRETE CLASS AA 4,000 PSI (AT 28 DAYS)

FULL-DEPTH DECK REPAIR: ITEM 520.02013, CONCRETE CLASS AA, ABOVE FOOTINGS (FULL DECK REPAIR) 4,000 PSI (AT 28 DAYS)

SUBSTRUCTURE REPAIR: ITEM 520.02012, CONCRETE CLASS AA, ABOVE FOOTINGS (ABUT/WALL/PIER REPAIR) 4,000 PSI (AT 28 DAYS)

DECK COPINGS AND OVERHANG, DECK AND BACKWALL BLOCKOUTS, BACKWALL, STUBWALL, WINGWALL CAPS, CORNERS OF ABUTMENT ABOVE TOP OF BACKWALL: ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS 4,000 PSI (AT 28 DAYS)

TO THE CONTRACTOR

THE CONTRACTOR SHOULD BE AWARE THAT EXISTING STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN ON THESE PLANS WERE TAKEN FROM ORIGINAL BRIDGE PLANS AND DO NOT NECESSARILY REPRESENT "AS BUILT" DIMENSIONS AND ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURES AND BE PREPARED TO MAKE ANY ADJUSTMENTS REQUIRED TO PROPERLY REHABILITATE THE BRIDGE. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ADVANCING THE WORK.

BRIDGE REMOVAL NOTES

- THE CONTRACTOR SHALL SUBMIT, FOR DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02, A DETAILED OUTLINE OR PLAN OF THE METHOD FOR ITEM 502.10X PRIOR TO COMMENCEMENT OF ANY REMOVAL WORK.
- REMOVAL OF EXISTING BRIDGE STRUCTURE, ITEM 502, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL INCLUDE THE FOLLOWING:
 - COMPLETE REMOVAL OF THE BRIDGE DECK INCLUDING ALL SCUPPERS, PAVEMENT, MEMBRANE, EXISTING ANGLES ON TOP FLANGES, AND EXPANSION JOINT.
 - REMOVAL OF BRIDGE RAIL AND BRIDGE APPROACH RAIL, AND SNOW SCREENING.
 - REMOVAL OF BACKWALL CURTAIN WALLS AND WINGWALLS CONCRETE TO LIMITS SHOWN ON PLANS, INCLUDING EXISTING EXPANSION JOINT STEEL.
 - REMOVAL OF ALL BRIDGE SHOES.
 - REMOVAL OF SHEAR CONNECTORS.
 - REMOVAL OF CONCRETE EPOXY COATING ON BACKWALL AND ABUTMENTS.
 - REMOVAL OF GRANITE CURB AS REQUIRED.
 - REMOVAL OF RECONSTRUCTION OF CROSS-FRAMES AT BAYS XX AND XX.
- REMOVAL OF EXISTING BRIDGE STRUCTURE, ITEM 502, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL INCLUDE THE FOLLOWING:
 - REMOVAL OF BRIDGE RAIL POSTS AND BRIDGE RAIL ANCHORAGES AT EXPANSION JOINT.
 - REMOVAL OF EXPANSION JOINT, TOP OF BACKWALL, CURTAIN WALLS, AND END OF DECK TO THE LIMITS SHOWN ON THE PLANS.
 - REMOVAL OF CONCRETE EPOXY COATING ON BACKWALL AND ABUTMENTS.
 - REMOVAL OF GRANITE CURB AS REQUIRED.
- EXISTING DECK PAVEMENT AND MEMBRANE SHALL BE REMOVED UNDER ITEM 511.00XX, CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F).
- SALVAGE DEBRIS SHEILDING AND APPRUTENANCES TO THE BUREAU OF BRIDGE MAINTENANCE PRIOR TO START REMOVAL OPERATIONS. ALL COSTS INCLUDED IN ITEM 502.

USE FOR DECK REPLACEMENT

USE FOR DECK/EXP JT REHAB

GENERAL CONSTRUCTION NOTES

- EXISTING BRIDGE PLANS ARE AVAILABLE ONLINE IN THE BID PACKAGE ON THE INVITATION TO BID WEBSITE DURING THE BIDDING PERIOD. FILE NUMBERS FOR EACH BRIDGE ARE LISTED AS FOLLOWS:
BETHLEHEM BR NO XXX/XXX FILE X-X-X-X
(WORK WAS ALSO PERFORMED BY BRIDGE MAINTENANCE IN XXXX)
CARROL BR NO XXX/XXX FILE X-X-X-X
- PORTABLE CONCRETE BARRIER OR CHANNELIZING DEVICES SHALL BE IN PLACE BEFORE REMOVAL OPERATIONS BEGIN FOR EACH CONSTRUCTION PHASE. SEE BARRIER LAYOUT PLANS FOR LAYOUT OF PROPOSED PHASED CONSTRUCTION.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
- PROFILE ADJUSTMENTS IN THE VICINITY OF THE REHABILITATED BRIDGES SHALL BE MADE AS REQUIRED OR AS DIRECTED TO ACCOUNT FOR VARIATIONS IN THE BRIDGE DECK CROSS SLOPES. ALL COSTS SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS.
- AFTER ALL REPAIRS HAVE BEEN MADE, EXISTING BRIDGE DECK COPINGS, WINGS, BACKWALLS, BRIDGE SEATS, AND ABUTMENT FACES SHALL BE WASHED, SUBSIDIARY TO ITEM 534.3, IN SUCH A MANNER THAT OVERSPRAY INTO SURFACE WATERS IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE ENTIRE SURFACE WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE). APPLICATION RATE = 150 SF/GAL.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL MAKE A RECORD OF THE EXISTING PAINT PAVEMENT MARKINGS. UPON COMPLETION OF THE BRIDGE WORK, THE PAVEMENT MARKINGS SHALL BE REPLACED IN KIND WITH ITEM 632.010X, RETROREFLECTIVE PAINT PAVE. MARKING, X" LINE.
- HOLES DRILLED IN EXISTING CONCRETE SHALL BE DRILLED 1/2" LARGER THAN THE BAR DIAMETER AND GROUTED WITH AN APPROVED HIGH STRENGTH, NON-SHRINK GROUT. ALL COSTS FOR DRILLING AND GROUTING SHALL BE SUBSIDIARY TO ITEM 520.0201, UNLESS NOTED OTHERWISE.
- JACKING IS REQUIRED TO REMOVE AND REPLACE BRIDGE SHOES AS OUTLINED IN THE PLANS AND SPECIAL PROVISIONS. THE PROPOSED JACKING METHOD SHALL BE SUBMITTED TO THE ENGINEER FOR DOCUMENTATION. THE MAXIMUM ALLOWABLE DIFFERENCE BETWEEN ADJACENT JACKING POINTS SHALL BE 1/2". TEMPORARY SHIMS OR BLOCKS SHALL BE PLACED BENEATH GIRDER FLANGES DURING THE TIME THAT JACKS ARE SUPPORTING THE LOADS. ALL COSTS SHALL BE INCLUDED IN ITEM 550.19X, TEMPORARY GIRDER SUPPORT SYSTEM.
- FOR PHASED CONSTRUCTION OF A DECK REPLACEMENT, TEMPORARILY REMOVE ENOUGH BOLTS CONNECTING THE CROSS FRAMES BETWEEN GIRDERS X AND X TO FACILITATE GIRDER DEFLECTION VARIATION BETWEEN PHASES. NEW NUTS, BOLTS, AND WASHERS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 550 AFTER PHASE 2. ALL COSTS SHALL BE INCLUDED IN ITEM 502.10X.
- WHEN STEEL MEMBERS OR SURFACES HAVE BEEN EMBEDDED IN CONCRETE AND THE CONCRETE IS REMOVED WITH THE INTENT OF ENCASING WITH NEW CONCRETE, THE CONTRACTOR SHALL PREPARE THOSE SURFACES BY ABRASIVE BLASTING TO AN SP6, COMMERCIAL BLAST CLEANED CONDITION OR BY SP11, POWER TOOL CLEANED AND COATED THE SURFACE WITHIN SIX HOURS WITH AN APPROVED ZINC-RICH PRIMER. ALL COSTS INCLUDED IN ITEM 502, REMOVAL OF EXISTING BRIDGE STRUCTURE.
- ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2' WIDE WITH PROTECTION BOARD (SUBSIDIARY), SHALL BE PLACED CENTERED AT ALL SUBSTRUCTURE CONSTRUCTION JOINTS.
- A CORROSION PROTECTION SYSTEM CONSISTING OF GALVANIC ANODES SHALL BE INSTALLED IN CONCRETE REPAIR AREAS AND OTHER LOCATIONS AS SHOWN ON THE PLANS. FOR PARTIAL-DEPTH REPAIRS, DISCRETE ANODES SHALL BE TIED TO THE EXISTING TOP MAT OF REINFORCING STEEL. FOR FULL-DEPTH REPAIRS, DISCRETE ANODES SHALL BE TIED TO BOTH TOP AND BOTTOM MATS. FOR EXPANSION JOINT BLOCKOUTS, DECK FASCIA RECONSTRUCTION, AND OTHER LOCATIONS CALLING FOR DISTRIBUTED ANODES, THE DISTRIBUTED ANODE SHALL BE TIED TO BOTH TOP AND BOTTOM MAT REINFORCING. AT ALL LOCATIONS, ANODES SHALL ONLY BE TIED TO EXISTING BLACK BARS AND ONLY AT A BAR LOCATON WITH NEAR WHITE SURFACE PREPARATION AS DESCRIBED IN THE SPECIAL PROVISION. REFER TO THE SPECIAL PROVISION FOR ANODE INSTALLATION PROCEDURE AND ADDITIONAL INFORMATION ON SURFACE PREPARATION, ANODE CONNECTION, AND ELECTRICAL CONTINUITY. ALL COSTS SHALL BE INCLUDED IN ITEM 540.511 AND 540.512.
- SHEETING OR A SUPPORT SYSTEM MAY BE REQUIRED FOR MAINTENANCE OF TRAFFIC DURING CONSTRUCTION OF THE PROPOSED BRIDGE. THE LOCATION AND LIMITS FOR TEMPORARY SUPPORTS DETAILED ON THE PLANS ARE APPROXIMATE AND MAY BE ADJUSTED AS REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AD METHODS OF CONSTRUCTION. ALL COSTS FOR THIS SUPPORT SYSTEM SHALL BE INCLUDED IN ITEM 503.20X
- ALL ITEMS COVERED UNDER SECTION 503 OF THE SPECIFICATIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF N.H. THE CONTRACTOR SHALL SUBMIT STAMPED WORKING DRAWINGS AND CALCULATIONS FOR REVIEW AND DOCUMENTATION IN ACCORDANCE WITH SECTION 105.02.
- EXISTING PIER CAPS LOCATED BELOW AN EXPANSION JOINT SHALL BE COATED (TOP HORIZONTAL SURFACE ONLY) WITH ITEM 536.11, EPOXY COATING FOR CONCRETE. SEE SPECIAL PROVISION.

REMOVAL/REPAIR NOTES

- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO THE WATERWAY BELOW EXISTING STRUCTURES. ALL COSTS INCLUDED IN ITEM 502.10X AND SHALL INCLUDE THE ERECTION, MAINTENANCE, AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH METHODS AS APPROVED.
- NO SCAFFOLDS SHALL BE ERECTED OR OPERATIONS CONDUCTED IN THE ROADWAY RIGHT OF WAY, OR WATERWAY BELOW UNLESS APPROVED BY THE CONTRACT ADMINISTRATOR.
- DURING ALL REMOVAL AND REPAIR OPERATIONS EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING DECK REINFORCEMENT. ANY DAMAGE SHALL BE IMMEDIATELY REPORTED TO THE BUREAU OF BRIDGE DESIGN AND REPAIRED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.
- DURING END OF DECK REMOVAL OPERATIONS, EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE TOP FLANGES OF EXISTING GIRDERS. ANY DAMAGE SHALL BE IMMEDIATELY REPORTED TO THE BUREAU OF BRIDGE DESIGN AND REPAIRED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.
- TO ACCOMPLISH THE PROPOSED EXPANSION JOINT REPAIRS, THE EXISTING DECK AND BACKWALL SHALL BE REMOVED TO LIMITS SHOWN IN THE PLANS UNDER ITEM 502.10X, REMOVAL OF EXISTING BRIDGE STRUCTURE. ALL EXPOSED CONCRETE SURFACES OF THE DECK AND BACKWALL SHALL BE SAWCUT 1" DEEP TO PROVIDE CLEAN REMOVAL LINES (ALL COSTS INCLUDED IN ITEM 502.10X, REMOVAL OF EXISTING BRIDGE STRUCTURE). PRIOR TO PLACING NEW CONCRETE, THE REMOVAL SURFACES SHALL BE BLAST CLEANED AND SATURATED SURFACE DRY (ALL COSTS INCLUDED IN ITEM 520.0201).
- AFTER REMOVAL OF DECK AND BACKWALL, THE EXISTING APPROACH SLAB SHALL BE "SOUNDED" TO DETERMINE IF THERE ARE AREAS REQUIRING PARTIAL AND/OR FULL DEPTH REPAIRS TO A PORTION OF THE APPROACH SLAB TO PROVIDE SOUND CONCRETE FOR INSTALLATION OF STUB WALL DOWELS. ALL COSTS TO BE INCLUDED IN ITEM 1002.1 REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES.
- AFTER REMOVAL OF EXISTING PAVEMENT AND MEMBRANE, AS REQUIRED IN THE SCOPE OF WORK, THE EXISTING CONCRETE BRIDGE DECK SHALL BE "SOUNDED" TO DETERMINE AREAS REQUIRING PARTIAL AND FULL DEPTH DECK REPAIRS. ALL COSTS TO BE INCLUDED IN ITEM 511.02 AND 511.03.
- DETERIORATED AREAS OF DECK SHALL BE PATCHED WITH CONCRETE CLASS AA. PRIOR TO PLACING NEW CONCRETE, THE PREPARED AREAS SHALL BE BLAST CLEANED AND SATURATED SURFACE DRY (ALL COSTS SUBSIDIARY TO ITEM 520.01 OR 520.02013).

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
SAMPLE PLANS	Notes	AS NOTED

SUPERSTRUCTURE NOTES

- ITEM 538.X, BARRIER MEMBRANE, HEAT WELDED - XX (F), SHALL BE OVERLAPPED PER MANUFACTURER'S REQUIREMENTS AT PHASED CONSTRUCTION JOINTS. AT DECK ENDS, WHERE THE MEMBRANE WILL NOT OVERLAP NEW OR EXISTING MEMBRANE, A SEALANT/REPAIR MASTIC COMPATIBLE WITH ITEM 538.6 SHALL BRIDGE ANY GAP BETWEEN THE EXISTING MEMBRANE AND NEW MEMBRANE OR BETWEEN THE NEW MEMBRANE AND THE END DECK WHEN THERE IS NO EXISTING MEMBRANE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 538.X.
- EXCEPT AS SHOWN IN THE PLANS, WHERE THE EXISTING GRANITE CURB HAS SEPARATED OR BEEN DISPLACED FROM THE CONCRETE BRUSH CURB, THE GRANITE CURB SHALL BE REMOVED AND RESET AS DIRECTED BY THE ENGINEER. ALL COSTS INCLUDED IN ITEM 609.55, RESET GRANITE CURB (BRIDGE).
- PROVIDE ITEMS 403.16 AND 403.26, AS REQUIRED, ALONG LONGITUDINAL JOINTS BETWEEN PAVEMENT PASSES FOR EACH PAVEMENT COURSE, ALONG BRIDGE CURBS, AND ALONG EXPANSION JOINT ARMORING.
- APPLY ITEM 410.22, ASPHALT EMULSION FOR TACK COAT, TO BOTH EXISTING AND PROPOSED BRIDGE AND ROADWAY PAVEMENT COURSES PRIOR TO PLACING THE NEXT COURSE.
- ITEM 403.12, HOT BITUMINOUS PAVEMENT, HAND METHOD, SHALL BE PLACED TO FINISHED GRADE AS REQUIRED FOR PHASING IN PLACE OF TEMPORARY PAVEMENT ON BRIDGES WHERE HAND METHOD IS REQUIRED.
- ITEM 563.8, RESETTING BRIDGE RAIL, SHALL BE PAID AS 1 LF/POST.
- INSTALL 1/2" CORK FILLER (SUBSID. TO ITEM 520.0201) BETWEEN EXISTING WINGWALLS AND PROPOSED CONCRETE AND SEAL FRONT FACE, ACROSS TOP, AND DOWN BACK WITH ITEM 562.1, SILICONE JOINT SEALANT (F), AS SHOWN ON PLANS OR AS DIRECTED.
- SEAL 1/2" MORTAR JOINT BETWEEN EXISTING GRANITE CURB AND PROPOSED CONCRETE WITH ITEM 562.1, SILICONE JOINT SEALANT (F), AS SHOWN ON PLANS OR AS DIRECTED.
- FOR BRIDGE GRANITE CURB AND DETERIORATED CONCRETE REMOVAL, SAWCUT EXISTING CONCRETE 1" DEEP ON ALL EXPOSED SURFACES TO PROVIDE CLEAN REMOVAL LINES. REMOVE EXISTING CONCRETE AS SHOWN IN THE PLANS. ALL COSTS TO BE INCLUDED IN ITEM 502.10X, REMOVAL OF EXISTING BRIDGE STRUCTURE.
- ALL RECONSTRUCTED BLOCKOUTS (DECK AND BACKWALL) AND STUBWALLS FOR EXPANSION JOINTS SHALL HAVE EPOXY COATED REINFORCEMENT AND CAN BE TIED TO THE EXISTING BLACK REINFORCING.

STRUCTURAL STEEL NOTES

- NO STRUCTURAL REPAIRS ARE ANTICIPATED. STRUCTURAL STEEL SHALL BE INSPECTED FOR STRUCTURAL DEFICIENCIES (E.G. SIGNIFICANT STEEL LOSS, CRACKS, MISSING BOLTS, ETC.) JOINTLY BY THE CONTRACT ADMINISTRATOR AND CONTRACTOR. ANY REPAIRS REQUIRED BY THE DEPARTMENT SHALL BE PERFORMED BY THE CONTRACTOR AND INCLUDED IN ITEM 1002.1, REPAIRS OR REPLACEMENTS AS NEEDED - BRIDGE STRUCTURES.
- NEW SHEAR CONNECTORS SHALL BE INSTALLED AS SHOWN IN THE PLANS. NEW STUDS SHALL BE FIELD WELDED TO THE TOP FLANGE OF ALL GIRDERS WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT. ALL COSTS FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED IN ITEM 547, SHEAR CONNECTORS (F).
- THE TOP COVER PLATE-TO-TOP FLANGE CONNECTIONS AT EACH PIER SHALL BE INSPECTED FOR FATIGUE CRACKS (ITEM 500.021). SEE SPECIAL PROVISION FOR DETAILS AND INSPECTION LOCATIONS.
- THE TOP FLANGES SHALL BE GROUND TO BASE METAL OR BLAST CLEANED PROIR TO WELDING NEW SHEAR CONNECTORS THE AREA TO BE WELDED SHALL BE FREE OF RUST, OIL OR OTHER FOREIGN MATERIALS. ALL COSTS INCLUDED IN ITEM 502.
- CLEAN AND PAINT EXISTING BEARINGS AND STRUCTURAL STEEL AFTER COMPLETION OF ALL OTHER SUPERSTRUCTURE WORK AS OUTLINED IN SECTION 556 SPECIAL PROVISION.

BEARING NOTES

- SOLE PLATES SHALL BE CENTERED UNDER GIRDER FLANGE AND BEARING STIFFENERS PRIOR TO FIELD WELDING. ADJUSTMENT FOR TEMPERATURE IS NOT REQUIRED.
- APPLY AN APPROVED SEALANT ALONG THE FRONT AND BACK EDGES BETWEEN THE GIRDER AND TOP OF SOLE PLATE TO THE FILLET WELD TERMINATION ON THE SOLE PLATE. COST SHALL BE INCLUDED IN ITEM 548.2X.
- EXISTING ANCHOR RODS SHALL BE REPLACED ONLY IF THEIR CONDITION HAS DETERIORATED, AT THE DIRECTION OF THE CONTRACT ADMINISTRATOR.
- ANCHOR RODS AT ABUTMENT X SHALL BE REMOVED AND REPLACED. EXISTING ANCHOR RODS SHALL BE CUT, GROUND FLUSH TO THE BEARING SURFACE, AND COATED WITH AN APPROVED GALVANIZING REPAIR COATING. COSTS SUBSIDIARY TO ITEM 502. NEW ANCHOR RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5. THE CONTRACTOR SHALL VERIFY LOCATION OF EXISTING REINFORCING PRIOR TO DRILLING NEW ANCHOR ROD HOLES. ALL COSTS SUBSIDIARY TO ITEM 548.21.

SUBSTRUCTURE NOTES

- REMOVE ANY EXISTING LOOSE OR FLAKING CONCRETE EPOXY COATING FROM THE BACKWALL AND SEATS AS DIRECTED. ALL COSTS INCLUDED IN ITEM 502.10X.
- EXISTING ABUTMENTS AND WINGWALLS SHALL BE JOINTLY INSPECTED BY THE CONTRACT ADMINISTRATOR AND CONTRACTOR AND ALL DETERIORATED CONCRETE SHALL BE REMOVED. ALL INSPECTION, AND REMOVAL, SHALL BE AS SPECIFIED IN SECTION 512 AND INCLUDED IN ITEM 512.02012. PRIOR TO PLACING NEW CONCRETE, THE REMOVAL SURFACES SHALL BE BLAST CLEANED AND SATURATED SURFACE DRY (ALL COSTS INCLUDED IN ITEM 520.XXXX).
- LIGHTLY BLAST-CLEAN ABUTMENTS, WINGWALLS, AND PIERS TO REMOVE GRAFFITI AS DIRECTED BY THE ENGINEER. ALL COSTS SHALL BE INCLUDED IN ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE).

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN BRIDGE Training			BRIDGE NO.			STATE PROJECT 12345			
LOCATION									
SAMPLE PROJECT NOTES (6 OF 7)								BRIDGE SHEET	
REVISIONS AFTER PROPOSAL		BY		DATE		BY		DATE	
		NHDOT		1/2015		XXX		XX/XX	
		XXX		XX/XX		CHECKED		XXX	
		XXX		XX/XX		CHECKED		XXX	
		XXX		XX/XX		CHECKED		XXX	
		XXX		XX/XX		CHECKED		XXX	
ISSUE DATE		1/2015		FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS
REV. DATE		5/8/24					1		1

SAMPLE NOTES

BRIDGE PRESERVATION/REHABILITATION NOTES

REINFORCEMENT NOTES

1. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE (CSI) "MANUAL OF STANDARD PRACTICE".
2. PLACE REINFORCING STEEL TO AVOID RAIL POST ANCHOR ASSEMBLIES AND EXPANSION JOINT STEEL.
3. ANY EPOXY COATED REBARS CUT TO FIT OR WITH THE EPOXY NICKED SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2 OR 544.21.
4. REINFORCING LEGEND:

ALT	= ALTERNATE
CLR	= CLEAR
FS	= FAR SIDE
MID	= MIDDLE
SECT	= SECTION
SYM	= SYMMETRICAL
SS	= STAINLESS STEEL

BOT	= BOTTOM
DOW	= DOWEL
MAX	= MAXIMUM
MIN	= MINIMUM
SP	= SPACE
TYP	= TYPICAL

BRG	= BEARING
EQ	= EQUAL
MC	= MECHANICAL CONNECTOR
NS	= NEAR SIDE
SPL	= SPLICE
E	= EPOXY COATED
CPL	= COUPLER
5. EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE WITHIN THE RECONSTRUCTED AREAS SHALL BE CUT AS REQUIRED TO PROVIDE 2½" MINIMUM CLEAR COVER FROM THE PROPOSED CONCRETE SURFACES, EXCEPT AS OTHERWISE NOTED. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 2½" FROM PROPOSED CONCRETE SURFACES UNLESS OTHERWISE NOTED.
6. ANY EXISTING REBAR THAT IS EXPOSED SHALL BE CLEANED OF ALL FOREIGN MATERIAL, SUBSIDIARY TO ITEM 511.

**SAMPLE
NOTES**

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN		BRIDGE Training		BRIDGE NO.		STATE PROJECT 12345			
LOCATION									
SAMPLE PROJECT NOTES (7 OF 7)									
REVISIONS AFTER PROPOSAL		BY		DATE		BY		DATE	
		DESIGNED		NHDOT		1/2015		CHECKED XXX XX/XX	
		DRAWN		XXX		XX/XX		CHECKED XXX XX/XX	
		QUANTITIES		XXX		XX/XX		CHECKED XXX XX/XX	
		ISSUE DATE		1/2015		FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE		9/18/23				1	
SUBDIRECTORY		.DGN LOCATOR		SHEET SCALE		BRIDGE SHEET		XX OF	
SAMPLE PLANS		notes1		AS NOTED		FILE NUMBER		TOTAL SHEETS	
								1	
								1	