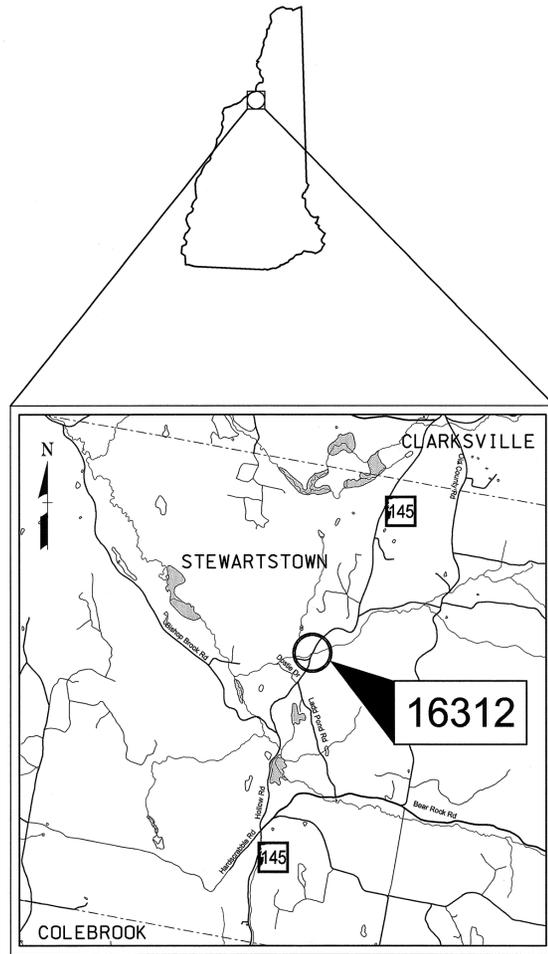
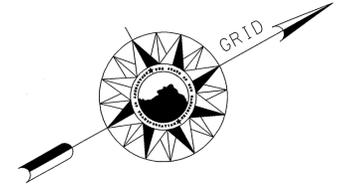


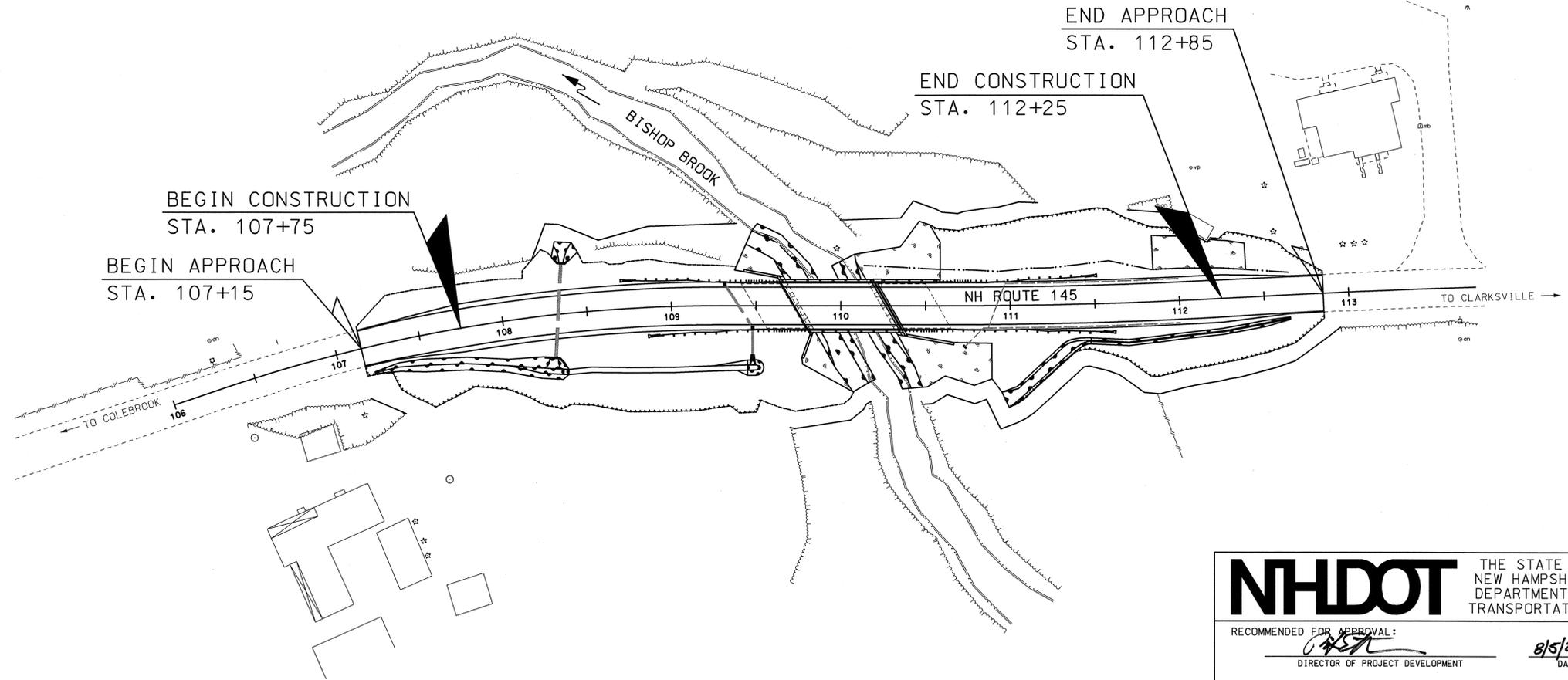
STATE OF NEW HAMPSHIRE
 DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS
FEDERAL AID PROJECT

X-0001(240)
 N.H. PROJECT NO. 16312
 NH ROUTE 145

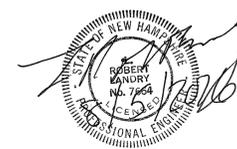
DESIGN DATA	
AVERAGE DAILY TRAFFIC 20 17	800
AVERAGE DAILY TRAFFIC 20 37	1000
PERCENT OF TRUCKS	8.7%
DESIGN SPEED	35 mph
LENGTH OF PROJECT	570 ft



LOCATION MAP



TOWN OF STEWARTSTOWN
 COUNTY OF COOS
 SCALE: 1" = 40'-0"



NHDOT THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION

RECOMMENDED FOR APPROVAL:
[Signature] 8/5/2016
 DIRECTOR OF PROJECT DEVELOPMENT DATE

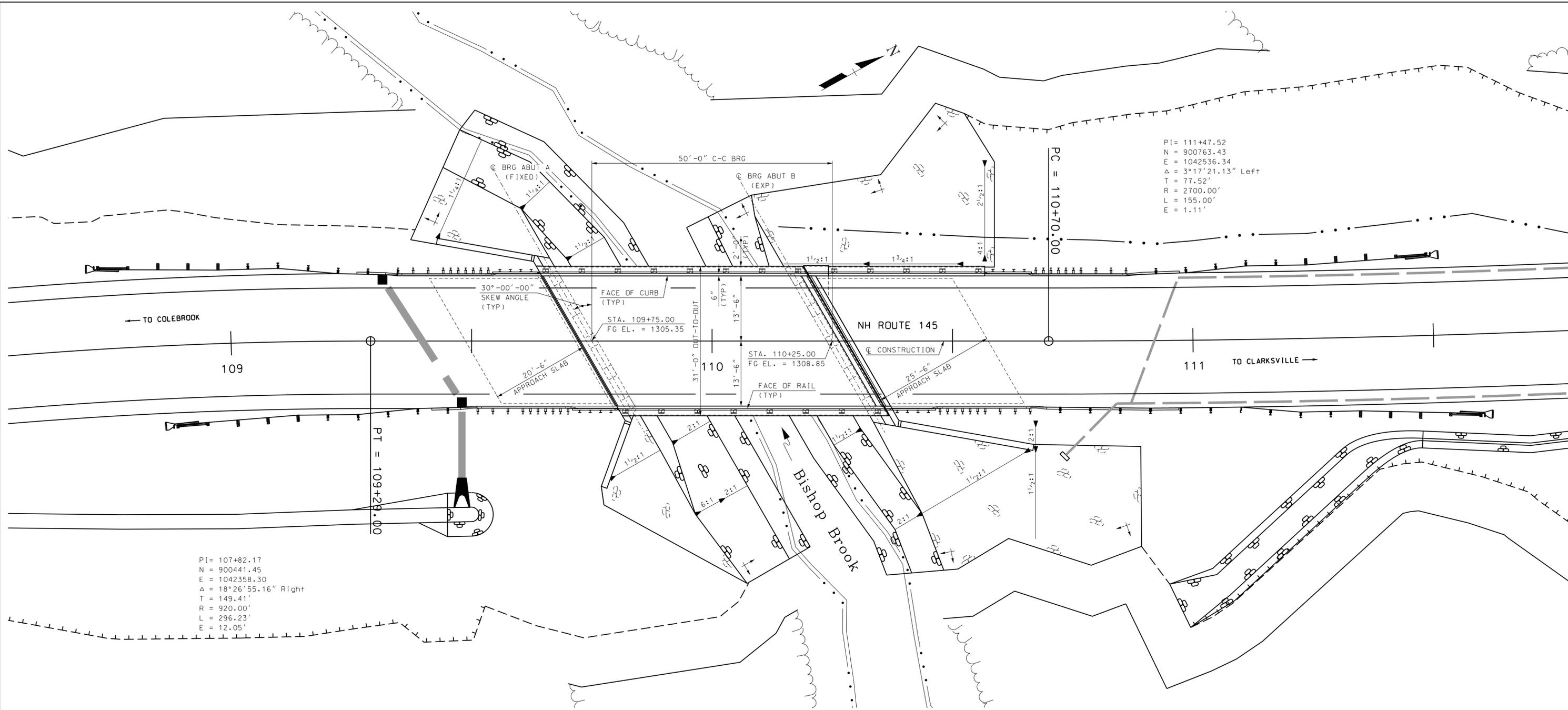
APPROVED: *[Signature]* 8/5/16
 ASSISTANT COMMISSIONER AND CHIEF ENGINEER DATE

U. S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DATE _____
 DIVISION ADMINISTRATOR

FEDERAL PROJECT NO.	STATE PROJECT NO.	SHEET NO.	TOTAL SHEETS
X-0001(240)	16312	1	56

DRAWN BY: SMG
 CHECKED BY: MGL
 DATE 3/16
 DATE 3/16



PI = 111+47.52
 N = 900763.43
 E = 1042536.34
 $\Delta = 3^\circ 17' 21.13''$ Left
 T = 77.52'
 R = 2700.00'
 L = 155.00'
 E = 1.11'

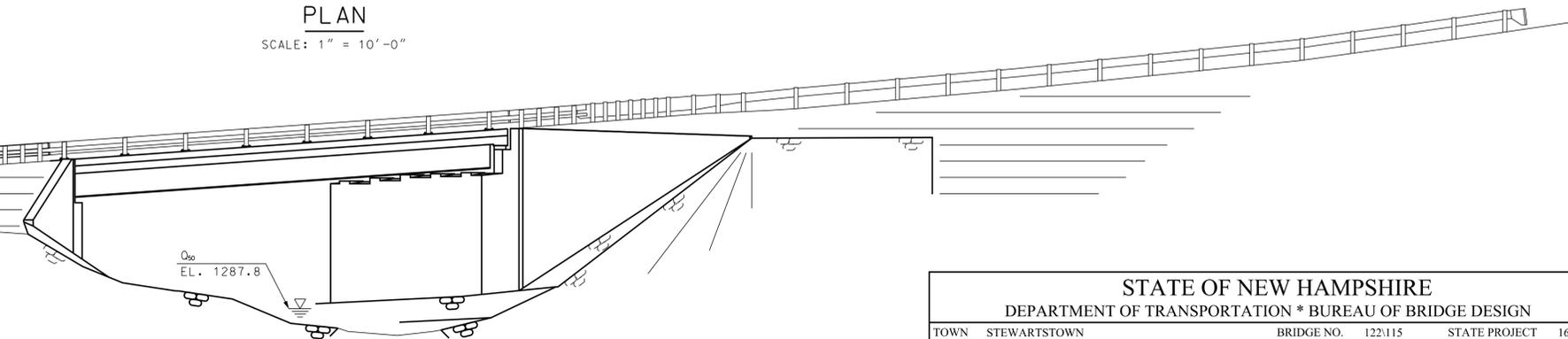
PI = 107+82.17
 N = 900441.45
 E = 1042358.30
 $\Delta = 18^\circ 26' 55.16''$ Right
 T = 149.41'
 R = 920.00'
 L = 296.23'
 E = 12.05'

PLAN

SCALE: 1" = 10'-0"

HYDRAULIC DATA

1. DRAINAGE AREA: 4.1 SQUARE MILES
2. DESIGN FLOOD: Q50 = 593 CFS
3. DESIGN VELOCITY: 8.8 FPS
4. DESIGN FLOOD HEIGHT: 2.8' DEPTH OF WATER
5. BRIDGE WATERWAY OPENING: 68 SQ. FT. BELOW Q50 ELEVATION



ELEVATION

SCALE: 1" = 10'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION NH ROUTE 145 over BISHOP BROOK									
GENERAL PLAN AND ELEVATION								BRIDGE SHEET	1 OF 33
DESIGNED		MGL	8/15	CHECKED		PAB	6/16	FILE NUMBER	129-4-2
DRAWN		SMG	8/15	CHECKED		MGL	6/16	TOTAL SHEETS	56
QUANTITIES		SMG	6/16	CHECKED		MGL	7/16		
ISSUE DATE				FEDERAL PROJECT NO.		SHEET NO.			
REV. DATE				-----		9			

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/PRELIM	16312 Genplan	AS NOTED

DESIGN LOADS, MATERIALS AND SPECIFICATIONS

- DESIGN LOADING: HL-93
- DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
- SPECIFICATIONS: AASHTO 2014 LRFD BRIDGE DESIGN SPECIFICATIONS AS AMENDED
AASHTO BRIDGE CONSTRUCTION SPECIFICATIONS WITH INTERIMS
NHDOT 2016 STANDARD SPECIFICATIONS FOR ROAD & BRIDGE
CONSTRUCTION AS AMENDED
- FOUNDATION DATA: REINFORCED CONCRETE FOOTINGS SUPPORTED ON BEDROCK WITH
ONE FOOT OF STRUCTURAL FILL. NOMINAL BEARING RESISTANCE
OF 10.5 TSF WITH A 0.45 RESISTANCE FACTOR. NOMINAL
SLIDING RESISTANCE (TAN δ) OF 34 DEGREES WITH A 0.8
RESISTANCE FACTOR.
- REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60
ALL DECK, APPROACH SLAB, COPING, AND TOP OF BACKWALL
REINFORCEMENT SHALL BE EPOXY COATED.
- STRUCTURAL STEEL: AASHTO M270, GRADE 50W (ASTM A709, GRADE 50W)
UNPAINTED, EXCEPT AS NOTED
- CONCRETE:
FOOTINGS:
ITEM 520.213, CONCRETE CLASS B, FOOTINGS (ON SOIL) (F)
3000 psi
ABUTMENT STEMS BELOW THE CONSTRUCTION JOINT:
ITEM 520.12, CONCRETE CLASS A, ABOVE FOOTINGS (F)
3000 psi
DECK SLAB, BRUSH CURBS, WINGWALL COPING, AND ABUTMENT BACKWALLS:
ITEM 520.70026, CONCRETE BRIDGE DECK (OC/OA) (PANEL OPTION) (F)
4000 psi
APPROACH SLABS:
ITEM 520.0302, CONCRETE CLASS AA, APPROACH SLABS (OC/OA) (F)
4000 psi
- SEISMIC: PEAK GROUND ACCELERATION (PGA)= 0.074
SITE CLASS = C
ZONE= 1

GENERAL NOTES

- EXISTING SUPERSTRUCTURE PLANS ARE AVAILABLE ON-LINE IN THE BID PACKAGE ON THE
INVITATION TO BID WEB PAGE DURING THE BIDDING PERIOD. AFTER THE CONTRACT HAS BEEN
AWARDED, A SET OF EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.
PLANS FOR THE EXISTING SUBSTRUCTURES ARE NOT AVAILABLE. EXISTING BRIDGE SUPERSTRUCTURE
PLANS ARE LOCATED IN FILE 2-5-3-6.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING
STRUCTURES AND SHALL BE PREPARED TO MAKE ANY ADJUSTMENTS REQUIRED TO PROPERLY COMPLETE
THE CONSTRUCTION OF PROPOSED STRUCTURES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL
INTO THE WATERWAY BELOW THE EXISTING, AND PROPOSED STRUCTURES. ALL COSTS, INCLUDING
ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES, OR OTHER SUCH APPROVED
METHODS, SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS OF WORK BEING PERFORMED.
- THE CONTRACTOR HAS THE OPTION TO USE PRECAST PRESTRESSED CONCRETE DECK PANELS.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS NOTED OTHERWISE.
- SHEAR KEYS SHALL BE 3" HIGH BY ONE-THIRD THE THICKNESS OF THE WALL, CENTERED, UNLESS
NOTED OTHERWISE.
- FOR DECK SLAB ELEVATIONS SEE BRIDGE SHEET 23.
- FOR SURVEY LAYOUT SEE BRIDGE SHEET 2.
- FOR BORING NOTES SEE BRIDGE SHEET 6.
- FOR ELASTOMERIC BEARING ASSEMBLY NOTES SEE BRIDGE SHEET 20.
- FOR FIXED BRIDGE SHOE NOTES SEE BRIDGE SHEET 20.
- FOR EXPANSION JOINT (ITEM 560.1001) NOTES, SEE BRIDGE SHEET 27.
- FOR HYDRAULIC DATA SEE BRIDGE SHEET 1.
- FOR RAIL AND CURB NOTES SEE BRIDGE SHEET 29.

CONSTRUCTION ACCESS NOTES

- ITEM 500.02, ACCESS FOR BRIDGE CONSTRUCTION, SHALL INCLUDE THE DESIGN, CONSTRUCTION,
MAINTENANCE AND REMOVAL OF ALL TEMPORARY ACCESS MEASURES SELECTED BY THE CONTRACTOR
FOR THE BRIDGE CONSTRUCTION, INCLUDING ACCESS ACROSS BISHOP BROOK BETWEEN THE ABUTMENTS,
AND ACCESS FROM THE ROADWAY DOWN TO THE BROOK LEVEL AT BOTH ABUTMENTS. SEE THE SPECIAL
PROVISION FOR ITEM 500.02 FOR ADDITIONAL INFORMATION.
- TEMPORARY FILLS CONSTRUCTED ACROSS WETLAND AREAS UNDER THIS ITEM SHALL BE LOCATED
WITHIN THE ALLOWABLE WETLAND IMPACT AREAS SHOWN ON THE WETLAND PERMIT AND WITHIN THE
EASEMENTS SHOWN ON THE SITE PLAN. CLEAN STONE WITH UNDERLYING GEOTEXTILE SHALL BE
USED FOR THE TEMPORARY FILLS WITHIN THE WETLAND IMPACT AREAS. ALL COSTS SHALL BE
SUBSIDIARY TO ITEM 500.02.

VIBRATION MONITORING NOTE

- ITEM 211.11, VIBRATION MONITORING SERVICES, HAS BEEN INCLUDED IN THE CONTRACT.
THE CONTRACTOR IS ADVISED TO REVIEW SECTION 211 SPECIFICATIONS, INCLUDING
AMENDMENTS, AND THE PROSECUTION OF WORK FOR REQUIREMENTS.

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 START OF ANY
REMOVAL OPERATIONS.
- ITEM 502.10121, REMOVAL AND DISPOSAL OF EXISTING BRIDGE STRUCTURE (ACM - BACKWALL),
SHALL INCLUDE THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL BETWEEN
THE SUPERSTRUCTURE AND THE TOP OF THE ABUTMENT.
- THE CONTRACTOR IS ADVISED THAT THE EXISTING PAINT SYSTEM ON THE BRIDGE STEEL
IS LEAD BEARING PAINT. SEE THE SPECIAL ATTENTION FOR THE NOTIFICATION OF LBP
AND FOR THE CONTRACTOR TO MEET WORKER AND ENVIRONMENTAL PROTECTION REGULATIONS.
- ITEM 502.101, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE REMOVAL
OF THE ENTIRE EXISTING BRIDGE SUPERSTRUCTURES.
- ITEM 502.102, REMOVAL OF EXISTING BRIDGE STRUCTURE, SHALL INCLUDE THE ENTIRE
REMOVAL OF BOTH EXISTING ABUTMENTS AND THE WINGWALLS.

COFFERDAM NOTES

- ALL COFFERDAM ITEMS COVERED UNDER SECTION 503 OF THE SPECIFICATIONS SHALL BE
DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE. THE
CONTRACTOR SHALL SUBMIT STAMPED WORKING DRAWINGS AND CALCULATIONS FOR DOCUMENTATION
IN ACCORDANCE WITH 105.02.
- A COFFERDAM FOR TEMPORARY SUPPORT OF EXCAVATION SHALL BE REQUIRED ALONG THE WEST
SIDE OF THE PROPOSED NORTHWEST WINGWALL TO MAINTAIN THE EXCAVATION WITHIN THE RIGHT
OF WAY LIMITS. ALL COSTS FOR THE COFFERDAM SHALL BE INCLUDED IN ITEM 503.201.
- THE LOCATION AND LIMITS OF THE COFFERDAM DETAILED IN THE PLANS IS APPROXIMATE AND
MAY BE ADJUSTED AS REQUIRED TO ACCOMMODATE THE CONTRACTOR'S MEANS AND METHODS OF
CONSTRUCTION.
- COFFERDAMS THAT ARE CUTOFF AND LEFT IN PLACE AT THE CONTRACTOR'S CHOICE SHALL BE
CUTOFF A MINIMUM OF 3 FEET BELOW FINAL GRADE. NO ADDITIONAL PAYMENT WILL BE MADE
FOR COFFERDAMS THAT ARE CUTOFF AND LEFT IN PLACE.
- ALL COSTS ASSOCIATED WITH THE RE-DESIGN AND RE-INSTALLATION 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 FOR ADDITIONAL INFORMATION REGARDING
THE USE OF SUBSURFACE INFORMATION PROVIDED IN THE CONTRACT.

WATER DIVERSION STRUCTURE NOTES

- THE WATER DIVERSION STRUCTURE ITEM IS INCLUDED IN THE CONTRACT FOR THE PURPOSE OF
DIVERTING BISHOP BROOK AND ANY SURFACE WATER FROM THE ABUTMENT AND WINGWALL
EXCAVATIONS; AND FOR DEWATERING THE ABUTMENT AND WINGWALL EXCAVATIONS. ALL COSTS
ASSOCIATED WITH THE DESIGN, INSTALLATION, DEWATERING, MAINTENANCE, EARTH DIKES,
TEMPORARY PIPES, STEEL SHEETING, PUMPING, TREATMENT OF PUMPED WATER, AND ALL OTHER
MEASURES SELECTED BY THE CONTRACTOR TO COMPLETE THE WORK AND REMOVAL OF THE WATER
DIVERSION WILL BE PAID FOR UNDER WATER DIVERSION STRUCTURE ITEM 503.101. THE
CONTRACTOR SHALL SUBMIT A WATER DIVERSION PLAN IN ACCORDANCE WITH 503.3.1.2.
- THE WATER DIVERSION SHALL BE DESIGNED TO ACCOMMODATE THE BOTTOM OF EXCAVATION GRADE
INDICATED ON THE PLANS INCLUDING ANY AREAS WHERE THE ROCK EXCAVATION EXTENDS BELOW
THE REQUIRED ELEVATION. SEE FOUNDATION NOTES FOR ADDITIONAL INFORMATION.
- THE WATER DIVERSION STRUCTURE SHALL BE DESIGNED, CONSTRUCTED AND MAINTAINED IN A
MANNER THAT MEETS THE REQUIREMENTS OF SECTION 503, 504, THE FOUNDATION NOTES, AND
ALL APPLICABLE ENVIRONMENTAL REQUIREMENTS.
- THE WATER LEVEL WITHIN THE ABUTMENT AND WINGWALL EXCAVATIONS SHALL BE MAINTAINED
BELOW THE BOTTOM OF SUBSTRUCTURE GRADE, SO THE FOOTING CONCRETE CAN BE PLACED IN
THE DRY. DEWATERING SHALL BE CONTINUOUS UNTIL THE SUBSTRUCTURES ARE BACKFILLED
TO THE ELEVATION OF THE SURROUNDING WATER TABLE.

FOUNDATION NOTES

- ALL FOOTINGS SHALL BE FOUNDED ON A MINIMUM 12 INCH THICK LAYER OF STRUCTURAL
FILL, PLACED OVER THE ACCEPTABLE BEARING MATERIALS DESCRIBED BELOW. THE
CONTRACTOR MAY SUBSTITUTE UP TO 12 INCHES OF CLEAN STONE STRUCTURAL FILL FOR
THE CRUSHED GRAVEL STRUCTURAL FILL IN ACCORDANCE WITH 508.2.1.3 AT NO COST TO
THE DEPARTMENT.
- THE NATURAL GLACIAL TILL DEPOSIT AND BEDROCK, INCLUDING THE SEVERELY WEATHERED
AND FRACTURED BEDROCK, ARE ACCEPTABLE FOR SUPPORT OF THE PROPOSED FOOTINGS FOR THE
ABUTMENTS AND WINGWALLS. EXCAVATION OF THESE MATERIALS BELOW THE SPECIFIED
STRUCTURAL FILL THICKNESS IS NOT REQUIRED. ANY TOPSOIL, WOOD, OR OTHER UNSUITABLE
MATERIALS ENCOUNTERED BELOW THE PROPOSED BOTTOM OF STRUCTURAL FILL GRADE SHALL BE
EXCAVATED AND REPLACED WITH STRUCTURAL FILL, AS DIRECTED.
- THE EXCAVATION TO FINAL GRADE AND THE CONTROL OF WATER SHALL BE CONDUCTED IN
ACCORDANCE WITH SECTIONS 503 AND 504, AND IN A MANNER THAT PREVENTS DISTURBANCE OF
THE FOUNDATION SUPPORT MATERIALS. PUMPING EQUIPMENT SHALL BE PROPERLY FILTERED TO
PREVENT LOSS OF FINES. ANY DISTURBED AREAS SHALL BE OVER-EXCAVATED AND REPLACED
WITH STRUCTURAL FILL AT THE CONTRACTOR'S EXPENSE. SUMP AREAS SHALL BE LOCATED
OUTSIDE A 1H:2V SUPPORT LIMIT BELOW THE ABUTMENT AND WINGWALL FOOTINGS.
- FOR LOCATIONS REQUIRING ROCK REMOVAL, THE REQUIRED ELEVATION FOR ROCK REMOVAL
SHALL BE 12 INCHES BELOW THE FOOTING TO ACCOMMODATE THE 12 INCHES OF STRUCTURAL FILL.
ANY ROCK REMOVED BELOW AN ELEVATION 1 FOOT LOWER THAN THE REQUIRED ELEVATION WILL BE
CONSIDERED AS EXCESS REMOVAL AND WILL NOT BE PAID. NO PAYMENT WILL BE MADE FOR
STRUCTURAL FILL THAT IS REQUIRED TO REPLACE EXCESS ROCK REMOVAL.
- FRACTURES OR SEAMS IN THE BEDROCK SURFACE 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.
- PROTRUDING COBBLES AND BOULDERS ENCOUNTERED AT THE FINAL EXCAVATION LEVEL SHOULD BE
EITHER REMOVED AND REPLACED WITH STRUCTURAL FILL OR SPLIT TO PROVIDE A LEVEL SURFACE.

APPROACH SLAB NOTES

- FILL SPACES BETWEEN THE APPROACH CURBS AND APPROACH SLABS AND BETWEEN THE
U-BACK WING AND APPROACH SLAB WITH ITEM 520.0302 WITH ALL OC/OA TESTING
REQUIREMENTS WAIVED.
- APPROACH SLABS SHALL BE POURED AFTER THE CONCRETE DECK HAS BEEN CONSTRUCTED.
- APPROACH SLABS FOR BOTH ABUTMENTS (EXCEPT FOR CONCRETE ARMORING AT ABUTMENT B)
SHALL BE CAST 2 1/2" BELOW FINISHED GRADE AT THE APPROACH SLAB SEATS AND SLOPE
DOWN AS DETAILED ON THE PLANS.

REINFORCEMENT NOTES

- ITEM 544.7, SYNTHETIC FIBER REINFORCEMENT (F), SHALL BE ADDED TO THE CONCRETE
USED FOR THE APPROACH SLABS.
- REINFORCEMENT IN THE BOTTOM OF FOOTINGS AND BOTTOM OF APPROACH SLABS SHALL HAVE
3" MINIMUM CLEAR COVER. ALL OTHER REINFORCEMENT SHALL HAVE A 2 1/2" MINIMUM
CLEAR COVER, UNLESS OTHERWISE NOTED.
- PLACE REINFORCING STEEL TO AVOID WEEPERS, RAIL POST ANCHOR ASSEMBLIES,
ANCHOR BOLTS, AND EXPANSION JOINT STEEL.
- ANY EPOXY COATED REBAR CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY
COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.2.
- REINFORCING LEGEND: SP = SPACE, SPL = SPLICE, FS = FAR SIDE, NS = NEAR SIDE,
BOT = BOTTOM, ALT = ALTERNATING, DOW = DOWEL.
- REINFORCING BAR MARKS APPENDED WITH AN "E" INDICATE EPOXY COATED BARS.
- REINFORCING SHALL BE PAID UNDER ITEM 544, REINFORCING STEEL (F) OR ITEM 544.2,
REINFORCING STEEL, EPOXY COATED (F).

ABUTMENT AND WINGWALL NOTES

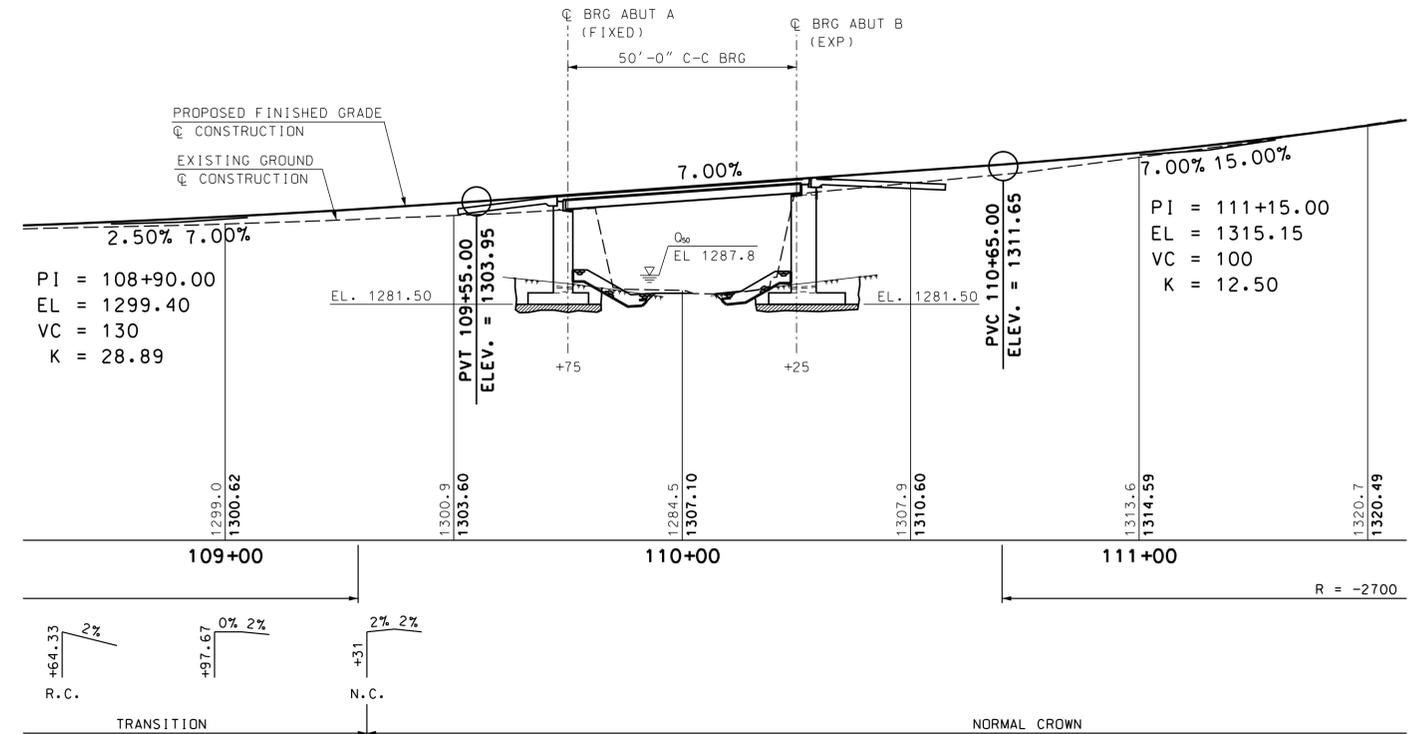
- WEEPERS SHALL BE PLACED SYMMETRICALLY 10'-0" APART AND CENTERED AT 12" ABOVE
THE TOP OF FOOTING. WEEPERS SHALL BE 4" DIAMETER AND SLOPED TO DRAIN AT
12:1. ALL COSTS WILL BE SUBSIDIARY TO ITEM 520.12.
- ITEM 538.2, BARRIER MEMBRANE, PEEL AND STICK - VERTICAL SURFACES (F), 2' WIDE,
SHALL BE PLACED CENTERED OVER THE BEARING SEAT CONSTRUCTION JOINT AND PLACED
CENTERED OVER ALL VERTICAL CONSTRUCTION JOINTS WITH PROTECTION BOARD (SUBSIDIARY).
- ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE), SHALL BE APPLIED TO ALL EXPOSED
CONCRETE SURFACES OF WINGWALLS AND ABUTMENTS (INCLUDING BRIDGE SEATS AND
BACKWALLS) TO 1'-0" BELOW FILL LINES.
- APPROACH CURBS SHALL BE SUPPORTED ON CONCRETE FORMED INTO 12"x 24" BLOCKS (12"
OF THE BLOCK RESTING ON THE CURB SEAT AND 12" ON SOIL). COST TO BE INCLUDED
IN ITEM 520.0302, WITH ALL OC/OA TESTING REQUIREMENTS WAIVED.

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE			
BRC\BrSite	16312 Notes	AS NOTED			

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312
LOCATION NH ROUTE 145 over BISHOP BROOK					
NOTES (1 OF 2)					BRIDGE SHEET
	REVISIONS AFTER PROPOSAL	BY	DATE	BY	DATE
		DESIGNED	MGL 3/16	CHECKED	PAB 6/16
		DRAWN	SMG 3/16	CHECKED	MGL 6/16
		QUANTITIES	SMG 6/16	CHECKED	MGL 7/16
		ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.
		REV. DATE		-----	11
					3 OF 33
					FILE NUMBER
					129-4-2
					TOTAL SHEETS
					56

STRUCTURAL STEEL AND SUPERSTRUCTURE NOTES

- ALL STRUCTURAL STEEL SHALL BE PAID UNDER ITEM 550.1, STRUCTURAL STEEL (F), INCLUDING THE GIRDERS, DIAPHRAGMS, GUSSET PLATES, CONNECTION PLATES, STIFFENERS, AND FASTENERS.
- THE NHDOT WILL INSPECT THE SHOP FABRICATION OF THE STRUCTURAL STEEL. FIELD SPLICES WILL NOT BE ALLOWED.
- NOTCH TOUGHNESS REQUIREMENTS SHALL BE IN ACCORDANCE WITH NHDOT STANDARD SPECIFICATIONS SECTION 550.2.2.3 AND SHALL APPLY TO THE WEB AND FLANGES OF GIRDERS, AND SPLICE PLATES.
- ALL BOLTED CONNECTIONS SHALL BE SLIP-CRITICAL (CLASS-B) MADE WITH 7/8" ϕ HIGH STRENGTH BOLTS IN 15/16" ϕ HOLES. ALL FASTENERS SHALL CONFORM TO REQUIREMENTS FOR AASHTO M164 (ASTM A325) TYPE 3 (IN COATED AREAS BOLTS SHALL BE TYPE 1 GALVANIZED).
- DIRECT TENSION INDICATORS SHALL BE INSTALLED WITH HIGH STRENGTH BOLTS.
- GIRDERS SHALL BE CAMBERED FOR FULL DEAD LOAD DEFLECTION ACCORDING TO BRIDGE SHEET 23. THE CAMBER SHALL BE ACHIEVED BY CUTTING THE WEB PLATE ACCORDING TO DIMENSIONS SHOWN ON THE GIRDER WEB LAYOUT ON BRIDGE SHEET 21. CAMBER TOLERANCE IS +3/4", -0" PER SPAN. FIELD SPLICES ARE NOT PERMITTED.
- BEARING STIFFENERS AND ENDS OF THE 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.
- DIAPHRAGMS SHALL BE FABRICATED IN THE SHOP WITH 1/4" FILLET WELDS, UNLESS NOTED OTHERWISE.
- 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 TRANSVERSE STIFFENERS OR CONNECTION PLATES.
- ANY SHOP OR FIELD WELDING OF ATTACHMENTS TO ANY PORTION OF THE PLATE GIRDERS FOR CONSTRUCTION PURPOSES WILL NOT BE 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 SECTION 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 "RECEIVED FOR DOCUMENTATION" BEFORE ERECTION STARTS.
- STEEL ERECTION AND DECK PANEL PLACEMENT SHALL NOT TAKE PLACE UNTIL 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.
- SCREED RAIL SUPPORTS REQUIRED FOR PLACEMENT OF THE DECK SLAB CONCRETE SHALL BE LOCATED AT THE CENTERLINE OF GIRDERS.
- ALL BRIDGE DECK CONCRETE POURED DURING A PARTICULAR PHASE OF THE SEQUENCE SHALL REMAIN PLASTIC THROUGHOUT THE ENTIRE POURING SEQUENCE.
- ALL WELDING AND FABRICATION SHALL BE PERFORMED IN CONFORMANCE WITH THE AASHTO/AWS D1.5-10 BRIDGE WELDING CODE (INCLUDING ALL REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE) AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- ALL STRUCTURAL STEEL, INCLUDING INTERIOR AND FASCIA SURFACES OF GIRDERS, DIAPHRAGMS, SHOES/BEARINGS SHALL BE PAINTED WITHIN 5' OF BOTH ENDS OF THE GIRDERS ACCORDING TO SPECIAL PROVISION 550. COST INCLUDED IN 550.1 STRUCTURAL STEEL (F), 550.2 BRIDGE SHOES (F), AND 548.21 ELASTOMERIC BEARING ASSEMBLIES (F).

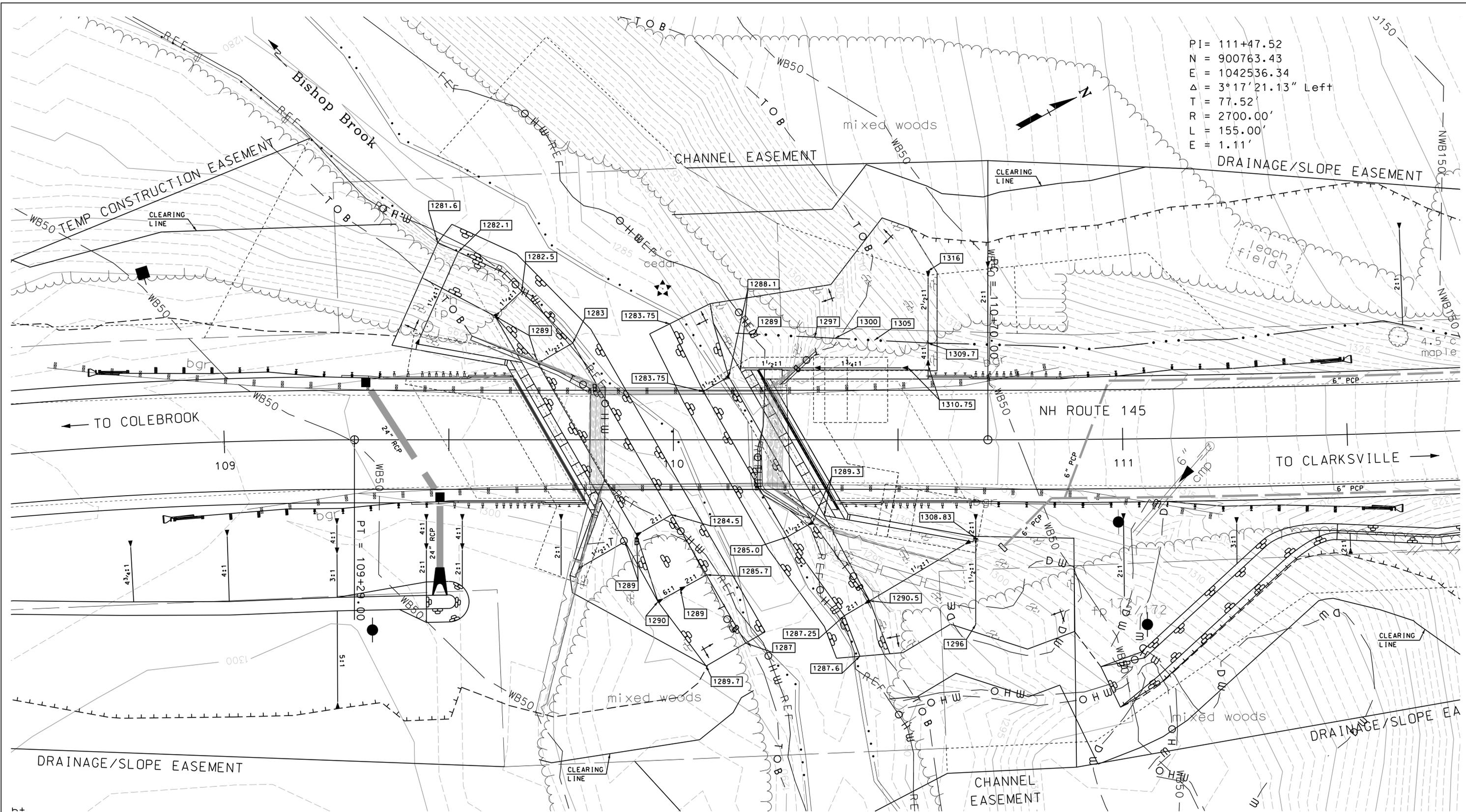


PROFILE

HORIZ.: 1" = 20'
VERT.: 1" = 20'

STATE OF NEW HAMPSHIRE														
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN														
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312									
LOCATION NH ROUTE 145 over BISHOP BROOK														
NOTES (2 OF 2) AND BRIDGE AREA PROFILE								BRIDGE SHEET						
REVISIONS AFTER PROPOSAL								DESIGNED	MGL	3/16	CHECKED	PAB	6/16	4 OF 33
								DRAWN	SMG	3/16	CHECKED	MGL	6/16	FILE NUMBER
								QUANTITIES	SMG	6/16	CHECKED	MGL	7/16	129-4-2
								ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS	
								REV. DATE		-----		12	56	

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\BrSite	16312 Notes	AS NOTED



PI = 111+47.52
 N = 900763.43
 E = 1042536.34
 $\Delta = 3^\circ 17' 21.13''$ Left
 T = 77.52'
 R = 2700.00'
 L = 155.00'
 E = 1.11'

PLAN

SCALE: 1" = 10'-0"

STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN		STEWARTSTOWN		BRIDGE NO.		122/115		STATE PROJECT		16312
LOCATION NH ROUTE 145 over BISHOP BROOK										
SITE PLAN								BRIDGE SHEET		
REVISIONS AFTER PROPOSAL								5 OF 33		
DESIGNED		MGL	6/15	CHECKED		PAB	6/16	FILE NUMBER		
DRAWN		SMG	6/15	CHECKED		MGL	6/16	129-4-2		
QUANTITIES		SMG	6/16	CHECKED		MGL	7/16	TOTAL SHEETS		
ISSUE DATE		FEDERAL PROJECT NO.				SHEET NO.		13		
REV. DATE		-----				SHEET NO.		13		
SUBDIRECTORY		DGN LOCATOR		SHEET SCALE						
XX		16312 Siteplan		AS NOTED						

1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260

TEST BORING REPORT										BORING NO. B01		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 109+34 OFF. LT 45		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
										ELEVATION (ft) 1284.1		
										START/END 5/4/99 / 5/4/99		
										DRILLER Paul Huckins		
										INSPECTOR DPO		
										CLASSIFIER EAST/NORTH (H) 1042394/900599		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	EQUIPMENT	SAMPLER	CASING	CORE			
5/5/99	7:30am	3.5	1280.6	14.7	14.7	S&H 40-C Skid						
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRATUM CHANGE (ft)	BLOWS PER 0.5 ft	SAMPLER RECOVERY (%)	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS							STRATUM SYMBOL
0				0.0	Loose, very dark brown, silty FINE SAND, little gravel, trace to little organics							
				2.0	-ALLUVIUM-							
				4.0	Loose, similar to S1							
				4.8	Very dense, very dark brown, GRAVEL, little silt -GLACIAL TILL-							
				4.8	-APPROXIMATE BEDROCK SURFACE-							
				8.4	Medium hard, severely to moderately weathered, extremely fractured, dark grey, fine grained, FELDSPATHIC METAWACKE**, with calcareous lenses and quartz stringers ROD=0.0/4.8=0%							
				11.6	Similar to C1 ROD=0.0/4.8=0%							
				14.2	Bottom of Exploration @ 14.2 ft (El. 1269.9)							
					** Rock containing metamorphosed and interbedded sand, silt, and clay layers							

TEST BORING REPORT										BORING NO. B02		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 109+92 OFF. LT 46		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
										ELEVATION (ft) 1284.2		
										START/END 5/5/99 / 5/5/99		
										DRILLER Paul Huckins		
										INSPECTOR DPO		
										CLASSIFIER EAST/NORTH (H) 1042421/900650		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	EQUIPMENT	SAMPLER	CASING	CORE			
5/5/99	7:30am	1.4	1282.8	11.6	11.6	S&H 40-C Skid						
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRATUM CHANGE (ft)	BLOWS PER 0.5 ft	SAMPLER RECOVERY (%)	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS							STRATUM SYMBOL
0				0.0	Very loose, very dark brown to dark reddish brown, loamy TOPSOIL							
				1.2	Advanced through BOULDER with NX wireline							
				2.8	-APPROXIMATE BEDROCK SURFACE-							
				4.0	Medium hard, severely to moderately weathered, extremely fractured, dark grey, fine grained, FELDSPATHIC METAWACKE**, with calcareous lenses and quartz stringers ROD=1.85/4.2=44%							
				8.8	Similar to C1 ROD=1.44/4.8=30%							
				11.6	Bottom of Exploration @ 11.6 ft (El. 1272.6)							
					** Rock containing metamorphosed and interbedded sand, silt, and clay layers							

TEST BORING REPORT										BORING NO. B03		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 110+47 OFF. RT 49		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
										ELEVATION (ft) 1286.8		
										START/END 5/6/99 / 5/10/99		
										DRILLER Paul Huckins		
										INSPECTOR DPO		
										CLASSIFIER EAST/NORTH (H) 1042531/900652		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	EQUIPMENT	SAMPLER	CASING	CORE			
5/10/99		0.0	1286.8			S&H 40-C Skid						
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRATUM CHANGE (ft)	BLOWS PER 0.5 ft	SAMPLER RECOVERY (%)	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS							STRATUM SYMBOL
0				0.0	Dense, very dark brown, SILT, some fine to coarse sand, little roots/organics							
				1.5	-ALLUVIUM-							
				3.0	APPROXIMATE BEDROCK SURFACE							
				3.4	Hard, fresh, sound, grey, fine grained, FELDSPATHIC METAWACKE**, with calcareous lenses and quartz stringers ROD=3.2/3.8=84%							
				6.8	Similar to C1 with 2 severely weathered zones ROD=4.49/4.8=94%							
				11.6	Similar to C1 with 2 severely weathered zones ROD=4.42/4.8=92%							
				16.4	Bottom of Exploration @ 16.4 ft (El. 1270.4)							
					** Rock containing metamorphosed and interbedded sand, silt, and clay layers							

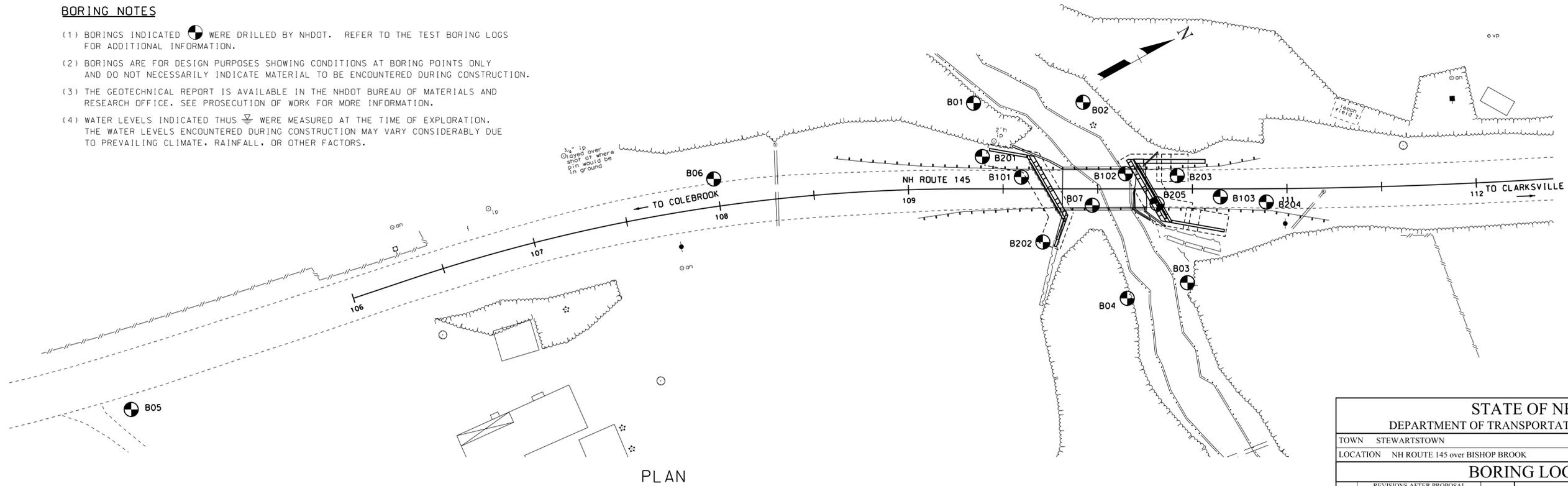
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260

BORING LOGS

SCALE: 1/4" = 1'-0"

BORING NOTES

- BORINGS INDICATED  WERE DRILLED BY NHDOT. REFER TO THE TEST BORING LOGS FOR ADDITIONAL INFORMATION.
- 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 IN THE NHDOT BUREAU OF MATERIALS AND RESEARCH OFFICE. SEE PROSECUTION OF WORK FOR MORE INFORMATION.
- WATER LEVELS INDICATED  WERE MEASURED AT THE TIME OF EXPLORATION. THE WATER LEVELS ENCOUNTERED DURING CONSTRUCTION MAY VARY CONSIDERABLY DUE TO PREVAILING CLIMATE, RAINFALL, OR OTHER FACTORS.



PLAN

SCALE: 1" = 30'-0"

BORING LOCATIONS				
NO.	STATION	OFFSET	EAST	NORTH
01	109+34	LT. 45	1042394	900599
02	109+92	LT. 46	1042421	900650
03	110+47	RT. 49	1042531	900652
04	110+16	RT. 58	1042523	900620
05	104+71	RT. 19	1042320	900131
06	107+99	LT. 15	1042362	900459
07	109+97	RT. 09	1042471	900628
101	109+60	LT. 06	1042440	900602
102	110+15	LT. 08	1042465	900651
103	110+65	RT. 04	1042500	900689
201	109+39	LT. 17	1042421	900589
202	109+71	RT. 28	1042475	900595
203	110+42	LT. 07	1042479	900674
204	110+89	RT. 07	1042514	900709
205	110+31	RT. 08	1042487	900658

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN STEWARTSTOWN			BRIDGE NO. 122/115			STATE PROJECT 16312			BRIDGE SHEET
LOCATION NH ROUTE 145 over BISHOP BROOK									
BORING LOGS (1 OF 4)								6 OF 33	
REVISIONS AFTER PROPOSAL				BY	DATE	BY	DATE	FILE NUMBER	
				DESIGNED	NHDOT	6/15	CHECKED	NHDOT	6/15
				DRAWN	SMG	7/15	CHECKED	MGL	7/15
				QUANTITIES	SMG	6/16	CHECKED	MGL	7/16
				ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS
				REV. DATE	-----			14	56

1320
1318
1316
1314
1312
1310
1308
1306
1304
1302
1300
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260

B04

TEST BORING REPORT										BORING NO. B04		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 110+16 OFF. RT 58		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
ELEVATION (ft) 1290.0										START/END 2/2/99 / 2/3/99		
DRILLER Paul Huckins										INSPECTOR Dale O'Connell		
CLASSIFIER DPO										EAST/NORTH (ft) 1042523/900620		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	TYPE	EQUIPMENT	SAMPLER	CASING	CORE		
2/3/99	3:00pm	4.0	1286.8	15	15	1.375	3	1.875	DRILL RIG	NR		
		HAMMER WT. (lb):		HAMMER FALL (in):		HAMMER TYPE:		DRILL RIG				
		140		30		S&H 40-C Skid		Mobile B-34 Trlr				
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRAIN CHANGE (ft)	DEPTH (ft)	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS				STRAIN SYMBOL
0	0.5	1290.3	32	25/0	S1	0.5 [100]	0.5 - 0.5	Very dark brown, gravelly forest DUFF				
--GLACIAL TILL--												
Advanced through boulders												
5	5.7	1285.1	10	35/06/0	S2	0.3 [43]	5.0 - 5.7	Olive, silty GRAVEL, trace to little fine to coarse sand				
--APPROXIMATE BEDROCK SURFACE--												
Hard, fresh, sound, (change at 7.9 ft to medium hard to soft, severely weathered, extremely fractured) gray, fine grained, FELDSPATHIC METAWACKE**, with calcareous lenses and quartz stringers												
RQD=1.81/4.3=42%												
10					C1	4.0 [93]		Medium hard to soft, severely weathered, extremely fractured, (change at 11.0 ft. to moderately hard, moderately to slightly weathered, slightly to moderately fractured), FELDSPATHIC METAWACKE**, with calcareous lenses and quartz stringers				
RQD=3.5/5.0=50%												
15					C2	5.0 [100]		Bottom of Exploration @ 15.0 ft (El. 1275.8)				
** Rock containing metamorphosed and interbedded sand, silt, and clay layers												
20								Bottom of Exploration @ 20.0 ft (El. 1266.0)				
25								Bottom of Exploration @ 25.0 ft (El. 1256.0)				
Sampler Identification												
S	Standard Split Spoon	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions		Proportion				
SL	Large Spoon (O.D.= 3 in)	Blows/ft (N)	Consistency	Blows/ft (N)	Apparent Density	Capillized Soil Name	Lower Case Adjective	Major Component				
T	Thin Wall Tube	0 - 1	Very Soft	0 - 4	Very Loose			35% - 50%				
U	Undisturbed Piston	2 - 4	Soft	5 - 10	Loose			20% - 35%				
O	Open End Rod	5 - 8	Medium Stiff	11 - 30	Medium Dense			10% - 20%				
A	Auger Flight	9 - 15	Stiff	31 - 50	Dense			1% - 10%				
C	Core Barrel	16 - 30	Very Stiff	> 50	Very Dense							
NR	Not Recorded	> 30	Hard	WOR - Weight of Rod	WOH - Weight of Hammer	ENGLISH						

B05

TEST BORING REPORT										BORING NO. B05		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 104+71 OFF. RT 19		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
ELEVATION (ft) 1318.0										START/END 12/21/99 / 12/21/99		
DRILLER Paul Huckins										INSPECTOR Dale O'Connell		
CLASSIFIER DPO										EAST/NORTH (ft) 1042320/900131		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	TYPE	EQUIPMENT	SAMPLER	CASING	CORE		
12/21/99	3:30pm	19.5	1296.5	18	20	1.375	3	3.375	DRILL RIG	NR		
		HAMMER WT. (lb):		HAMMER FALL (in):		HAMMER TYPE:		DRILL RIG				
		140		30		Mobile B-34 Trlr		Mobile B-34 Trlr				
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRAIN CHANGE (ft)	DEPTH (ft)	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS				STRAIN SYMBOL
0	0.5	1315.5	4		S1	1.7 [85]	0.5 - 1.0	Very dark brown, loamy, grassy TOPSOIL				
--KAME TERRACE--												
Medium dense, very dark brown, gravelly SILT, little fine to coarse sand												
5					S2	1.0 [50]	11 - 14	Dense, very dark brown, weakly stratified, FINE SAND, gravelly SILT, little medium to coarse sand, trace silt				
10					S3	1.4 [70]	8 - 9	Medium dense, similar to S2				
15					S4	1.4 [70]	4 - 8	Medium dense, similar to S2				
20					S5	1.5 [75]	7 - 11	Medium dense, similar to S2				
25					S6	1.8 [80]	6 - 6	Medium dense, stratified, SILTS, with layers of fine to coarse sand, trace fine gravel				
30					S7	1.6 [80]	6 - 6	Medium dense, similar to S6				
35					S8	1.8 [90]	4 - 4	Loose, very dark brown, stratified, SILTS/FINE SANDS				
40					S9	1.8 [90]	4 - 4	Loose, very dark brown, stratified, SILTS/FINE SANDS				
45					S10	1.3 [65]	16 - 22	WEATHERED BEDROCK				
--APPROXIMATE BEDROCK SURFACE--												
Bottom of Exploration @ 20.0 ft (El. 1296.0)												
Sampler Identification												
S	Standard Split Spoon	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions		Proportion				
SL	Large Spoon (O.D.= 3 in)	Blows/ft (N)	Consistency	Blows/ft (N)	Apparent Density	Capillized Soil Name	Lower Case Adjective	Major Component				
T	Thin Wall Tube	0 - 1	Very Soft	0 - 4	Very Loose			35% - 50%				
U	Undisturbed Piston	2 - 4	Soft	5 - 10	Loose			20% - 35%				
O	Open End Rod	5 - 8	Medium Stiff	11 - 30	Medium Dense			10% - 20%				
A	Auger Flight	9 - 15	Stiff	31 - 50	Dense			1% - 10%				
C	Core Barrel	16 - 30	Very Stiff	> 50	Very Dense							
NR	Not Recorded	> 30	Hard	WOR - Weight of Rod	WOH - Weight of Hammer	ENGLISH						

B06

TEST BORING REPORT										BORING NO. B06		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 107+99 OFF. LT 15		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
ELEVATION (ft) 1297.0										START/END 12/22/98 / 12/22/98		
DRILLER Paul Huckins										INSPECTOR Dale O'Connell		
CLASSIFIER DPO										EAST/NORTH (ft) 1042362/900459		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	TYPE	EQUIPMENT	SAMPLER	CASING	CORE		
12/22/98	3:00pm	2.0	1295.0	19.6	19.6	1.375	3	3.375	DRILL RIG	NR		
		HAMMER WT. (lb):		HAMMER FALL (in):		HAMMER TYPE:		DRILL RIG				
		140		30		Mobile B-34 Trlr		Mobile B-34 Trlr				
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRAIN CHANGE (ft)	DEPTH (ft)	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS				STRAIN SYMBOL
0	0.5	1296.5	3		S1	1.2 [60]	0.5 - 1.0	Very dark brown, loamy, grassy TOPSOIL				
--FILL--												
Loose, very dark brown, fine to coarse sandy GRAVEL, little silt												
5	4.5	1292.5	6		S2	1.4 [70]	5 - 5	Loose, very dark brown, SILT, trace to little organics				
10					S3	1.0 [50]	10 - 10	Very dense, very dark brown, silty GRAVEL, trace fine to coarse sand				
--GLACIAL TILL--												
15					S4	1.6 [80]	14 - 18	Dense, similar to S3				
20					S5	1.8 [90]	7 - 7	Medium dense, dark olive, SILT, trace to little gravel				
25					S6	1.6 [80]	14 - 20	Dense, similar to S5				
30					S7	1.6 [80]	23 - 23	Very dense, similar to S6				
--APPROXIMATE BEDROCK SURFACE--												
Advanced with roller bit through grey, weathered bedrock												
35					C1	4.8 [100]		Hard, slightly weathered to fresh, sound, fine grained, grey, FELDSPATHIC METAWACKE**, with calcareous lenses and quartz stringers				
RQD=4.37/4.8=91%												
40								Bottom of Exploration @ 19.6 ft (El. 1277.4)				
** Rock containing metamorphosed and interbedded sand, silt, and clay layers												
Sampler Identification												
S	Standard Split Spoon	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions		Proportion				
SL	Large Spoon (O.D.= 3 in)	Blows/ft (N)	Consistency	Blows/ft (N)	Apparent Density	Capillized Soil Name	Lower Case Adjective	Major Component				
T	Thin Wall Tube	0 - 1	Very Soft	0 - 4	Very Loose			35% - 50%				
U	Undisturbed Piston	2 - 4	Soft	5 - 10	Loose			20% - 35%				
O	Open End Rod	5 - 8	Medium Stiff	11 - 30	Medium Dense			10% - 20%				
A	Auger Flight	9 - 15	Stiff	31 - 50	Dense			1% - 10%				
C	Core Barrel	16 - 30	Very Stiff	> 50	Very Dense							
NR	Not Recorded	> 30	Hard	WOR - Weight of Rod	WOH - Weight of Hammer	ENGLISH						

B204

TEST BORING REPORT										BORING NO. B204		
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION MATERIALS & RESEARCH BUREAU - GEOTECHNICAL SECTION										SHEET NO. 1 OF 1		
PROJECT NAME STEWARTSTOWN 16312 BRIDGE NO. 121/114										STA. 110+89 OFF. RT 07		
DESCRIPTION NH Route 145 over Bishop Brook										BASELINE Route 145 CL		
ELEVATION (ft) 1312.4										START/END 8/27/15 / 8/27/15		
DRILLER C. Cleveland (NHDOT)										INSPECTOR Scott Myers		
CLASSIFIER SFM										EAST/NORTH (ft) 1042514/900709		
GROUNDWATER												
DATE	TIME	DEPTH (ft)	ELEV. (ft)	BOTTOM OF CASING (ft)	BOTTOM OF HOLE (ft)	TYPE	EQUIPMENT	SAMPLER	CASING	CORE		
8/27/15	10:30 am	15.5	1298.8	7	17.2	1.375	3	1.875	DRILL RIG	NR		
		HAMMER WT. (lb):		HAMMER FALL (in):		HAMMER TYPE:		DRILL RIG				
		140		30		Automatic		CME 45-C Track rig				
FIELD CLASSIFICATION AND REMARKS												
DEPTH (ft)	STRAIN CHANGE (ft)	DEPTH (ft)	ELEVATION	BLOWS PER 0.5 ft	SAMPLE NUMBER	SAMPLER RECOVERY (ft) [%]	DEPTH RANGE (ft)	FIELD CLASSIFICATION AND REMARKS				STRAIN SYMBOL
0	1.0	1311.4	11		S1	1.3 [65]	1.0 - 1.0	Advanced exploration through --ASPHALT--				
--FILL--												
Medium dense, dark grayish brown, gravelly FINE SAND, little silt, trace coarse - medium sand												
5	5.5	1306.9	13		S2	1.4 [70]	5.0 - 5.5	Very dense, gray, silty FINE SAND, little - trace gravel, trace coarse - medium sand				
--GLACIAL TILL--												
--APPROXIMATE BEDROCK SURFACE--												
10					C1	4.5 [90]		Hard, slightly to moderately weathered, slightly to moderately fractured, gray, fine grained, META-GRAYWACKE, w/ calcite stringers & low angle fractures RQD = 68%				
15					C2	4.9 [100]		Hard, slightly weathered w/ one moderately severely weathered zone 13.7'-14.1', sand to slightly fractured w/ couple of moderately fractured zones, gray, fine grained, META-GRAYWACKE, w/ two moderately dipping fractures & one quartz vein RQD = 4.1/4.9 = 84%				
Bottom of Exploration @ 17.2 ft (El. 1295.2)												
Sampler Identification												
S	Standard Split Spoon	COHESIVE SOILS		NON-COHESIVE SOILS		Soil Descriptions		Proportion				
SL	Large Spoon (O.D.= 3 in)	Blows/ft (N)	Consistency	Blows/ft (N)	Apparent Density	Capillized Soil Name	Lower Case Adjective	Major Component				
T	Thin Wall Tube	0 - 1	Very Soft	0 - 4	Very Loose			35% - 50%				
U	Undisturbed Piston	2 - 4	Soft	5 - 10	Loose			20% - 35%				
O	Open End Rod	5 - 8	Medium Stiff	11 - 30	Medium Dense			10% - 20%				
A	Auger Flight	9 - 15	Stiff	31 - 50	Dense			1% - 10%				
C	Core Barrel	16 - 30	Very Stiff	> 50	Very Dense							
NR	Not Recorded	> 30	Hard	WOR - Weight of Rod	WOH - Weight of Hammer	ENGLISH						

1320
1318
1316
1314
1312
1310
1308
1306
1304
1302
1300
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260

BORING LOGS

SCALE: 1/4" = 1'-0"

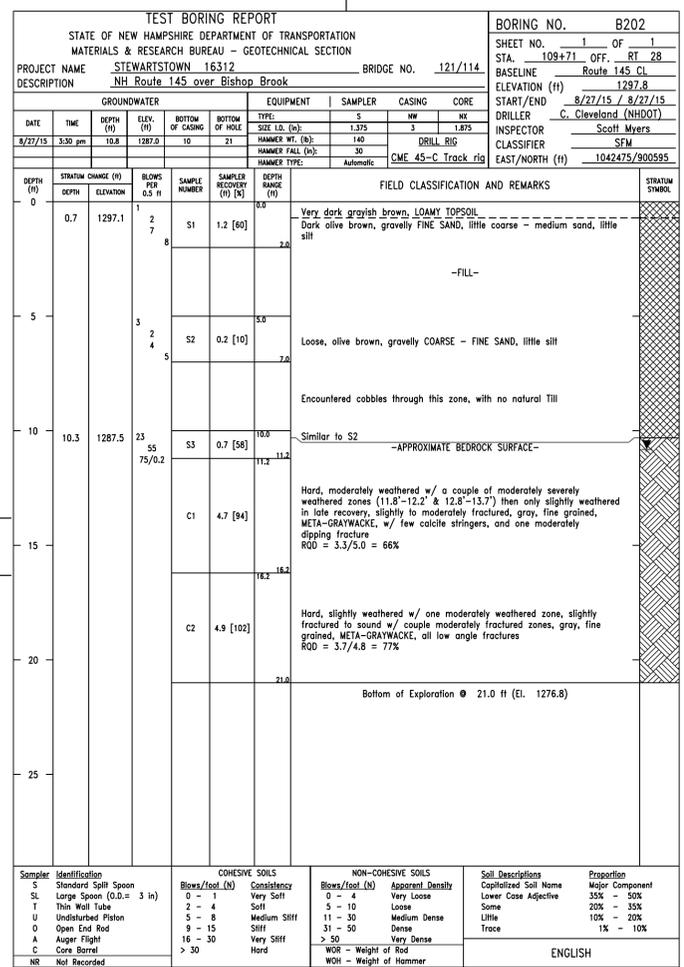
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN STEWARTSTOWN		BRIDGE NO. 122/115		STATE PROJECT 16312					
LOCATION NH ROUTE 145 over BISHOP BROOK									
BORING LOGS (2 OF 4)								BRIDGE SHEET	
REVISIONS AFTER PROPOSAL				BY DATE		BY DATE		7 OF 33	
DESIGNED NHDOT				6/15		CHECKED NHDOT		6/15	
DRAWN SMG				7/15		CHECKED MGL		7/15	
QUANTITIES SMG				6/16		CHECKED MGL		7/16	
ISSUE DATE				FEDERAL PROJECT NO.		SHEET NO.		TOTAL SHEETS	
REV. DATE				-----		15		56	

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/BRSITE	16312 borlog	AS NOTED

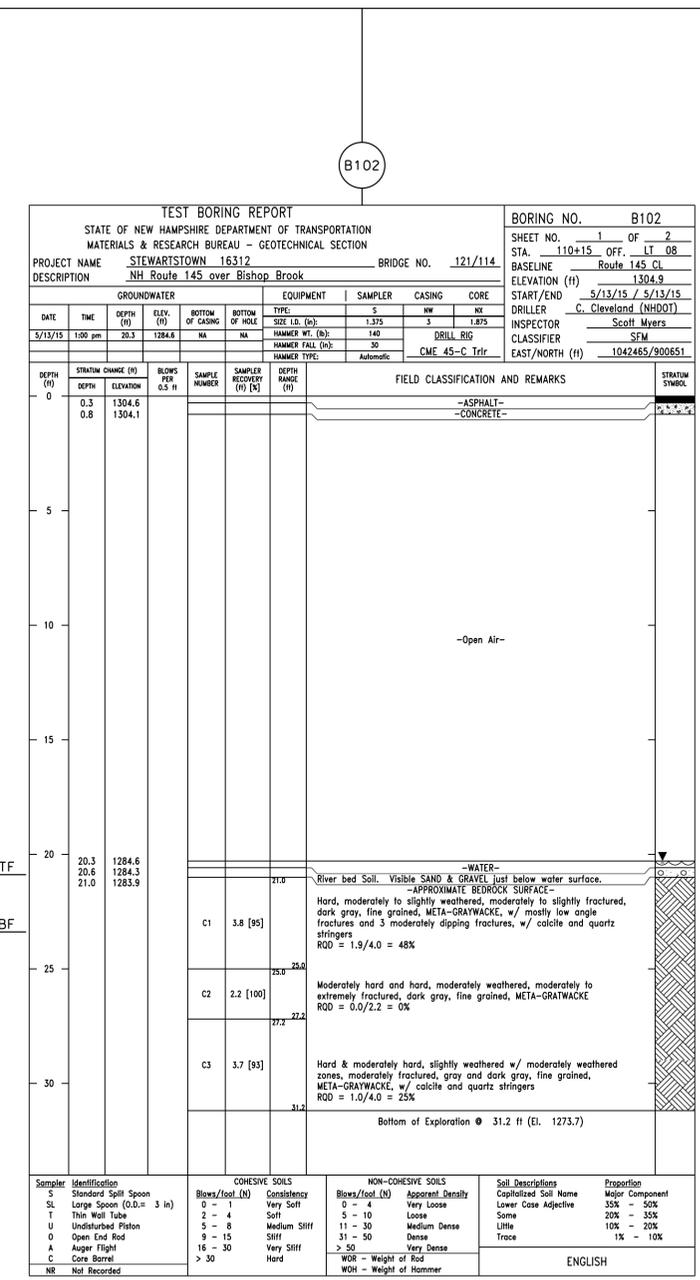
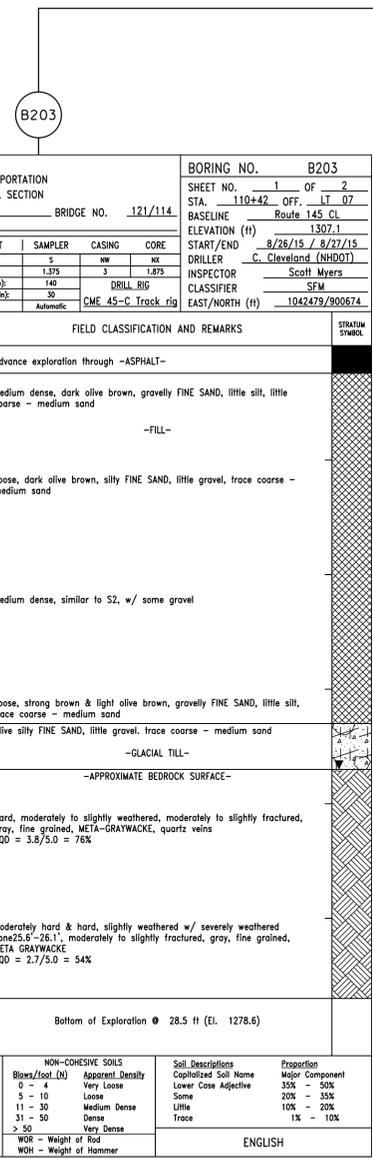
1310
1308
1306
1304
1302
1300
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260

1310
1308
1306
1304
1302
1300
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270
1268
1266
1264
1262
1260

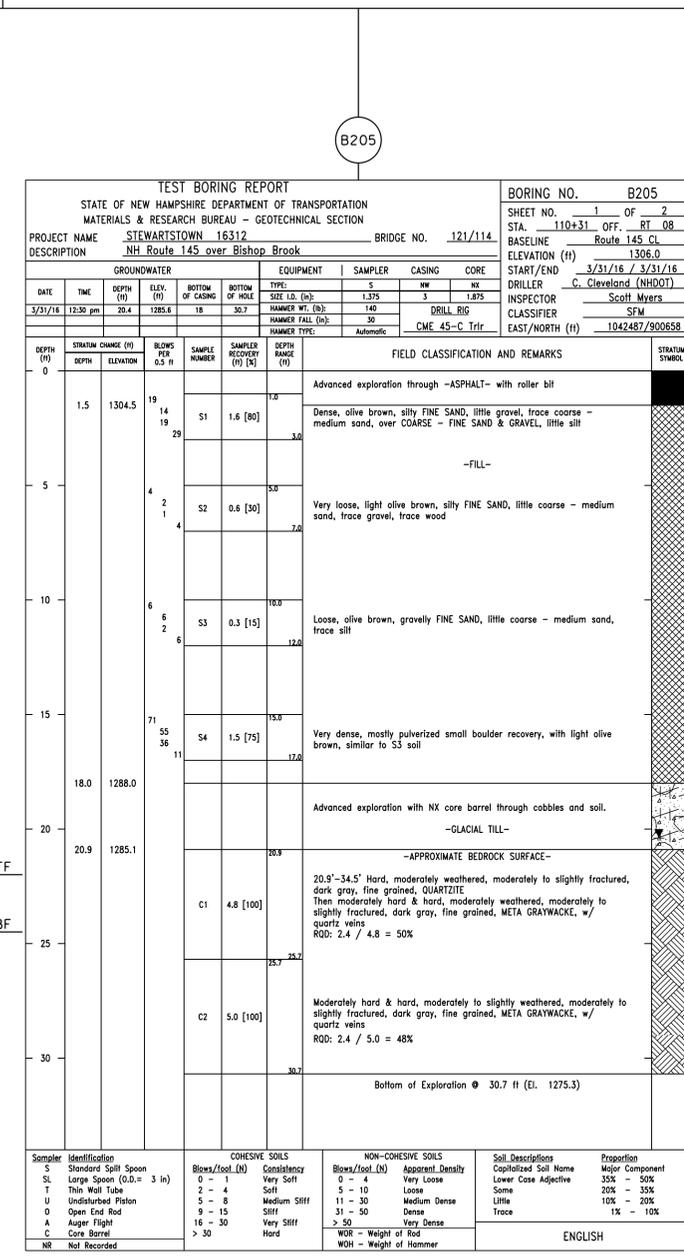
B202



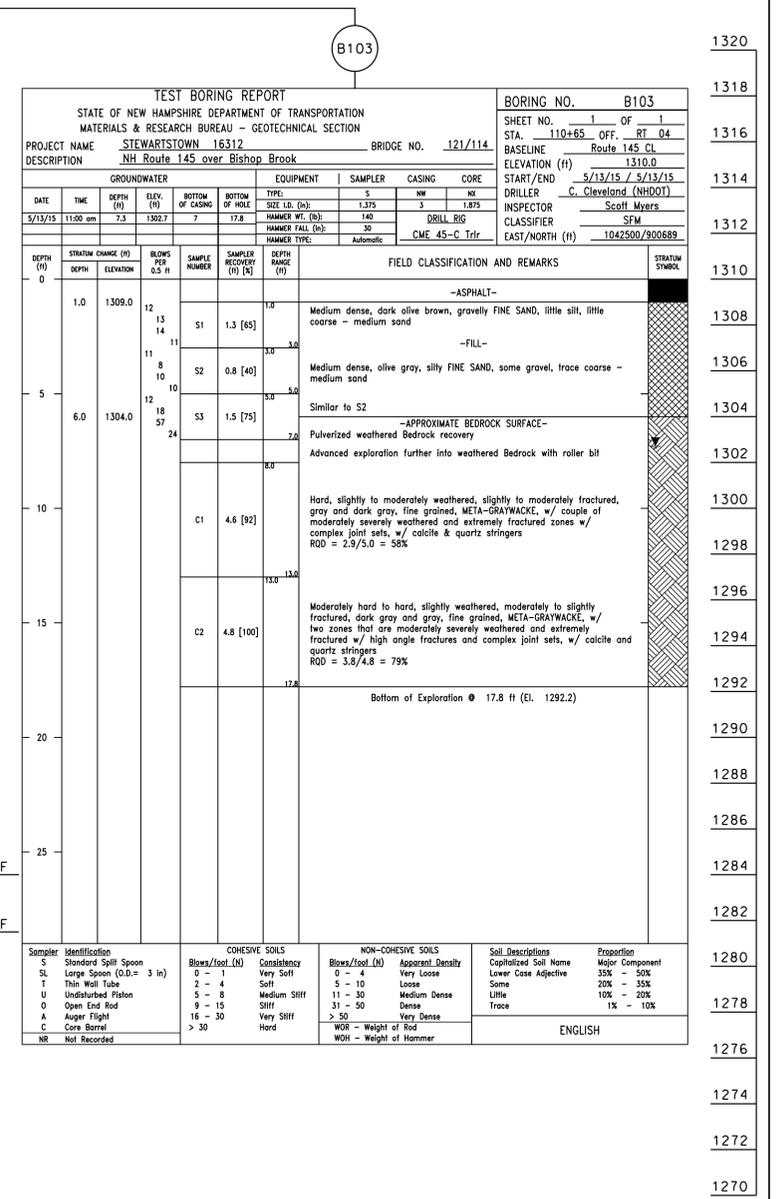
1320
1318
1316
1314
1312
1310
1308
1306
1304
1302
1300
1298
1296
1294
1292
1290
1288
1286
1284
1282
1280
1278
1276
1274
1272
1270



ABUT B

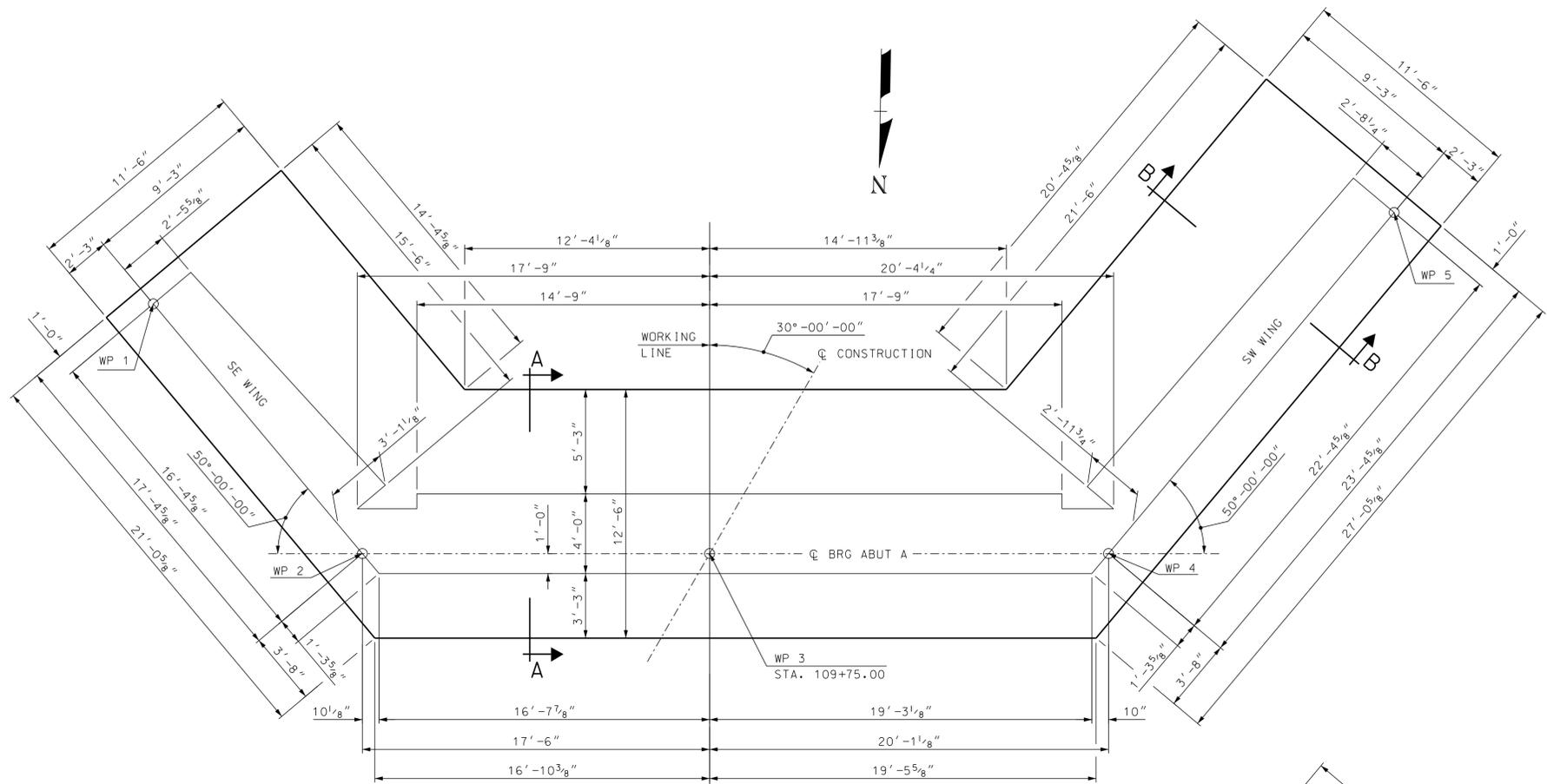


B205



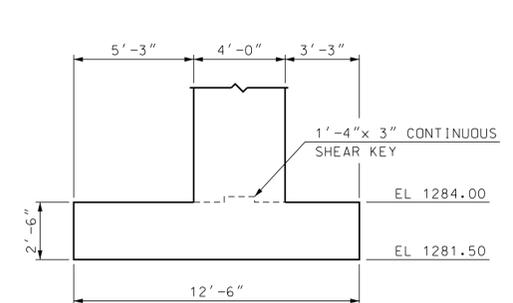
TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING
BORING LOGS
SCALE: 1/4" = 1' - 0"

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
BORING LOGS (4 OF 4)									
REVISIONS AFTER PROPOSAL			BY	DATE	BY	DATE	BRIDGE SHEET		
			DESIGNED	NHDOT	6/15	CHECKED	NHDOT	6/15	9 OF 33
			DRAWN	SMG	7/15	CHECKED	MGL	7/15	FILE NUMBER
			QUANTITIES	SMG	6/16	CHECKED	MGL	7/16	129-4-2
SUBDIRECTORY		DGN LOCATOR	SHEET SCALE		ISSUE DATE		FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS
BRC/BRSITE		16312 borlog	AS NOTED		REV. DATE		-----	17	56



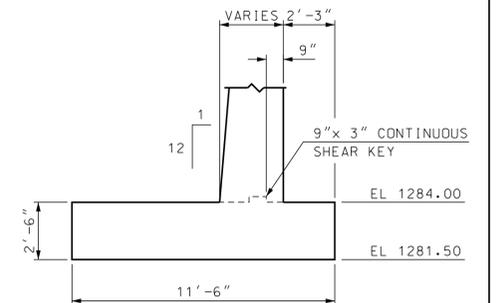
ABUTMENT A FOOTING PLAN

SCALE: 1/4" = 1'-0"



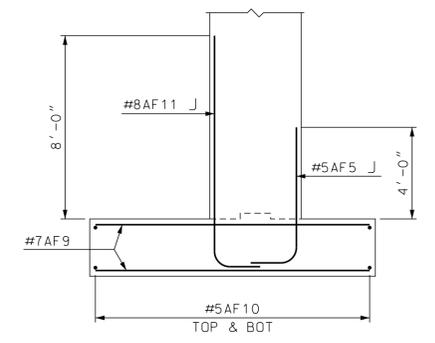
SECTION A-A

SCALE: 1/4" = 1'-0"



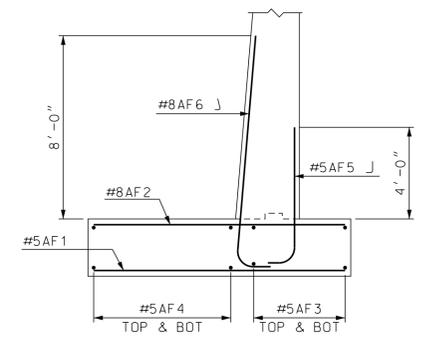
SECTION B-B

SCALE: 1/4" = 1'-0"



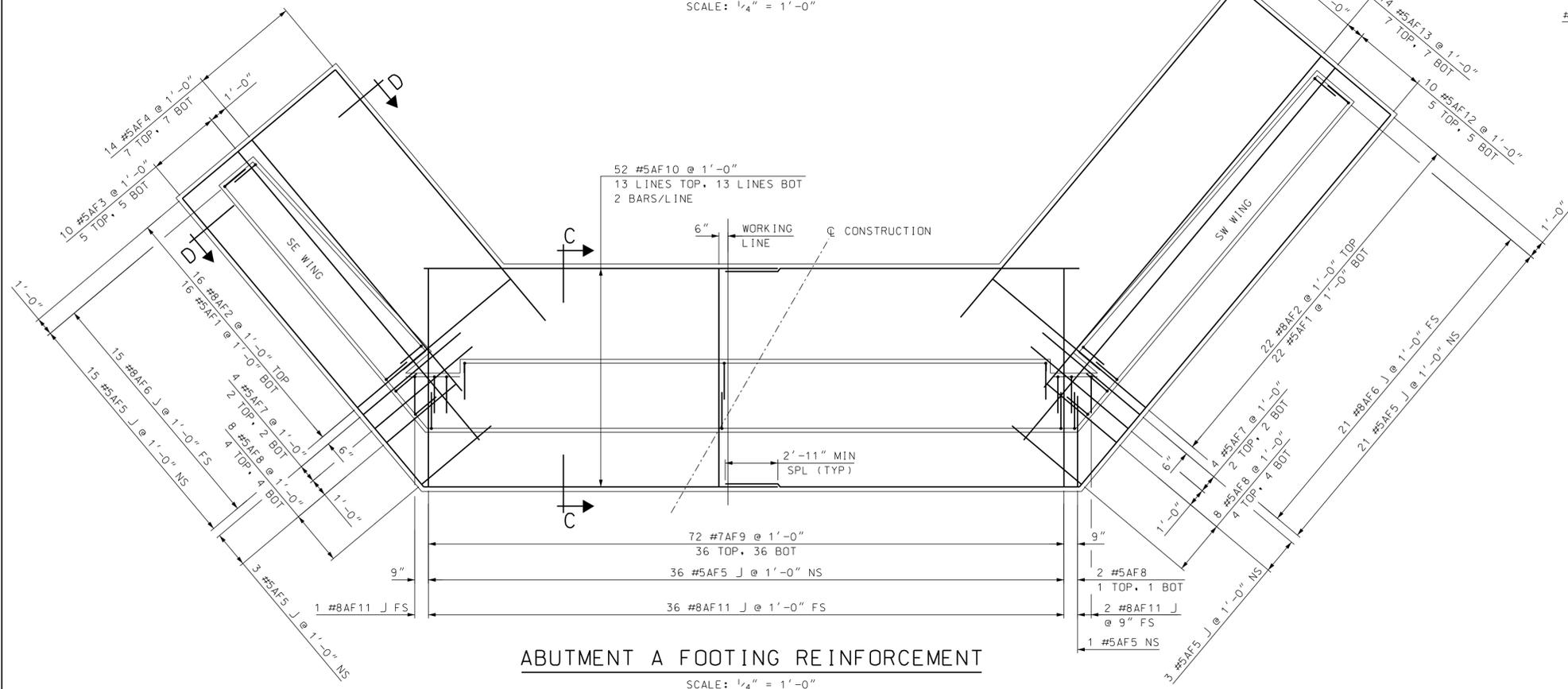
SECTION C-C

SCALE: 1/4" = 1'-0"



SECTION D-D

SCALE: 1/4" = 1'-0"

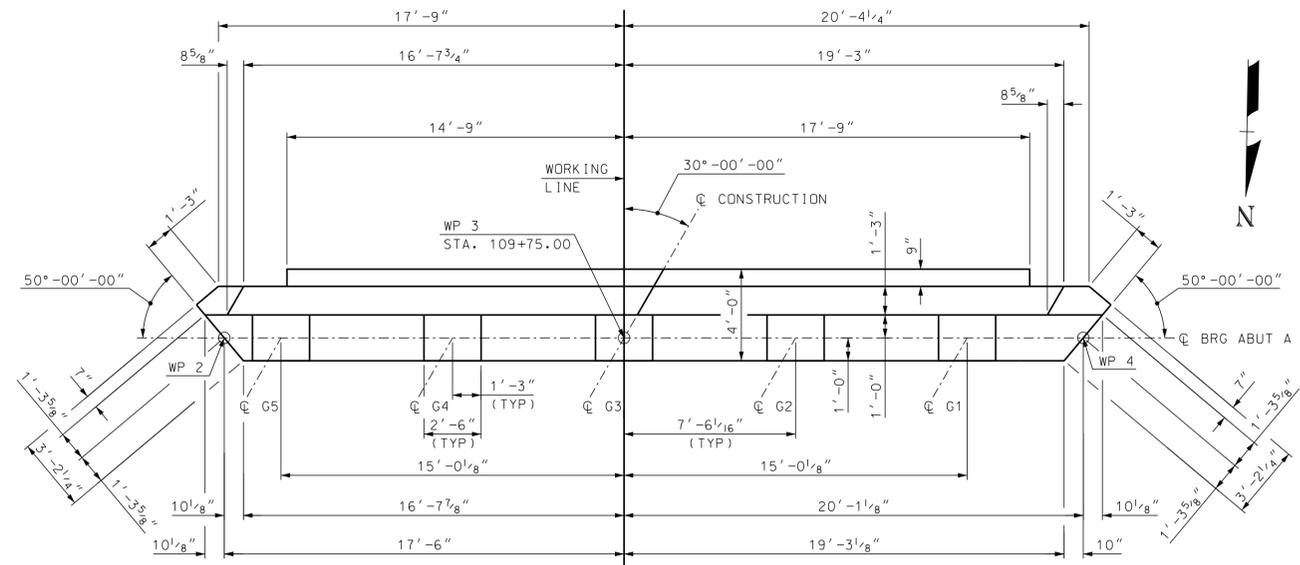


ABUTMENT A FOOTING REINFORCEMENT

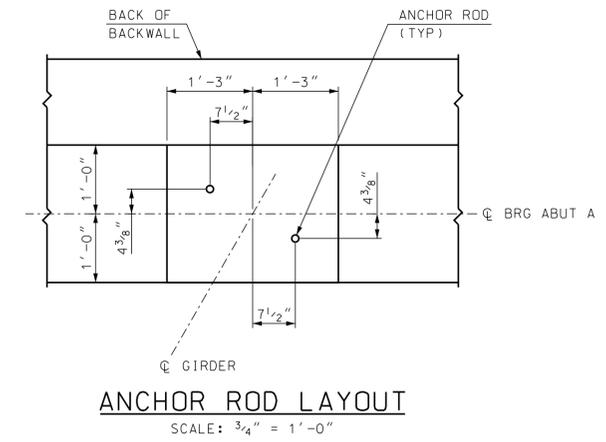
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE												
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN												
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312							
LOCATION NH ROUTE 145 over BISHOP BROOK						BRIDGE SHEET						
ABUT A FOOTING MASONRY & REINFORCEMENT						10 OF 33						
REVISIONS AFTER PROPOSAL						DESIGNED	MGL	3/16	CHECKED	PAB	6/16	FILE NUMBER
						DRAWN	SMG	3/16	CHECKED	MGL	6/16	129-4-2
						QUANTITIES	SMG	6/16	CHECKED	MGL	7/16	
ISSUE DATE						FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS	
REV. DATE						-----			18		56	

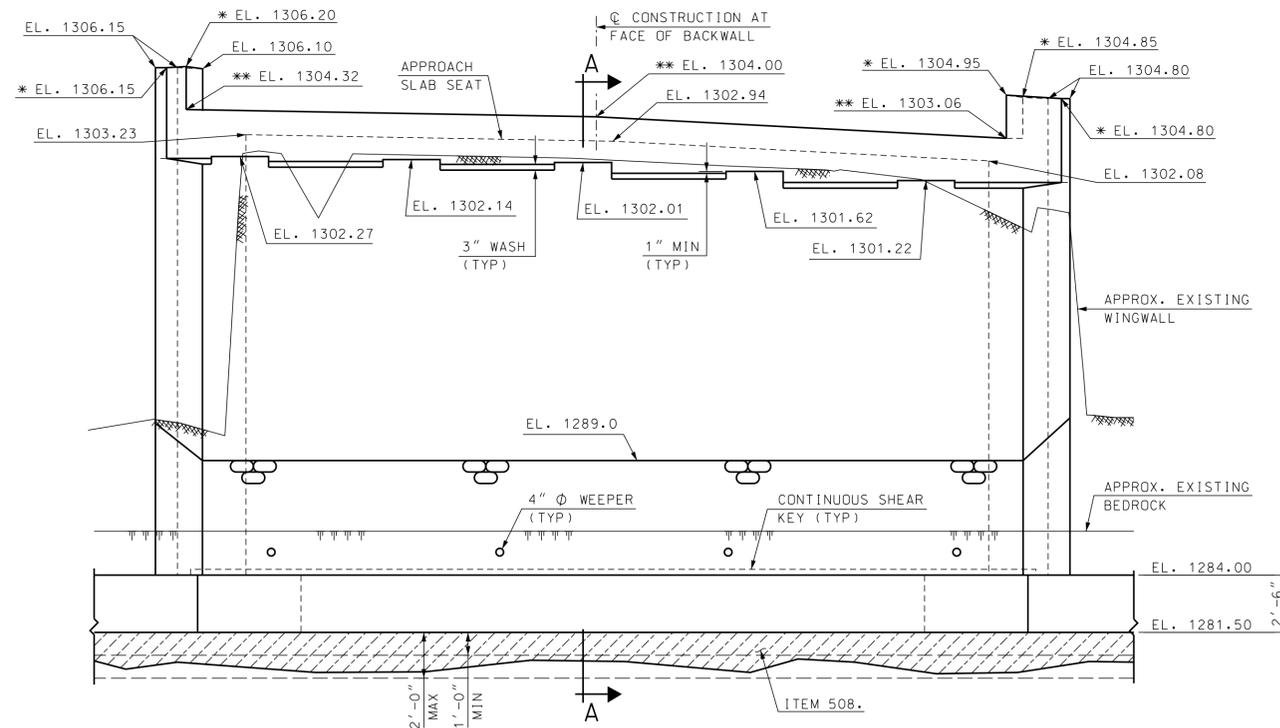
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/ABUTA	16312 A foot	AS NOTED



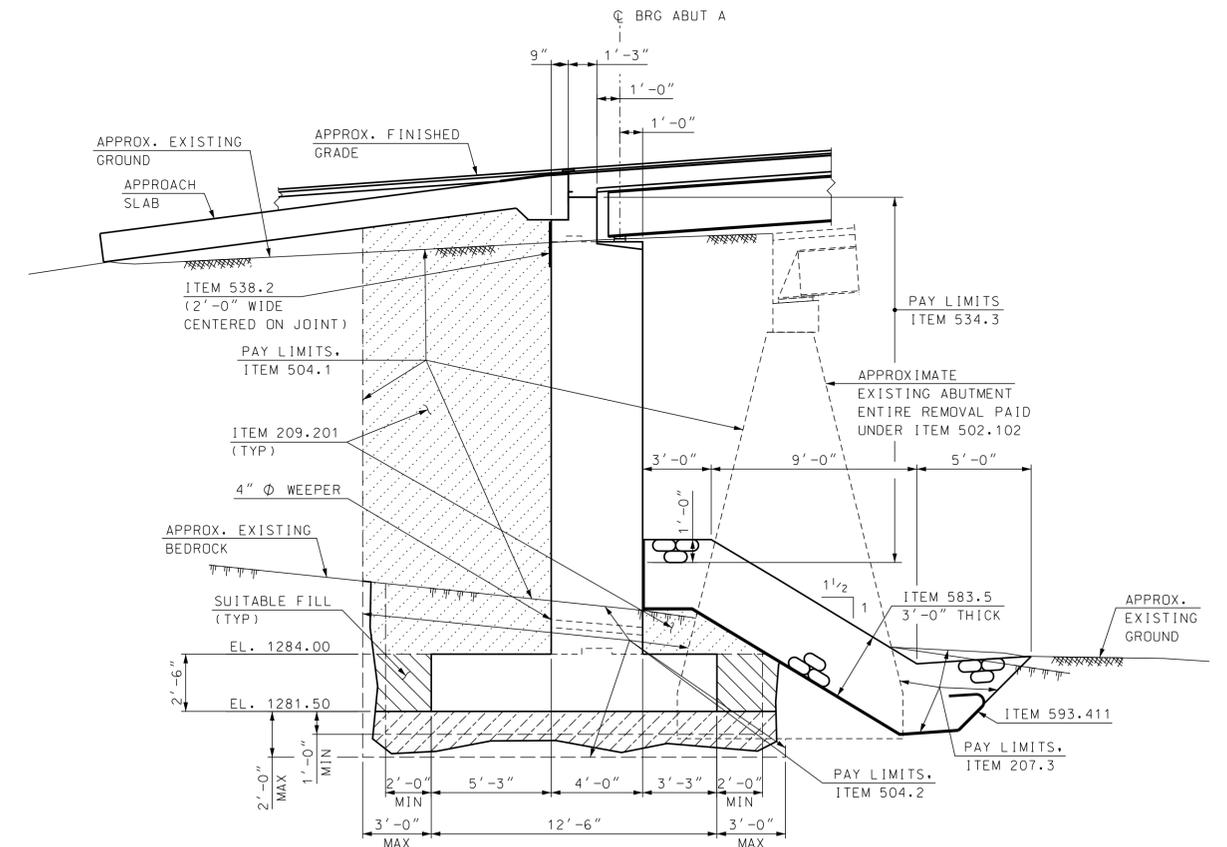
ABUTMENT A PLAN
SCALE: 1/4" = 1'-0"



ANCHOR ROD LAYOUT
SCALE: 3/4" = 1'-0"



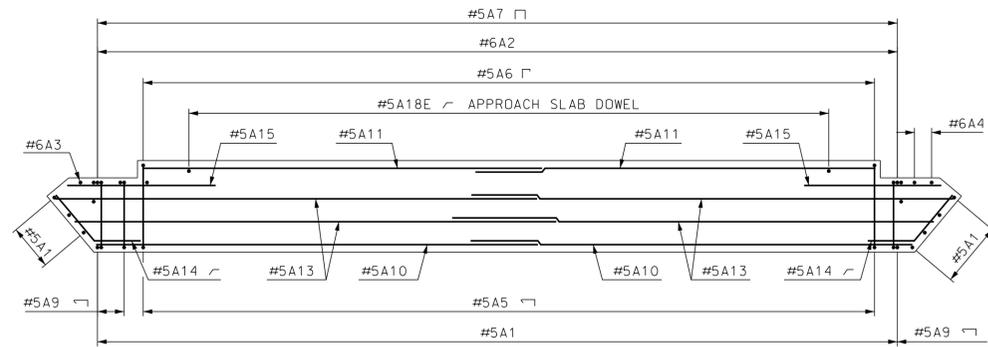
* ELEVATION GIVEN AT FACE OF BACKWALL
** TOP OF BACKWALL LEVEL ALONG Q CONSTRUCTION
ABUTMENT A ELEVATION
SCALE: 1/4" = 1'-0"



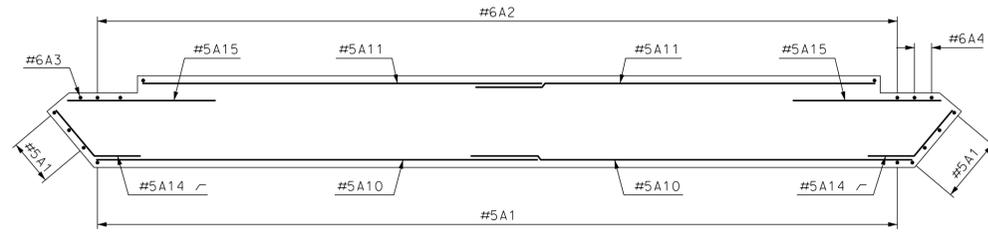
SECTION A-A
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION NH ROUTE 145 over BISHOP BROOK									
ABUTMENT A MASONRY								BRIDGE SHEET	11 OF 33
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	PAB	DATE	FILE NUMBER		
		DESIGNED	MGL	2/16	CHECKED	MGL	129-4-2		
		DRAWN	SMG	2/16	CHECKED	MGL	7/16		
		QUANTITIES	SMG	6/16	CHECKED	MGL	7/16		
ISSUE DATE		FEDERAL PROJECT NO.				SHEET NO.	TOTAL SHEETS		
REV. DATE		-----				19	56		

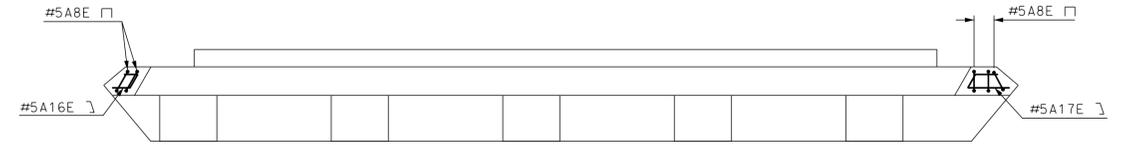
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\ABUT A	16312 AbutA	AS NOTED



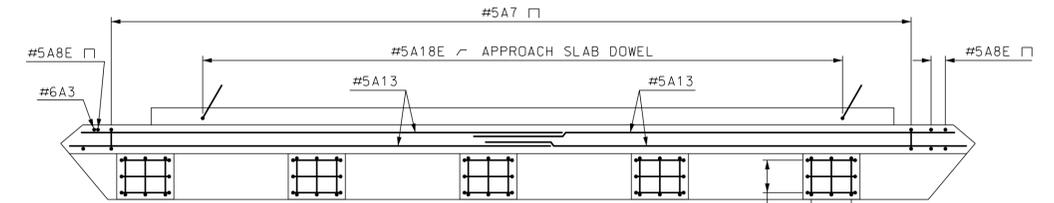
SECTION C-C
SCALE: 1/4" = 1'-0"



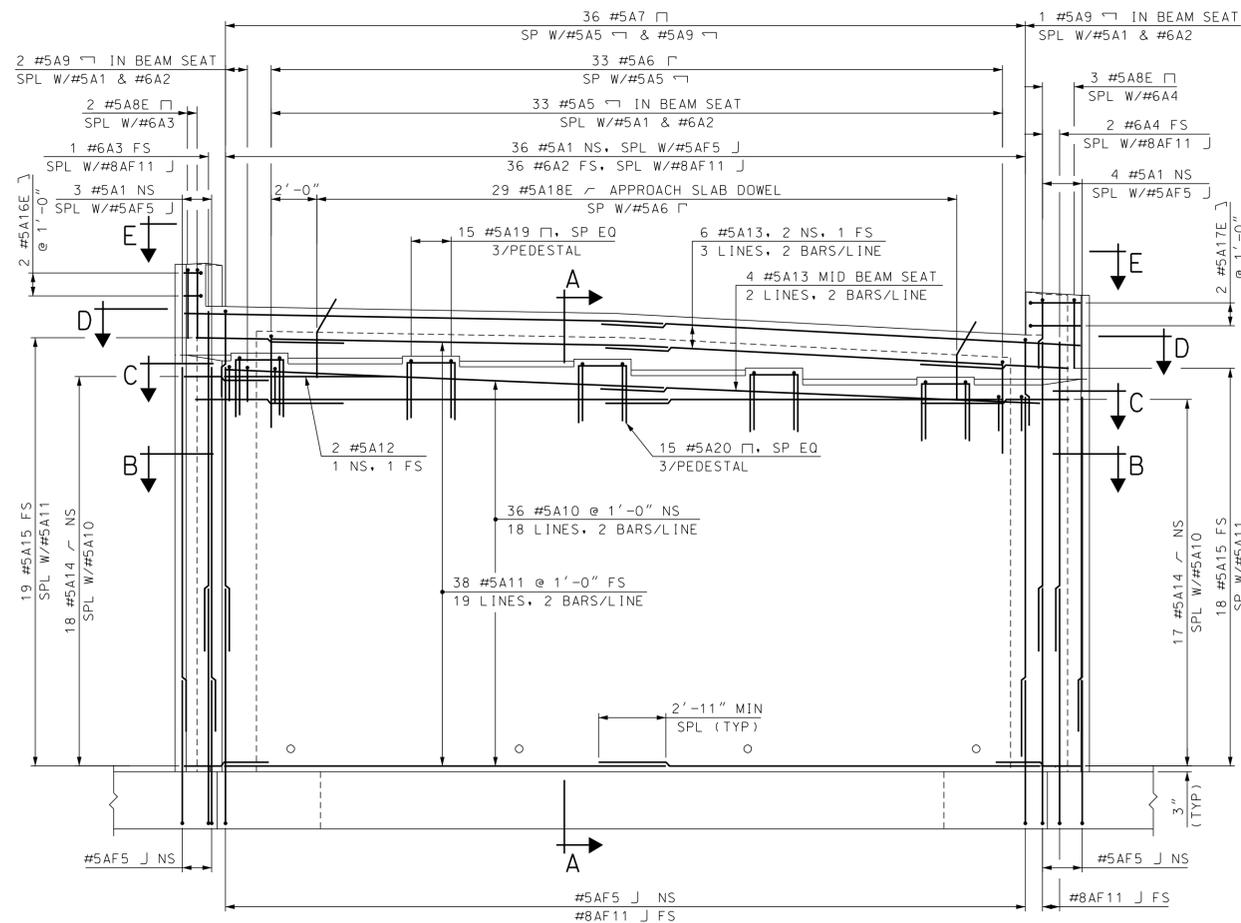
SECTION B-B
SCALE: 1/4" = 1'-0"



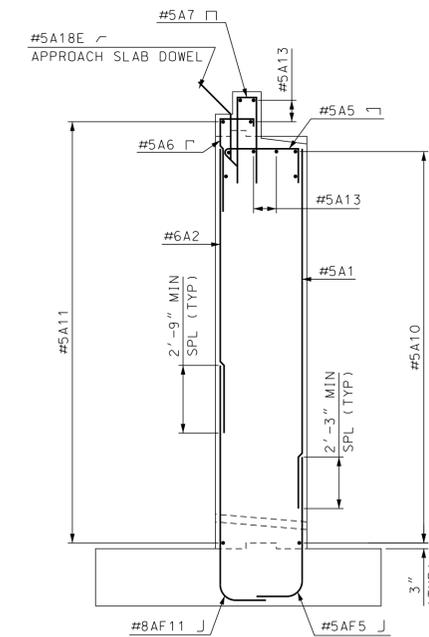
VIEW E-E
SCALE: 1/4" = 1'-0"



SECTION D-D
SCALE: 1/4" = 1'-0"



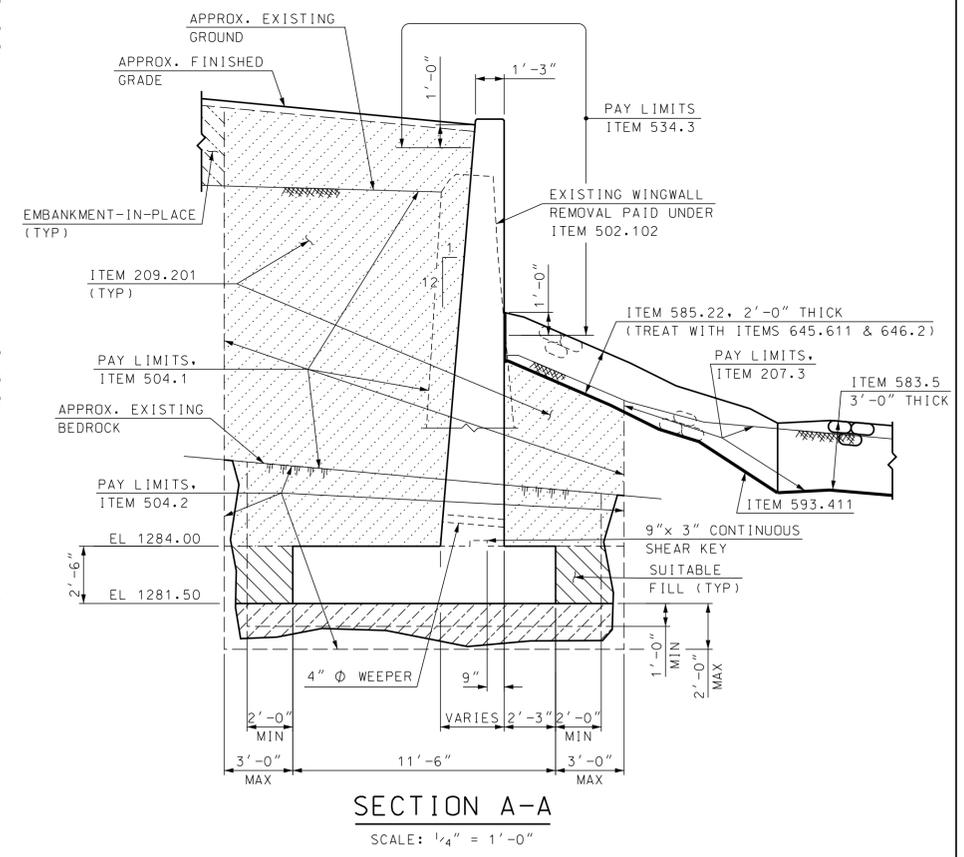
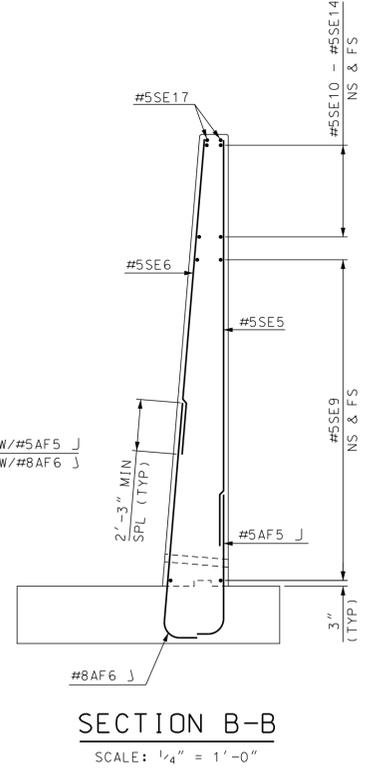
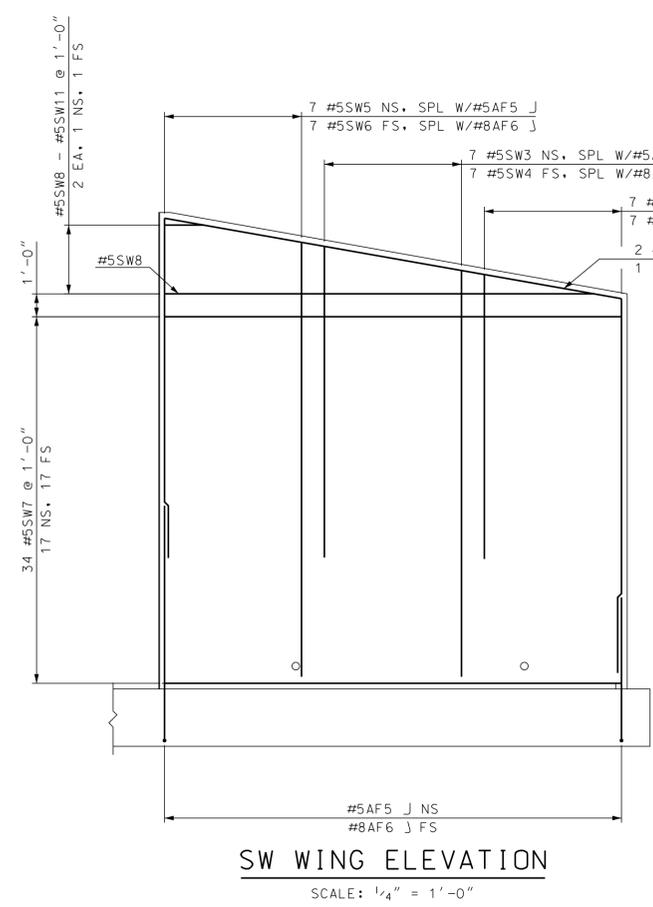
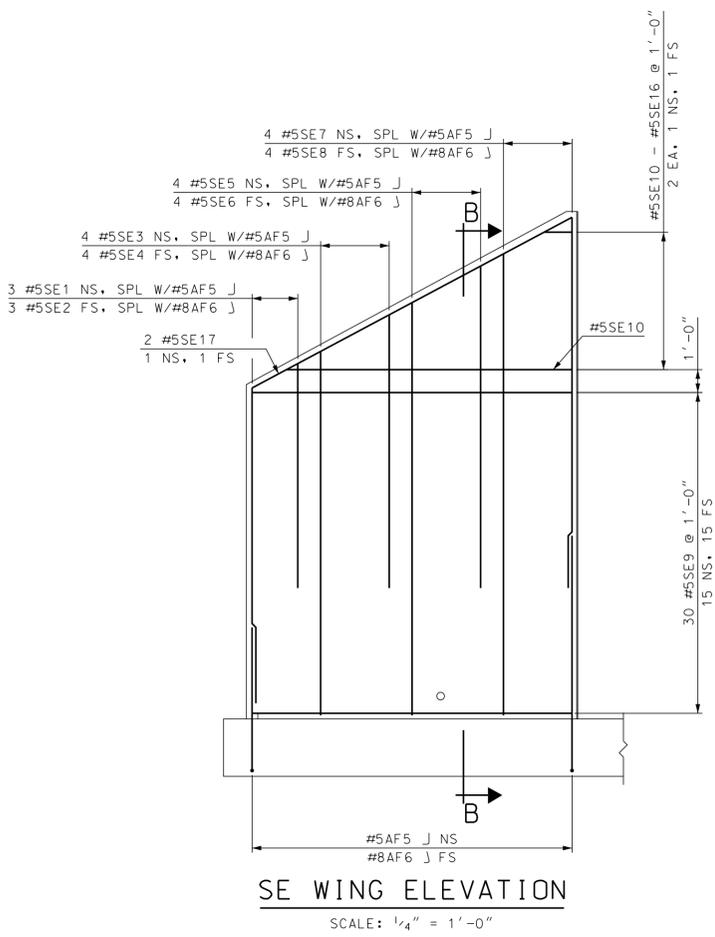
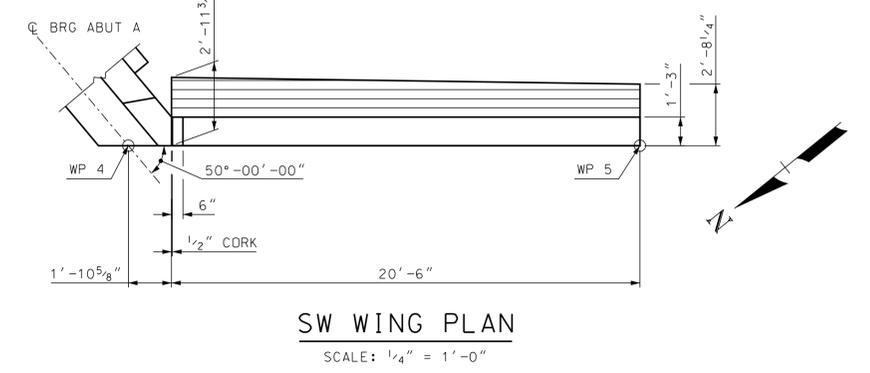
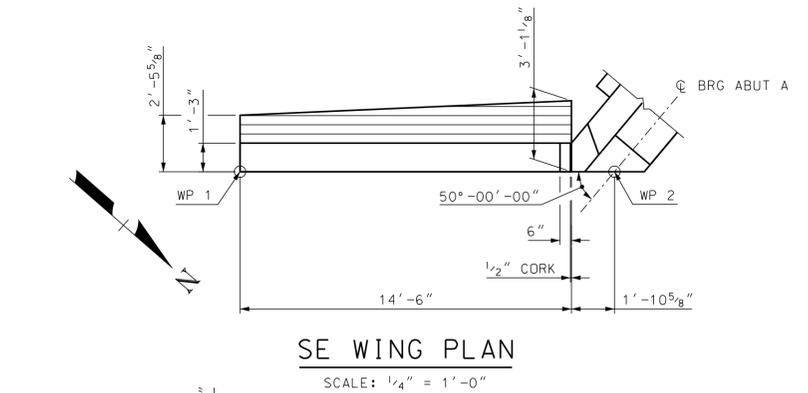
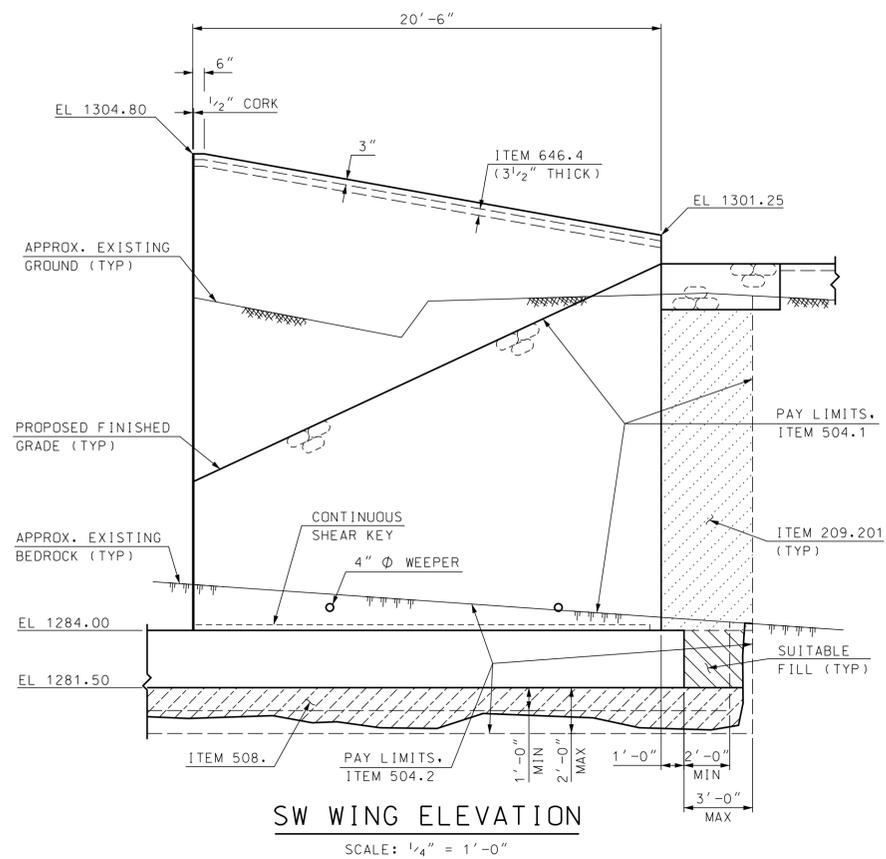
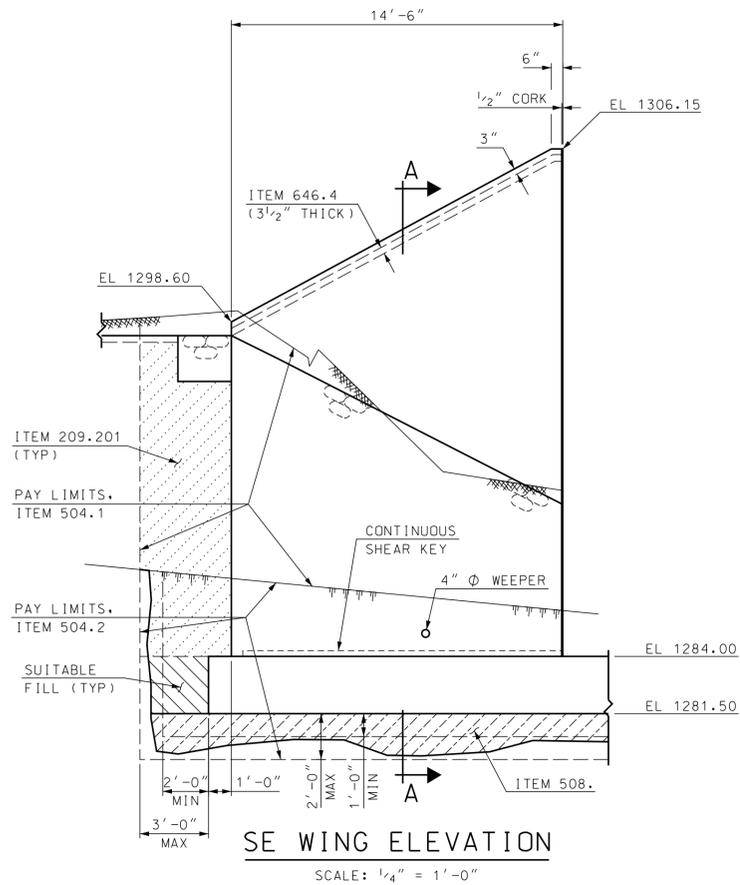
ABUTMENT A REINFORCEMENT
SCALE: 1/4" = 1'-0"



SECTION A-A
SCALE: 1/4" = 1'-0"

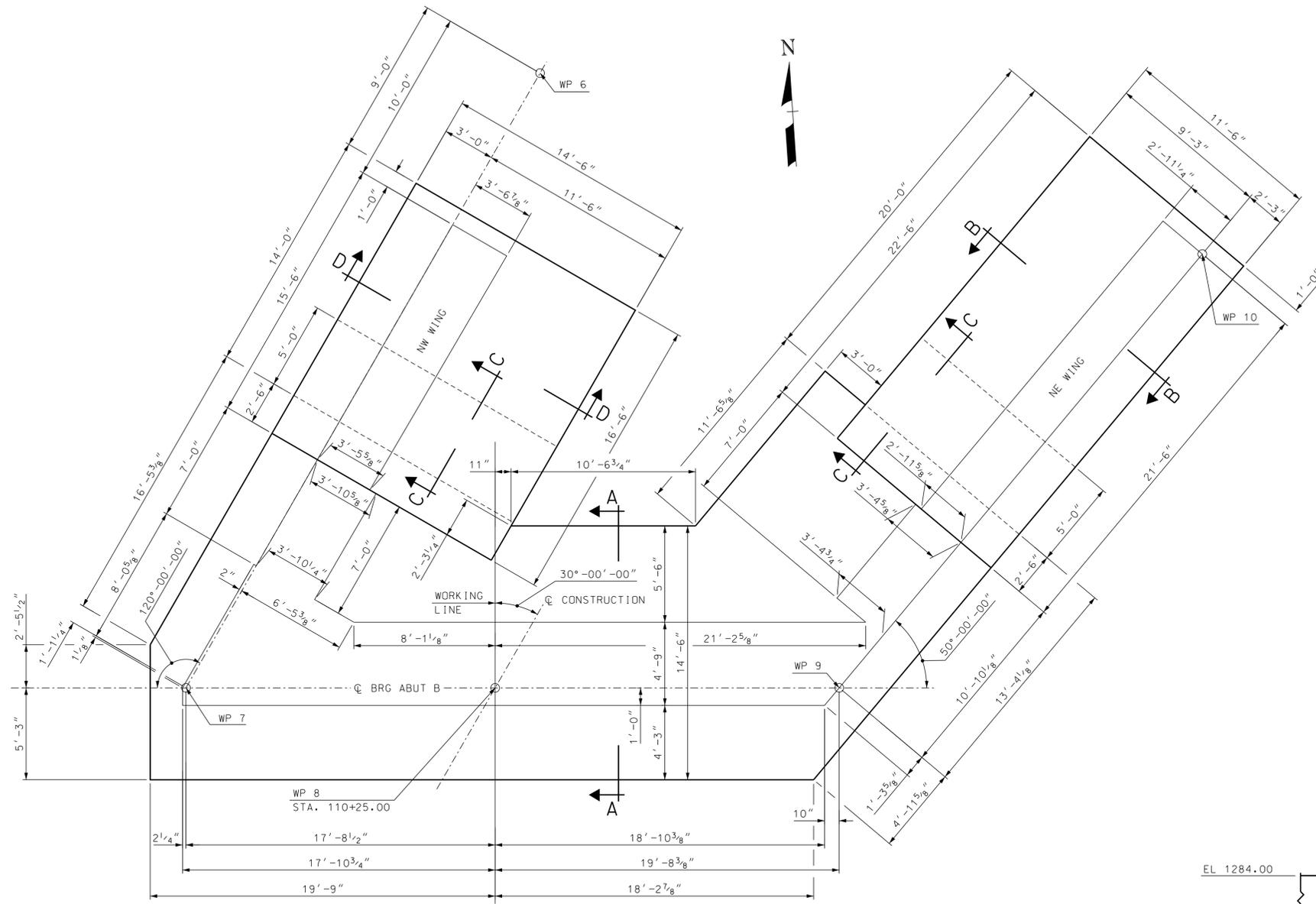
STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
ABUTMENT A REINFORCEMENT								BRIDGE SHEET	12 OF 33
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	PAB	DATE	FILE NUMBER		
		DESIGNED	MGL	2/16	CHECKED	MGL	6/16	129-4-2	
		DRAWN	SMG	2/16	CHECKED	MGL	6/16		
		QUANTITIES	SMG	6/16	CHECKED	MGL	7/16		
ISSUE DATE		FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS		
REV. DATE		-----			20		56		

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\ABUT A	16312 A-Rebar	AS NOTED

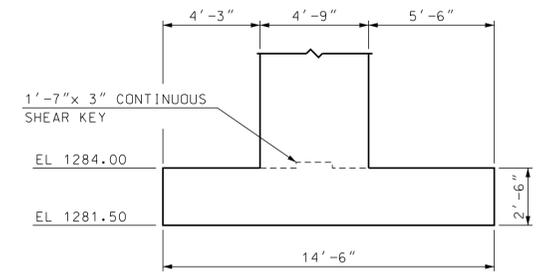


STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
ABUT A WING MASONRY & REINFORCEMENT									BRIDGE SHEET
									13 OF 33
									FILE NUMBER
									129-4-2
									TOTAL SHEETS
									56

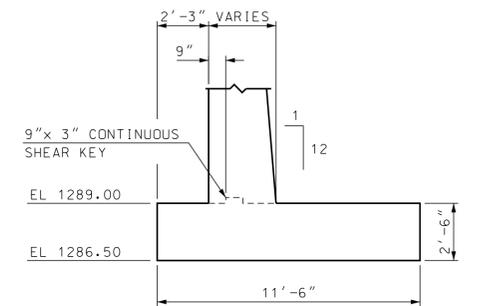
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/ABUT A	16312 Awing	AS NOTED



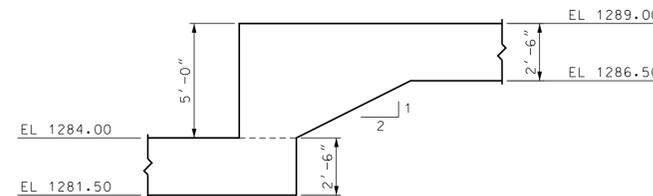
ABUTMENT B FOOTING PLAN
SCALE: 1/4" = 1'-0"



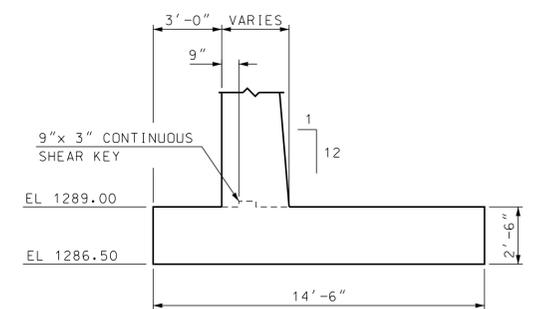
SECTION A-A
SCALE: 1/4" = 1'-0"



SECTION B-B
SCALE: 1/4" = 1'-0"



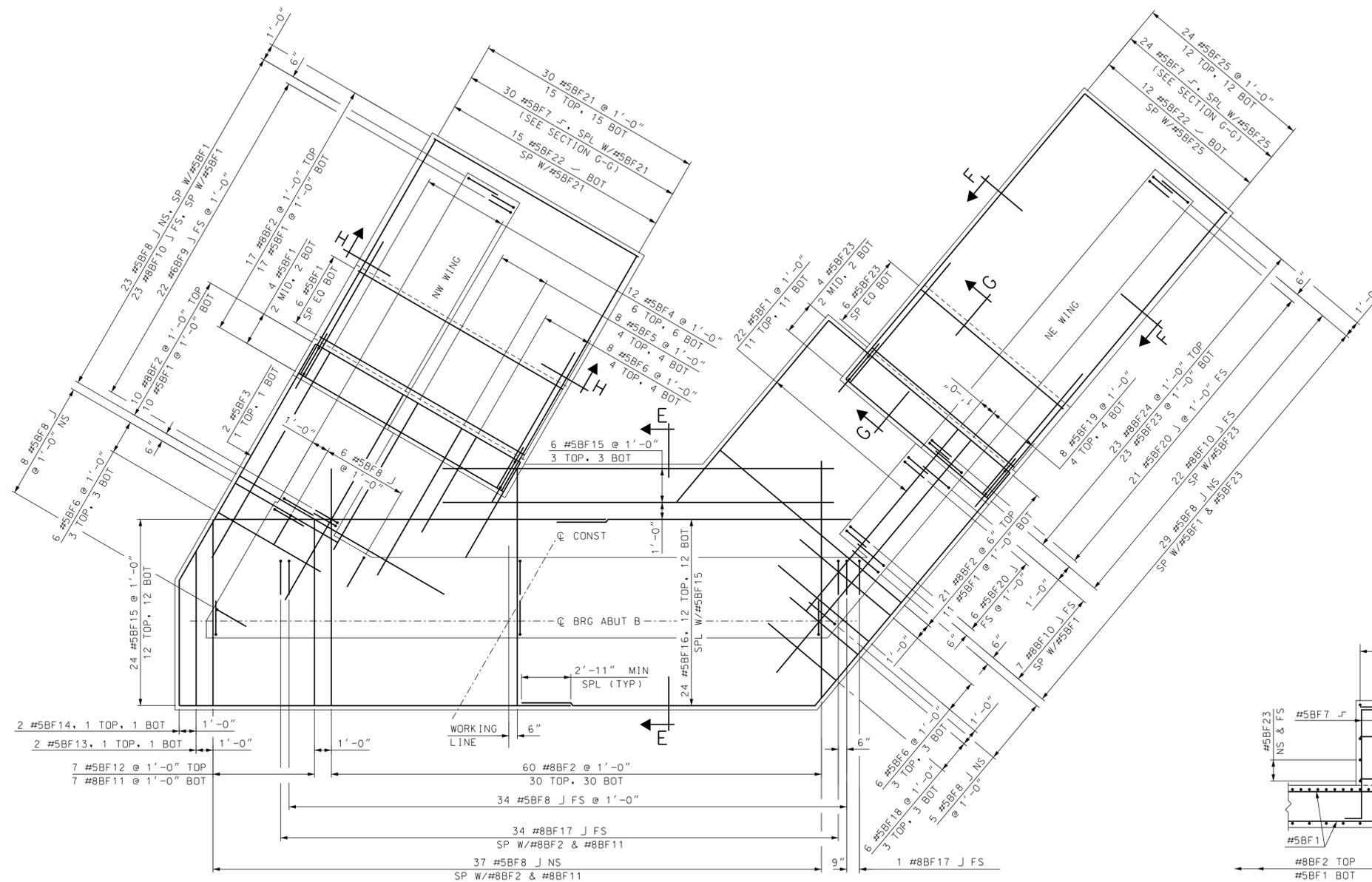
SECTION C-C
SCALE: 1/4" = 1'-0"



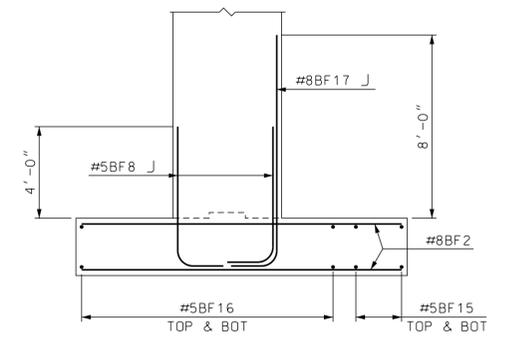
SECTION D-D
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION NH ROUTE 145 over BISHOP BROOK									
ABUT B FOOTING MASONRY									BRIDGE SHEET
REVISIONS AFTER PROPOSAL									14 OF 33
DESIGNED	MGL	3/16	CHECKED	PAB	6/16	FILE NUMBER			
DRAWN	SMG	3/16	CHECKED	MGL	6/16	129-4-2			
QUANTITIES	SMG	6/16	CHECKED	MGL	7/16				
ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS			
REV. DATE	-----			22		56			

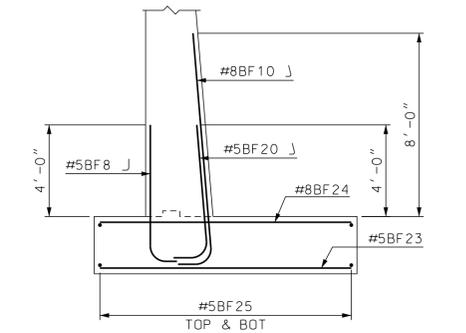
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\ABUT B	16312 B Foot	AS NOTED



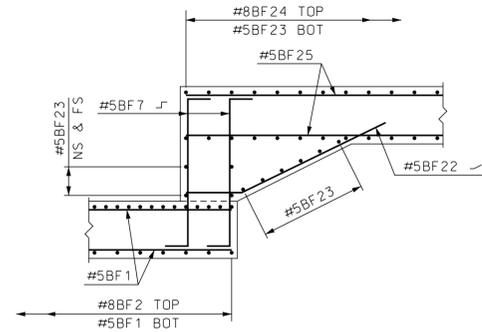
ABUTMENT B FOOTING REINFORCEMENT
SCALE: 1/4" = 1'-0"



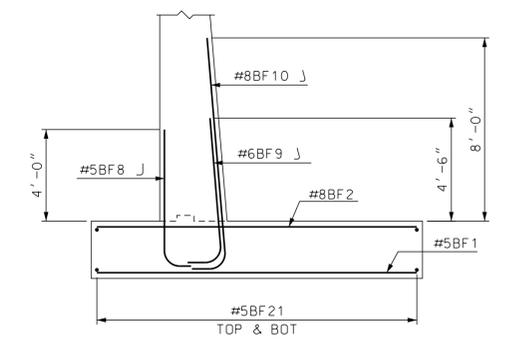
SECTION E-E
SCALE: 1/4" = 1'-0"



SECTION F-F
SCALE: 1/4" = 1'-0"



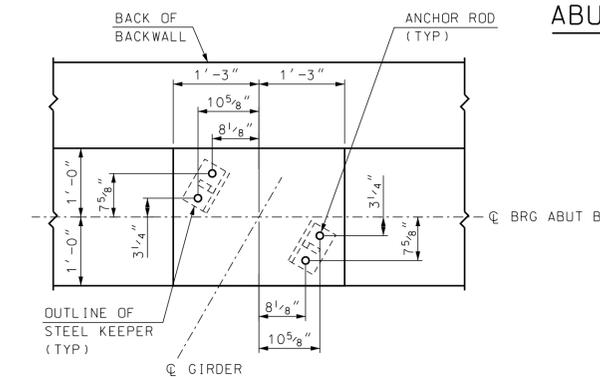
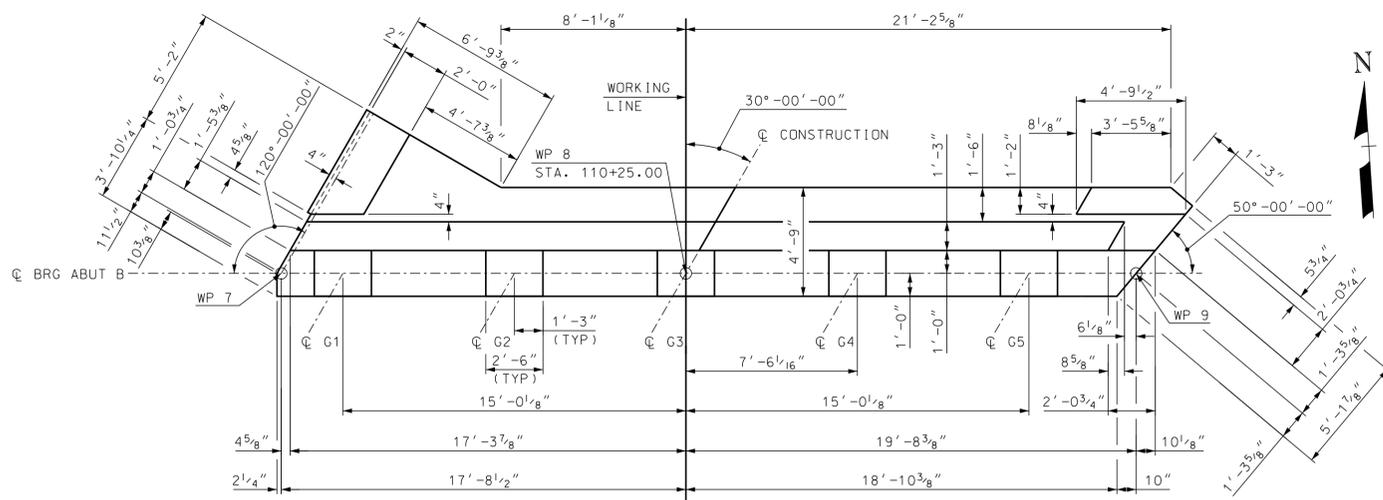
SECTION G-G
SCALE: 1/4" = 1'-0"



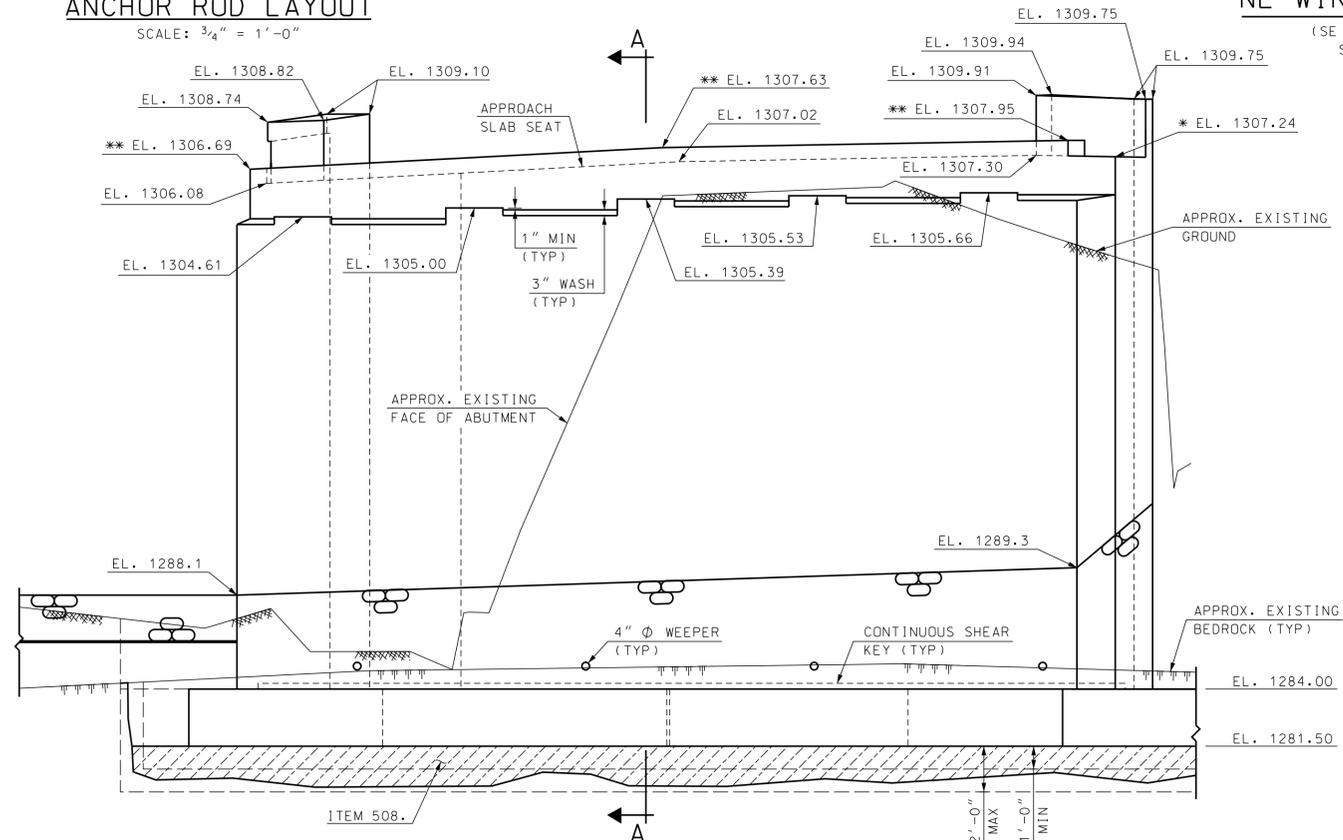
SECTION H-H
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
ABUT B FOOTING REINFORCEMENT									BRIDGE SHEET
									15 OF 33
									FILE NUMBER
									129-4-2
									TOTAL SHEETS
									56

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\ABUT B	16312 B Foot	AS NOTED



ANCHOR ROD LAYOUT
SCALE: 3/4" = 1'-0"



* ELEVATION GIVEN AT FACE OF BACKWALL
** TOP OF BACKWALL LEVEL ALONG @ CONSTRUCTION

ABUTMENT B ELEVATION
SCALE: 1/4" = 1'-0"

ITEM 541.4, EXTEND FROM 3" BELOW TOP OF WING TO TOP OF FOOTING

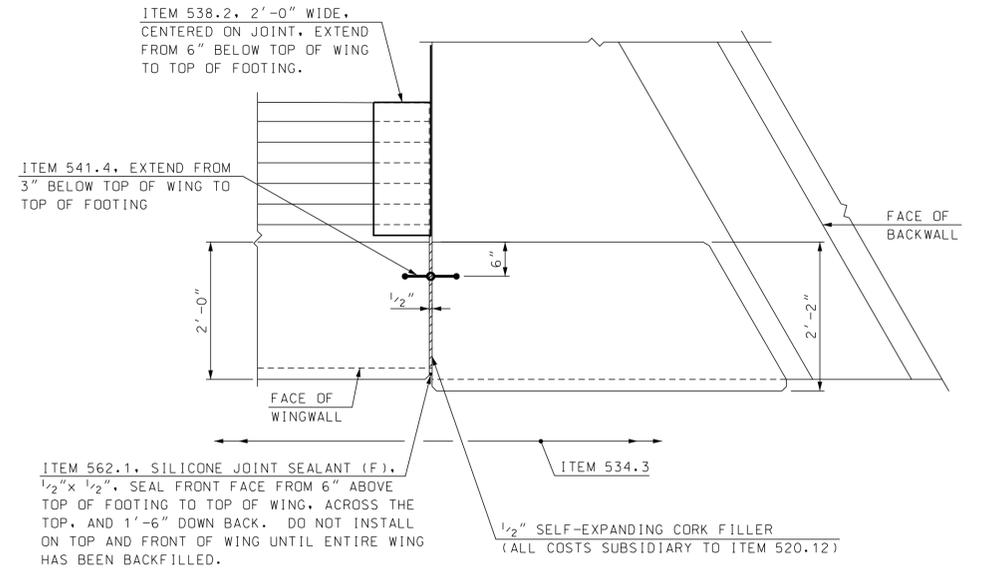
ITEM 538.2, 2'-0" WIDE, CENTERED ON JOINT, EXTEND FROM 6" BELOW TOP OF WING TO TOP OF FOOTING.

NE WING JOINT DETAIL
(SE & SW JOINTS SIMILAR)
SCALE: 3/4" = 1'-0"

ITEM 562.1, SILICONE JOINT SEALANT (F), 1/2" x 1/2", SEAL FRONT FACE FROM 6" ABOVE TOP OF FOOTING TO TOP OF WING, ACROSS THE TOP, AND 1'-6" DOWN BACK. DO NOT INSTALL ON TOP AND FRONT OF WING UNTIL ENTIRE WING HAS BEEN BACKFILLED.

1/2" SELF-EXPANDING CORK FILLER (SUBS. TO ITEM 520.12)

ITEM 534.3



ITEM 541.4, EXTEND FROM 3" BELOW TOP OF WING TO TOP OF FOOTING

ITEM 562.1, SILICONE JOINT SEALANT (F), 1/2" x 1/2", SEAL FRONT FACE FROM 6" ABOVE TOP OF FOOTING TO TOP OF WING, ACROSS THE TOP, AND 1'-6" DOWN BACK. DO NOT INSTALL ON TOP AND FRONT OF WING UNTIL ENTIRE WING HAS BEEN BACKFILLED.

1/2" SELF-EXPANDING CORK FILLER (ALL COSTS SUBSIDIARY TO ITEM 520.12)

PAY LIMITS ITEM 534.3

TWO LAYERS OF ASBESTOS PAPER. REMOVAL AND DISPOSAL PAID UNDER ITEM 502.10121. SEE PROSECUTION OF WORK FOR ADDITIONAL INFORMATION

EXISTING ABUTMENT REMOVAL PAID UNDER ITEM 502.102

APPROX. EXISTING GROUND

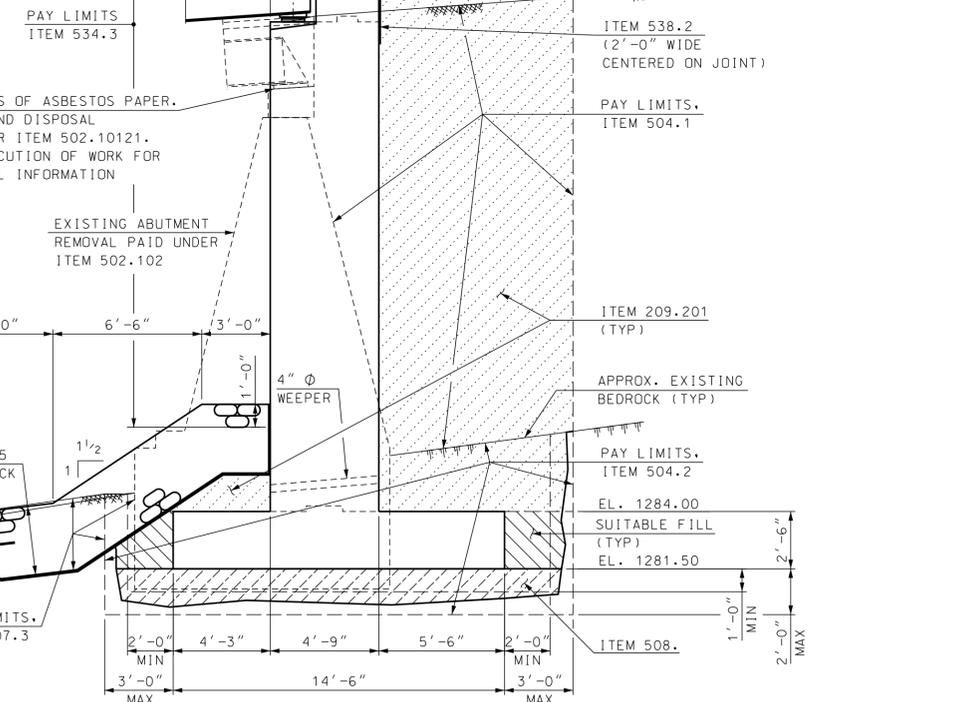
ITEM 583.5 3'-0" THICK

ITEM 593.411

PAY LIMITS, ITEM 207.3

TWO LAYERS OF ASBESTOS PAPER

REMOVE AND DISPOSE UNDER ITEM 502.10121. SEE PROSECUTION OF WORK FOR ADDITIONAL INFORMATION.



ITEM 538.2 (2'-0" WIDE CENTERED ON JOINT)

PAY LIMITS, ITEM 504.1

ITEM 209.201 (TYP)

APPROX. EXISTING BEDROCK (TYP)

PAY LIMITS, ITEM 504.2

EL. 1284.00 SUITABLE FILL (TYP)

EL. 1281.50

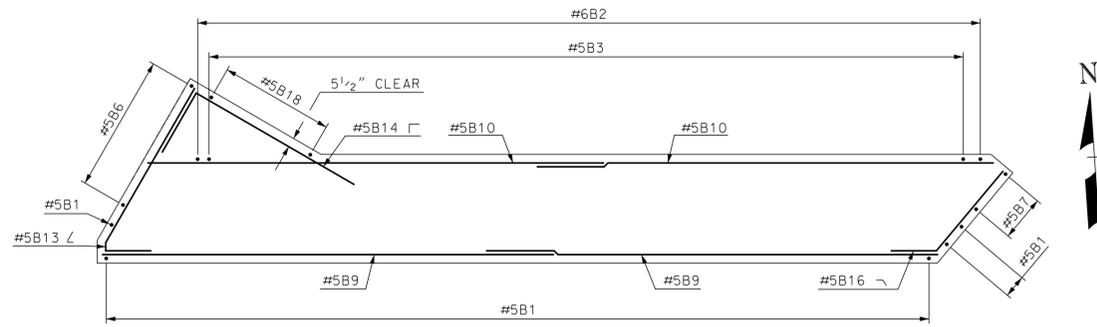
ITEM 508.

LIMITS OF ITEM 502.10121 REMOVAL
SCALE: 3/4" = 1'-0"

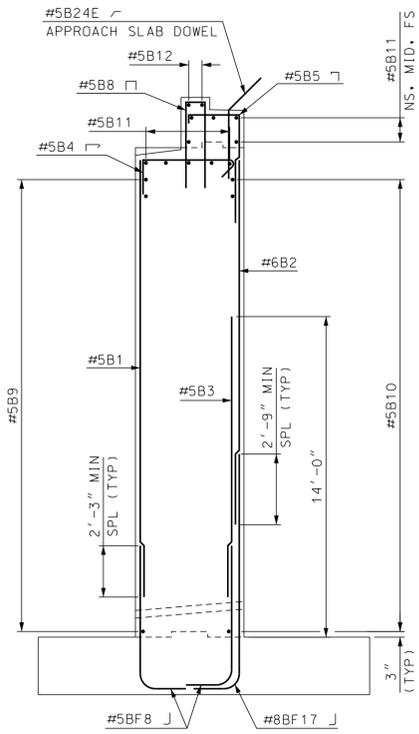
SCALE: 3/4" = 1'-0"

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/ABUT B	16312 AbutB	AS NOTED

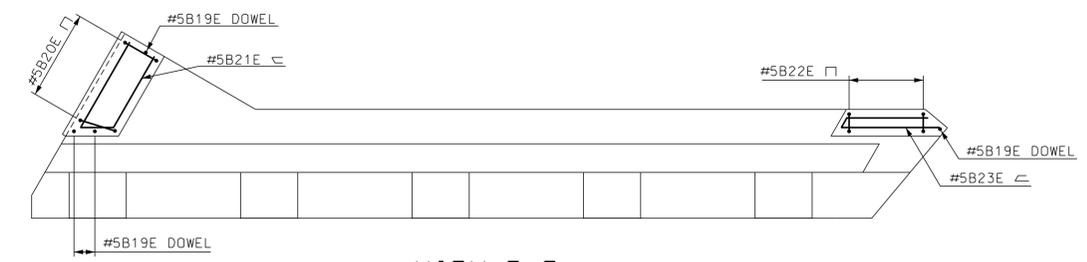
STATE OF NEW HAMPSHIRE						BRIDGE SHEET
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN						16 OF 33
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312	FILE NUMBER
LOCATION	NH ROUTE 145 over BISHOP BROOK					129-4-2
ABUTMENT B MASONRY						TOTAL SHEETS
REVISIONS AFTER PROPOSAL	BY	DATE	CHECKED	PAB	DATE	
	MGL	2/16	CHECKED	MGL	6/16	
	SMG	2/16	CHECKED	MGL	6/16	
	SMG	6/16	CHECKED	MGL	7/16	
ISSUE DATE	FEDERAL PROJECT NO.		SHEET NO.		TOTAL SHEETS	
REV. DATE	-----		24		56	



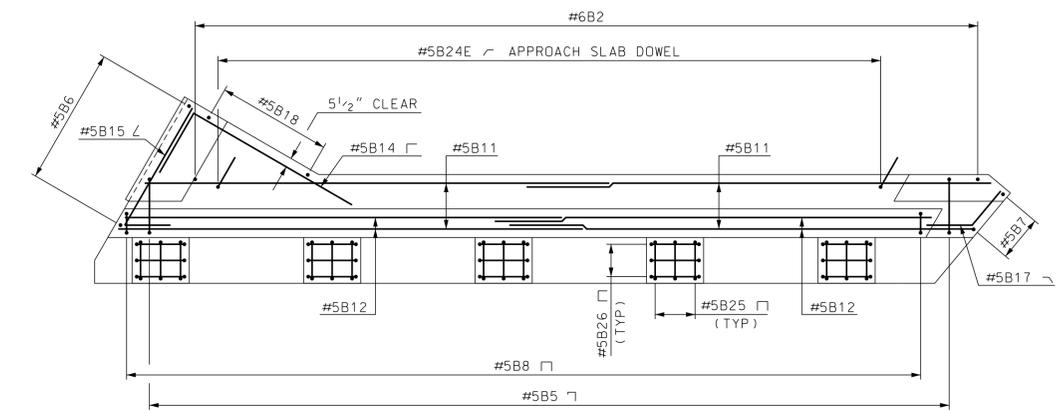
SECTION B-B
SCALE: 1/4" = 1'-0"



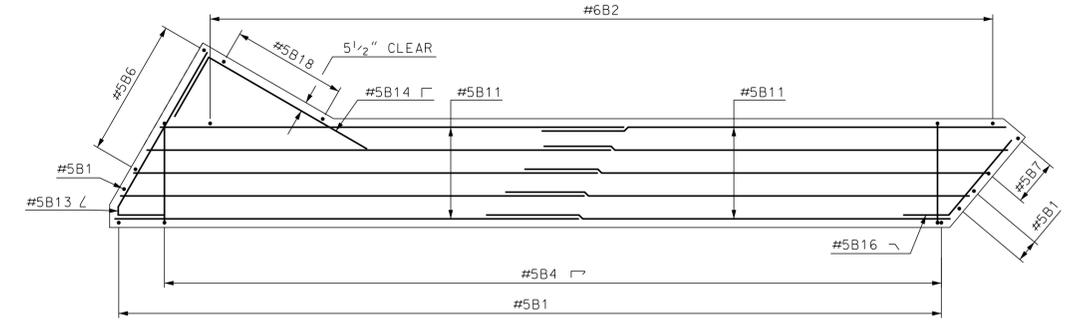
SECTION A-A
SCALE: 1/4" = 1'-0"



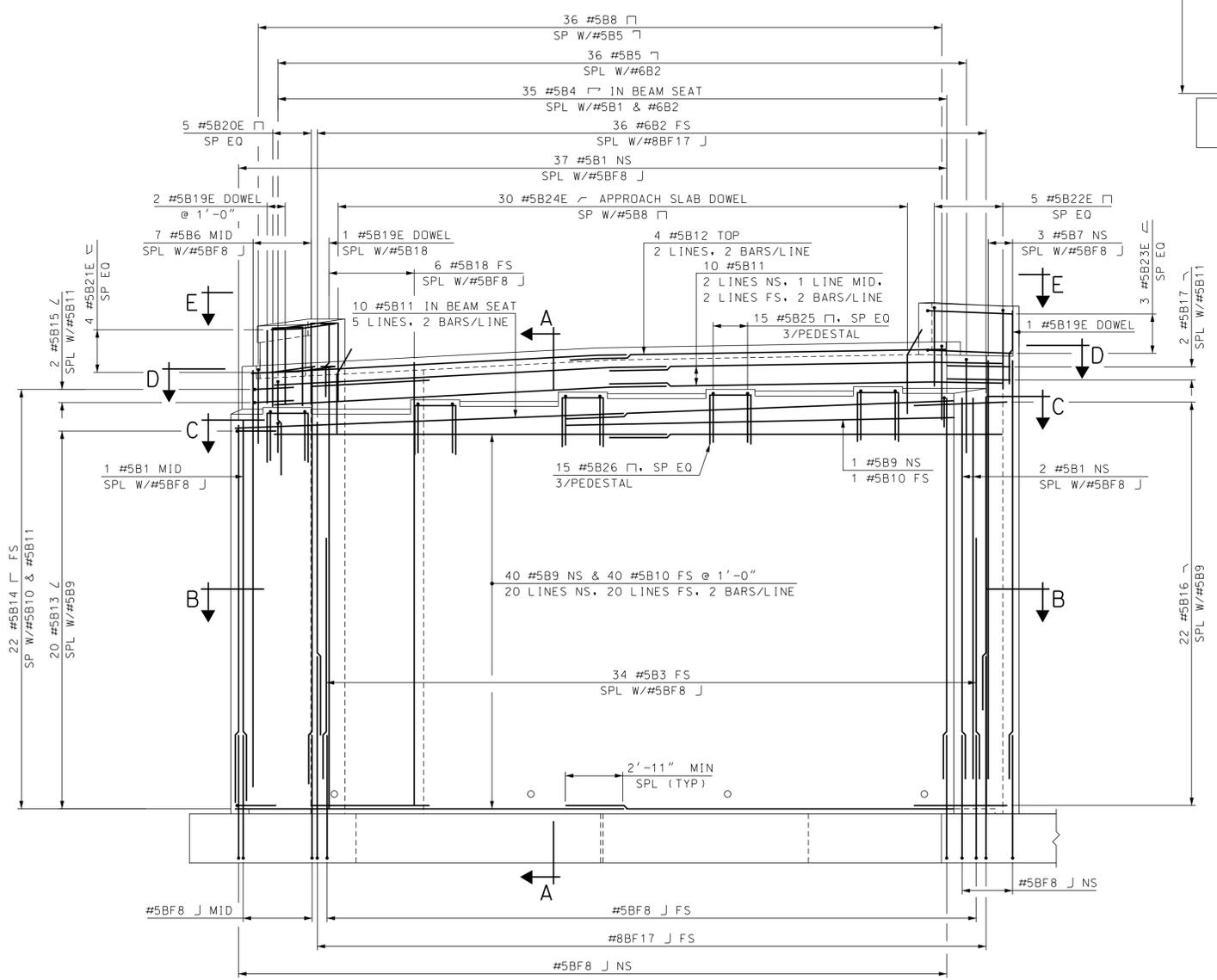
VIEW E-E
SCALE: 1/4" = 1'-0"



SECTION D-D
SCALE: 1/4" = 1'-0"



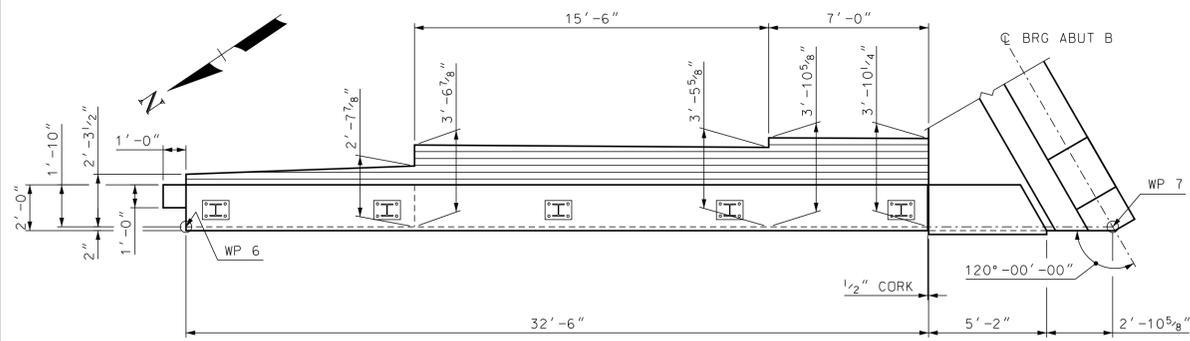
SECTION C-C
SCALE: 1/4" = 1'-0"



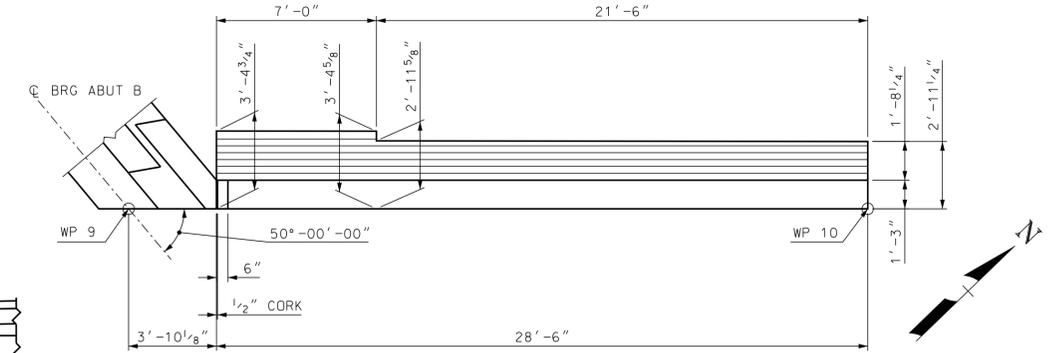
ABUTMENT B REINFORCEMENT
SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
ABUTMENT B REINFORCEMENT									BRIDGE SHEET
									17 OF 33
									FILE NUMBER
									129-4-2
									TOTAL SHEETS
									25
									56

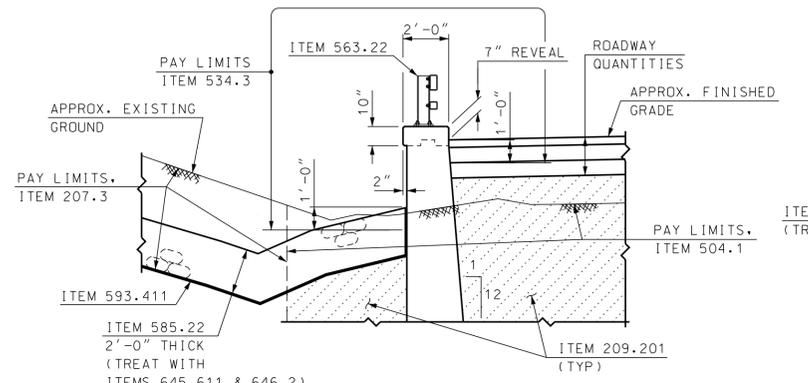
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/ABUT B	16312 B-Rebar	AS NOTED



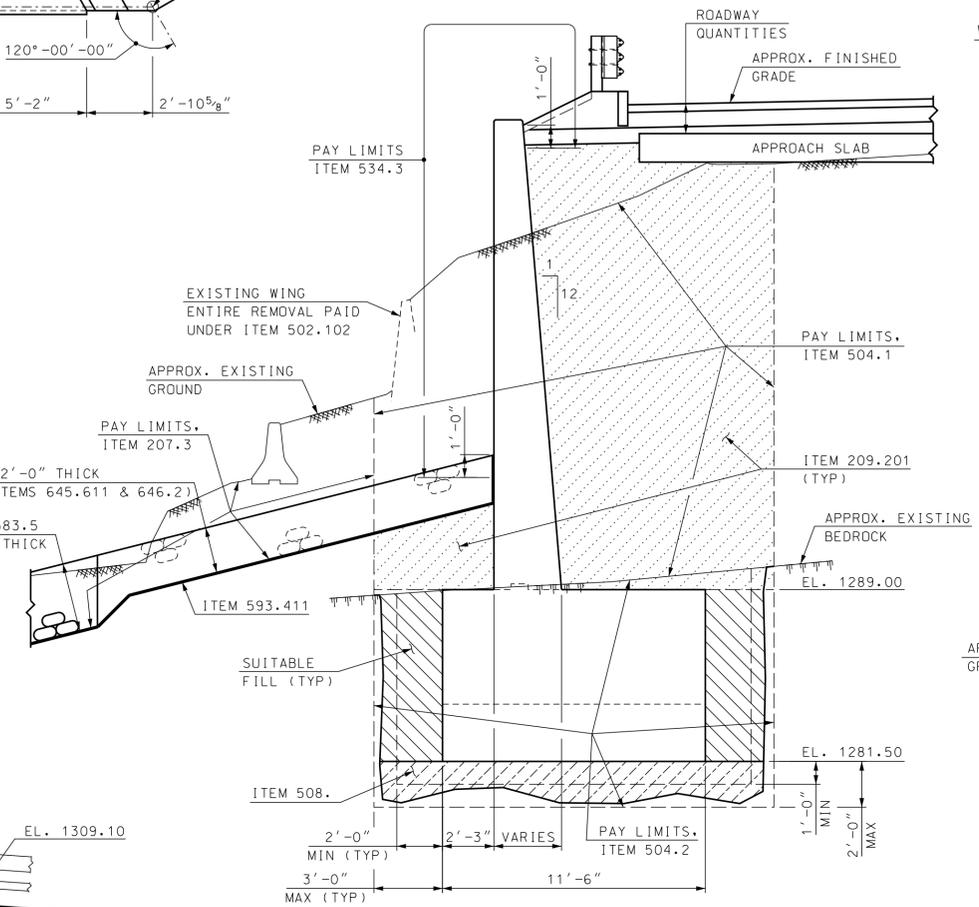
NW WING PLAN
SCALE: 1/4" = 1'-0"



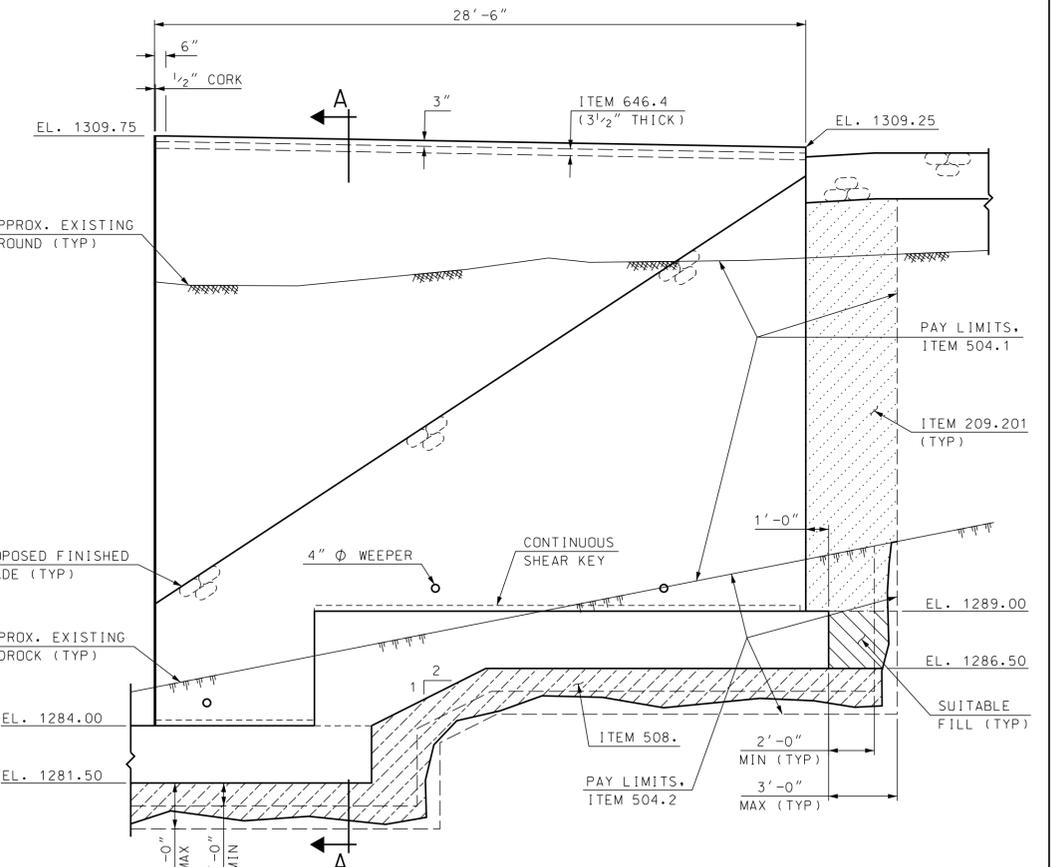
NE WING PLAN
SCALE: 1/4" = 1'-0"



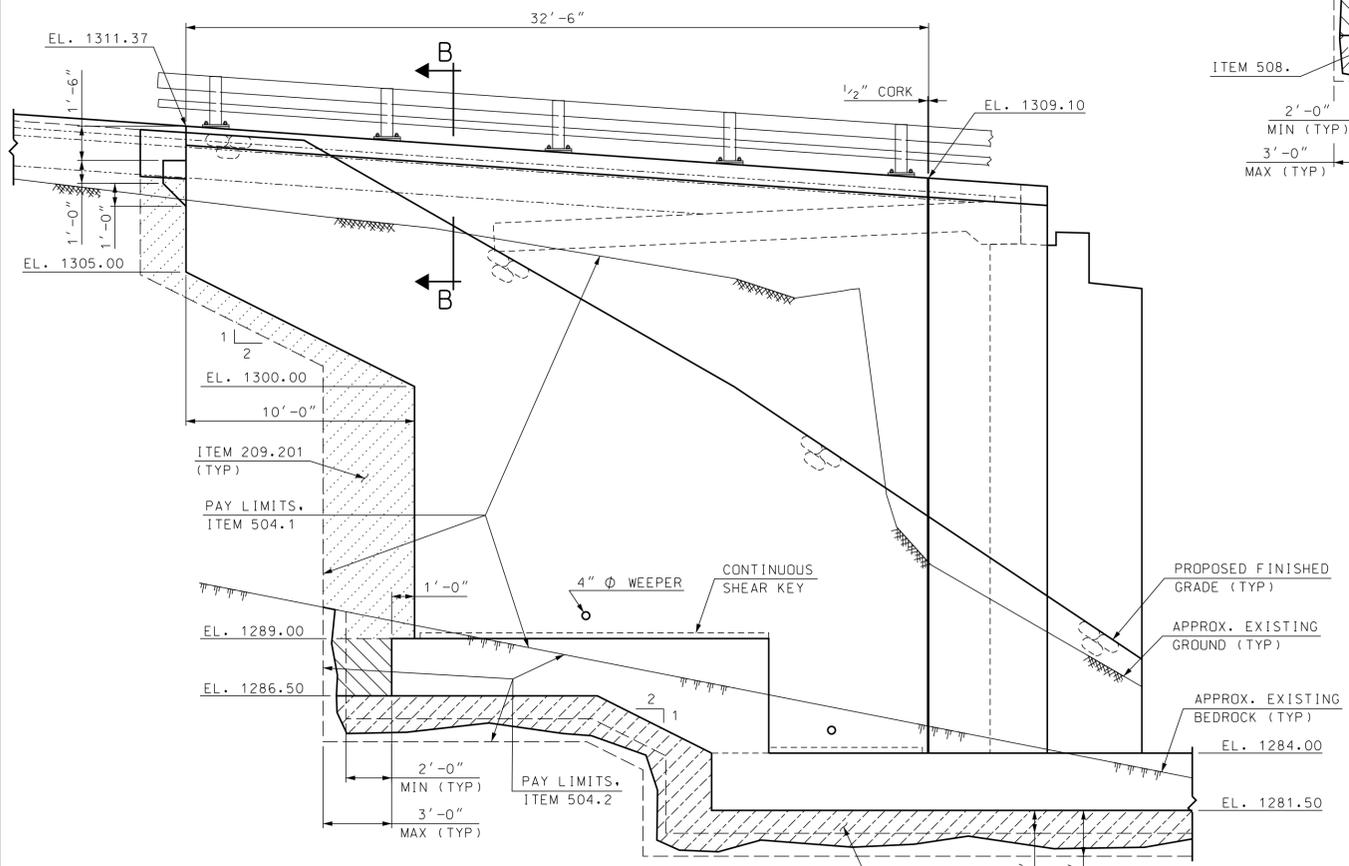
SECTION B-B
SCALE: 1/4" = 1'-0"



SECTION A-A
SCALE: 1/4" = 1'-0"



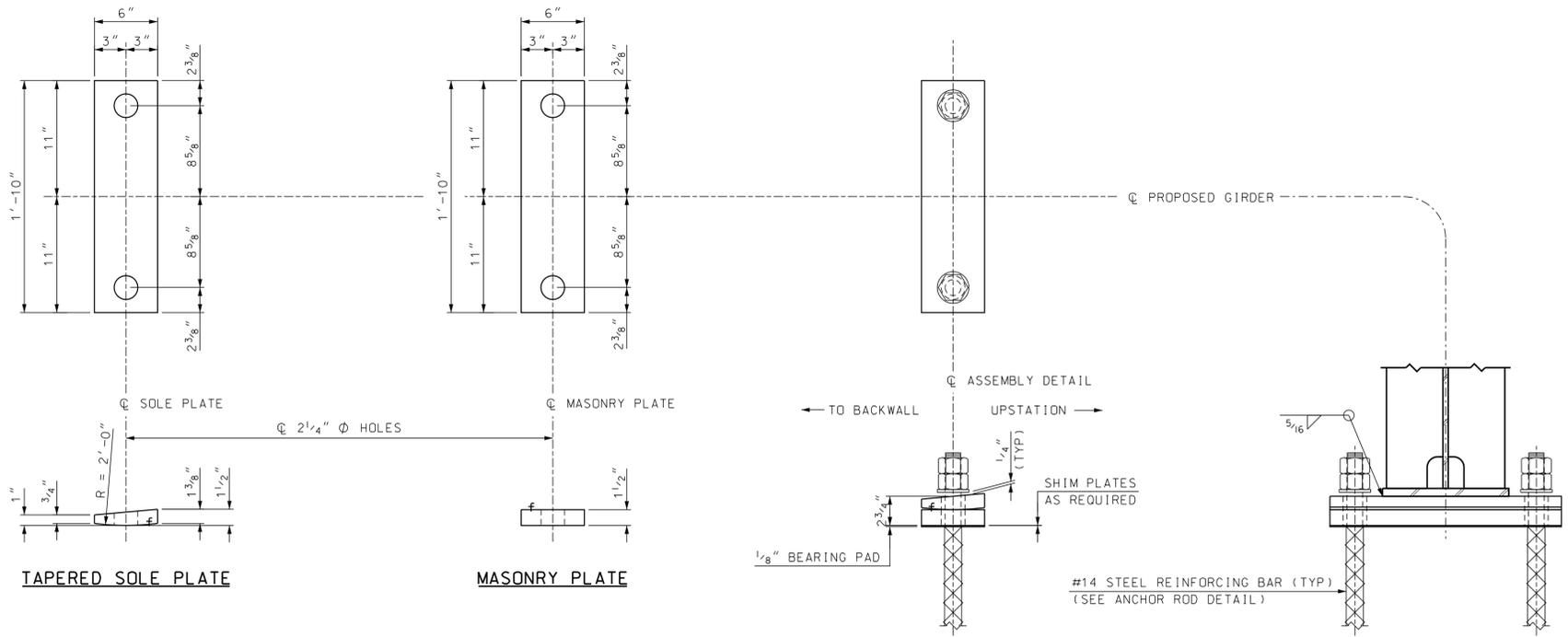
NE WING ELEVATION
SCALE: 1/4" = 1'-0"



NW WING ELEVATION
SCALE: 1/4" = 1'-0"

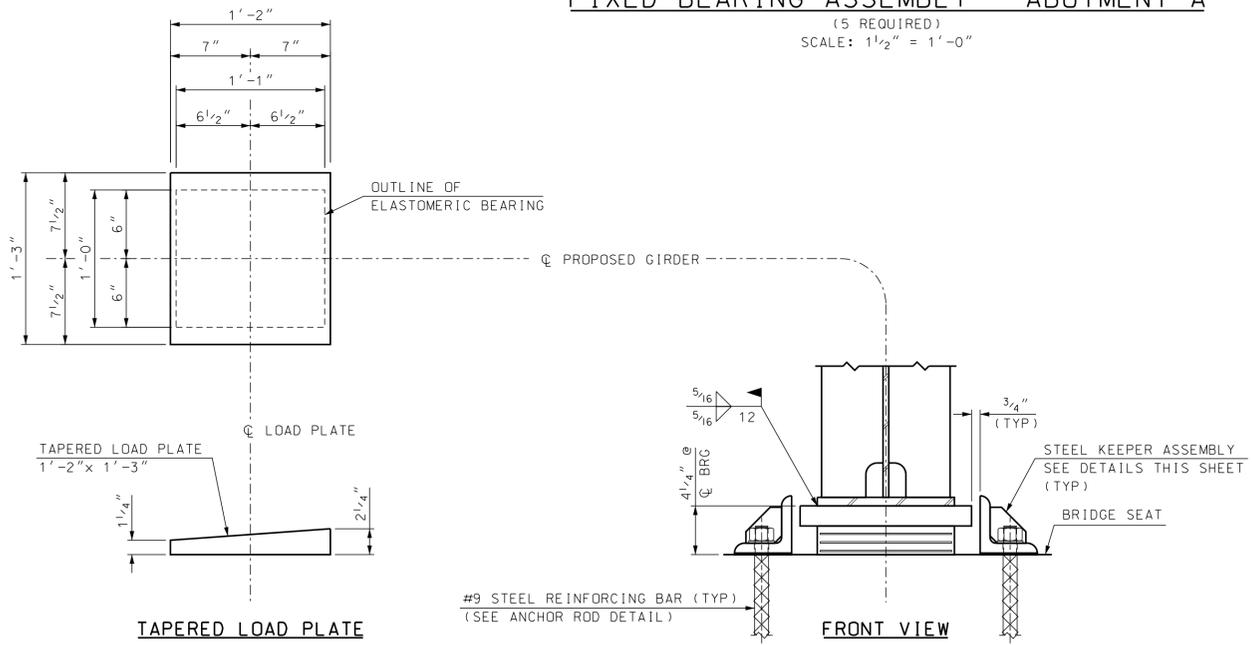
STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
ABUTMENT B WING MASONRY									BRIDGE SHEET
REVISIONS AFTER PROPOSAL									18 OF 33
DESIGNED	MGL	9/15	CHECKED	PAB	6/16	FILE NUMBER			
DRAWN	SMG	9/15	CHECKED	MGL	6/16	129-4-2			
QUANTITIES	SMG	6/16	CHECKED	MGL	7/16				
ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS			
REV. DATE	-----			26		56			

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/ABUT B	16312 B-wing	AS NOTED



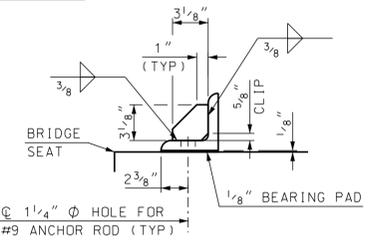
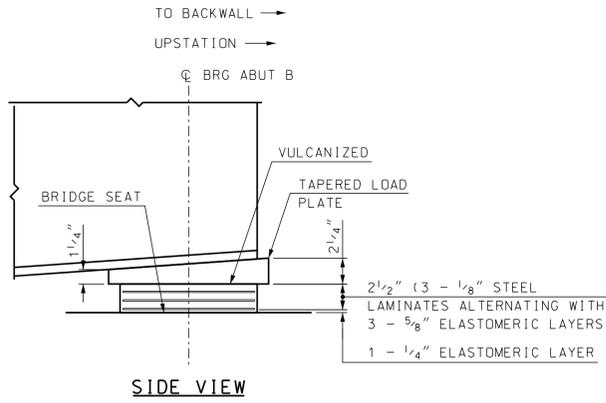
FIXED BEARING ASSEMBLY - ABUTMENT A

(5 REQUIRED)
SCALE: 1 1/2" = 1'-0"



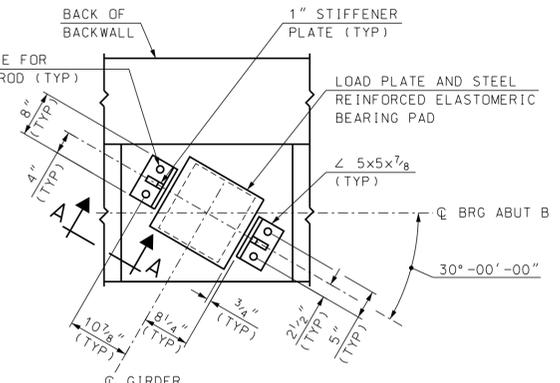
ELASTOMERIC BEARING ASSEMBLY - ABUTMENT B

(5 REQUIRED)
SCALE: 1 1/2" = 1'-0"



SECTION A-A

SCALE: 1 1/2" = 1'-0"



STEEL KEEPER ASSEMBLY

SCALE: 3/4" = 1'-0"

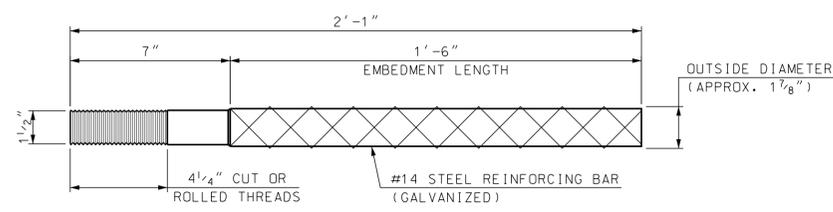
FIXED BEARING NOTES (ABUTMENT A)

1. FIXED SHOE ASSEMBLIES, INCLUDING ANCHOR RODS, NUTS, WASHERS, AND BEARING PADS, SHALL BE PAID FOR AS ITEM 550.2, BRIDGE SHOES (F).
2. STEEL PLATES SHALL CONFORM TO AASHTO M270, GRADE 50W (ASTM A709, GRADE 50W). EXPOSED ASSEMBLED SURFACES SHALL BE COATED (SEE SPECIAL PROVISION 550).
3. ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
4. ANCHOR RODS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 AND 550.2.9 OF THE NHDOT STANDARD SPECIFICATIONS.
5. 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.
6. THE PREFORMED FABRIC PADS SHALL CONFORM TO SECTION 550.2.6 OF THE NHDOT STANDARD SPECIFICATIONS.

ELASTOMERIC BEARING NOTES (ABUTMENT B)

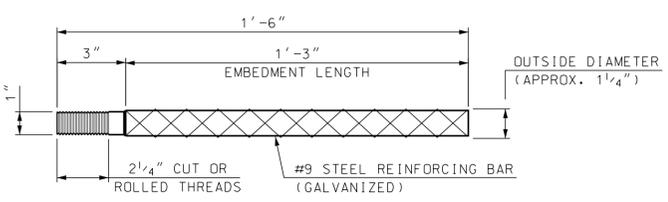
1. THE COST OF ABUTMENT B BEARINGS, INCLUDING ELASTOMER, INTERNAL AND EXTERNAL STEEL PLATES, STEEL KEEPER ASSEMBLIES, ANCHOR RODS, NUTS, WASHERS, AND BEARING PADS SHALL BE PAID UNDER ITEM 548.21, ELASTOMERIC BEARING ASSEMBLIES (F).
2. ELASTOMER SHALL BE VIRGIN NATURAL RUBBER, HARDNESS (SHORE "A" DUROMETER) OF 60, GRADE 3, (SHEAR MODULUS = 165 PSI).
3. ALL EXTERNAL PLATES AND STEEL KEEPER ASSEMBLIES SHALL CONFORM TO AASHTO M 270 GRADE 50W (ASTM A709 GRADE 50W) AND SHALL BE COATED PER SPECIAL PROVISION 550. THE STEEL LAMINATE PLATES SHALL CONFORM TO AASHTO ASTM 1011 GRADE 36.
4. ANCHOR RODS, NUTS, AND WASHERS SHALL BE GALVANIZED AND FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATION. STEEL KEEPER ASSEMBLIES SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 (ASTM A153).
5. THE SURFACE FINISH OF ALL PLATES SHALL BE IN ACCORDANCE WITH AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 11.4.6.
6. TOP LOAD PLATES SHALL BE VULCANIZED TO THE ELASTOMER PRIOR TO COATING. ALL SURFACES THAT ARE TO BE BONDED TO THE ELASTOMER SHALL BE BLAST CLEANED AS SPECIFIED IN SSPC-SP 10 PRIOR TO VULCANIZING.
7. THE MANUFACTURER SHALL CLEARLY MARK THE FRONT OF THE BEARING ASSEMBLY TO ASSIST WITH PROPER ORIENTATION IN THE FIELD.
8. FOLLOWING THE MANUFACTURE OF ELASTOMERIC BEARINGS AND VERIFICATION OF THE INTERNAL STEEL LAMINATES, THE PIN GROOVE OPENINGS SHALL BE COATED WITH AN APPROVED ASPHALTIC SEALER AND THE SPACE FILLED WITH SILICONE CAULKING.
9. BEARINGS SHOULD BE INSTALLED AT TEMPERATURES BETWEEN 20°F AND 70°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.
10. THE TEMPERATURE OF THE STEEL LOAD PLATE ADJACENT TO THE ELASTOMER SHALL NOT EXCEED 200°F DURING WELDING OF THE LOAD PLATE TO THE GIRDER. 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.
11. ELASTOMERIC BEARING DESIGN LOADS (SERVICE I LOADS - DESIGN METHOD A):

ABUT. B	MAXIMUM NON-COMPOSITE DEAD LOAD	22 KIPS
	MAXIMUM SUPERIMPOSED DEAD LOAD	7 KIPS
	MAXIMUM LIVE LOAD (W/O IMPACT)	50 KIPS
	ROTATION	0.005 RADIAN
DESIGN MOVEMENT	INITIAL COMPRESSIVE DEFLECTION	0.03"
	TOTAL MOVEMENT (ΔT = 90°F)	0.49"
	DESIGN MOVEMENT (SHEAR DEFORM)	0.38"



ABUTMENT A ANCHOR ROD DETAIL

(10 REQUIRED)
SCALE: NTS

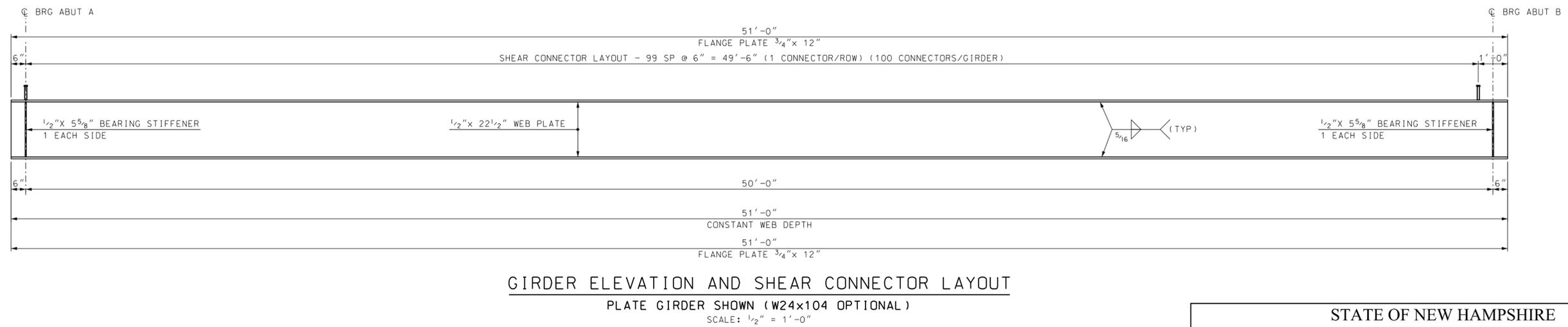
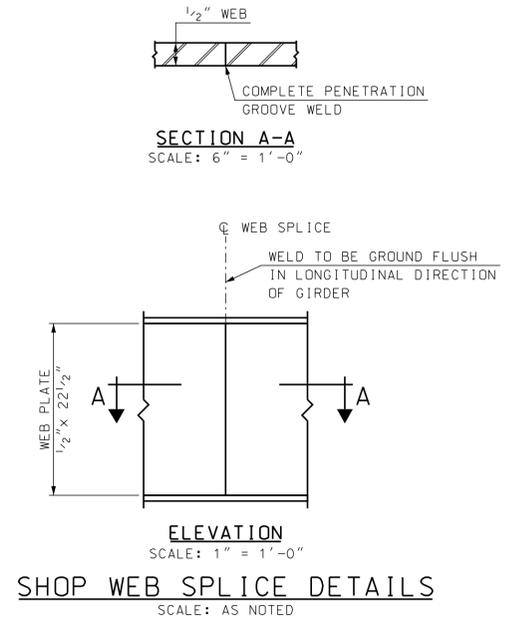
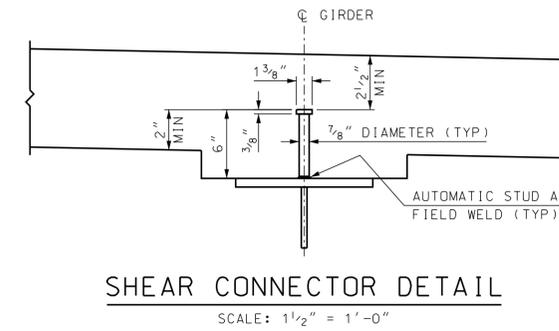
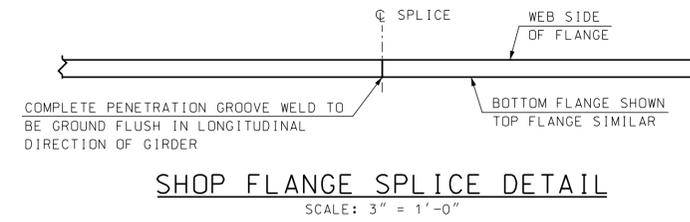
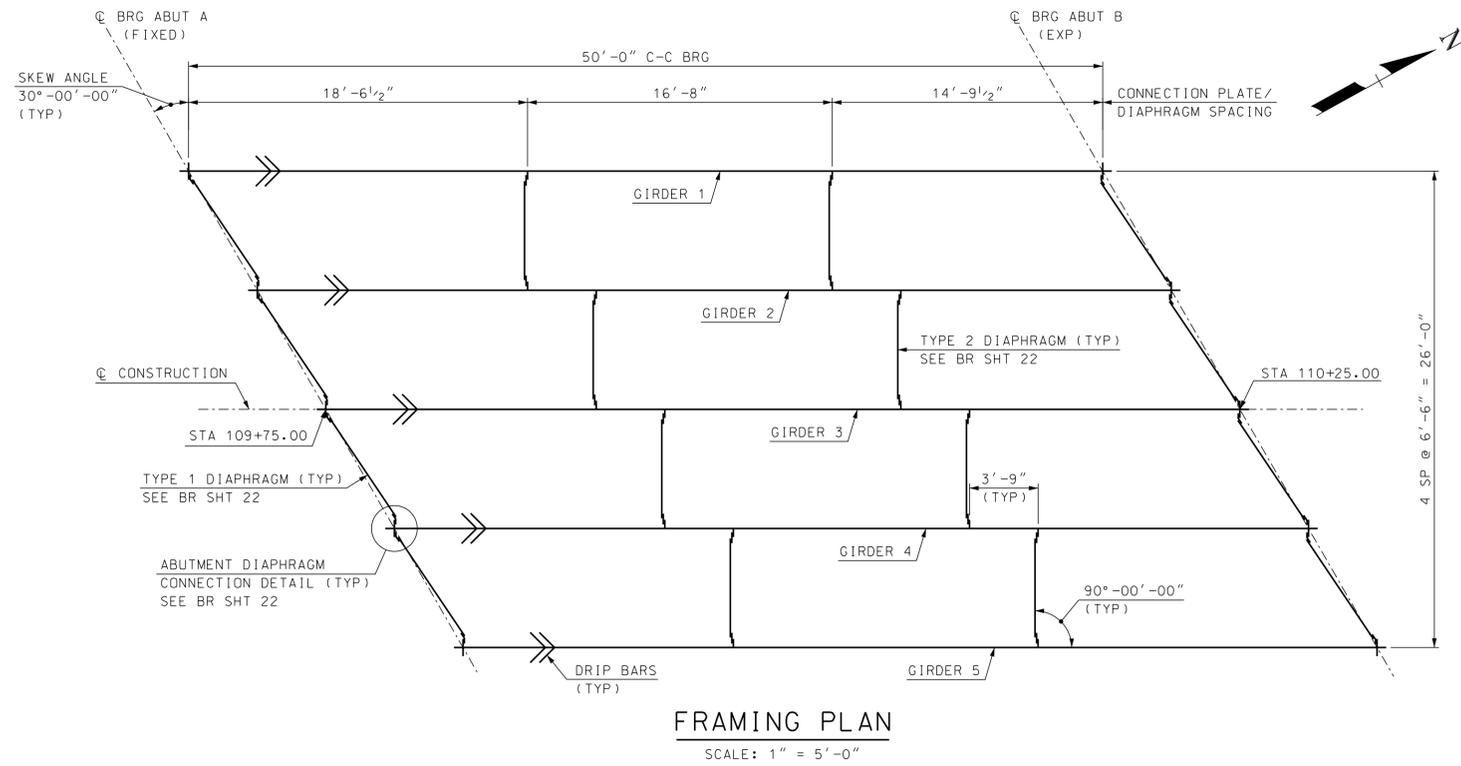


ABUTMENT B ANCHOR ROD DETAIL

(20 REQUIRED)
SCALE: NTS

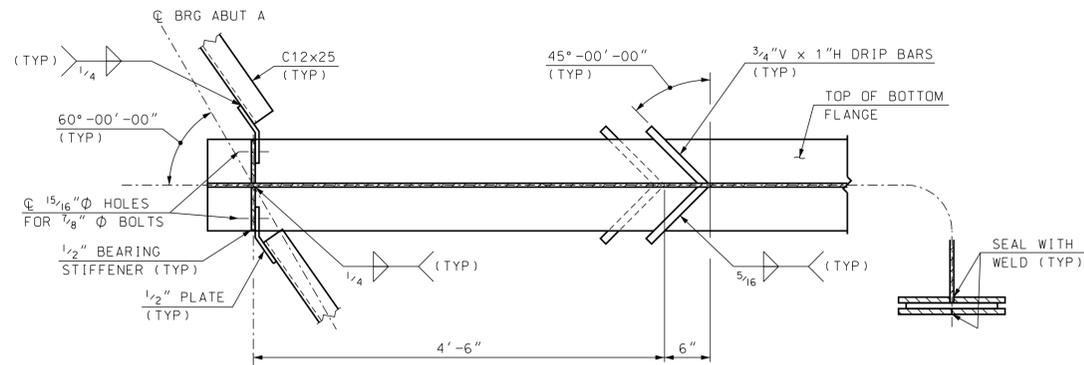
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/SUPER	16312 Brg	AS NOTED

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312
LOCATION NH ROUTE 145 over BISHOP BROOK					
BEARINGS					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					20 OF 33
DESIGNED	MGL	DATE	3/16	CHECKED	PAB 6/16
DRAWN	SMG	DATE	3/16	CHECKED	MGL 6/16
QUANTITIES	SMG	DATE	6/16	CHECKED	MGL 7/16
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		-----		28	56

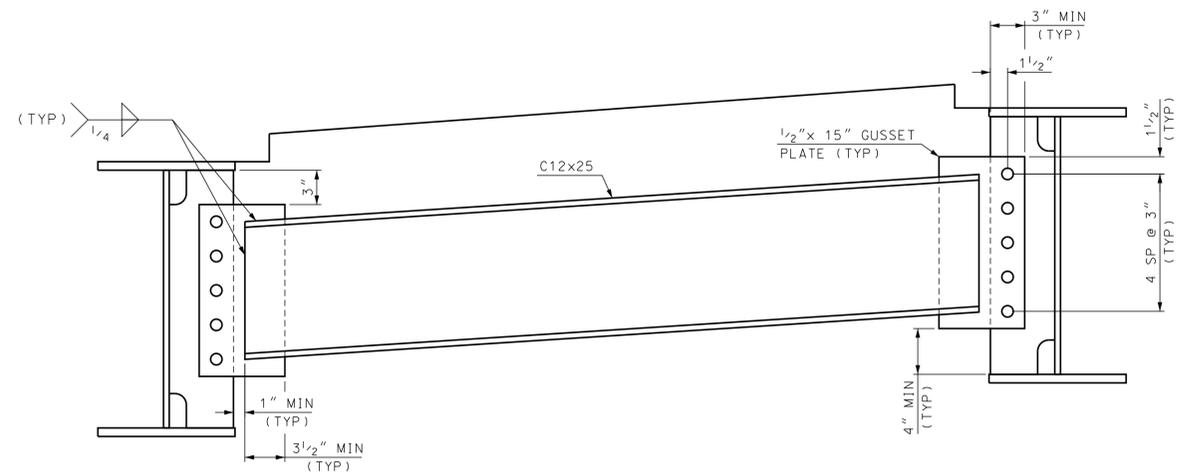


STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312
LOCATION NH ROUTE 145 over BISHOP BROOK					
FRAMING PLAN AND GIRDER DETAILS					BRIDGE SHEET
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE
		DESIGNED	MGL 3/16	CHECKED	PAB 6/16
		DRAWN	SMG 3/16	CHECKED	MGL 6/16
		QUANTITIES	SMG 6/16	CHECKED	MGL 7/16
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE		-----		29	56

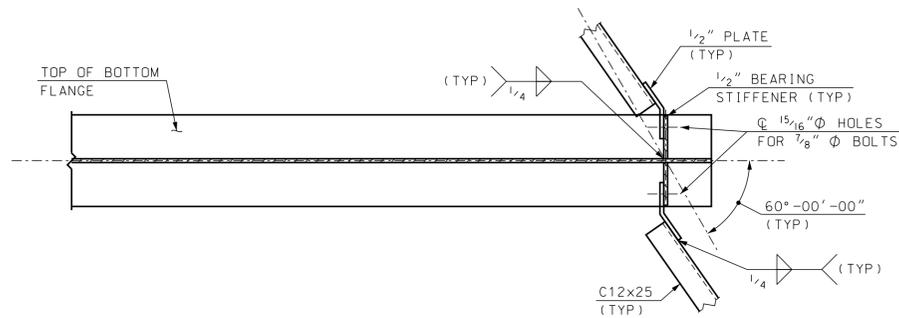
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/SUPER	16312 Frameplan	AS NOTED



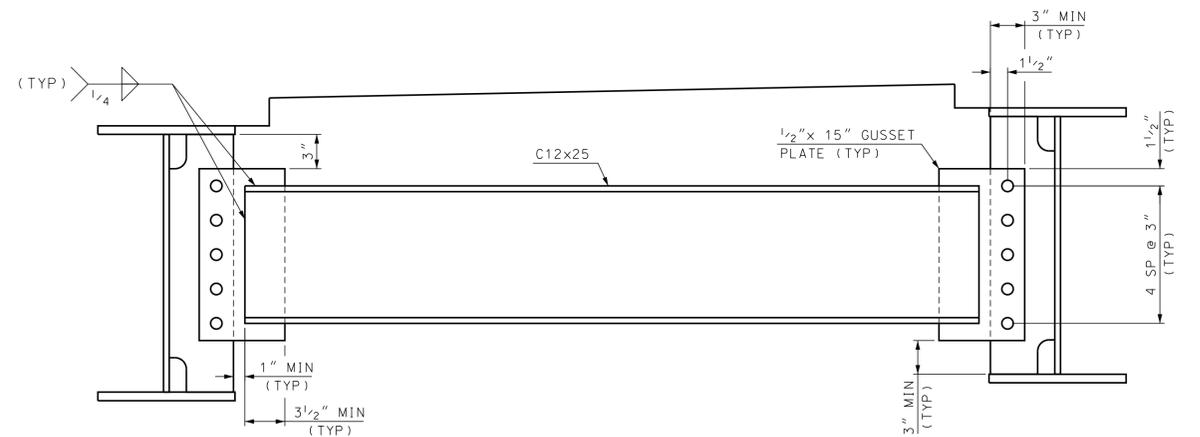
ABUTMENT A DIAPHRAGM & DRIP BAR DETAIL
SCALE: 1" = 1'-0"



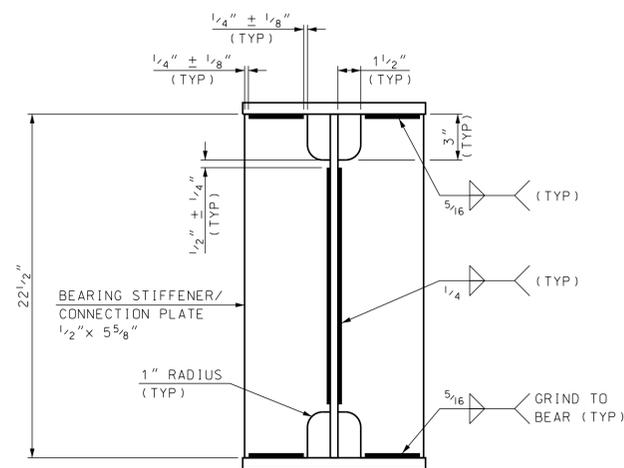
TYPE 1 DIAPHRAGM (ALONG SKEW) (8 REQUIRED)
SCALE: 1 1/2" = 1'-0"



ABUTMENT B DIAPHRAGM DETAIL
SCALE: 1" = 1'-0"

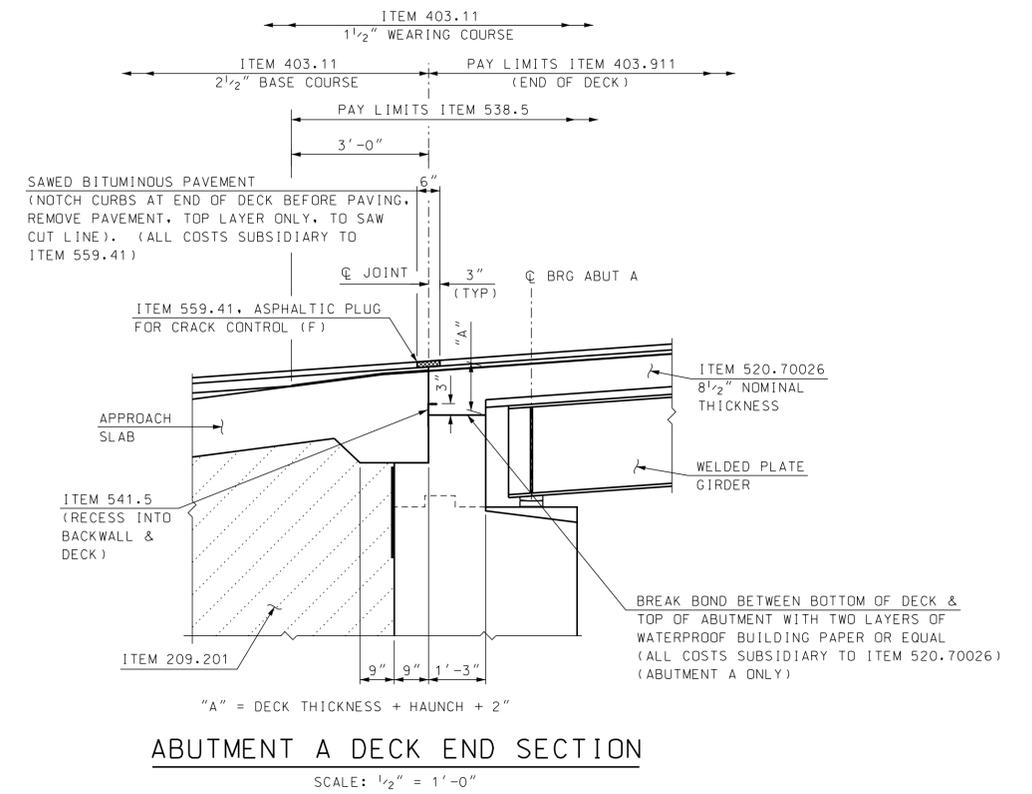
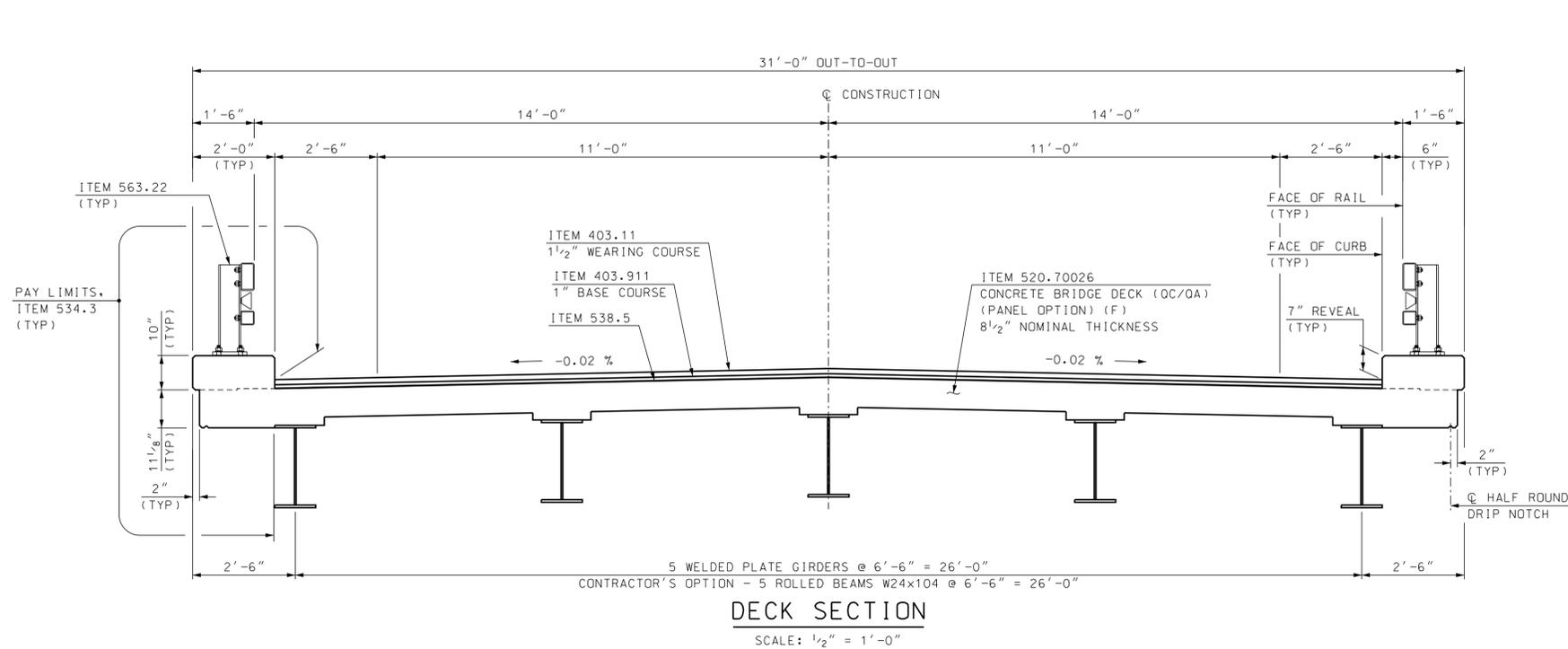


TYPE 2 DIAPHRAGM (8 REQUIRED)
SCALE: 1 1/2" = 1'-0"



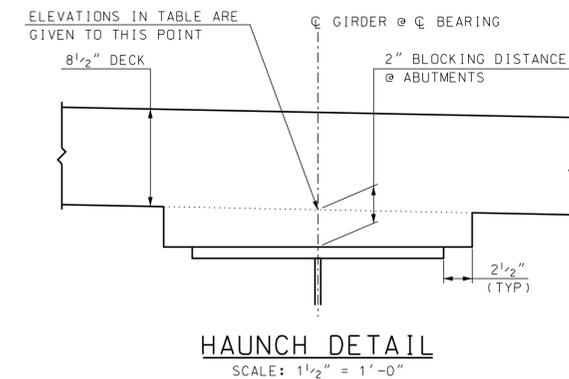
BEARING STIFFENER/CONNECTION DETAIL
SCALE: 2" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION NH ROUTE 145 over BISHOP BROOK									
DIAPHRAGMS AND DETAILS								BRIDGE SHEET	22 OF 33
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	DATE			FILE NUMBER	129-4-2
		DESIGNED	MGL	3/16	CHECKED	PAB	6/16		
		DRAWN	SMG	3/16	CHECKED	MGL	6/16		
		QUANTITIES	SMG	6/16	CHECKED	MGL	7/16		
		ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS	
		REV. DATE	-----			30		56	
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE							
BRC/SUPER	16312 Crossframe	AS NOTED							



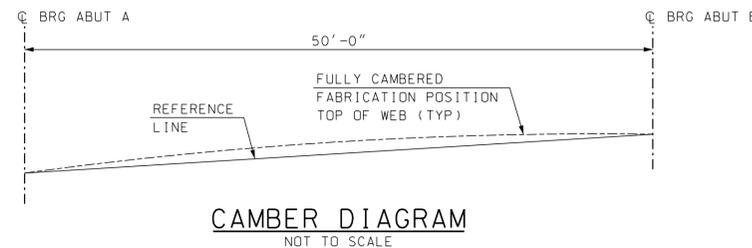
ELEVATIONS AT BOTTOM OF CONCRETE DECK SLAB (FEET)											
GIRDER	ABUT A	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6L	0.7 L	0.8 L	0.9L	ABUT B
#1	1303.63	1304.02	1304.41	1304.79	1305.16	1305.51	1305.86	1306.19	1306.51	1306.82	1307.13
#2	1304.03	1304.42	1304.80	1305.18	1305.55	1305.91	1306.25	1306.58	1306.90	1307.22	1307.53
#3	1304.42	1304.81	1305.20	1305.57	1305.94	1306.30	1306.64	1306.97	1307.30	1307.61	1307.92
#4	1304.55	1304.94	1305.33	1305.71	1306.07	1306.43	1306.77	1307.11	1307.43	1307.74	1308.05
#5	1304.68	1305.07	1305.46	1305.84	1306.21	1306.56	1306.91	1307.24	1307.56	1307.87	1308.18

CAMBER/DEADLOAD DEFLECTION SCHEDULE (INCHES)											
GIRDER	ABUT A	0.1 L	0.2 L	0.3 L	0.4 L	0.5 L	0.6L	0.7 L	0.8 L	0.9L	ABUT B
GIRDER	0	0.057	0.107	0.147	0.172	0.181	0.172	0.147	0.107	0.057	0
8.5" SLAB	0	0.370	0.701	0.959	1.123	1.176	1.123	0.959	0.701	0.370	0
SUPERIMPOSED	0	0.063	0.120	0.164	0.192	0.202	0.192	0.164	0.120	0.063	0
TOTAL CAMBER	0	0.490	0.928	1.270	1.487	1.559	1.487	1.270	0.928	0.490	0



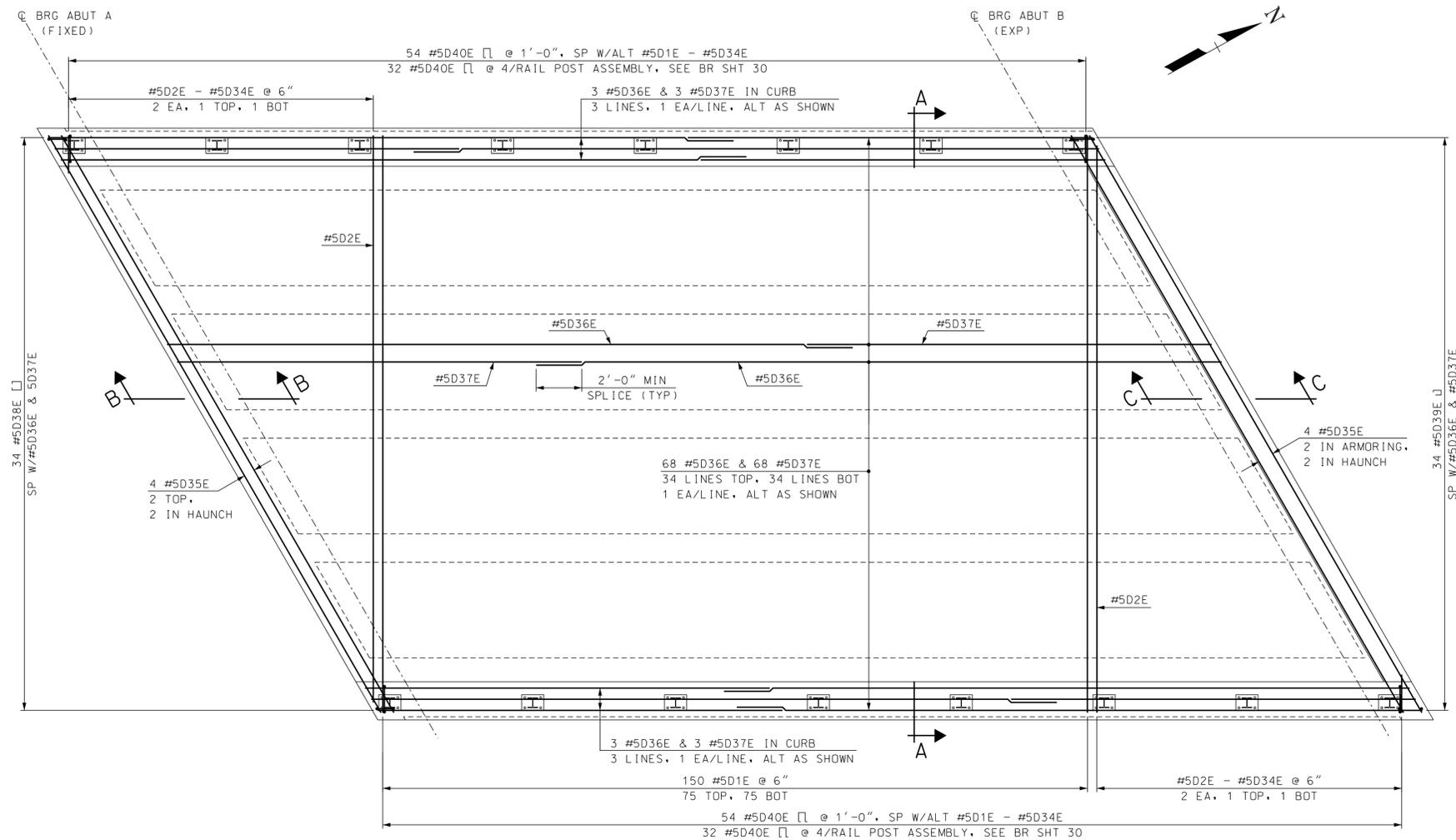
DECK SLAB ELEVATION NOTES

- AFTER THE STRUCTURAL STEEL IS ERECTED BUT BEFORE THE DECK FORMS ARE BUILT, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE 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 THE DECK SLAB AT THE @ OF THE GIRDER. 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, LESS THE DEFLECTION DUE TO GIRDER WEIGHT.



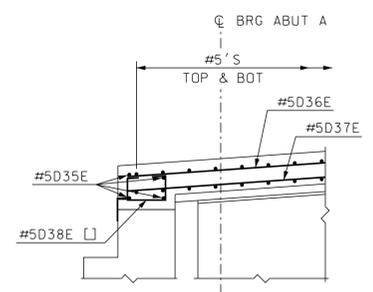
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN												
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312							
LOCATION	NH ROUTE 145 over BISHOP BROOK											
DECK SECTION											BRIDGE SHEET	
REVISIONS AFTER PROPOSAL											23 OF 33	
DESIGNED	MGL	5/15	CHECKED	PAB	6/16							FILE NUMBER
DRAWN	SMG	5/15	CHECKED	MGL	6/16							129-4-2
QUANTITIES	SMG	6/16	CHECKED	MGL	7/16							TOTAL SHEETS
ISSUE DATE				FEDERAL PROJECT NO.				SHEET NO.				
REV. DATE							31					

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/SUPER	16312 Deck	AS NOTED



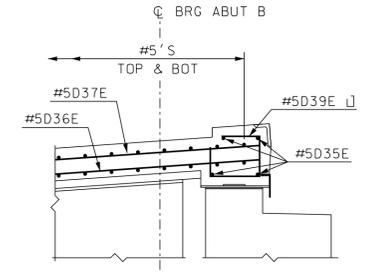
DECK REINFORCEMENT PLAN

SCALE: 1/4" = 1'-0"



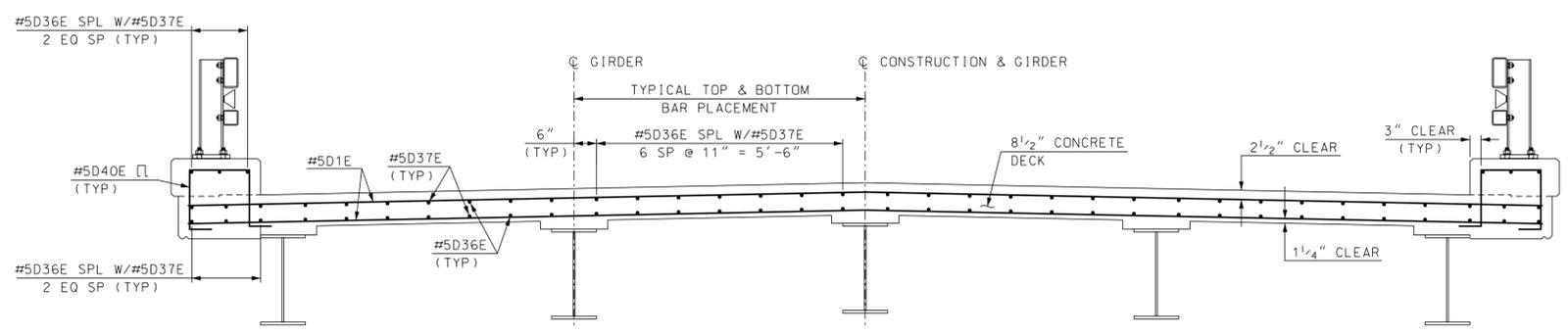
SECTION B-B

SCALE: 1/2" = 1'-0"



SECTION C-C

SCALE: 1/2" = 1'-0"



SECTION A-A

SCALE: 1/2" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312	BRIDGE SHEET			
LOCATION	NH ROUTE 145 over BISHOP BROOK					24 OF 33			
DECK REINFORCEMENT						FILE NUMBER			
DESIGNED		MGL	5/15	CHECKED	PAB	6/16	129-4-2		
DRAWN		SMG	5/15	CHECKED	MGL	6/16	TOTAL SHEETS		
QUANTITIES		SMG	6/16	CHECKED	MGL	7/16	32		
ISSUE DATE		FEDERAL PROJECT NO.			SHEET NO.		56		
REV. DATE		-----			32		56		

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/SUPER	16312 DeckRein	AS NOTED

PRESTRESSED CONCRETE DECK PANEL NOTES

- PRESTRESSING STRANDS SHALL BE $\frac{3}{8}$ in. DIAMETER, GRADE 270 SEVEN WIRE LOW-RELAXATION TYPE, CONFORMING TO THE REQUIREMENTS OF ASTM A416. ALL STRANDS SHALL BE PULLED TO HAVE A NET TENSION OF 17.2 KIPS PER STRAND AFTER ALLOWING FOR CHUCK SLIPPAGE.
- THE MILD REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615) GRADE 60. MILD REINFORCEMENT FOR THE END PANELS SHALL BE EPOXY COATED AND CONFORM TO THE REQUIREMENTS OF ASTM A775 AND D3963.
- THE TOP SURFACE OF THE DECK PANELS SHALL BE BROOMED TO A SURFACE ROUGHNESS OF 0.06 in. BROOM THE SURFACE PARALLEL TO THE STRAND.
- THE GROUT DAM SHALL BE A RIGID MATERIAL THAT PROVIDES A VARIABLE DEPTH AND IS BONDED TO THE BEAM TO RETAIN THE GROUT DURING PLACEMENT. THE MATERIAL AND ADHESIVE SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR. SEE SECTION 528.
- PANEL LIFTING LOCATIONS SHOWN ARE ADVISORY ONLY. ACTUAL LIFTING LOCATIONS SHALL BE DETERMINED BY THE FABRICATOR AND INDICATED ON THE SHOP DRAWINGS.
- CORROSION INHIBITOR (CALCIUM NITRITE) ADMIXTURE SHALL BE USED.
- SEE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR SECTIONS 520 AND 528 FOR ADDITIONAL INFORMATION.
- IF LEVELING SCREWS ARE USED, THEY SHALL BE COMPLETELY REMOVED AFTER THE GROUTING OPERATIONS AND PRIOR TO DECK PLACEMENT. HOLES LEFT BY LEVELING SCREWS SHALL BE FILLED WITH AN APPROVED GROUT PRIOR TO DECK PLACEMENT. THE LEVELING SCREW LOCATIONS SHALL NOT INTERFERE WITH THE LOCATION OF THE GROUT DAM.
- TEMPORARY BRACING BETWEEN ENDS OF PANELS SHALL BE INSTALLED AS REQUIRED TO PREVENT PANEL MOVEMENT TRANSVERSE TO THE GIRDERS.
- SHOP DRAWINGS SHOWING THE LAYOUT AND CONSTRUCTION DETAILS OF THE DECK PANELS SHALL BE SUBMITTED FOR APPROVAL IN ACCORDANCE WITH THE SPECIAL PROVISION.
- SKewed END PANELS OR ANY MODIFICATION TO THE DESIGNED PANELS SHOWN ON THIS SHEET SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER AND SUBMITTED FOR APPROVAL (SEE SPECIAL PROVISION).
- THE FOLLOWING DECK PANEL DESIGN INFORMATION SHALL BE USED FOR THIS PROJECT:

C-C GIRDER SPACING = 6'-6"
 GIRDER FLANGE WIDTH = 1'-0"
 ASSUMED GROUT DAM WIDTH = 1"
 PANEL LENGTH = 6'-1" (NOTE: IF THE CONTRACTOR PROPOSES A GROUT DAM WIDTH THAT EXCEEDS THE ASSUMED WIDTH, PANEL LENGTH SHALL BE INCREASED AS REQUIRED TO PROVIDE A 2" MIN. GROUT BED WIDTH.)

PANEL THICKNESS = $3\frac{1}{2}$ "
 CONCRETE STRENGTH $f'c$ = 6000 PSI AT 28 DAYS
 $f'ci$ = 4000 PSI AT RELEASE
 STRAND SPACING = 8"
 TOTAL NUMBER OF STRANDS REQUIRED PER 8' PANEL WIDTH = 12

CAST-IN-PLACE CONCRETE NOTES

- CAST-IN-PLACE CONCRETE STRENGTH $f'c$ = 4,000 PSI AT 28 DAYS
- CAST-IN-PLACE REINFORCING SHALL CONFORM TO AND FOLLOW THE LAYOUT OF THE TOP MAT REINFORCING SHOWN ON THE DECK REINFORCING SHEET.

DECK SLAB ELEVATION NOTES

- AFTER THE GIRDERS ARE ERECTED AND BEFORE PRECAST DECK PANELS ARE SET, ELEVATIONS ON THE TOP FLANGE OF GIRDERS SHALL BE OBTAINED AT THE POINTS INDICATED IN "BOTTOM OF SLAB ELEVATIONS TABLE" DETAILED IN THE PLANS AND GIRDER HAUNCH DETAIL THIS SHEET.
- THE BOTTOM OF SLAB ELEVATIONS SHALL BE ADJUSTED (REDUCED) BY THE DIFFERENCE BETWEEN THE CAST-IN-PLACE DECK THICKNESS AND TOTAL COMPOSITE DECK THICKNESS.

GIRDER DEFLECTIONS DUE TO DECK PANEL DEAD LOAD (INCH)

	0L	.1L	.2L	.3L	.4L	.5L	.6L	.7L	.8L	.9L	1.0L
SPAN	0	0.152	0.289	0.395	0.462	0.484	0.462	0.395	0.289	0.152	0

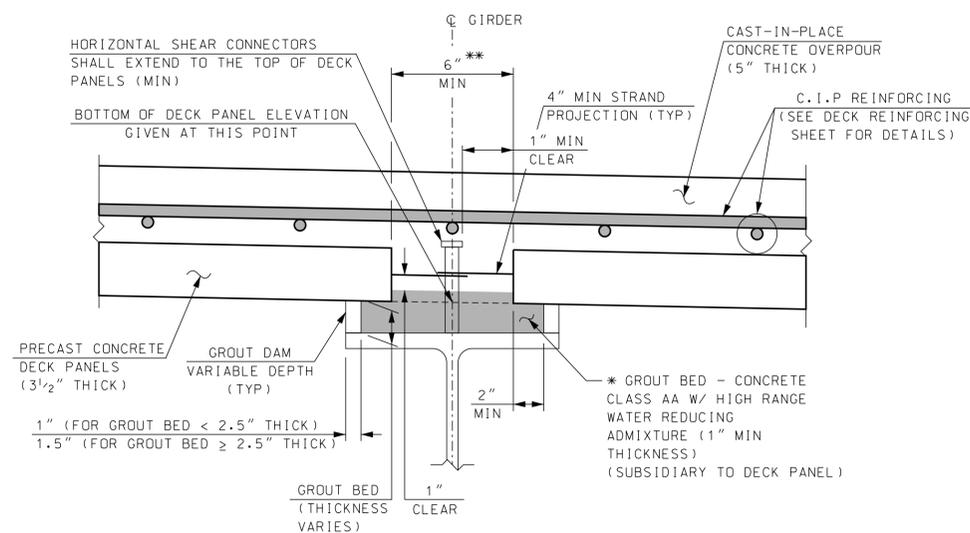
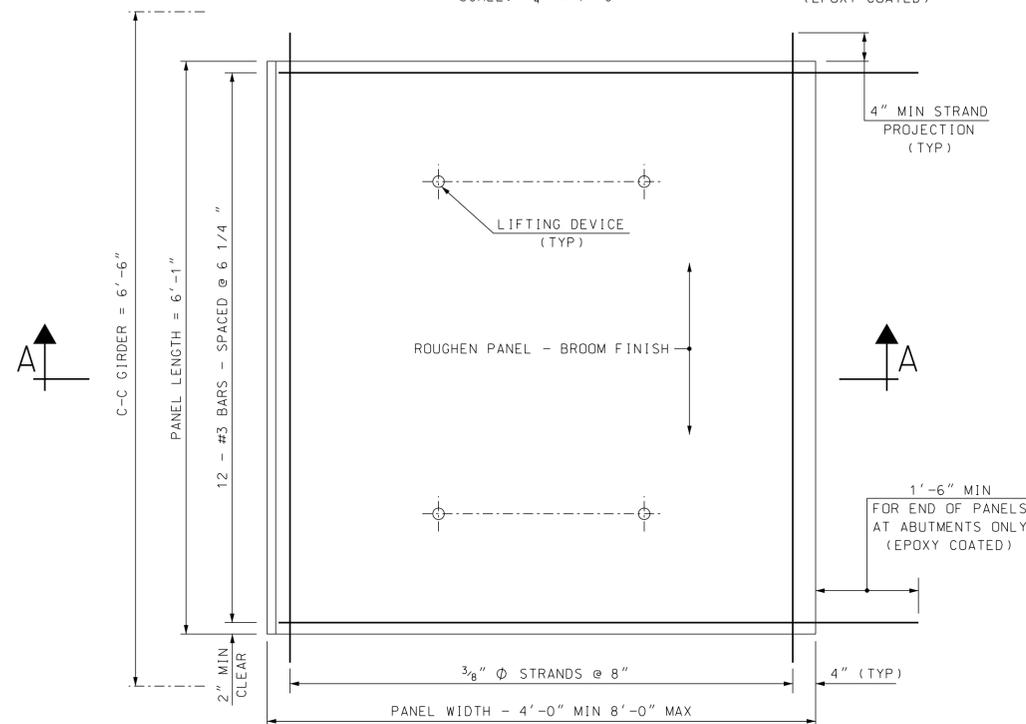
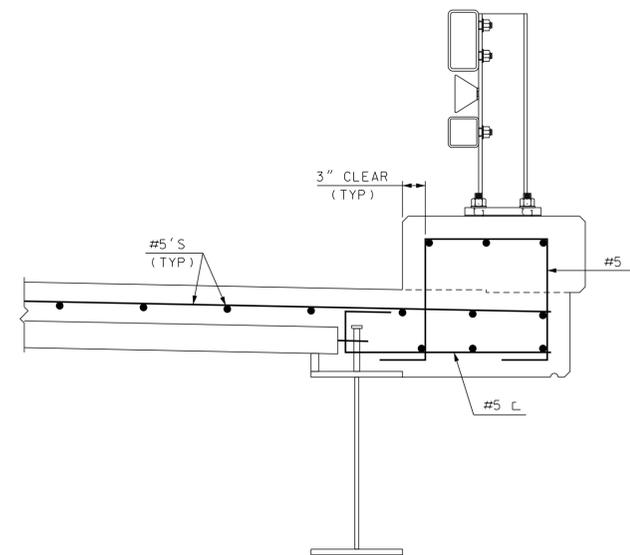
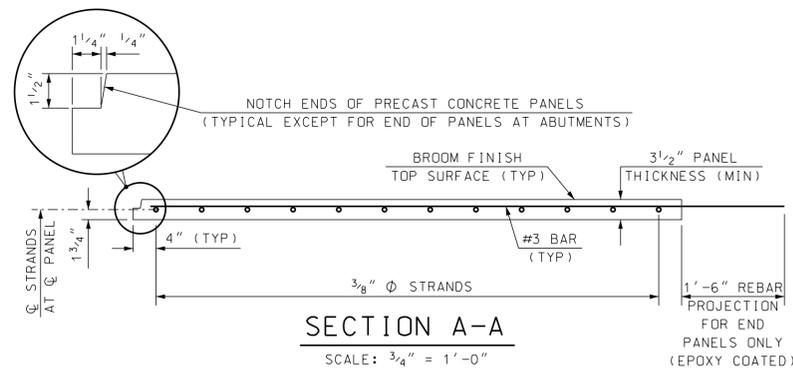
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN STEWARTSTOWN BRIDGE NO. 122/115 STATE PROJECT 16312

LOCATION NH ROUTE 145 over BISHOP BROOK

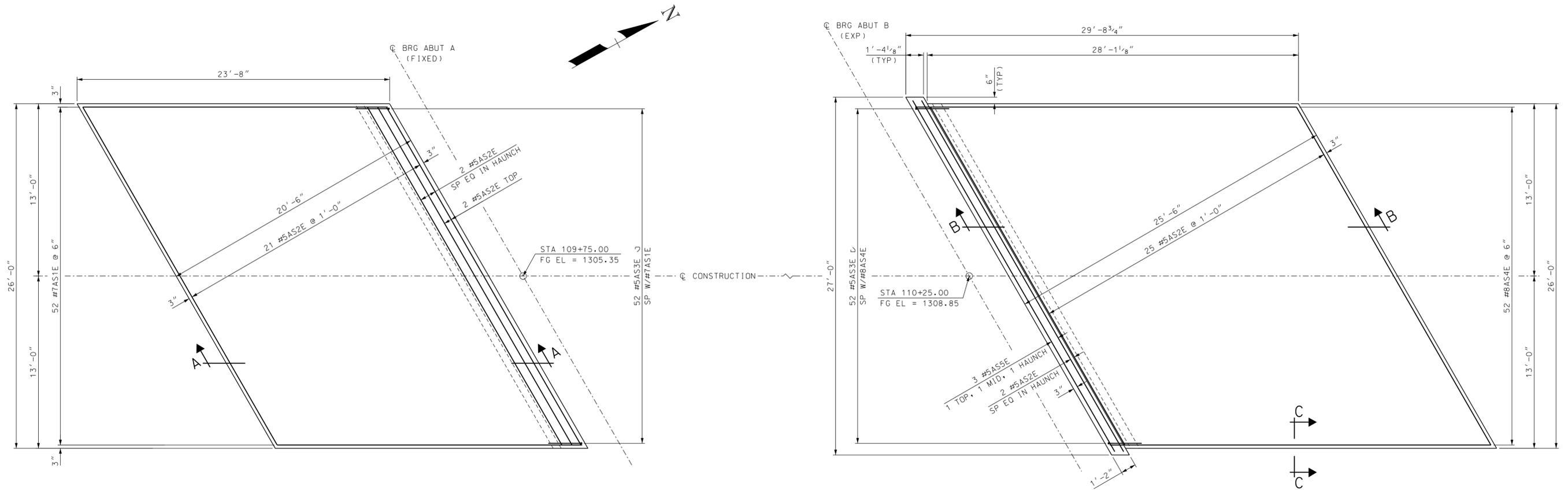
PRECAST CONCRETE DECK PANEL - STEEL GIRDER

REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE	BRIDGE SHEET
	DESIGNED	NHDOT	4/02	CHECKED	NHDOT	2/16
	DRAWN	NHDOT	12/10	CHECKED	NHDOT	2/16
	QUANTITIES			CHECKED		129-4-2
	ISSUE DATE	4/02	FEDERAL PROJECT NO.			SHEET NO.
	REV. DATE	2/16	-----			33
						TOTAL SHEETS
						56



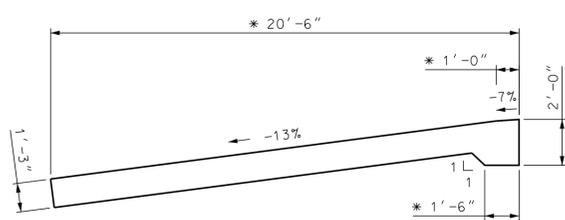
* ENSURE GROUT FLOWS UNDER PANEL FOR COMPLETE BEARING
 ** 5" MIN. FOR 12" FLANGE AND GROUT BED \geq 2.5"

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/DETAILS	DECK PANELS_HL93 rev	AS NOTED



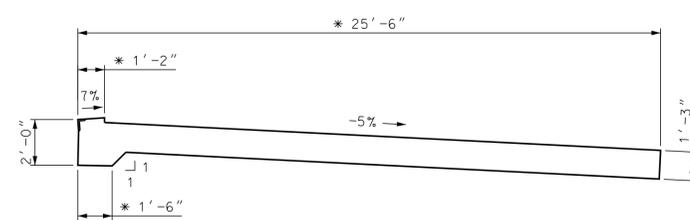
APPROACH SLAB MASONRY AND REINFORCEMENT

SCALE: 1/4" = 1'-0"



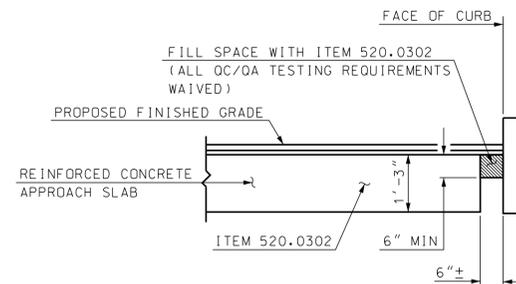
SECTION A-A MASONRY

SCALE: 1/4" = 1'-0"



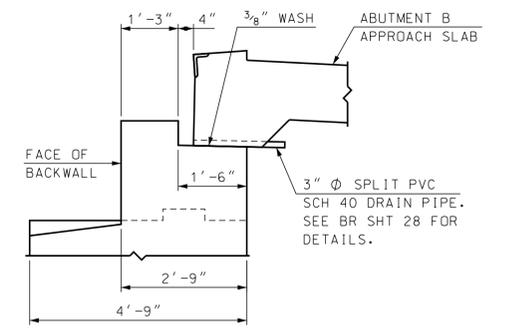
SECTION B-B MASONRY

SCALE: 1/4" = 1'-0"



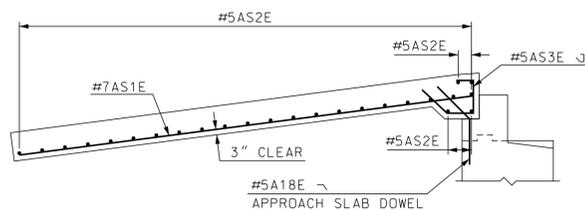
SECTION C-C

SCALE: 1/2" = 1'-0"



ABUTMENT B APPROACH SLAB DETAIL

SCALE: 1/2" = 1'-0"



SECTION A-A REINFORCEMENT

SCALE: 1/4" = 1'-0"

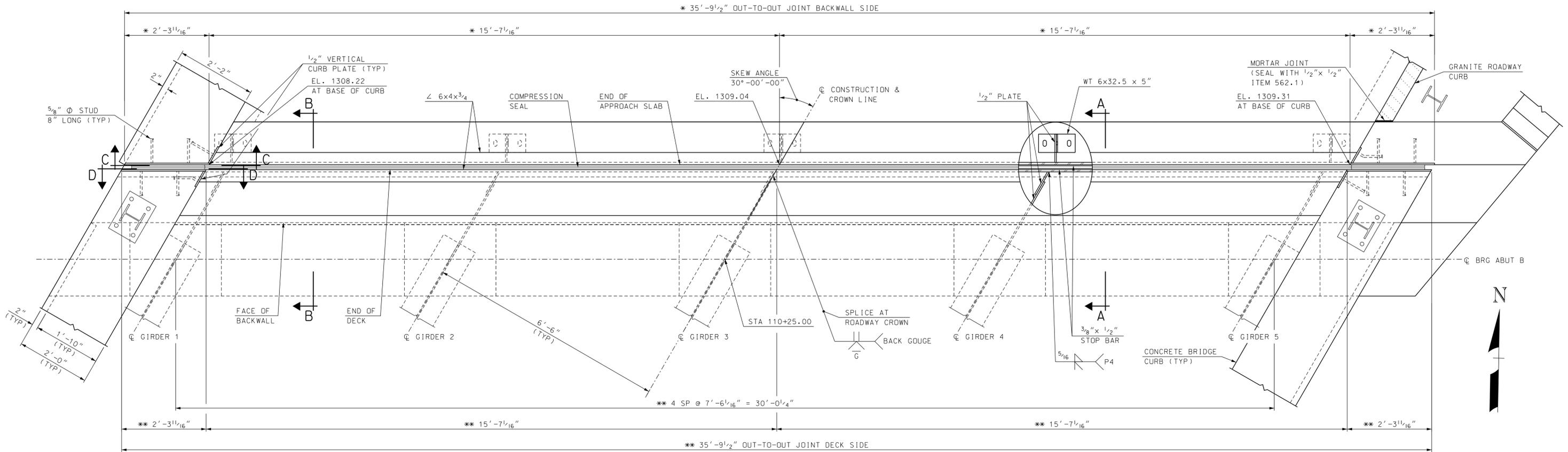


SECTION B-B REINFORCEMENT

SCALE: 1/4" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION	NH ROUTE 145 over BISHOP BROOK								
APPROACH SLABS								BRIDGE SHEET	26 OF 33
DESIGNED	MGL	3/16	CHECKED	PAB	6/16			FILE NUMBER	129-4-2
DRAWN	SMG	3/16	CHECKED	MGL	6/16			TOTAL SHEETS	56
QUANTITIES	SMG	6/16	CHECKED	MGL	7/16				
ISSUE DATE			FEDERAL PROJECT NO.		SHEET NO.	34			
REV. DATE									

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/SUPER	16312 Appslab	AS NOTED



* DIMENSION MEASURED HORIZONTALLY ALONG END OF APPROACH SLAB AND FACE OF PILASTER
 ** DIMENSION MEASURED HORIZONTALLY ALONG END OF DECK

PLAN VIEW

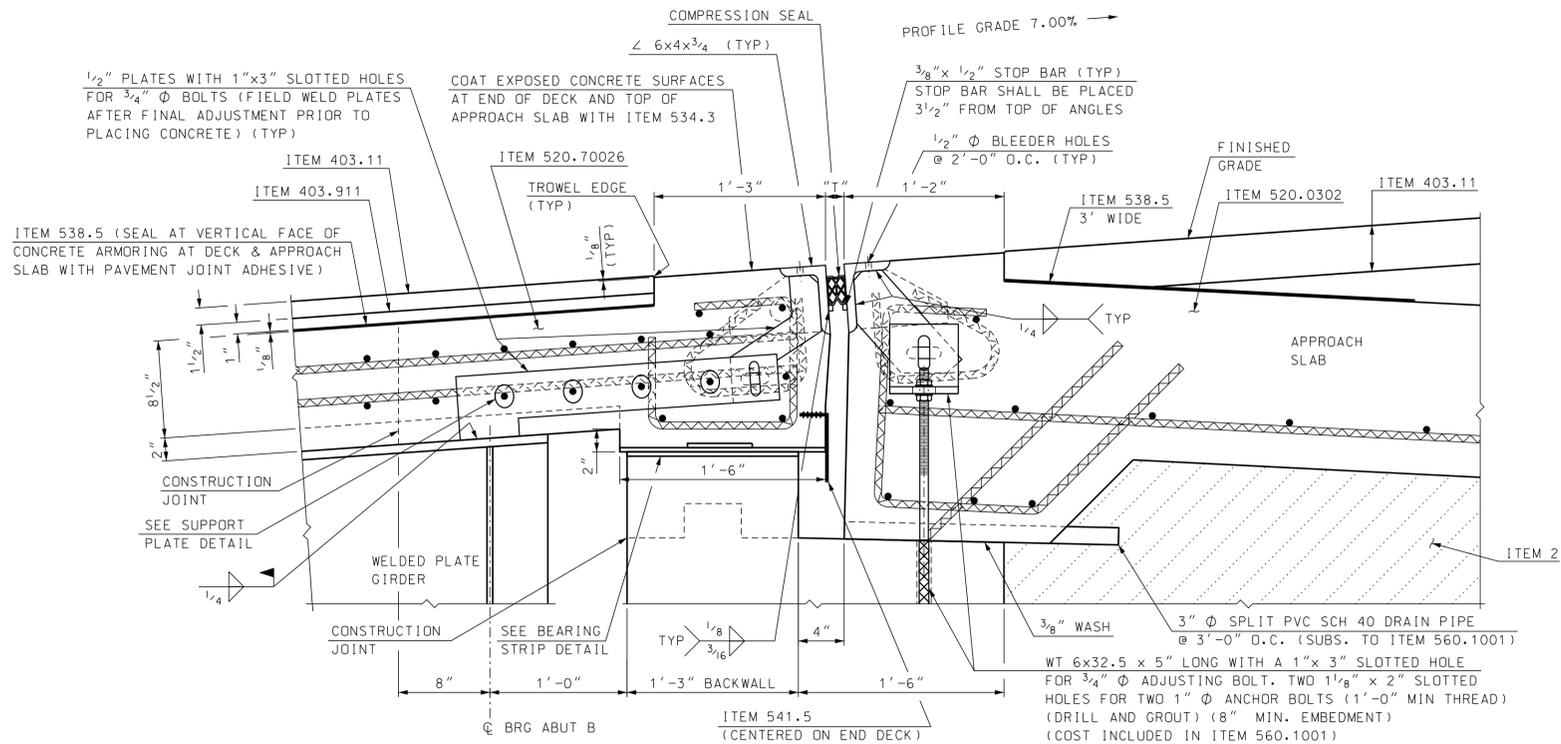
SCALE: 3/4" = 1'-0"

EXPANSION JOINT NOTES

- (1) ALL EXPANSION JOINT STEEL, INCLUDING ANCHORS, SHALL BE GALVANIZED. STEEL ANGLES SHALL BE AASHTO M223 (ASTM A572) GRADE 50. MINOR STEEL PLATES MAY CONFORM TO AASHTO M183 (ASTM A36). THE ENTIRE ASSEMBLY, INCLUDING COMPRESSION SEAL, SHALL BE PAID FOR AS ITEM 560.1001, PREFABRICATED COMPRESSION SEAL EXPANSION JOINT (F).
- (2) SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.
- (3) THE EXPANSION JOINT OPENING SHALL BE PRESET TO TEMPERATURE ANTICIPATED AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR. SEE TEMPERATURE ADJUSTMENT TABLE & NOTES.
- (4) THE COMPRESSION SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED. SEAL SHALL BE INSTALLED IN THE FIELD BY THE CONTRACTOR, IN ACCORDANCE WITH THE MANUFACTURER OF THE SEAL, USING AN APPROVED TOOL THAT WILL NOT DAMAGE THE SEAL.
- (5) JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE NORMAL TO GRADE AFTER JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE. STEEL ANGLES SHALL BE ASSEMBLED WITH A CONSTANT JOINT OPENING TO ENSURE PROPER PERFORMANCE AND WATER TIGHTNESS.
- (6) THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER BOTH ABUTMENTS HAVE BEEN BACKFILLED TO WITHIN 3'-0" OF FINISHED GRADE.
- (7) 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 IN ACCORDANCE WITH SECTION 550.
- (8) PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
- (9) THE COMPRESSION SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 0.62 INCHES. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE A WA-250 SEAL BY WATSON BOWMAN OR CV-2502 BY D.S. BROWN.
- (10) ELEVATIONS SHOWN AT TOP OF ANGLES ARE 1/8" LOWER THAN PROPOSED FINISHED ROADWAY GRADE.
- (11) STEEL ANGLES AND STOP BARS SHALL BE MAINTAINED FREE FROM DIRT, WATER AND ANY OTHER LOOSE DEBRIS, WITH THE USE OF COMPRESSED AIR, TO ENSURE PROPER FIT OF THE SEAL. CARE SHALL BE TAKEN NOT TO DAMAGE GALVANIZED SURFACES.
- (12) FOR SECTIONS A-A THROUGH D-D SEE BRIDGE SHEET 28.

STATE OF NEW HAMPSHIRE														
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN														
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312									
LOCATION NH ROUTE 145 over BISHOP BROOK														
COMPRESSION SEAL EXPANSION JOINT (1 OF 2)								BRIDGE SHEET						
REVISIONS AFTER PROPOSAL								DESIGNED	MGL	2/16	CHECKED	PAB	6/16	27 OF 33
								DRAWN	SMG	2/16	CHECKED	MGL	6/16	FILE NUMBER
								QUANTITIES	SMG	6/16	CHECKED	MGL	7/16	129-4-2
								ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS	
								REV. DATE	-----			35	56	

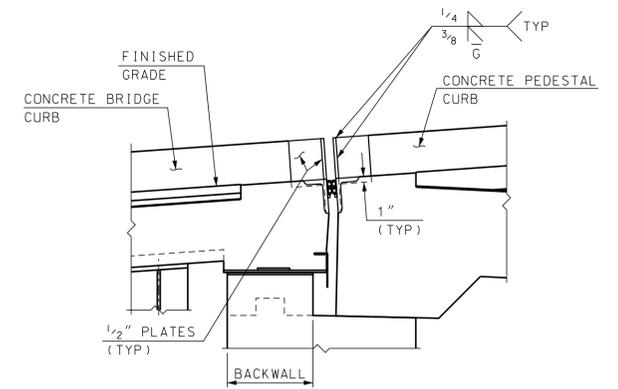
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/SUPER	16312 comp jt	AS NOTED



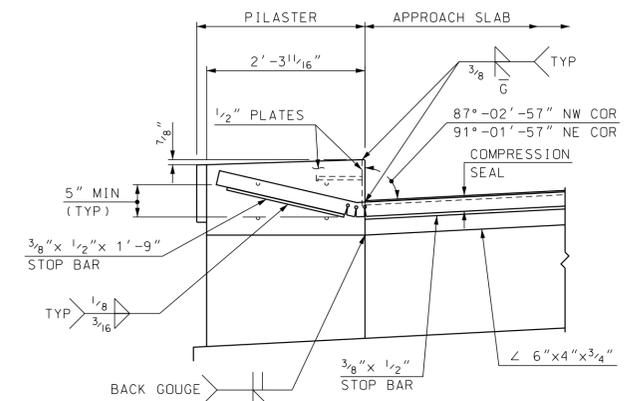
SECTION A-A CONSTRUCTION
SCALE: 1 1/2" = 1'-0"

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
20°F	1 3/4"
35°F	1 3/4"
50°F	1 11/16"
65°F	1 5/8"
80°F	1 9/16"
95°F	1 1/2"

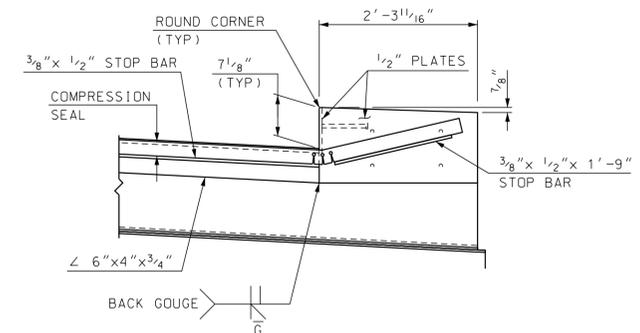
- TEMPERATURE ADJUSTMENT NOTES**
- "T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL.
 - MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1 5/8" (APPROXIMATELY 65°F OR LESS).
 - VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING CONCRETE BLOCKOUTS.



SECTION B-B
SCALE: 3/4" = 1'-0"

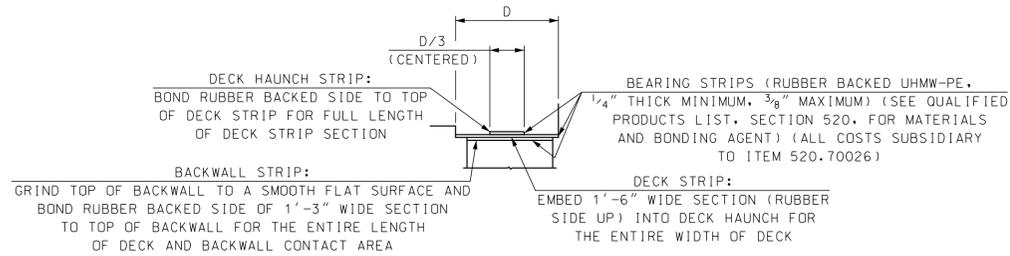


SECTION C-C
SCALE: 3/4" = 1'-0"

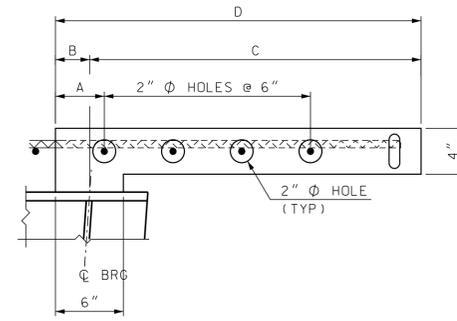


SECTION D-D
SCALE: 3/4" = 1'-0"

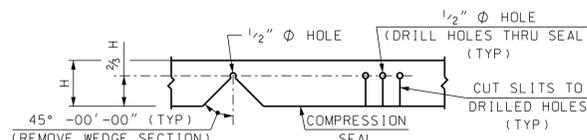
FOR LOCATIONS OF SECTIONS A-A THROUGH D-D SEE BRIDGE SHEET 27.



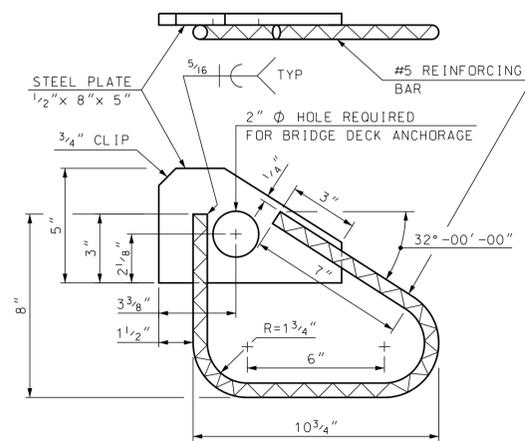
BEARING STRIP DETAIL
NOT TO SCALE



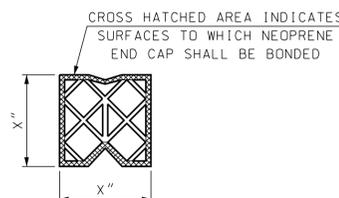
SUPPORT PLATE DETAIL
SCALE: 1 1/2" = 1'-0"



RELIEF CUT DETAILS
NOT TO SCALE



ANCHORAGE DETAIL
SCALE: 3" = 1'-0"

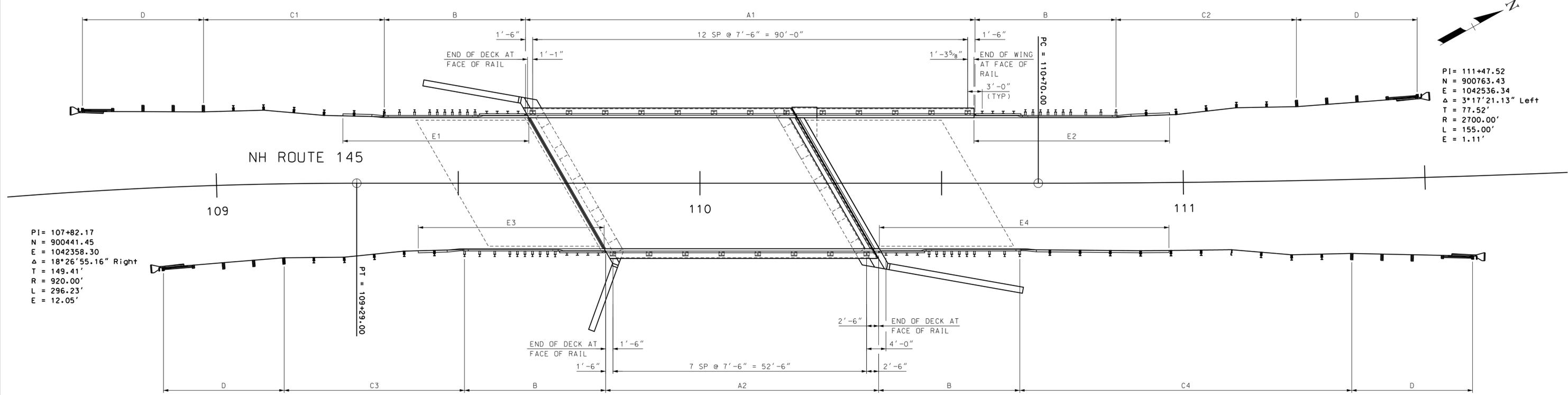


UNCOMPRESSED SEAL
NOT TO SCALE

	A	B	C	D
GIRDER 1	4 1/4"	3"	2'-5"	2'-8"
GIRDER 2	5 1/4"	1"	2'-5"	2'-6"
GIRDER 3	4 1/4"	3"	2'-5"	2'-8"
GIRDER 4	5 1/4"	1"	2'-5"	2'-6"
GIRDER 5	4 1/4"	3"	2'-5"	2'-8"

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312
LOCATION	NH ROUTE 145 over BISHOP BROOK				
COMPRESSION SEAL EXPANSION JOINT (2 OF 2)					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					28 OF 33
DESIGNED	MGL	DATE	2/16	CHECKED	PAB 6/16
DRAWN	SMG	DATE	2/16	CHECKED	MGL 6/16
QUANTITIES	SMG	DATE	6/16	CHECKED	MGL 7/16
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	36
REV. DATE				TOTAL SHEETS	56

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/050_081WB	16312 comp jt	AS NOTED



PI = 107+82.17
 N = 900441.45
 E = 1042358.30
 $\Delta = 18^\circ 26' 55.16''$ Right
 T = 149.41'
 R = 920.00'
 L = 296.23'
 E = 12.05'

PI = 111+47.52
 N = 900763.43
 E = 1042536.34
 $\Delta = 3^\circ 17' 21.13''$ Left
 T = 77.52'
 R = 2700.00'
 L = 155.00'
 E = 1.11'

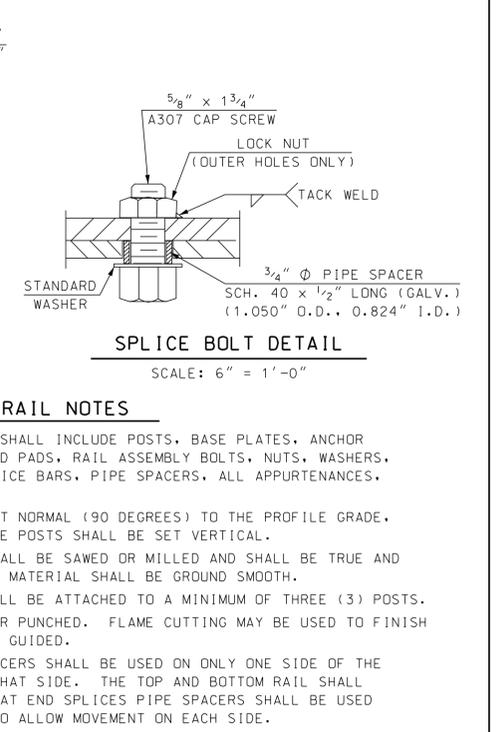
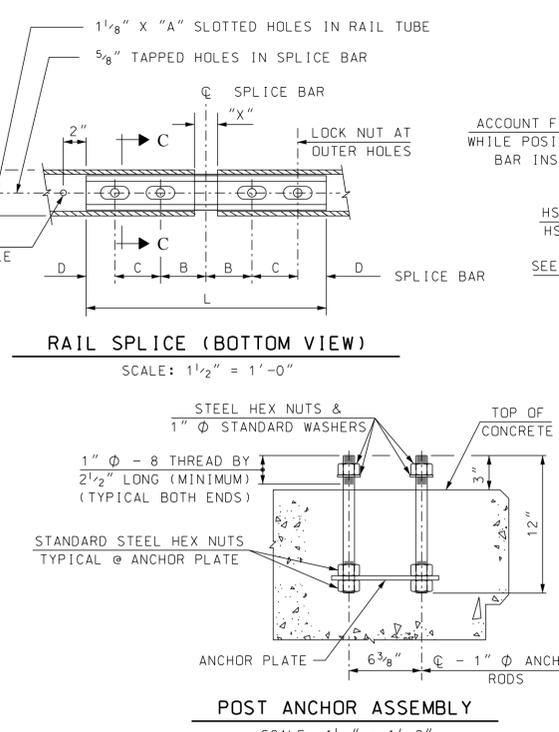
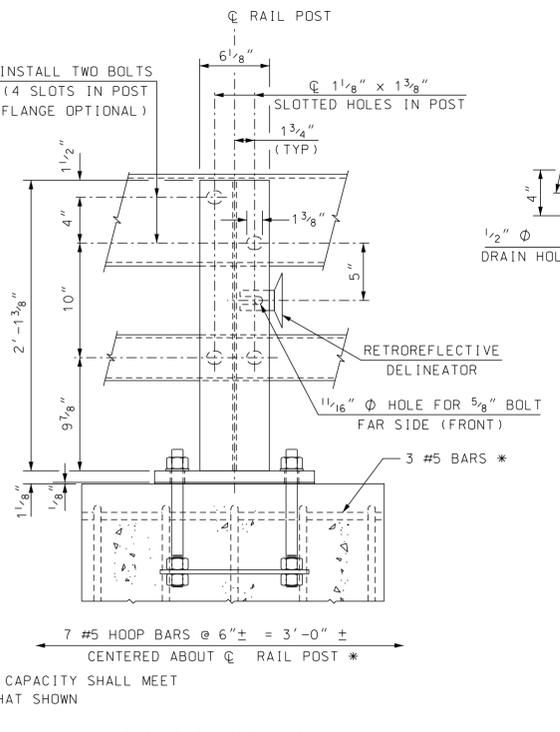
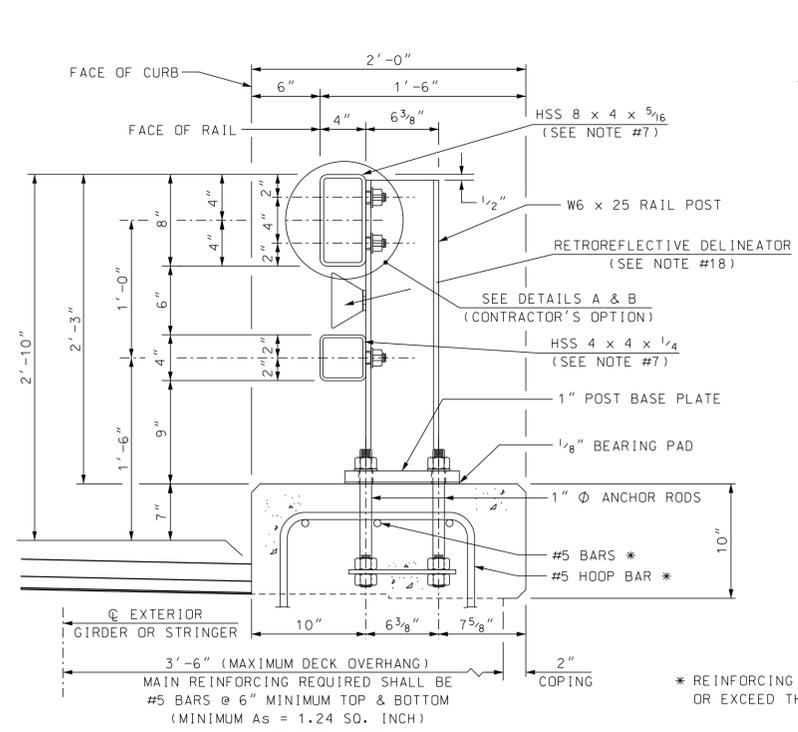
RAIL AND CURB LAYOUT
 SCALE: 1" = 10'-0"

RAIL AND CURB LAYOUT NOTES

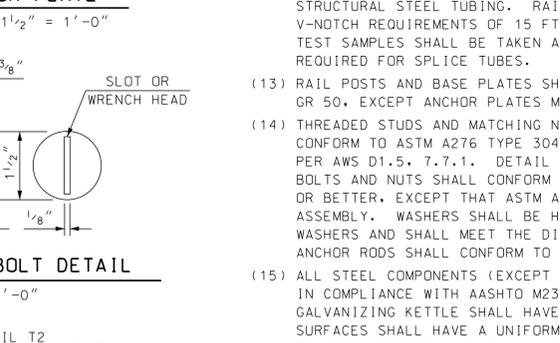
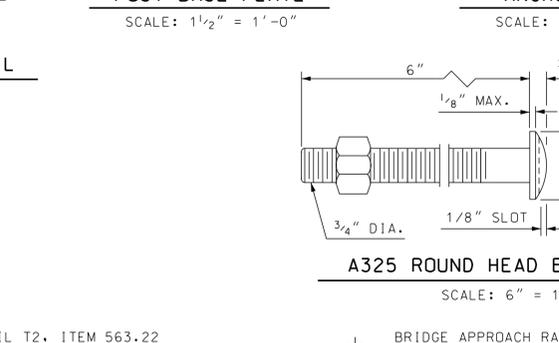
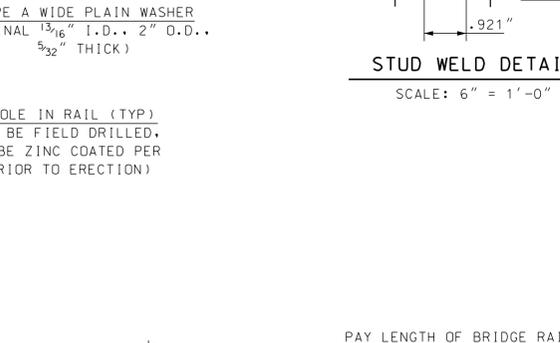
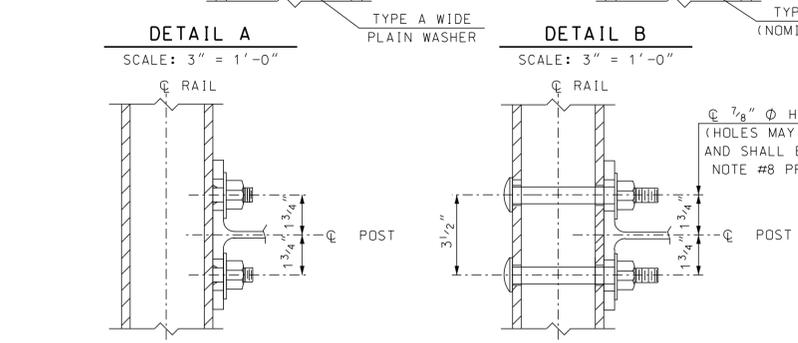
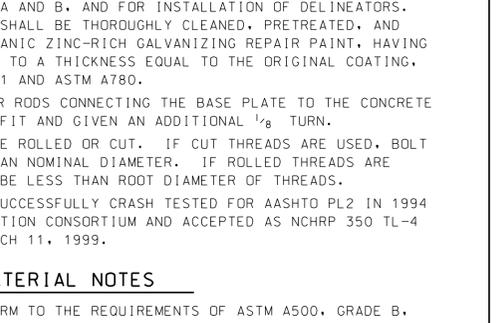
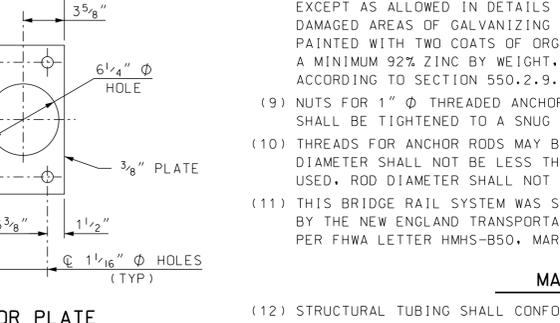
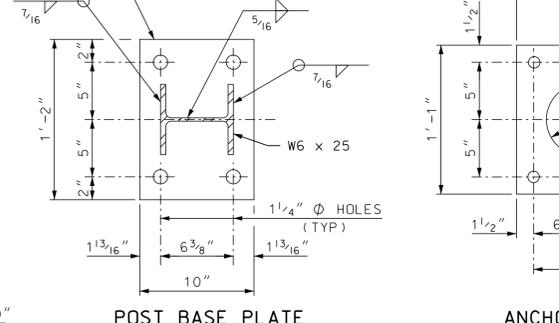
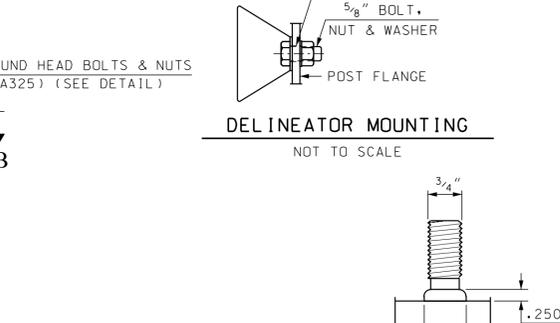
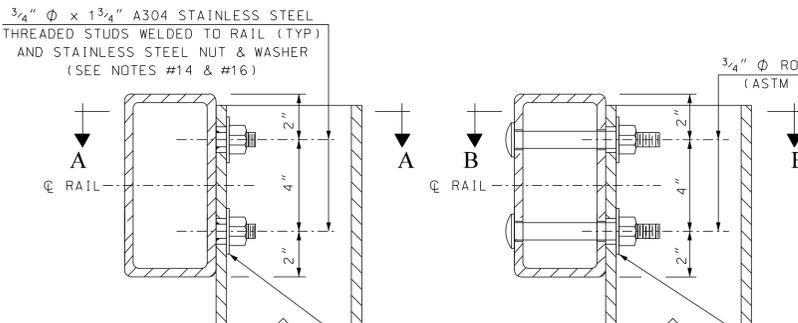
- A. ITEM 563.22, BRIDGE RAIL T2
 SEE BRIDGE SHEET 30 FOR DETAILS
 A1 = 93'-0"
 A2 = 56'-6"
 ITEM TOTAL = 150 LF
- B. ITEM 565.222, BRIDGE APPROACH RAIL T2 (STEEL POSTS)
 SEE BRIDGE SHEET 31 FOR DETAILS
 1 UNIT = 29'-2"
 ITEM TOTAL = 4 UNITS
- C. ITEM 606.18001, 31" W-BEAM GUARDRAIL WITH 8" OFFSET BLOCK (STEEL POST)
 C1 = 37'-6"
 C2 = 37'-6"
 C3 = 37'-6"
 C4 = 68'-9"
 ITEM TOTAL = 182 LF
- D. ITEM 606.1255, BEAM GUARDRAIL (TERMINAL UNIT TYPE EAGRT, TL 2) (STEEL POST)
 SEE SHEET 6 FOR DETAILS
 1 UNIT = 25'-0"
 ITEM TOTAL = 4 UNITS
- E. ITEM 609.01, STRAIGHT GRANITE CURB
 E1 = 38'-6"
 E2 = 40'-6"
 E3 = 38'-6"
 E4 = 60'-0"
 ITEM TOTAL = 178 LF

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312				
LOCATION NH ROUTE 145 over BISHOP BROOK									
RAIL AND CURB LAYOUT								BRIDGE SHEET	
								29 OF 33	
								FILE NUMBER	
								129-4-2	
								TOTAL SHEETS	
								37	
								56	

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/PRELIM	16312 RLayout	AS NOTED



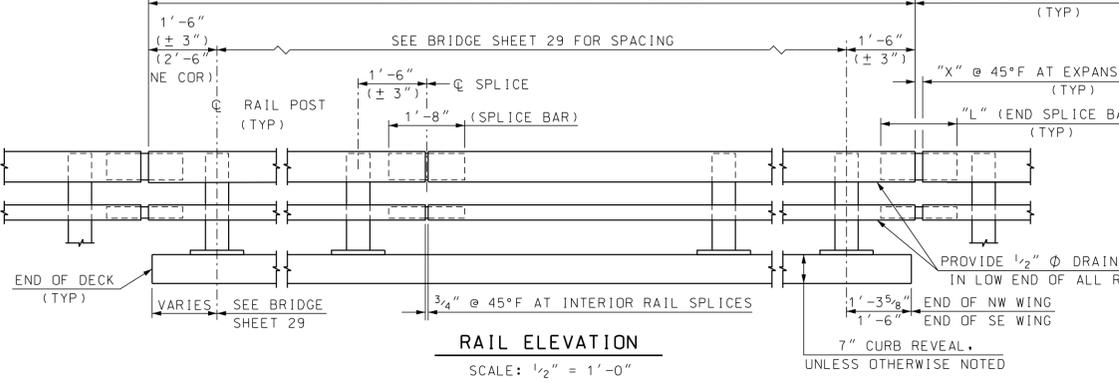
* REINFORCING CAPACITY SHALL MEET OR EXCEED THAT SHOWN



SPLICE BAR DIMENSION TABLE

T	A	B	C	D	X	L
INTERIOR	2 1/2"	4"	4"	2"	3/4"	1'-8"
** < 3 1/4"	2 1/2"	4"	4"	2"	2"	1'-8"
** 3 1/4" < T < 5 1/4"	3 1/2"	5"	5"	2 1/2"	3"	2'-1"

T = TOTAL MOVEMENT OF BRIDGE
** = END SPLICE BAR



- RAIL NOTES**
- ITEM 563.22, BRIDGE RAIL T2, SHALL INCLUDE POSTS, BASE PLATES, ANCHOR PLATES, ANCHOR RODS, PREFORMED PADS, RAIL ASSEMBLY BOLTS, NUTS, WASHERS, STUDS, STRUCTURAL TUBING, SPLICE BARS, PIPE SPACERS, ALL APPURTENANCES, AND GALVANIZING.
 - BRIDGE RAIL POSTS SHALL BE SET NORMAL (90 DEGREES) TO THE PROFILE GRADE, EXCEPT ON GRADES OVER 5% WHERE POSTS SHALL BE SET VERTICAL.
 - ENDS OF RAIL TUBE SECTIONS SHALL BE SAWED OR MILLED AND SHALL BE TRUE AND SMOOTH. ALL CUT EDGES OF ALL MATERIAL SHALL BE GROUND SMOOTH.
 - EACH PIECE OF RAIL TUBING SHALL BE ATTACHED TO A MINIMUM OF THREE (3) POSTS.
 - BOLT HOLES SHALL BE DRILLED OR PUNCHED. FLAME CUTTING MAY BE USED TO FINISH SLOTTED HOLES IF MECHANICALLY GUIDED.
 - AT INTERIOR SPLICES, PIPE SPACERS SHALL BE USED ON ONLY ONE SIDE OF THE SPLICE TO ALLOW MOVEMENT ON THAT SIDE. THE TOP AND BOTTOM RAIL SHALL RECEIVE THE SAME TREATMENT. AT END SPLICES PIPE SPACERS SHALL BE USED ON BOTH SIDES OF THE SPLICE TO ALLOW MOVEMENT ON EACH SIDE.
 - MILL OR SHOP TRANSVERSE WELDS SHALL NOT BE PERMITTED ON ANY RAIL ELEMENT. RAIL ELEMENTS USED ON CURVES SHALL USE 3/8" WALL TUBES AND SHALL BE SHOP FORMED TO THE REQUIRED CURVATURE (SEE SECTION 563.3.2.1).
 - NO PUNCHING, DRILLING, CUTTING OR WELDING SHALL BE PERMITTED AFTER GALVANIZING, EXCEPT AS ALLOWED IN DETAILS A AND B. AND FOR INSTALLATION OF DELINEATORS. DAMAGED AREAS OF GALVANIZING SHALL BE THOROUGHLY CLEANED, PRETREATED, AND PAINTED WITH TWO COATS OF ORGANIC ZINC-RICH GALVANIZING REPAIR PAINT, HAVING A MINIMUM 92% ZINC BY WEIGHT, TO A THICKNESS EQUAL TO THE ORIGINAL COATING, ACCORDING TO SECTION 550.2.9.1 AND ASTM A780.
 - NUTS FOR 1" diameter THREADED ANCHOR RODS CONNECTING THE BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
 - THREADS FOR ANCHOR RODS MAY BE ROLLED OR CUT. IF CUT THREADS ARE USED, BOLT DIAMETER SHALL NOT BE LESS THAN NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, ROD DIAMETER SHALL NOT BE LESS THAN ROOT DIAMETER OF THREADS.
 - THIS BRIDGE RAIL SYSTEM WAS SUCCESSFULLY CRASH TESTED FOR AASHTO PL2 IN 1994 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM AND ACCEPTED AS NCHRP 350 TL-4 PER FHWA LETTER HMHS-B50, MARCH 11, 1999.

- MATERIAL NOTES**
- STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B, STRUCTURAL STEEL TUBING. RAIL TUBING SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH REQUIREMENTS OF 15 FT. LBS. AT 0°F. FOR ASTM A500, GRADE B, THE TEST SAMPLES SHALL BE TAKEN AFTER FORMING THE TUBES. CHARPY V-NOTCH IS NOT REQUIRED FOR SPLICE TUBES.
 - RAIL POSTS AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A572 GR 50, EXCEPT ANCHOR PLATES MAY BE ASTM A36.
 - THREADED STUDS AND MATCHING NUTS FOR RAIL-TO-POST ATTACHMENT (DETAIL A) SHALL CONFORM TO ASTM A276 TYPE 304, STAINLESS STEEL, AND SHALL BE TORQUE TESTED PER AWS D1.5, 7.7.1. DETAIL B BOLTS SHALL BE ASTM A325 OR A449. ALL OTHER BOLTS AND NUTS SHALL CONFORM TO ASTM A307 AND ASTM 563 GRADE A RESPECTIVELY OR BETTER, EXCEPT THAT ASTM A307 NUTS MAY BE USED ON THE BOTTOM OF ANCHOR ASSEMBLY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN WIDE WASHERS AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF A.N.S.I. B18.22. ANCHOR RODS SHALL CONFORM TO ASTM A449.
 - ALL STEEL COMPONENTS (EXCEPT STAINLESS) SHALL BE GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH AASHTO M232 (ASTM A153) AND AASHTO M111 (ASTM A123). THE GALVANIZING KETTLE SHALL HAVE 0.05 TO 0.09 PERCENT NICKEL. GALVANIZED SURFACES SHALL HAVE A UNIFORM APPEARANCE AND GALVANIZED MATERIAL SHALL BE PROPERLY STORED. IF PAINTING IS REQUIRED SEE SPECIAL PROVISIONS FOR 708.
 - DETAIL A STUDS SHALL BE WELDED ON AFTER TUBES ARE GALVANIZED BY SPOT GRINDING OFF GALVANIZING, WELDING ON STUDS, THEN TOUCH UP GALVANIZING PER NOTE #8 ABOVE.
 - PREFORMED BEARING PADS (1/8" THICK) SHALL CONFORM TO AASHTO M251.
 - RETROREFLECTIVE DELINEATORS, BOLTS, NUTS, WASHERS AND FIELD DRILLING OF POSTS, INCLUDING GALVANIZING TOUCH-UP, SHALL BE SUBSIDIARY TO ITEM 563.22. SEE STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION (DL-1) FOR ADDITIONAL DETAILS AND SPACING.

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN

TOWN STEWARTSTOWN BRIDGE NO. 122/115 STATE PROJECT 16312
LOCATION NH ROUTE 145 over BISHOP BROOK

T2 STEEL BRIDGE RAIL

DESIGNED	NETC/JSZ	3/02	CHECKED	NHDOT	FILE NUMBER
DRAWN	PPP	10/05	CHECKED	JGL	129-4-2
QUANTITIES	SMG	6/16	CHECKED	MJL	7/16
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.	SHEET NO.	TOTAL SHEETS	
REV. DATE	3/12/16		38	56	

BRIDGE SHEET 10 OF 33																	
Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
AF1	#5	11.00	38	---													
AF2	#8	11.00	38	---													
AF3	#5	20.75	10	---													
AF4	#5	18.00	14	---													
AF5	#5	8.42	79	N3		1.04	1.04	6.33						0.00	0.67		
AF6	#8	11.75	36	N3		1.04	1.04	9.67						0.00	0.67		
AF7	#5	7.00	8	---													
AF8	#5	5.00	18	---													
AF9	#7	12.00	72	---													
AF10	#5	19.58	52	---													
AF11	#8	11.67	39	N3		1.04	1.04	9.58						0.00	0.67		
AF12	#5	26.67	10	---													
AF13	#5	23.75	14	---													

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	3448	0	1766	3460	0	0	0	0	0	8674
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUTMENT A BRIDGE SHEET 12 OF 33

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
A1	#5	16.08	43	---													
A2	#6	13.75	36	---													
A3	#6	15.08	1	---													
A4	#6	13.83	2	---													
A5	#5	5.83	33	N5		3.58	0.75	1.50									
A6	#5	5.33	33	17		3.25	1.58	0.50									
A7	#5	8.17	36	17		3.67	0.83	3.67									
A8E	#5	13.50	5	17		6.25	1.00	6.25									EPOXY
A9	#5	5.08	3	N5		2.83	0.75	1.50									
A10	#5	19.33	36	---													
A11	#5	17.50	38	---													
A12	#5	7.00	2	---													
A13	#5	21.08	10	---													
A14	#5	4.83	35	N7			2.00	2.83				1.53		1.29			
A15	#5	5.50	37	---													
A16E	#5	2.50	2	N4		0.75	0.83	0.92				0.75		0.43			EPOXY
A17E	#5	3.75	2	N4		1.92	0.83	1.00				0.75		0.43			EPOXY
A18E	#5	4.00	29	N7			2.00	2.00				1.41		1.41			EPOXY
A19	#5	6.67	15	17		2.50	1.67	2.50									
A20	#5	7.08	15	17		2.50	2.08	2.50									

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	3686	808	0	0	0	0	0	0	0	4493
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	204	0	0	0	0	0	0	0	0	204
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

SOUTH EAST WINGWALL BRIDGE SHEET 13 OF 33

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
SE1	#5	13.75	3	---													
SE2	#5	9.83	3	---													
SE3	#5	15.92	4	---													
SE4	#5	12.00	4	---													
SE5	#5	18.00	4	---													
SE6	#5	14.08	4	---													
SE7	#5	20.17	4	---													
SE8	#5	16.25	4	---													
SE9	#5	14.08	30	---													
SE10	#5	12.67	2	---													
SE11	#5	10.75	2	---													
SE12	#5	9.00	2	---													
SE13	#5	7.17	2	---													
SE14	#5	5.33	2	---													
SE15	#5	3.50	2	---													
SE16	#5	1.58	2	---													
SE17	#5	15.83	2	---													

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1054	0	0	0	0	0	0	0	0	1054
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

SOUTH WEST WINGWALL BRIDGE SHEET 13 OF 33

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
SW1	#5	16.42	7	---													
SW2	#5	12.42	7	---													
SW3	#5	17.58	7	---													
SW4	#5	13.58	7	---													
SW5	#5	18.83	7	---													
SW6	#5	14.84	7	---													
SW7	#5	20.08	34	---													
SW8	#5	18.83	2	---													
SW9	#5	13.17	2	---													
SW10	#5	7.43	2	---													
SW11	#5	1.75	2	---													
SW12	#5	20.33	2	---													

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1524	0	0	0	0	0	0	0	0	1524
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

ABUTMENT B FOOTING BRIDGE SHEET 15 OF 33

Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating
BF1	#5	14.00	70	---													
BF2	#8	14.00	108	---													
BF3	#5	16.17	2	---													
BF4	#5	14.50	12	---													
BF5	#5	10.00	8	---													
BF6	#5	7.00	20	---													
BF7	#5	8.50	54	20			0.75	1.00	0.75								
BF8	#5	8.42	142	N3			1.04	1.04	6.33					0.00	0.67		
BF9	#6	8.17	23	N3			1.04	1.04	6.08					0.50	0.67		
BF10	#8	11.75	52	N3			1.04	1.04	9.67					0.80	0.67		
BF11	#8	10.83	7	---													
BF12	#5	10.83	7	---													
BF13	#5	9.17	2	---													
BF14	#5	7.42	2	---													
BF15	#5	23.25	30	---													
BF16	#5	17.50	24	---													
BF17	#8	11.67	35	N3			1.04	1.04	9.58					0.00	0.67		
BF18	#5	5.25	6	---													
BF19	#5	17.92	8	---													
BF20	#5	7.67	27	N3			1.04	1.04	5.58					0.47	0.67		
BF21	#5	16.00	30	---													
BF22	#5	10.42	27	N7			2.42	8.00				1.08		2.17			
BF23	#5	11.00	33	---													
BF24	#8	11.00	23	---													
BF25	#5	22.00	24	---													

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	6594	282	0	7637	0	0	0	0	0	14513
544.11	MECH. CONNECTOR	0	0	0	0	0							

NORTH EAST WINGWALL															BRIDGE SHEET 19 OF 33									
Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating							
NE1	#5	19.00	22	---																				
NE2	#5	15.00	22	---																				
NE3	#5	12.25	27	---																				
NE4	#5	24.00	7	---																				
NE5	#5	20.00	7	---																				
NE6	#5	6.58	10	---																				
NE7	#5	28.00	44	---																				

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	2800	0	0	0	0	0	0	0	0	2800
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	0	0	0	0	0	0	0	0	0	0
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

NORTH WEST WINGWALL															BRIDGE SHEET 19 OF 33									
Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating							
NW1	#5	22.75	7	---																				
NW2	#6	19.25	7	---																				
NW3	#6	12.75	22	---																				
NW4	#5	19.08	16	---																				
NW5	#6	15.58	16	---																				
NW6	#5	9.08	2	---																				
NW7	#5	8.58	2	---																				
NW8	#5	8.25	2	---																				
NW9	#5	7.75	2	---																				
NW10	#5	7.33	2	---																				
NW11	#5	6.92	2	---																				
NW12	#5	6.50	2	---																				
NW13	#5	6.08	2	---																				
NW14	#5	5.58	2	---																				
NW15	#5	5.17	2	---																				
NW16	#5	6.50	10	---																				
NW17	#5	22.00	20	---																				
NW18	#5	18.33	4	---																				
NW19	#5	23.08	1	---																				
NW20	#5	25.42	1	---																				
NW21	#5	27.75	1	---																				
NW22	#5	30.08	1	---																				
NW23	#5	32.08	6	---																				
NW24	#6	23.08	1	---																				
NW25	#6	25.42	1	---																				
NW26	#6	27.75	1	---																				
NW27	#6	30.83	1	---																				
NW28	#6	32.08	6	---																				
NW29	#5	14.25	1	---																				
NW30	#6	14.50	1	---																				
NW31E	#5	6.67	2	N2		0.00	3.00	0.67	3.00			2.12		2.12			EPOXY							
NW32E	#5	32.08	3	---													EPOXY							
NW33E	#5	7.33	53	17		3.00	1.33	3.00									EPOXY							

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	1563	1470	0	0	0	0	0	0	0	3033
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	519	0	0	0	0	0	0	0	0	519
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

DECK															BRIDGE SHEET 24 OF 33									
Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating							
D1E	#5	30.25	150	---													EPOXY							
D2E	#5	29.75	4	---													EPOXY							
D3E	#5	28.83	4	---													EPOXY							
D4E	#5	28.00	4	---													EPOXY							
D5E	#5	27.08	4	---													EPOXY							
D6E	#5	26.25	4	---													EPOXY							
D7E	#5	25.42	4	---													EPOXY							
D8E	#5	24.50	4	---													EPOXY							
D9E	#5	23.67	4	---													EPOXY							
D10E	#5	22.83	4	---													EPOXY							
D11E	#5	22.00	4	---													EPOXY							
D12E	#5	21.08	4	---													EPOXY							
D13E	#5	22.25	4	---													EPOXY							
D14E	#5	19.33	4	---													EPOXY							
D15E	#5	18.50	4	---													EPOXY							
D16E	#5	17.67	4	---													EPOXY							
D17E	#5	16.75	4	---													EPOXY							
D18E	#5	15.83	4	---													EPOXY							
D19E	#5	15.00	4	---													EPOXY							
D20E	#5	14.17	4	---													EPOXY							
D21E	#5	13.25	4	---													EPOXY							
D22E	#5	12.42	4	---													EPOXY							
D23E	#5	11.50	4	---													EPOXY							
D24E	#5	10.75	4	---													EPOXY							
D25E	#5	9.83	4	---													EPOXY							
D26E	#5	9.00	4	---													EPOXY							
D27E	#5	8.08	4	---													EPOXY							
D28E	#5	7.25	4	---													EPOXY							
D29E	#5	6.33	4	---													EPOXY							
D30E	#5	5.50	4	---													EPOXY							
D31E	#5	4.67	4	---													EPOXY							
D32E	#5	3.75	4	---													EPOXY							
D33E	#5	2.92	4	---													EPOXY							
D34E	#5	2.00	4	---													EPOXY							
D35E	#5	35.00	8	---													EPOXY							
D36E	#5	35.67	74	---													EPOXY							
D37E	#5	21.25	74	---													EPOXY							
D38E	#5	3.08	34	S6	0.50	0.58	0.92	0.58						0.50			EPOXY							
D39E	#5	3.58	34	S6	0.00	0.67	1.25	0.83						0.83			EPOXY							
D40E	#5	5.00	172	S5	0.50	1.33	1.33	1.33						0.50			EPOXY							

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	12746	0	0	0	0	0	0	0	0	12746
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

APPROACH SLABS															BRIDGE SHEET 26 OF 33									
Mark	Size	Length	# Pieces	Type	A	B	C	D	E	F	G	H	J	K	R	O	Coating							
AS1E	#7	23.25	52	---													EPOXY							
AS2E	#5	29.50	52	---													EPOXY							
AS3E	#5	5.50	104	N2		0.83	1.42	1.33	1.92				1.36		1.36		EPOXY							
AS4E	#8	29.25	52	---													EPOXY							
AS5E	#5	30.67	3	---													EPOXY							

SECTION SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	0	0	0	0	0	0	0	0	0	0
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	2293	0	2471	4061	0	0	0	0	0	8825
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

GRAND SUMMARY TOTAL WEIGHT (lbs):

ITEM #	DESCRIPTION	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18	TOTAL
544	REINFORCING STEEL	0	0	26176	3448	1766	11097	0	0	0	0	0	42486
544.11	MECH. CONNECTOR	0	0	0	0	0	0	0	0	0	0	0	0
544.2	EPOXY COATED	0	0	16084	0	2471	4061	0	0	0	0	0	22616
544.21	EPOXY MECH. CON.	0	0	0	0	0	0	0	0	0	0	0	0

STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	STEWARTSTOWN	BRIDGE NO.	122/115	STATE PROJECT	16312					
LOCATION	NH ROUTE 145 over BISHOP BROOK									
REINFORCING SCHEDULE (2 OF 2)										
REVISIONS AFTER PROPOSAL					BY	DATE	BY	DATE	BRIDGE SHEET</	