

SUMMARY OF BRIDGE QUANTITIES

ITEM NO.	ITEM DESCRIPTION	BRIDGE IDENTIFICATION																			UNIT	TOTAL		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
* 304.301	CRUSHED GRAVEL	20	60	8	19	---	---	---	10	---	---	7	20	13	14	10	---	---	7	CY	199			
* 403.12	HOT BITUMINOUS PAVEMENT, HAND METHOD	6	4.7	2.7	7.5	---	---	---	2.6	---	---	2	7.5	4.3	4.3	2.5	---	---	2.2	TON	49			
* 403.6	PAVEMENT JOINT ADHESIVE	2233	2481	1264	844	---	---	---	757	1452	---	1004	2268	1241	1203	1334	208	---	887	---	978	LF	18154	
403.911	HOT BITUMINOUS BRIDGE PAVEMENT, 1" BASE COURSE (F)	57.4	41	33.3	35.4	---	---	---	19.4	18.6	---	17.8	71.8	52.4	58.1	34.2	5.3	---	22.8	---	17.3	TON	484.8	
502.101	REMOVAL OF EXISTING BRIDGE STRUCTURE	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.102	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.103	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.104	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.105	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.106	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.107	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	U	1
502.108	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	U	1
502.109	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	U	1
502.110	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	U	1
502.111	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	U	1
502.112	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	U	1
502.113	REMOVAL OF EXISTING BRIDGE STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	U	1
504.1	COMMON BRIDGE EXCAVATION (F)	23	67	10	22	---	---	---	11	---	---	9	24	15	16	11	---	---	13	---	8	CY	229	
511.00	CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F)	1023	---	592	643	---	---	---	348	327	---	318	1282	932	1033	608	94	---	406	---	311	SY	7917	
511.02	PREPARATION FOR PARTIAL DEPTH CONCRETE BRIDGE DECK REPAIRS	135	---	30	15	---	---	---	15	30	---	30	60	30	15	15	---	---	15	---	30	SY	420	
511.03	PREPARATION FOR FULL DEPTH CONCRETE BRIDGE DECK REPAIRS	45	---	10	5	---	---	---	5	5	---	5	20	10	5	5	---	---	5	---	5	SY	125	
512.02	PREPARATION FOR CONCRETE REPAIRS, CLASS II	---	6	---	3	---	---	---	3	---	---	---	10	---	3	3	---	---	5	---	5	SY	33	
520.01	CONCRETE CLASS AA	15.8	10.4	3.5	1.8	---	---	---	1.8	3.5	---	3.5	7	3.5	1.8	1.8	---	---	1.8	---	3.5	CY	59.7	
520.0199	CONCRETE CLASS AA (SELF-CONSOLIDATING)	---	13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	CY	13	
520.0201	CONCRETE CLASS AA, ABOVE FOOTINGS	47.3	51	22.6	21.5	---	---	---	9.7	5.7	---	12.9	48.7	25.4	13.1	8.8	---	---	9.6	---	15.3	CY	291.6	
520.1201	CONCRETE CLASS A, ABOVE FOOTINGS	---	---	---	---	---	---	---	---	2.9	---	2.6	---	---	---	---	---	---	---	---	---	3.4	CY	8.9
520.7002	CONCRETE BRIDGE DECK (OC/QA) (F)	---	40	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	CY	40
528.62	PRECAST CONCRETE DECK PANELS, POST-TENSIONED (F)	---	6136	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	SF	6136
534.3	WATER REPELLENT (SILANE/SILOXANE)	32	21	39	23	---	---	---	13	29	---	35	21	26	37	36	11	---	29	---	36	GAL	388	
538.2	BARRIER MEMBRANE, VERTICAL SURFACES (F)	46	33	19	48	---	---	---	21	---	---	18	50	30	33	21	---	---	24	---	17	SY	360	
538.6	BARRIER MEMBRANE, HEAT WELDED - MACHINE METHOD (F)	1007	719	584	622	---	---	---	341	327	---	313	1260	919	1020	601	94	---	400	---	305	SY	8512	
541.5	PVC WATERSTOPS, NH TYPE 5 (F)	106	82	52	138	---	---	---	50	---	---	49	131	78	80	46	---	---	51	---	49	LF	912	
544.01	REINFORCING STEEL	---	2104	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	2104
544.201	REINFORCING STEEL, EPOXY COATED	---	15205	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LB	15205
547.	SHEAR CONNECTORS (F)	---	1968	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	EA	1968
550.13	STRUCTURAL STEEL	---	1082	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	1082
550.191	TEMPORARY GIRDER SUPPORT SYSTEM	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
550.201	BRIDGE SHOES (F)	---	8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	EA	8
559.41	MODIFIED ELASTOMERIC PLUG TYPE FLEXIBLE JOINT, 6" WIDE (F)	---	---	49	127	---	---	---	46	30	---	35	---	78	84	43	81	---	47	---	39	LF	659	
560.1001	PREFABRICATED COMPRESSION SEAL EXPANSION JOINT (F)	---	---	---	---	---	---	---	---	50	---	---	---	---	---	---	---	---	---	---	---	---	LF	50
560.1002	PREFABRICATED COMPRESSION SEAL EXPANSION JOINT (F)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	51
561.1001	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	51	---	---	LF	48
561.1002	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	48
561.1003	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	---	---	138	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	138
561.1004	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	---	---	---	---	---	---	---	---	---	---	---	78	---	---	---	---	---	---	---	---	LF	78
561.1005	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	---	---	---	---	---	---	---	---	---	---	---	---	80	---	---	---	---	---	---	---	LF	80
561.1006	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	46	---	---	---	---	---	---	LF	46
561.1007	PREFABRICATED STRIP SEAL EXPANSION JOINT (F)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	55	LF	55
561.1201	PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F)	57	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	57
561.1202	PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F)	57	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	57
561.1203	PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F)	---	---	52	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	52
561.1204	PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F)	---	---	---	---	---	---	---	---	---	---	49	---	---	---	---	---	---	---	---	---	---	LF	49
561.1205	PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F)	---	---	---	---	---	---	---	---	---	---	---	68	---	---	---	---	---	---	---	---	---	LF	68
561.1206	PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F)	---	---	---	---	---	---	---	---	---	---	---	74	---	---	---	---	---	---	---	---	---	LF	74
561.1301	PREFABRICATED STRIP SEAL EXPANSION JOINT-REHABILITATION (F)	---	---	---	---	---	---	---	44	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	44
562.1	SILICONE JOINT SEALANT (F)	241	32	122	11	---	---	---	15	38	---	100	283	30	9	9	---	---	24	---	38	LF	952	
563.22	BRIDGE RAIL T2	---	471	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	471
563.223	BRIDGE RAIL T2 WITH SNOW SCREENING	---	112	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	112
563.9131	SNOW FENCE FOR UNDERPASS STRUCTURES - STEEL (DARK BROWN)	---	---	---	---	---	---	---	---	277	---	---	---	---	---	---	---	---	---	---	---	---	LF	277
563.963	SNOW FENCE FOR OVERPASS STRUCTURES RAIL E	106	---	---	---	---	---	---	---	---	---	---	126	---	---	---	---	---	---	---	---	---	LF	232
565.222	BRIDGE APPROACH RAIL T2 (STEEL POSTS)	---	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	4
565.802	ADJUSTING BRIDGE APPROACH RAIL	4	---	4	4	---	---	---	4	4	---	4	4	4	4	2	2	---	4	---	4	U	48	
565.92	BRIDGE APPROACH RAIL, ASYMMETRICAL THRIE BEAM TRANSITION (STEEL POSTS)	4	---	4	---	---	---	---	---	---	---	4	4	4	---	---	---	---	---	---	---	---	U	16
571.1	REPAIRING AND POINTING STONE MASONRY	---	---	12	---	---	---	---	12	---	---	12	---	12	---	---	---	---	---	---	---	12	SY	60
605.811	18" AGGREGATE UNDERDRAIN, TYPE 1	---	---	---	---	---	---	---	---	10	---	---	---	---	---	---	---	---	---	---	---	---	LF	10
605.82641	16" AGGREGATE UNDERDRAIN, TYPE 2, WITH 6" PERF. PVC PIPE	---	---	---	---	---	---	---	---	32	---	---	---	---	---	---	---	---	---	---	---	---	LF	32
609.5	RESET GRANITE CURB	---	100	---	---	---	---	---	---	29	---	90	---	---	---	---	---	---	---	---	---	110	LF	329
609.55	RESET GRANITE CURB (BRIDGE)	---	---	---	---	---	---	---	16	296	---	208	---	---	---	---	---	---	16	---	---	194	LF	730
614.243	4" 3 DUCT FRE CONDUIT	---	360	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	LF	360
614.523	MOLDED PULL BOX 17"x 30"	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	EA	2
615.30301	REMOVING BRIDGE MOUNTED TRAFFIC SIGN STRUCTURE	---	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	U	1
615.30302	REMOVING BRIDGE MOUNTED TRAFFIC SIGN STRUCTURE	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	U	1
628.22	SAWED BITUMINOUS PAVEMENT (BRIDGE)	106	82	49	131	---	---	---	46	41	---	35	261	75	76	43	---	---						

SCOPE OF WORK

1. LINCOLN, 205/100
I-93 NB OVER PEMIGEWASETT R/CLARKS RR
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK ENDS FOR EXPANSION JOINTS
* REMOVE EXISTING GRANITE CURBS/ INSTALL CONCRETE CURBS
* INSTALL STRIP SEAL W/ PLOW PLATE (SOUTH ABUTMENT)
* INSTALL STRIP SEAL W/ PLOW PLATE (NORTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* REMOVE/ INSTALL BRIDGE APPROACH RAIL
* INSTALL SNOW FENCE ON EXISTING RAIL
2. LINCOLN, 202/100
I-93 NB RAMP OVER PEMIGEWASETT R/CLARKS RR
***** THE EAST OR UPSTEAM CURB HAS CONDUIT *****
* REMOVE/ REPLACE CONCRETE BRIDGE DECK
* REMOVE/ RECONSTRUCT BACKWALL FOR EXPANSION JOINTS
* REMOVE/ RECONSTRUCT WING CURBS AND COPINGS
* INSTALL STRIP SEAL JOINT (SOUTH ABUTMENT)
* INSTALL STRIP SEAL JOINT (NORTH ABUTMENT)
* REPLACE EXPANSION SHOES (SOUTH AND NORTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1" WEARING COURSE
* INSTALL BRIDGE AND APPROACH RAIL (ALL FOUR CORNERS)
3. LINCOLN, 201/095
I-93 NB OVER ROUTE 3
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIR
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* REMOVE EXISTING GRANITE CURBS/ INSTALL CONCRETE CURBS
* INSTALL STRIP SEAL W/ PLOW PLATE (SOUTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (NORTH ABUTMENT)
* REPOINT GRANITE STONE WINGS
* REMOVE BRIDGE MOUNTED SIGN
* REMOVE/ INSTALL BRIDGE APPROACH RAIL
4. LINCOLN, 194/093
I-93 NB OVER HANSON BROOK
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL STRIP SEAL JOINT (NORTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
5. LINCOLN, 191/092
I-93 NB OVER REC TRAIL
* NO WORK ANTICIPATED
6. LINCOLN, 181/093
I-93 N.B. 93 OVER HANSON BROOK TRIBUTARIES
* NO WORK ANTICIPATED
7. LINCOLN, 173/093
I-93 N.B. 93 OVER HANSON BROOK
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIR
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL COMPRESSION SEAL (NORTH ABUTMENT)
* RESET GRANITE BRIDGE CURB AS SHOWN OR DIRECTED
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
8. LINCOLN, 159/102
I-93 N.B. RAMP 3N-F OVER ROUTE 3
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* INSTALL AGGREGATE UNDERDRAIN AT (SOUTH ABUTMENT)
* REPAIR SOUTHWEST AND NORTHWEST WING / ABUTMENT BACKWALL
* REMOVE/INSTALL NEW STRIP SEAL (GLAND ONLY) (NORTH ABUTMENT)
* RESET GRANITE BRIDGE CURB AS SHOWN OR DIRECTED
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
* INSTALL SNOW FENCE ON EXISTING RAIL
* REPOINT STONE MASONRY AS DIRECTED OR SHOWN
9. LINCOLN, 148/102
I-93 NB OVER TRAIL
* NO WORK ANTICIPATED
10. LINCOLN, 141/104
I-93 N.B. OVER RAMP 3S-F
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL STRIP SEAL W/ PLOW PLATE (NORTH ABUTMENT)
* RESET GRANITE BRIDGE CURB AS SHOWN OR DIRECTED
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* REMOVE/ REPLACE CONCRETE PANEL ALONG SOUTH AND NORTHWEST WINGS
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
* REPOINT STONE MASONRY AS DIRECTED OR SHOWN
11. LINCOLN, 207/099
I-93 SB OVER PEMIGEWASETT R/CLARKS RR
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK ENDS FOR EXPANSION JOINTS
* REMOVE EXISTING GRANITE CURBS/ INSTALL CONCRETE CURBS
* INSTALL STRIP SEAL W/ PLOW PLATE (SOUTH ABUTMENT)
* INSTALL STRIP SEAL W/ PLOW PLATE (NORTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* REMOVE/ INSTALL BRIDGE APPROACH RAIL
* INSTALL SNOW FENCE ON EXISTING RAIL
12. LINCOLN, 201/093
I-93 SB OVER ROUTE 3
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* REMOVE EXISTING GRANITE CURBS/ INSTALL CONCRETE CURBS
* INSTALL STRIP SEAL JOINT (SOUTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (NORTH ABUTMENT)
* REPOINT GRAINTE STONE WINGS
* REMOVE BRIDGE MOUNTED SIGN
* REMOVE/ INSTALL BRIDGE APPROACH RAIL
13. LINCOLN, 196/092
I-93 SB OVER HARVARD BROOK
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL STRIP SEAL JOINT (NORTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
14. LINCOLN, 191/089
I-93 SB OVER HARVARD BROOK
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL STRIP SEAL JOINT (NORTH ABUTMENT)
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
15. LINCOLN, 191/090
I-93 SB OVER REC TRAIL
* REMOVE DECK PAVEMENT AND MEMBRANE
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (BOTH ABUTMENTS)
16. LINCOLN, 181/092
I-93 SB OVER HANSON BROOK TRIBUTARY
* NO WORK ANTICIPATED
17. LINCOLN, 171/092
I-93 SB OVER HANSON BROOK
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL COMPRESSION SEAL (NORTH ABUTMENT)
* RESET GRANITE BRIDGE CURB AS SHOWN OR DIRECTED
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
18. LINCOLN, 148/101
I-93 SB OVER TRAIL
* NO WORK ANTICIPATED
19. LINCOLN, 140/102
I-93 SB OVER RAMP 3S-F
* REMOVE DECK PAVEMENT AND MEMBRANE
* FULL AND PARTIAL DEPTH DECK REPAIRS
* REMOVE/ RECONSTRUCT BACKWALL AND DECK END FOR EXPANSION JOINT
* INSTALL STRIP SEAL JOINT (NORTH ABUTMENT)
* RESET GRANITE BRIDGE CURB AS SHOWN OR DIRECTED
* PLACE NEW HEAT WELDED BARRIER MEMBRANE
* PLACE NEW BRIDGE PAVEMENT WITH 1" BASE COURSE
* PLACE NEW 1 1/2" WEARING COURSE
* REMOVE/ REPLACE CONCRETE PANEL ALONG SOUTH AND NORTHWEST WINGS
* INSTALL ASPHALTIC PLUG FOR CRACK CONTROL (SOUTH ABUTMENT)
* REPOINT STONE MASONRY AS DIRECTED OR SHOWN

DESIGN LOADS, MATERIALS AND SPECIFICATIONS

- (1) DESIGN LIVE LOADING: HL - 93
- (2) DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD) FOR SUPERSTRUCTURE
- (3) SPECIFICATIONS: AASHTO 2012, LRFD BRIDGE DESIGN SPECIFICATIONS
NHDDT 2010 STANDARD SPECIFICATIONS AS AMENDED
WELDING PER AASHTO/AWS D1.5-02 & NHDDT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
- (4) REINFORCING STEEL: AASHTO M31 (ASTM A615) GRADE 60 EPOXY COATED
- (5) NEW CONCRETE: 4000 psi DECKS, COPINGS, BACKWALLS AND PATCHING
4000 psi PRECAST CONCRETE DECK PANELS

GENERAL CONSTRUCTION NOTES

- (1) EXISTING BRIDGE PLANS MAY BE VIEWED AT THE NHDDT, BUREAU OF BRIDGE DESIGN OFFICE. DURING THE BIDDING PERIOD. THE FILE NUMBERS FOR THESE BRIDGES ARE LISTED BELOW.
 1. BR. NO. 205/100 I-93 NB OVER PEMIGEWASSET RIVER & CLARKS R.R (FILE 32-3-1)
 2. BR. NO. 202/100 I-93 NB OFF RAMP OVER PEMIGEWASSET RIVER & CLARKS R.R (FILE 32-3-2)
 3. BR. NO. 201/095 I-93 NB OVER ROUTE 3 (FILE 36-2-2)
 4. BR. NO. 194/093 I-93 NB OVER HANSON BROOK (FILE 36-2-3)
 5. BR. NO. 191/092 I-93 NB OVER ACCESS ROAD (FILE 36-4-1)
 6. BR. NO. 181/093 I-93 NB OVER HANSON BROOK TRIBUTARIES (FILE 36-4-3)
 7. BR. NO. 173/093 I-93 NB OVER HANSON BROOK & TRAIL (FILE 37-3-1)
 8. BR. NO. 159/102 I-93 NB RAMP 3N-F OVER ROUTE 3 (FILE 37-4-1)
 9. BR. NO. 148/102 I-93 NB OVER TRAIL (FILE 38-1-1)
 10. BR. NO. 141/104 I-93 NB OVER RAMP 3S-F (FILE 38-1-3)
 11. BR. NO. 207/099 I-93 SB OVER PEMIGEWASSET RIVER & CLARKS R.R (FILE 32-3-3)
 12. BR. NO. 201/093 I-93 SB OVER ROUTE 3 (FILE 32-4-1)
 13. BR. NO. 196/092 I-93 SB OVER HARVARD BROOK (FILE 36-2-4)
 14. BR. NO. 191/089 I-93 SB OVER HARVARD BROOK (FILE 36-4-2)
 15. BR. NO. 191/090 I-93 SB OVER REC TRAIL (FILE 37-34-4)
 16. BR. NO. 181/092 I-93 SB OVER HANSON BROOK TRIBUTARY (FILE 36-4-4)
 17. BR. NO. 171/092 I-93 NB OVER HANSON BROOK (FILE 37-3-2)
 18. BR. NO. 148/101 I-93 SB OVER REC TRAIL (FILE 38-1-2)
 19. BR. NO. 140/102 I-93 SB OVER RAMP 3S-F (FILE 38-2-1)
- (2) THE CONTRACTOR SHOULD BE AWARE THAT EXISTING STRUCTURE DIMENSIONS AND ELEVATIONS SHOWN ON THESE PLANS WERE TAKEN FROM ORIGINAL BRIDGE PLANS AND DO NOT NECESSARILY REPRESENT "AS BUILT" DIMENSIONS AND ELEVATIONS. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING STRUCTURES AND BE PREPARED TO MAKE ANY ADJUSTMENTS REQUIRED TO PROPERLY REHABILITATE THE BRIDGE. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER, OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO ADVANCING THE WORK. THE EXISTING PLANS MAY BE VIEWED AT THE NHDDT, BUREAU OF BRIDGE DESIGN OFFICE DURING THE BIDDING PERIOD. AFTER THE CONTRACT IS AWARDED, A COMPLETE SET OF THE EXISTING PLANS WILL BE FORWARDED TO THE CONTRACTOR UPON REQUEST.
- (3) TRAFFIC CONTROL MEASURES SHALL BE IN PLACE BEFORE REMOVAL OPERATIONS BEGIN FOR EACH CONSTRUCTION PHASE.
- (4) THE WELDING OF ATTACHMENTS TO GIRDERS FOR CONSTRUCTION PURPOSES SHALL NOT BE PERMITTED UNLESS APPROVED BY NHDDT, BUREAU OF BRIDGE DESIGN.
- (5) THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL ONTO THE TRAVELED WAY, RAILROADS, RECREATION TRAILS, RIVERS, STREAMS OR WETLANDS BELOW THE EXISTING STRUCTURES. ALL COSTS SHALL BE PAID UNDER ITEMS 502.10X, AS INDICATED, AND SHALL INCLUDE THE ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH METHODS AS APPROVED.
- (6) REMOVAL OF EXISTING BRIDGE STRUCTURE, ITEM 502.1XX, EXCEPT AS OTHERWISE SHOWN IN THE PLANS, SHALL INCLUDE:
 - A) REMOVAL OF THE EXISTING BRIDGE DECK (BR. NO. 202/100) INCLUDING PAVEMENTS, SHEAR CONNECTORS, ABUTMENT BACKWALLS, ABUTMENT BRIDGE SHOES, WING COPINGS, BRIDGE AND APPROACH RAILS
 - B) REMOVAL OF EXISTING EXPANSION JOINT AND END OF DECKS FOR BR. NOS. 205/100, 201/095, 194/093, 173/093, 141/104, 207/099, 201/093, 196/102, 191/089, 171/092 AND 140/102.
 - C) REMOVAL AND REINSTALLATION OF BRIDGE RAILING FOR PURPOSE AND EASE OF REMOVING AND INSTALLING NEW EXPANSION JOINTS.
- (7) ALL EXPOSED EDGES OF PROPOSED CONCRETE SURFACES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
- (8) ITEM 534.3, WATER REPELLENT (SILANE/SILOXANE), SHALL BE APPLIED TO NEW BRIDGE DECK CONCRETE BRUSH CURBS, CONCRETE ARMOR JOINTS, AND WING TOP SURFACES AS SHOWN ON THE PLANS OR AS DIRECTED.
- (9) BRIDGE APPROACH RAIL SHALL BE ADJUSTED AS DIRECTED, ALL COSTS PAID UNDER, ITEM 565.802.
- (10) SEAL JOINTS BETWEEN DECKS AND PILASTERS, AND BETWEEN PILASTERS AND U-BACK WINGS WITH ITEM 562.1, SILICONE JOINT SEALANT (F).

- (11) REMOVE ALL EPOXY COATING FROM THE BACKWALL AND BEARING SEATS AS DIRECTED. COSTS PAID UNDER ITEM 502.1XX.
- (12) EXISTING BRIDGE DECK COPINGS, WINGS, BACKWALLS, BRIDGE SEATS, AND ABUTMENT FACES SHALL BE WASHED, SUBSIDIARY TO ITEM 534.3, IN SUCH A MANNER THAT OVERSPRAY INTO SURFACE WATERS IS KEPT TO A MINIMUM. IF THE WATER BEADS, NO COATING NEEDS TO BE APPLIED. IF THE WATER DOES NOT BEAD, COAT THE SURFACE WITH ITEM 534.3, WATER REPELLENT (SILANE-SILOXANE). APPLICATION RATE = 150 SF/GAL.
- (13) FOR BR. NO. 196/092, THE CONTRACTOR SHALL VERIFY THAT THE ELECTRICAL CONDUIT UNDER THE BRIDGE DECK CONTAINS NO WIRING. IF THE CONDUIT CONTAINS WIRING, THE CONTRACTOR SHALL HAVE A LICENSED ELECTRICIAN VERIFY THAT THE WIRING IS NOT LIVE, AND TO REMOVE THE WIRE FROM THE CONDUIT. THEN THE CONTRACTOR SHALL MAKE ALL NECESSARY REPAIRS TO THE CONDUIT TO RETURN IT TO A WATERTIGHT AND FUNCTIONAL CONDITION. ALL COSTS SHALL BE PAID UNDER ITEM 1002.11, REPAIRS OR REPLACEMENTS AS NEEDED-BRIDGE STRUCTURES.

SUBSTRUCTURE RECONSTRUCTION NOTES

- (1) NEW CONCRETE TO RECONSTRUCT ABUTMENTS, BACKWALLS, WINGWALLS AND PIERS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE CONTRACT ADMINISTRATOR, SHALL BE ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS, SAME MIX AS CONCRETE BRIDGE DECKS (QC/QA).
- (2) FOR ABUTMENTS, BACKWALLS, WINGWALLS AND PIER RECONSTRUCTION, SAWCUT EXISTING CONCRETE 1" DEEP ON ALL EXPOSED SURFACES TO PROVIDE CLEAN REMOVAL LINES. REMOVE EXISTING CONCRETE AS SHOWN IN THE PLANS. ALL COSTS TO BE INCLUDED IN ITEM 502.10X, REMOVAL OF EXISTING BRIDGE STRUCTURE.
- (3) DETERIORATED AREAS OF CONCRETE ON THE WINGS, ABUTMENTS, BACKWALLS, PIERS AND BRIDGE SEATS TO BE REPAIRED SHALL BE REMOVED AS DIRECTED BY THE CONTRACT ADMINISTRATOR UNDER ITEM 512.02, PREPARATION FOR CONCRETE REPAIRS, CLASS II. THE EXISTING SUBSTRUCTURE CONCRETE SURFACES TO BE REPAIRED SHALL BE SAWCUT 1" DEEP TO PROVIDE CLEAN REMOVAL LINES (ALL COSTS TO BE INCLUDED IN ITEM 512.02). ALL AREAS TO BE PATCHED SHALL BE BLAST CLEANED AND DAMPENED JUST PRIOR TO PATCHING (COSTS INCLUDED IN ITEM 512.02). PATCH WITH ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS.
- (4) DURING CONCRETE REMOVAL AND REPAIR OPERATIONS, EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE REINFORCING STEEL THAT IS TO REMAIN IN PLACE. ANY DAMAGE SHALL BE IMMEDIATELY REPORTED TO THE BUREAU OF BRIDGE DESIGN AND REPAIRED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.

SUPERSTRUCTURE NOTES

- (1) PROFILE ADJUSTMENTS IN THE VICINITY OF THE REHABILITATED BRIDGES SHALL BE MADE AS REQUIRED OR AS DIRECTED TO ACCOUNT FOR VARIATIONS IN THE BRIDGE DECK CROSS SLOPES. ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ROADWAY ITEMS.
- (2) THE EXISTING PAVEMENT AND MEMBRANE, FOR ALL BRIDGES EXCEPT 202/100 SHALL BE REMOVED UNDER ITEM 511.00, CONCRETE BRIDGE DECK PAVEMENT REMOVAL (F).
- (3) FOR CONCRETE BRIDGE DECK REHABILITATIONS, AFTER THE REMOVAL OF EXISTING PAVEMENT AND MEMBRANE, THE EXISTING CONCRETE BRIDGE DECKS SHALL BE "SOUNDED" TO DETERMINE AREAS REQUIRING PARTIAL AND FULL DEPTH REPAIRS (ALL COSTS TO BE INCLUDED IN ITEMS 511.02 AND 511.03). DETERIORATED AREAS SHALL BE PATCHED WITH CONCRETE CLASS AA, ITEMS 520.01 AND 520.0201. PRIOR TO PLACING NEW CONCRETE, THE PREPARED AREAS SHALL BE BLAST CLEANED AND SATURATED SURFACE DRIED (ALL COSTS INCLUDED IN ITEMS 520.01 AND 520.0201). (BRIDGES 207/099 AND 201/093 HAVE LATEX MODIFIED CONCRETE BRIDGE DECK OVERLAYS)
- (4) DURING CONCRETE DECK REMOVAL AND REPAIR OPERATIONS, EXTREME CARE SHALL BE TAKEN NOT TO DAMAGE TOP FLANGES OF THE EXISTING GIRDERS AND DECK REINFORCING STEEL THAT IS TO REMAIN IN PLACE. ANY DAMAGE SHALL BE IMMEDIATELY REPORTED TO THE BUREAU OF BRIDGE DESIGN AND REPAIRED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.
- (5) ANY SHEAR CONNECTORS DAMAGED DURING DECK REPAIR OPERATIONS SHALL BE REPLACED. THE CONTRACTOR SHALL TAKE SPECIAL CARE WHEN PLACING NEW (REPLACEMENT) SHEAR STUDS ON EXISTING GIRDERS. AUTOMATIC STUD WELDING OR INDIVIDUAL STICK WELDING OF STUDS IS PERMISSIBLE. THE TOP FLANGES SHALL BE GROUND TO BASE METAL OR BLAST CLEANED PRIOR TO WELDING STUDS. THE AREA TO BE WELDED SHALL BE FREE OF RUST, OIL OR OTHER FOREIGN MATERIALS. WELDING SHALL NOT BE DONE WHEN THE BASE METAL TEMPERATURE IS BELOW 32°F, OR WHEN THE SURFACE IS WET OR EXPOSED TO ANY PRECIPITATION. WORK SHALL CONFORM TO SECTION 547 AND ALL COSTS INCLUDED IN ITEM 502.1XX.
- (6) NEW SHEAR CONNECTORS SHALL BE INSTALLED AS SHOWN IN THE PLANS FOR BRIDGE NO. 202/100. NEW STUDS SHALL BE FIELD WELDED TO THE TOP OF ALL GIRDERS WITH AUTOMATICALLY TIMED STUD WELDING EQUIPMENT. ALL COSTS FOR MATERIALS AND INSTALLATION SHALL BE PAID UNDER ITEM 547, SHEAR CONNECTORS (F).
- (7) FOR EXPANSION JOINT REPLACEMENT, THE EXISTING CONCRETE BRIDGE DECK AND ABUTMENT BACKWALLS SHALL BE REMOVED TO LIMITS SHOWN IN THE PLANS UNDER ITEM 502.10X. REMOVAL OF EXISTING BRIDGE STRUCTURE. ALL CONCRETE SURFACES SHALL BE SAWCUT 1" DEEP TO PROVIDE CLEAN REMOVAL LINES (ALL COSTS INCLUDED IN ITEM 502.10X). BACKWALLS AND DECK ENDS SHALL BE RECONSTRUCTED WITH ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS. PRIOR TO PLACING NEW CONCRETE, THE REMOVAL SURFACES SHALL BE BLAST CLEANED AND SATURATED SURFACE DRIED (ALL COSTS INCLUDED IN ITEM 520.0201).
- (8) CONCRETE BRUSH COPINGS SHALL BE RECONSTRUCTED AS SHOWN IN THE PLANS WITH ITEM 520.0201, CONCRETE CLASS AA, ABOVE FOOTINGS, SAME MIX AS CONCRETE BRIDGE DECKS (QC/QA).
- (9) ITEM 538.6, BARRIER MEMBRANE, HEAT WELDED - MACHINE METHOD (F), SHALL BE LAPPED PER MANUFACTURER'S REQUIREMENTS AT PHASED CONSTRUCTION JOINTS. AT DECK ENDS, WHERE THE MEMBRANE WILL NOT LAP NEW OR EXISTING MEMBRANE, A SEALANT/REPAIR MASTIC COMPATIBLE WITH ITEM 538.6 SHALL BRIDGE ANY GAP BETWEEN EXISTING MEMBRANE AND NEW MEMBRANE OR BETWEEN THE NEW MEMBRANE AND THE END DECK WHEN THERE IS NO EXISTING MEMBRANE. ALL COSTS SHALL BE SUBSIDIARY TO ITEM 538.6.

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	----	STATE PROJECT	15755				
LOCATION VARIOUS BRIDGES ALONG I-93						BRIDGE SHEET			
PROJECT NOTES AND DETAILS (2 OF 3)						2 OF 94			
REVISIONS AFTER PROPOSAL		BY		DATE		BY		DATE	
		---		---		---		---	
		DESIGNED		8/13		CHECKED		8/13	
		DRAWN		GMC		CHECKED		JER	
		QUANTITIES		PAB		CHECKED		JER	
		ISSUE DATE				FEDERAL PROJECT NO.		SHEET NO.	
		REV. DATE				-----		39	
		SUBDIRECTORY		DGN LOCATOR		SHEET SCALE			
		BRC/BrSite		15755SOW		AS NOTED			
						FILE NUMBER			
						120-2-2			
						TOTAL SHEETS			
						201			

NOTE TO CONTRACTOR: BR NO 202-100

FOR BRIDGE NUMBER 202/100 THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE AN 8 1/2" THICK CAST-IN-PLACE DECK FOR THE PRECAST DECK PANELS THAT ARE INCLUDED IN THE PLANS. IF THE CONTRACTOR ELECTS TO CAST THE ENTIRE DECK IN PLACE, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL A BRIDGE DECK REINFORCING PLAN, AS WELL AS DESIGN CALCULATIONS, BOTH STAMPED BY A NH LICENSED PE. ALL MATERIALS FOR THIS SUBSTITUTION SHALL CONFORM TO THOSE MATERIALS SPECIFIED FOR THE DECK CLOSURE POUR. IF THE CONTRACTOR ELECTS TO CAST THE ENTIRE DECK IN PLACE, THE CONTRACTOR SHALL BE PAID FOR ALL MATERIALS, WORK, AND COSTS INVOLVED WITH THE SUBSTITUTION AT THE TOTAL BID PRICE FOR ITEM 528.62, PRECAST CONCRETE DECK PANELS, POST-TENSIONED (F).

SEQUENCE OF DECK CONSTRUCTION BR NO 202-100

- (1) REMOVE THE EXISTING DECK AND SHEAR CONNECTORS.
- (2) PLACE ALL PRECAST DECK PANELS ON GIRDERS.
- (3) ADJUST THE LEVELING SCREWS ON DECK PANELS TO SET PANELS TO ELEVATIONS SHOWN IN TOP OF PANEL ELEVATIONS TABLE (SEE BRIDGE SHEET 19). TORQUE ALL LEVELING SCREWS.
- (4) INSTALL LONGITUDINAL POST-TENSIONING STRAND IN DUCTS AND SEAL JOINTS IN DUCTS BETWEEN DECK PANELS.
- (5) PLACE A FLOWABLE NON-SHRINK GROUT IN ALL TRANSVERSE JOINTS. THE GROUT SHALL BE RODDED OR VIBRATED TO ENSURE ALL VOIDS ARE FILLED.
- (6) THE LONGITUDINAL POST-TENSIONING STRANDS MAY BE STRESSED AFTER THE GROUT IN THE TRANSVERSE JOINTS HAS ATTAINED A MINIMUM STRENGTH OF 1500 psi. SEE PRECAST DECK PANEL NOTE #13.
- (7) INSTALL SHEAR CONNECTORS IN ALL BLOCKOUTS.
- (8) GROUT ALL HAUNCHES AND SHEAR CONNECTOR BLOCKOUTS.
- (9) REMOVE LEVELING SCREWS AND FILL BLOCKOUTS WITH APPROVED NON-SHRINK GROUT.
- (10) CAST END CLOSURE POURS AND COPING POUR.
- (11) PLACE RAIL, MEMBRANE AND PAVE.

PRECAST DECK PANEL NOTES BR NO 202-100

- (1) THE PLANS SHOW 4.0' AND 8.0' CONCRETE DECK PANELS. THE CONTRACTOR HAS THE OPTION OF WHICH TO USE, DEPENDING ON THE WEIGHT OF PANELS AND PICK LENGTH FOR THE SIZE OF CRANE TO BE USED.
- (2) THE CONCRETE COMPRESSIVE STRENGTH OF PRECAST PANEL UNITS SHALL BE 4000 psi AT 28 DAYS. CORROSION INHIBITOR SHALL BE USED (4 GAL/CY).
- (3) PRECAST PANEL REINFORCING SHALL BE EPOXY-COATED AND SHALL HAVE A MINIMUM CLEAR COVER OF 2", UNLESS OTHERWISE NOTED.
- (4) A GROUT DAM/FORMWORK SHALL BE USED TO RETAIN GROUT PLACED WITHIN THE HAUNCH ABOVE THE TOP FLANGE OF THE GIRDERS. ALL UNYIELDING FORMWORK AND LEVELING SCREWS SHALL BE REMOVED PRIOR TO PAVING OPERATIONS. THE PROPOSED METHOD SHALL BE SUBMITTED FOR DOCUMENTATION.
- (5) POST-TENSIONING STEEL SHALL BE 0.6"Ø UNCOATED SEVEN-WIRE STRAND IN COMPLIANCE WITH AASHTO M203 (ASTM A416) GRADE 270, LOW RELAXATION.
- (6) THE FINAL POST-TENSIONING FORCE, AFTER ALL LOSSES, SHALL INDUCE 350 PSI OF COMPRESSION ACROSS THE WIDTH OF DECK PANELS. THE CONTRACTOR SHALL SUBMIT THE PROPOSED POST-TENSIONING PLAN AS PART OF PRECAST PANEL SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
- (7) POST-TENSIONING OF PANELS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 528.
- (8) ALL COSTS OF POST-TENSIONING STRANDS, ANCHORAGES AND REINFORCING STEEL CAST INTO THE PRECAST DECK PANEL UNITS SHALL BE PAID UNDER ITEM 528.62.
- (9) LIFTING DEVICES AND ADDITIONAL STEEL IN PRECAST DECK PANELS, AS REQUIRED, SHALL BE DESIGNED BY THE FABRICATOR. ALL COSTS SHALL BE PAID UNDER ITEM 528.62.
- (10) THE TOPS OF THE PRECAST UNITS SHALL BE FINISHED SMOOTH AND SHALL NOT BE RAKED TRANSVERSELY.
- (11) THE DECK PANEL UNIT SHEAR KEYS SHALL BE BLAST CLEANED PRIOR TO SHIPPING.
- (12) THE DECK PANEL UNIT SHEAR KEYS SHALL BE CLEANED BY AIR BLASTING JUST PRIOR TO GROUTING. GROUT FOR TRANSVERSE KEYS SHALL CONFORM TO 528.2.9.
- (13) GROUTING OF HAUNCH AND SHEAR CONNECTOR BLOCKOUTS SHALL NOT BEGIN UNTIL AFTER COMPLETION OF POST-TENSIONING.
- (14) THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS AND CALCULATIONS PREPARED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW HAMPSHIRE. THIS SUBMITTAL SHALL INCLUDE CALCULATIONS FOR THE HANDLING, ERECTION AND POST TENSIONING FORCE IN DECK PANELS (TO ACHIEVE 350 psi UNIFORM COMPRESSION) AFTER ALL LOSSES. THE CONTRACTOR IS TO DEVELOP A DETAILED SEQUENCE OF WORK TASKS TO BE PERFORMED AND SHALL SUBMIT THEM WITH THE SHOP DRAWINGS.
- (15) FINAL PANEL ELEVATIONS SHALL BE ATTAINED BY ADJUSTING THE TORQUE ON WELL GRADED LEVELING SCREWS TO PROMOTE AN EQUAL DISTRIBUTION OF PANEL DEAD LOAD TO ALL GIRDERS. THE TORQUE SCHEDULE SHALL BE SUBMITTED WITH THE SHOP DRAWINGS FOR THE PANELS. THE TORQUE TOLERANCE SHALL BE ±15%.
- (16) SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

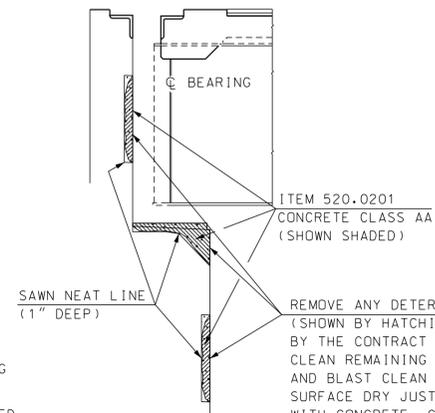
CLOSURE POUR REINFORCEMENT NOTES BR NO 202-100

- (1) THE COST OF CLOSURE POUR REINFORCING STEEL SHALL BE INCLUDED IN ITEM 544.201.
- (2) CLOSURE POUR REINFORCEMENT SHALL HAVE A MINIMUM CLEAR COVER OF 2 1/2", UNLESS OTHERWISE NOTED.
- (3) CORROSION INHIBITOR SHALL BE USED (4 GAL/CY) IN THE PANEL CLOSURE POUR. ALL COSTS SHALL BE INCLUDED IN ITEM 520.7002.

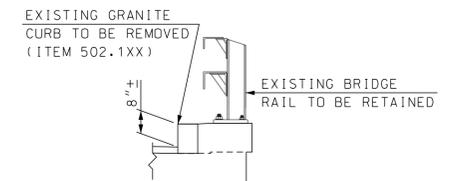
REINFORCING NOTES

- (1) UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET - STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A615), GRADE 60.
- (2) FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
- (3) EXISTING REINFORCING STEEL THAT IS TO REMAIN IN PLACE WITHIN THE REMOVAL AREAS SHALL BE CUT AS REQUIRED TO PROVIDE 2 1/2" MINIMUM CLEAR COVER FROM THE PROPOSED CONCRETE SURFACES, EXCEPT AS OTHERWISE NOTED. ALL COSTS INCLUDED IN ITEM 520.0201. ALL NEW REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 2 1/2" FROM PROPOSED CONCRETE SURFACES.
- (4) UNLESS OTHERWISE NOTED, HOLES DRILLED INTO EXISTING CONCRETE SHALL BE DRILLED 1/2" DIAMETER LARGER THAN THE BAR DIAMETER AND GROUTED WITH HIGH STRENGTH, NON-SHRINK CEMENTITIOUS GROUT. ALL COSTS FOR DRILLING AND GROUTING SHALL BE SUBSIDIARY TO ITEM 520.0201.
- (5) ANY EPOXY COATED REBARS CUT TO FIT SHALL BE TOUCHED UP WITH AN APPROVED EPOXY COATING MATERIAL. ALL COSTS SHALL BE INCLUDED IN ITEM 544.201.
- (6) ANY EXISTING REBAR THAT IS EXPOSED SHALL BE CLEANED OF ALL FOREIGN MATERIAL AND COATED WITH AN EPOXY COATING, SUBSIDIARY TO ITEM 511.0X. (SEE SPECIAL PROVISION ITEM 511.)
- (7) REINFORCING LEGEND: SP = SPACE, SPL = SPLICE, FS = FAR SIDE, NS = NEAR SIDE, BOT = BOTTOM, ALT = ALTERNATING.
- (8) PLACE REINFORCING STEEL TO AVOID RAIL POST ANCHOR ASSEMBLIES, ANCHOR BOLTS AND EXPANSION JOINT ASSEMBLIES.
- (9) REINFORCING BAR MARKS APPENDED WITH AN (E), INDICATE EPOXY COATED BARS.

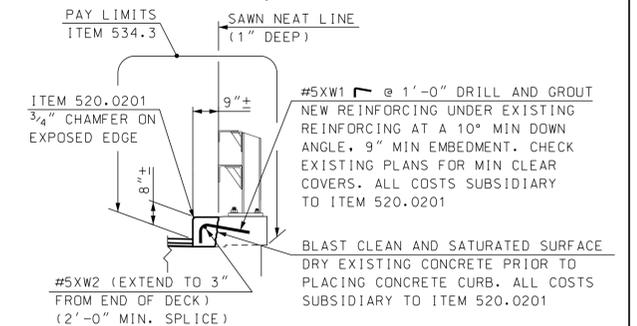
NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



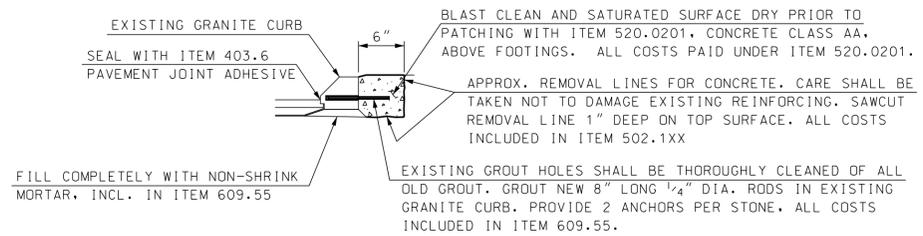
TYPICAL ABUTMENT DETAIL CONCRETE REPAIRS
SCALE: 3/8" = 1'-0"



EXISTING GRANITE CURB
SCALE: 3/8" = 1'-0"

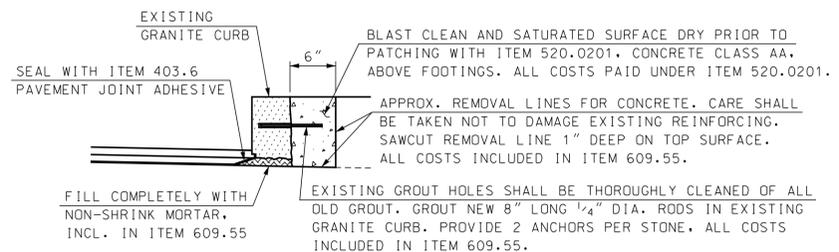


PROPOSED CONCRETE CURB
SCALE: 3/8" = 1'-0"



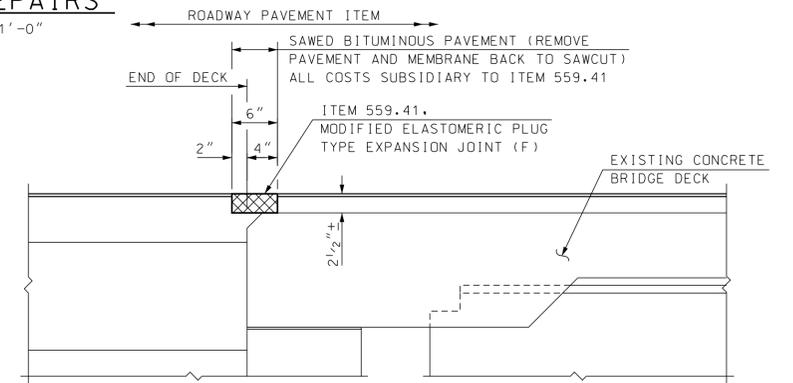
**** RESETTING GRANITE BRIDGE CURB DETAIL**
SCALE: 1" = 1'-0"

** WHERE EXISTING GRANITE BRIDGE CURB HAS PULLED AWAY FROM THE CONCRETE BRUSH CURB, THE GRANITE CURB SHALL BE REMOVED AND RESET AS SHOWN OR DIRECTED BY THE ENGINEER.



**** RESETTING GRANITE BRIDGE CURB DETAIL**
SCALE: 1" = 1'-0"

** WHERE EXISTING GRANITE BRIDGE CURB HAS PULLED AWAY FROM THE CONCRETE BRUSH CURB, THE GRANITE CURB SHALL BE REMOVED AND RESET AS DIRECTED BY THE ENGINEER.



ITEM 559.41 NEW 6" MODIFIED ELASTOMERIC PLUG JOINT
N.T.S.

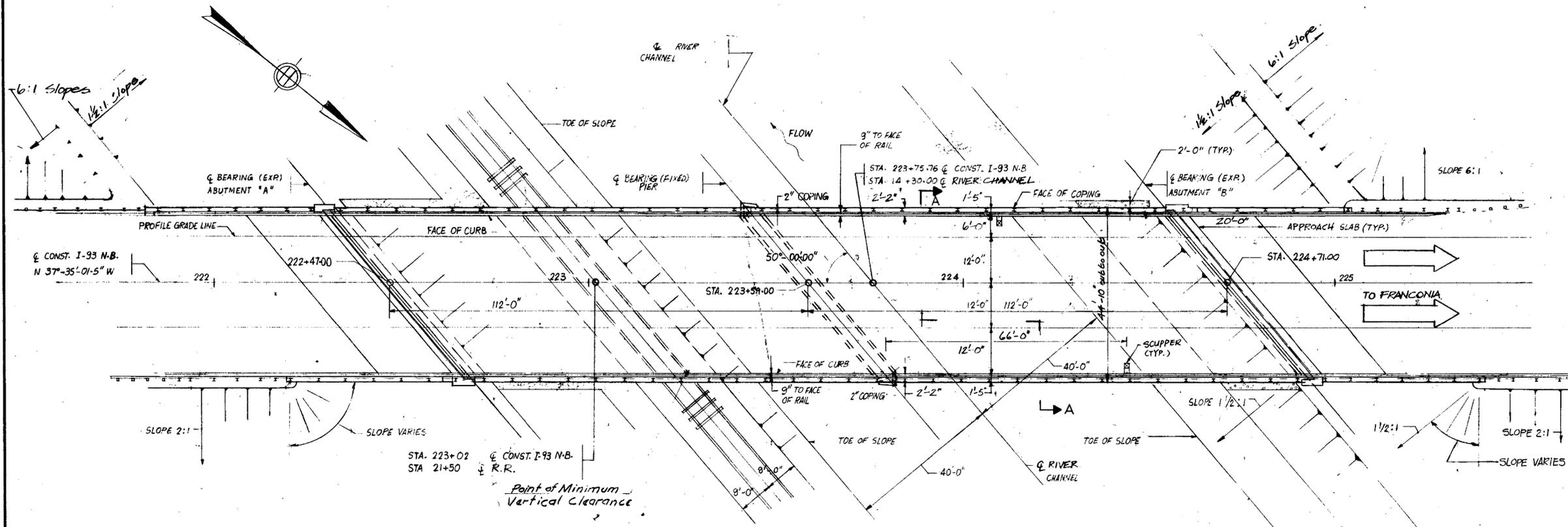
ELASTOMERIC PLUG JOINT NOTES

- (1) ELASTOMERIC BRIDGE JOINT SYSTEM MATERIALS SHALL BE PLACED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- (2) THE LOCATION OF EXISTING/PROPOSED PLUG JOINTS SHALL BE MARKED AT THE FACE OF CURBS TO ESTABLISH THE PLUG JOINT LOCATION.
- (3) SAWCUTTING AND THE REMOVAL OF PAVEMENT AND MEMBRANE TO PLACE THE PLUG JOINT SHALL BE SUBSIDIARY TO ITEM 559.41.
- (4) THE CONTRACTOR SHALL BE AWARE THAT THE EXISTING PLUG JOINTS MAY CONTAIN A 1/4" STEEL PLATE OVER THE END OF DECK.
- (5) EXTREME CARE SHALL BE TAKEN DURING OPERATIONS TO AVOID DAMAGE TO THE EXISTING DECK CONCRETE.

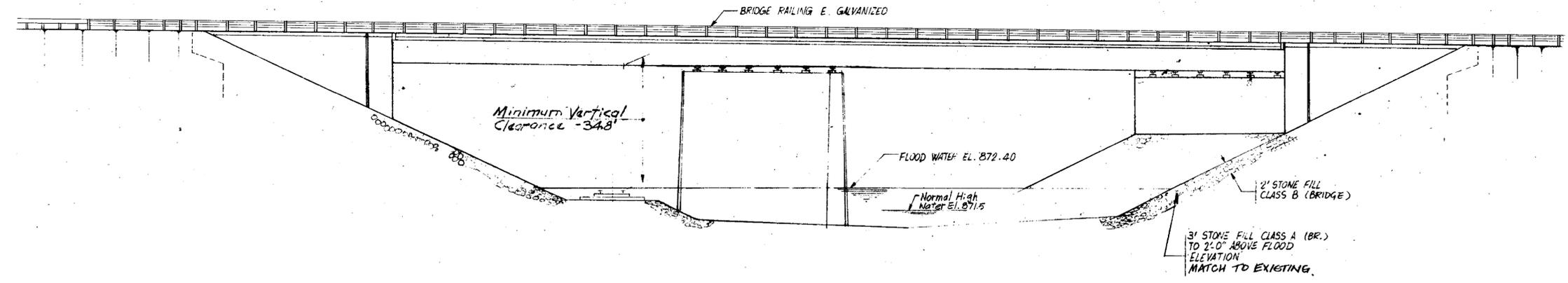
SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	----	STATE PROJECT	15755				
LOCATION	VARIOUS BRIDGES ALONG I-93								
PROJECT NOTES AND DETAILS (3 OF 3)									BRIDGE SHEET
									3 OF 94
									FILE NUMBER
									120-2-2
									TOTAL SHEETS
									201

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/BrSite	15755SOW	AS NOTED



PLAN
Scale: 1/16" = 1'-0"



ELEVATION
Scale: 1/16" = 1'-0"

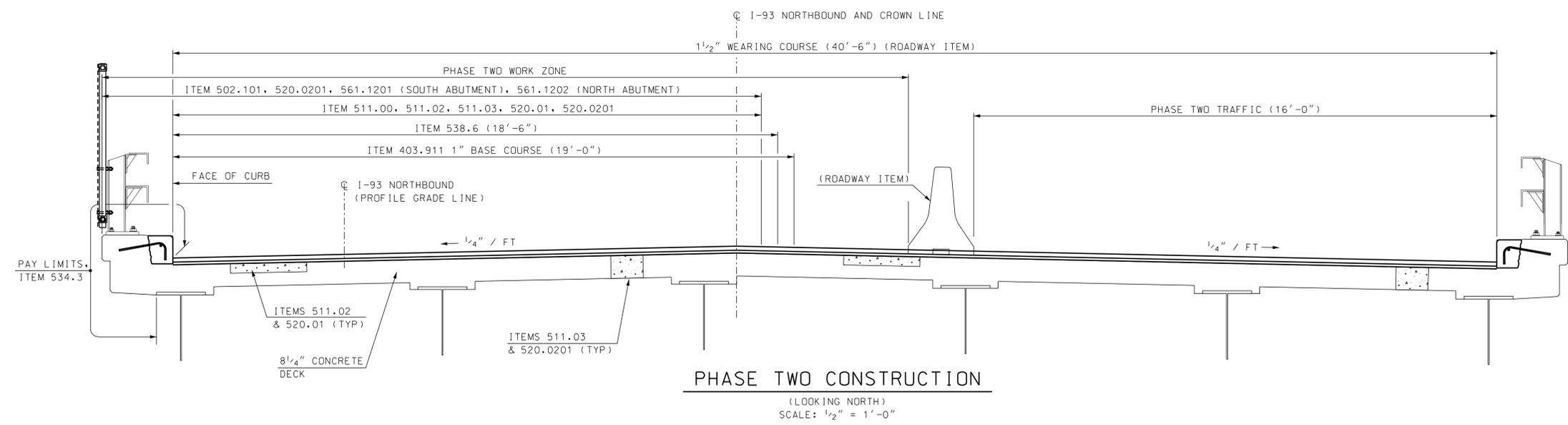
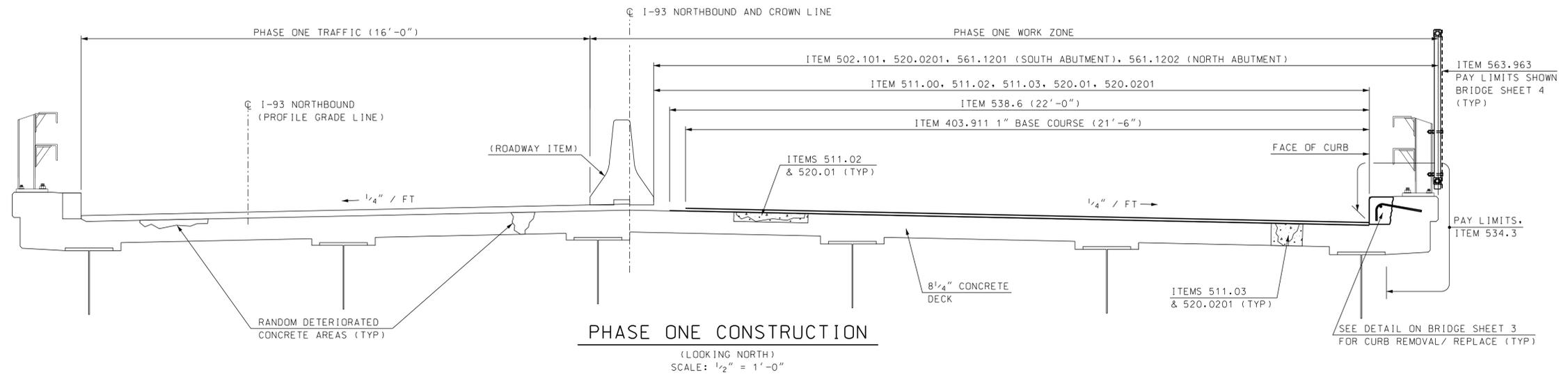
SAMPLE PLAN
DATE: 9-2013

**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

THIS SHEET IS FOR THE REFERENCE BRIDGE
LOCATION ONLY. ITEMS AND SCALES DO NOT APPLY.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755				
LOCATION 1-93 NORTHBOUND OVER PEMIGEWASSETT RIVER AND CLARK'S RAILROAD									
GENERAL PLAN & ELEVATION								BRIDGE SHEET	5 OF 94
DESIGNED		NHDOT	XX	CHECKED		XXX	BY	DATE	FILE NUMBER
DRAWN		GMC	7/13	CHECKED		NHDOT	XX		120-2-2
QUANTITIES									
ISSUE DATE		---	FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS	
REV. DATE		---	-----			42		201	

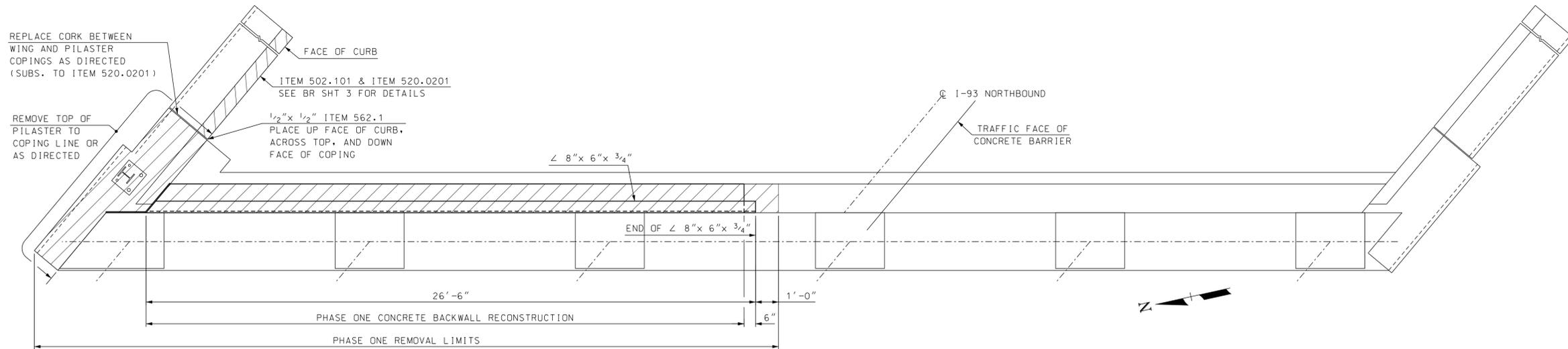
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/Site-Misc/15755Genplans	15755genplans	AS NOTED



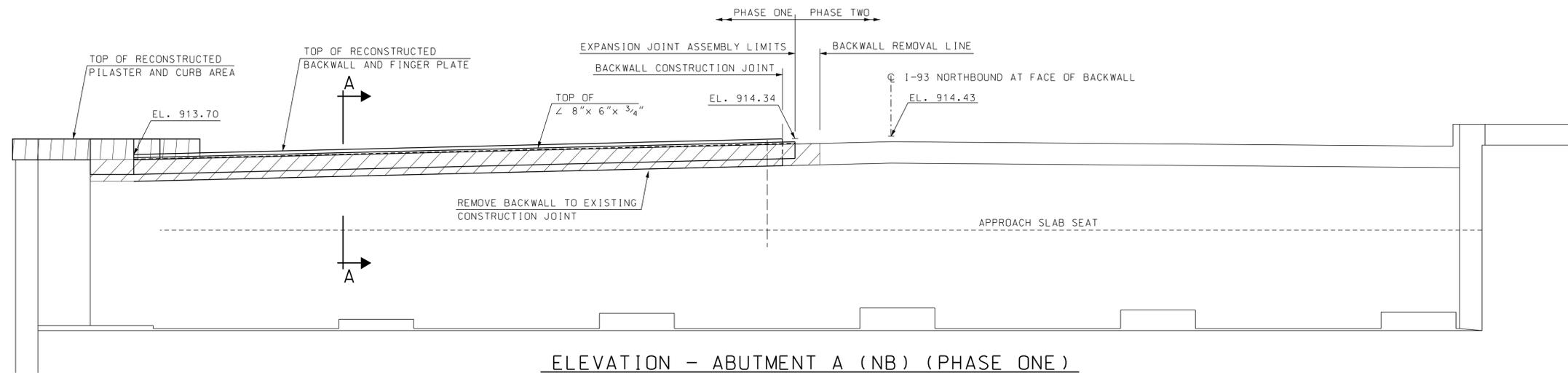
**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

**SAMPLE PLAN
DATE: 9-2013**

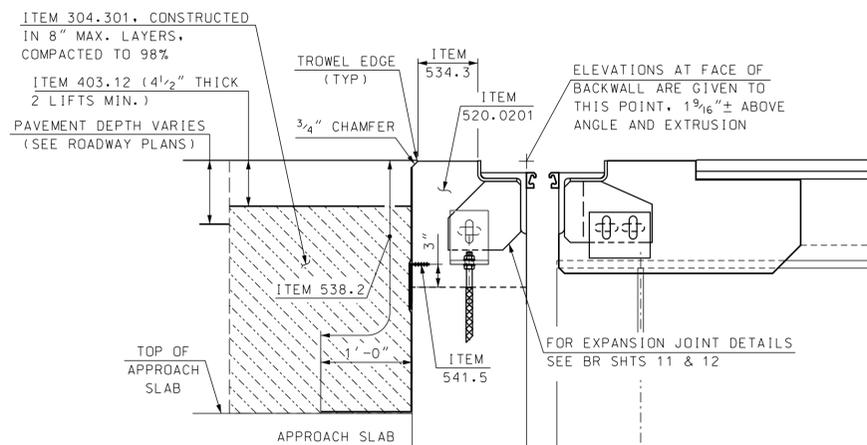
STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755	BRIDGE SHEET				
LOCATION						I-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD				
DECK SECTION										
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	BY	DATE	BRIDGE SHEET			
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	6 OF 94		
		DRAWN	GMC	7/13	CHECKED	JER	7/13	FILE NUMBER		
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	120-2-2		
		ISSUE DATE	---	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS		
		REV. DATE	---	-----			43	201		
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE								
BRC\NBPemiRR205-100	205-100DeckSect	AS NOTED								



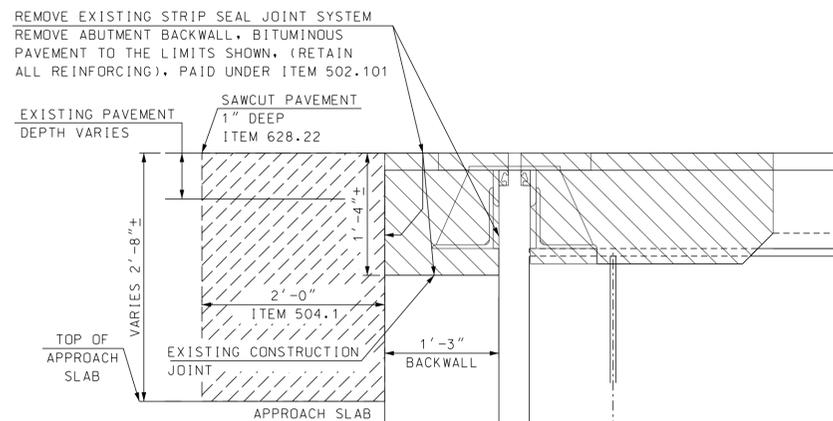
PLAN - ABUTMENT A (NB) (PHASE ONE)
SCALE: 3/8" = 1'-0"



ELEVATION - ABUTMENT A (NB) (PHASE ONE)
SCALE: 3/8" = 1'-0"



SECTION A-A RECONSTRUCTION
SCALE: 1" = 1'-0"



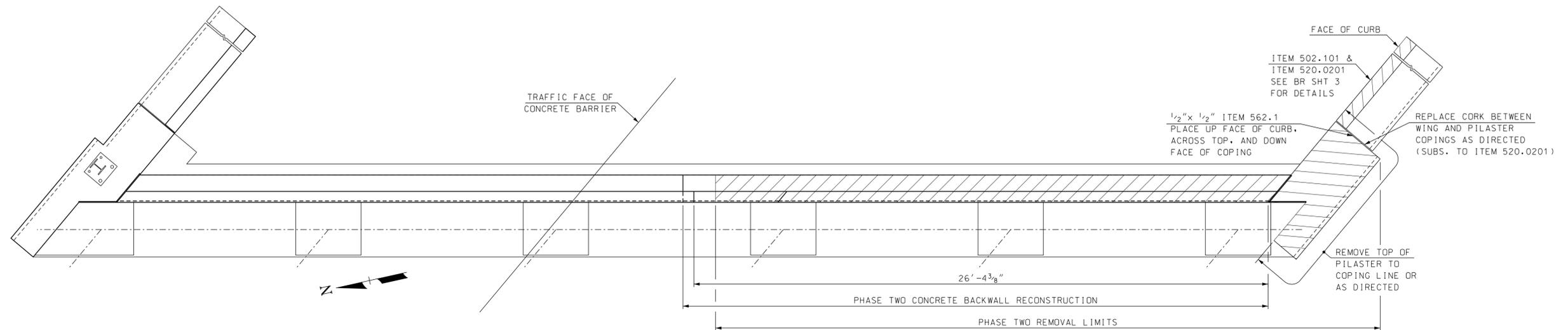
SECTION A-A REMOVAL
SCALE: 1" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 9-2013

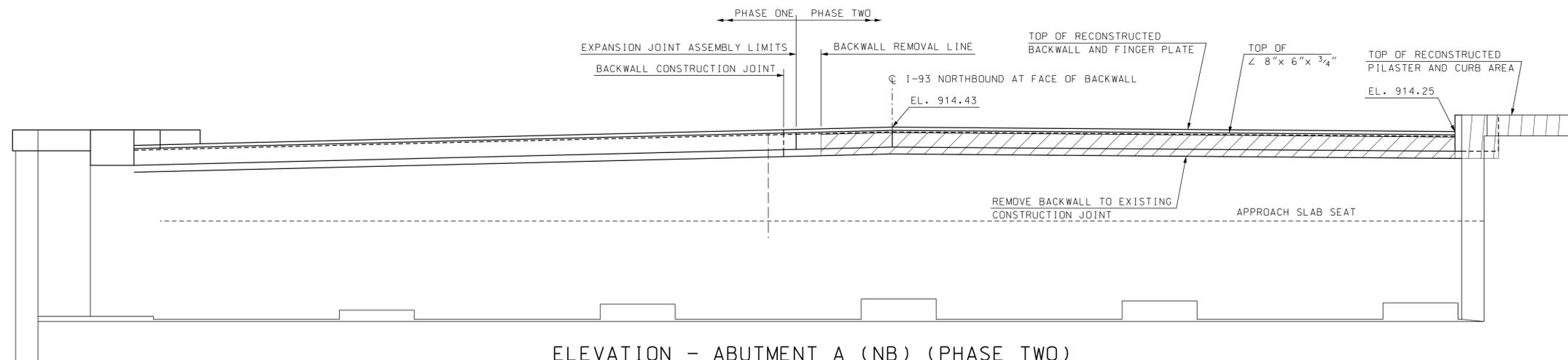
STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755					
LOCATION 1-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD										
PHASE ONE DETAILS - ABUTMENT A (NB)										
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	BY	DATE	BRIDGE SHEET			
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	7 OF 94		
		DRAWN	GMC	7/13	CHECKED	JER	7/13	FILE NUMBER		
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	120-2-2		
		ISSUE DATE	---	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS		
		REV. DATE	---	-----			44	201		

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\NBPemiRR205-100	205100AbutA	AS NOTED



PLAN - ABUTMENT A (NB) (PHASE TWO)

SCALE: 3/8" = 1'-0"



ELEVATION - ABUTMENT A (NB) (PHASE TWO)

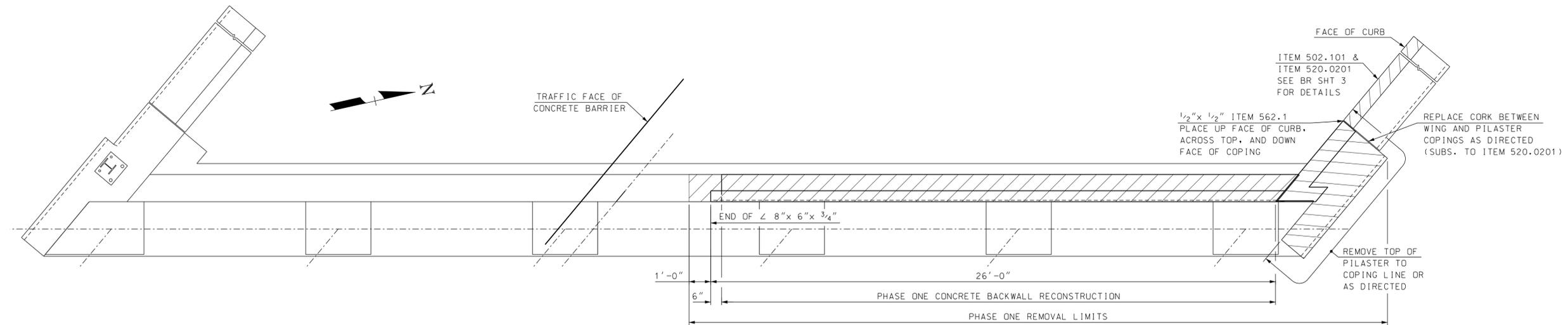
SCALE: 3/8" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

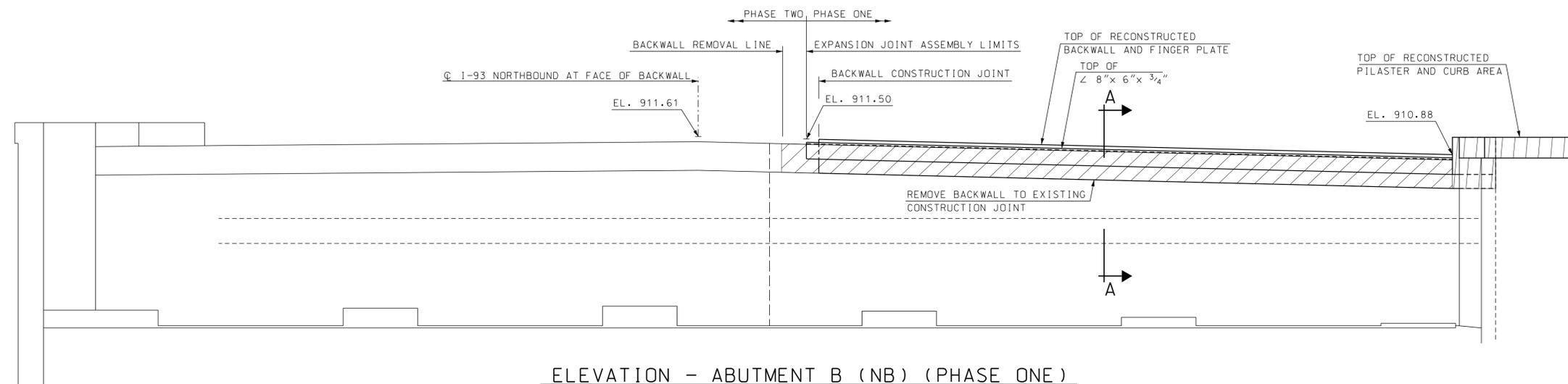
SAMPLE PLAN
DATE: 9-2013

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\NBPemiRR205-100	205100AbutA	AS NOTED

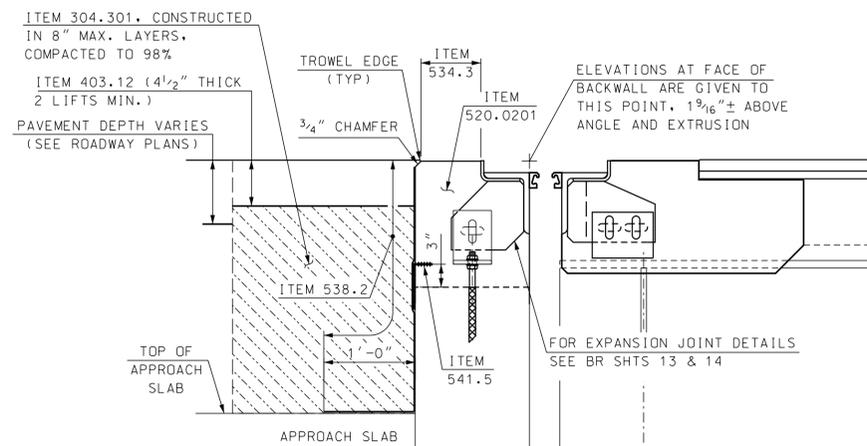
STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755					
LOCATION						1-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD				
PHASE TWO DETAILS - ABUTMENT A (NB)										
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	BY	DATE	BRIDGE SHEET			
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	8 OF 94		
		DRAWN	GMC	7/13	CHECKED	JER	7/13	FILE NUMBER		
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	120-2-2		
		ISSUE DATE	---	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS		
		REV. DATE	---	-----			45	201		



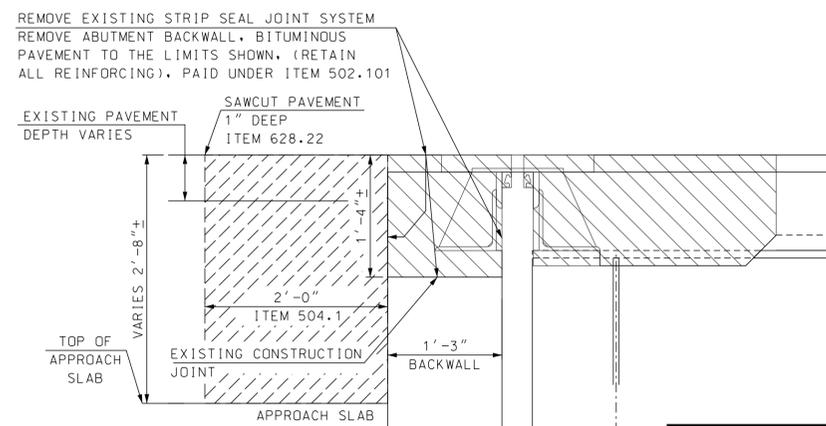
PLAN - ABUTMENT B (NB) (PHASE ONE)
SCALE: 3/8" = 1'-0"



ELEVATION - ABUTMENT B (NB) (PHASE ONE)
SCALE: 3/8" = 1'-0"



SECTION A-A RECONSTRUCTION
SCALE: 1" = 1'-0"



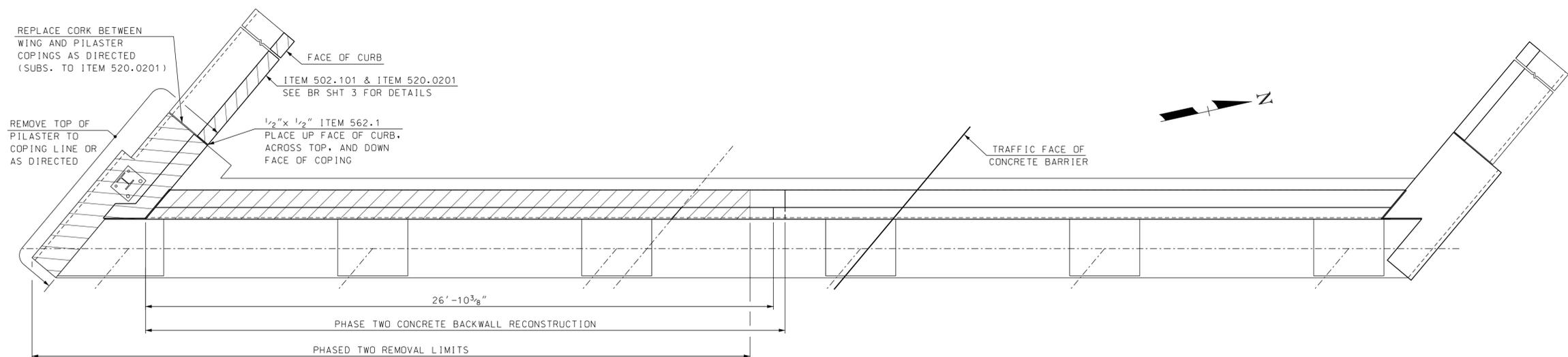
SECTION A-A REMOVAL
SCALE: 1" = 1'-0"

**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

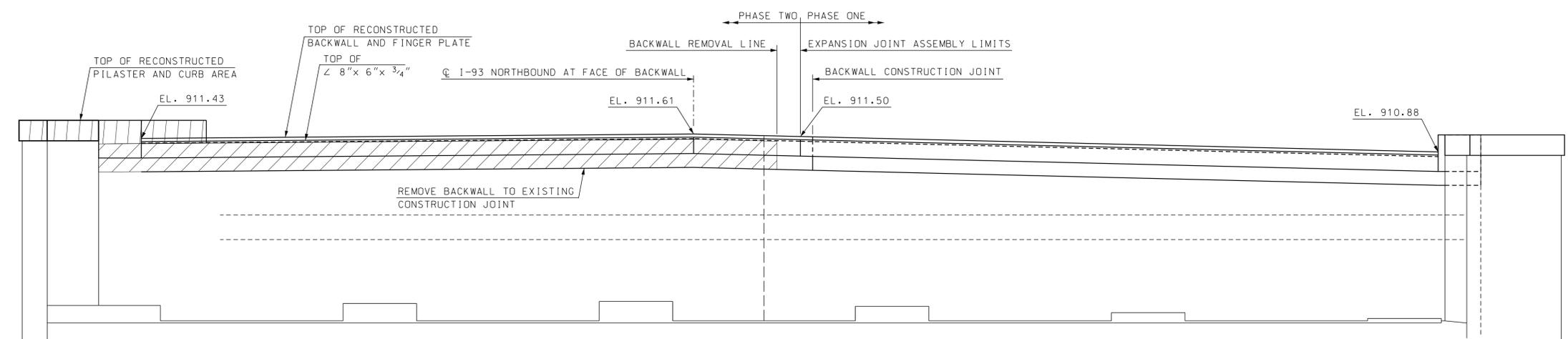
SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755				
LOCATION 1-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD						BRIDGE SHEET			
PHASE ONE DETAILS - ABUTMENT B (NB)						9 OF 94			
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	DATE	FILE NUMBER			
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	120-2-2	
		DRAWN	GMC	7/13	CHECKED	JER	7/13	TOTAL SHEETS	
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	46	
		ISSUE DATE	---	FEDERAL PROJECT NO.		SHEET NO.		201	
		REV. DATE	---	-----		46		201	

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/NBPemiRR205-100	205100AbutB	AS NOTED



PLAN - ABUTMENT B (NB) (PHASE TWO)
SCALE: 3/8" = 1'-0"



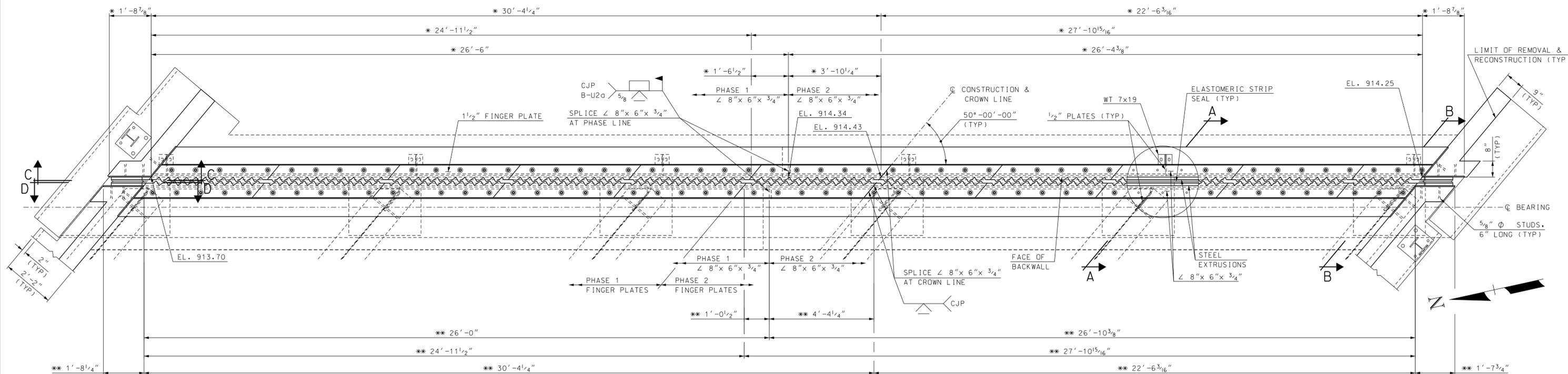
ELEVATION - ABUTMENT B (NB) (PHASE TWO)
SCALE: 3/8" = 1'-0"

**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755					
LOCATION 1-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD										
PHASE TWO DETAILS - ABUTMENT B (NB)										
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	BY	DATE	BRIDGE SHEET			
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	10 OF 94		
		DRAWN	GMC	7/13	CHECKED	JER	7/13	FILE NUMBER		
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	120-2-2		
ISSUE DATE	---	FEDERAL PROJECT NO.				SHEET NO.	TOTAL SHEETS			
REV. DATE	---	-----				47	201			

SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BRC\NBPemiRR205-100	205100AbutB	AS NOTED



ABUTMENT A EXPANSION JOINT PLAN
SCALE: 1/2" = 1'-0"

NOTE THAT THE ELEVATIONS AND DIMENSIONS SHOWN ARE TAKEN FROM THE ORIGINAL PLANS AND/OR BRIDGE MAINTENANCE RECORDS. DAMAGE AND/OR FIELD MAINTENANCE MAY HAVE OCCURRED THAT MAY NOT HAVE BEEN RECORDED SO FIELD VERIFICATION OF DIMENSIONS AND ELEVATIONS IS REQUIRED TO ENSURE PROPER FITTING OF EXPANSION JOINT. ANY DIFFERENCES BETWEEN FIELD MEASUREMENTS AND DESIGN PLANS SHALL BE NOTED ON THE SHOP DRAWINGS.

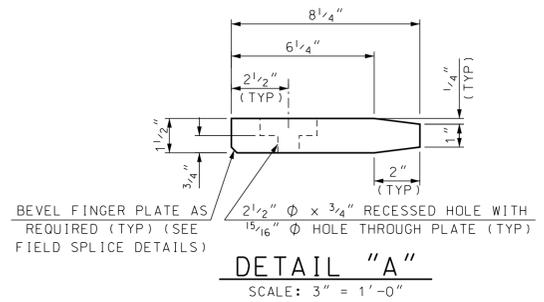
* = DIMENSIONS MEASURED ALONG FACE OF BACKWALL
** = DIMENSIONS MEASURED ALONG END OF DECK

EXPANSION JOINT NOTES

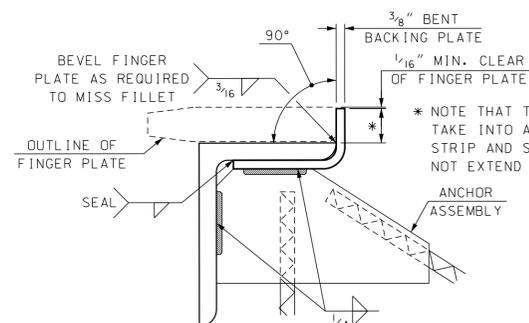
- ALL EXPANSION JOINT STEEL SHALL BE GALVANIZED. STEEL ANGLES AND PLOW PLATES SHALL BE AASHTO M223 (ASTM A572) GRADE 50. MINOR STEEL PLATES AND EXTRUSIONS MAY CONFORM TO AASHTO M183 (ASTM A36). THE ENTIRE ASSEMBLY, INCLUDING STRIP SEAL, SHALL BE PAID FOR AS ITEM 561.1201, PREFABRICATED STRIP SEAL EXPANSION JOINT W/ PLOW PLATES (F).
- SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.
- EXPANSION JOINT SHALL BE PRESET TO THE TEMPERATURE ANTICIPATED AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR (SEE TEMPERATURE ADJUSTMENT TABLE & NOTES).
- THE STRIP SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED.
- JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
- THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER BOTH ABUTMENTS HAVE BEEN BACKFILLED TO WITHIN 3'-0" OF FINISHED GRADE.
- 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.
- PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
- THE STRIP SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 1 5/16 INCHES. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE AN SE-400 SEAL BY WATSON BOWMAN OR A2R-400 BY D.S. BROWN.
- ELEVATIONS SHOWN AT TOP OF ANGLES ARE 1/8" LOWER THAN PROPOSED FINISHED ROADWAY GRADE.
- NO "LOW PROFILE" STEEL EXTRUSIONS SHALL BE ALLOWED.
- THE PLOW PLATES SHALL BE CUT FROM ONE CONTINUOUS 1'-2 1/2" WIDE x 1 1/2" THICK PLATE, AS SHOWN ON THE FINGER PLATE PLAN, AND FURNISHED IN ELEVEN LENGTHS.

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

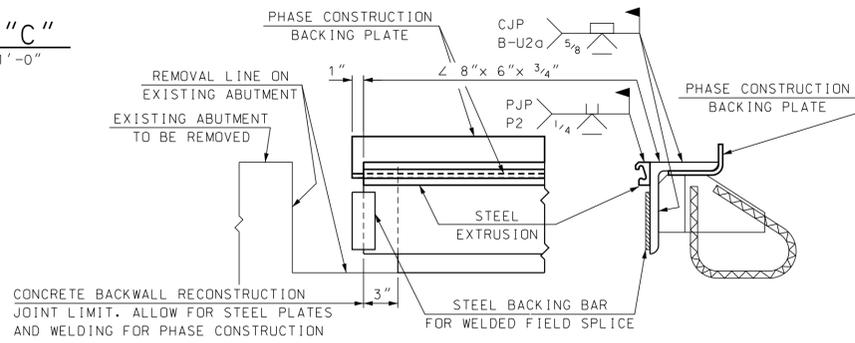
SAMPLE PLAN
DATE: 9-2013



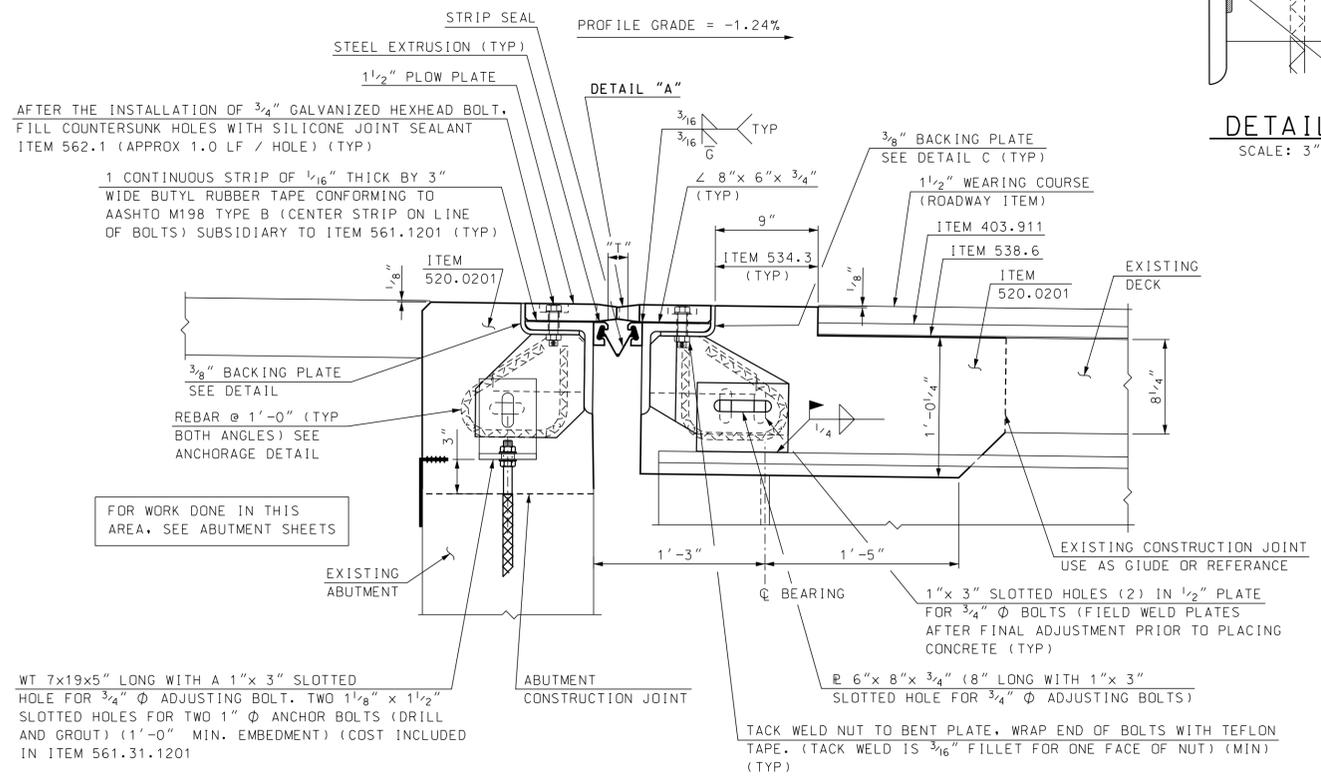
DETAIL "A"
SCALE: 3" = 1'-0"



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



PHASE CONSTRUCTION FIELD WELD SPLICE DETAILS
N.T.S.



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

TEMPERATURE ADJUSTMENT NOTES

- "T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL.
- MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1 3/4" (APPROXIMATELY 65°F OR LESS).
- VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING CONCRETE BLOCKOUTS.

TEMPERATURE ADJUSTMENT TABLE	
TEMPERATURE	"T"
20°F	2 1/16"
35°F	1 15/16"
50°F	1 7/8"
65°F	1 3/4"
80°F	1 5/8"
95°F	1 9/16"

NOTE: FOR SECTIONS B-B, C-C, D-D SEE BRIDGE SHEET 12.

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

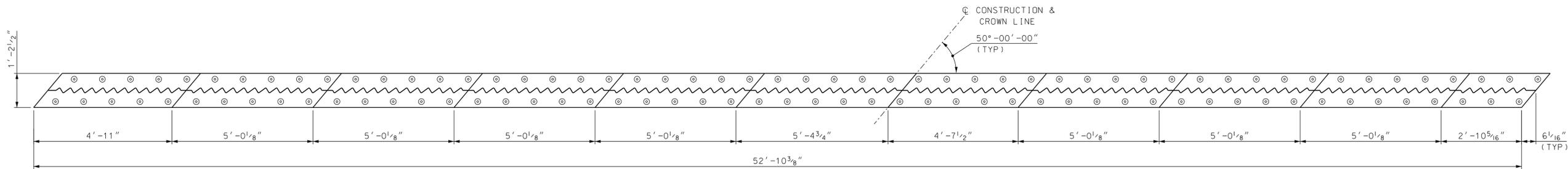
TOWN LINCOLN BRIDGE NO. 205/100 STATE PROJECT 15755

LOCATION I-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD

ABUTMENT A EXPANSION JOINT (1 OF 2)

DESIGNED	GMC	7/13	CHECKED	JER	7/13	BRIDGE SHEET 11 OF 94
DRAWN	GMC	7/13	CHECKED	JER	7/13	
QUANTITIES	PAB	7/13	CHECKED	JER	7/13	
ISSUE DATE	---	---	FEDERAL PROJECT NO.	---	SHEET NO.	TOTAL SHEETS 201
REV. DATE	---	---	---	---	48	

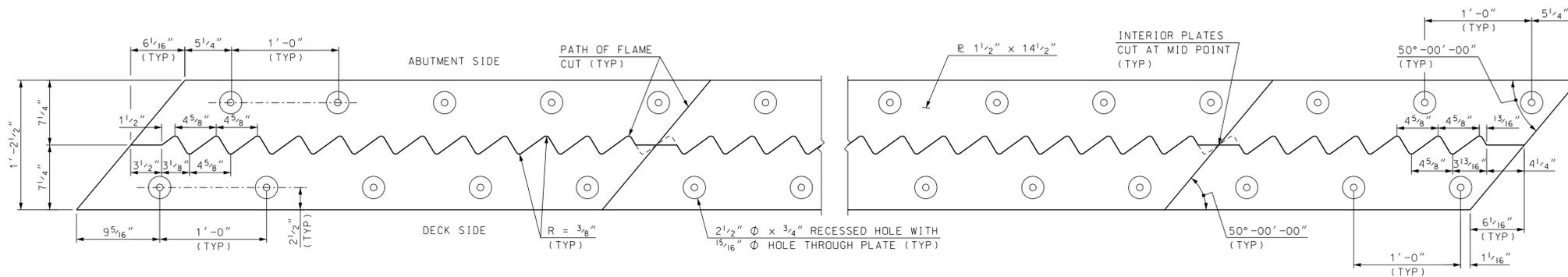
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/NBPemiRR205-100	205100Exp1A	AS NOTED



ABUTMENT A FINGER PLATE PLAN

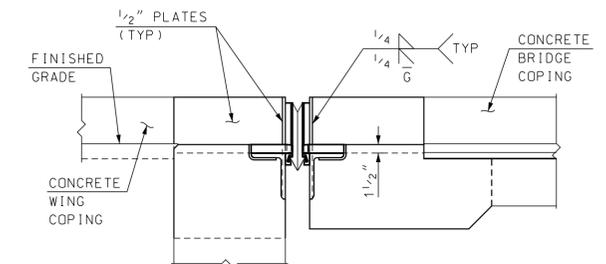
SCALE: 1/2" = 1'-0"

**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**



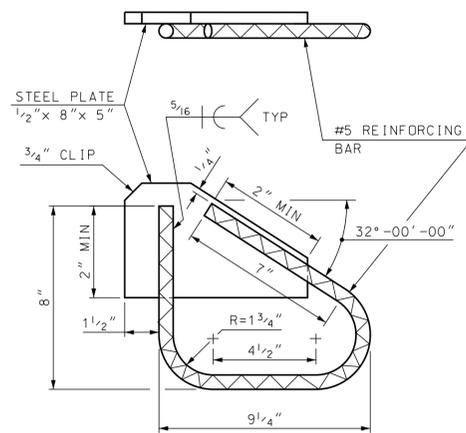
ABUTMENT A FINGER CUTTING DETAIL

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



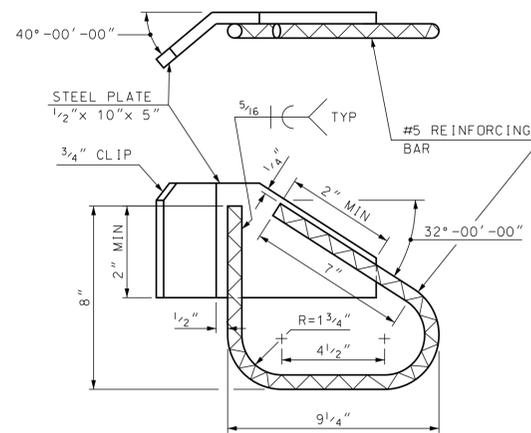
SECTION B-B

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



BACKWALL ANCHORAGE DETAIL

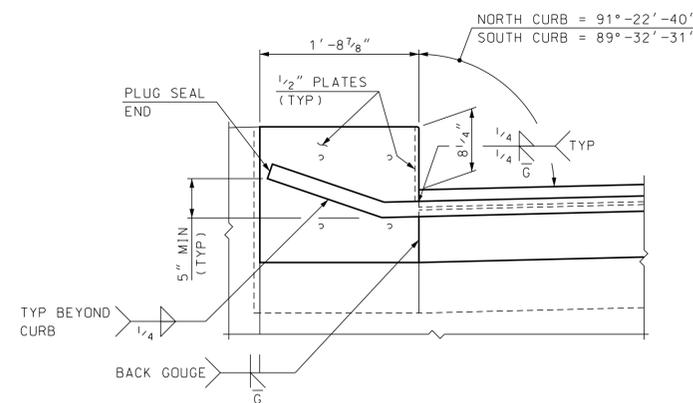
SCALE: 3" = 1'-0"



DECK SIDE ANCHORAGE DETAIL

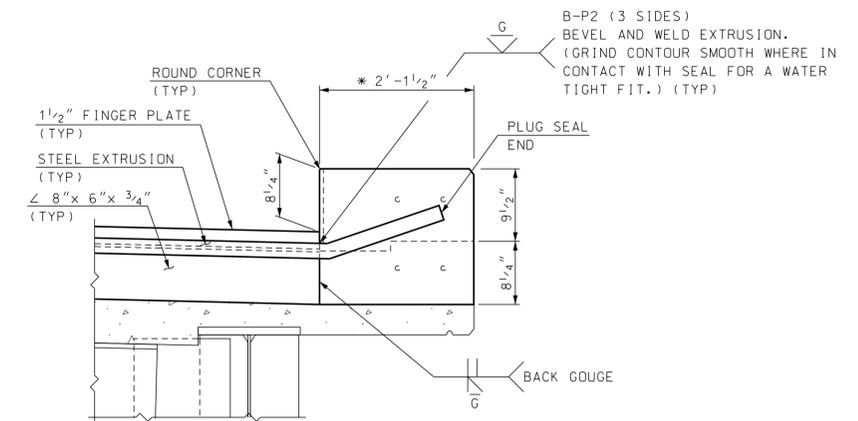
SCALE: 3" = 1'-0"

SAMPLE PLAN
DATE: 9-2013



SECTION C-C

SCALE: 1" = 1'-0"

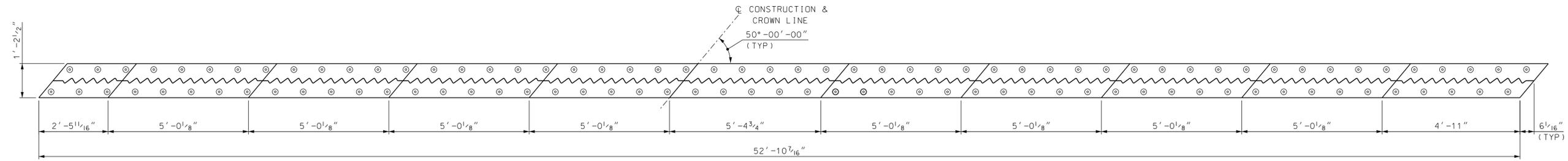


SECTION D-D

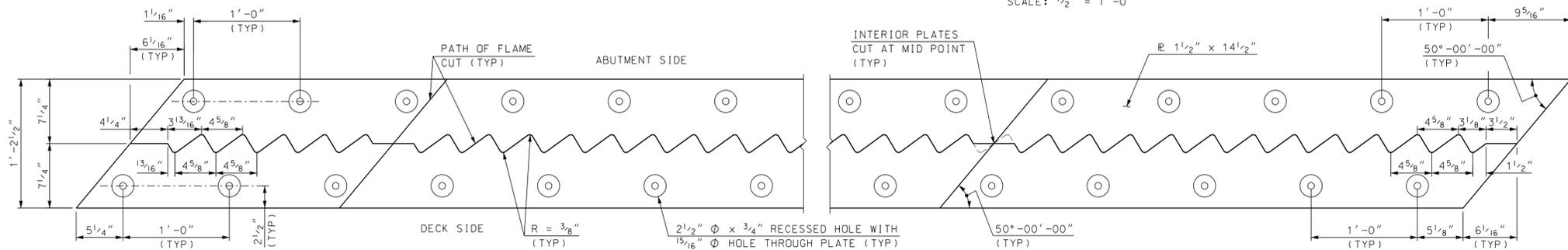
SCALE: 1" = 1'-0"

NOTE:
FOR LOCATION OF SECTIONS B-B, C-C, D-D SEE BRIDGE SHEET 11.

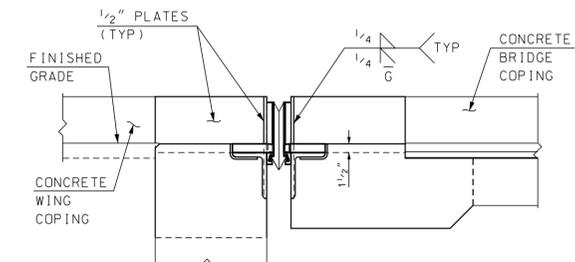
STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755				
LOCATION						1-93 NORTHBOUND OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD			
ABUTMENT A EXPANSION JOINT (2 OF 2)								BRIDGE SHEET	12 OF 94
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	JER	DATE	7/13	FILE NUMBER	120-2-2
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	TOTAL SHEETS	201
		DRAWN	GMC	7/13	CHECKED	JER	7/13		
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13		
		ISSUE DATE	---	FEDERAL PROJECT NO.		SHEET NO.		49	
		REV. DATE	---	-----					
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE							
BRC\NBPemiRR205-100	205100Exp1A	AS NOTED							



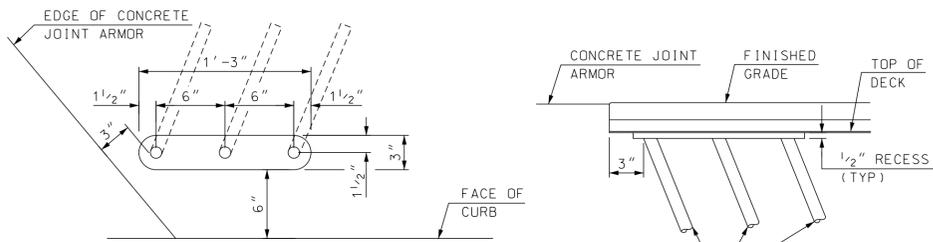
ABUTMENT A FINGER PLATE PLAN
SCALE: 1/2" = 1'-0"



ABUTMENT A FINGER CUTTING DETAIL
SCALE: 1 1/2" = 1'-0"



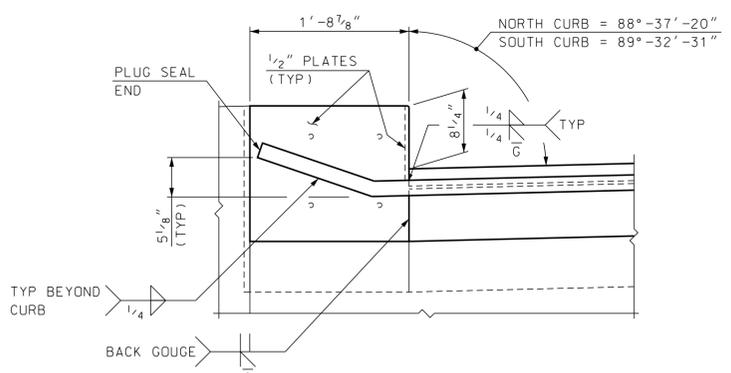
SECTION B-B
SCALE: 3/4" = 1'-0"



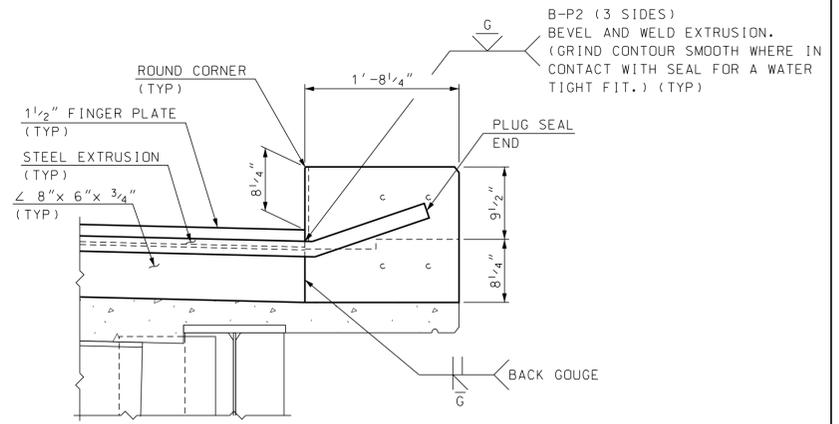
3 - 1" Φ PVC DRAINS EACH SIDE. SET PIPES TO DISCHARGE AWAY FROM GIRDERS AND ABUTMENT SEAT. PROVIDE BREAKS THROUGH MEMBRANE AND SEAL AROUND WITH ASPHALT. ALL COSTS TO BE INCLUDED IN ITEM 561.311XX. ATTACH DRAIN PIPES TO BOTTOM FLANGE WITH CLIP & EXTEND DRAINS 1" MINIMUM BELOW BOTTOM OF STRUCTURAL STEEL.

ABUTMENT B EXPANSION JOINT DRAIN DETAIL
(PROVIDE BOTH SIDES OF JOINT)
SCALE: 1 1/2" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

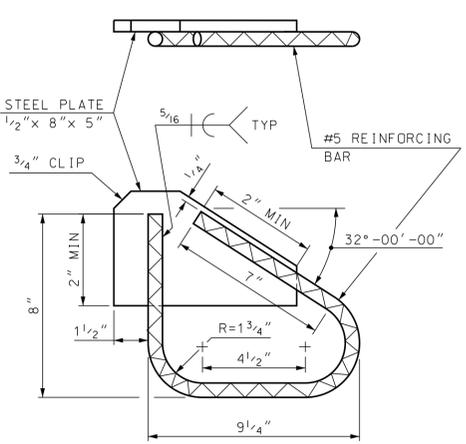


SECTION C-C
SCALE: 1" = 1'-0"

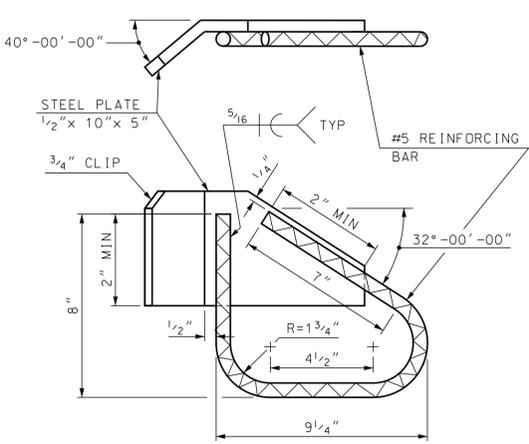


SECTION D-D
SCALE: 1" = 1'-0"

NOTE: FOR LOCATION OF SECTIONS B-B, C-C, D-D SEE BRIDGE SHEET 13.



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

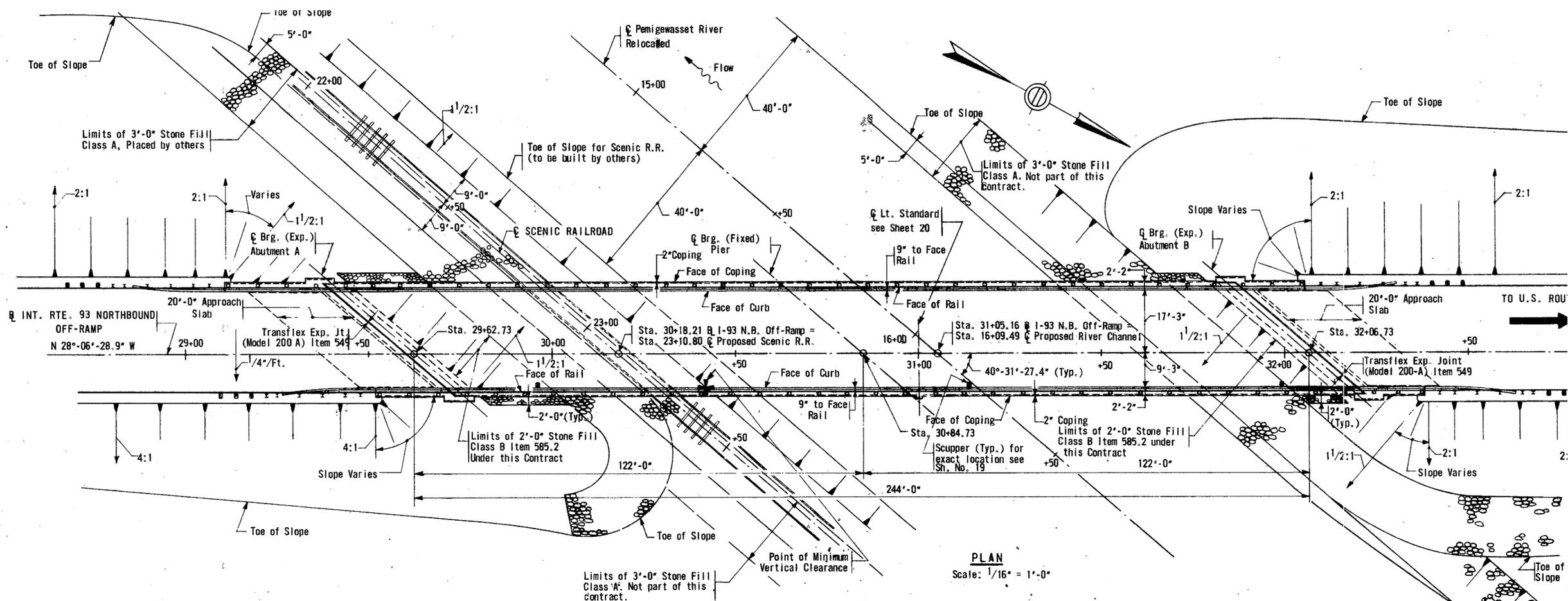


DECK SIDE ANCHORAGE DETAIL
SCALE: 3" = 1'-0"

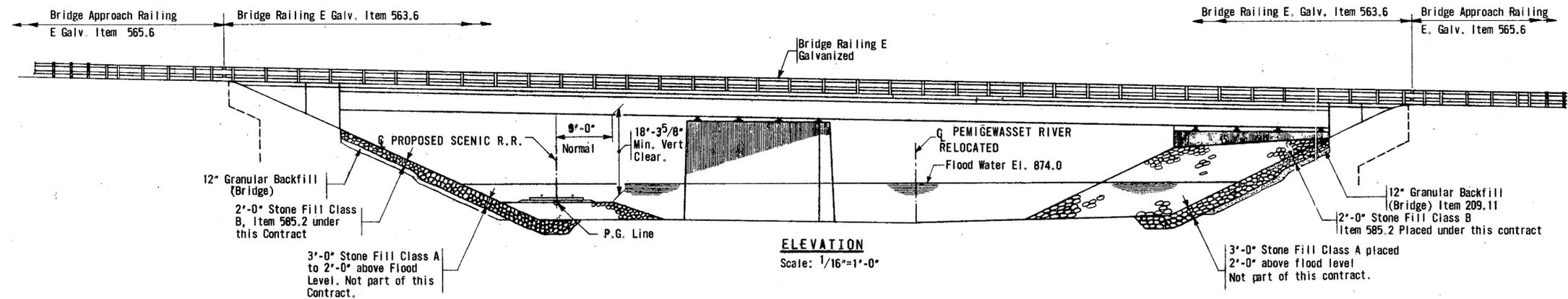
SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	205/100	STATE PROJECT	15755				
LOCATION 1-93 NORTHBOUND OVER PEMIGWASSET RIVER AND CLARK'S RAILROAD									
ABUTMENT B EXPANSION JOINT (2 OF 2)								BRIDGE SHEET	14 OF 94
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	JER	DATE	FILE NUMBER		
		DESIGNED	GMC	7/13	CHECKED	JER	7/13		
		DRAWN	GMC	7/13	CHECKED	JER	7/13	120-2-2	
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13		
		ISSUE DATE	---	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS		
		REV. DATE	---	-----		51	201		

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\NBPemiRR205-100	205100Exp1B	AS NOTED



PLAN
Scale: 1/16" = 1'-0"



ELEVATION
Scale: 1/16" = 1'-0"

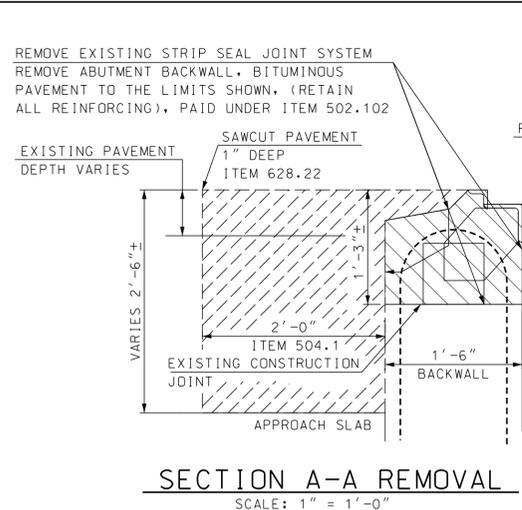
**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

THIS SHEET IS FOR THE REFERENCE BRIDGE LOCATION ONLY. SHEET NUMBERS, ITEMS AND SCALES DO NOT APPLY.

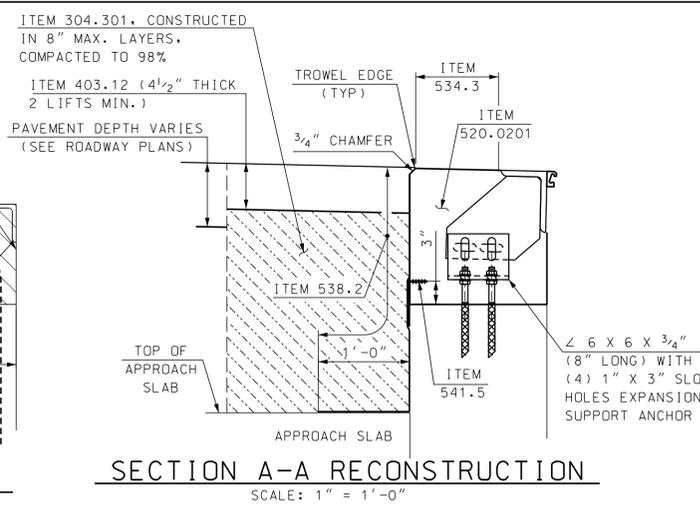
SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION I-93 NORTHBOUND RAMP OVER PEMIGEWASSETT RIVER AND CLARK'S RAILROAD					
GENERAL PLAN & ELEVATION					BRIDGE SHEET
DESIGNED	NHDOT	BY	DATE	CHECKED	XXX XX/XX
DRAWN	GMC	7/13		CHECKED	NHDOT XX/XX
QUANTITIES					120-2-2
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE				52	201

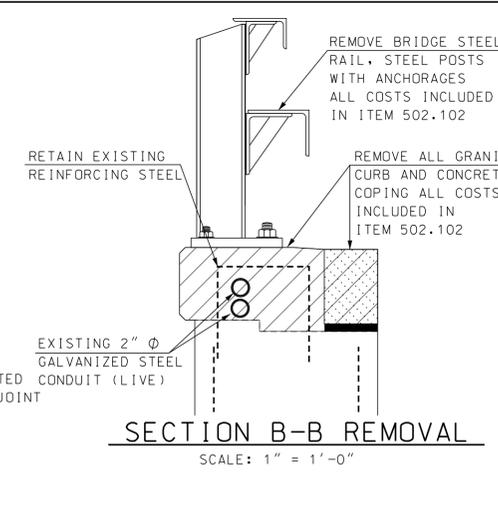
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC/Site-Misc/15755Genplans	15755genplans	AS NOTED



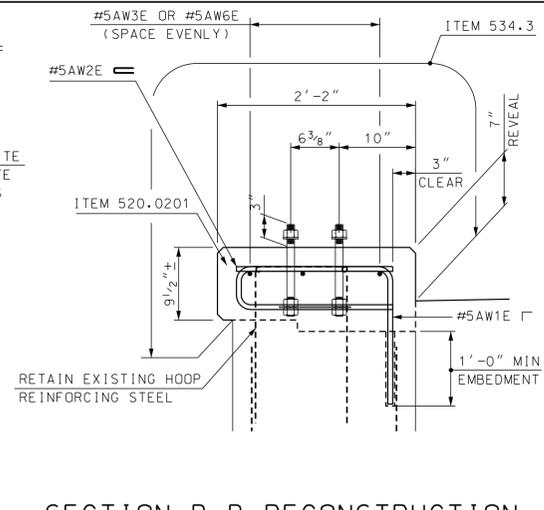
SECTION A-A REMOVAL
SCALE: 1" = 1'-0"



SECTION A-A RECONSTRUCTION
SCALE: 1" = 1'-0"



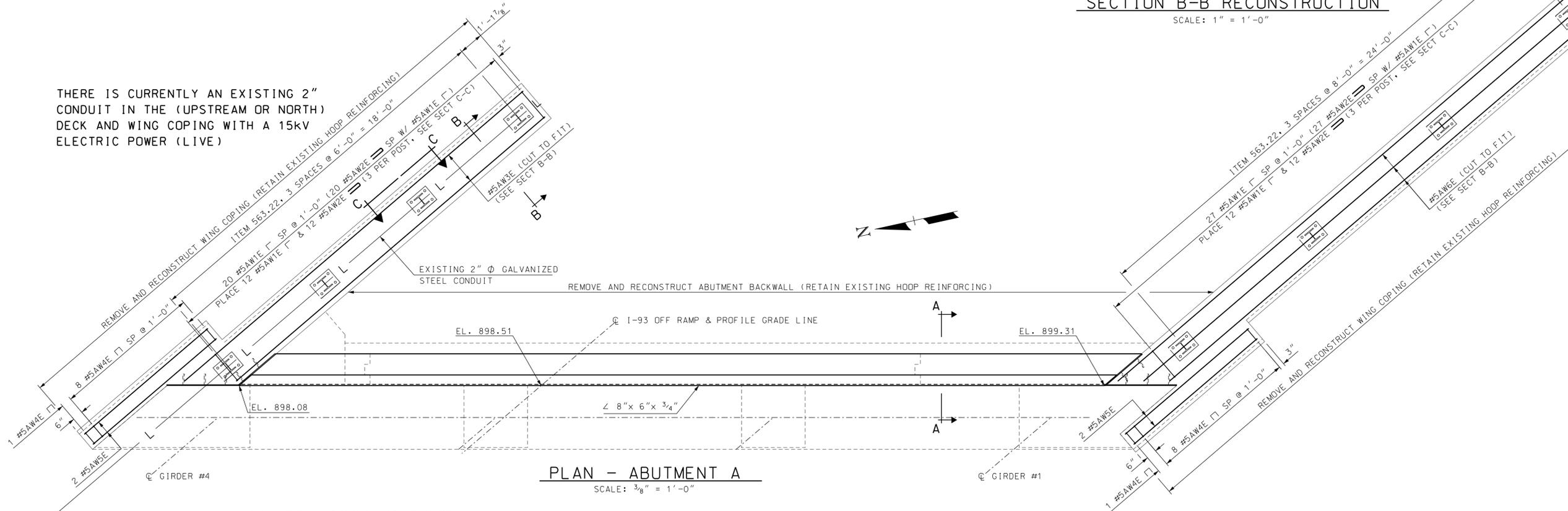
SECTION B-B REMOVAL
SCALE: 1" = 1'-0"



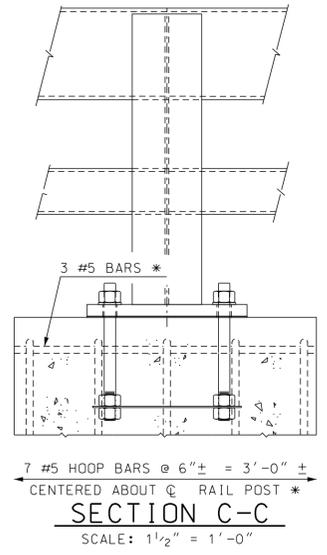
SECTION B-B RECONSTRUCTION
SCALE: 1" = 1'-0"

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

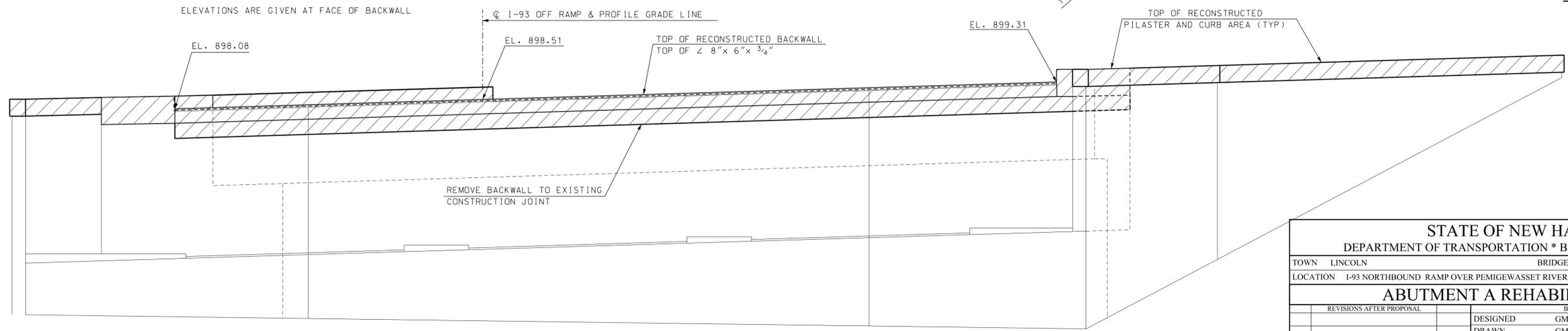
THERE IS CURRENTLY AN EXISTING 2" CONDUIT IN THE (UPSTREAM OR NORTH) DECK AND WING COPING WITH A 15KV ELECTRIC POWER (LIVE)



PLAN - ABUTMENT A
SCALE: 3/8" = 1'-0"



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

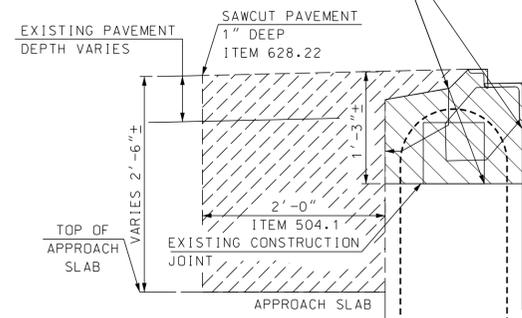


ELEVATION - ABUTMENT A
SCALE: 3/8" = 1'-0"

SAMPLE PLAN
DATE: 9-2013

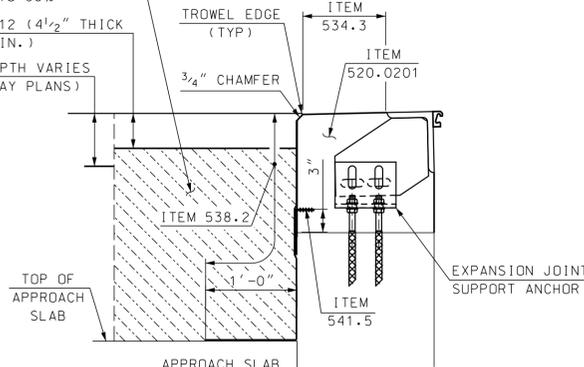
STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN LINCOLN	BRIDGE NO. 202/100	STATE PROJECT	15755		
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD					
ABUTMENT A REHABILITATION				BRIDGE SHEET	
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE
		DESIGNED	GMC 7/13	CHECKED	JER 7/13
		DRAWN	GMC 4/13	CHECKED	PAB/JER 7/13
		QUANTITIES	PAB 7/13	CHECKED	JER 7/13
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
REV. DATE		-----		53	
SUBDIRECTORY		DGN LOCATOR		SHEET SCALE	
BRC/NBRamp202-100		202-100AbutA		AS NOTED	
				TOTAL SHEETS	
				16 OF 94	
				FILE NUMBER	
				120-2-2	
				TOTAL SHEETS	
				201	

REMOVE EXISTING EXPANSION JOINT SYSTEM
 REMOVE ABUTMENT BACKWALL, BITUMINOUS
 PAVEMENT TO THE LIMITS SHOWN. (RETAIN
 ALL REINFORCING). PAID UNDER ITEM 502.102



SECTION A-A REMOVAL
 SCALE: 1" = 1'-0"

ITEM 304.301, CONSTRUCTED
 IN 8" MAX. LAYERS,
 COMPACTED TO 98%
 ITEM 403.12 (4 1/2" THICK
 2 LIFTS MIN.)
 PAVEMENT DEPTH VARIES
 (SEE ROADWAY PLANS)

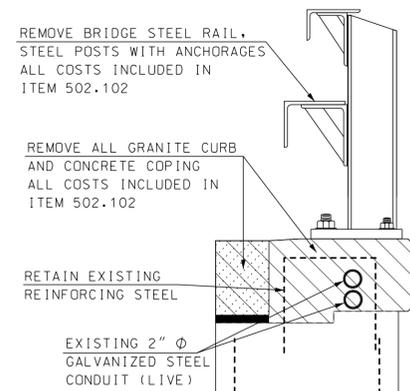


SECTION A-A RECONSTRUCTION
 SCALE: 1" = 1'-0"

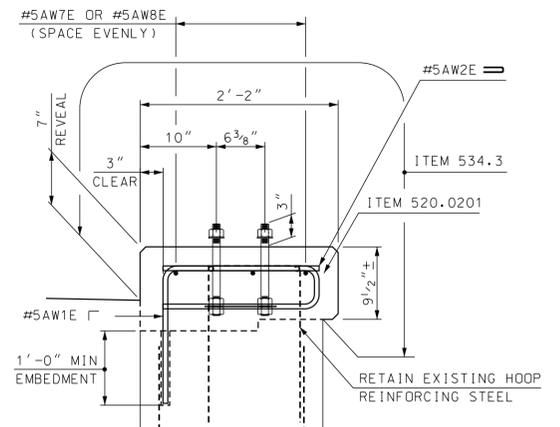
REMOVE BRIDGE STEEL RAIL,
 STEEL POSTS WITH ANCHORAGES
 ALL COSTS INCLUDED IN
 ITEM 502.102

REMOVE ALL GRANITE CURB
 AND CONCRETE COPING
 ALL COSTS INCLUDED IN
 ITEM 502.102

RETAIN EXISTING
 REINFORCING STEEL
 EXISTING 2" Ø
 GALVANIZED STEEL
 CONDUIT (LIVE)

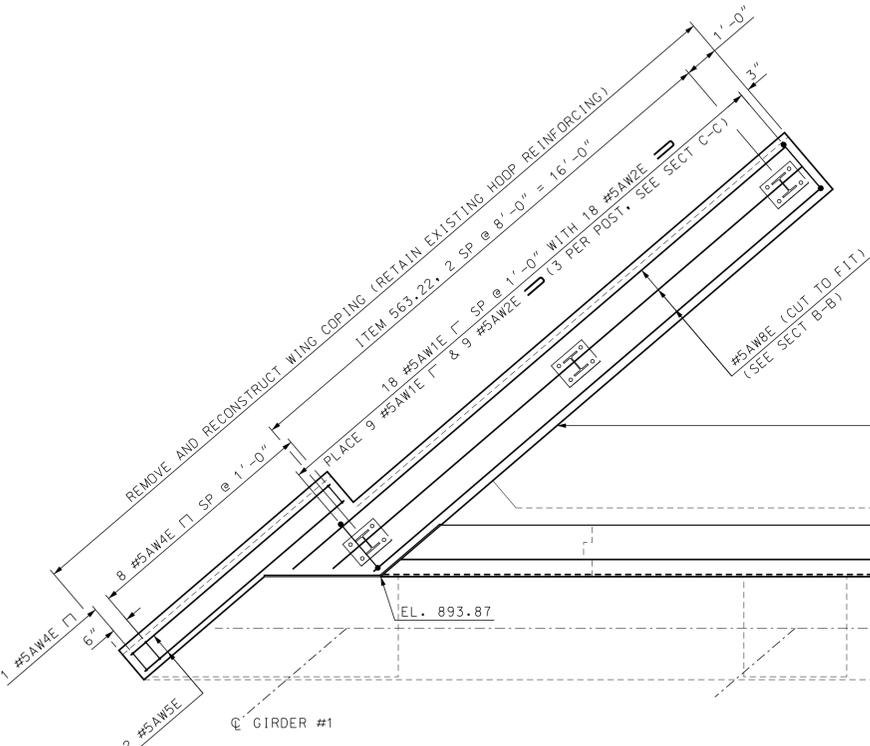


SECTION B-B REMOVAL
 SCALE: 1" = 1'-0"

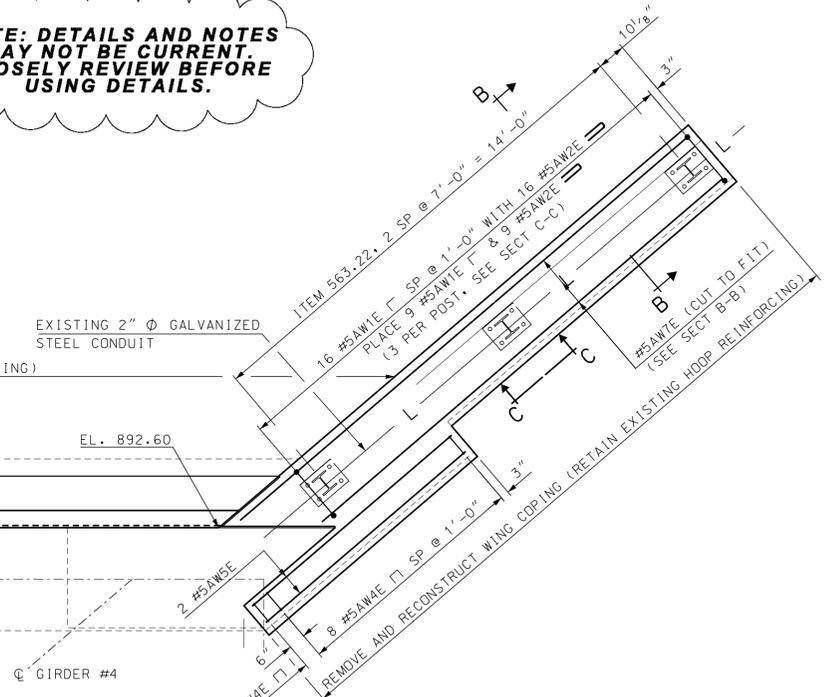


SECTION B-B RECONSTRUCTION
 SCALE: 1" = 1'-0"

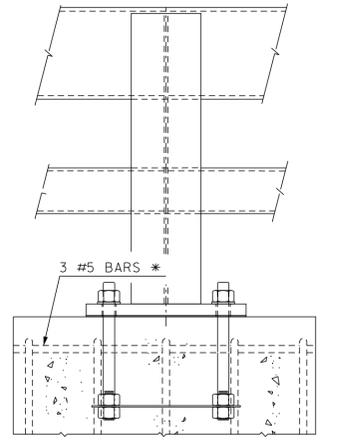
**NOTE: DETAILS AND NOTES
 MAY NOT BE CURRENT.
 CLOSELY REVIEW BEFORE
 USING DETAILS.**



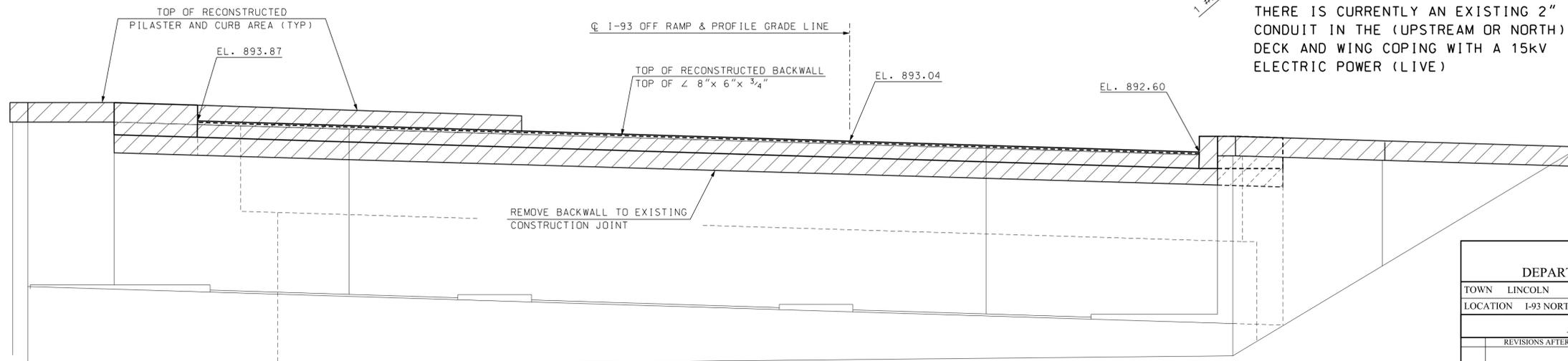
PLAN - ABUTMENT B
 SCALE: 3/8" = 1'-0"



THERE IS CURRENTLY AN EXISTING 2"
 CONDUIT IN THE (UPSTREAM OR NORTH)
 DECK AND WING COPING WITH A 15KV
 ELECTRIC POWER (LIVE)



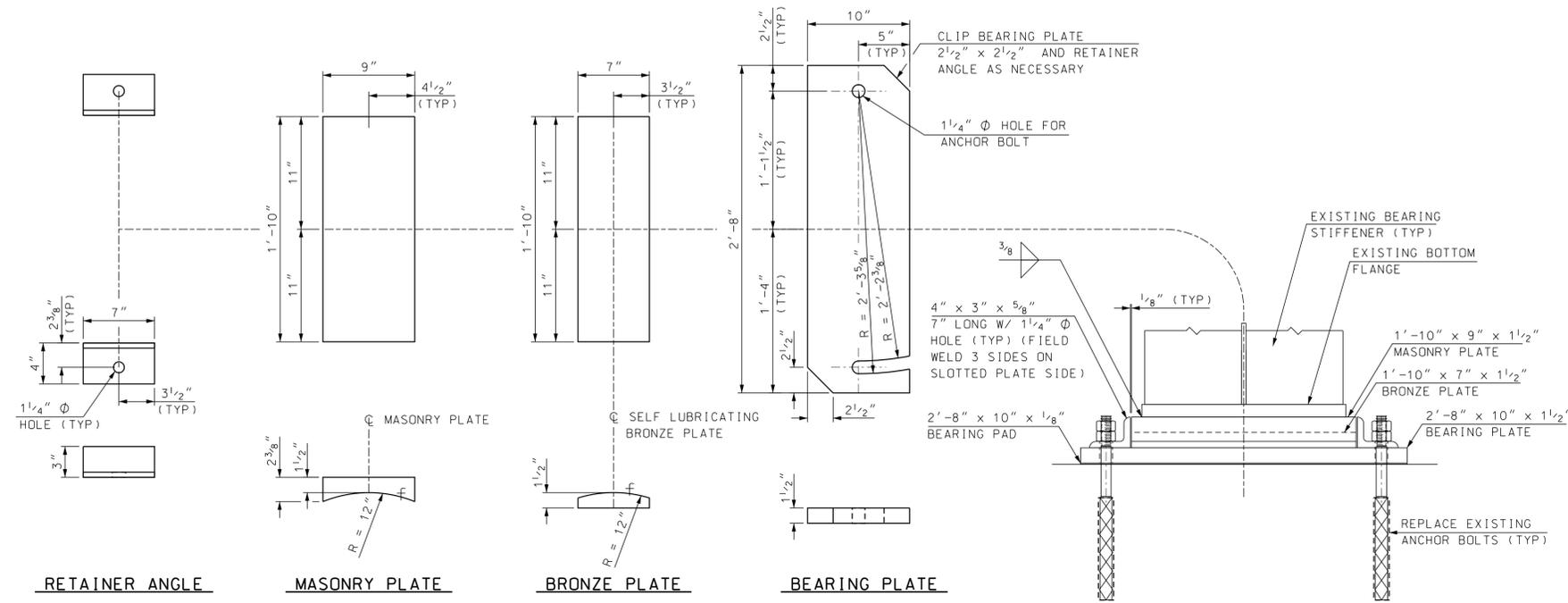
SECTION C-C
 SCALE: 1 1/2" = 1'-0"



ELEVATION - ABUTMENT B
 SCALE: 3/8" = 1'-0"

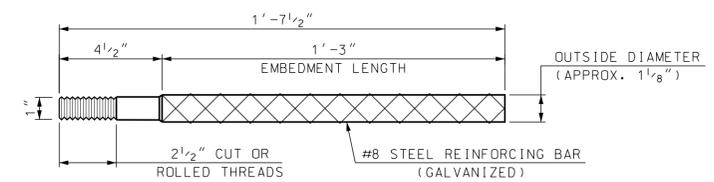
SAMPLE PLAN
 DATE: 9-2013

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD					
ABUTMENT B REHABILITATION					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					17 OF 94
DESIGNED	GMC	DATE	7/13	CHECKED	JER 7/13
DRAWN	GMC	DATE	4/13	CHECKED	PAB/JER 7/13
QUANTITIES	PAB	DATE	7/13	CHECKED	JER 7/13
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	54
REV. DATE					201
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE			
BRC/NBRamp202-100	202-100AbutB	AS NOTED			

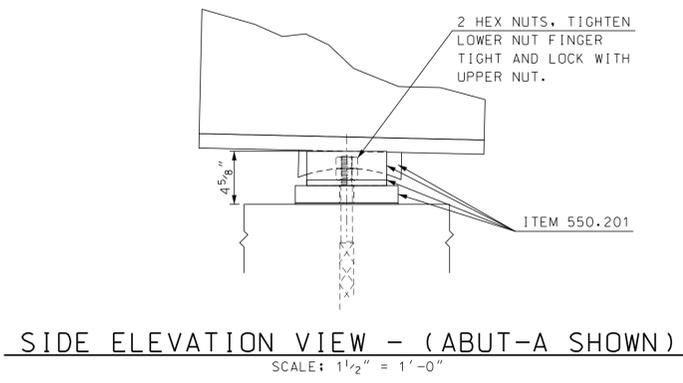


ABUTMENT EXPANSION BEARING DETAILS
 (ITEM 550.201, 8 ASSEMBLIES REQUIRED)
 SCALE: 1 1/2" = 1'-0"

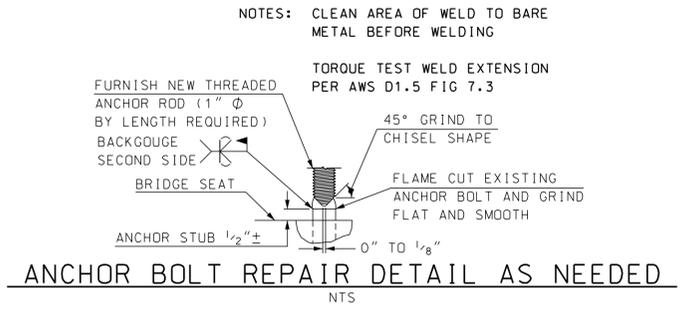
- BRIDGE SHOE NOTES**
- (1) EXPANSION BEARING ASSEMBLIES SHALL BE REPLACED AT ALL EXPANSION ENDS (8 LOCATIONS TOTAL). THIS REPLACEMENT INCLUDES THE MASONRY PLATE, BRONZE PLATE, BEARING PLATE AND RETAINER ANGLES. ALL WORK NECESSARY TO COMPLETE THE REPLACEMENT WORK SHALL BE PAID UNDER ITEM 550.201, BRIDGE SHOES, EXCLUDING JACKING. ALL COSTS FOR JACKING SHALL BE INCLUDED IN ITEM 550.191, TEMPORARY GIRDER SUPPORT SYSTEM.
 - (2) ALL PLATES SHALL BE FLAT AND TRUE AFTER WELDING.
 - (3) ALL STEEL PLATES SHALL CONFORM TO AASHTO M270 GRADE 50W (ASTM A709 GRADE 50W), PAINTED.
 - (4) BEARINGS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SECTION 18 OF THE AASHTO 2010 LRFD BRIDGE CONSTRUCTION SPECIFICATIONS WITH 2012 INTERIMS.
 - (5) BEARING SURFACES MARKED "f", OF SURFACES IN CONTACT TO BE WELDED, SHALL BE FINISHED IN ACCORDANCE WITH TABLE 18.1.4.2-1 OF THE AASHTO 2010 LRFD BRIDGE CONSTRUCTION SPECIFICATIONS WITH 2012 INTERIMS.
 - (6) BEARINGS SHOULD BE INSTALLED AT TEMPERATURES BETWEEN 20°F AND 70°F. INSTALLATION TEMPERATURES OUTSIDE THIS RANGE WILL REQUIRE ADJUSTMENT.
 - (7) ANCHOR BOLTS SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 550.2.5 OF THE NHDOT STANDARD SPECIFICATIONS, 2010.
 - (8) HOLES DRILLED INTO EXISTING CONCRETE TO REPLACE ANCHOR BOLTS SHALL BE DRILLED 1/2" DIAMETER LARGER THAN THE ANCHOR BOLT DIAMETER AND GROUTED WITH HIGH STRENGTH, NON-SHRINK, NON-FERROUS, CEMENTITIOUS GROUT. ALL COSTS FOR DRILLING AND GROUTING ANCHOR BOLTS SHALL BE PAID UNDER ITEM 550.201, BRIDGE SHOES.
 - (9) PAINT SYSTEM SHALL BE AS FOLLOWS:
 PRIMER: INTERZINC 315B EPOXY ZINC RICH PRIMER - 3.0-5.0 MILS DFT.
 INTERMEDIATE: INTERGARD 475HS EPOXY 4.0-6.0 MILS DFT.
 TOPCOAT: INTERTHANE 870 UHS - 2.0-4.0 MILS DFT.
 TOPCOAT COLOR: DARK BROWN FED. COLOR #20062. SUBMIT COLOR SAMPLE TO THE ENGINEER.



ABUTMENT ANCHOR BOLT DETAIL
 (16 REQUIRED)
 SCALE: 3" = 1'-0"



SIDE ELEVATION VIEW - (ABUT-A SHOWN)
 SCALE: 1 1/2" = 1'-0"



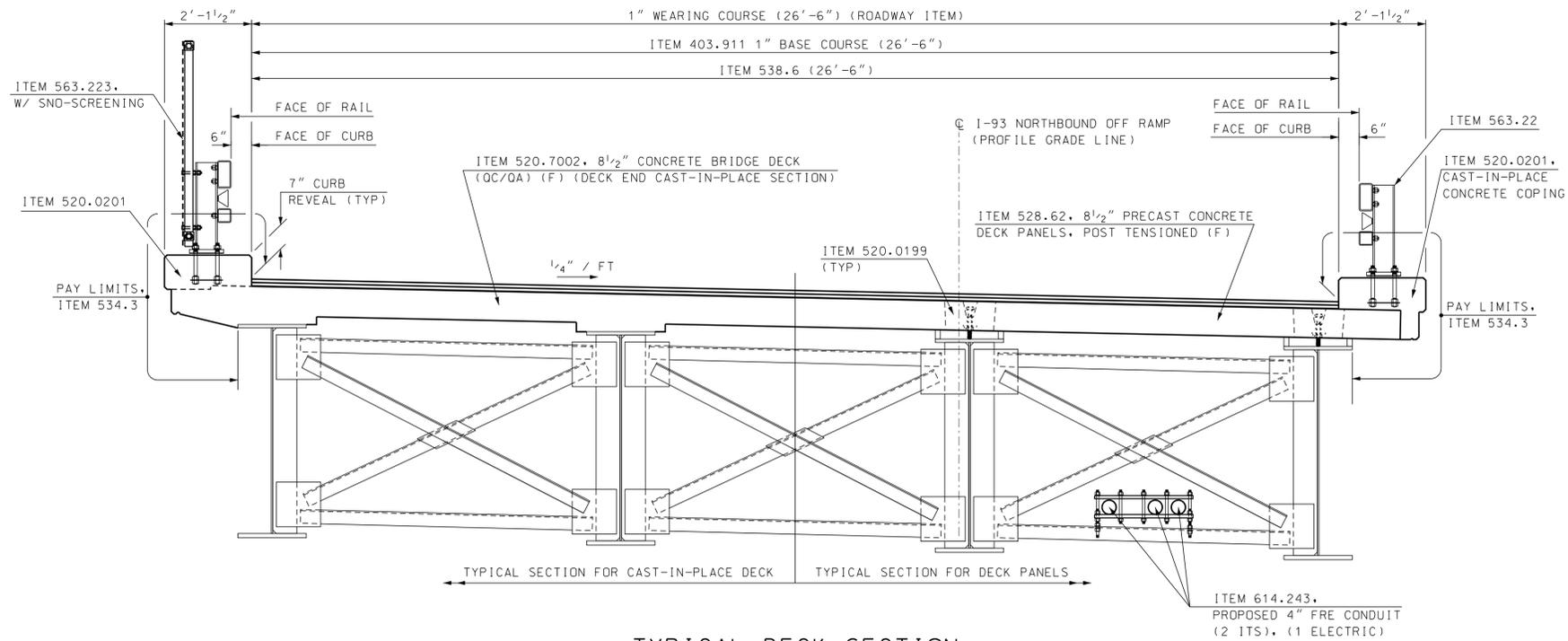
ANCHOR BOLT REPAIR DETAIL AS NEEDED
 NTS

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
 DATE: 9-2013

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\NBRamp202-100	202-100ExpShoes	AS NOTED

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD					
EXPANSION BEARINGS DETAILS AND NOTES					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					18 OF 94
DESIGNED	PAB	7/13	CHECKED	JER	7/13
DRAWN	GMC	7/13	CHECKED	PAB/JER	7/13
QUANTITIES	PAB	7/13	CHECKED	JER	7/13
ISSUE DATE	---	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE	---	-----		55	201

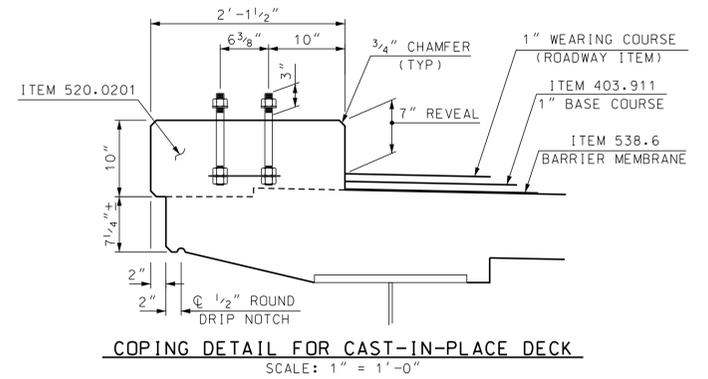


TYPICAL DECK SECTION

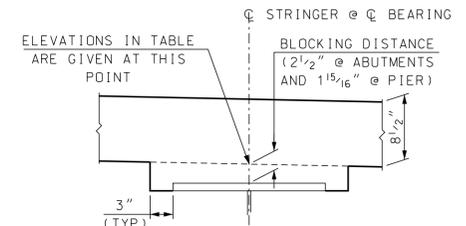
SCALE: 1/2" = 1'-0"

SAMPLE PLAN
DATE: 9-2013

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



COPING DETAIL FOR CAST-IN-PLACE DECK
SCALE: 1" = 1'-0"



HAUNCH DETAIL FOR CAST-IN-PLACE DECK
SCALE: 1" = 1'-0"

THERE IS CURRENTLY AN EXISTING 2" CONDUIT IN THE (UPSTREAM OR NORTH) DECK AND WING COPING WITH A 15kV ELECTRIC POWER (LIVE)

ELEVATIONS AT BOTTOM OF CONCRETE DECK

GIRDER	Abut A	SPAN 1																		Pier	
		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90		1.95
1	898.35	898.24	898.13	898.01	897.90	897.77	897.65	897.52	897.40	897.26	897.13	896.98	896.84	896.69	896.54	896.39	896.24	896.10	895.96	895.81	895.67
2	897.95	897.84	897.73	897.61	897.50	897.37	897.25	897.12	897.00	896.86	896.73	896.58	896.44	896.29	896.14	895.99	895.84	895.70	895.56	895.41	895.27
3	897.56	897.45	897.34	897.22	897.10	896.98	896.86	896.73	896.60	896.47	896.33	896.19	896.05	895.89	895.74	895.59	895.45	895.30	895.16	895.01	894.87
4	897.16	897.05	896.94	896.82	896.71	896.58	896.46	896.33	896.21	896.07	895.94	895.79	895.65	895.50	895.35	895.20	895.05	894.91	894.77	894.62	894.48

SPAN 2

GIRDER	Pier	SPAN 2																		Abut B	
		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90		1.95
1	895.67	895.55	895.42	895.29	895.17	895.05	894.93	894.81	894.69	894.57	894.44	894.31	894.18	894.03	893.89	893.75	893.60	893.45	893.29	893.14	892.98
2	895.27	895.15	895.02	894.90	894.77	894.65	894.53	894.41	894.30	894.17	894.05	893.91	893.78	893.64	893.50	893.35	893.21	893.05	892.90	892.75	892.59
3	894.87	894.75	894.62	894.50	894.37	894.25	894.13	894.01	893.90	893.77	893.65	893.51	893.38	893.24	893.10	892.95	892.81	892.65	892.50	892.35	892.19
4	894.48	894.36	894.23	894.10	893.98	893.86	893.74	893.62	893.50	893.38	893.25	893.12	892.99	892.84	892.70	892.56	892.41	892.26	892.10	891.95	891.79

ELEVATIONS AT TOP OF CONCRETE DECK (AFTER SETTING DECK PANELS)

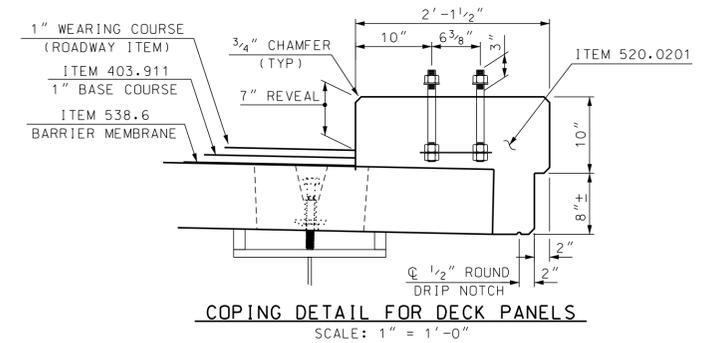
GIRDER	Abut A	SPAN 1																		Pier	
		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90		1.95
1	899.06	898.93	898.80	898.67	898.54	898.41	898.28	898.15	898.02	897.88	897.75	897.61	897.48	897.34	897.20	897.06	896.92	896.79	896.66	896.52	896.38
2	898.66	898.53	898.40	898.27	898.14	898.01	897.88	897.75	897.62	897.48	897.35	897.21	897.08	896.94	896.80	896.66	896.52	896.39	896.26	896.12	895.98
3	898.27	898.14	898.01	897.88	897.75	897.62	897.49	897.35	897.22	897.09	896.95	896.82	896.68	896.54	896.40	896.26	896.13	895.99	895.86	895.72	895.58
4	897.87	897.74	897.61	897.48	897.35	897.22	897.09	896.96	896.83	896.69	896.56	896.42	896.29	896.15	896.01	895.87	895.73	895.60	895.47	895.33	895.19

SPAN 2

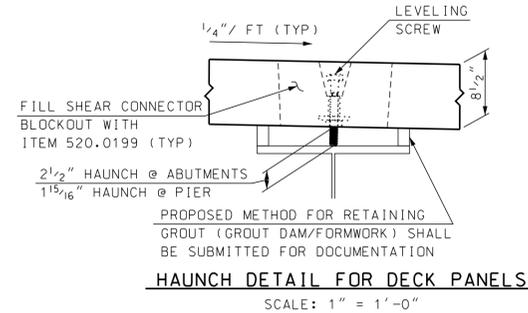
GIRDER	Pier	SPAN 2																		Abut B	
		1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90		1.95
1	896.38	896.25	896.12	895.99	895.85	895.72	895.59	895.46	895.33	895.20	895.06	894.93	894.79	894.65	894.52	894.38	894.24	894.10	893.97	893.83	893.69
2	895.98	895.85	895.72	895.59	895.45	895.32	895.19	895.06	894.94	894.80	894.67	894.53	894.40	894.26	894.13	893.99	893.85	893.71	893.58	893.44	893.30
3	895.58	895.45	895.32	895.19	895.05	894.92	894.79	894.66	894.54	894.40	894.27	894.13	894.00	893.86	893.73	893.59	893.45	893.31	893.18	893.04	892.90
4	895.19	895.06	894.93	894.80	894.66	894.53	894.40	894.27	894.14	894.01	893.87	893.74	893.60	893.46	893.33	893.19	893.05	892.91	892.78	892.64	892.50

DECK ELEVATION NOTES:

- AFTER THE EXISTING BRIDGE DECK IS REMOVED, ELEVATIONS ON THE TOP FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLES. THE DIFFERENCE BETWEEN ELEVATIONS OBTAINED AND THOSE SHOWN IN THE "ELEVATIONS AT BOTTOM OF CONCRETE DECK" TABLE IS THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF THE GIRDER TO THE BOTTOM OF THE CONCRETE DECK (EXPOSED HEIGHT OF LEVELING SCREW BELOW THE CONCRETE PANEL) AT THE CENTERLINE OF THE GIRDER.
- ELEVATIONS SHOWN IN THE TABLE OF "ELEVATIONS AT BOTTOM OF CONCRETE DECK" ARE BOTTOM OF DECK ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION, LESS THE DEFLECTION DUE TO
- ELEVATIONS SHOWN IN THE TABLE OF "ELEVATIONS AT TOP OF CONCRETE DECK" ARE TOP OF DECK ELEVATIONS ADJUSTED FOR TOTAL DEAD LOAD DEFLECTION, LESS THE DEFLECTION DUE TO GIRDER WEIGHT AND CONCRETE DECK WEIGHT. THIS TABLE IS PROVIDED AS A CHECK OF THE PRECAST PANEL ELEVATIONS. THESE ELEVATIONS SHALL BE VERIFIED BEFORE THE DECK IS POST-TENSIONED AND THE BLOCKOUTS ARE GROUTED.
- NOTIFY ENGINEER AND DO NOT PROCEED WITH SETTING OTHER BLOCKING DISTANCES IF BLOCKING DISTANCES AT ABUTMENTS AND PIERS ARE NOT WITHIN 1/4" OF VALUES SHOWN. SEE HAUNCH DETAILS
- FOR ADDITIONAL NOTES, SEE BRIDGE SHEET 2.



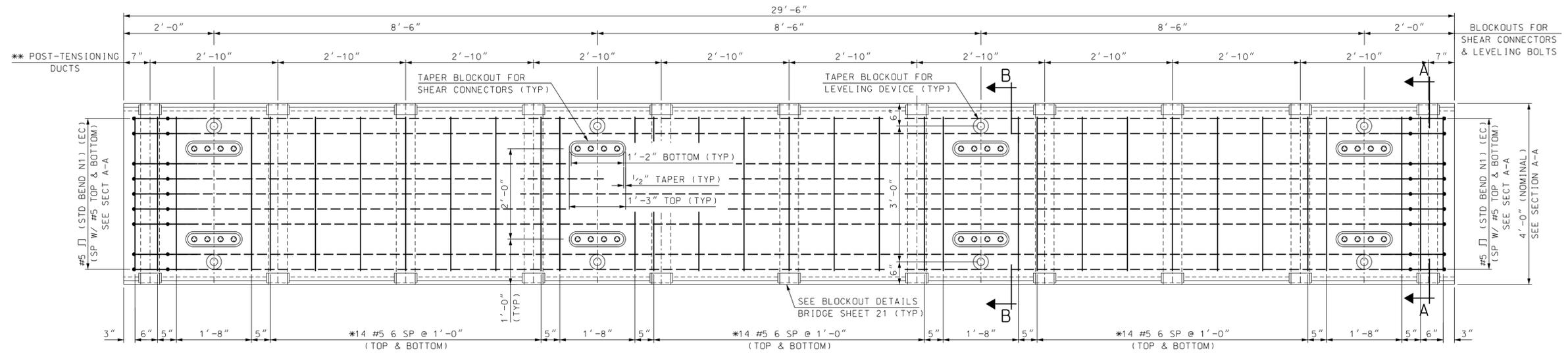
COPING DETAIL FOR DECK PANELS
SCALE: 1" = 1'-0"



HAUNCH DETAIL FOR DECK PANELS
SCALE: 1" = 1'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755				
LOCATION I-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD									
DECK SECTION								BRIDGE SHEET	19 OF 94
SUBDIRECTORY	REVISIONS AFTER PROPOSAL	BY	DATE	CHECKED	DATE	BY	DATE	FILE NUMBER	120-2-2
BRC/NBRamp202-100		PAB	7/13	JER	7/13	PAB/JER	7/13		
.DGN LOCATOR		GAC	7/13	JER	7/13	JER	7/13		
202-100Decksect		PAB	7/13	JER	7/13	JER	7/13		
SHEET SCALE		ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	56	TOTAL SHEETS	201
AS NOTED		REV. DATE							

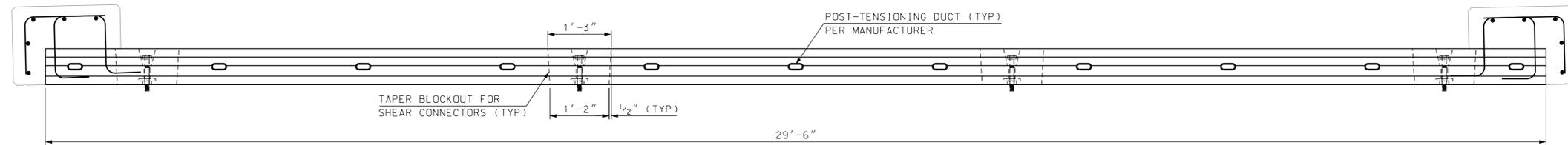
** DIMENSIONS SHOWN ARE CONCEPTUAL ONLY. FABRICATOR SHALL DETERMINE EXACT LOCATION, AND SIZE AND SHAPE OF POST-TENSIONING DUCTS.



* EXTEND REINFORCEMENT 1'-6" BEYOND
END OF PANEL INTO CLOSURE POUR AT ABUTMENTS

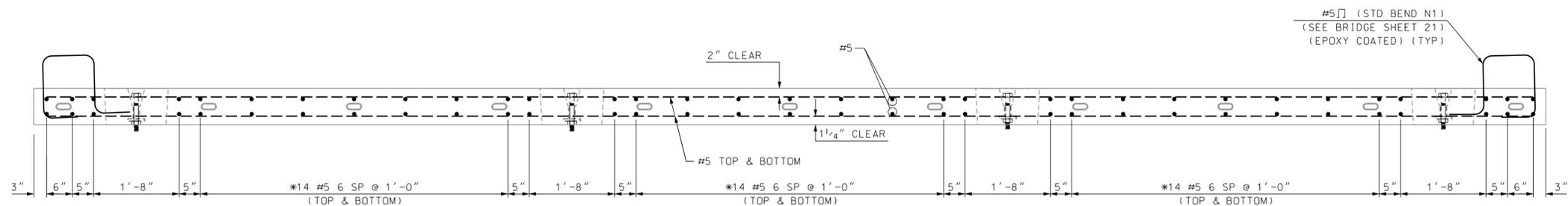
PLAN - FULL DEPTH PANEL MASONRY (52 REQ'D)

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



ELEVATION - FULL DEPTH PANEL MASONRY

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



ELEVATION - FULL DEPTH PANEL REINFORCEMENT

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

FOR SECTIONS A-A, B-B SEE BRIDGE SHEET 21

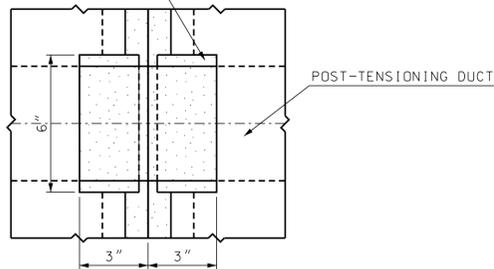
**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD					
(4 FOOT) DECK PANEL MASONRY & REINFORCING (1 OF 2)					BRIDGE SHEET
					20 OF 94
					FILE NUMBER
					120-2-2
					TOTAL SHEETS
					201

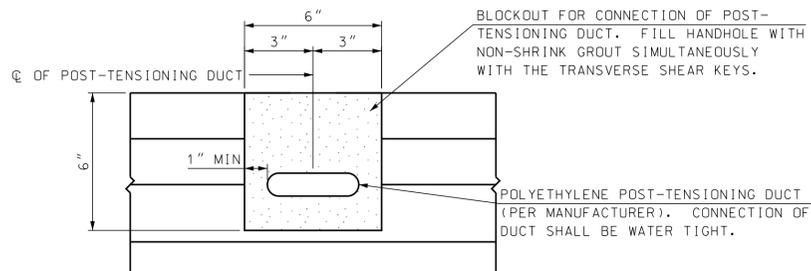
SUBDIRECTORY	.DGN LOCATOR	SHEET SCALE
BrD\NBRamp202-100	48FtPanel	AS NOTED

BLOCKOUT FOR CONNECTION OF POST-TENSIONING DUCT. FILL HANDHOLE WITH NON-SHRINK GROUT SIMULTANEOUSLY WITH THE TRANSVERSE SHEAR KEYS.

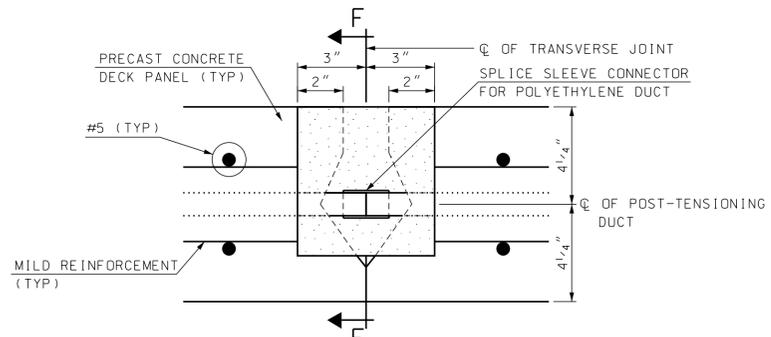


BLOCKOUT FOR POST-TENSIONING DUCT PLAN

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



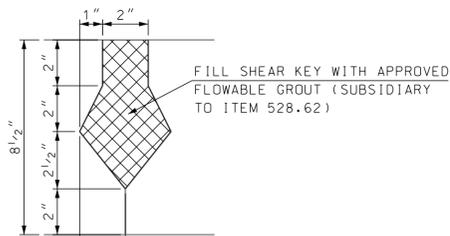
SECTION F-F



TRANSVERSE DECK JOINT AT POST-TENSIONING DUCT

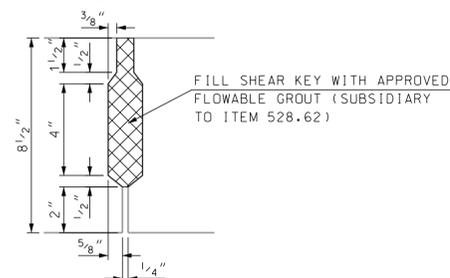
BLOCKOUT DETAILS

SCALE: 3" = 1'-0"



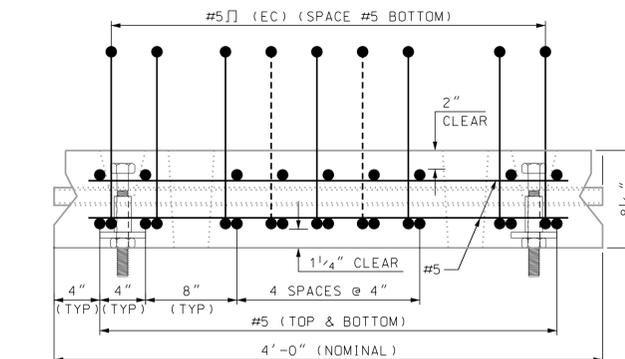
SHEAR KEY DETAIL

SCALE: 3" = 1'-0"



ALTERNATE SHEAR KEY DETAIL

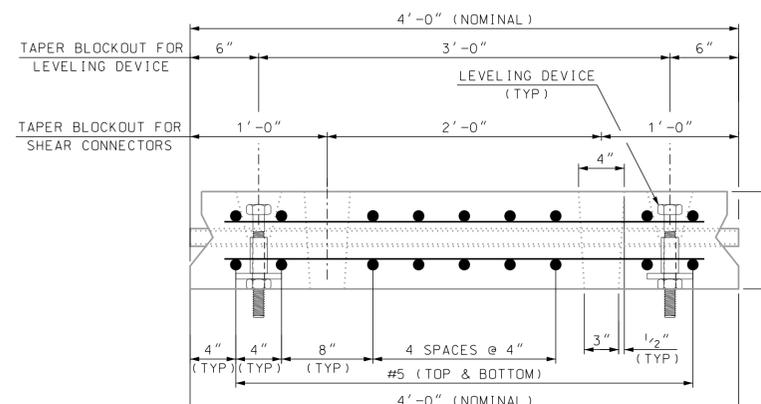
SCALE: 3" = 1'-0"



SECTION A-A MASONRY & REINFORCING

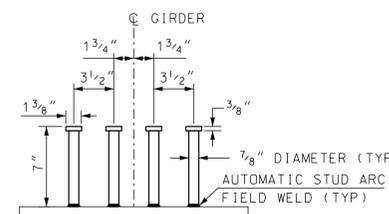
SCALE: 1 1/2" = 1'-0"

NOTE: (EC) = EPOXY COATED



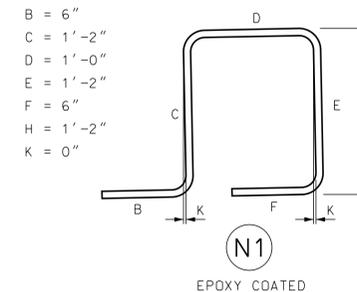
SECTION B-B MASONRY & REINFORCING

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



SHEAR CONNECTOR DETAIL

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



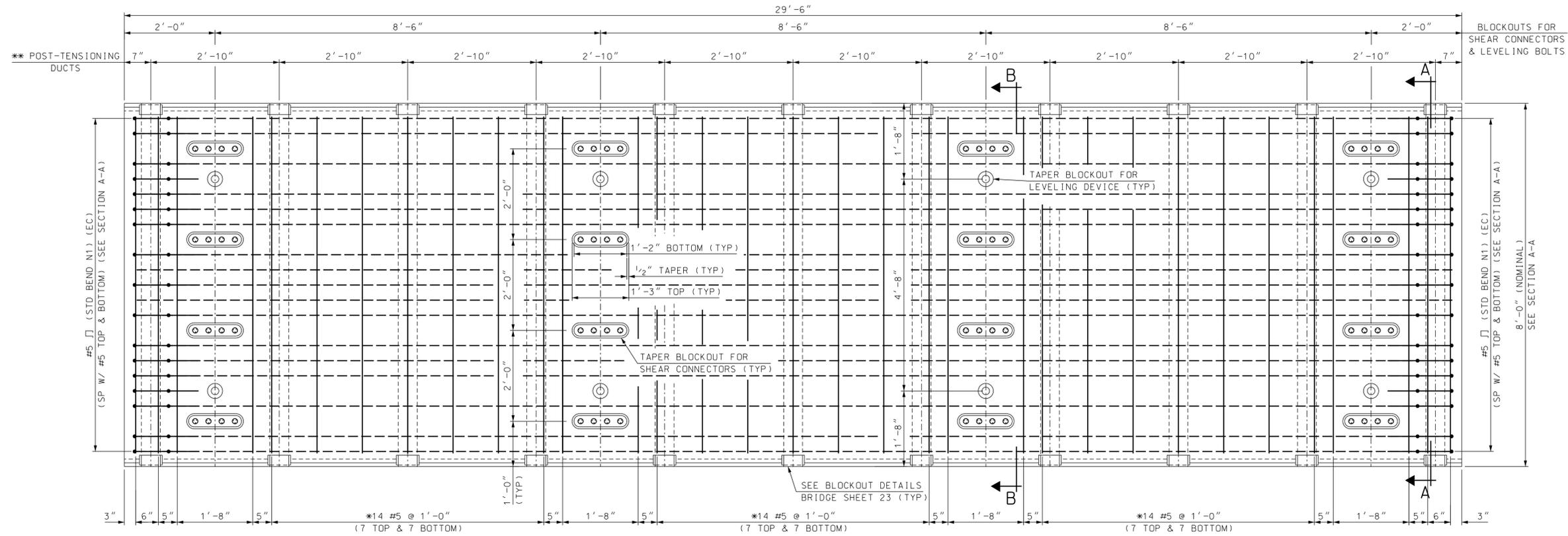
FOR LOCATION OF SECTIONS A-A & B-B, SEE BRIDGE SHEET 20

SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD					
(4 FOOT) DECK PANEL MASONRY & REINFORCING DETAILS (2 OF 2)					BRIDGE SHEET
					21 OF 94
					FILE NUMBER
					120-2-2
					TOTAL SHEETS
					201
DESIGNED	PAB	DATE	4/13	CHECKED	JER
DRAWN	GMC	DATE	4/13	CHECKED	PAB
QUANTITIES	PAB	DATE	4/13	CHECKED	JER
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.	
REV. DATE		-----		58	

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BrD\NBRamp202-100	48FtPanel	AS NOTED

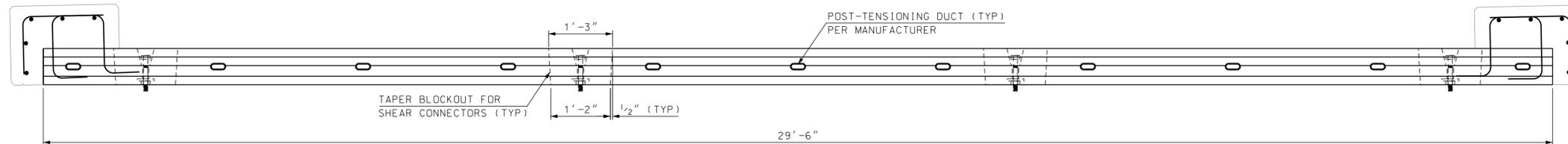
** DIMENSIONS SHOWN ARE CONCEPTUAL ONLY. FABRICATOR SHALL DETERMINE EXACT LOCATION, AND SIZE AND SHAPE OF POST-TENSIONING DUCTS.



* EXTEND REINFORCEMENT 1'-6" BEYOND END OF PANEL INTO CLOSURE POUR AT ABUTMENTS

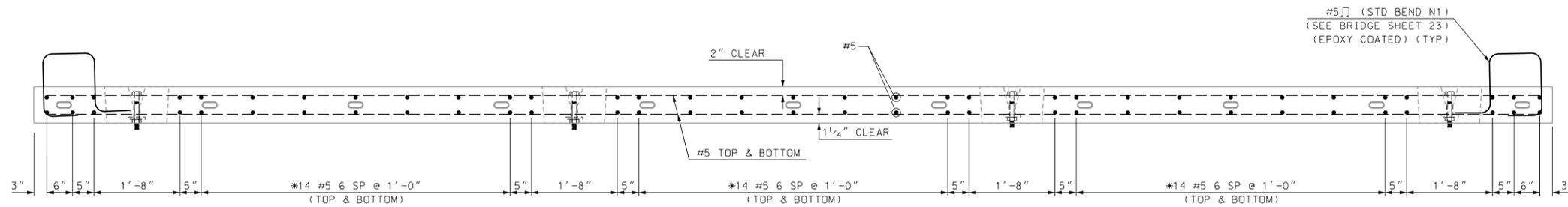
PLAN - FULL DEPTH PANEL MASONRY (26 REQ'D)

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



ELEVATION - FULL DEPTH PANEL MASONRY

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



ELEVATION - FULL DEPTH PANEL REINFORCEMENT

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

FOR SECTIONS A-A & B-B, SEE BRIDGE SHEET 23

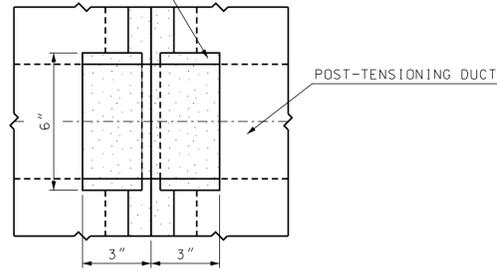
NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 9-2013

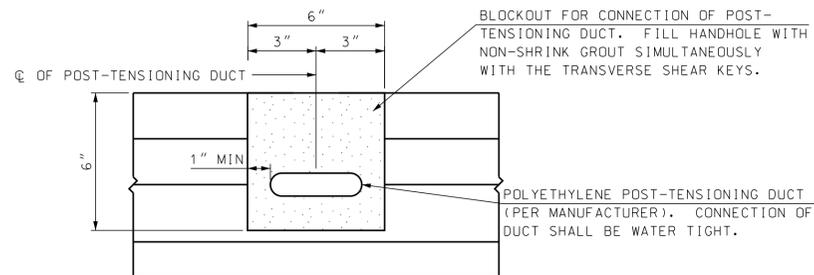
STATE OF NEW HAMPSHIRE					
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD					
(8 FOOT) DECK PANEL MASONRY & REINFORCING (1 OF 2)					BRIDGE SHEET
					22 OF 94
					FILE NUMBER
					120-2-2
					TOTAL SHEETS
					201

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BrD\NBRamp202-100	8FtPanel	AS NOTED

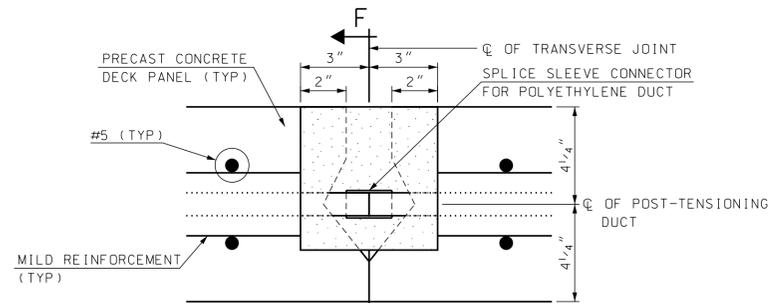
BLOCKOUT FOR CONNECTION OF POST-TENSIONING DUCT. FILL HANDHOLE WITH NON-SHRINK GROUT SIMULTANEOUSLY WITH THE TRANSVERSE SHEAR KEYS.



BLOCKOUT FOR POST-TENSIONING DUCT PLAN



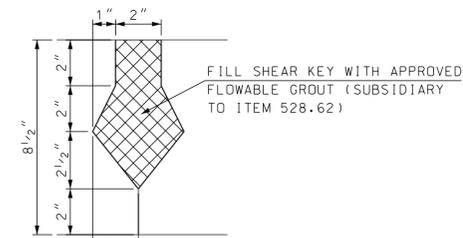
SECTION F-F



TRANSVERSE DECK JOINT AT POST-TENSIONING DUCT

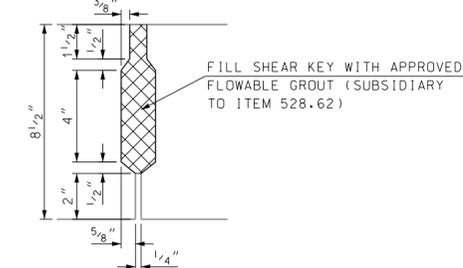
BLOCKOUT DETAILS

SCALE: 3" = 1'-0"



SHEAR KEY DETAIL

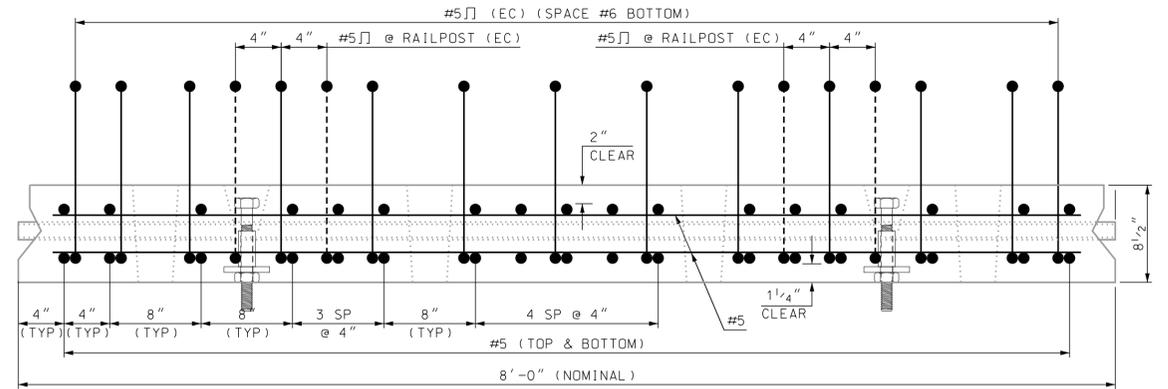
SCALE: 3" = 1'-0"



ALTERNATE SHEAR KEY DETAIL

SCALE: 3" = 1'-0"

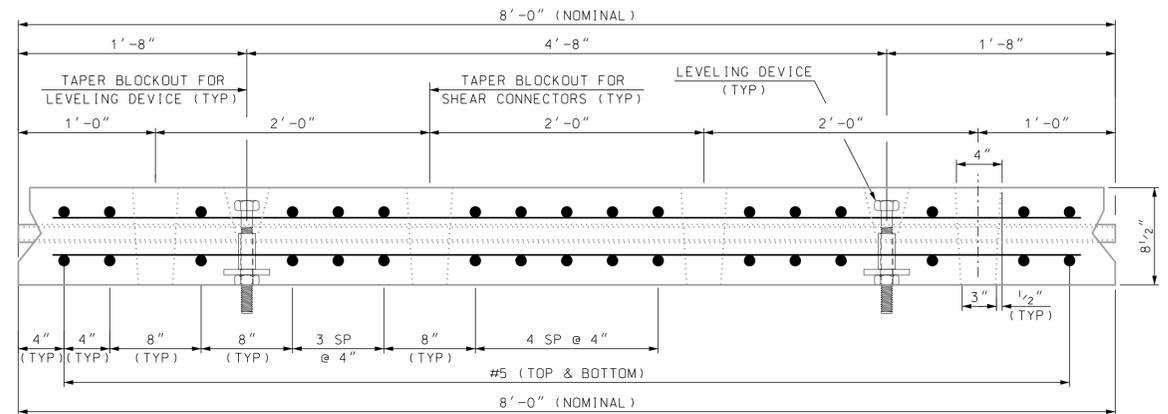
NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.



SECTION A-A MASONRY & REINFORCING

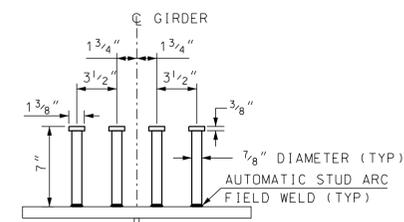
SCALE: 1 1/2" = 1'-0"

NOTE: (EC) = EPOXY COATED



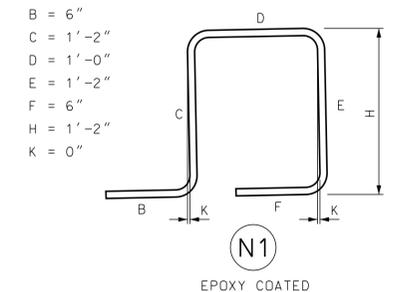
SECTION B-B MASONRY & REINFORCING

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



SHEAR CONNECTOR DETAIL

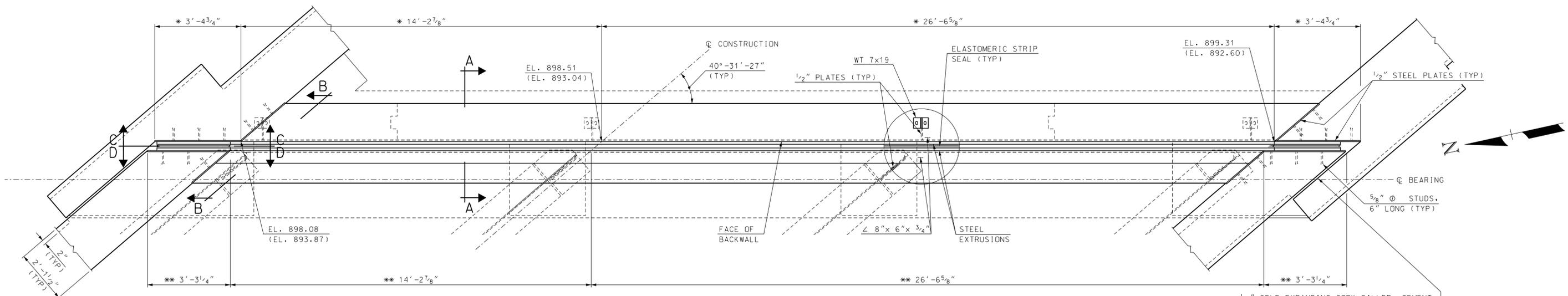
SCALE: 1 1/2" = 1'-0"



FOR LOCATION OF SECTIONS A-A & B-B, SEE BRIDGE SHEET 22

SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755				
LOCATION						1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD			
(8 FOOT) DECK PANEL MASONRY & REINFORCING DETAILS (2 OF 2)						BRIDGE SHEET			
						23 OF 94			
						FILE NUMBER			
						120-2-2			
						TOTAL SHEETS			
						60			
						201			
SUBDIRECTORY		DGN LOCATOR		SHEET SCALE					
BrD\NBRamp202-100		8FtPanel		AS NOTED					
REVISIONS AFTER PROPOSAL		BY		DATE		CHECKED		DATE	
		PAB		4/13		PAB		4/13	
		GMC		08/05		PAB		4/13	
		PAB		4/13		JER		4/13	
ISSUE DATE		FEDERAL PROJECT NO.		SHEET NO.					
REV. DATE		-----		60					

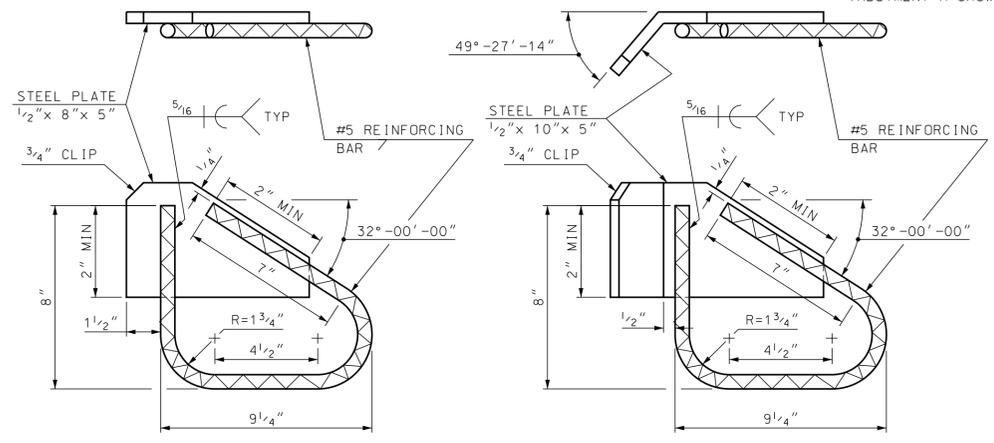


EXPANSION JOINT PLAN

(ABUTMENT A SHOWN, ITEM 561.1001, ABUTMENT B SIMILAR WITH JOINT DRAINS, ITEM 561.1002)
SCALE: 1/2" = 1'-0"

* = DIMENSIONS MEASURED ALONG FACE OF BACKWALL
** = DIMENSIONS MEASURED ALONG END OF DECK
EL. XXX.XX = ELEVATION AT ABUTMENT A AT FACE OF BACKWALL
(EL. XXX.XX) = ELEVATION AT ABUTMENT B AT FACE OF BACKWALL

1/2" SELF-EXPANDING CORK FILLER, CEMENT CORK VERTICALLY AGAINST PILASTER SIDE OF JOINT. (COST INCLUDED IN ITEM 520.0201). SEAL ACROSS TOP OF JOINT WITH ITEM 562.1, SILICONE JOINT SEALANT (TYP)



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

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

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

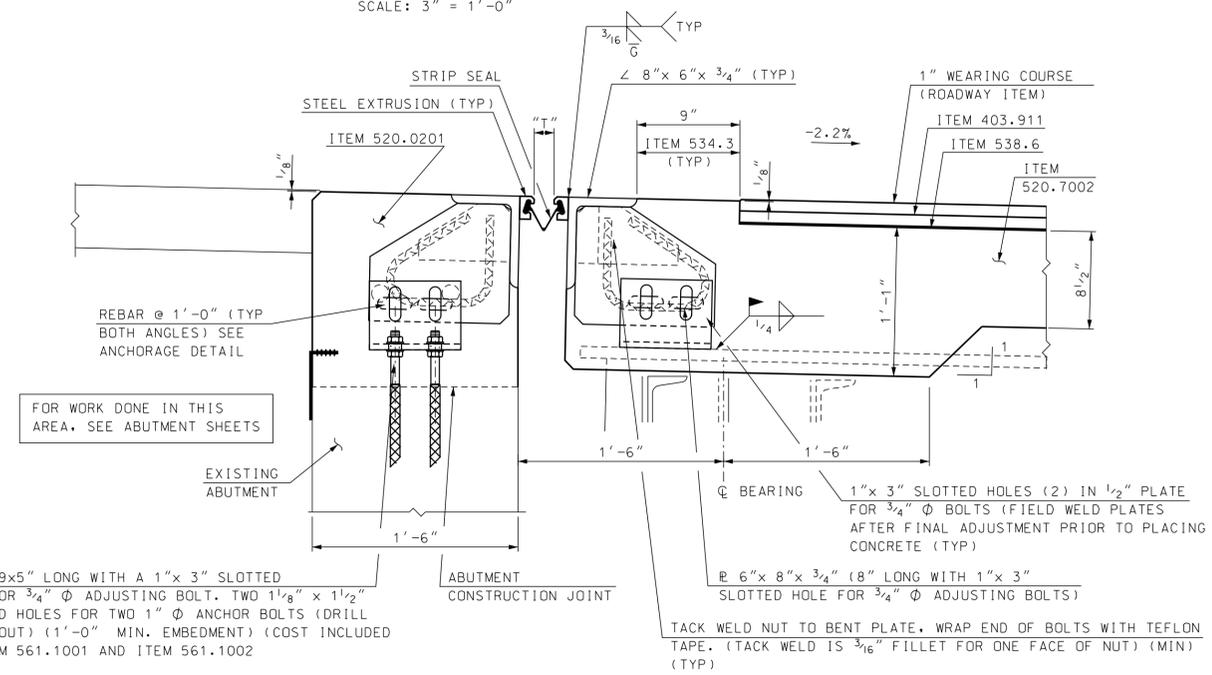
SAMPLE PLAN
DATE: 9-2013

THE CONTRACTOR SHALL TAKE NOTICE THAT THE ELEVATIONS AND DIMENSIONS WERE TAKEN FROM THE ORIGINAL PLANS AND/OR BRIDGE MAINTENANCE RECORDS. DAMAGE AND/OR FIELD MAINTENANCE MAY HAVE OCCURRED THAT MAY NOT BE RECORDED SO FIELD VERIFICATION OF DIMENSIONS AND ELEVATIONS IS REQUIRED TO ENSURE PROPER FITTING OF EXPANSION JOINT. ANY DIFFERENCES BETWEEN FIELD MEASUREMENTS AND DESIGN PLANS SHALL BE NOTED ON THE SHOP DRAWINGS.

EXPANSION JOINT NOTES

- ALL EXPANSION JOINT STEEL 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 STRIP SEAL, SHALL BE PAID FOR AS (ABUTMENT A) ITEM 561.1001, PREFABRICATED STRIP SEAL EXPANSION JOINT (F) AND (ABUTMENT B) ITEM 561.1002, PREFABRICATED STRIP SEAL EXPANSION JOINT (F).
- SPLICES FOR STEEL ANGLES SHALL DEVELOP FULL STRENGTH.
- EXPANSION JOINT SHALL BE PRESET TO THE TEMPERATURE ANTICIPATED AT THE TIME OF INSTALLATION. FINAL SETTING IN THE FIELD SHALL BE DETERMINED BY THE CONTRACT ADMINISTRATOR (SEE TEMPERATURE ADJUSTMENT TABLE & NOTES).
- THE STRIP SEAL SHALL BE FURNISHED IN ONE CONTINUOUS LENGTH. NO SPLICES WILL BE ALLOWED.
- JOINT SUPPORT PLATES AND CURB PLATES SHALL BE SHOP WELDED TO EXPANSION JOINT STEEL AND SHALL BE VERTICAL AFTER THE JOINT ASSEMBLY HAS BEEN ADJUSTED FOR ROADWAY CROSS-SLOPE AND GRADE.
- THE EXPANSION JOINT ASSEMBLY SHALL BE INSTALLED ONLY AFTER BOTH ABUTMENTS HAVE BEEN BACKFILLED TO WITHIN 3'-0" OF FINISHED GRADE.
- 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.
- PROTECT TOP OF EXPANSION JOINT DURING PLACEMENT OF CONCRETE AND BITUMINOUS PAVEMENT.
- THE STRIP SEAL HAS BEEN DESIGNED FOR A TOTAL FACTORED MOVEMENT OF 1 3/8" INCHES ALONG THE CENTERLINE OF THE BRIDGE. DESIGN INCLUDES MOVEMENT DUE TO TEMPERATURE, SKEW, SHRINKAGE AND MINIMUM INSTALLATION WIDTH. THE CONTRACTOR SHALL USE AN SE-400 SEAL BY WATSON BOWMAN OR A2R-400 BY D.S. BROWN.
- ELEVATIONS SHOWN AT TOP OF ANGLES ARE 1/8" LOWER THAN PROPOSED FINISHED ROADWAY GRADE.
- NO "LOW PROFILE" STEEL EXTRUSIONS SHALL BE ALLOWED.

NOTE:
FOR SECTIONS B-B, C-C, D-D SEE BRIDGE SHEET 27.



SECTION A-A
(ABUT. A SHOWN, ABUT. B SIMILAR)
SCALE: 1 1/2" = 1'-0"

WT 7x19x5" LONG WITH A 1"x 3" SLOTTED HOLE FOR 3/4" Ø ADJUSTING BOLT. TWO 1 1/8" x 1 1/2" SLOTTED HOLES FOR TWO 1" Ø ANCHOR BOLTS (DRILL AND GROUT) (1'-0" MIN. EMBEDMENT) (COST INCLUDED IN ITEM 561.1001 AND ITEM 561.1002)

1"x 3" SLOTTED HOLES (2) IN 1/2" PLATE FOR 3/4" Ø BOLTS (FIELD WELD PLATES AFTER FINAL ADJUSTMENT PRIOR TO PLACING CONCRETE (TYP))
6" x 8" x 3/4" (8" LONG WITH 1"x 3" SLOTTED HOLE FOR 3/4" Ø ADJUSTING BOLTS)
TACK WELD NUT TO BENT PLATE, WRAP END OF BOLTS WITH TEFLON TAPE. (TACK WELD IS 3/16" FILLET FOR ONE FACE OF NUT) (MIN) (TYP)

TEMPERATURE SETTING TABLE		
TEMPERATURE	"T"	"T"
	ABUT. A	ABUT. B
20°F	2"	2"
35°F	1 15/16"	1 15/16"
50°F	1 13/16"	1 13/16"
65°F	1 3/4"	1 3/4"
80°F	1 11/16"	1 11/16"
95°F	1 9/16"	1 9/16"

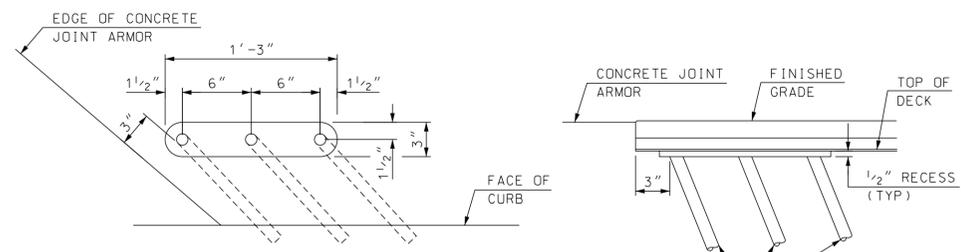
"T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL

TEMPERATURE ADJUSTMENT NOTES

- "T" DIMENSIONS ARE PERPENDICULAR TO FACE OF BACKWALL.
- MINIMUM "T" WIDTH FOR SEAL INSTALLATION = 1 3/4" (APPROXIMATELY 65°F OR LESS).
- VALUES IN THE TEMPERATURE ADJUSTMENT TABLE ARE FOR SETTING THE EXPANSION JOINT ASSEMBLY IMMEDIATELY PRIOR TO POURING CONCRETE BLOCKOUTS.

SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\NB\Bridg202-100	202-100StripJt	AS NOTED

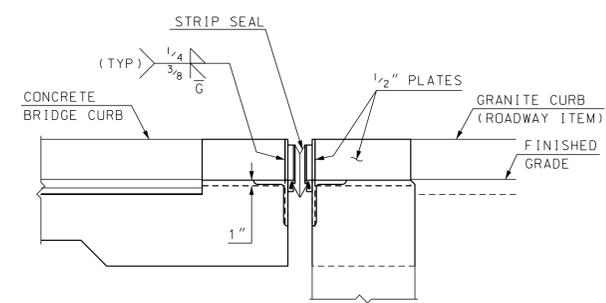
STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN						
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755	BRIDGE SHEET
LOCATION						26 OF 94
1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD						FILE NUMBER
PREFABRICATED STRIP SEAL EXPANSION JOINT (1 OF 2)						120-2-2
REVISIONS AFTER PROPOSAL		BY	DATE	BY	DATE	TOTAL SHEETS
		DESIGNED	GMC 7/13	CHECKED	JER 7/13	201
		DRAWN	GMC 7/13	CHECKED	JER 7/13	
		QUANTITIES	PAB 7/13	CHECKED	JER 7/13	
		ISSUE DATE	---	FEDERAL PROJECT NO.		
		REV. DATE	---			
				SHEET NO.	63	



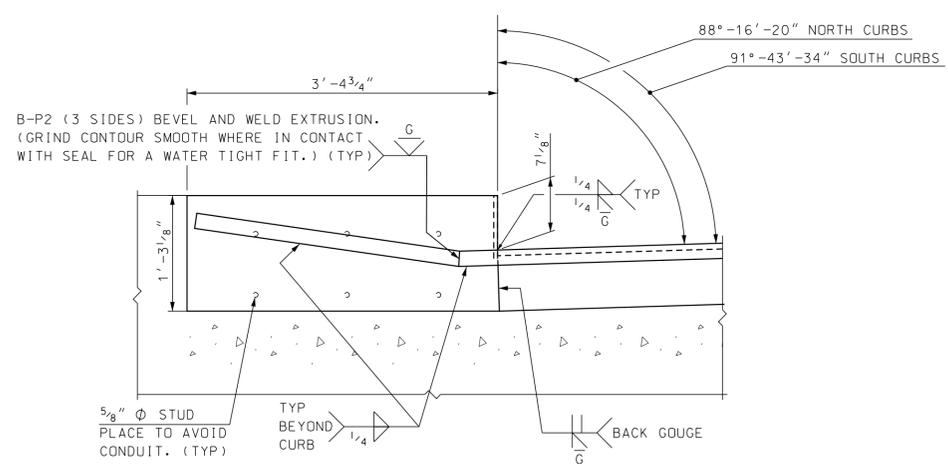
3 - 1" Φ PVC DRAINS EACH SIDE. SET PIPES TO DISCHARGE AWAY FROM GIRDERS AND ABUTMENT SEAT. PROVIDE BREAKS THROUGH MEMBRANE AND SEAL AROUND WITH ASPHALT. ALL COSTS TO BE INCLUDED IN ITEM 561.311XX. ATTACH DRAIN PIPES TO BOTTOM FLANGE WITH CLIP & EXTEND DRAINS 1" MINIMUM BELOW BOTTOM OF STRUCTURAL STEEL.

ABUTMENT B EXPANSION JOINT DRAIN DETAIL

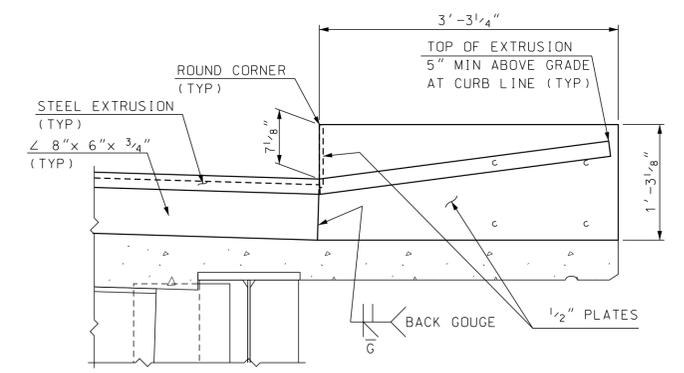
(PROVIDE BOTH SIDES OF JOINT)
SCALE: 1 1/2" = 1'-0"



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



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



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

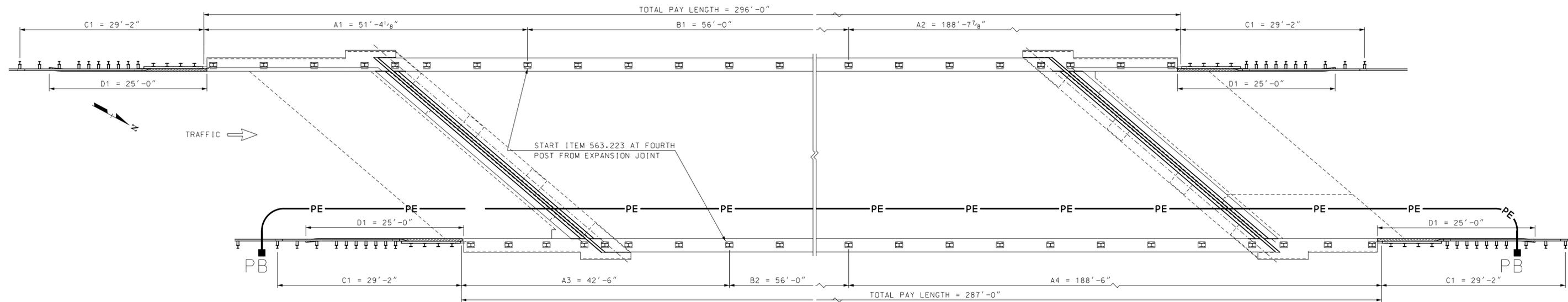
NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 9-2013

NOTE:
FOR LOCATION OF SECTIONS B-B, C-C, D-D SEE BRIDGE SHEET 26.

STATE OF NEW HAMPSHIRE										
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN										
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755					
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD										
PREFABRICATED STRIP SEAL EXPANSION JOINT (2 OF 2)										
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	JER	DATE	BRIDGE SHEET			
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	27 OF 94		
		DRAWN	GMC	7/13	CHECKED	JER	7/13	FILE NUMBER		
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	120-2-2		
		ISSUE DATE	---	FEDERAL PROJECT NO.			SHEET NO.	TOTAL SHEETS		
		REV. DATE	---	-----			64	201		

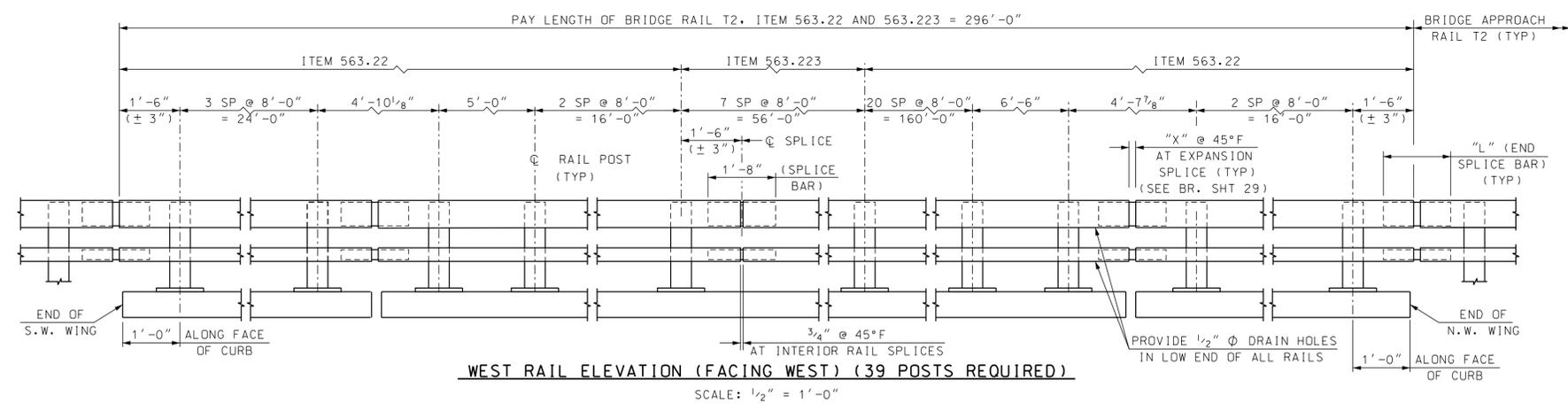
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
BRC\NBRamp202-100	202-100StripJt	AS NOTED



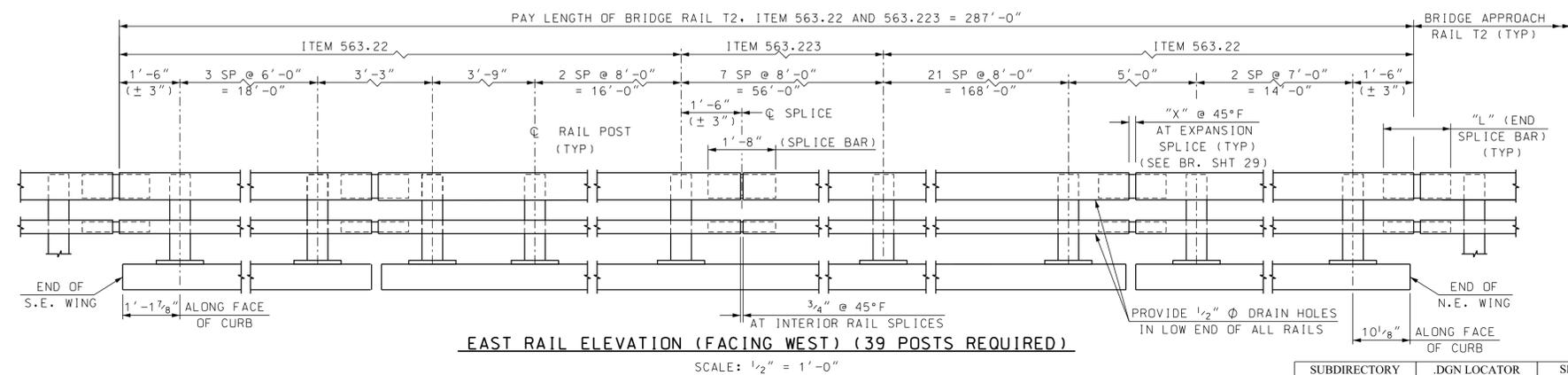
RAIL LAYOUT
SCALE: 1/8" = 1'-0"

**NOTE: DETAILS AND NOTES
MAY NOT BE CURRENT.
CLOSELY REVIEW BEFORE
USING DETAILS.**

SAMPLE PLAN
DATE: 9-2013



WEST RAIL ELEVATION (FACING WEST) (39 POSTS REQUIRED)
SCALE: 1/2" = 1'-0"

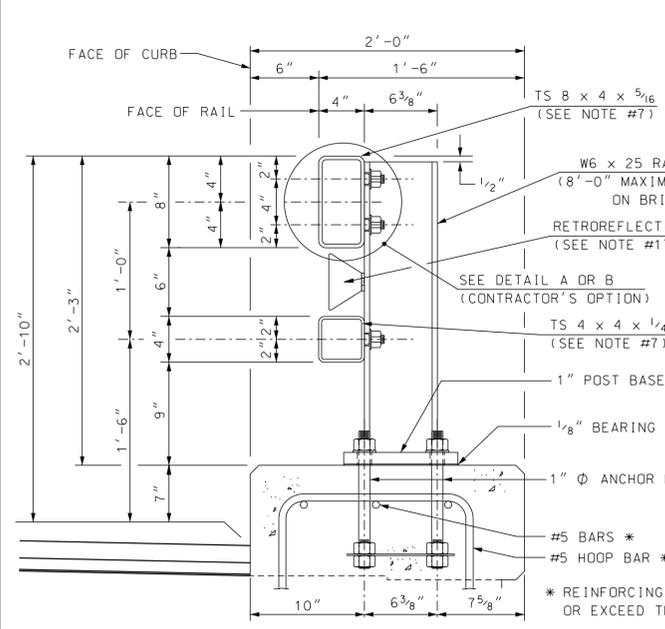


EAST RAIL ELEVATION (FACING WEST) (39 POSTS REQUIRED)
SCALE: 1/2" = 1'-0"

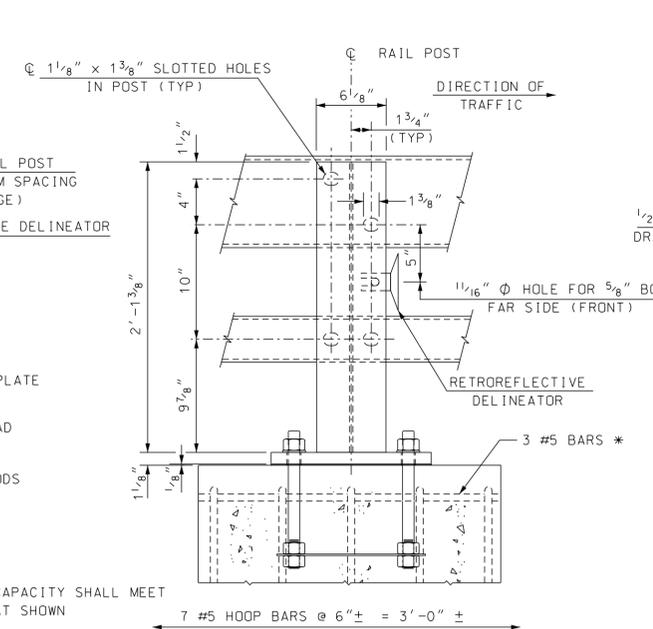
RAIL AND CURB NOTES

- A. ITEM 563.22, SEE THIS SHEET & BRIDGE SHEET 29
A1 = 51'-4 1/8"
A2 = 188'-7 7/8"
A3 = 42'-6"
A4 = 188'-6"
TOTAL ITEM PAY LENGTH = 471'-0"
- B. ITEM 563.223, SEE BRIDGE SHEET 30
B1 = 56'-0"
B2 = 56'-0"
TOTAL ITEM PAY LENGTH = 112'-0"
- C. ITEM 565.222, SEE BRIDGE SHEETS 31
C1 = 4 SECTIONS @ 29'-2" = 116'-8"
TOTAL ITEM PAY LENGTH = 116'-8"
- D. ITEM 609.5, RESET GRANITE CURB (ROADWAY ITEM)
D1 = 4 SECTIONS @ 25'-0" = 100'-0"
TOTAL ITEM PAY LENGTH = 100'-0"

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755				
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND CLARK'S RAILROAD									
BRIDGE RAIL LAYOUT AND DETAILS								BRIDGE SHEET	28 OF 94
REVISIONS AFTER PROPOSAL		BY	DATE	CHECKED	JER	DATE	7/13	FILE NUMBER	120-2-2
		DESIGNED	GMC	7/13	CHECKED	JER	7/13	QUANTITIES	120-2-2
		DRAWN	GMC	7/13	CHECKED	JER	7/13	ISSUE DATE	
		QUANTITIES	PAB	7/13	CHECKED	JER	7/13	REV. DATE	
		ISSUE DATE	FEDERAL PROJECT NO.			SHEET NO.		TOTAL SHEETS	
		REV. DATE	-----			65		201	
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE							
BRC/NBRamp202-100	202100Railayo	AS NOTED							

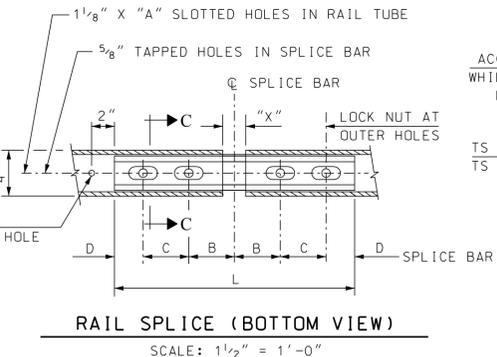


SECTION VIEW

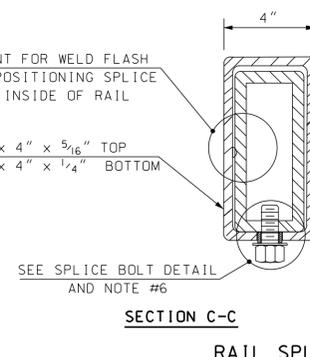


BACK ELEVATION VIEW

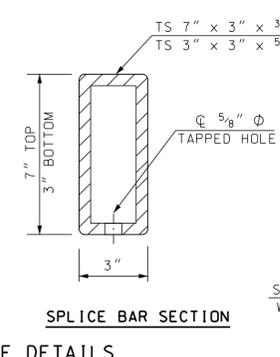
POST ASSEMBLY
SCALE: 1 1/2" = 1'-0"



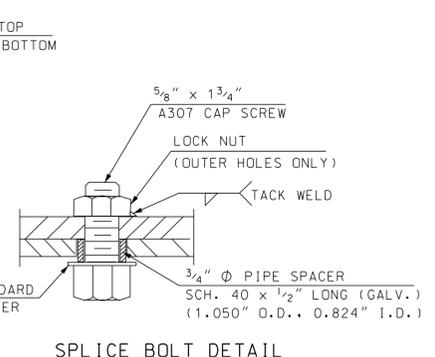
RAIL SPLICE (BOTTOM VIEW)
SCALE: 1 1/2" = 1'-0"



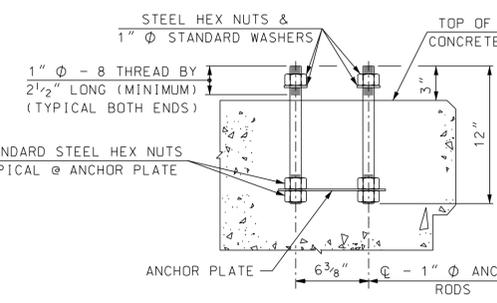
SECTION C-C
RAIL SPLICE DETAILS
SCALE: 3" = 1'-0"



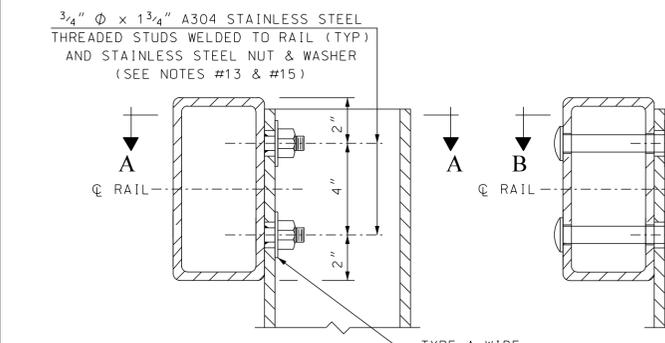
SPLICE BAR SECTION
SCALE: 3" = 1'-0"



SPLICE BOLT DETAIL
SCALE: 6" = 1'-0"

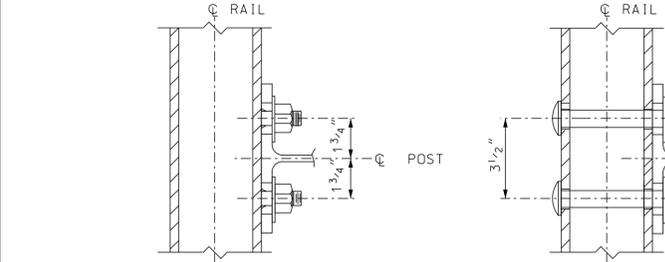


POST ANCHOR ASSEMBLY
SCALE: 1 1/2" = 1'-0"



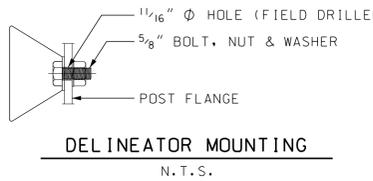
DETAIL A
SCALE: 3" = 1'-0"

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

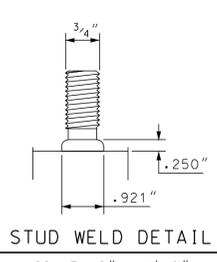


SECTION A-A
SCALE: 3" = 1'-0"

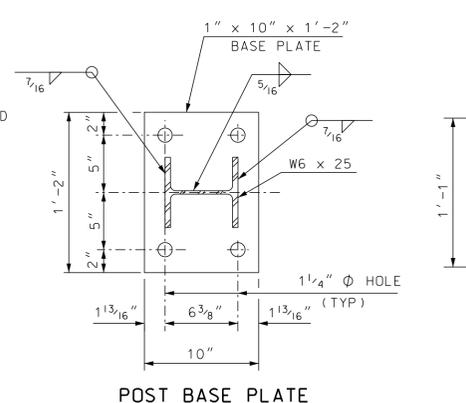
SECTION B-B
SCALE: 3" = 1'-0"



DELINEATOR MOUNTING
N.T.S.

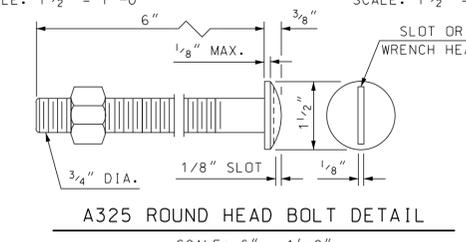


STUD WELD DETAIL
SCALE: 6" = 1'-0"



POST BASE PLATE
SCALE: 1 1/2" = 1'-0"

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



A325 ROUND HEAD BOLT DETAIL
SCALE: 6" = 1'-0"

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.
- 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 94% ZINC BY WEIGHT, TO A THICKNESS EQUAL TO THE ORIGINAL COATING ACCORDING TO THE STANDARD SPECIFICATIONS AND ASTM A780.
- NUTS FOR 1" 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.
- STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B, STRUCTURAL STEEL TUBING. RAIL TUBING SHALL MEET THE LONGITUDINAL CHАРRY 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. CHАРRY 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 CONFORMANCE TO 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.
- THIS BRIDGE RAIL SYSTEM WAS SUCCESSFULLY CRASH TESTED FOR AASHTO PL2 IN 1994 BY THE NEW ENGLAND TRANSPORTATION CONSORTIUM.

MATERIAL NOTES

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"

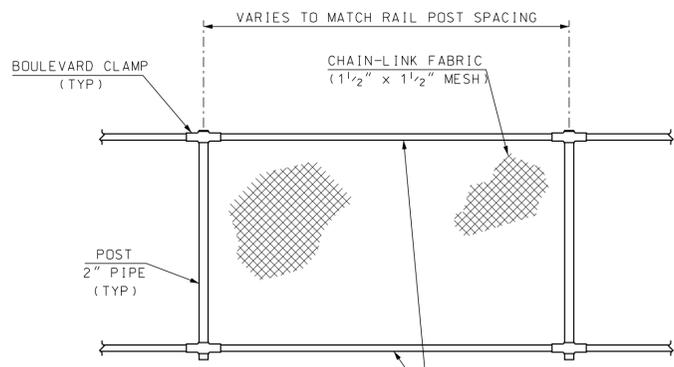
T = TOTAL MOVEMENT OF BRIDGE
** = END SPLICE BAR

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

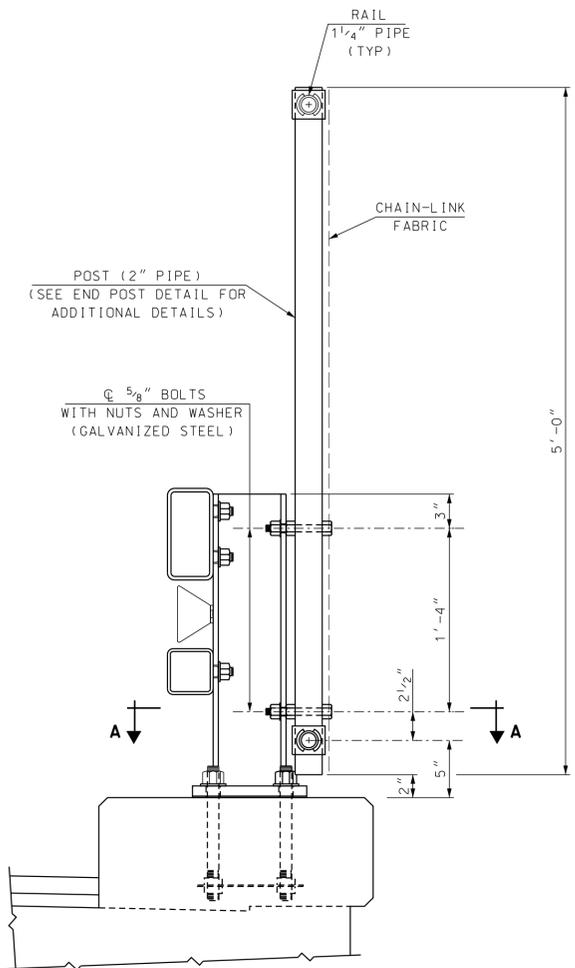
SAMPLE PLAN
DATE: 9-2013

STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN					
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755
LOCATION 1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND RAILROAD					
T2 STEEL BRIDGE RAIL (PL2)					BRIDGE SHEET
REVISIONS AFTER PROPOSAL					29 OF 94
DESIGNED	NETCJSZ	3/02	CHECKED	NHDTJ	FILE NUMBER
DRAWN	PJP	10/05	CHECKED	JSZ	120-2-2
QUANTITIES					CHECKED
ISSUE DATE	11/15/05	FEDERAL PROJECT NO.		SHEET NO.	TOTAL SHEETS
REV. DATE	8/30/06			66	201

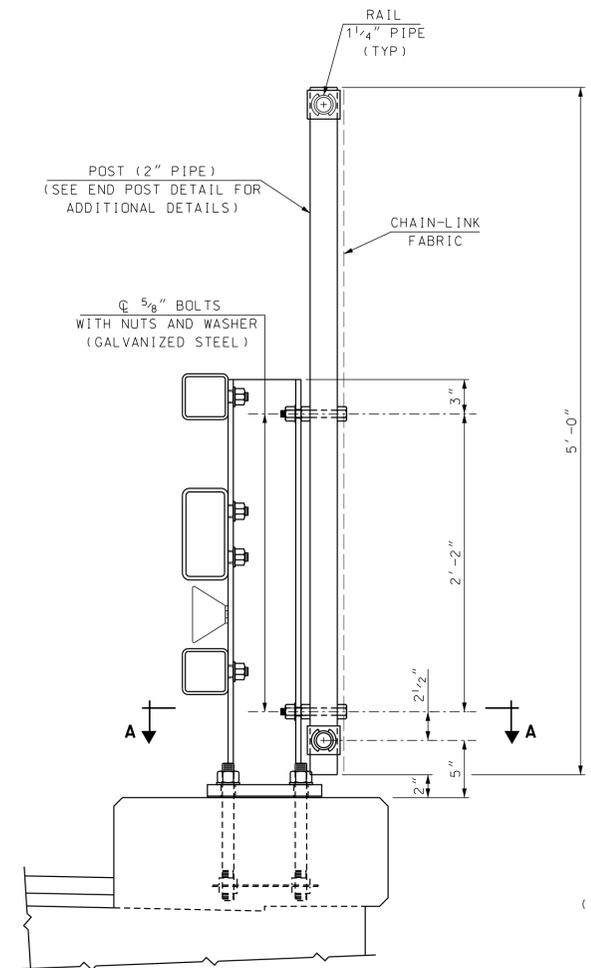
SUBDIRECTORY	DGN LOCATOR	SHEET SCALE
English/BR-RAIL	T2_BR-RAIL	AS NOTED



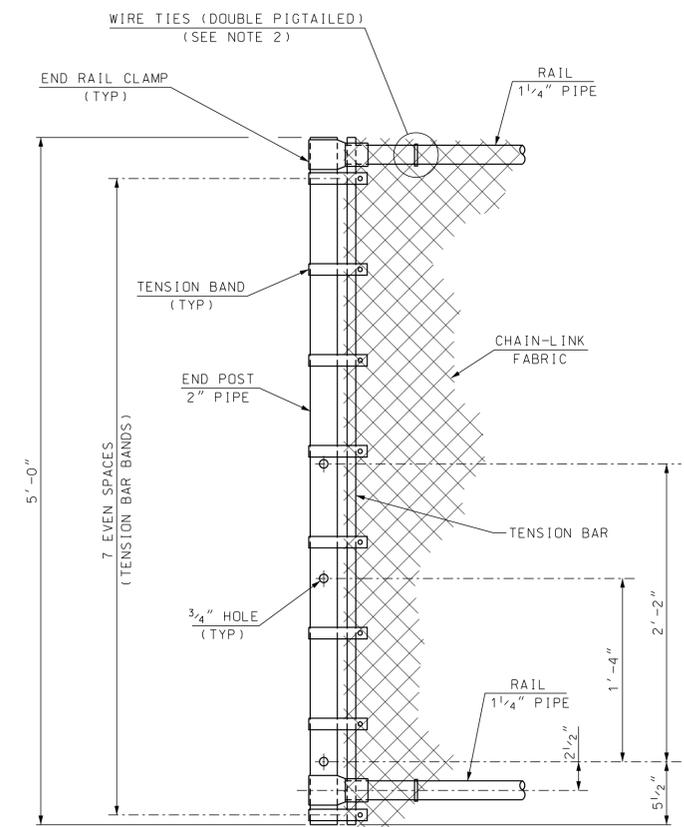
ELEVATION - SNOW SCREENING
SCALE: 1/2" = 1'-0"



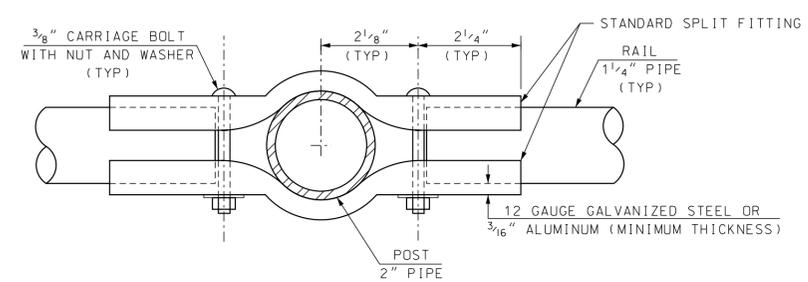
TYPICAL SECTION (T2 BRIDGE RAIL)
SCALE: 1/2" = 1'-0"



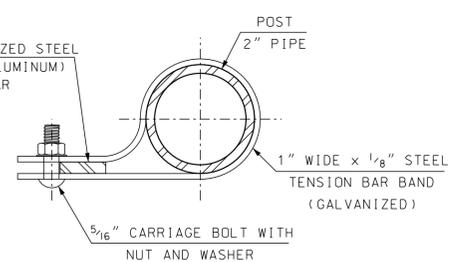
TYPICAL SECTION (T3 BRIDGE RAIL)
SCALE: 1/2" = 1'-0"



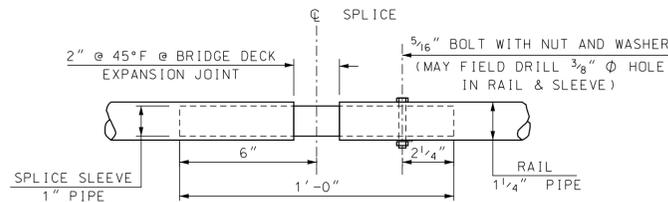
END POST DETAIL
SCALE: 1/2" = 1'-0"



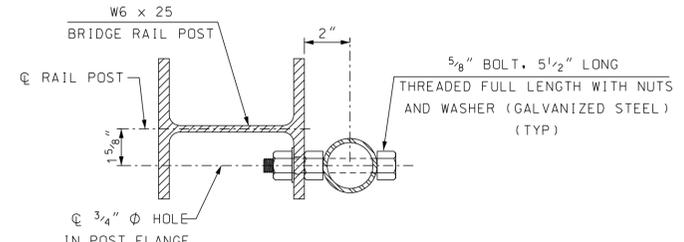
BOULEVARD CLAMP DETAIL
SCALE: 6" = 1'-0"



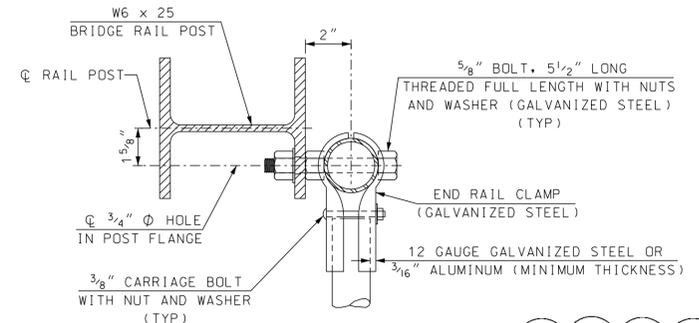
TENSION BAND DETAIL
SCALE: 6" = 1'-0"



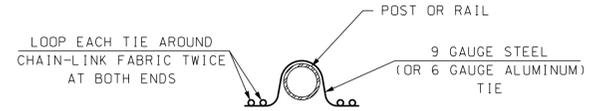
RAIL SPLICE DETAIL
SCALE: 3" = 1'-0"



SECTION A-A (AT INTERIOR POST)
SCALE: 3" = 1'-0"



SECTION A-A (AT END POST)
SCALE: 3" = 1'-0"



DOUBLE PIGTAILED TIE
NOT TO SCALE

NOTE: DETAILS AND NOTES MAY NOT BE CURRENT. CLOSELY REVIEW BEFORE USING DETAILS.

SAMPLE PLAN
DATE: 9-2013

- CHAIN-LINK FABRIC SHALL BE 9 GAUGE STEEL, ZINC-COATED CONFORMING TO AASHTO M 181, TYPE I, CLASS D (ASTM A 392), ALUMINUM-COATED CONFORMING TO AASHTO M 181, TYPE II (ASTM A 491) OR 6 GAUGE ALUMINUM ALLOY CONFORMING TO AASHTO M 181, TYPE III (ASTM F 1183). CHAIN-LINK FABRIC SHALL BE KNUCKLED ON TOP AND BOTTOM. THE SIZE OF WIRE MESH (FABRIC) SHALL BE 1 1/2".
- WIRE TIES SHALL BE STANDARD ROUND 9 GAUGE ZINC- OR ALUMINUM-COATED STEEL OR 6 GAUGE ALUMINUM ALLOY CONFORMING TO ASTM F 626. ALL TIES SHALL BE WRAPPED AROUND CHAIN-LINK FABRIC TWICE (DOUBLE PIGTAILED) AT BOTH ENDS. SPACE TIES @ 6" O.C. TO BOTTOM RAIL AND @ 12" O.C. TO ALL POSTS AND OTHER RAILS.
- POST AND RAIL PIPE SHALL BE HOT-DIP GALVANIZED STEEL CONFORMING TO AASHTO M 181, GRADE 1 (ASTM F 1083) OR ALUMINUM ALLOY CONFORMING TO AASHTO M 181 (ASTM B 429, ALLOY 6063-T6). ALL PIPE SHALL BE SCHEDULE 40, STANDARD WEIGHT. NOMINAL PIPE SIZES ARE SHOWN IN THE DRAWINGS.
- TENSION BARS, BAR BANDS, BOULEVARD AND END RAIL CLAMPS SHALL BE STEEL OR ALUMINUM ALLOY CONFORMING TO AASHTO M 181 (ASTM F 626). STEEL COMPONENTS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) OR AASHTO M 232 (ASTM A 153) AS APPLICABLE.
- ALL BOLTS AND NUTS SHALL BE STEEL CONFORMING TO ASTM A 307 AND ASTM A 563 GRADE A RESPECTIVELY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF ANSI B18.22. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 (ASTM A 123) OR AASHTO M 232 (ASTM A 153) AS APPLICABLE.
- RAIL SPLICES SHALL BE PROVIDED AT BRIDGE DECK EXPANSION JOINT(S) AND BRIDGE RAIL SPLICES AS DIRECTED BY THE CONTRACT ADMINISTRATOR.
- RAIL MAY BE FIELD CUT (SAWN) TO FIT POST SPACING. GALVANIZED RAIL, CUT OR DRILLED AS ALLOWED, SHALL BE TOUCHED-UP IN ACCORDANCE WITH 563.3.2.2.3.
- ALL COSTS FOR CHAIN-LINK FABRIC, POSTS, RAILS AND APPURTENANCES SHALL BE INCLUDED IN ITEM 563.223, BRIDGE RAIL T2 WITH SNOW SCREENING, OR ITEM 563.233, BRIDGE RAIL T3 WITH SNOW SCREENING, AS APPLICABLE.
- SEE BRIDGE RAIL SHEET FOR ADDITIONAL DETAILS.

STATE OF NEW HAMPSHIRE									
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE DESIGN									
TOWN	LINCOLN	BRIDGE NO.	202/100	STATE PROJECT	15755				
LOCATION						1-93 NORTHBOUND RAMP OVER PEMIGEWASSET RIVER AND RAILROAD			
SNOW SCREEN WITH STEEL BRIDGE RAIL						BRIDGE SHEET			
						30 OF 94			
REVISONS		BY		DATE		BY		DATE	
1	ADDED T3 RAIL DETAILS	1/30/13	DESIGNED	NHDOT	8/10	CHECKED	NHDOT	8/10	FILE NUMBER
			DRAWN	PJP	8/10	CHECKED	MGL	8/10	120-2-2
QUANTITIES						CHECKED			
ISSUE DATE				2/98		FEDERAL PROJECT NO.		SHEET NO.	
REV. DATE				1/30/13				67	
SUBDIRECTORY		DGN LOCATOR		SHEET SCALE		TOTAL SHEETS			
English/BR-RAIL		BR-SNOWSCREEN		AS NOTED		201			

