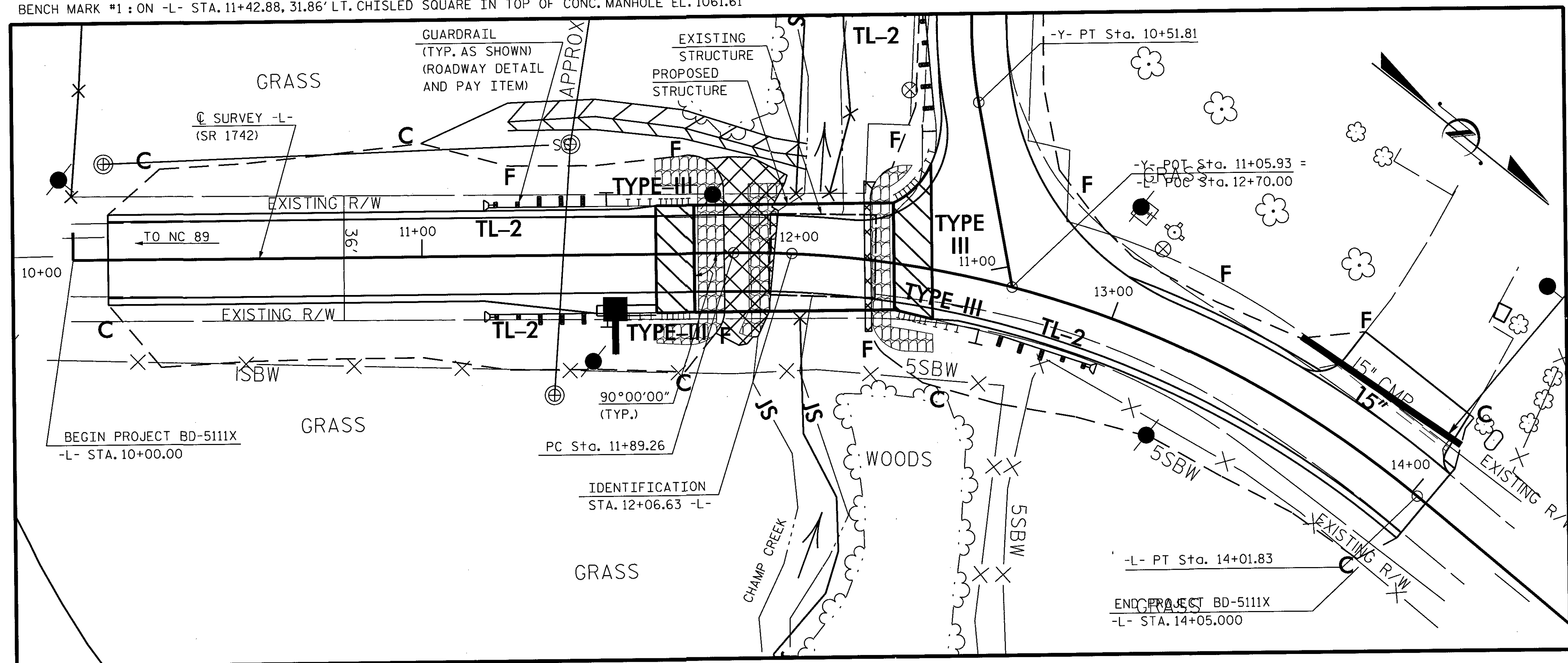


BRIDGE NO. 95 SURRY COUNTY



TOTAL BILL OF MATERIAL												
	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 X 53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	
	LUMP SUM	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO. LIN. FT.
SUPERSTRUCTURE								110.25				11 605
END BENT NO. 1			21.7		2,636	7	125		70	80		
END BENT NO. 2			22.6		2,729	7	90		80	90		
TOTAL	LUMP SUM	LUMP SUM	44.3	LUMP SUM	5,365	14	215	110.25	150	170	LUMP SUM	11 605

BENCH MARK #1 : ON -L- STA. 11+42.88, 31.86' LT. CHISLED SQUARE IN TOP OF CONC. MANHOLE EL. 1061.61



FOR UTILITY INFORMATION,
SEE UTILITY PLANS AND SPECIAL PROVISIONS

LOCATION SKETCH

DRAWN BY : F.D. WEEDEN DATE : APR. 2014
CHECKED BY : R.V. KEITH DATE : APR. 2014

M:\projects\2009\09085_NCDOT_Div_0nc\INP01_Div11Bridges_GRP4\BD5111X_Surry95\Design\Structures\BD-5111X_str_loc.dgn

PROJECT NO. BD-5111X
SURRY COUNTY
STATION: STA. 12+06.63 -L-

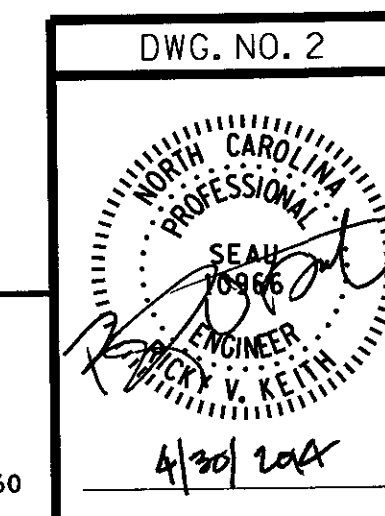
SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER CHAMP CREEK
ON SR 1742 (MCBRIDE RD.)
BETWEEN NC 103 (EAST PINE ST.)
AND SR 1743 (JONES CHAPEL RD.)

REVISIONS						SHEET NO. S-2
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 15
2			4			

RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NUMBER: F-0112



NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 30'-7" WITH AN ASPHALT WEARING SURFACE OVER A TIMBER FLOOR ON I-BEAM SUPERSTRUCTURE AND A CLEAR ROADWAY WIDTH OF 23.6' ON A SUBSTRUCTURE CONSISTING OF TIMBER CAPS/TIMBER POST & SILLS AND LOCATED AT THE PROPOSED STRUCTURE LOCATION SHALL BE REMOVED. SEE SPECIAL PROVISION FOR "REMOVAL OF EXISTING STRUCTURE AT STA.12+06.63 -L-".

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25 FEET EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES".

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 12+06.63 -L-".

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOUNDATION NOTES:

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT NO.1 ARE DESIGNED FOR A FACTORED RESISTANCE OF 75 TONS PER PILE.

DRIVE PILES AT END BENT NO.1 TO A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE.

PILES AT END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 75 TONS PER PILE

DRIVE PILES AT END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF 125 TONS PER PILE.

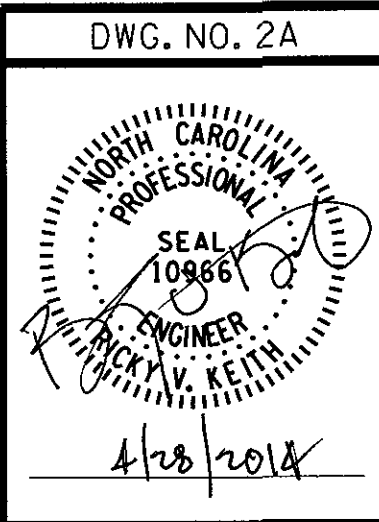
PROJECT NO. BD-5111X
SURRY COUNTY
STATION: STA. 12+06.63 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER CHAMP CREEK
ON SR 1742 (MCBRIDE RD.)
BETWEEN NC 103 (EAST PINE ST.)
AND SR. 1743 (JONES CHAPEL RD.)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-2A
2			4			
TOTAL SHEETS						15



RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NUMBER: F-0112

DRAWN BY : F.D. WEEDEN DATE : APR. 2014
CHECKED BY : R.V. KEITH DATE : APR. 2014

LOAD AND RESISTANCE FACTOR RATING (LRFD) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS

LEVEL		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER	
							LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT					
								DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)
DESIGN LOAD RATING		HL-93(Inv)	N/A	1	1.055	--	1.75	0.275	1.23	55'	EL	27	0.523	1.23	55'	EL	5.4	0.80	0.275	1.05	55'	EL	27	
		HL-93(0pr)	N/A	--	1.591	--	1.35	0.275	1.59	55'	EL	27	0.523	1.59	55'	EL	5.4	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	2	1.322	47.585	1.75	0.275	1.54	55'	EL	27	0.523	1.47	55'	EL	5.4	0.80	0.275	1.32	55'	EL	27	
		HS-20(0pr)	36.000	--	1.9	68.396	1.35	0.275	1.99	55'	EL	27	0.523	1.9	55'	EL	5.4	N/A	--	--	--	--	--	
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.776	37.476	1.4	0.275	4.04	55'	EL	27	0.523	4.17	55'	EL	5.4	0.80	0.275	2.78	55'	EL	27	
		SNGARBS2	20.000	--	2.155	43.095	1.4	0.275	3.14	55'	EL	27	0.523	3.02	55'	EL	5.4	0.80	0.275	2.15	55'	EL	27	
		SNAGRIS2	22.000	--	2.079	45.734	1.4	0.275	3.03	55'	EL	27	0.523	2.83	55'	EL	5.4	0.80	0.275	2.08	55'	EL	27	
		SNCOTTS3	27.250	--	1.384	37.708	1.4	0.275	2.01	55'	EL	27	0.523	2.09	55'	EL	5.4	0.80	0.275	1.38	55'	EL	27	
		SNAGGRS4	34.925	--	1.189	41.527	1.4	0.275	1.73	55'	EL	27	0.523	1.77	55'	EL	5.4	0.80	0.275	1.19	55'	EL	27	
		SNS5A	35.550	--	1.16	41.255	1.4	0.275	1.69	55'	EL	27	0.523	1.82	55'	EL	5.4	0.80	0.275	1.16	55'	EL	27	
		SNS6A	39.950	--	1.079	43.102	1.4	0.275	1.57	55'	EL	27	0.523	1.68	55'	EL	5.4	0.80	0.275	1.08	55'	EL	27	
		SNS7B	42.000	--	1.028	43.175	1.4	0.275	1.5	55'	EL	27	0.523	1.67	55'	EL	5.4	0.80	0.275	1.03	55'	EL	27	
	TTST	TNAGRIT3	33.000	--	1.32	43.556	1.4	0.275	1.92	55'	EL	27	0.523	1.98	55'	EL	5.4	0.80	0.275	1.32	55'	EL	27	
		TNT4A	33.075	--	1.33	43.979	1.4	0.275	1.94	55'	EL	27	0.523	1.91	55'	EL	5.4	0.80	0.275	1.33	55'	EL	27	
		TNT6A	41.600	--	1.101	45.811	1.4	0.275	1.6	55'	EL	27	0.523	1.83	55'	EL	5.4	0.80	0.275	1.10	55'	EL	27	
		TNT7A	42.000	--	1.114	46.804	1.4	0.275	1.62	55'	EL	27	0.523	1.71	55'	EL	5.4	0.80	0.275	1.11	55'	EL	27	
		TNT7B	42.000	--	1.163	48.848	1.4	0.275	1.69	55'	EL	27	0.523	1.62	55'	EL	5.4	0.80	0.275	1.16	55'	EL	27	
		TNAGRIT4	43.000	--	1.101	47.33	1.4	0.275	1.6	55'	EL	27	0.523	1.56	55'	EL	5.4	0.80	0.275	1.10	55'	EL	27	
		TNAGT5A	45.000	--	1.031	46.405	1.4	0.275	1.5	55'	EL	27	0.523	1.58	55'	EL	5.4	0.80	0.275	1.03	55'	EL	27	
		TNAGT5B	45.000	3	1.013	45.582	1.4	0.275	1.47	55'	EL	27	0.523	1.48	55'	EL	5.4	0.80	0.275	1.01	55'	EL	27	

LOAD FACTORS:

DESIGN LOAD RATING FACTORS	LIMIT STATE	γ_{DC}	γ_{DW}
	STRENGTH I	1.25	1.50
	SERVICE III	1.00	1.00

NOTES:

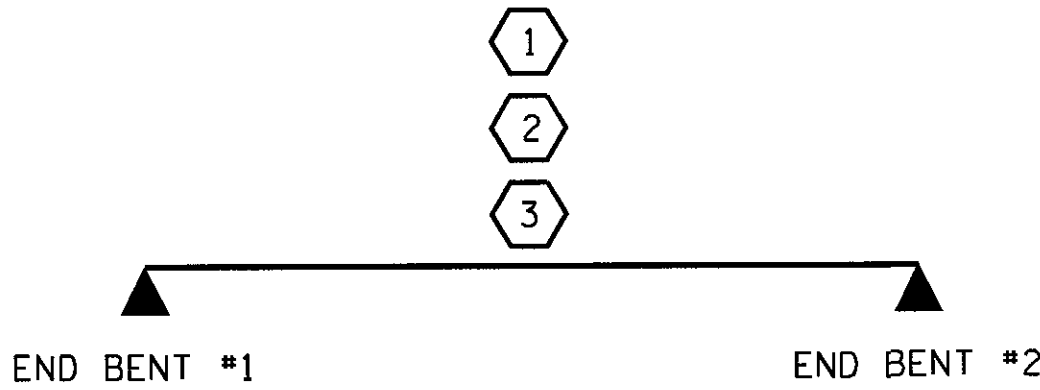
MINIMUM RATING FACTORS ARE BASED ON THE STRENGTH I AND SERVICE III LIMIT STATES.

ALLOWABLE STRESSES FOR SERVICE III LIMIT STATE ARE AS REQUIRED FOR DESIGN.

COMMENTS:

-
-
-
-

CONTROLLING LOAD RATING
1 DESIGN LOAD RATING (HL-93)
2 DESIGN LOAD RATING (HS-20)
3 LEGAL LOAD RATING **
** SEE CHART FOR VEHICLE TYPE
GIRDER LOCATION
I - INTERIOR GIRDER EL - EXTERIOR LEFT GIRDER ER - EXTERIOR RIGHT GIRDER



LRFR SUMMARY
FOR SPAN 'A'

PROJECT NO. BD-5111X
SURRY COUNTY
STATION: 12+06.63 -L-

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14
CHECKED BY : S.T. CHAMPION DATE : MAR. 14
DRAWN BY : CVC 6/10
CHECKED BY : DNS 6/10

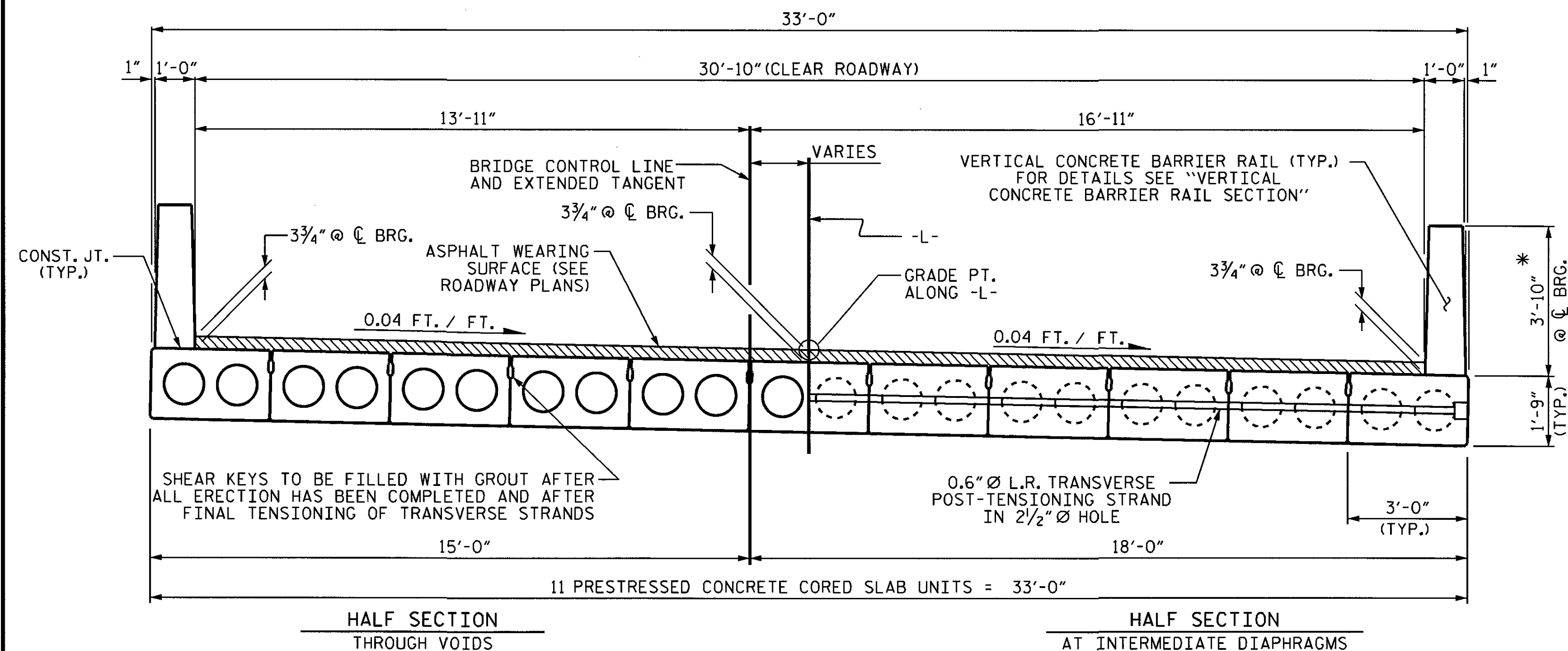
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bkloppenbach



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
LRFR SUMMARY FOR
55' CORED SLAB UNIT
90° SKEW
(NON-INTERSTATE TRAFFIC)

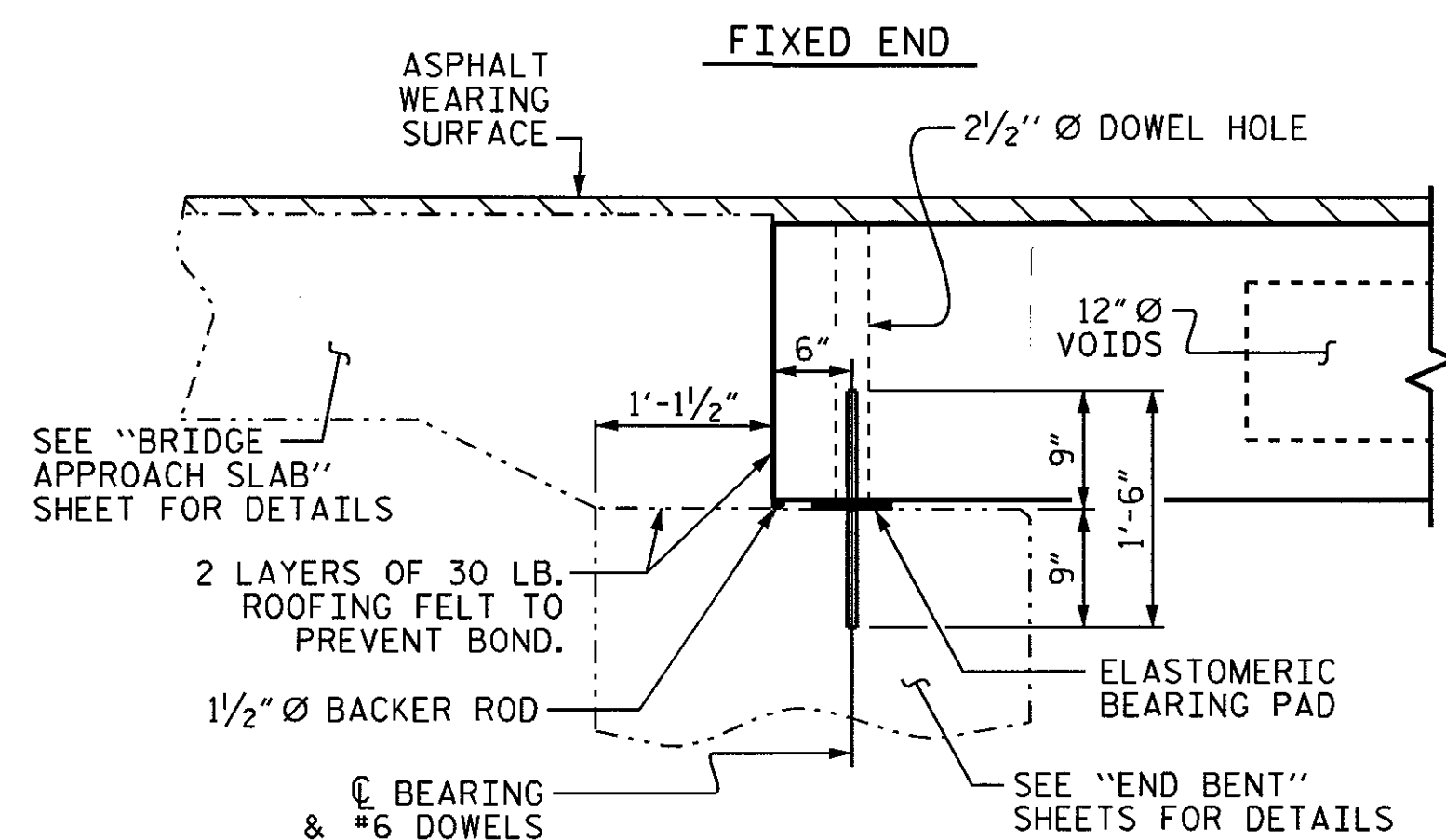
REVISIONS						SHEET NO. S-3
NO.	BY	DATE	NO.	BY	DATE	
1			3			TOTAL SHEETS 15
2			4			

STD. NO. 21LRFR1-90S-55L

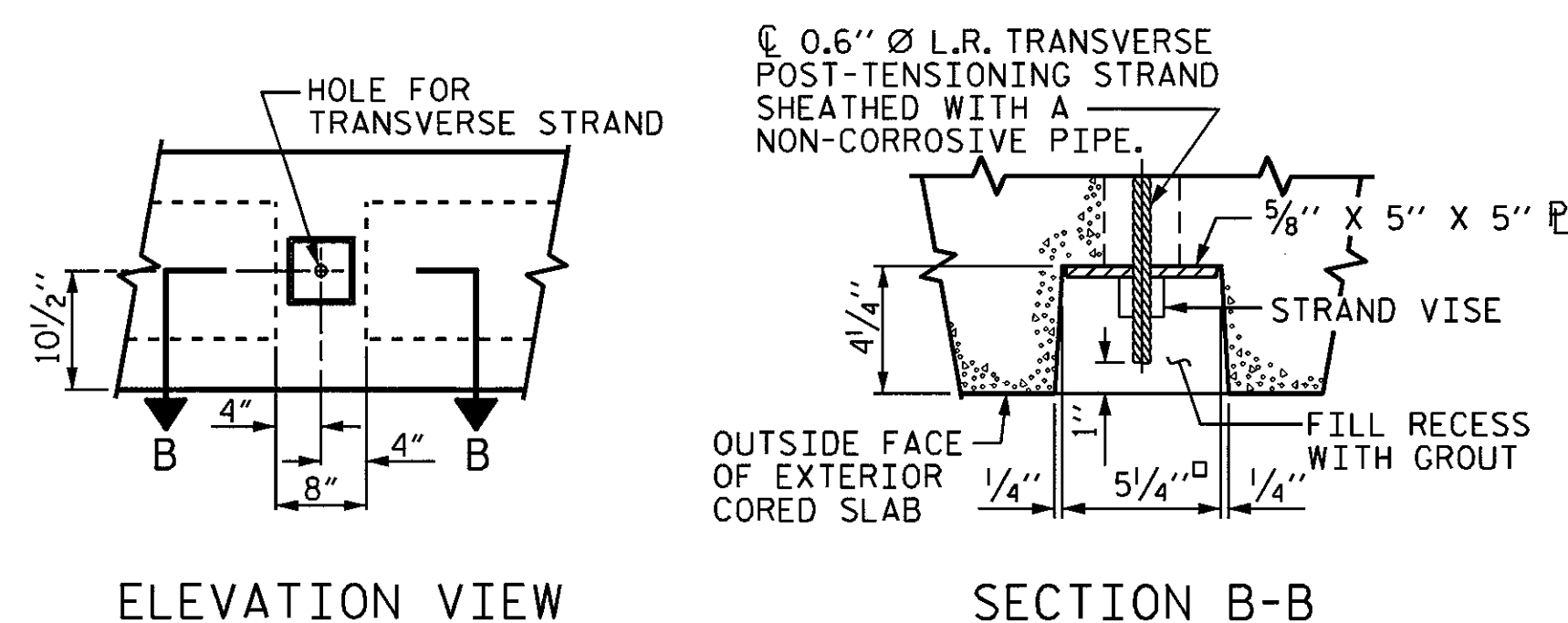


TYPICAL SECTION

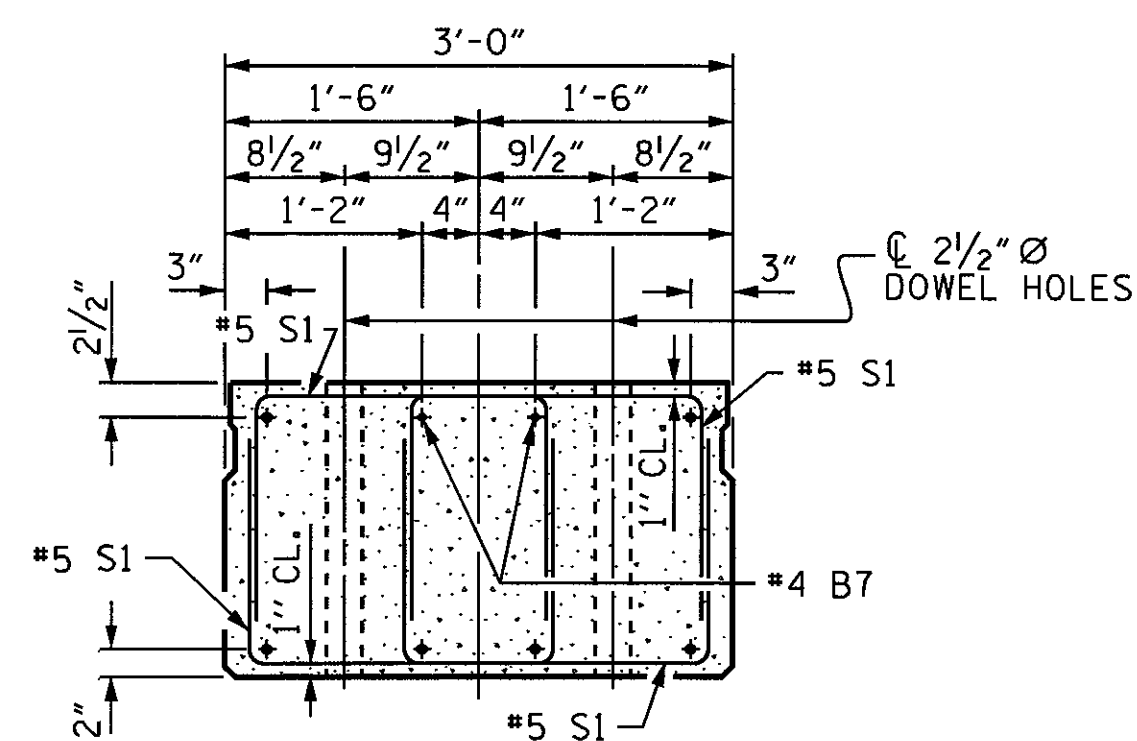
* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.



SECTION AT END BENT

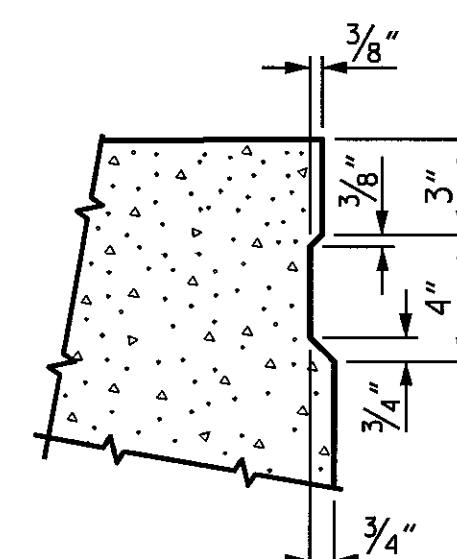


GROUTED RECESS AT END OF POST-TENSIONED STRAND OF CORED SLABS



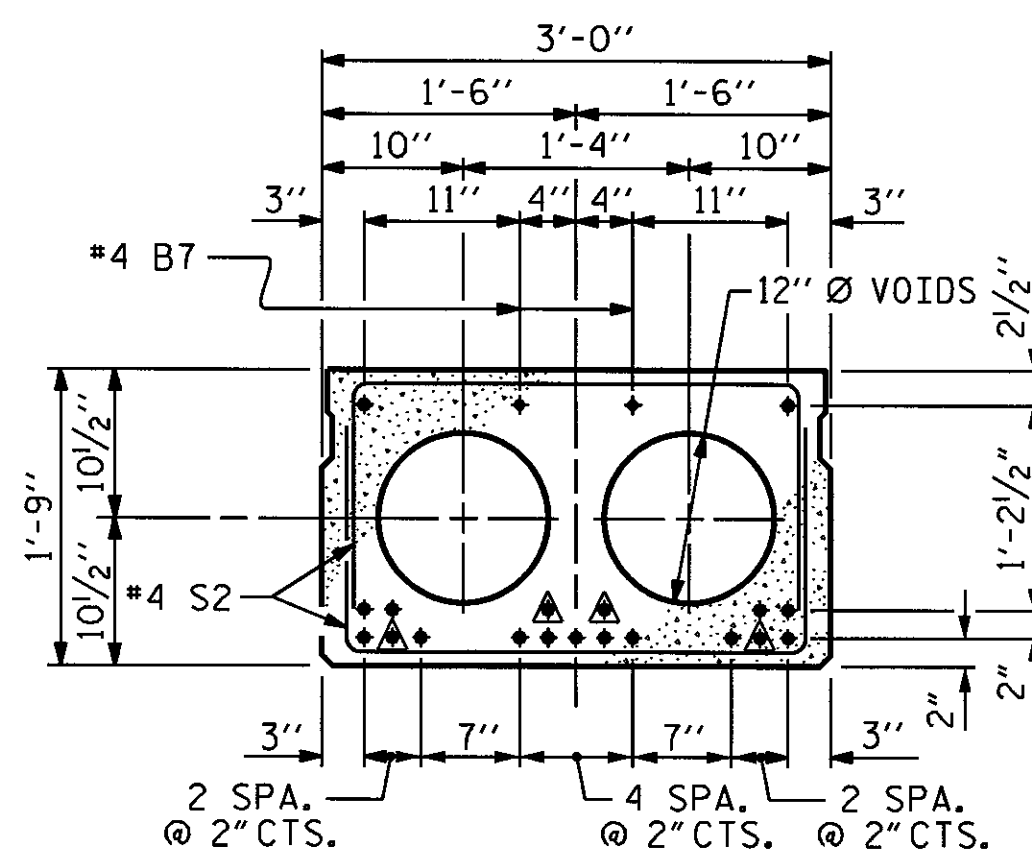
END ELEVATION

SHOWING PLACEMENT OF DOUBLE STIRRUPS AND LOCATION OF DOWEL HOLES. (STRAND LAYOUT NOT SHOWN.) INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.



SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.

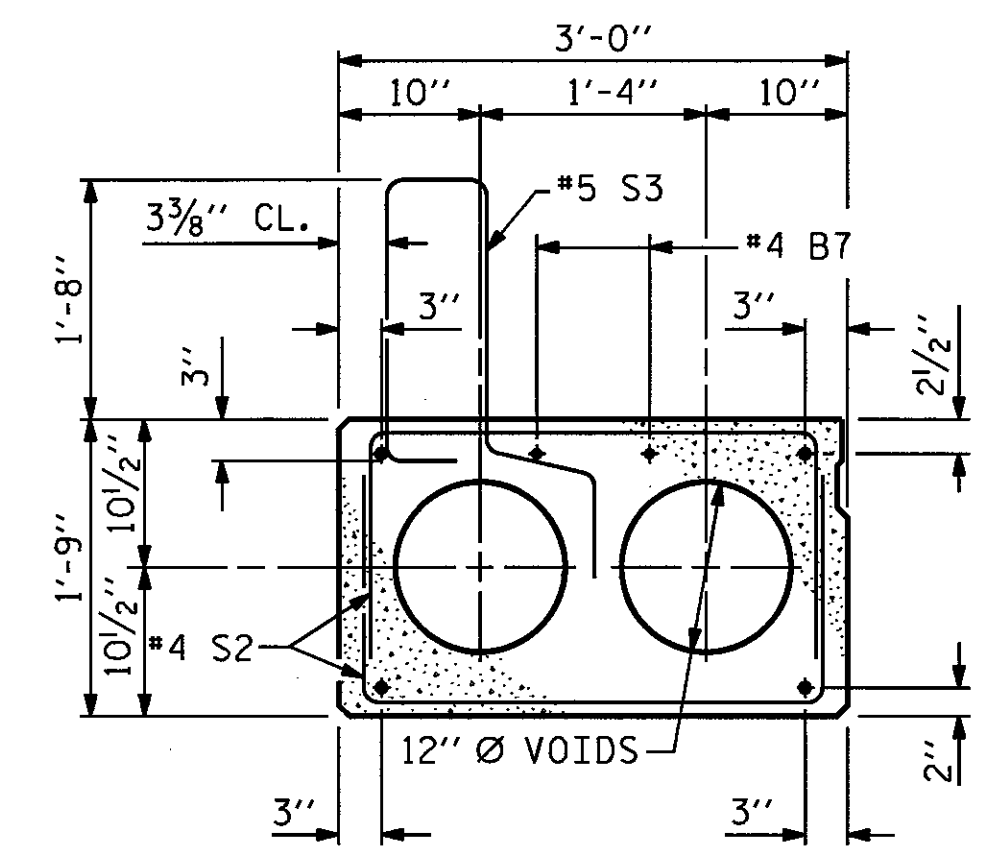


INTERIOR SLAB SECTION
(19 STRANDS REQUIRED)

0.6" Ø LOW RELAXATION STRAND LAYOUT

▲ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 6'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND



EXT. SLAB SECTION
(FOR PRESTRESSED STRAND LAYOUT, SEE INTERIOR SLAB SECTION.)

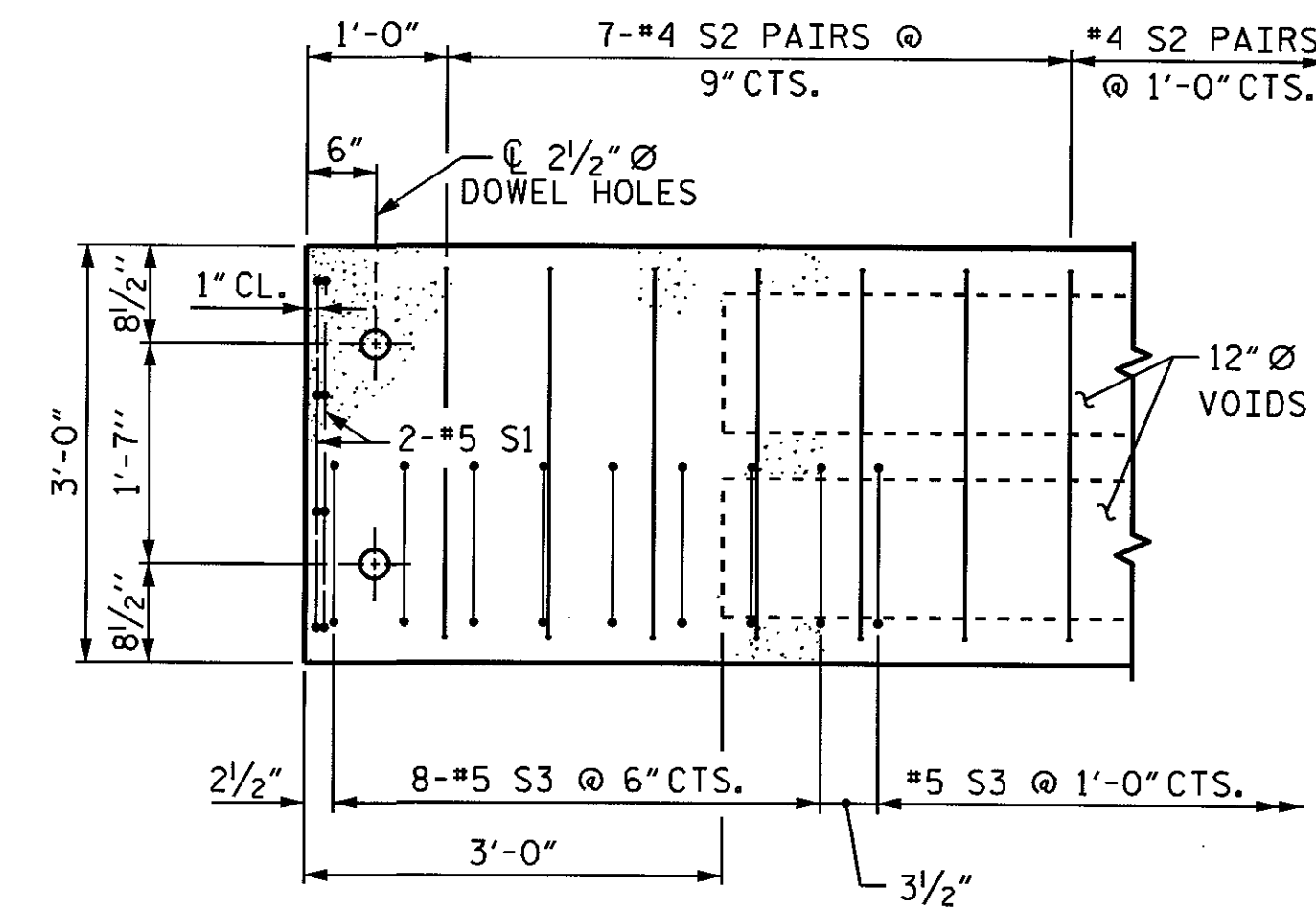
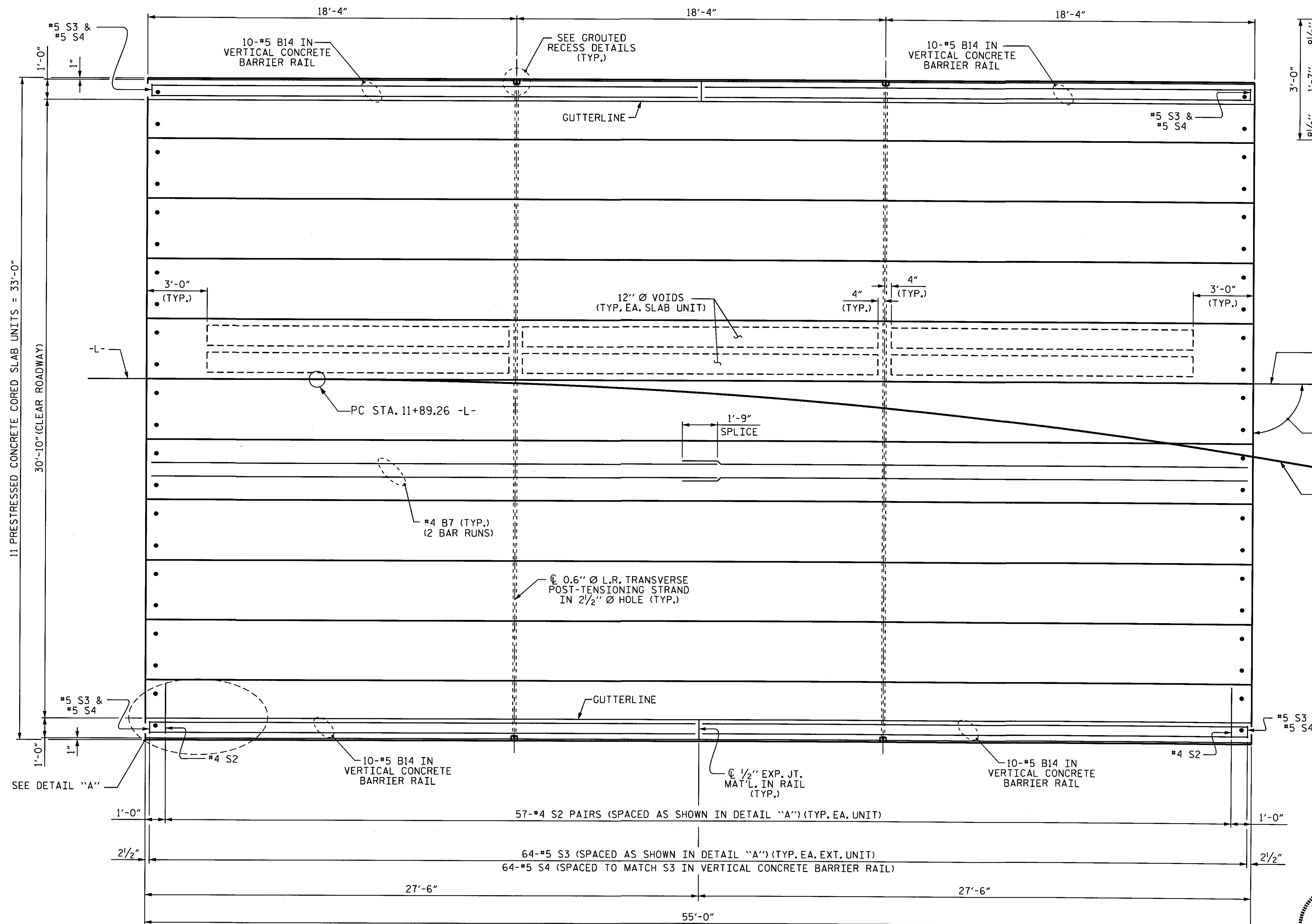
PROJECT NO. BD-5111X
SURRY COUNTY
STATION: 12+06.63 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			15

ASSEMBLED BY : S.T. CHAMPION	DATE : MAR. 14
CHECKED BY : H.T. BARBOUR	DATE : MAR. 14
DRAWN BY : DCE	5/09
CHECKED BY : BCH	6/09
REV. 12/11	MAA/AAC



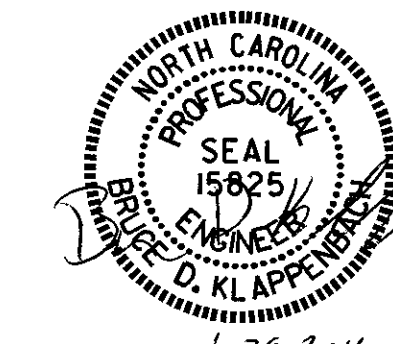
DETAIL "A"

NOTE: EXTERIOR UNIT SHOWN - INTERIOR UNIT SIMILAR EXCEPT OMIT #5 S3 BARS.

PLAN OF UNIT

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14
 CHECKED BY : H.T. BARBOUR DATE : MAR. 14
 DRAWN BY : DGE 3/09 REV. 12/5/11 MAA/AAC
 CHECKED BY : BCH 3/09

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 bklappenbach



PROJECT NO. BD-5111X
 SURRY COUNTY
 STATION: 12+06.63 -L-

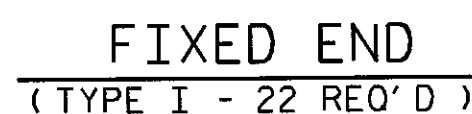
SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF 55' UNIT
 30'-10" CLEAR ROADWAY
 90° SKEW

REVISIONS					SHEET NO.
NO.	BY	DATE	NO.	BY	
1			3		S-5
2			4		TOTAL SHEETS 15

STD. NO. 21" PCS-33-90S-55L



ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS.

DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 1'-9"
55' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 1/2" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/4" ↓
FINAL CAMBER	2 1/4" ↑

✻ INCLUDES FUTURE WEARING SURFACE

BAR TYPES

Diagram 1: A vertical rectangular bar with a width of 7" and a height of 11'-1". The base is 1" wide and the top is 3/4" wide. A dimension of 6 3/4" MIN. is shown for the base width.

Diagram 2: A vertical rectangular bar with a width of 6" and a height of 3'-4". The base is 7 3/4" wide.

Diagram 3: A vertical rectangular bar with a width of 1'-9" and a height of 2'-8". The base is 1'-3" wide and the top is 1'-4" wide. Dimensions S1 and S2 are indicated for the base and top widths respectively.

ALL BAR DIMENSIONS ARE OUT TO OUT

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B7	4	#4	STR	28'-3"	75	28'-3"	75
S1	8	#5	3	4'-3"	35	4'-3"	35
S2	114	#4	3	5'-4"	406	5'-4"	406
* S3	64	#5	1	6'-2"	412		
REINFORCING STEEL LBS.				516		516	
* EPOXY COATED REINFORCING STEEL LBS.				412			
6500 P.S.I. CONCRETE CU. YDS.				7.8		7.8	
0.6" Ø L.R. STRANDS No.				19		19	

Technical drawing showing a cross-section of a bridge structure, likely a girder or pier, with dimensions and reinforcement details.

Dimensions:

- Overall width: 1'-0"
- Top flange width: 10"
- Top flange thickness: 1"
- Web thickness: 2" CL. MIN.
- Bottom flange width: 10"
- Bottom flange thickness: 1"
- Overall height: 3'-6" SLOPED
- Vertical dimension: VARIES (SEE "CUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT" TABLE)
- Vertical dimension: VARIES

Reinforcement Details:

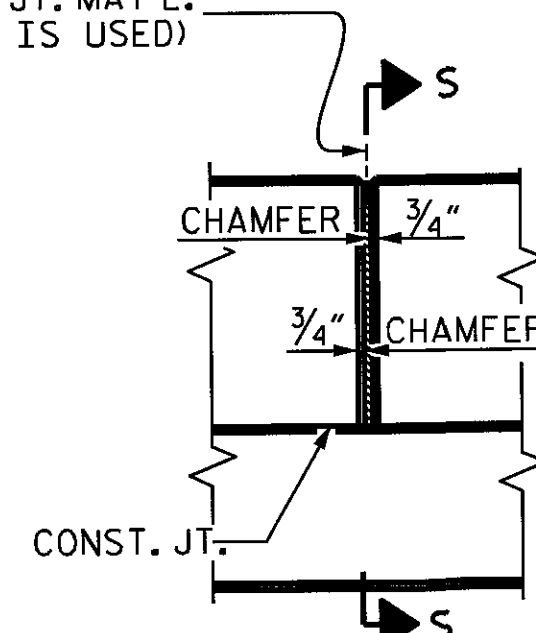
- Top reinforcement: #5 S4
- Bottom reinforcement: #5 S3
- Web reinforcement: 10-#5 B14 BARS
- Reinforcement spacing: 7 1/2"
- Reinforcement spacing: 9 1/2"
- Reinforcement spacing: 2 3/8" CL.
- Reinforcement spacing: 3 3/8"
- Reinforcement spacing: 1"
- Reinforcement spacing: 2" (TYP.)

Other Labels:

- @ C. BRG.
- @ MIDSPAN
- CONST. JT.
- #5 S3 UNIT

AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)

④ 1/2" EXP. JT. MAT'L HELD IN
PLACE WITH GALVANIZED NAILS.
(NOTE: OMIT EXP. JT. MAT'L. —
WHEN SLIP FORM IS USED)



Technical drawing of a cross-section of a bridge deck showing reinforcement details. The drawing includes dimensions: 1'-0" total width, 10" central width, 1" side margins, and 7" height for the top reinforcement. Labels include "FIELD CUT #5 S4", "#5 S3", and "10-#5 \"8\" BARS".

2'-0"

4-#5 S3 6"

4-#5 S3 3/4" #5 S3 & S4

FIELD BEND "B" BARS

7"

FIELD CUT

#5 S4

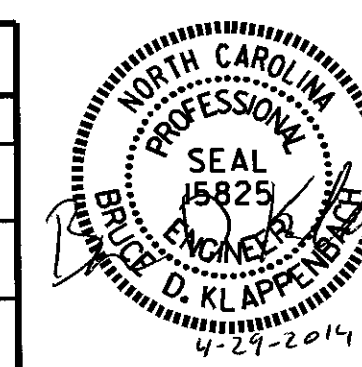
FIELD CUT #5 S4

#5 S3 (TYP.)

CONST. JT.

CONCRETE RELEASE STRENGTH	
UNIT	PSI
55' UNITS	4900

GRADE 270 STRANDS	
AREA (SQUARE INCHES)	0.6" Ø L.R. 0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950



ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

ALL REINFORCING STEEL IN THE VERTICAL CONCRETE BARRIER RAIL SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

VERTICAL CONCRETE BARRIER RAIL SECTION

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14		CHECKED BY : H.T. BARBOUR DATE : MAR. 14	
DRAWN BY : DGE 5/09		REV. 12/11	MAA/AAC
CHECKED BY : BCH 6/09			

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bklaennebach

PROJECT NO. BD-5111X
SURRY COUNTY
 STATION: 12+06.63 -L-

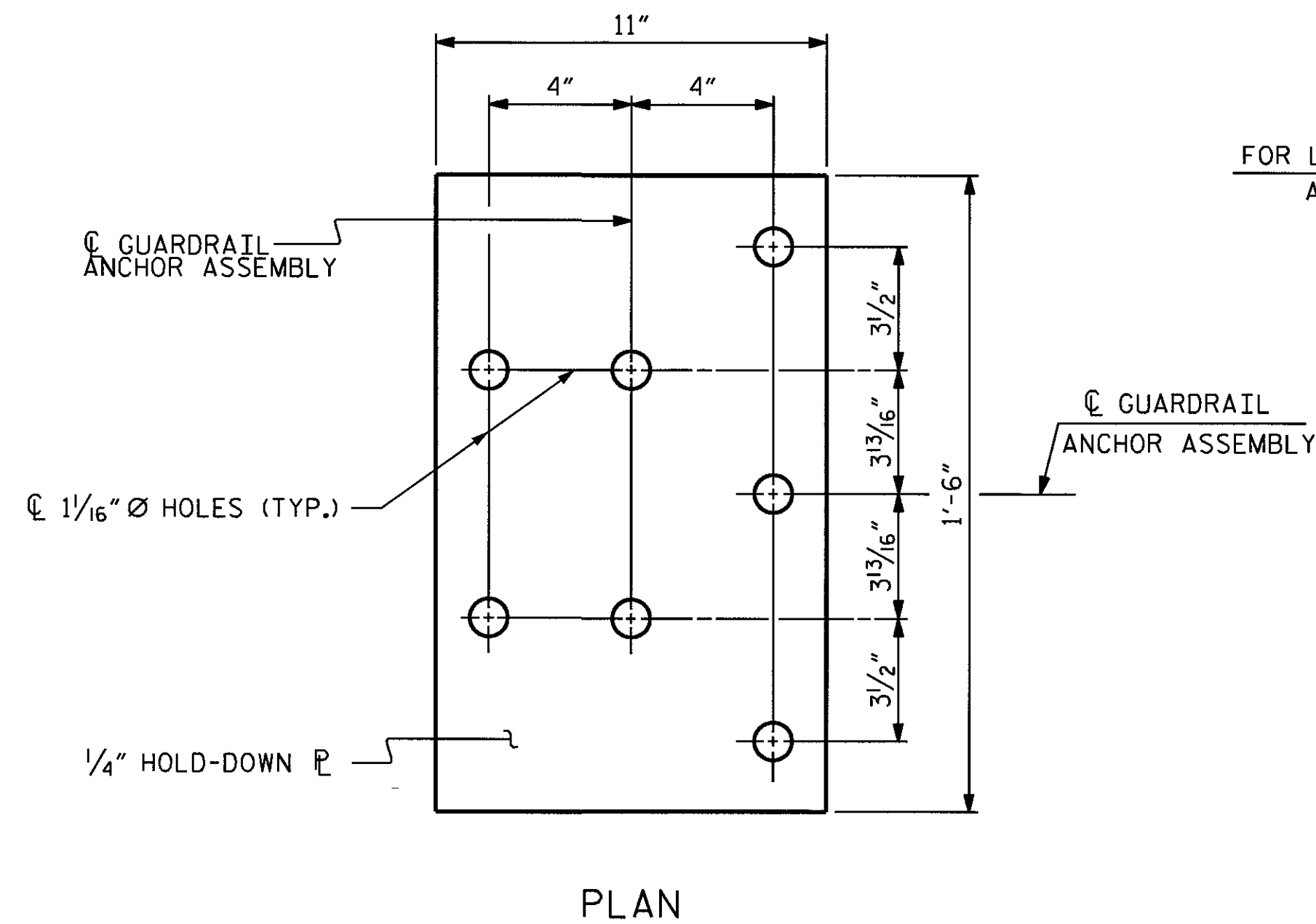
SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

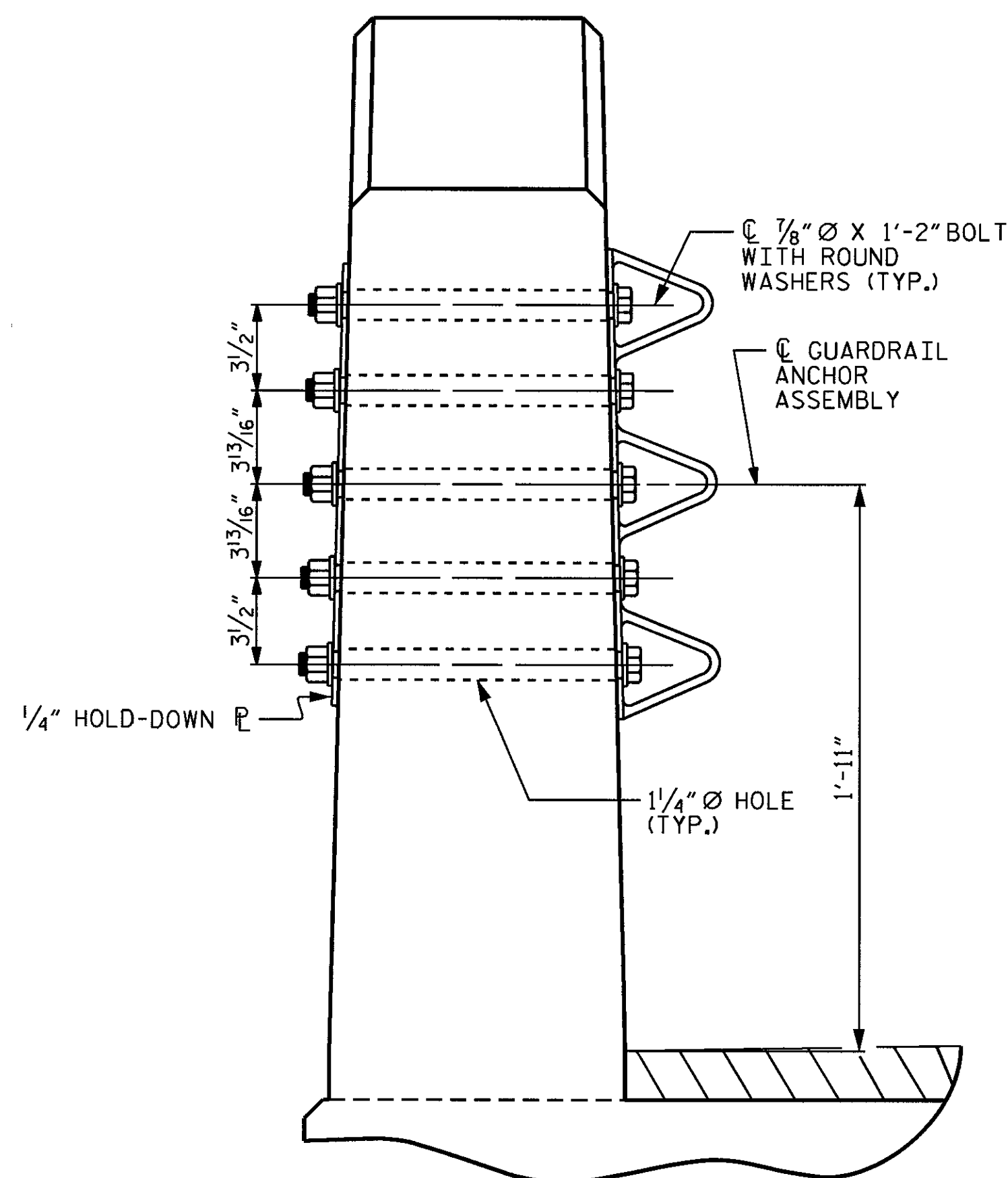
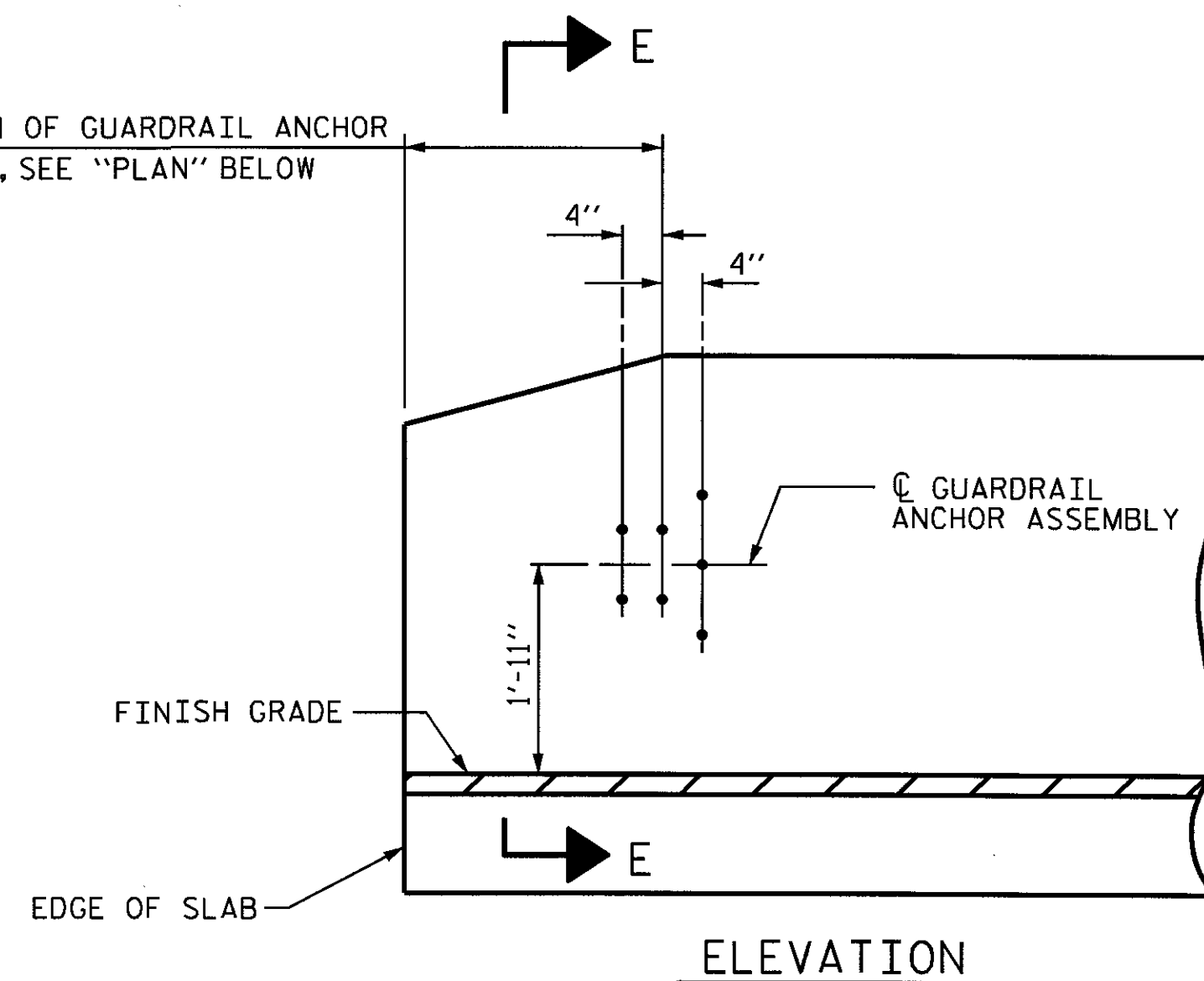
STANDARD
3'-0" X 1'-9"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS						SHEET NO. S-6 TOTAL SHEETS 15
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

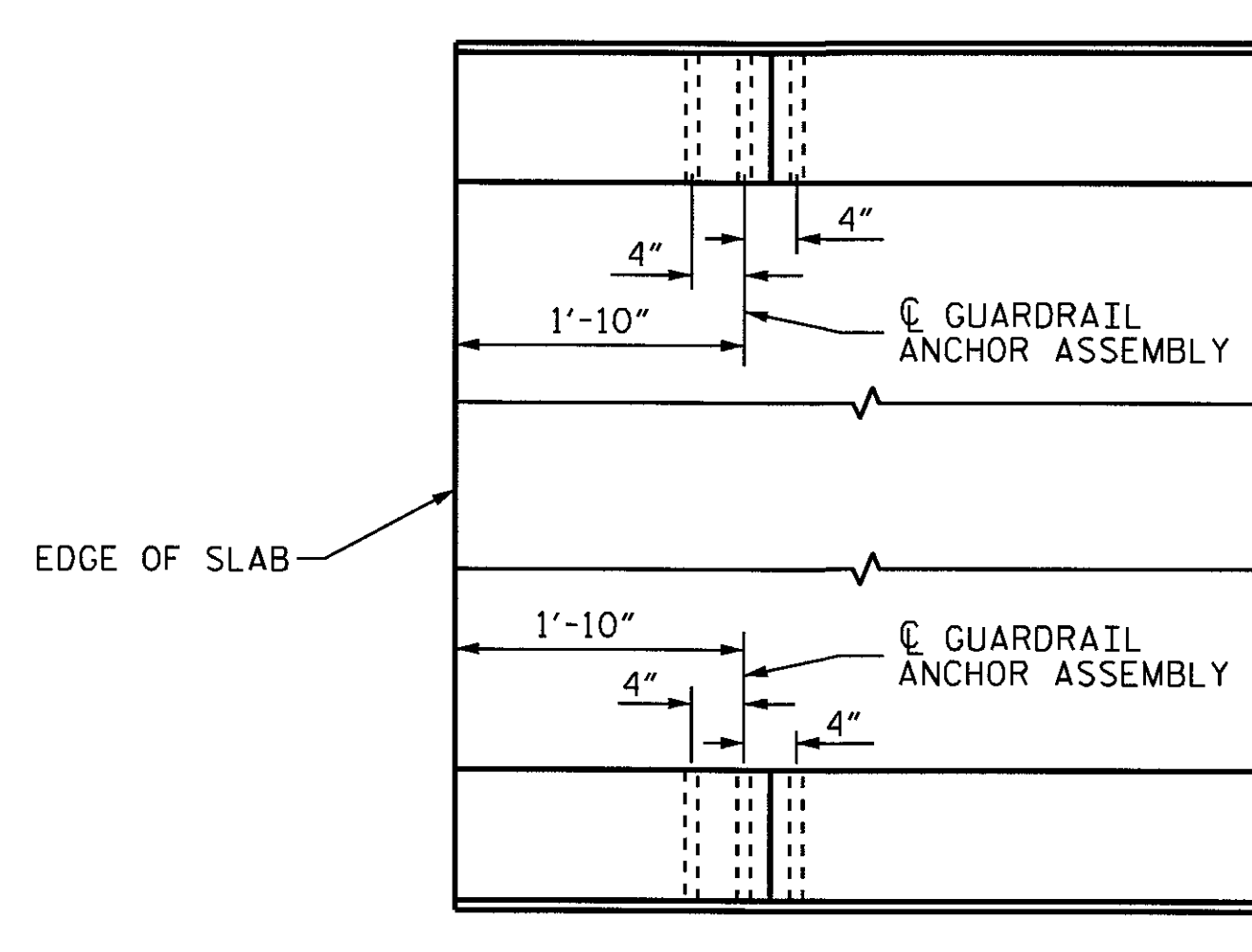
STD. NO. 21" PCS3_33_90S



FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW

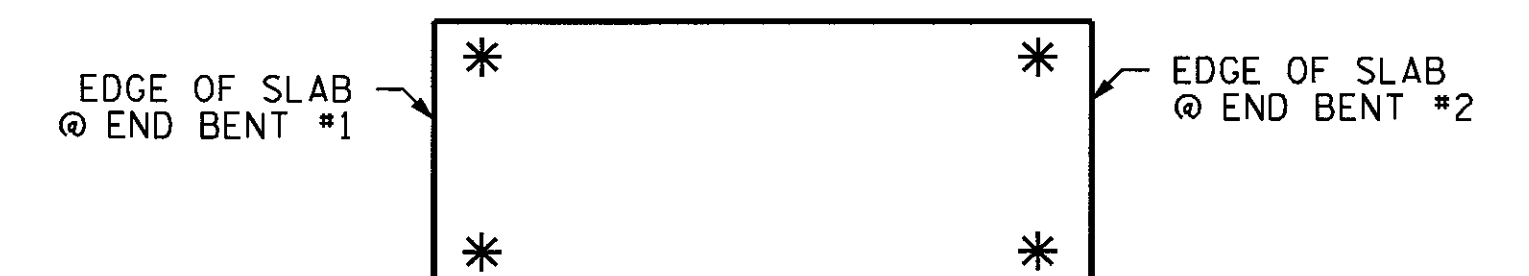


GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

END BENT #1 SHOWN, END BENT #2 SIMILAR.



SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

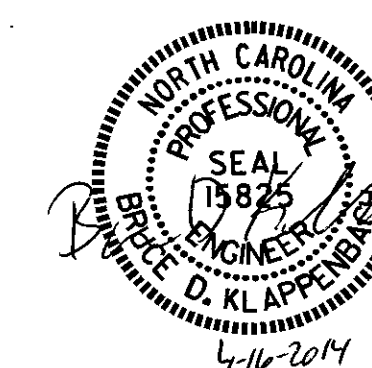
THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

PROJECT NO. BD-5111X
SURRY COUNTY
 STATION: 12+06.63 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 GUARDRAIL ANCHORAGE
 FOR VERTICAL CONCRETE
 BARRIER RAIL

ASSEMBLED BY : S.T. CHAMPTON DATE : MAR. '14
 CHECKED BY : H.T. BARBOUR DATE : MAR. '14
 DRAWN BY : MAA 5/10 REV. 10/1/11 MAA/GM
 CHECKED BY : GM 5/10 REV. 12/5/11 MAA/GM
 REV. 6/13 MAA/GM

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			
TOTAL SHEETS						15

(SHT 1) STD. NO. GRA3

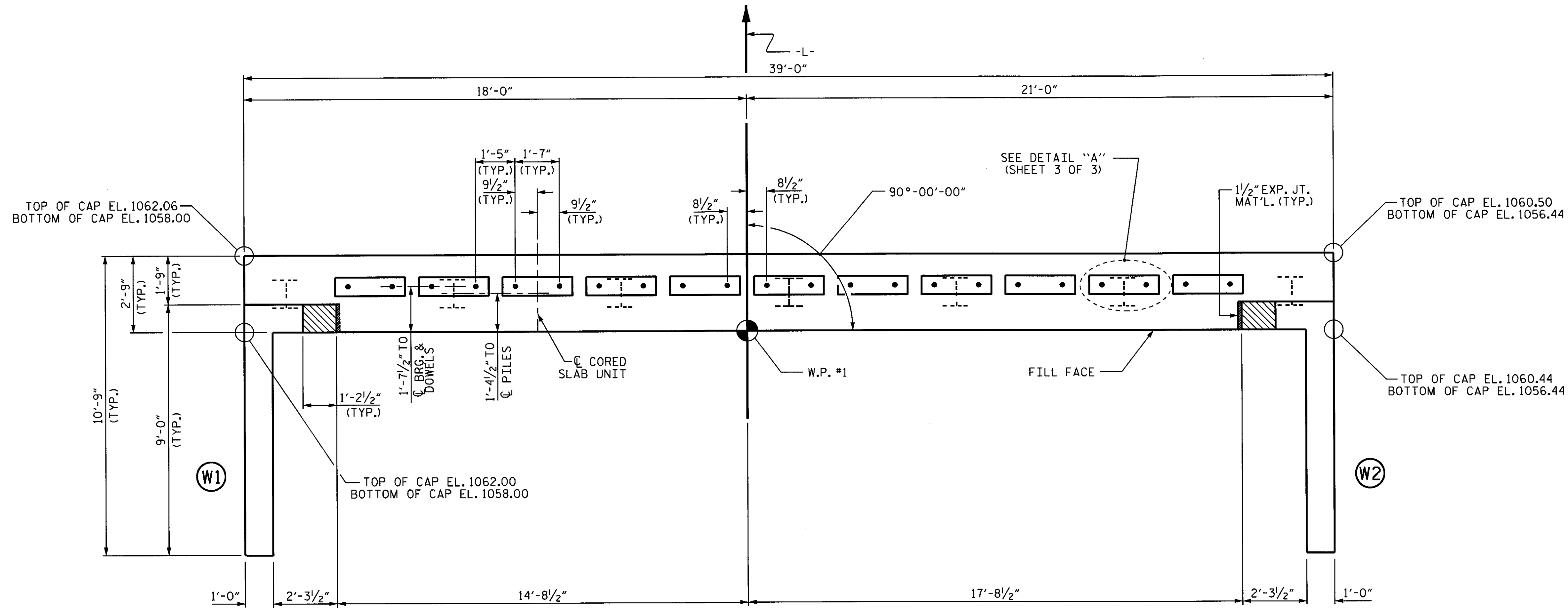
NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

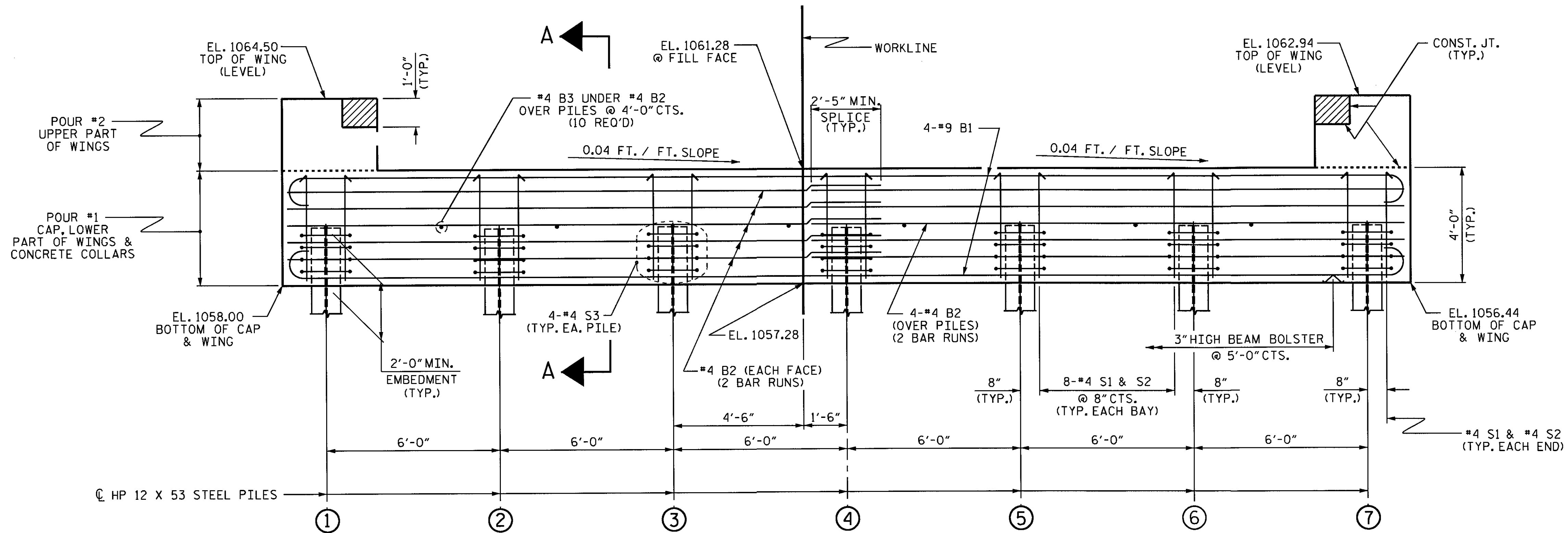
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPlice DETAILS, SEE SHEET 3 OF 3.

FOR WING DETAILS, SEE SHEET 2 OF 3.



PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 3 OF 3.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 3 OF 3.

TOP OF PILE ELEVATIONS	
①	1059.94
②	1059.70
③	1059.46
④	1059.22
⑤	1058.98
⑥	1058.74
⑦	1058.50

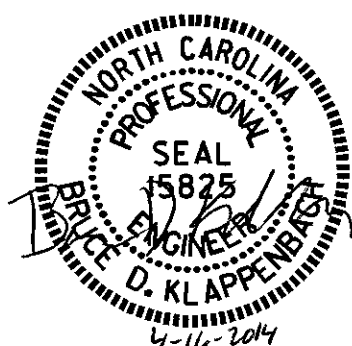
PROJECT NO. BD-5111X
SURRY COUNTY
 STATION: 12+06.63 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 1

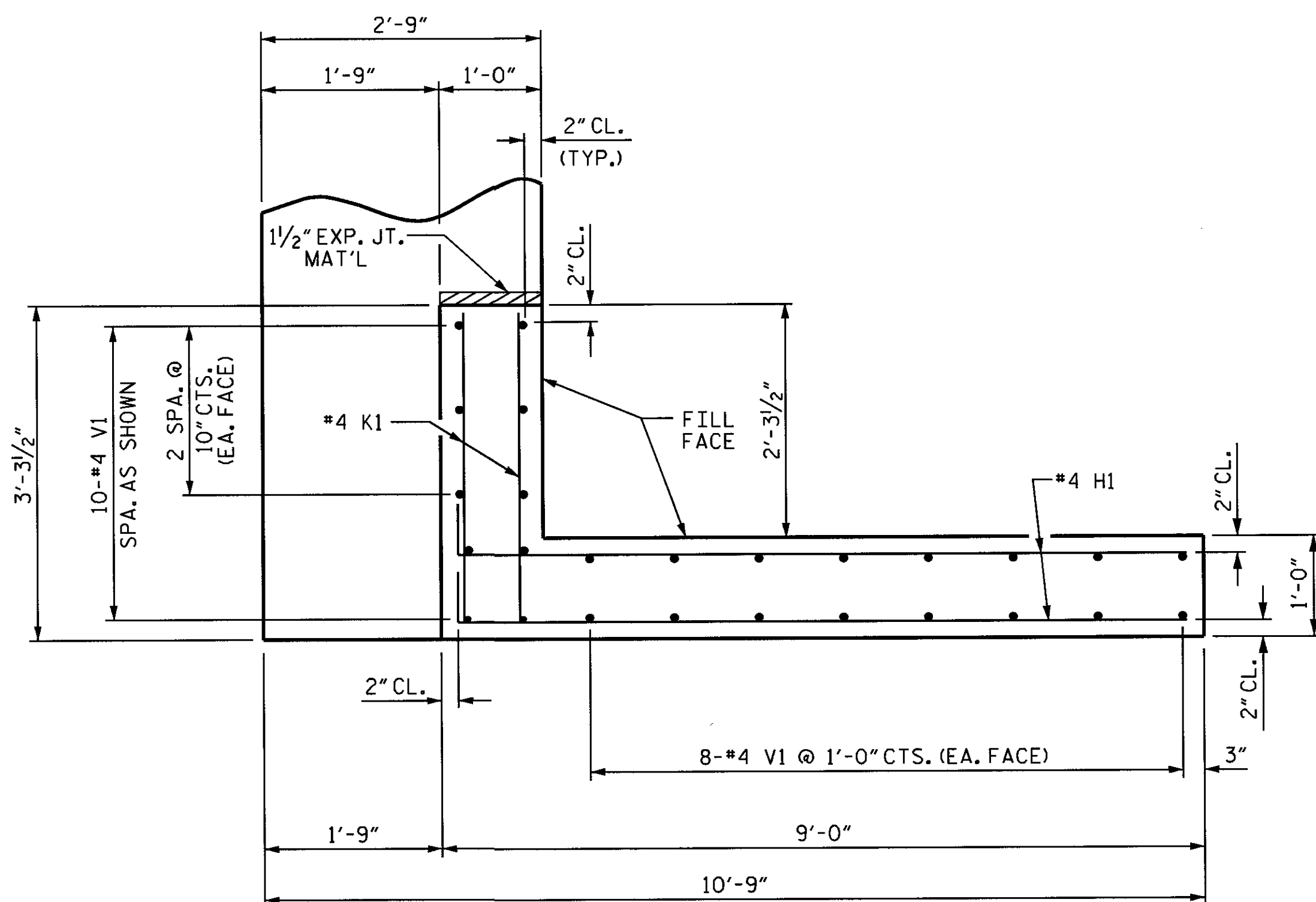
REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			



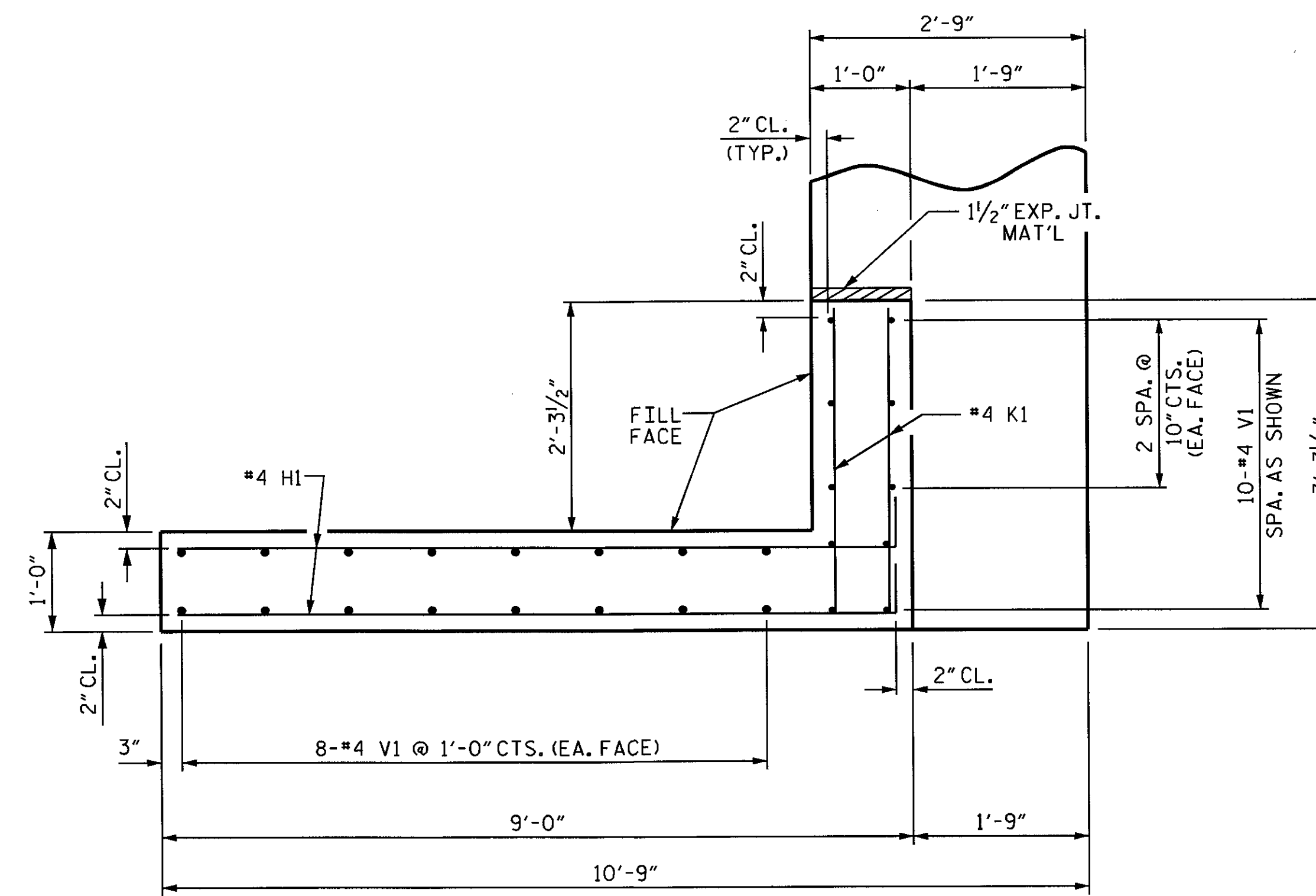
ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14
 CHECKED BY : H.T. BARBOUR DATE : MAR. 14
 DRAWN BY : WJH 12/11
 CHECKED BY : AAC 12/11

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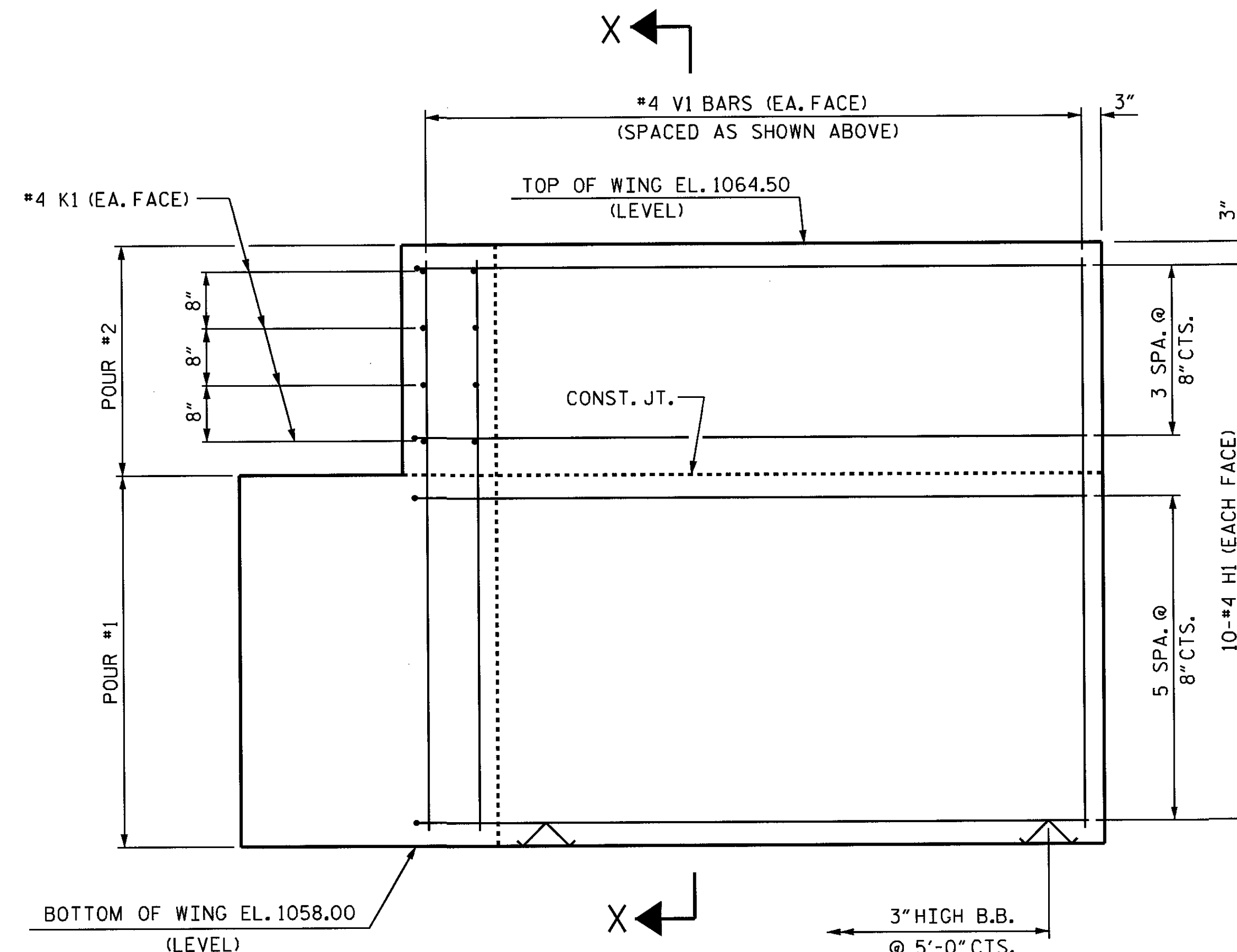
STD. NO. EB-33.90S4



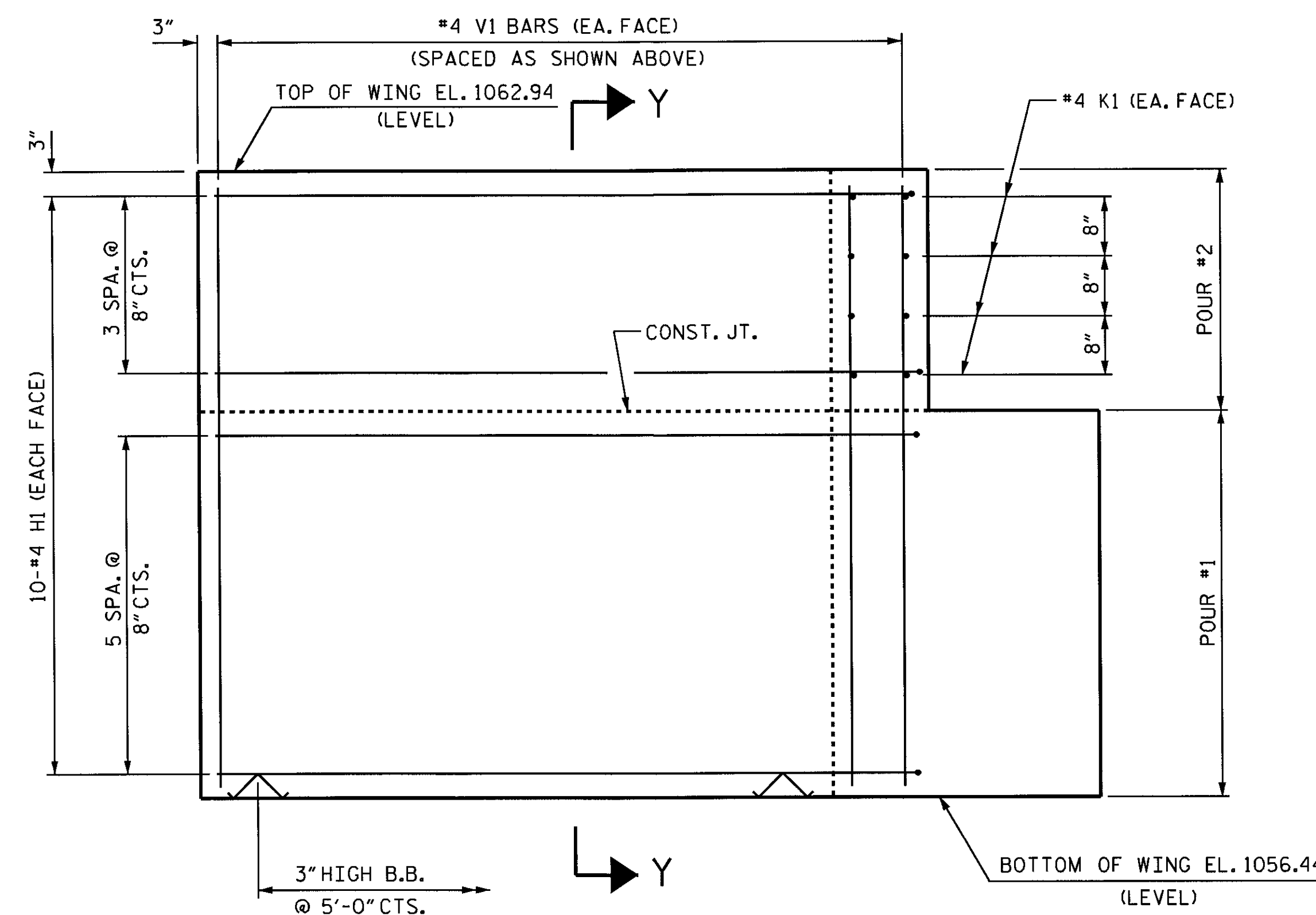
PLAN OF WING (W1)



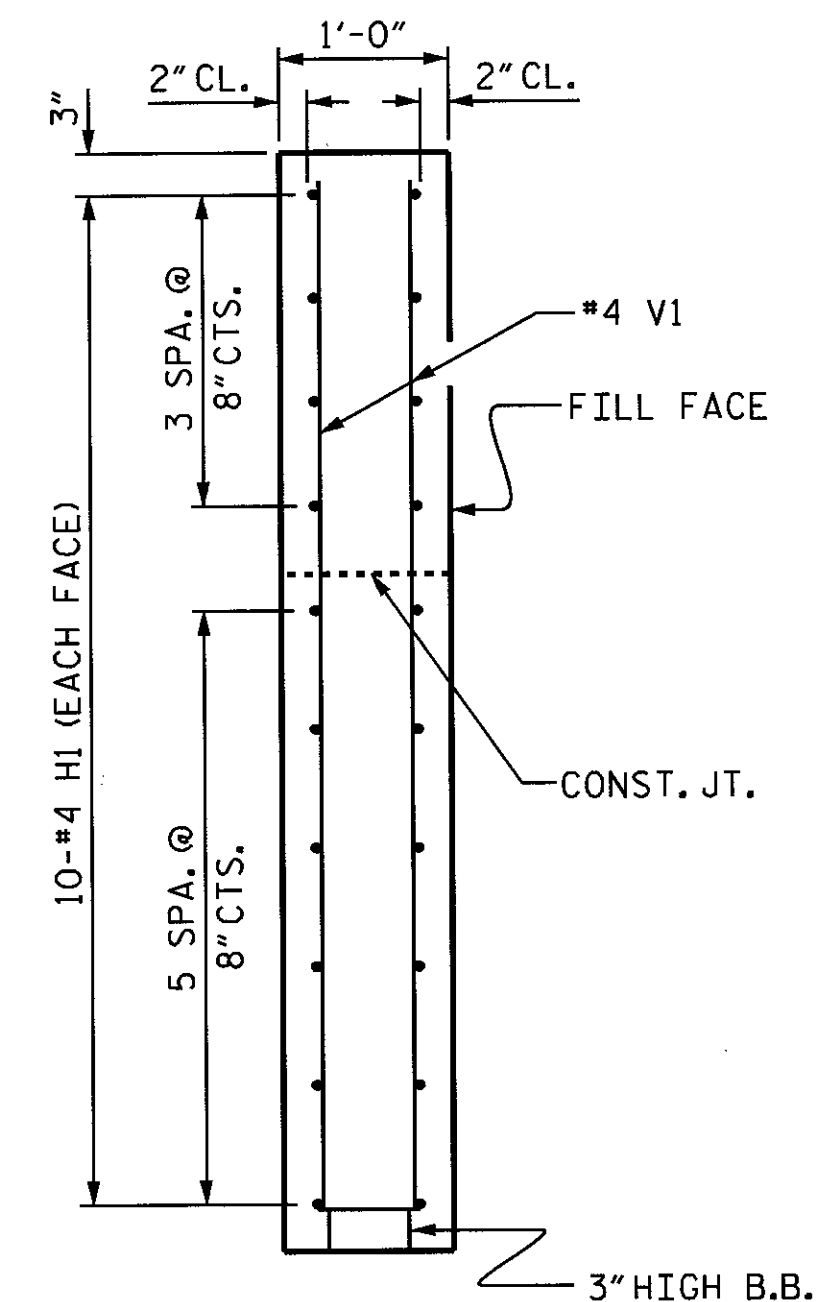
PLAN OF WING (W2)



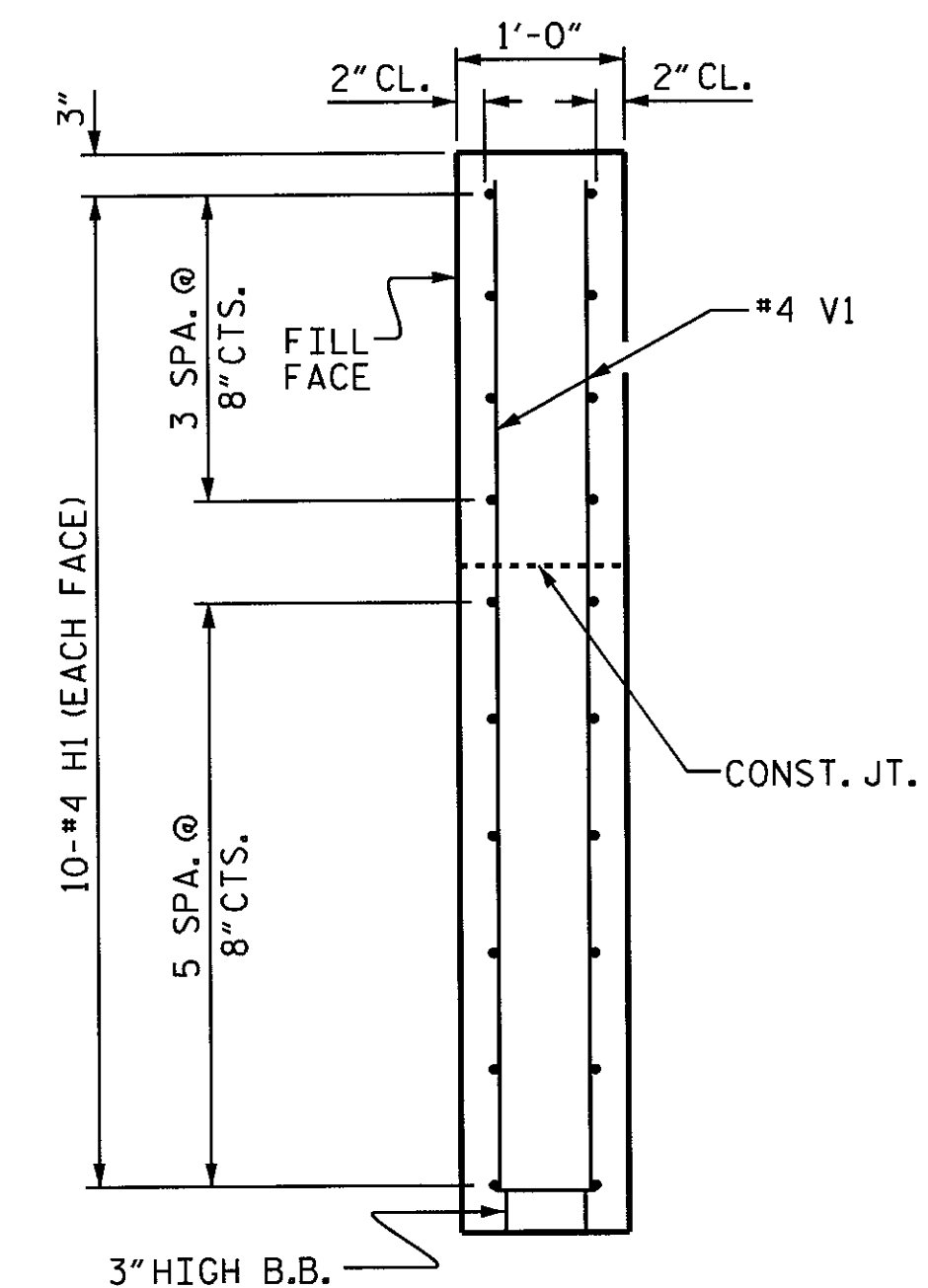
ELEVATION OF WING (W1)



ELEVATION OF WING (W2)



SECTION X-X



SECTION Y-Y

PROJECT NO. BD-5111X
SURRY COUNTY
STATION: 12+06.63 -L-

SHEET 2 OF 3

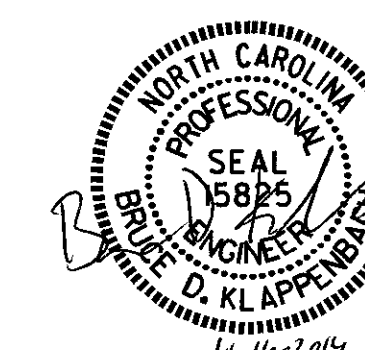
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT NO. 1
WING DETAILS

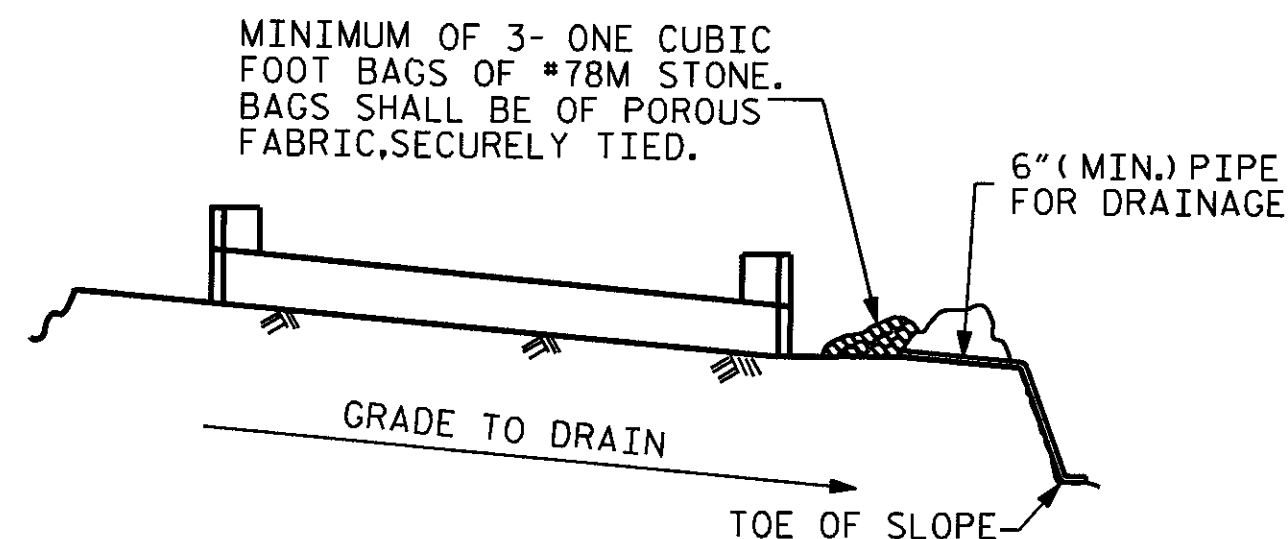
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 15
2			4			

ASSEMBLED BY: S.T. CHAMPION DATE: MAR. 14
CHECKED BY: H.T. BARBOUR DATE: MAR. 14
DRAWN BY: WJH 12/11
CHECKED BY: AAC 12/11

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STD. NO. EB-33.90S4

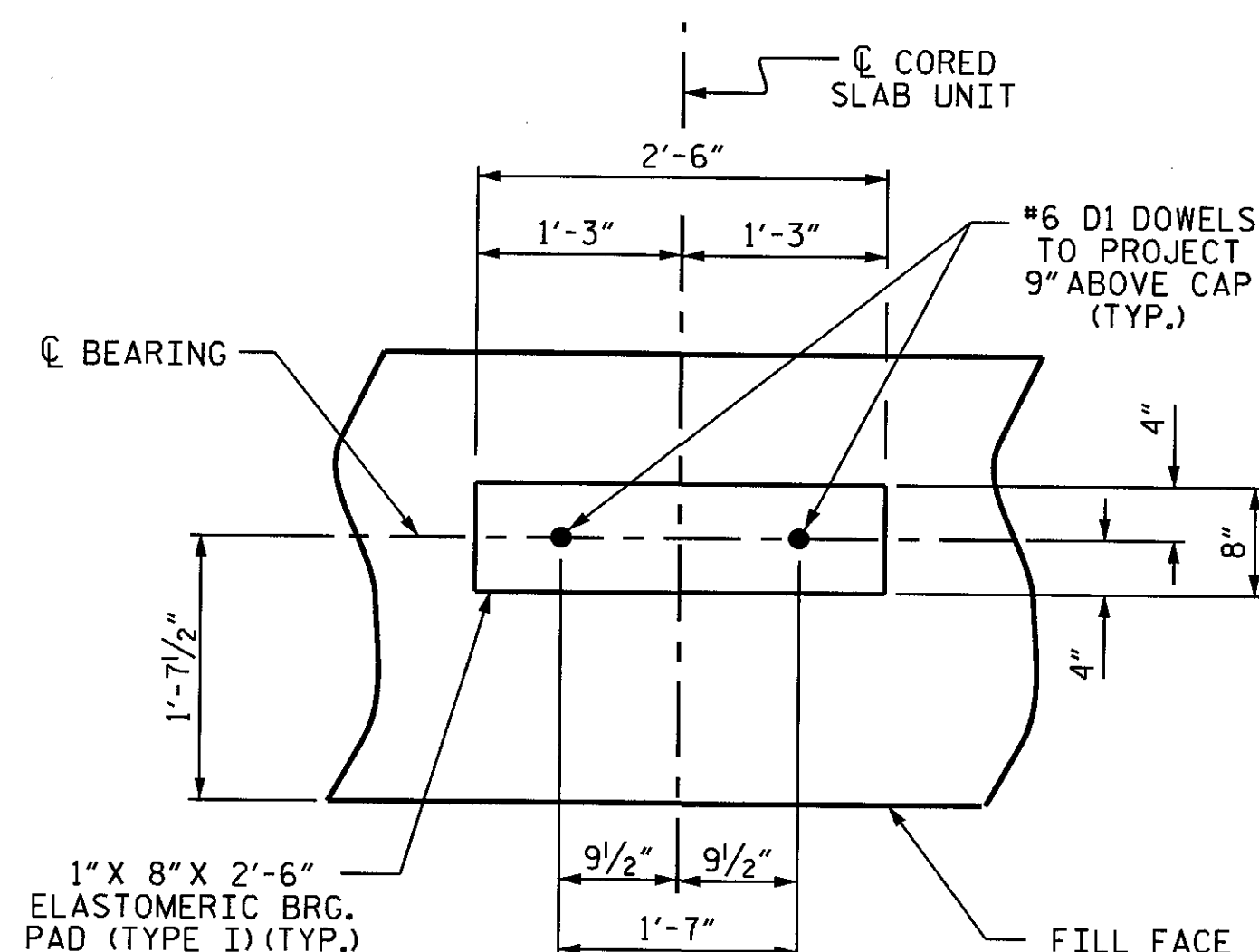


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

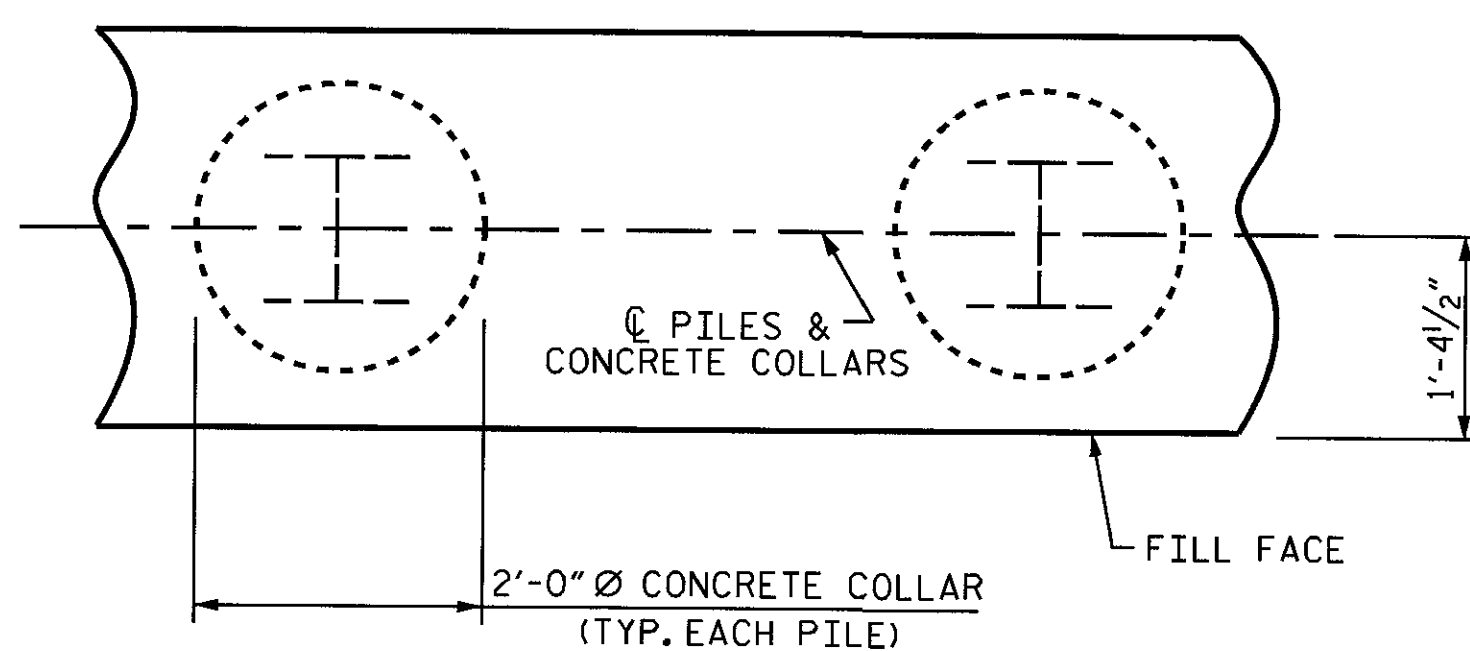
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

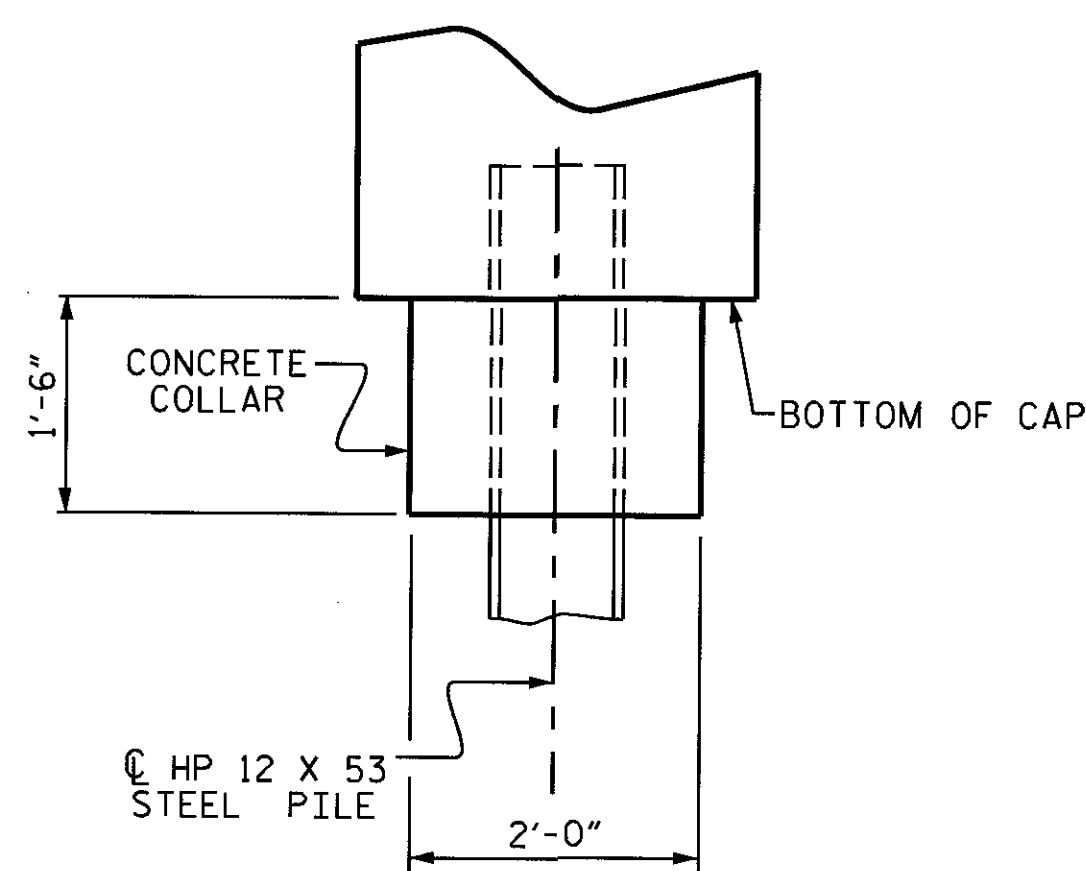
TEMPORARY DRAINAGE AT END BENT



DETAIL "A"

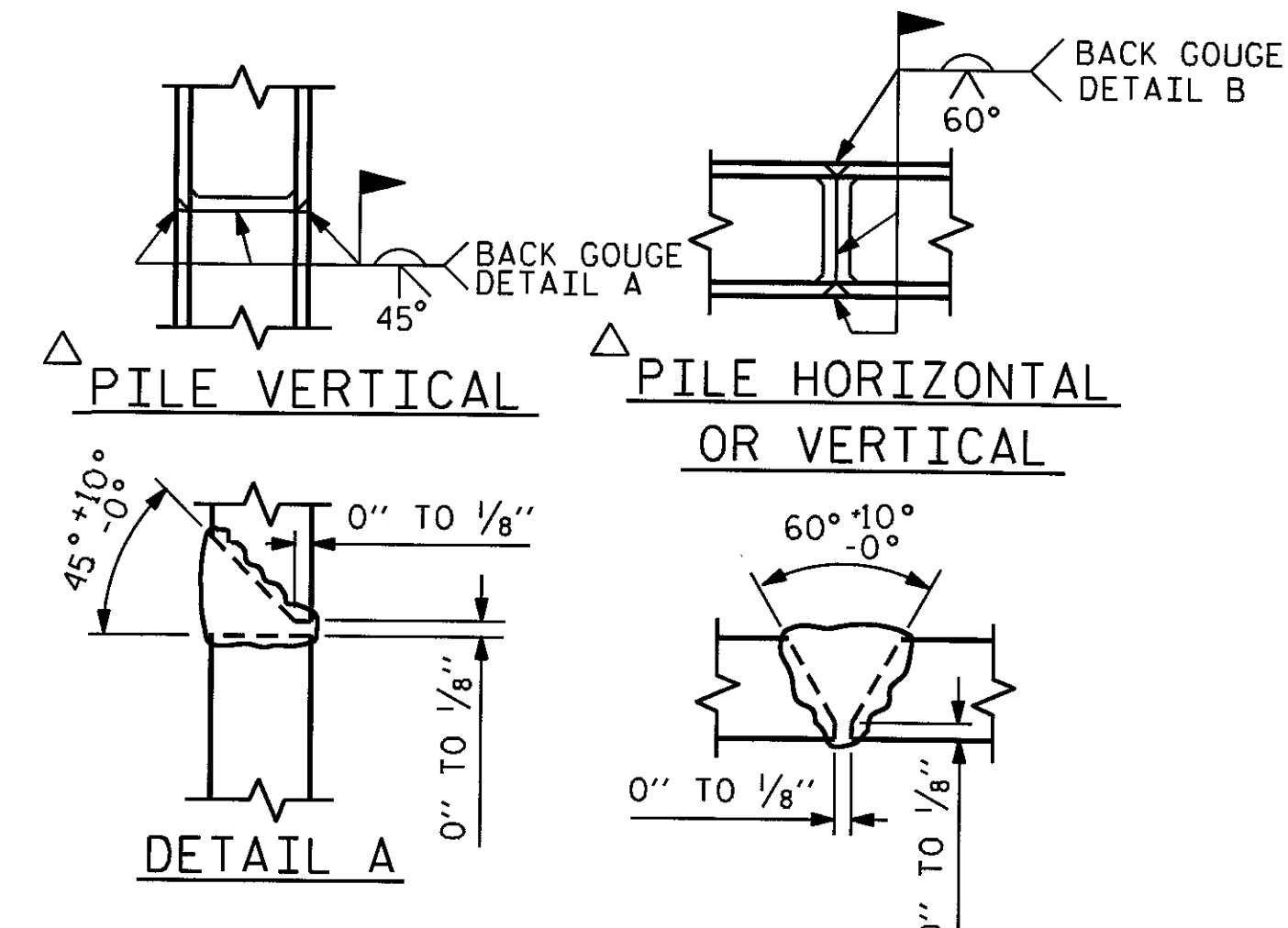


PLAN



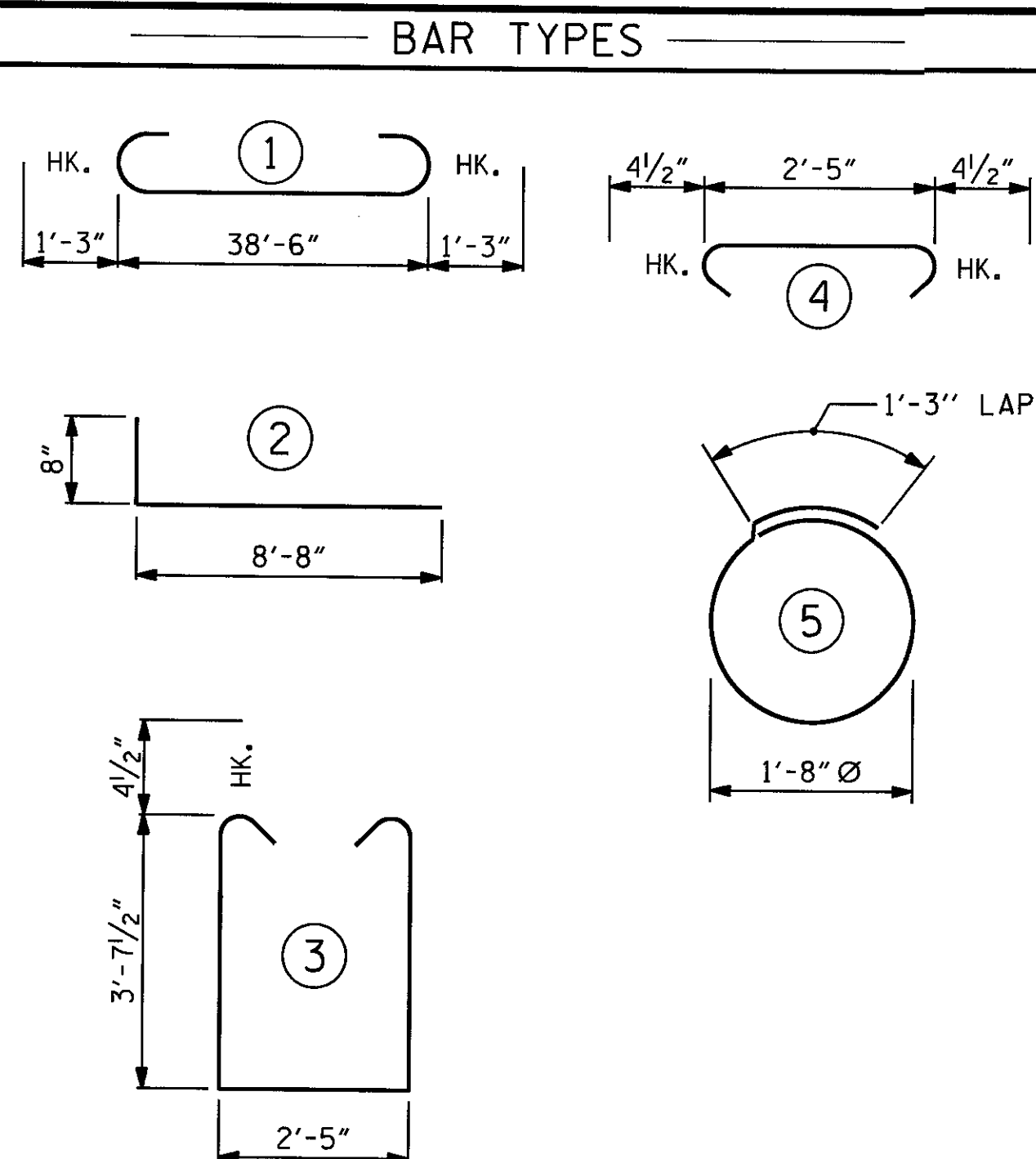
ELEVATION

CORROSION PROTECTION FOR STEEL PILES DETAIL



POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT.

END BENT No. 1
HP 12 X 53 STEEL PILES
NO: 7 LIN. FT. = 125

BILL OF MATERIAL

FOR END BENT NO. 1

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	41'-0"	1115
B2	28	#4	STR	20'-7"	385
B3	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50
H1	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31
S1	50	#4	3	10'-5"	348
S2	50	#4	4	3'-2"	106
S3	28	#4	5	6'-6"	122
V1	52	#4	STR	6'-2"	214

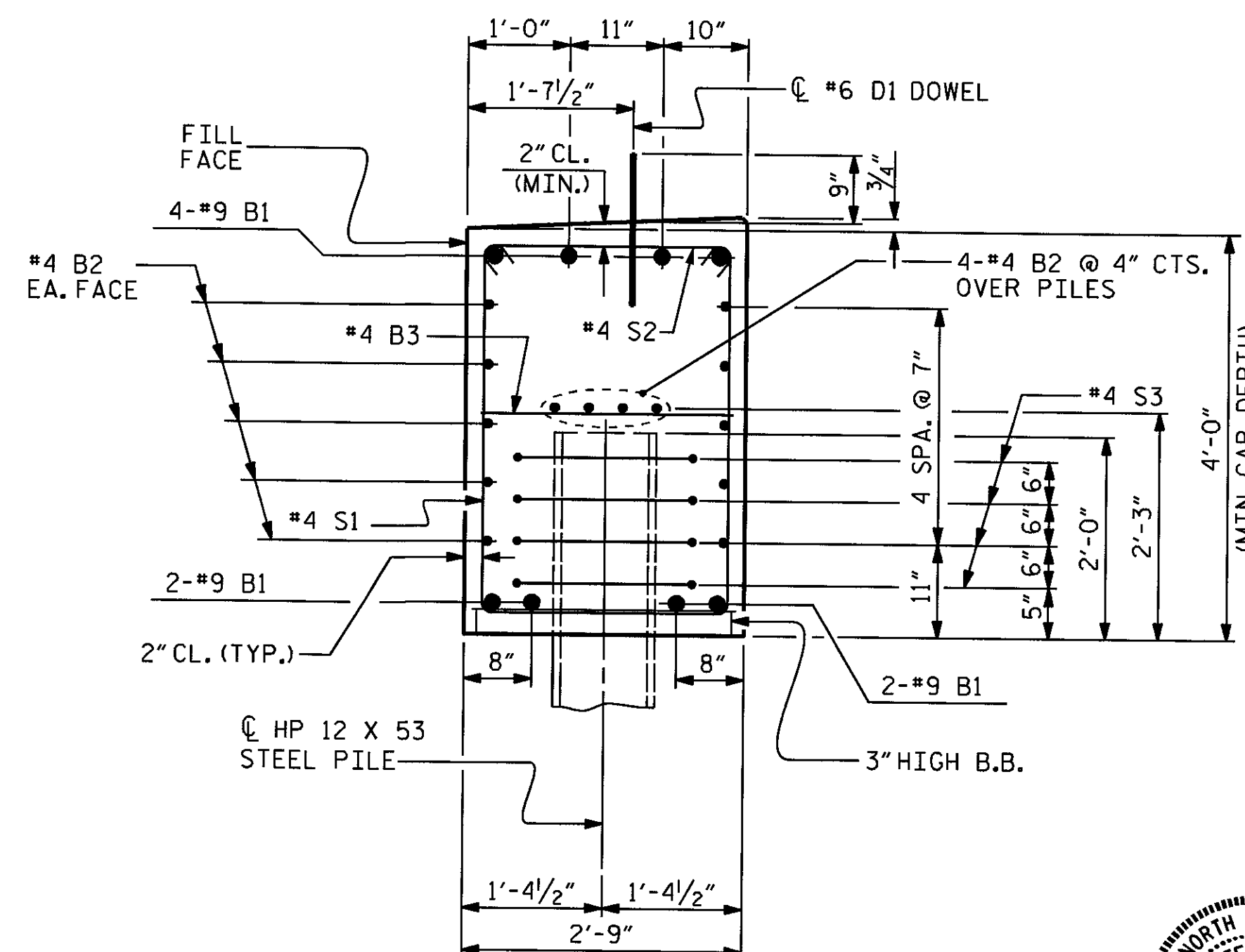
REINFORCING STEEL 2636 LBS.

CLASS A CONCRETE BREAKDOWN

POUR #1 CAP, LOWER PART OF WINGS & COLLARS 19.6 C.Y.

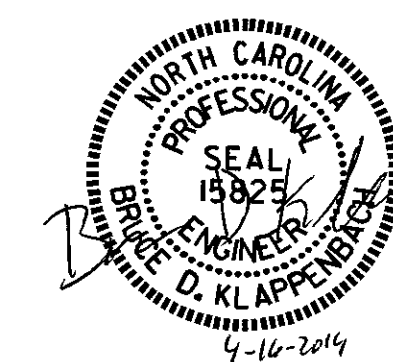
POUR #2 UPPER PART OF WINGS 2.1 C.Y.

TOTAL CLASS A CONCRETE 21.7 C.Y.



SECTION A-A

(CONCRETE COLLAR NOT SHOWN FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL.")



PROJECT NO. BD-5111X
SURRY COUNTY
STATION: 12+06.63 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

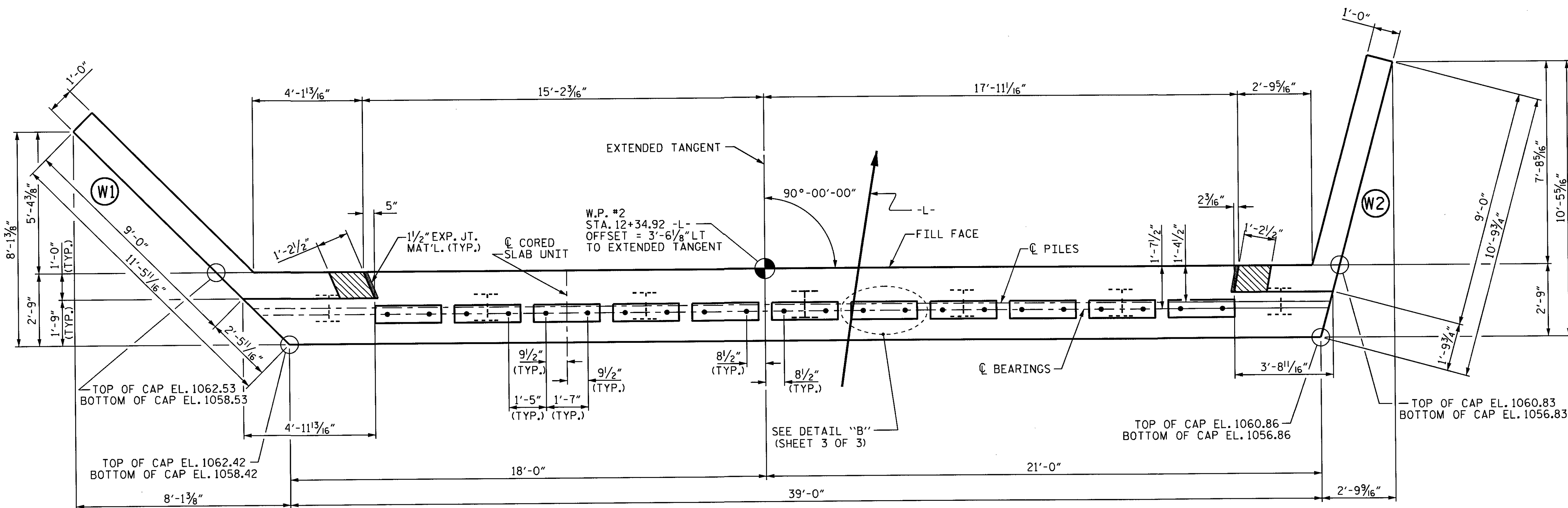
SUBSTRUCTURE

END BENT NO. 1
DETAILS

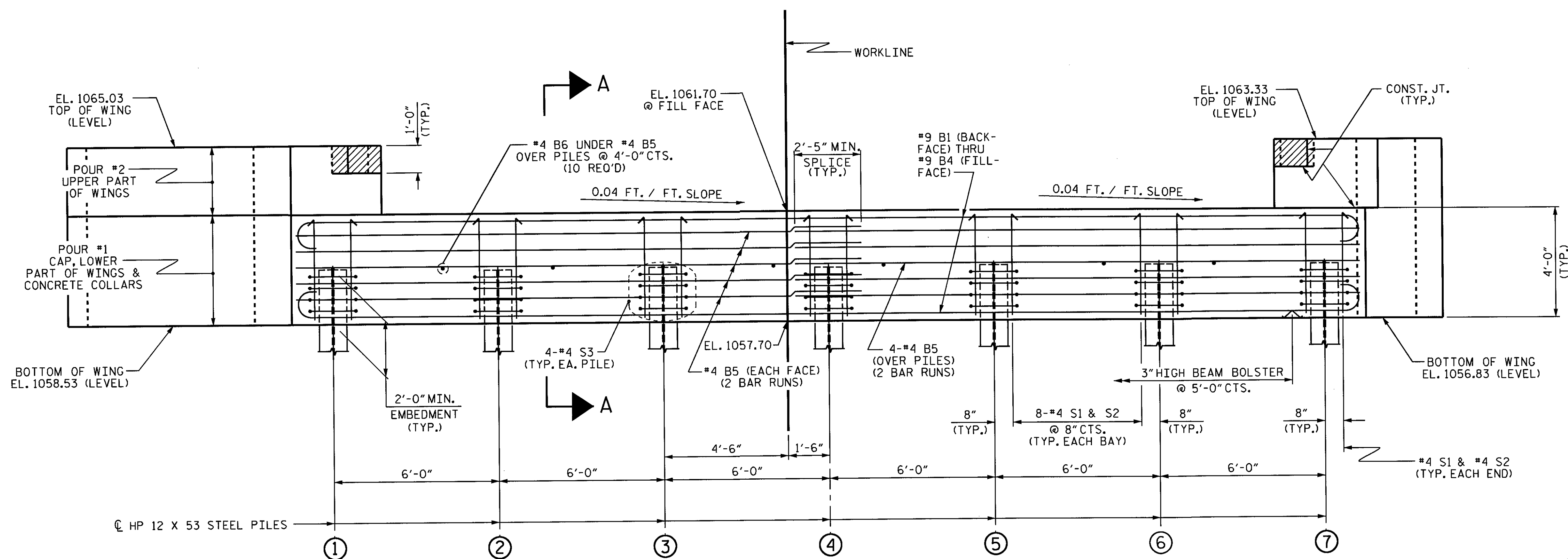
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-10
2			4			TOTAL SHEETS 15

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14
CHECKED BY : H.T. BARBOUR DATE : MAR. 14

DRAWN BY : WJH 12/11
CHECKED BY : AAC 12/11



PLAN



ELEVATION

NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 3 OF 3.

FOR WING DETAILS, SEE SHEET 2 OF 3.

TOP OF PILE ELEVATIONS

①	1060.36
②	1060.12
③	1059.88
④	1059.64
⑤	1059.40
⑥	1059.16
⑦	1058.92

PROJECT NO. BD-5111X
SURRY COUNTY
 STATION: 12+06.63 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 2

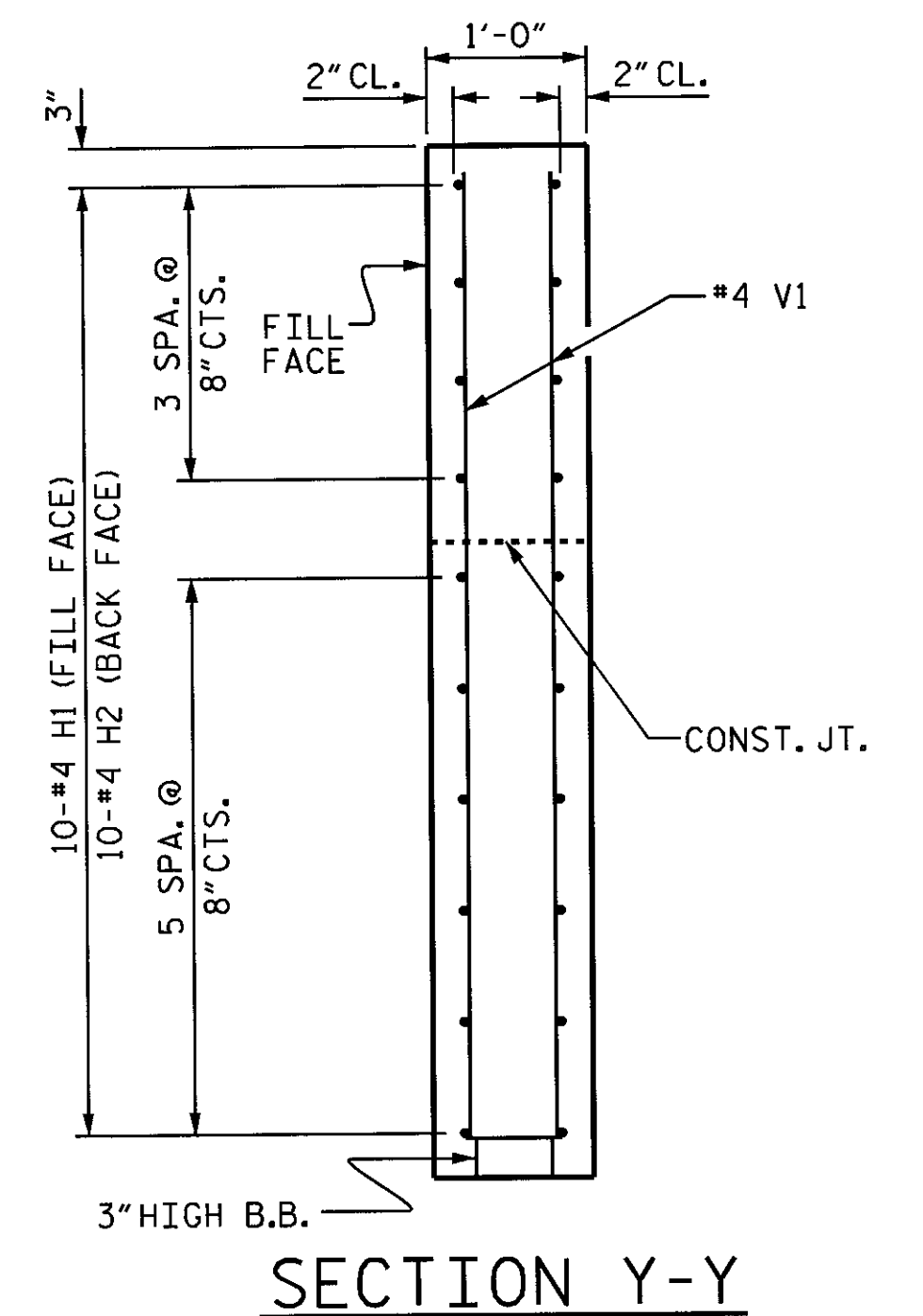
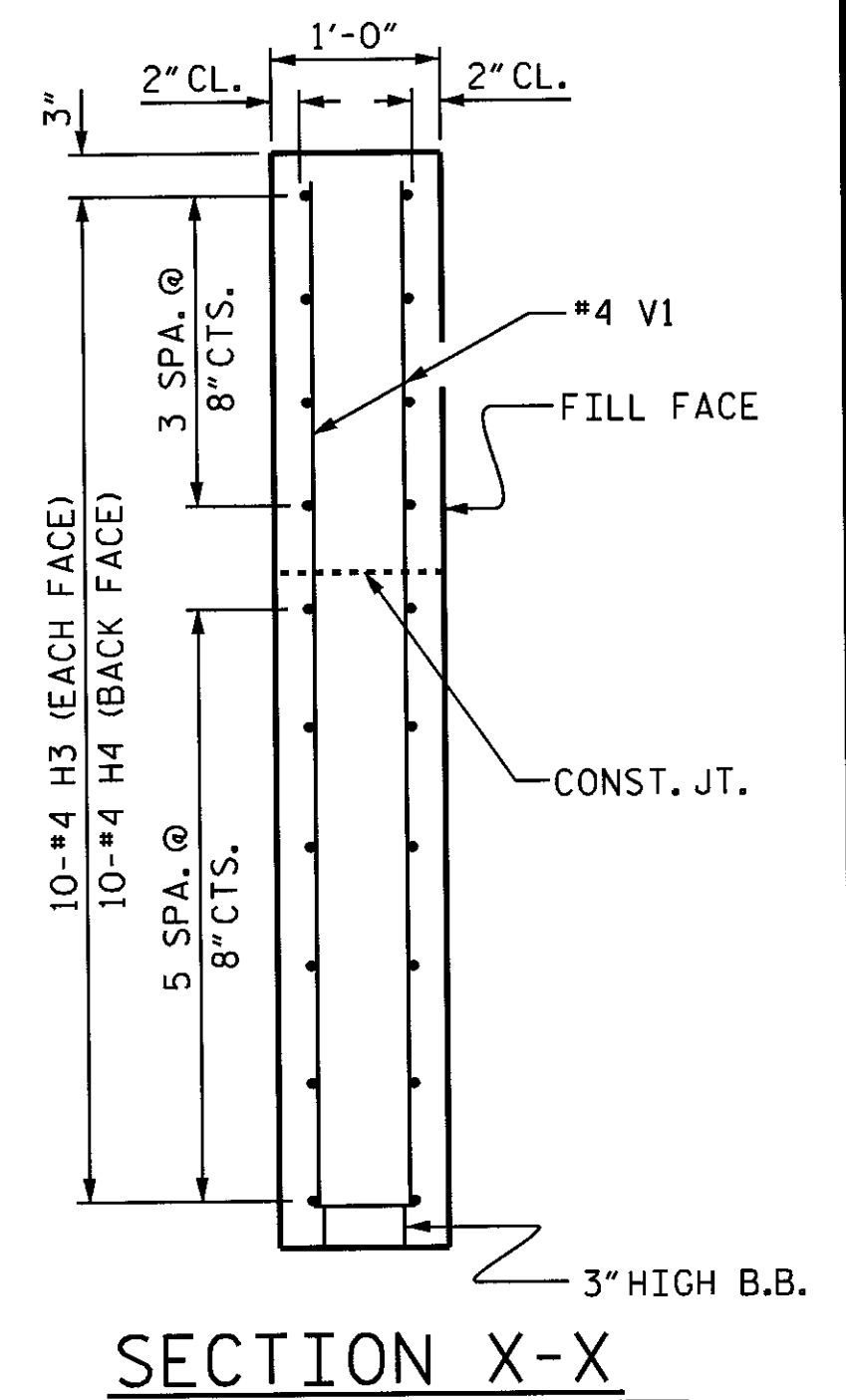
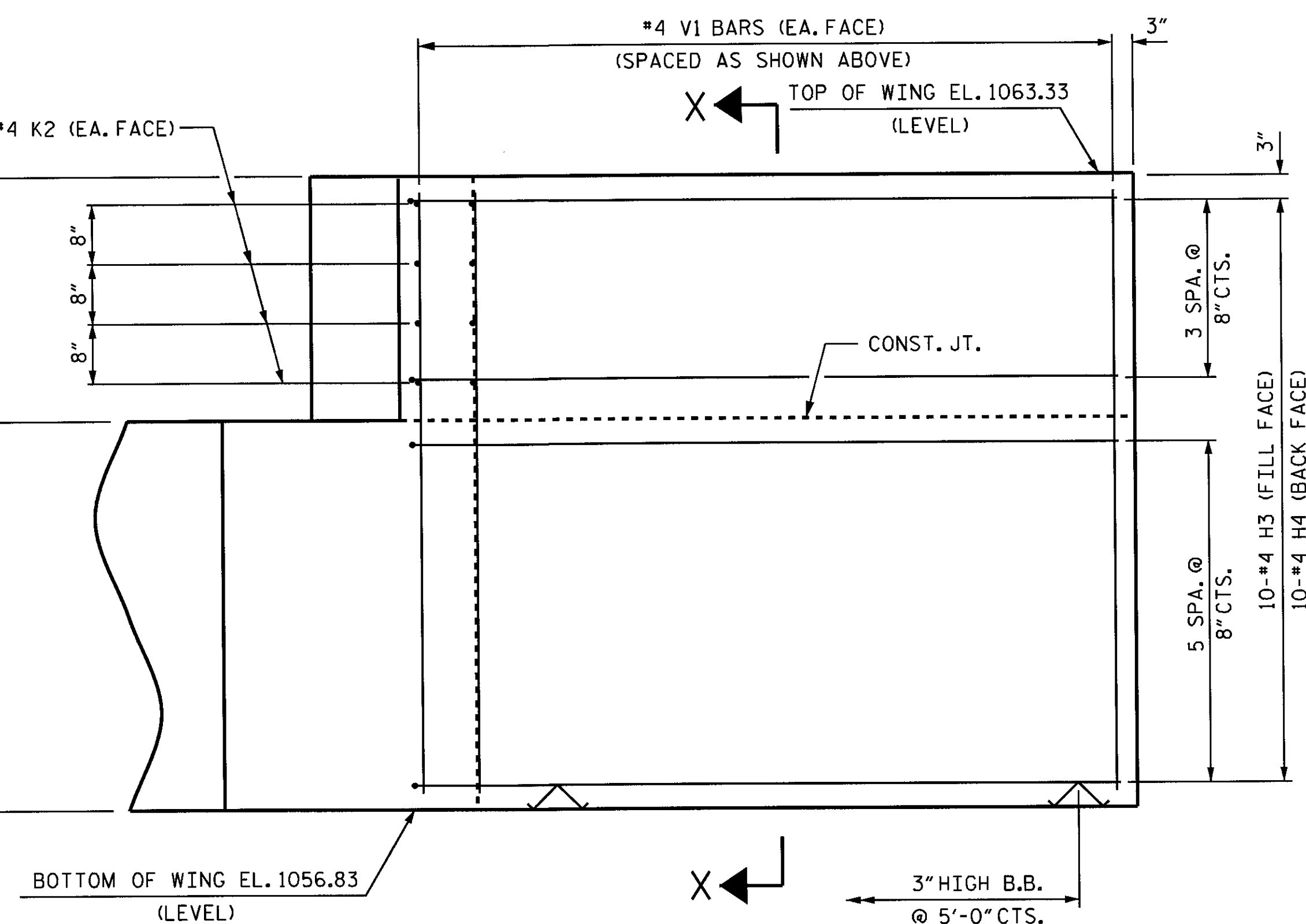
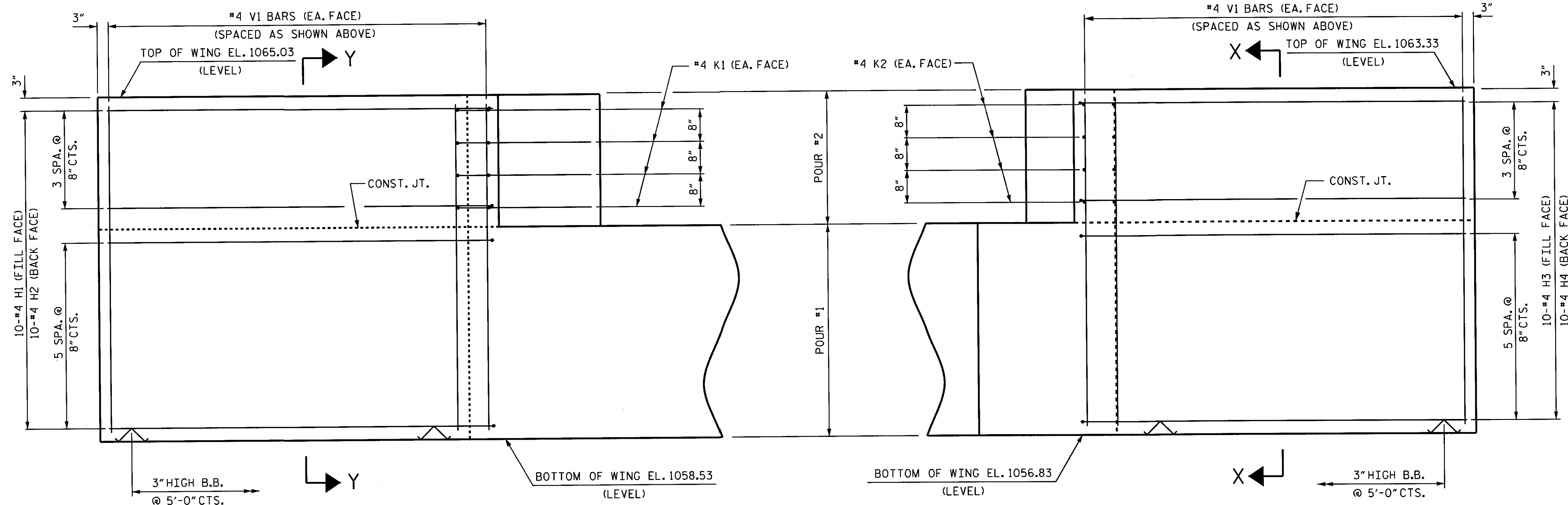
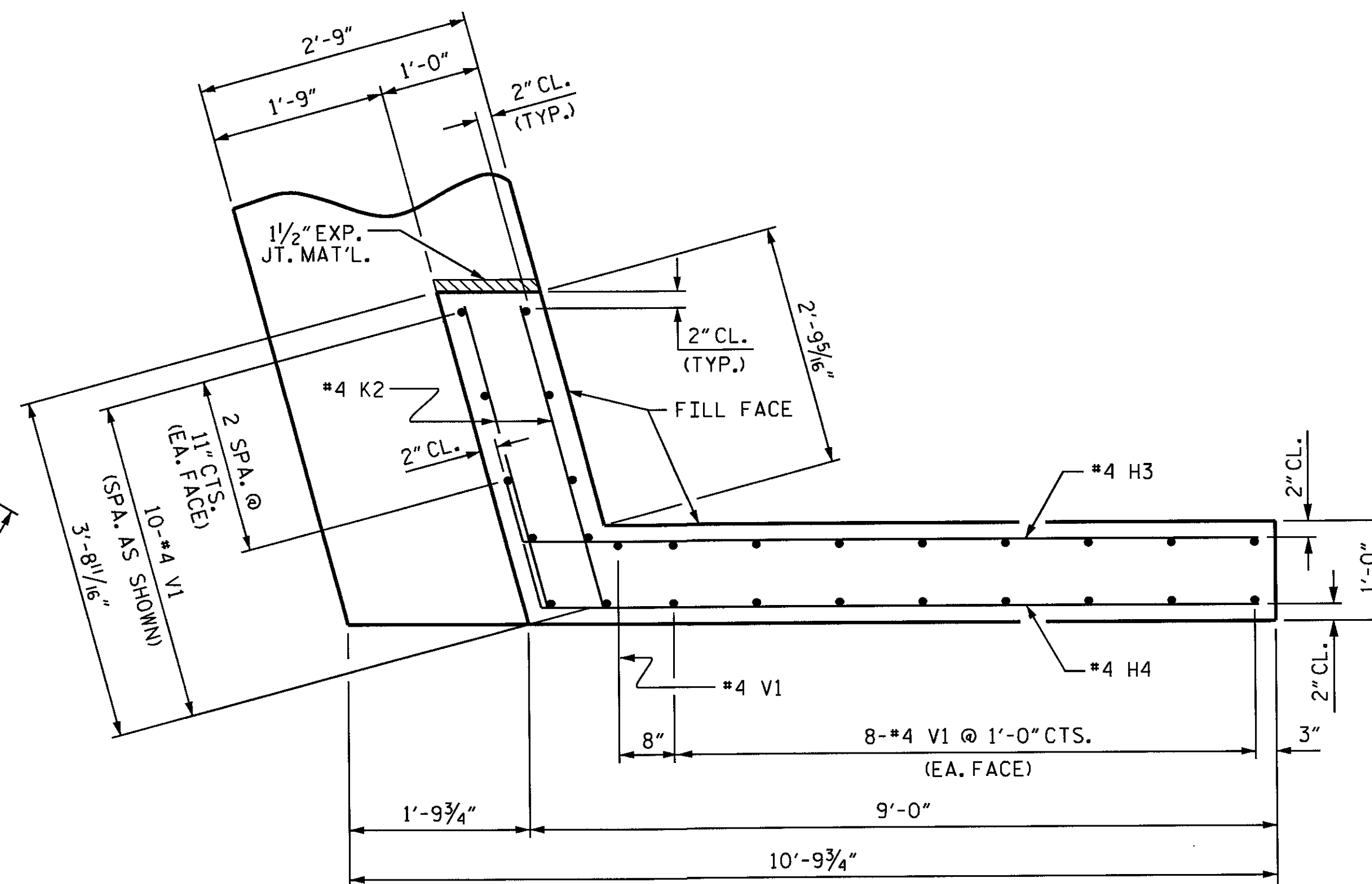
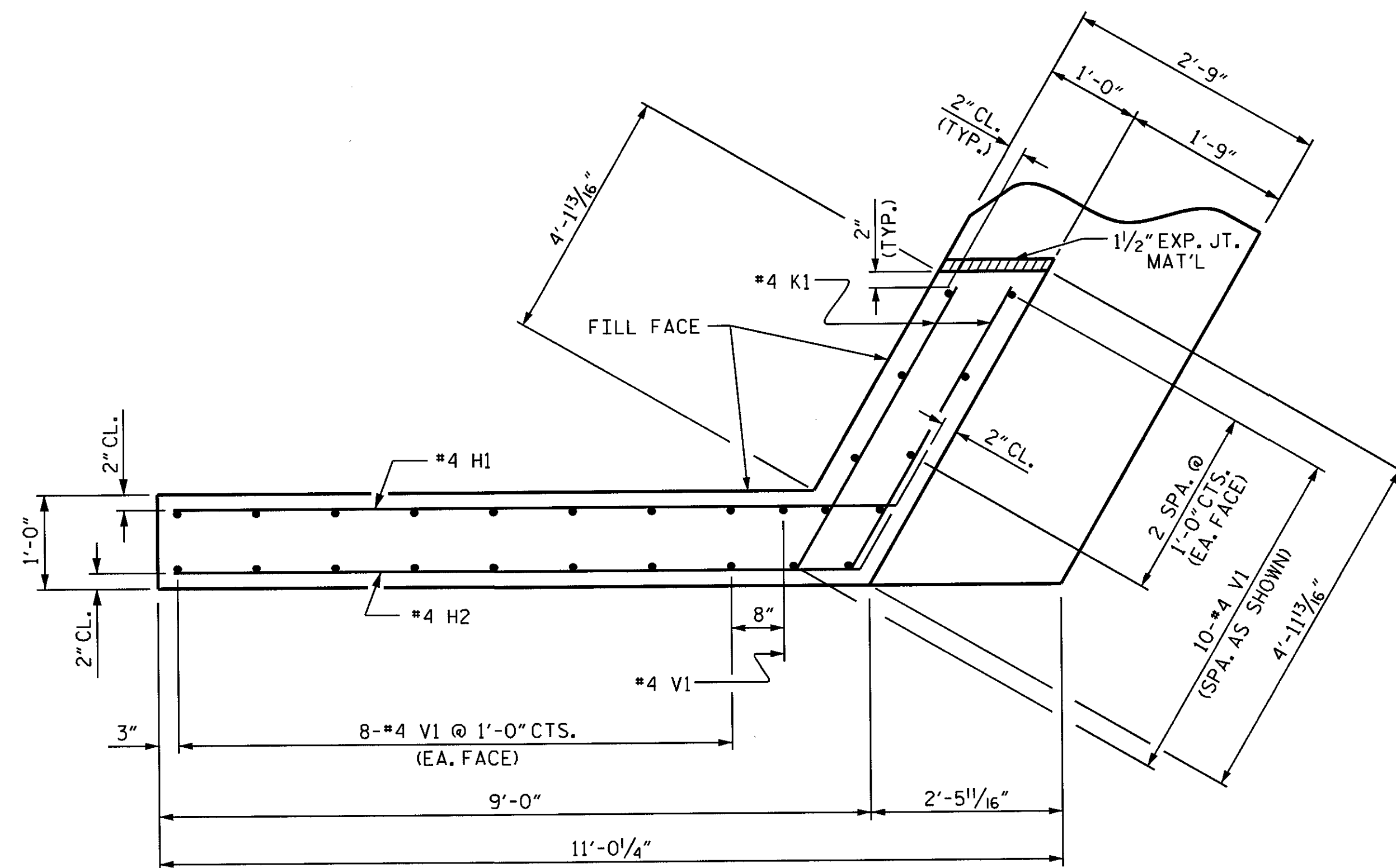
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	
1			3			S-11
2			4			TOTAL SHEETS 15

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14
 CHECKED BY : H.T. BARBOUR DATE : MAR. 14
 DRAWN BY : WJH 12/11
 CHECKED BY : AAC 12/11

FOR SECTION A-A, SEE SHEET 3 OF 3.
 CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
 SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 3 OF 3.



STD. NO. EB-33-90S4



PROJECT NO. BD-5111X
SURRY COUNTY
 STATION: 12+06.63 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT NO.2
WING DETAILS

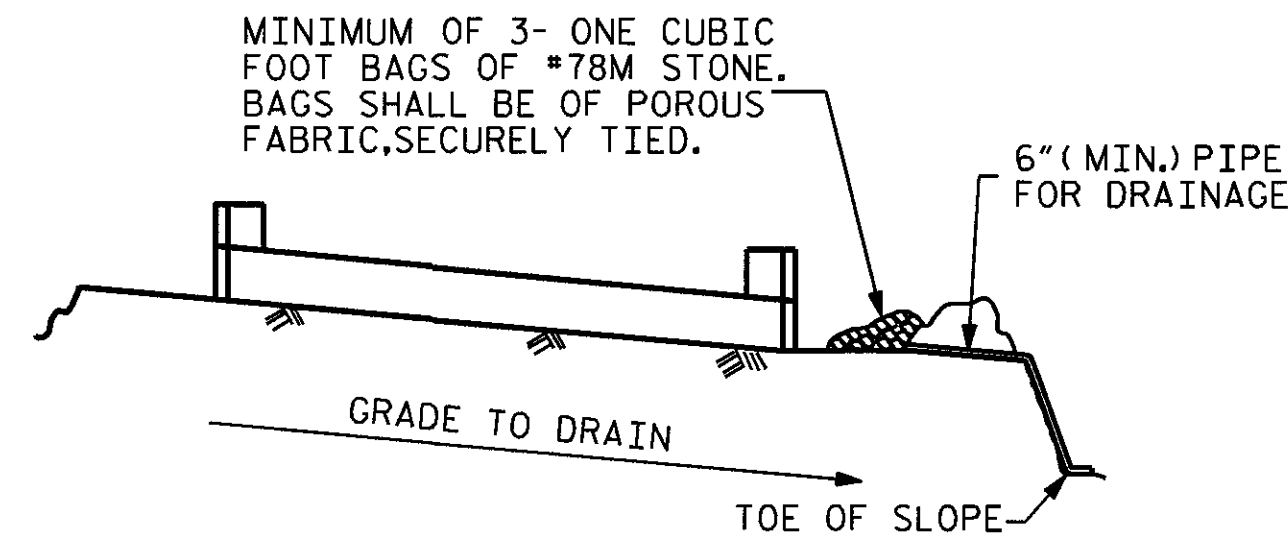
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14
CHECKED BY : H.T. BARBOUR DATE : MAR. 14

DRAWN BY : WJH 12/11
CHECKED BY : AAC 12/11

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STD. NO. EB_33_75S4

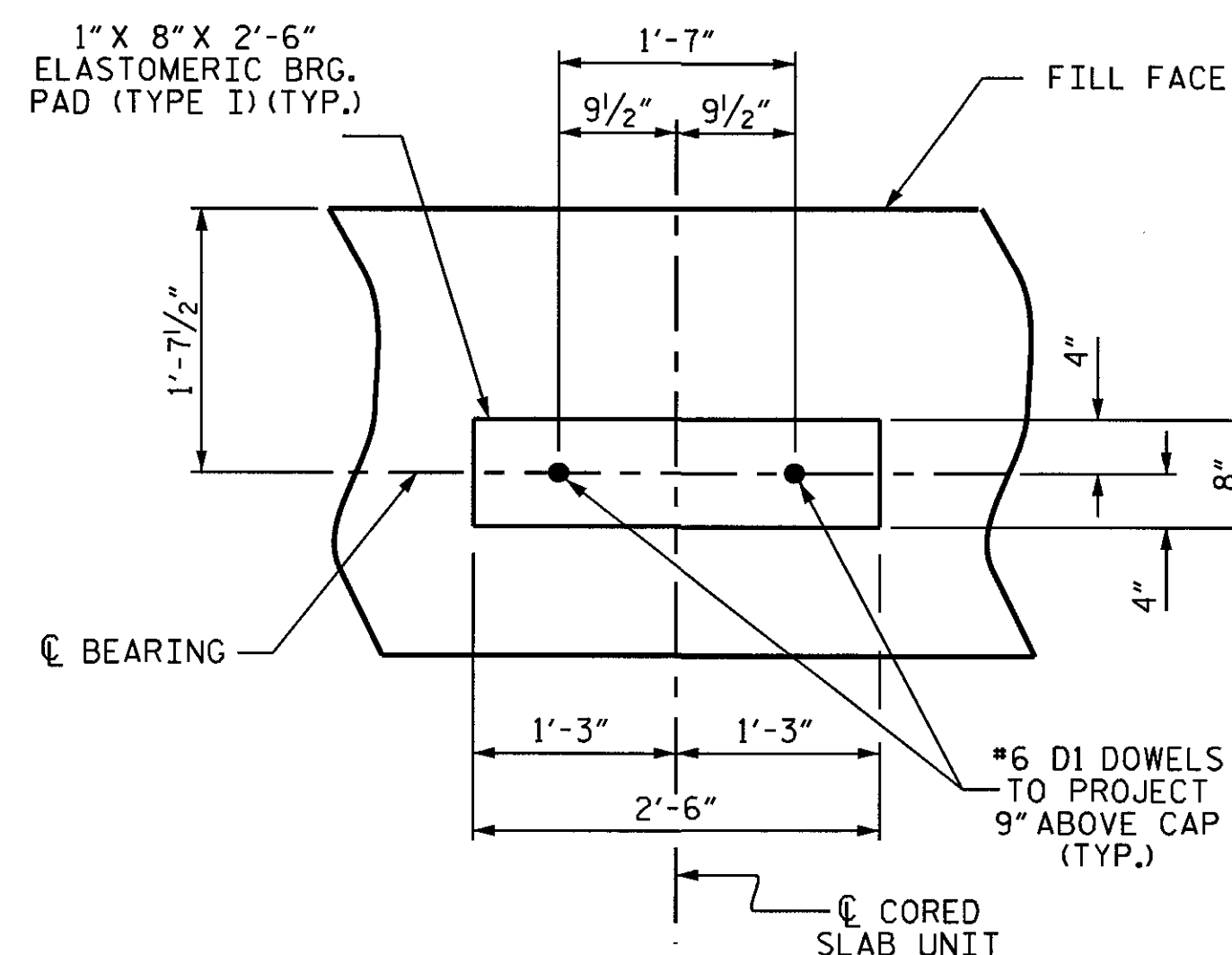


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

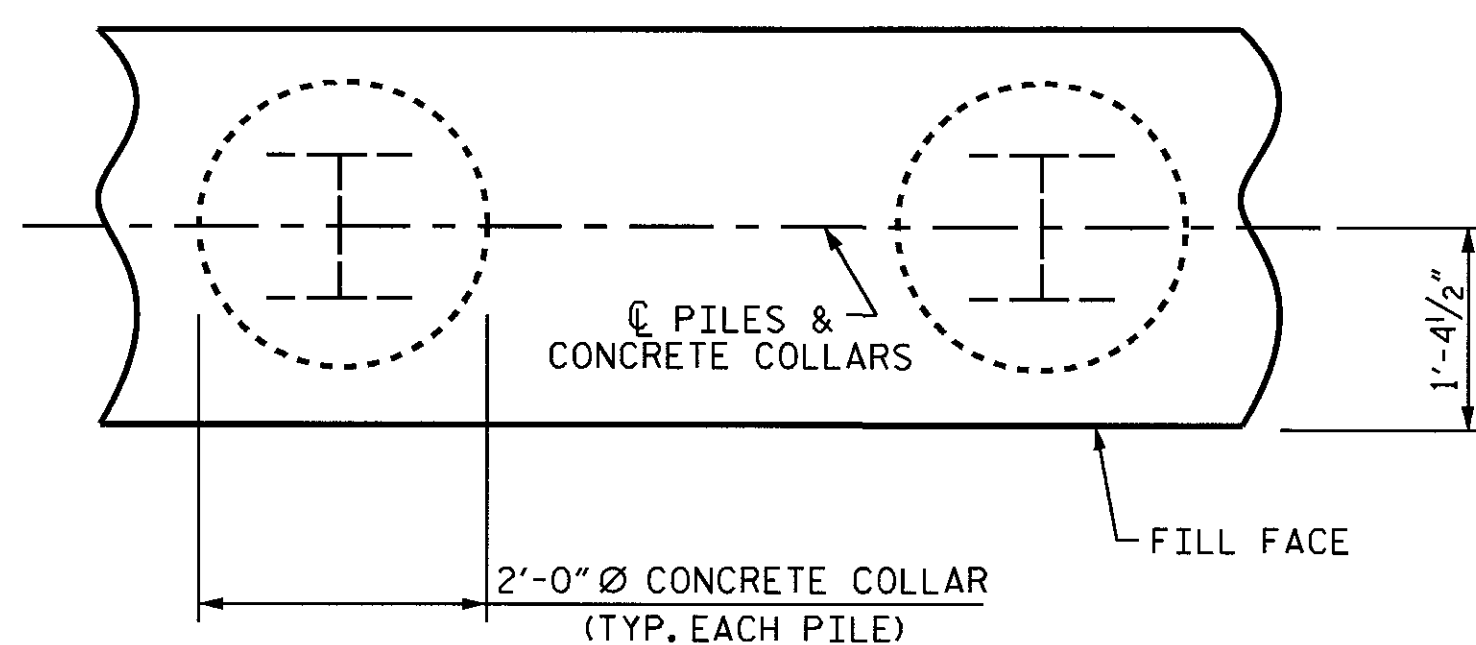
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

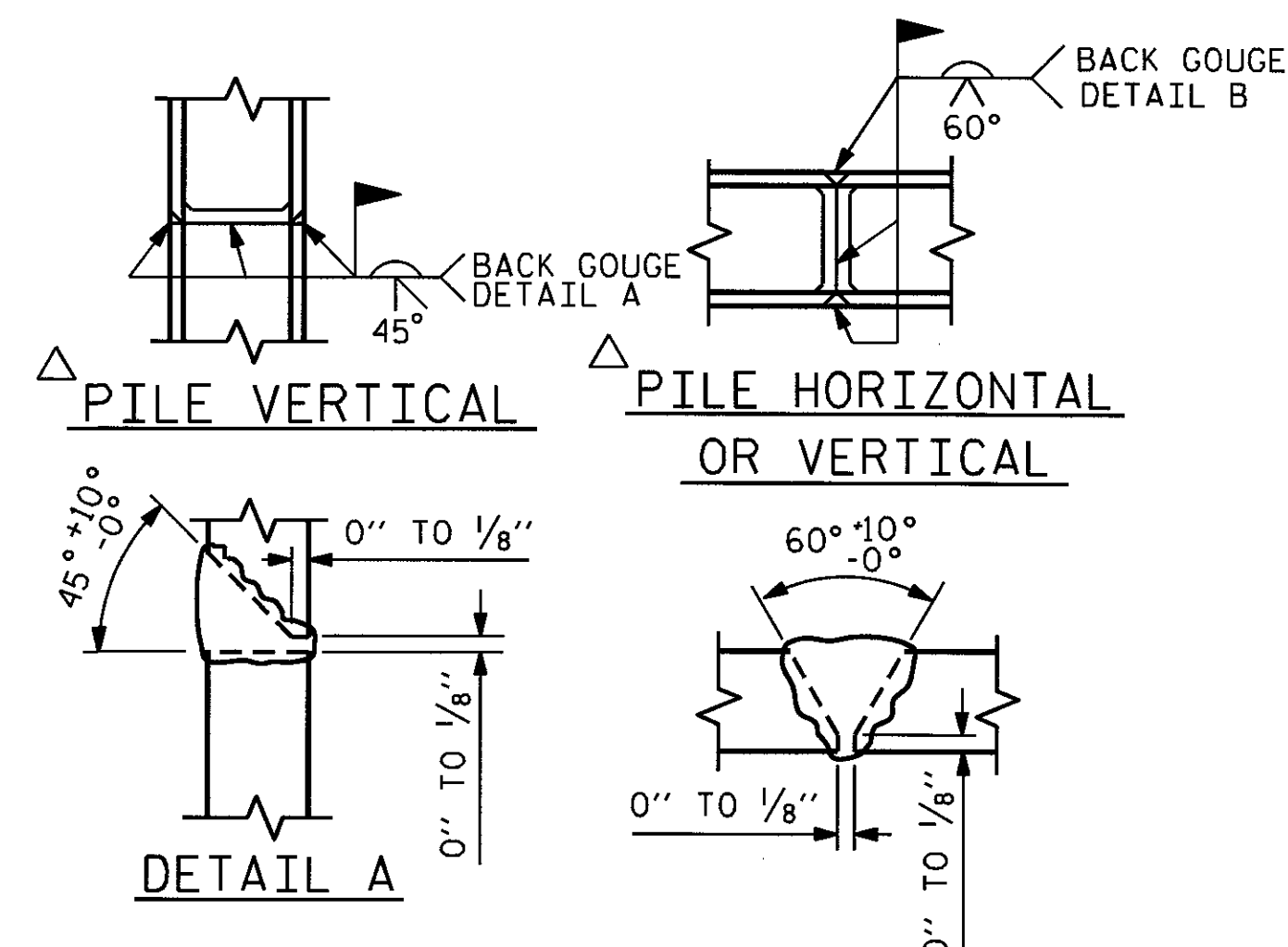
TEMPORARY DRAINAGE AT END BENT



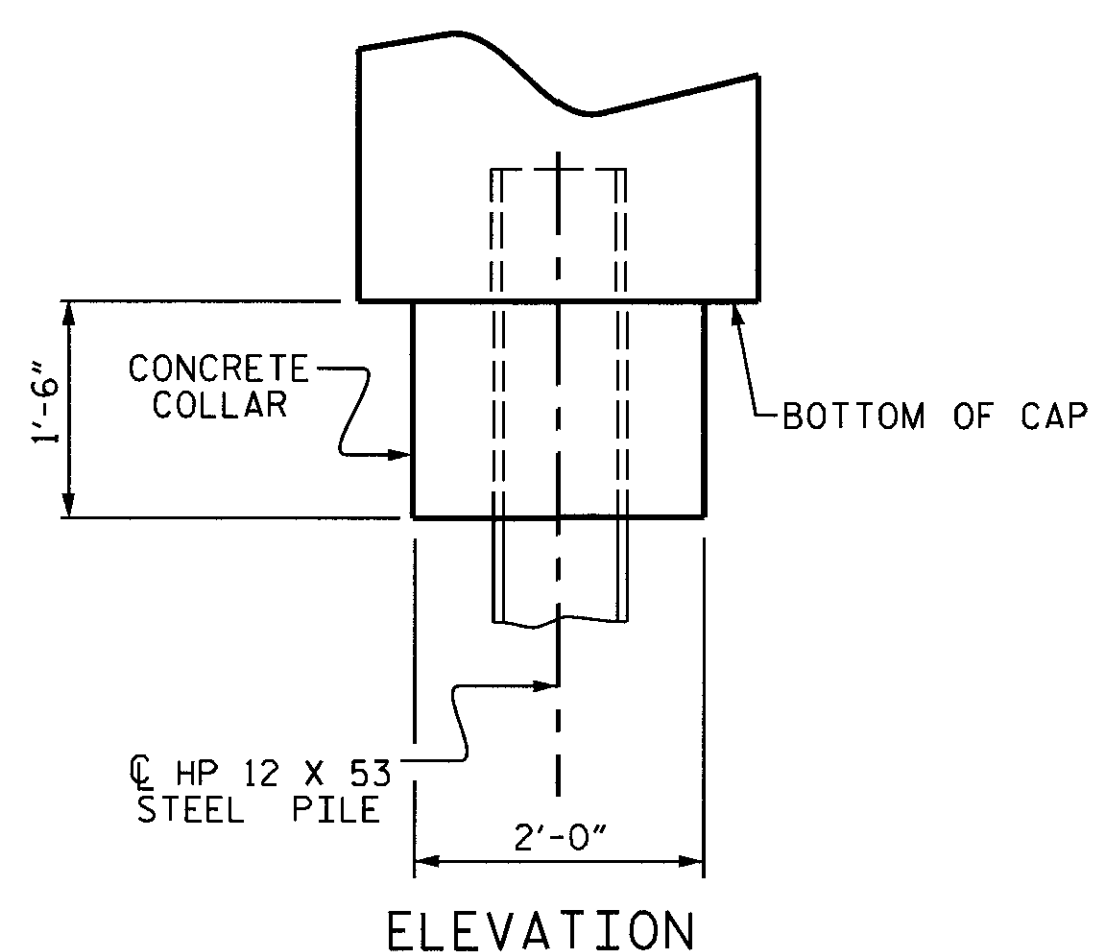
DETAIL "B"



PLAN



PILE SPLICE DETAILS

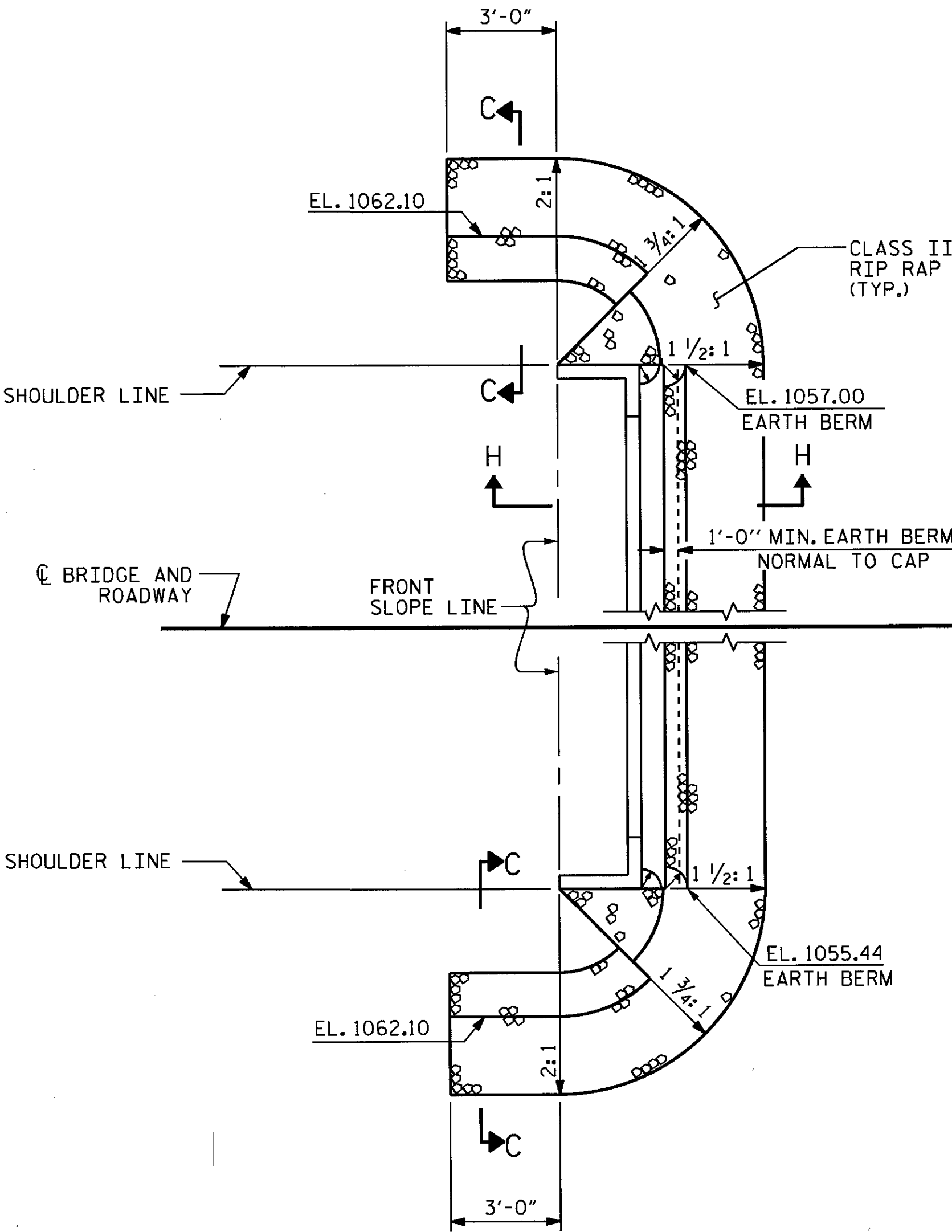


ELEVATION

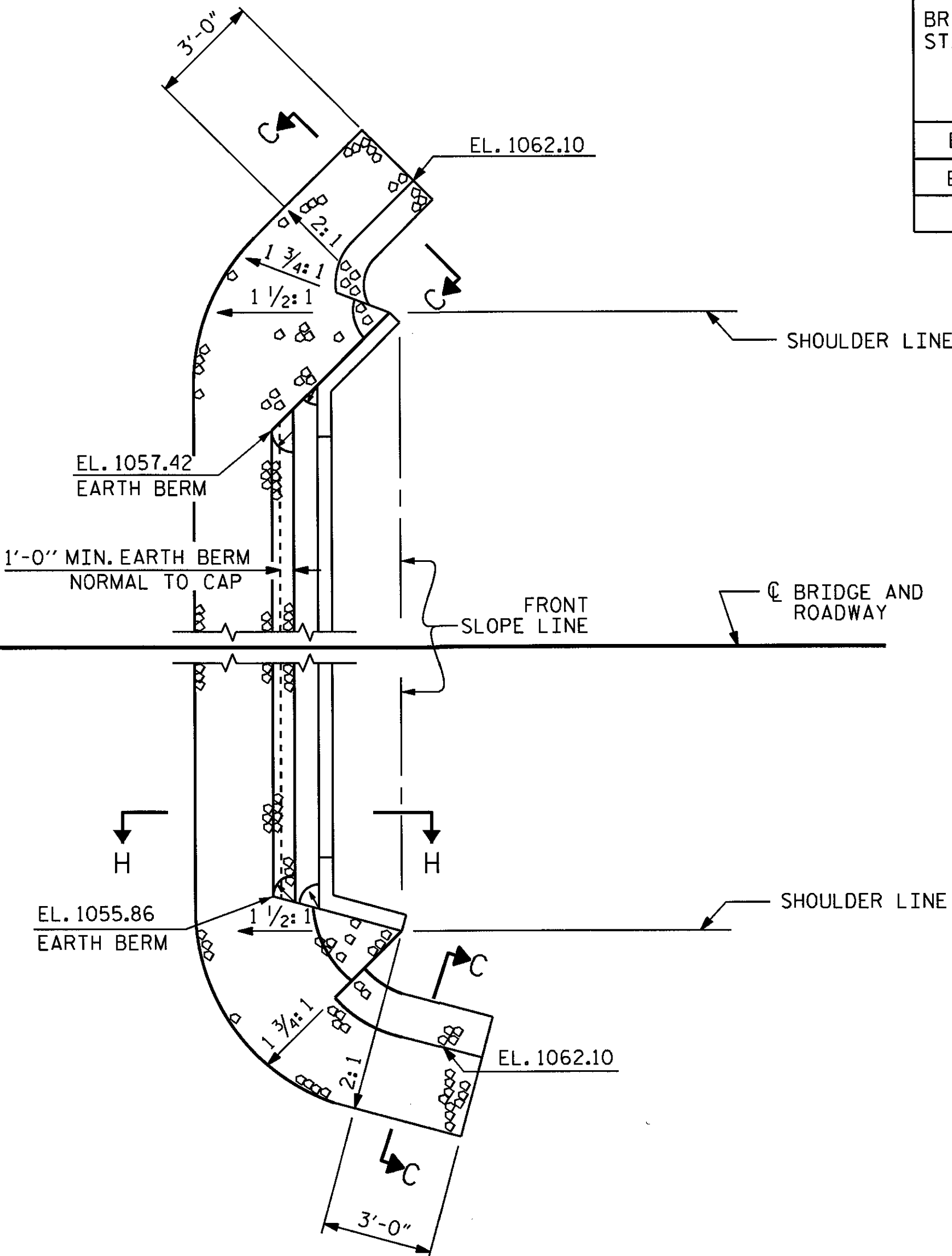
BAR TYPES				BILL OF MATERIAL				
				FOR END BENT NO. 2				
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT			
B1	2	#9	1	41'-2"	280			
B2	2	#9	1	41'-8"	283			
B3	2	#9	1	43'-1"	293			
B4	2	#9	1	44'-0"	299			
B5	28	#4	STR	22'-0"	412			
B6	10	#4	STR	2'-5"	16			
D1	22	#6	STR	1'-6"	50			
H1	10	#4	2	10'-0"	67			
H2	10	#4	2	9'-5"	63			
H3	10	#4	2	9'-6"	63			
H4	10	#4	2	9'-4"	62			
K1	8	#4	STR	4'-8"	25			
K2	8	#4	STR	3'-4"	18			
S1	50	#4	3	10'-5"	348			
S2	50	#4	4	3'-2"	106			
S3	28	#4	5	6'-6"	122			
V1	54	#4	STR	6'-2"	222			
REINFORCING STEEL						2729 LBS.		
CLASS A CONCRETE BREAKDOWN								
POUR #1 CAP, LOWER PART OF WINGS & COLLARS						20.2 C.Y.		
POUR #2 UPPER PART OF WINGS						2.4 C.Y.		
TOTAL CLASS A CONCRETE						22.6 C.Y.		

ALL BAR DIMENSIONS ARE OUT TO OUT.			
END BENT No. 2 HP 12 X 53 STEEL PILES NO: 7 LIN. FT.= 90			

ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+06.63-L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	70	80
END BENT 2	80	90
TOTAL	150	170

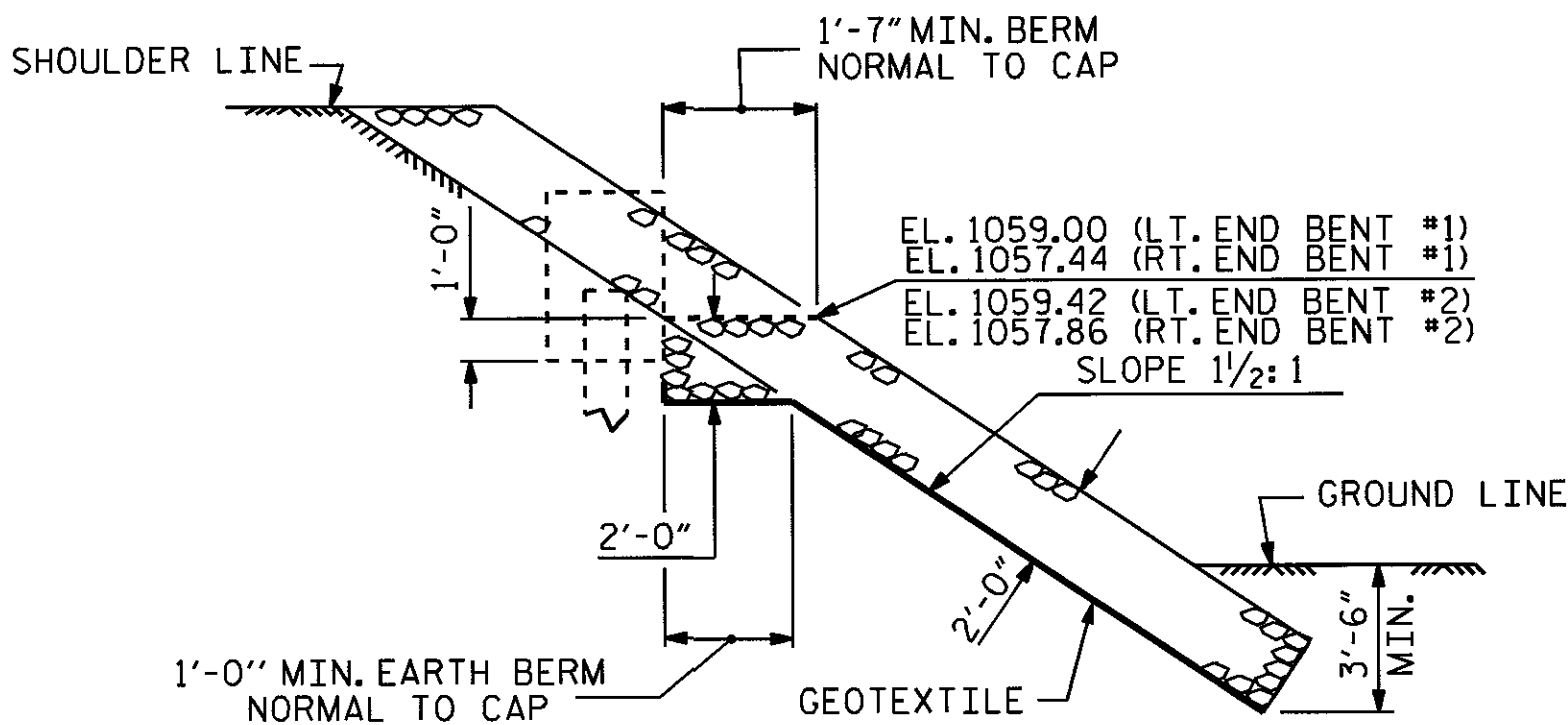


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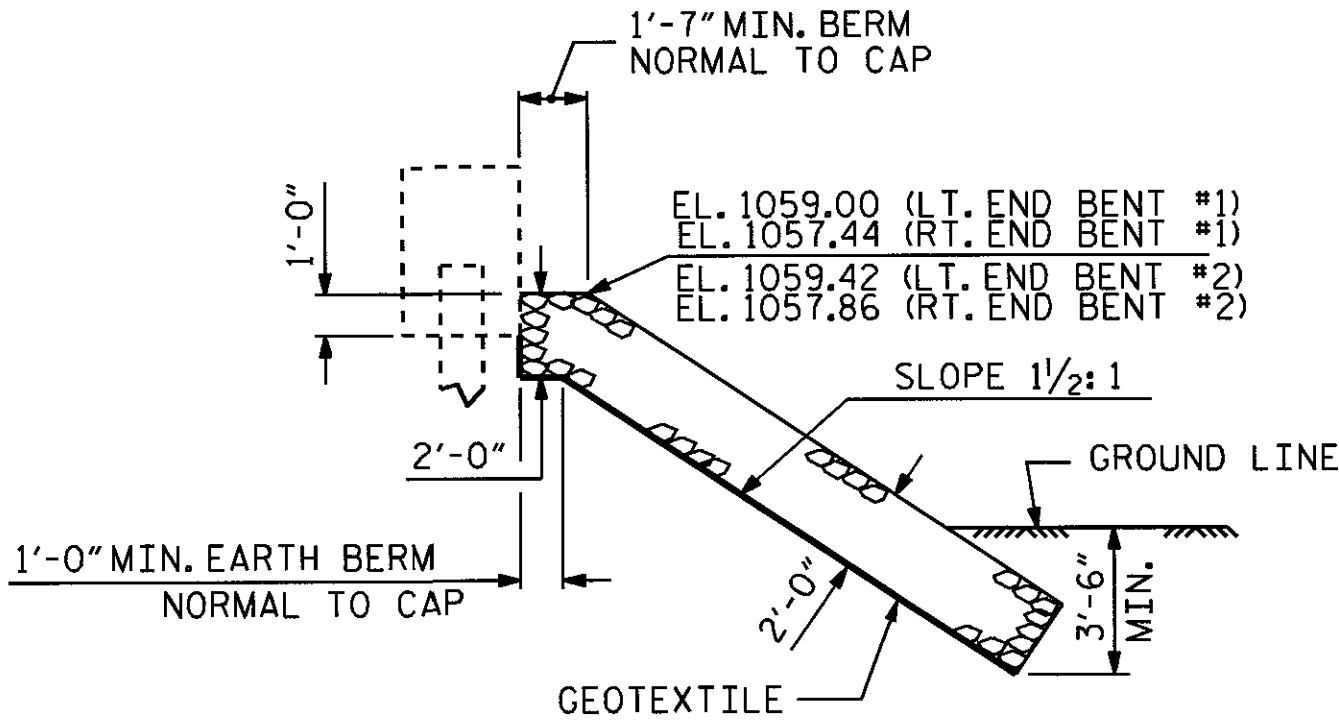


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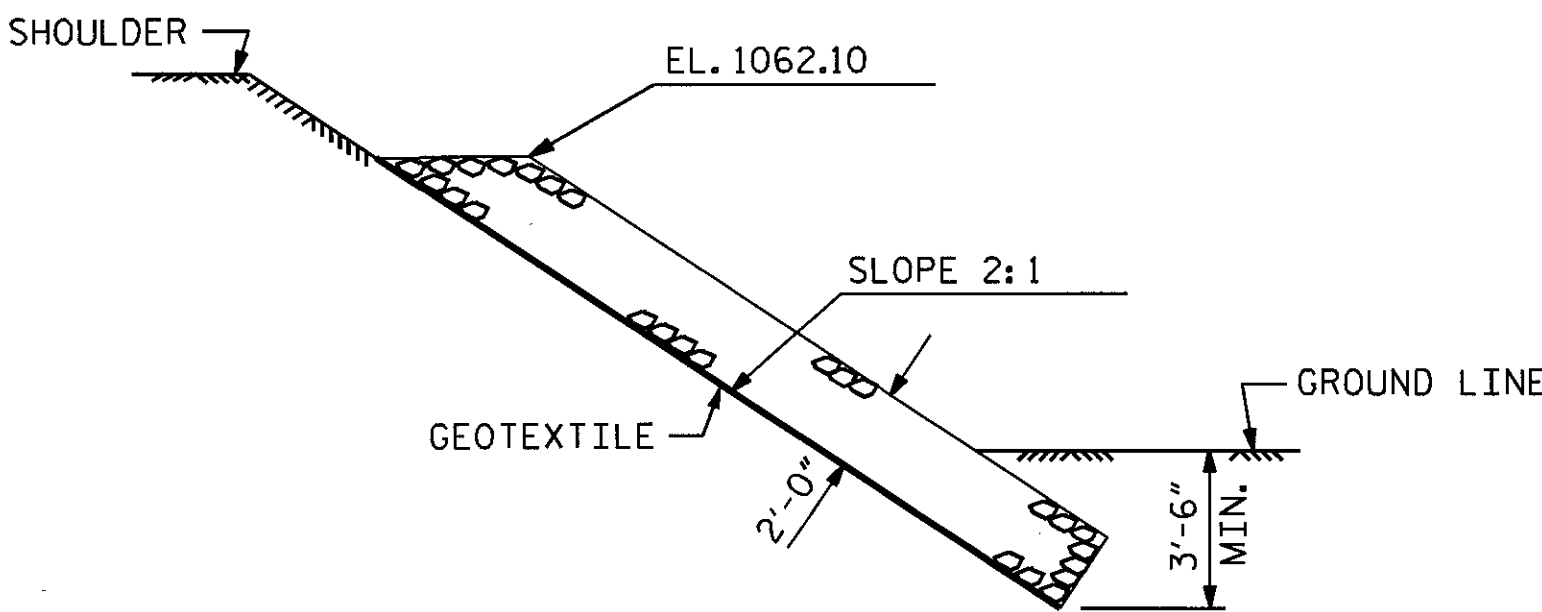
PLAN



SECTION H-H

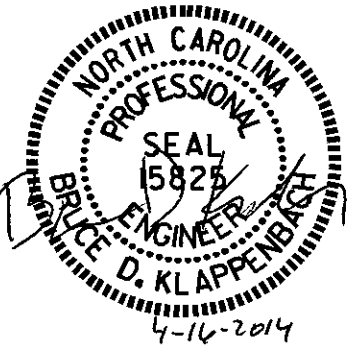


SECTION C-C
BERM RIP RAPPED



SECTION C-C

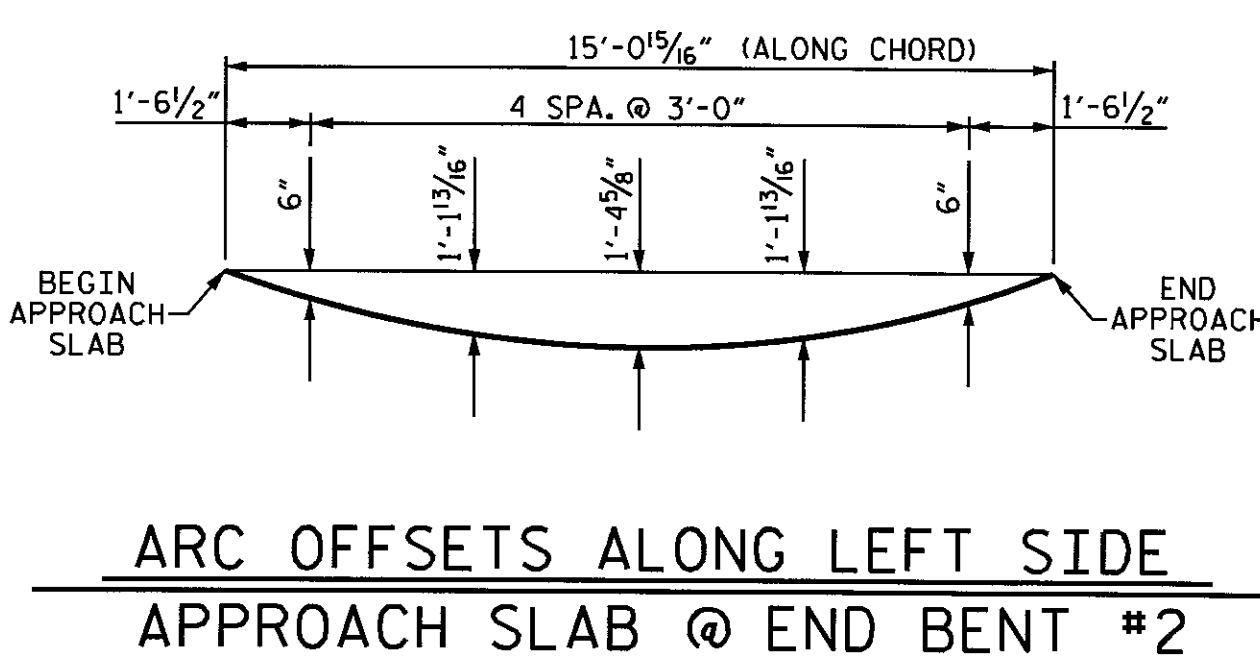
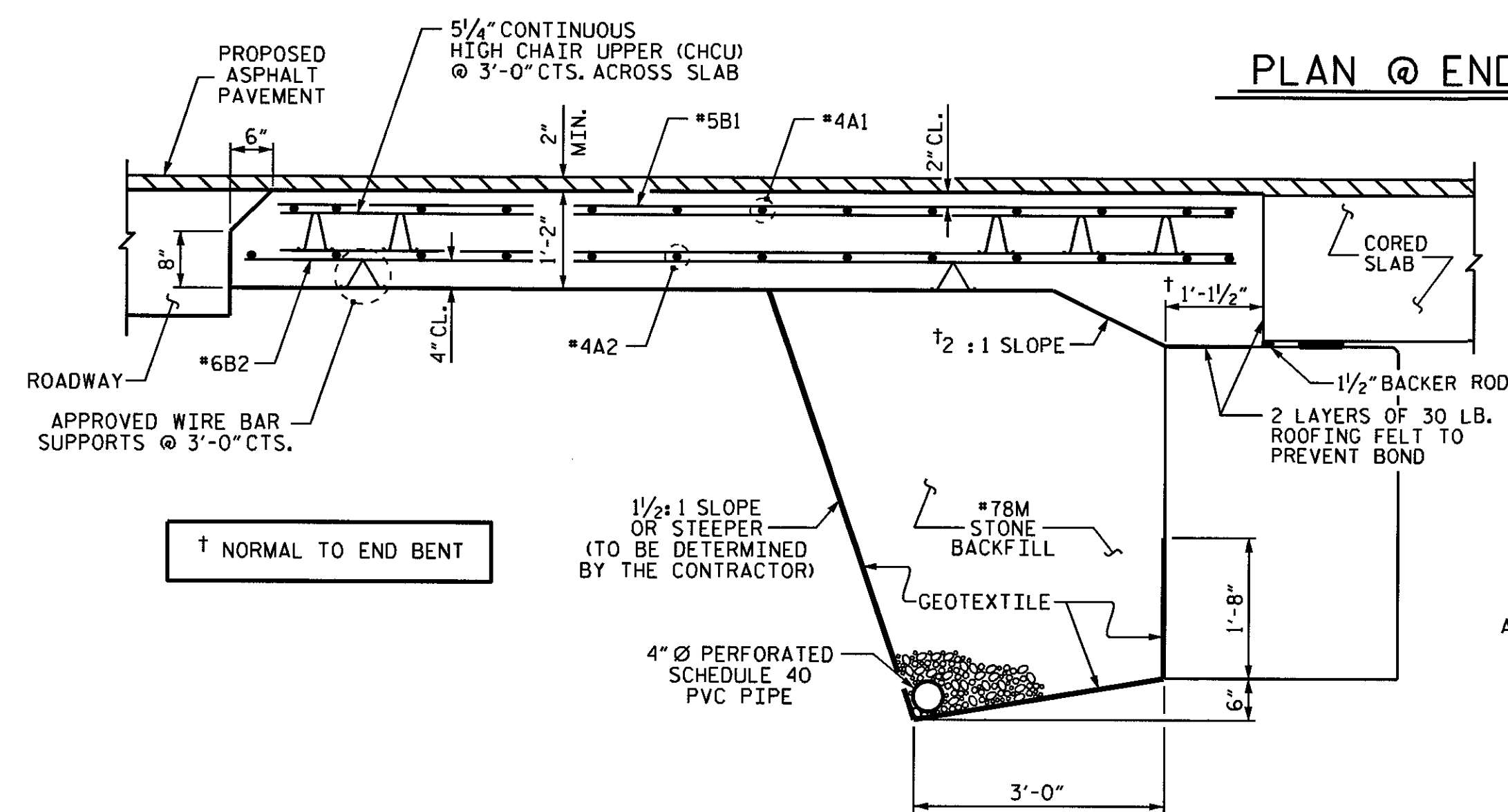
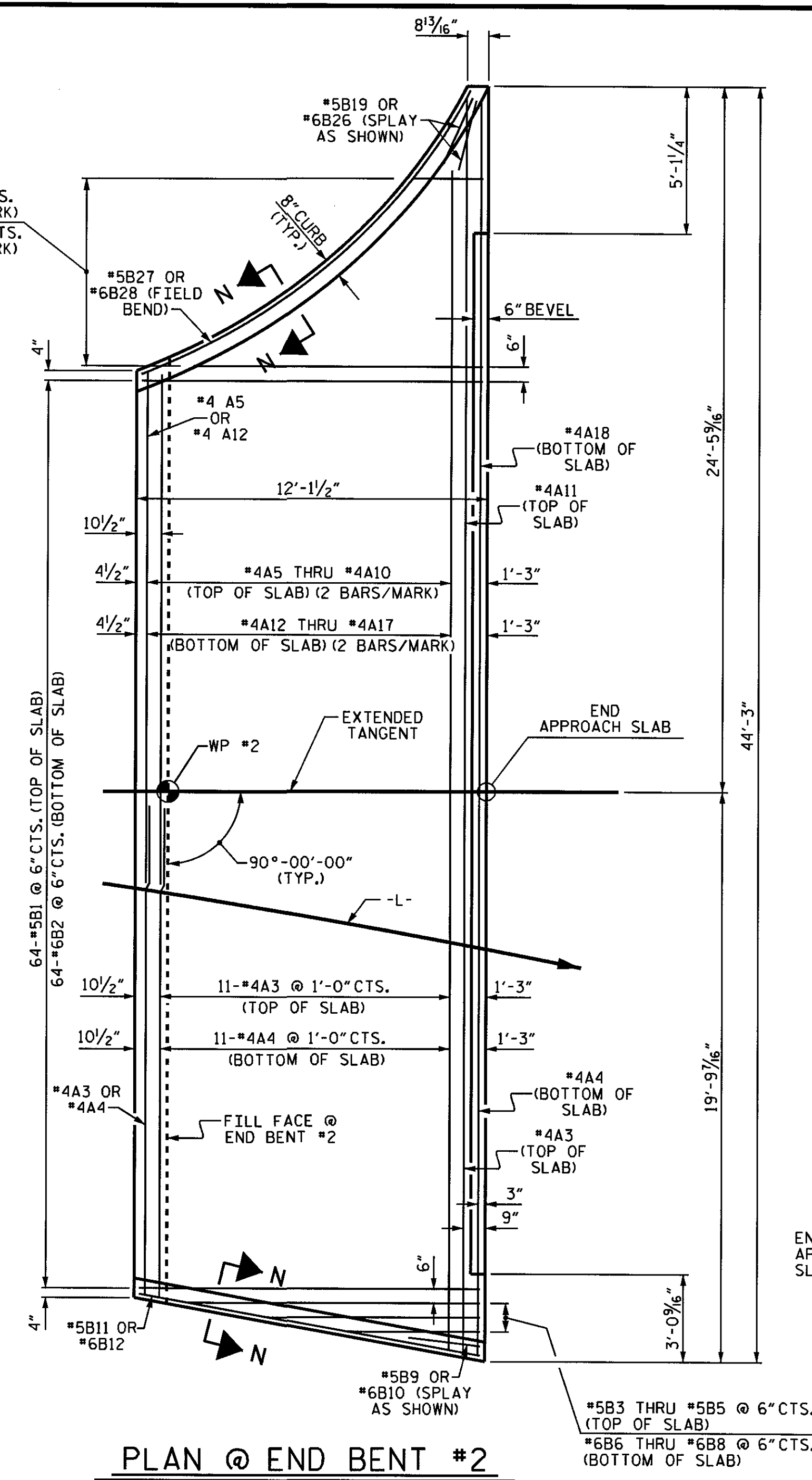
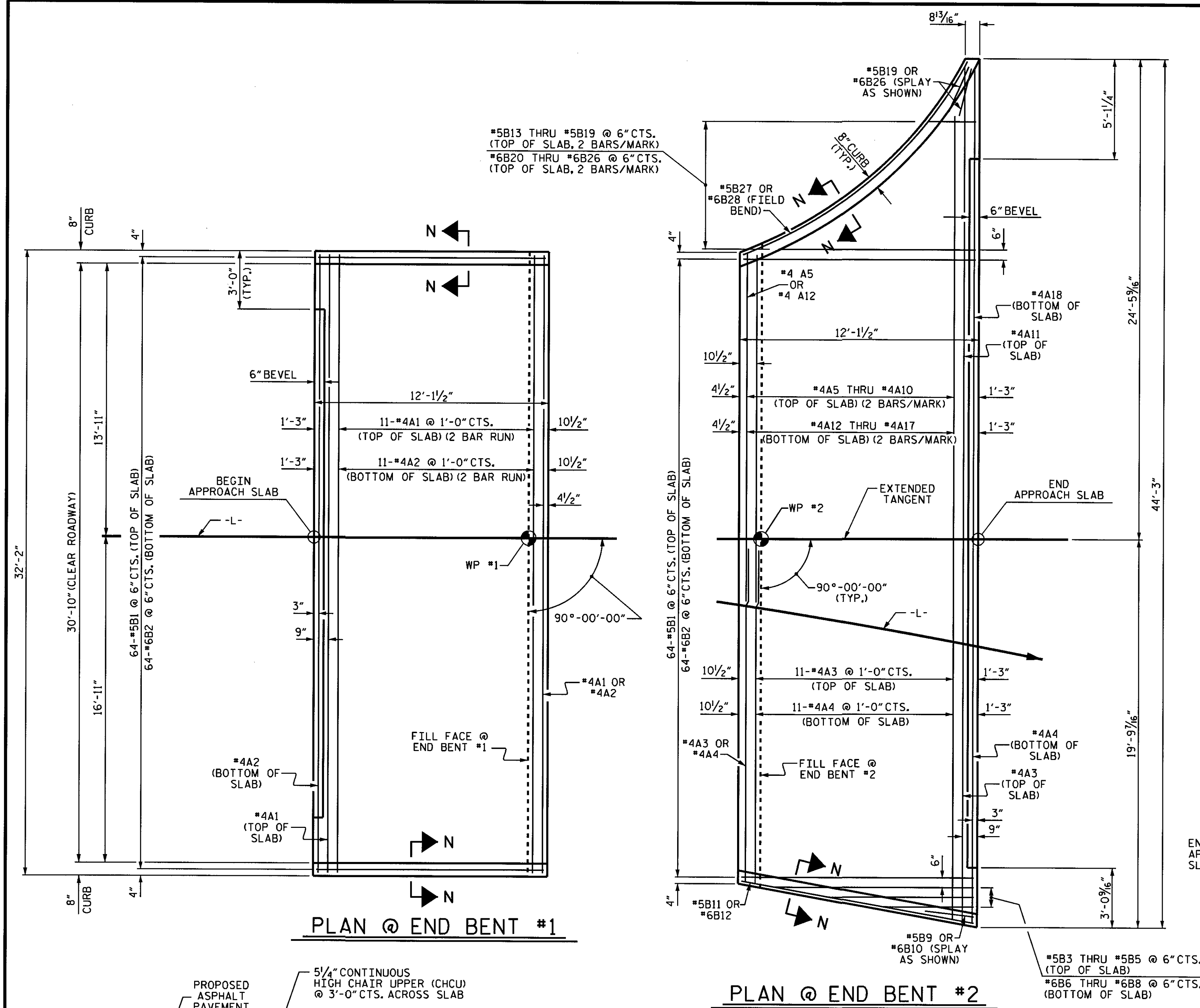
PROJECT NO. BD-5111X
SURRY COUNTY
STATION: 12+06.63-L-



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
STANDARD =RIP RAP DETAILS=					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-14					TOTAL SHEETS 15

ASSEMBLED BY : H. T. BARBOUR	DATE : 3-24-14
CHECKED BY : B. D. KLAPPENBACH	DATE : 4-5-14
DRAWN BY : REK 1/84	REV. 5/1/06R TLA/GM
CHECKED BY : RDU 1/84	REV. 10/1/11 MAA/GM
	REV. 12/21/11 MAA/GM

14-APR-2014 11:27
R:\Structures\Plans\tbarbour\Microstation\B05111X.SD.RR.dgn
bklappenbach



NOTES

FOR BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, 4" Ø DRAINAGE PIPE,
AND #78M STONE BACKFILL, SEE ROADWAY PLANS.

GEOTEXTILE SHALL BE TYPE 1 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 1056.

*78M STONE BACKFILL (CLASS V SELECT MATERIAL) SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 1016.

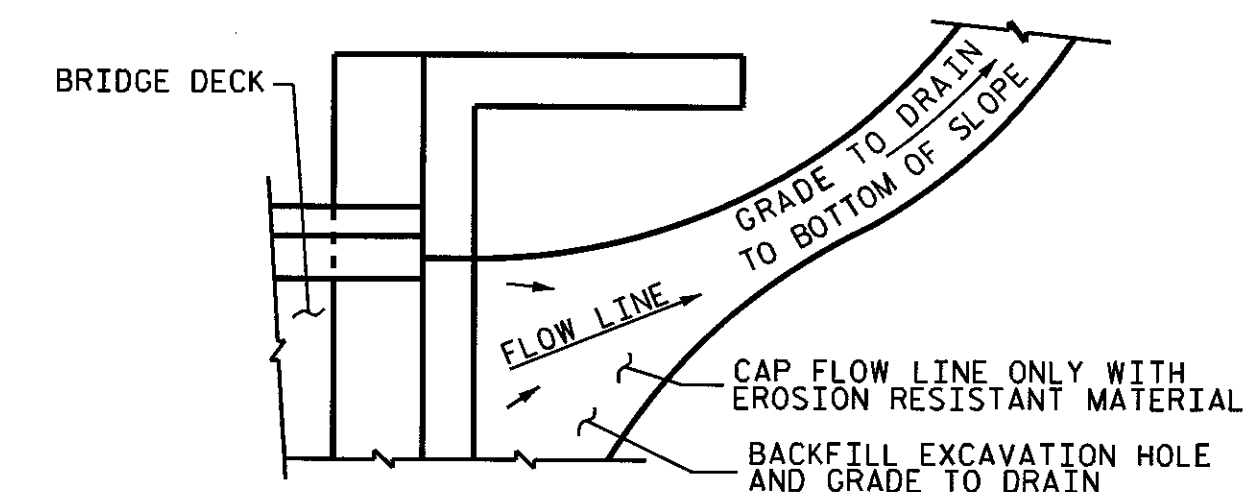
*78M STONE BACKFILL IS TO BE CONTINUOUS ALONG FILL FACE OF BACKWALL FROM OUTSIDE EDGE TO OUTSIDE EDGE OF APPROACH SLAB.

FOR THE 4" Ø DRAINAGE PIPE OUTLET(S), SEE ROADWAY STANDARD DRAWINGS.

AREA BETWEEN THE WINGWALL AND APPROACH SLAB SHALL BE GRADED TO DRAIN THE WATER AWAY FROM THE FILL FACE OF THE BRIDGE AND SHALL BE PAVED. SEE ROADWAY PLANS.

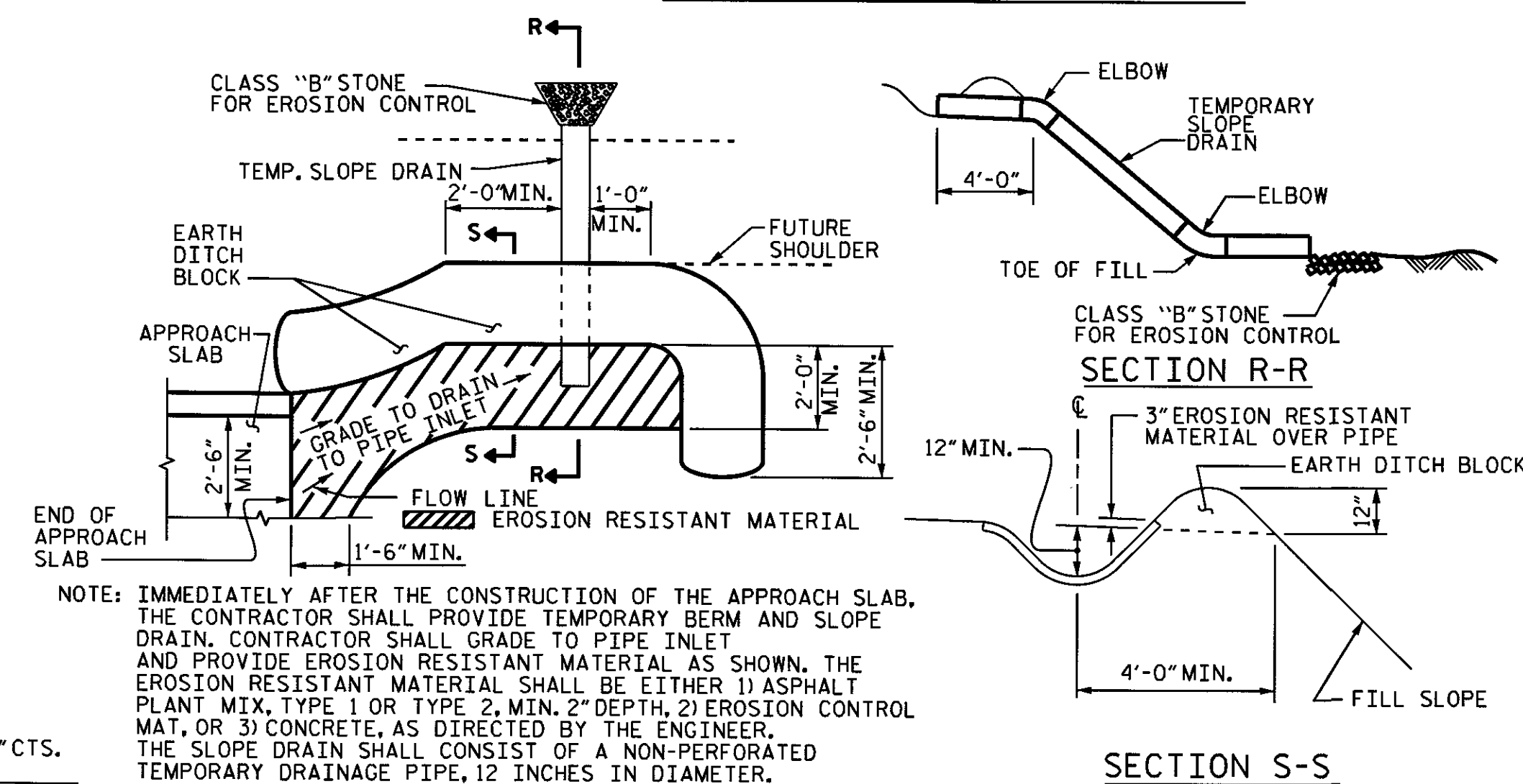
APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL						BILL OF MATERIAL					
APPROACH SLAB AT EB #1						APPROACH SLAB AT EB #2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	26	*4	STR	16'-11"	294	* A3	13	*4	STR	17'-0"	148
A2	26	*4	STR	16'-9"	291	A4	13	*4	STR	17'-0"	148
						* A5	2	*4	STR	17'-1"	23
* B1	64	*5	STR	11'-2"	745	* A6	2	*4	STR	18'-0"	24
B2	64	*6	STR	11'-8"	1121	* A7	2	*4	STR	19'-6"	26
						* A8	2	*4	STR	21'-2"	28
REINFORCING STEEL				LBS.	1412	* A9	2	*4	STR	23'-3"	31
* EPOXY COATED						* A10	2	*4	STR	26'-0"	35
REINFORCING STEEL				LBS.	1039	* A11	1	*4	STR	28'-7"	19
CLASS AA CONCRETE				C. Y.	18.6	A12	2	*4	STR	16'-10"	23
						A13	2	*4	STR	17'-9"	24
						A14	2	*4	STR	19'-3"	26
						A15	2	*4	STR	20'-11"	28
						A16	2	*4	STR	23'-1"	31
						A17	2	*4	STR	25'-9"	34
						A18	1	*4	STR	28'-4"	19
						* B1	64	*5	STR	11'-2"	745
						B2	64	*6	STR	11'-8"	1121
						* B3	1	*5	STR	10'-1"	11
						* B4	1	*5	STR	7'-4"	8
						* B5	1	*5	STR	4'-7"	5
						B6	1	*6	STR	10'-1"	15
						B7	1	*6	STR	7'-4"	11
						B8	1	*6	STR	4'-7"	7
						* B9	1	*5	STR	2'-6"	3
						B10	1	*6	STR	2'-6"	4
						* B11	1	*5	STR	11'-11"	12
						B12	1	*6	STR	11'-11"	18
						* B13	2	*5	STR	9'-6"	20
						* B14	2	*5	STR	7'-8"	16
						* B15	2	*5	STR	6'-2"	13
						* B16	2	*5	STR	4'-10"	10
						* B17	2	*5	STR	3'-9"	8
						* B18	2	*5	STR	3'-3"	7
						* B19	4	*5	STR	2'-5"	10
						B20	2	*6	STR	10'-0"	30
						B21	2	*6	STR	8'-2"	25
						B22	2	*6	STR	6'-8"	20
						B23	2	*6	STR	5'-4"	16
						B24	2	*6	STR	4'-3"	13
						B25	2	*6	STR	3'-3"	10
						B26	4	*6	STR	2'-5"	15
						* B27	1	*5	STR	15'-4"	16
						B28	1	*6	STR	15'-4"	23
						REINFORCING STEEL				LBS.	1661
						* EPOXY COATED					
						REINFORCING STEEL				LBS.	1218
						CLASS AA CONCRETE				C. Y.	21.5



NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION, THE CONTRACTOR SHALL GRAB AND REMOVE THE SOIL AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS COARSE GRAVEL OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT TO THE STRUCTURE. THE CONTRACTOR WILL BE REQUIRED TO REMOVE THESE MATERIALS PRIOR TO CONSTRUCTION OF THE APPROACH SLAB.

TEMPORARY DRAINAGE DETAIL

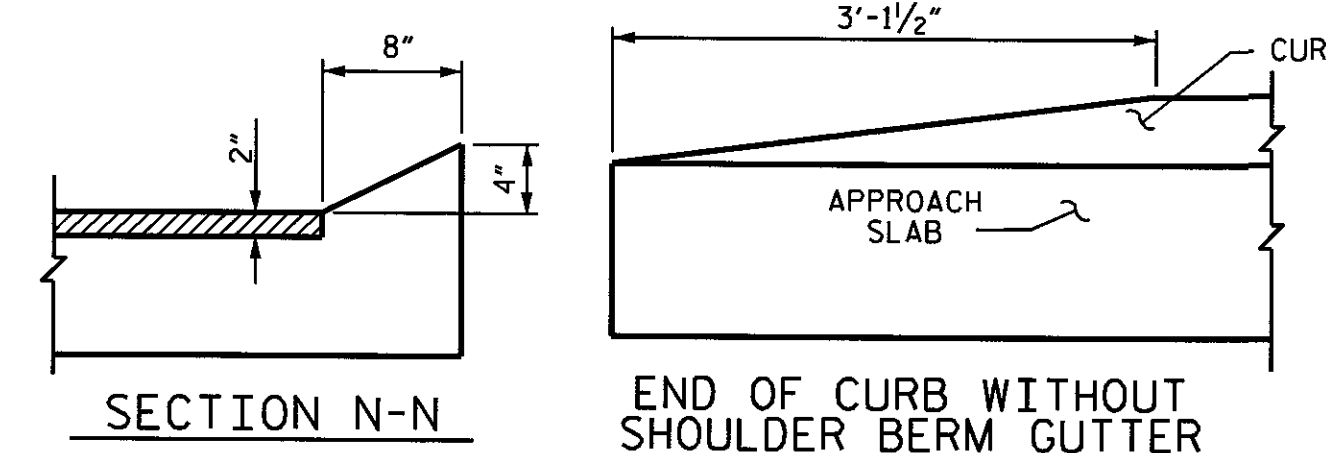


SECTION S-S

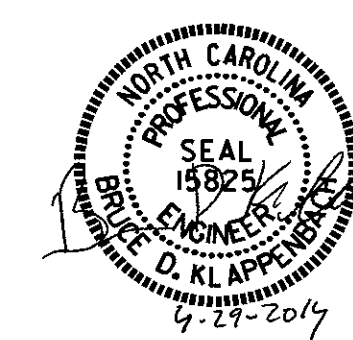
PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



SPLICE LENGTHS		
BAR SIZE	EPOXY COATED	UNCOATED
#4	2'-0"	1'-9"
#5	2'-6"	2'-2"
#6	3'-10"	2'-7"



PROJECT NO. BD-5111X
 _____ SURRY COUNTY
 STATION: 12+06.63 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT
(SUB-REGIONAL TIER)
90° SKEW

REVISIONS						SHEET NO. S-15
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 15
2			4			

ASSEMBLED BY : S.T. CHAMPION DATE : MAR. 14	
CHECKED BY : H.T. BARBOUR DATE : MAR. 14	
DRAWN BY : SHS/MAA 5-09	REV. 12-11 MAA/AAC
CHECKED BY : BCH 5-09	

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	- -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	- - - - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT.
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE. ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN, WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER. DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS. WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0". EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED. WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB. METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

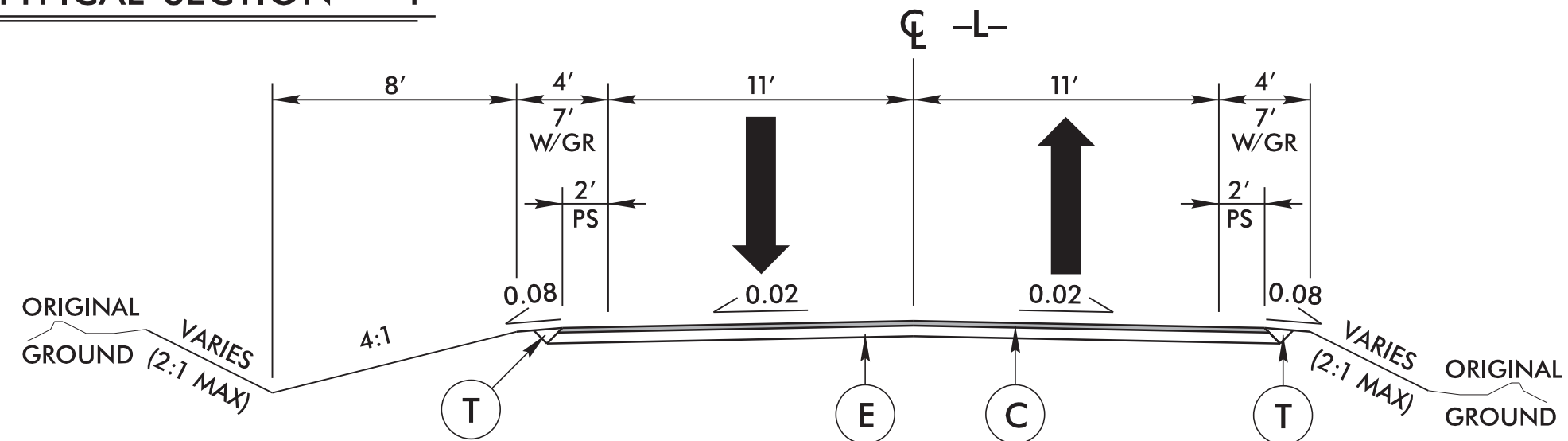
SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

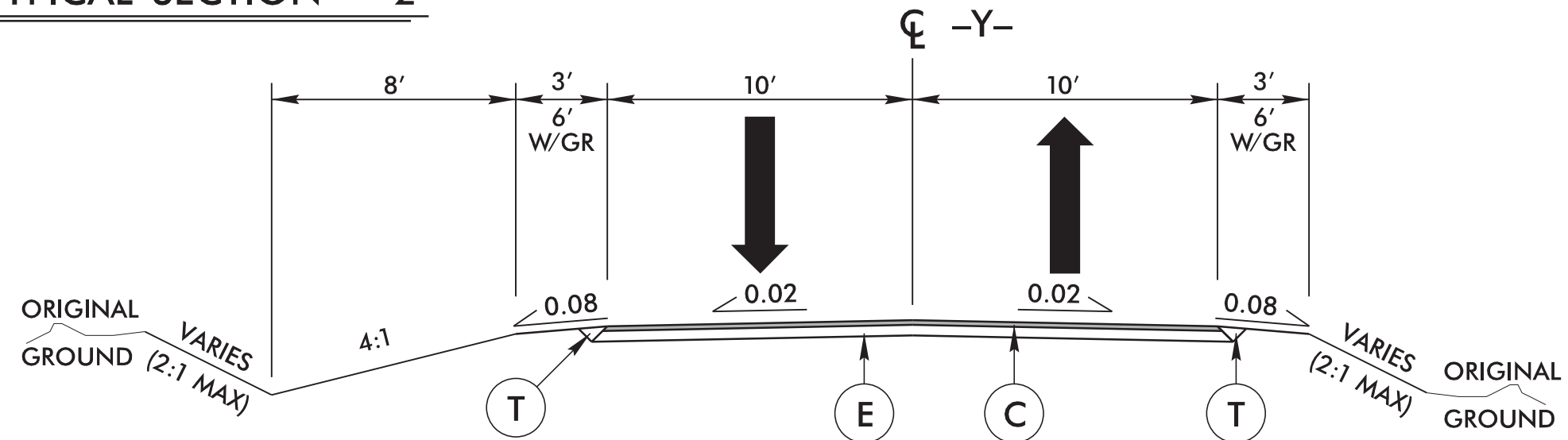
ENGLISH

JANUARY, 1990

TYPICAL SECTION - 1



TYPICAL SECTION - 2



PAVEMENT SCHEDULE	
C	1 1/2" SURFACE COURSE, TYPE SF9.5A
E	5 1/2" BASE COURSE, TYPE B25.0B
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
W	WEDGING

PROJECT REFERENCE NO.
BD-5111X

SHEET NO.
RDY-1

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

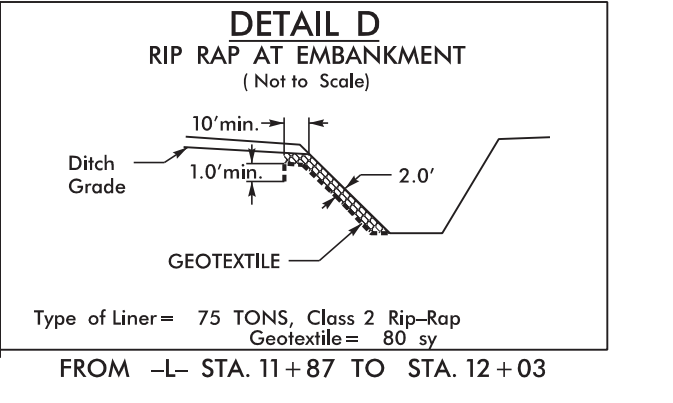
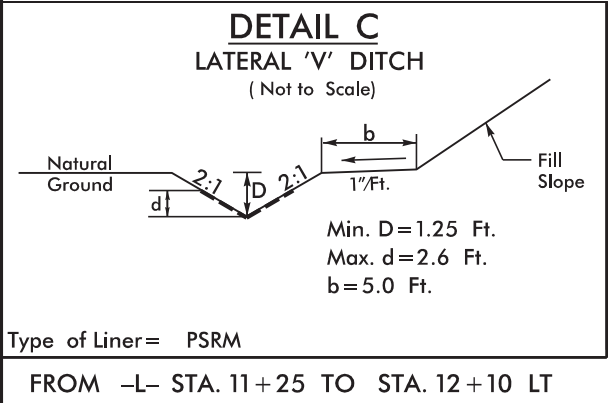
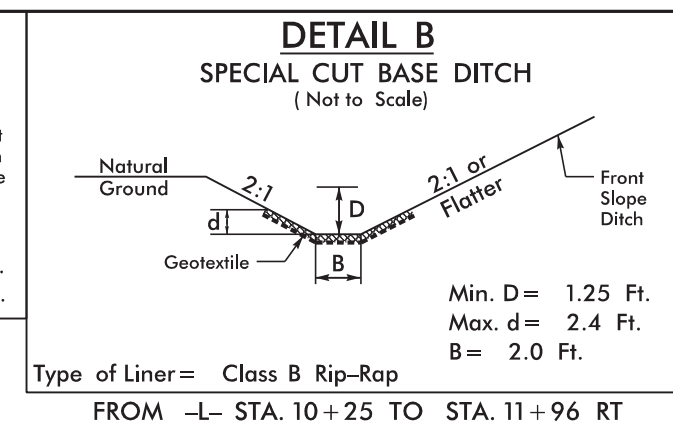
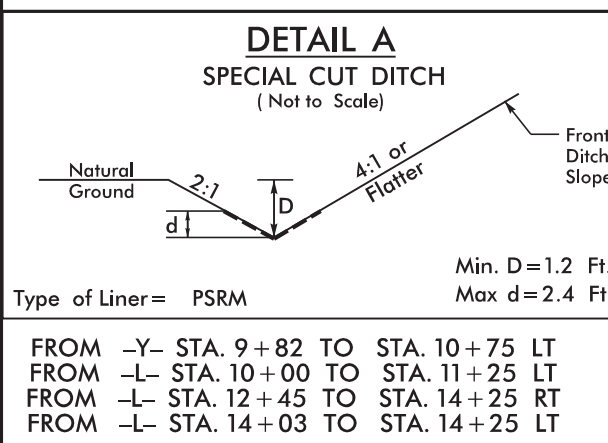
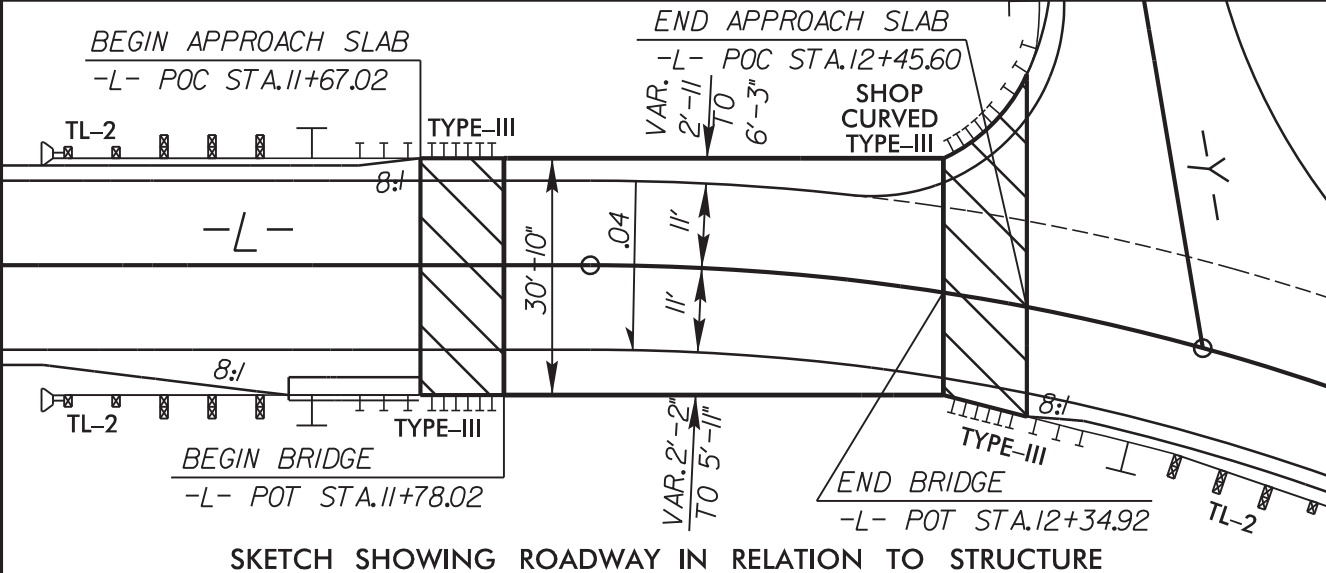
GRAPHIC SCALES



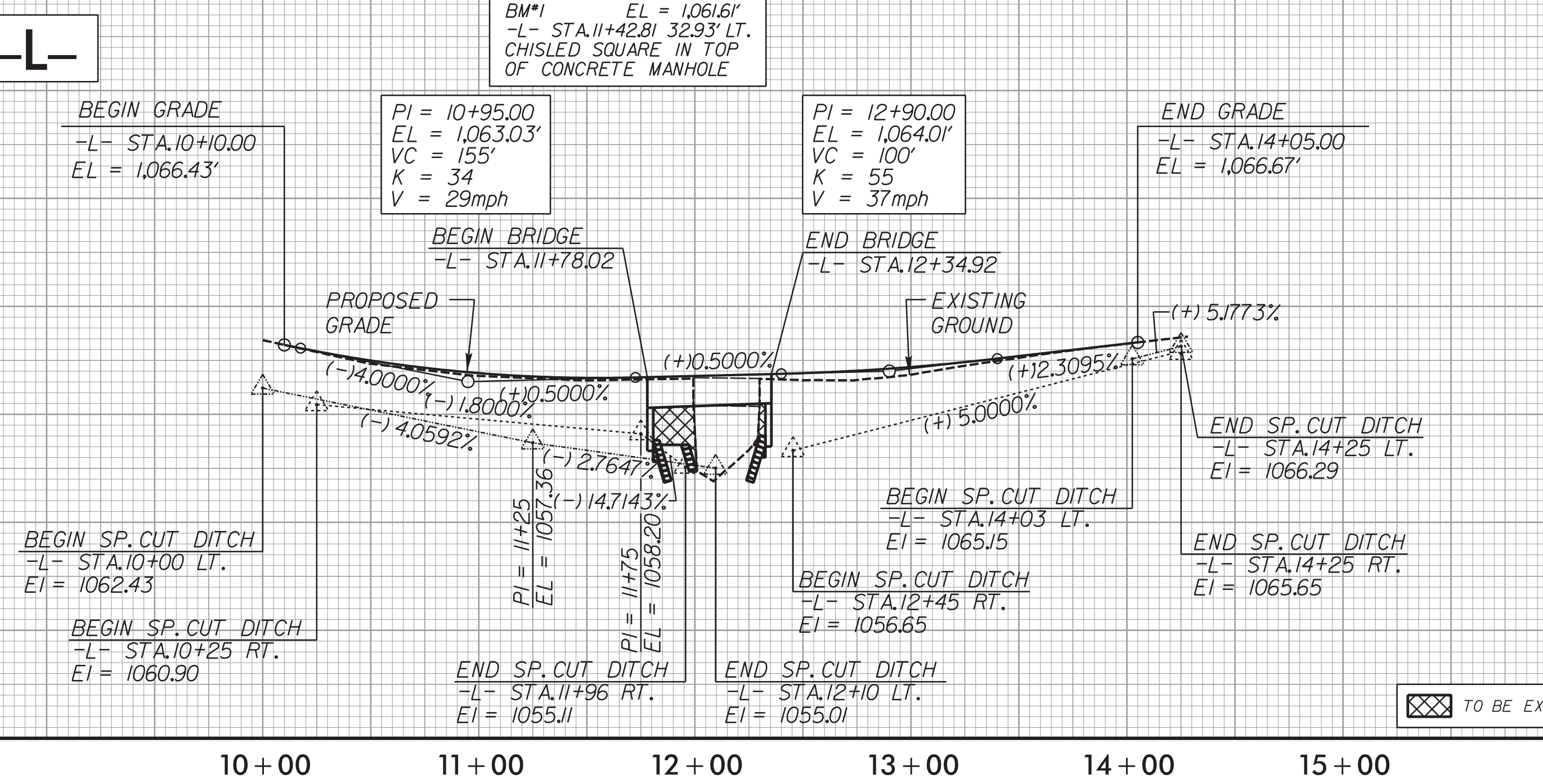
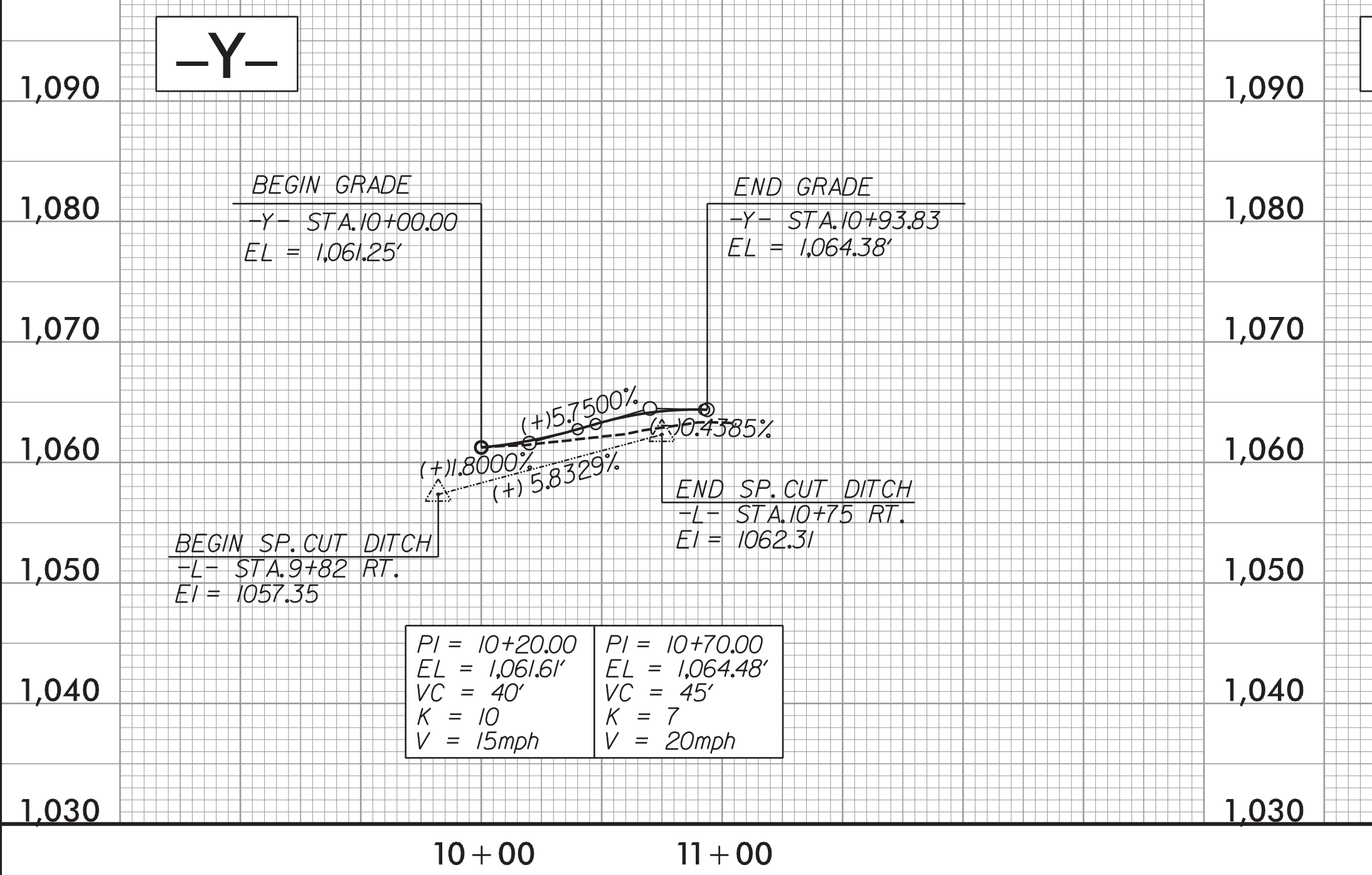
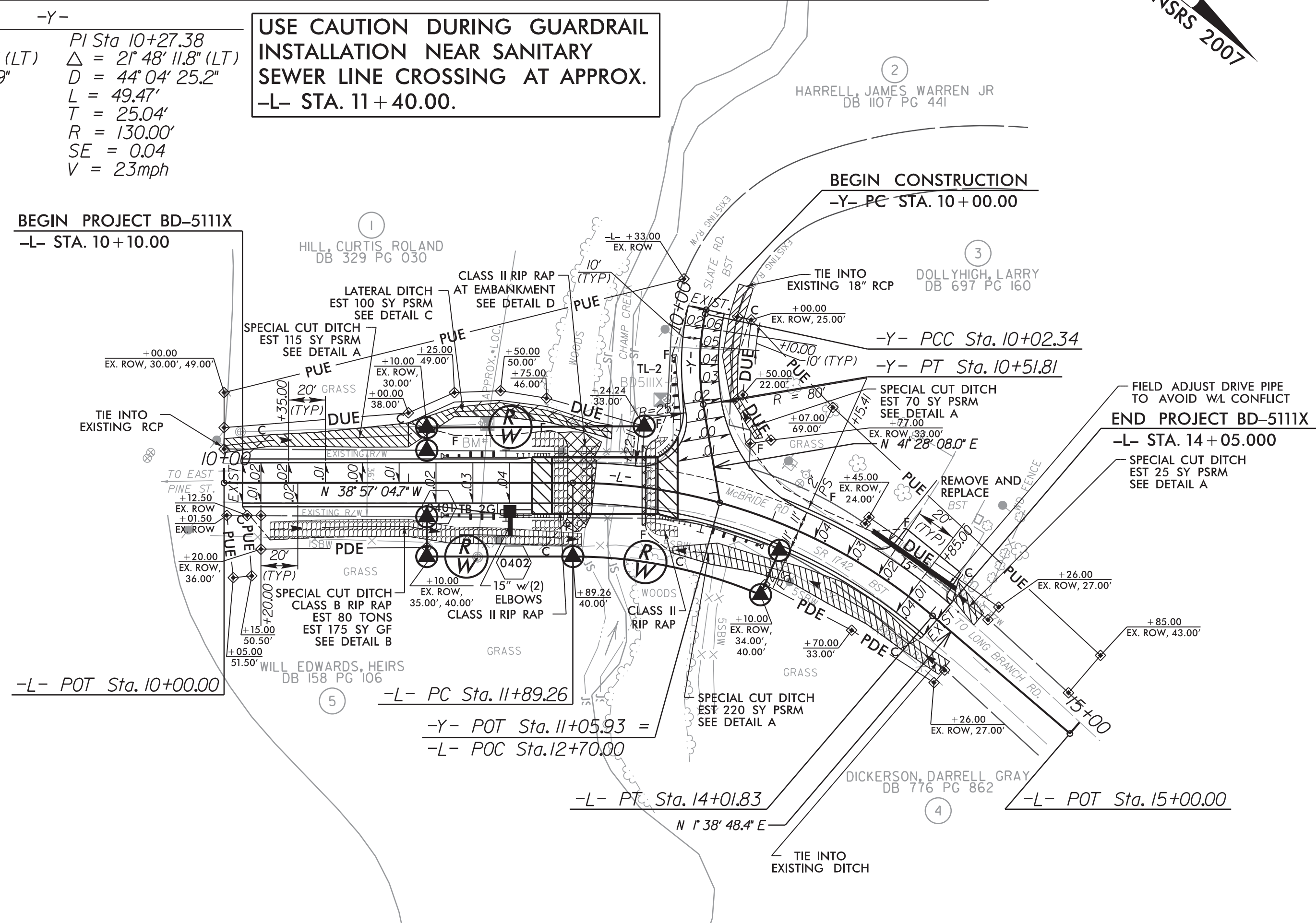
DESIGN SPEED = 40 mph
POSTED SPEED = 35 mph
ADT = 2,800 (2009)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "005111X-2".
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 1010794.4985(ft) EASTING: 1537464.3667(ft)
ELEVATION: 1062.0691(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999288778
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "005111X-2" TO -L- STATION IS N 49° 44' 11.3" W 241.15 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88



RIGHT-OF-WAY AREAS								
PARCEL #	PROPERTY OWNER'S NAME	TOTAL AREA	AREA TAKEN	AREA REMAINING RIGHT	AREA REMAINING LEFT	CONSTRUCTION EASEMENT	PERMANENT DRAINAGE EASEMENT	PERMANENT UTILITY EASEMENT
1	CURTIS ROLAND HILL	N/A	0.029 Ac.	N/A	N/A	0 Ac.	0 Ac.	0.077 Ac.
2	JAMES WARREN HARRELL JR	N/A	0.003 Ac.	N/A	N/A	0 Ac.	0 Ac.	0.001 Ac.
3	LARRY DOLLYHIGH	N/A	0 Ac.	N/A	N/A	0 Ac.	0 Ac.	0.026 Ac.
4	DARRELL GRAY DICKERSON	N/A	0.052 Ac.	N/A	N/A	0 Ac.	0.038 Ac.	0 Ac.
5	WILL EDWARDS, HEIRS	N/A	0.048 Ac.	N/A	N/A	0 Ac.	0.036 Ac.	0.008 Ac.



PLANS PREPARED BY :

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
TRAFFIC CONTROL, MARKING & DELINEATION
SURRY COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-
PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C.,
DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE
CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

PROJECT PHASING

PHASE I

STEP 1: USING ROADWAY STANDARD DRAWING NUMBER 1101.04, INSTALL ADVANCE WARNING SIGNS FOR THE
SR 1742 OFFSITE DETOUR, KEEPING SIGNS COVERED. REFER TO ROADWAY STANDARD DRAWING 1101.03
SHEET 1 AND TCP-2 FOR SIGN LOCATIONS.

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 2.

STEP 2: CLOSE SR 1742, (McBRIDE RD.) TO TRAFFIC, USING ROADWAY STANDARD DRAWING 1101.03 SHEET 1.
UNCOVER ALL ADVANCE WARNING SIGNS FOR ROAD CLOSURE, OFFSITE DETOUR AND SHIFT TRAFFIC TO
TEMPORARY DETOUR.

STEP 3: DEMOLISH AND REMOVE EXISTING BRIDGE NO. 95 OVER CHAMP CREEK.

STEP 4: COMPLETE CONSTRUCTION OF PROPOSED STRUCTURE, APPROACH ROADWAY WIDENING
AND PAVING, (SEE ROADWAY PLANS & STRUCTURAL PLANS).

STEP 5: STATE FORCES TO PLACE FINAL PAVEMENT MARKINGS, (PAINT) ON SR 1742, (McBRIDE RD.).

WORKING IN A CONTINUOUS MANNER, COMPLETE THE FOLLOWING WORK IN PHASE I, STEP 6.

STEP 6: USING ROADWAY STANDARD DRAWING NO. 1101.04, SHEET 1, THE CONTRACTOR SHALL REMOVE
SIGNS AND TRAFFIC CONTROL DEVICES ERECTED IN STEP 2 AND OPEN SR 1742, (McBRIDE RD.)
TO TRAFFIC. STATE FORCES WILL REMOVE OFF SITE DETOUR SIGNING.

FINAL PAVEMENT MARKING SCHEDULE

<u>SYMBOL</u>	<u>DESCRIPTION</u>	<u>QUANTITY BREAKDOWN</u>	<u>PAY ITEM</u>	<u>TOTAL QUANTITY</u>
PAVEMENT MARKING LINES			PAINT (4")	
PA	WHITE EDGELINE 2X	1280 LF		
PI	YELLOW DOUBLE CENTER 2X	1280 LF		

2X = TWO APPLICATIONS

PROJECT NOTES

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS,
STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD
CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES.
MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL
OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE
CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED
BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY
TRAFFIC PATTERN ALTERATIONS.

SIGNING

B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE
ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

STATE FORCES WILL PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE
AS SHOWN IN THE TRAFFIC CONTROL PLANS, UNLESS OTHERWISE NOTED.

C) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN
ROAD CLOSURE IS NOT IN OPERATION.

D) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY
TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

E) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED,
OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

F) STATE FORCES TO INSTALL PAVEMENT MARKINGS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING
1. SR 1742 (McBRIDE RD.)	PAINT

G) STATE FORCES TO PLACE AT LEAST TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS
ON THE FINAL WEARING SURFACE ON NEW ASPHALT PAVEMENT. PLACE ADDITIONAL
APPLICATIONS OF PAINT UPON SUFFICIENT DRYING TIME, AS DETERMINED BY
THE ENGINEER.

H) CONTRACTOR TO MAINTAIN ACCESS TO ALL DRIVEWAYS, WITHIN THE PROJECT
LIMITS AT ALL TIMES.

PLANS PREPARED BY :

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

FOR
DIVISION OF HIGHWAYS

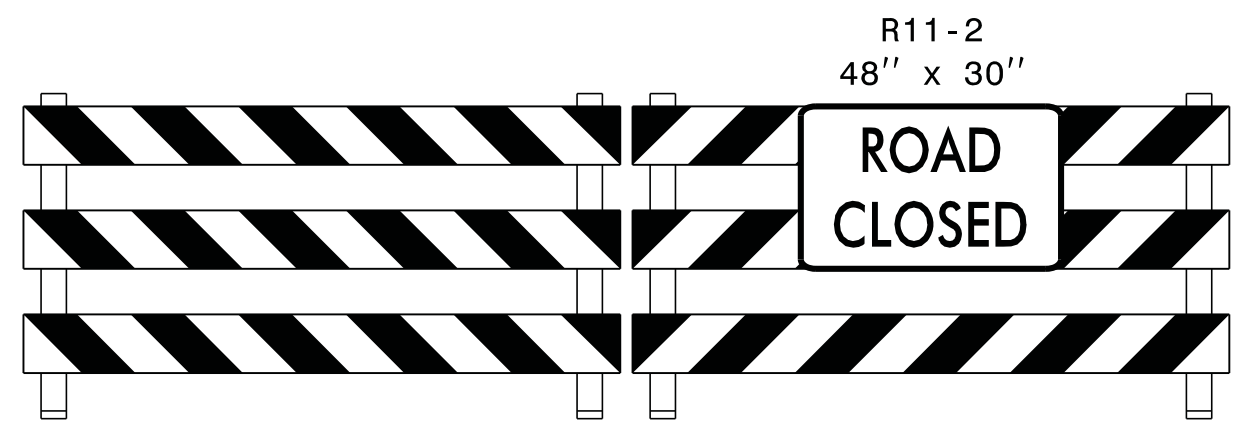
SEAL



K. W. BISBY, PE TRAFFIC CONTROL ENGINEER

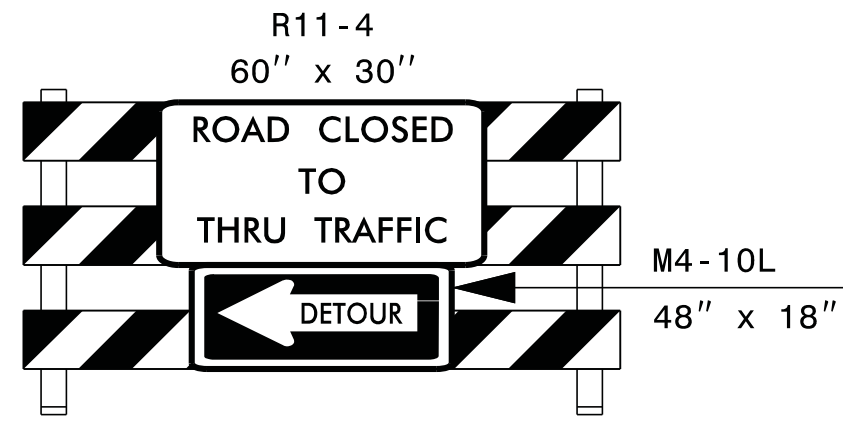
M. A. COLE TRAFFIC CONTROL PROJECT DESIGNER

A. TUTT TRAFFIC CONTROL PROJECT DESIGNER



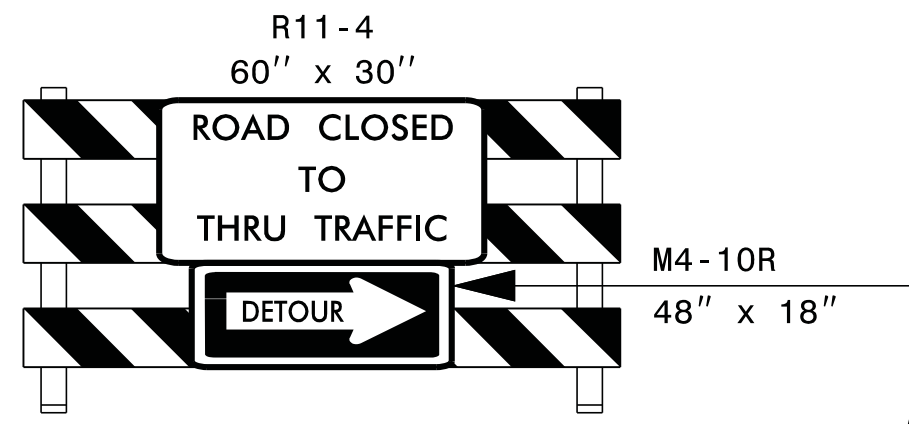
TYPE III BARRICADE(S)

(F)



TYPE III BARRICADE

(G)



TYPE III BARRICADE

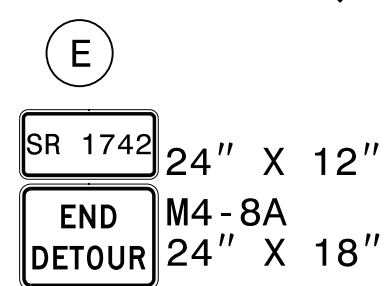
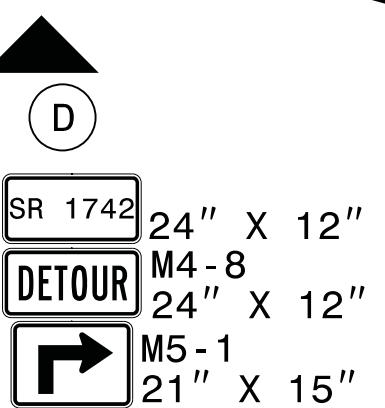
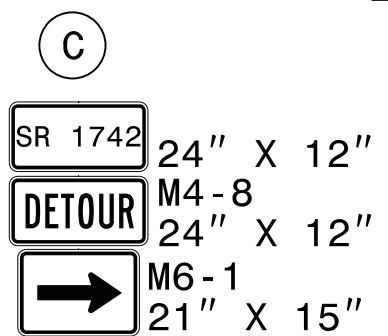
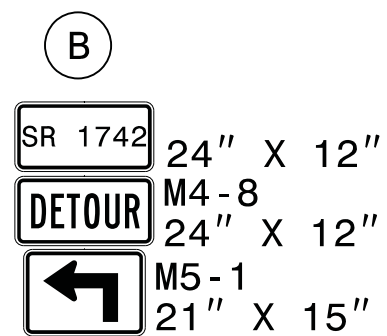
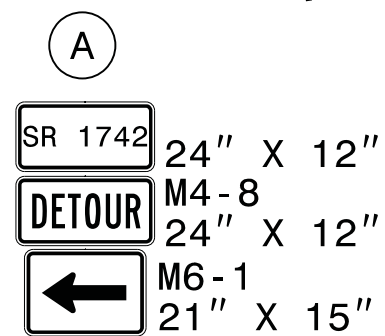
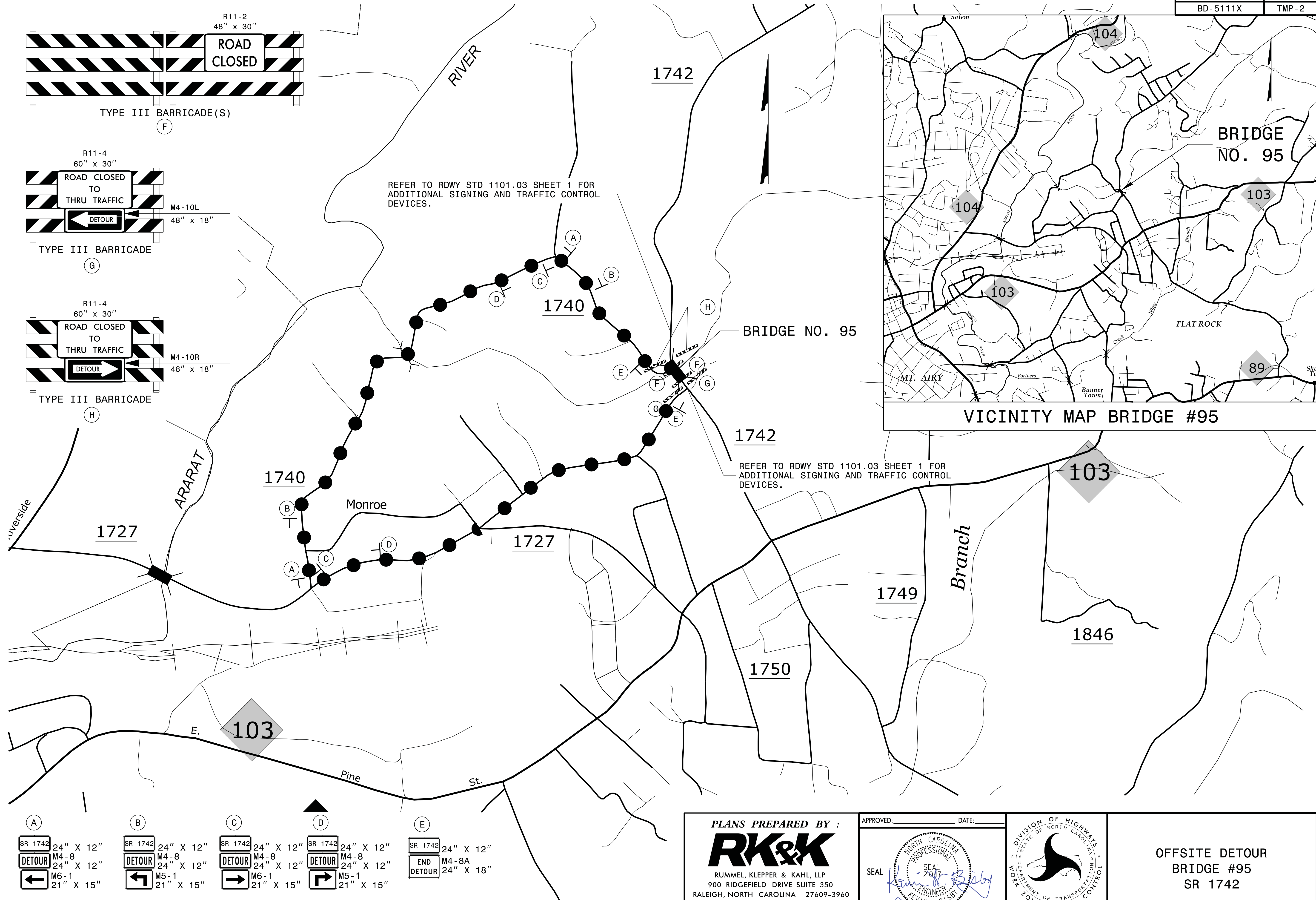
(H)

REFER TO RDWY STD 1101.03 SHEET 1 FOR
ADDITIONAL SIGNING AND TRAFFIC CONTROL
DEVICES.

BRIDGE NO. 95

REFER TO RDWY STD 1101.03 SHEET 1 FOR
ADDITIONAL SIGNING AND TRAFFIC CONTROL
DEVICES.

VICINITY MAP BRIDGE #95

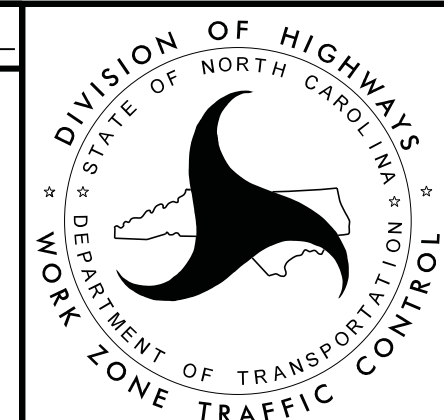
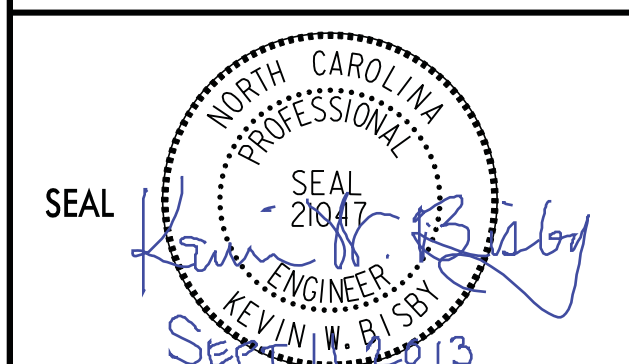


PLANS PREPARED BY :

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APPROVED: _____ DATE: _____



OFFSITE DETOUR
BRIDGE #95
SR 1742

8/17/99

EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSO
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	III III III
1630.02	Silt Basin Type B	III III III
1633.01	Temporary Rock Silt Check Type-A	III III III
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	III III III
1633.02	Temporary Rock Silt Check Type-B	III III III
	Wattle/Coir Fiber Wattle	III III III
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	III III III
1634.01	Temporary Rock Sediment Dam Type-A	III III III
1634.02	Temporary Rock Sediment Dam Type-B	III III III
1635.01	Rock Pipe Inlet Sediment Trap Type-A	III III III
1635.02	Rock Pipe Inlet Sediment Trap Type-B	III III III
1630.04	Stilling Basin	III III III
1630.06	Special Stilling Basin	III III III
	Rock Inlet Sediment Trap:	III III III
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	III III III
	Tiered Skimmer Basin	III III III
	Infiltration Basin	III III III

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

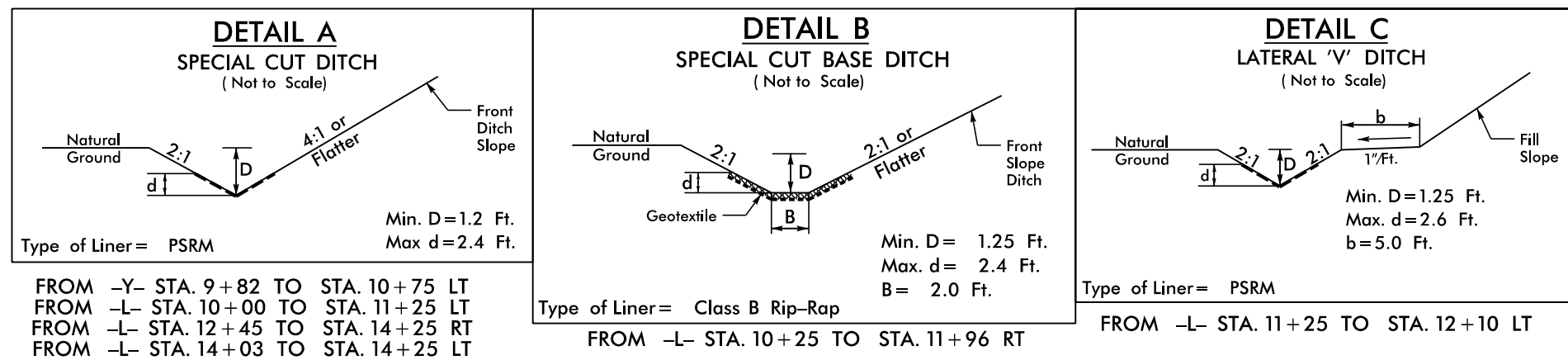
2012 STANDARD DRAWINGS

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

EROSION CONTROL PLAN



BEGIN PROJECT BD-5111X
-L- STA. 10+10.00

-L- POT Sta. 10+00.00

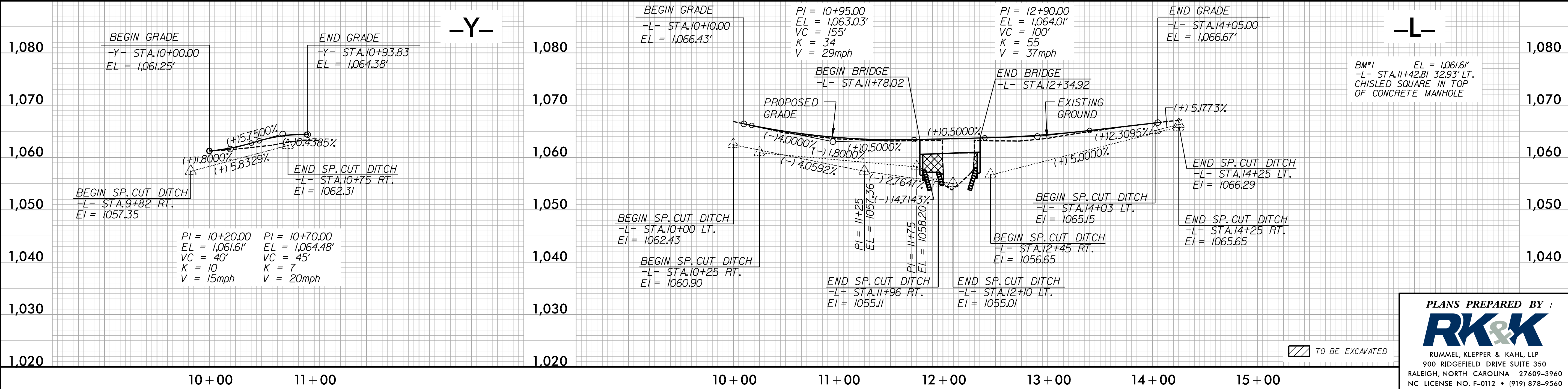
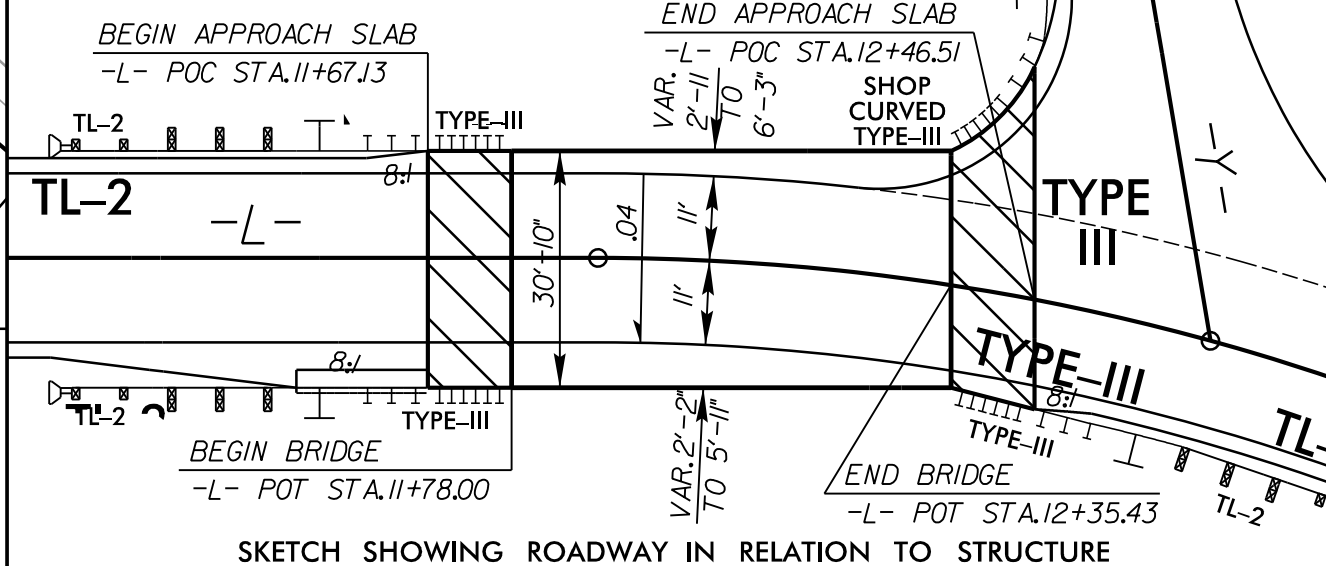
-L- PC Sta. 11+89.26

-Y- POT Sta. 11+05.93 =
-L- POC Sta. 12+70.00

-L- PT Sta. 14+01.83

END PROJECT BD-5111X
-L- STA. 14+05.000

NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.



PLANS PREPARED BY :

RK&K

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900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
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8/16/2014
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EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSO
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	III III III
1606.01	Special Sediment Control Fence	III III III
1622.01	Temporary Berms and Slope Drains	III III III
1630.02	Silt Basin Type B	III III III
1633.01	Temporary Rock Silt Check Type-A	III III III
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	III III III
1633.02	Temporary Rock Silt Check Type-B	III III III
	Wattle/Coir Fiber Wattle	III III III
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM)	III III III
1634.01	Temporary Rock Sediment Dam Type-A	III III III
1634.02	Temporary Rock Sediment Dam Type-B	III III III
1635.01	Rock Pipe Inlet Sediment Trap Type-A	III III III
1635.02	Rock Pipe Inlet Sediment Trap Type-B	III III III
1630.04	Stilling Basin	III III III
1630.06	Special Stilling Basin	III III III
	Rock Inlet Sediment Trap:	III III III
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	III III III
	Tiered Skimmer Basin	III III III
	Infiltration Basin	III III III

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

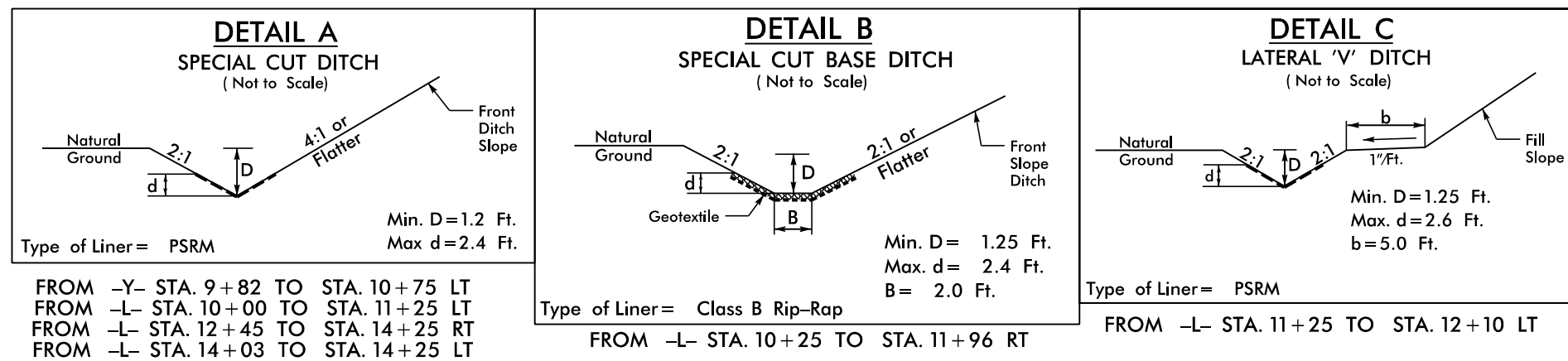
2012 STANDARD DRAWINGS

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
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1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
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1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.

ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.

EROSION CONTROL PLAN



BEGIN PROJECT BD-5111X
-L- STA. 10+10.00

-L- POT Sta. 10+00.00

-L- PC Sta. 11+89.26

-Y- POT Sta. 11+05.93 =
-L- POC Sta. 12+70.00

-L- PT Sta. 14+01.83

BEGIN CONSTRUCTION
-Y- PC STA. 10+00.00

-Y- PCC Sta. 10+02.34

-Y- PT Sta. 10+51.81

FIELD ADJUST DRIVE PIPE TO AVOID WL CONFLICT
END PROJECT BD-5111X
-L- STA. 14+05.000

SPECIAL CUT DITCH
EST 25 SY PSRM
SEE DETAIL A

SPECIAL CUT DITCH
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SPECIAL CUT DITCH
EST 25 SY PSRM
SEE DETAIL A

PROJECT REFERENCE NO.	SHEET NO.
BD-5111X	EC-1A/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

2012 STANDARD SPECIFICATIONS

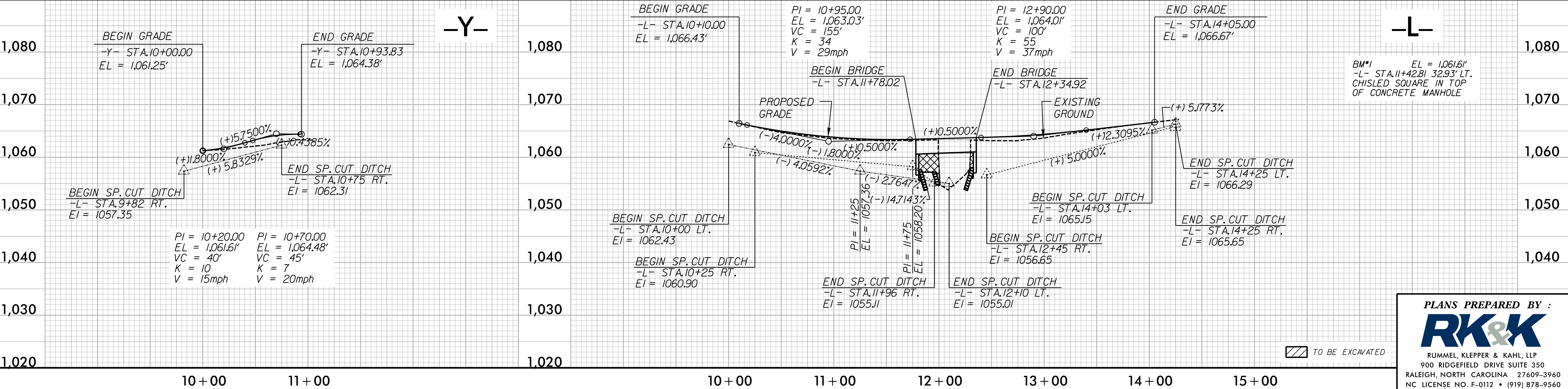
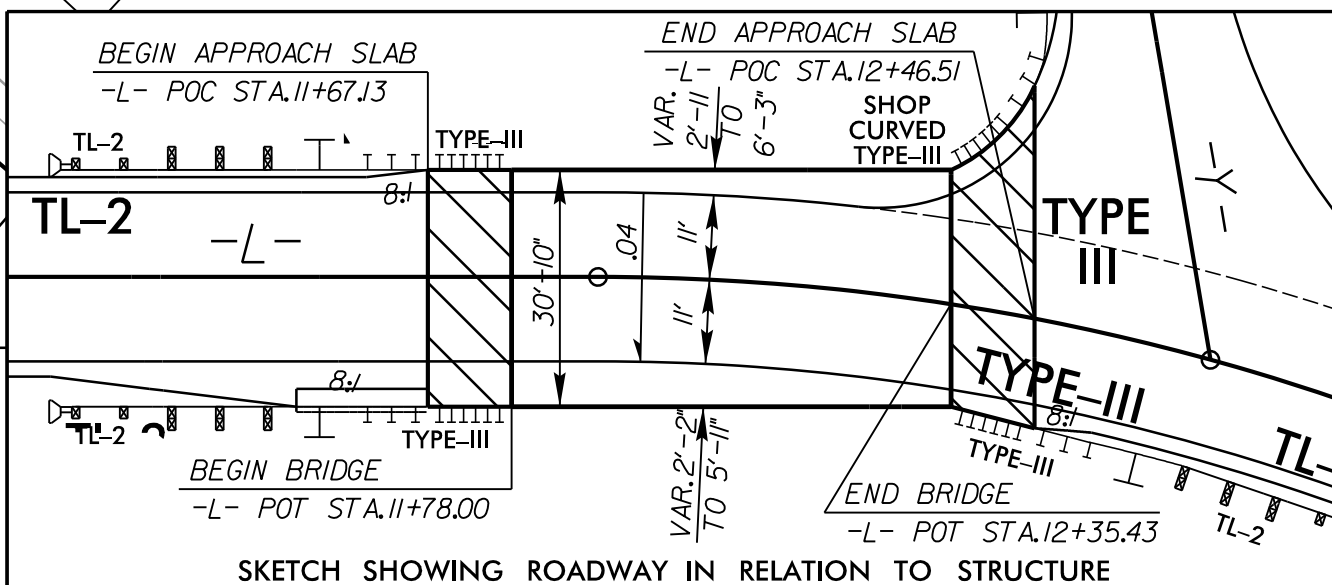
COREY CAVALIER

LEVEL III NAME

3337

LEVEL III CERTIFICATION NO.

NOTES:
1. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.



TO BE EXCAVATED

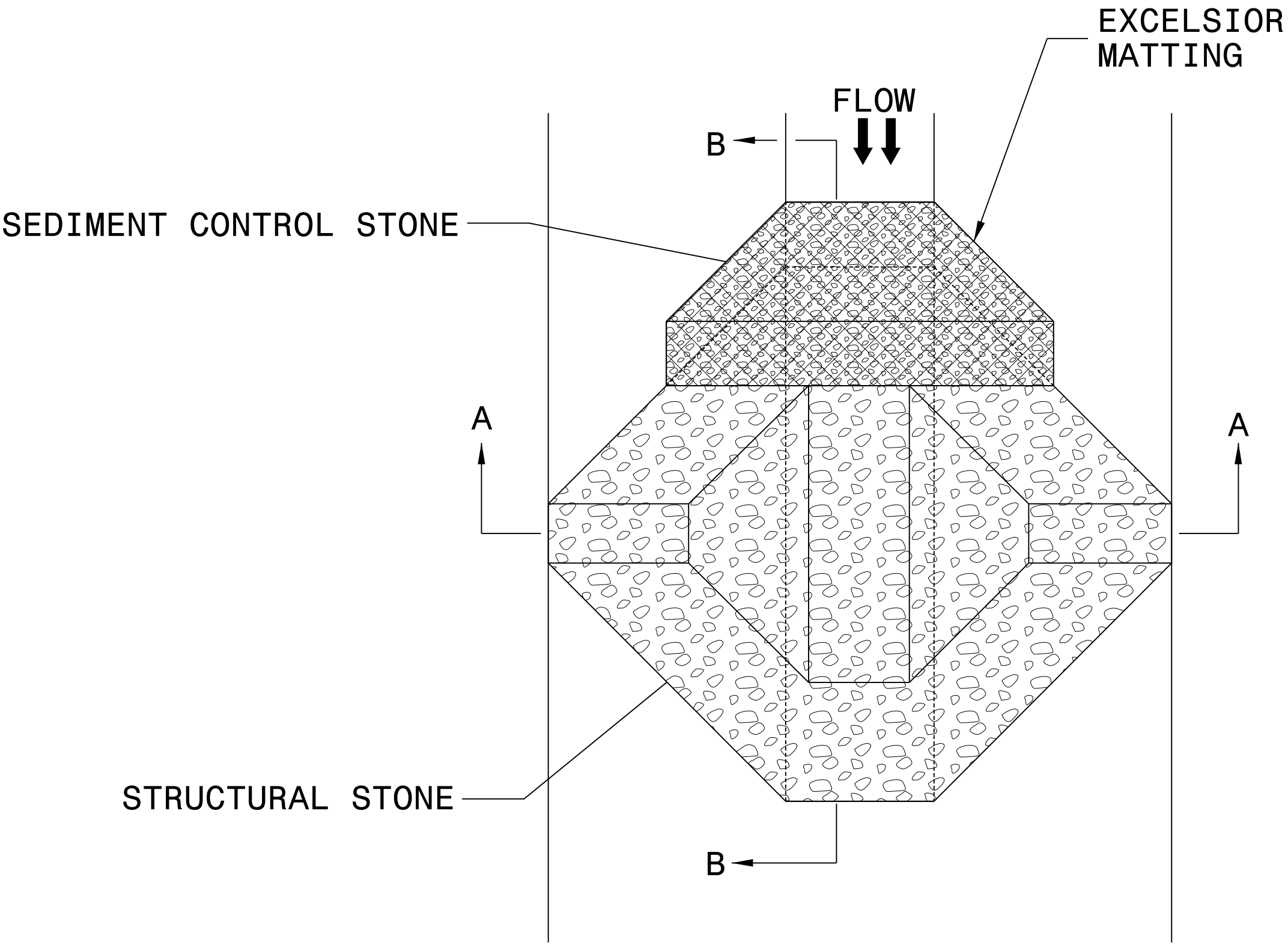
PLANS PREPARED BY :

RK&K

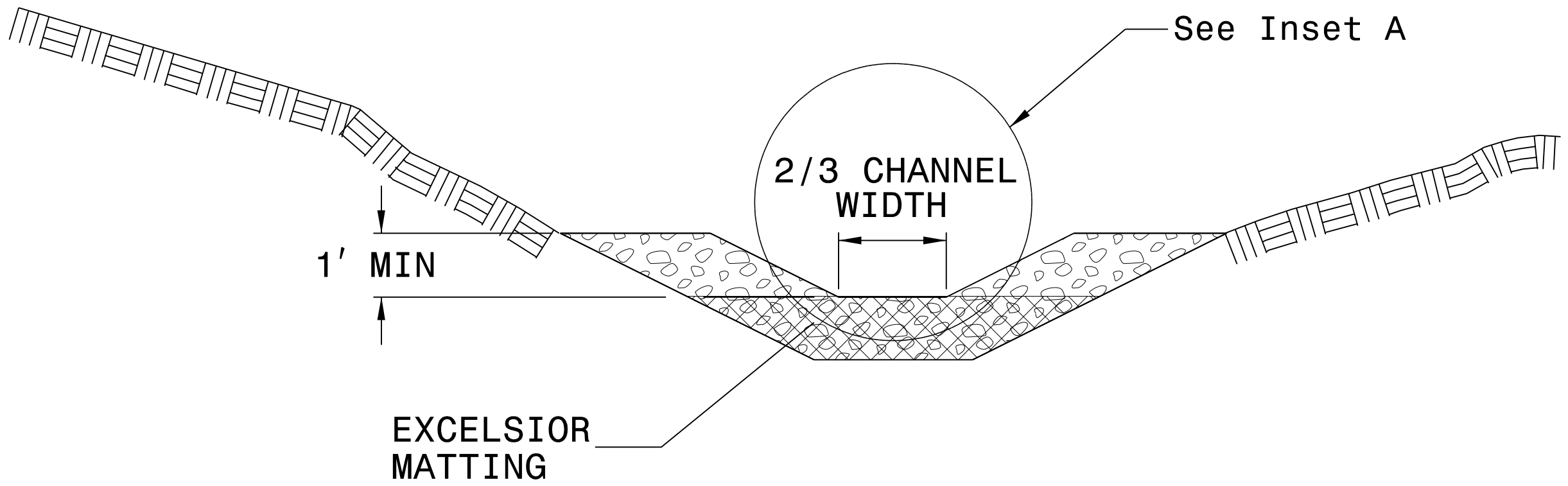
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RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)

PROJECT REFERENCE NO.	SHEET NO.
BD-5111X	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



PLAN



SECTION A-A

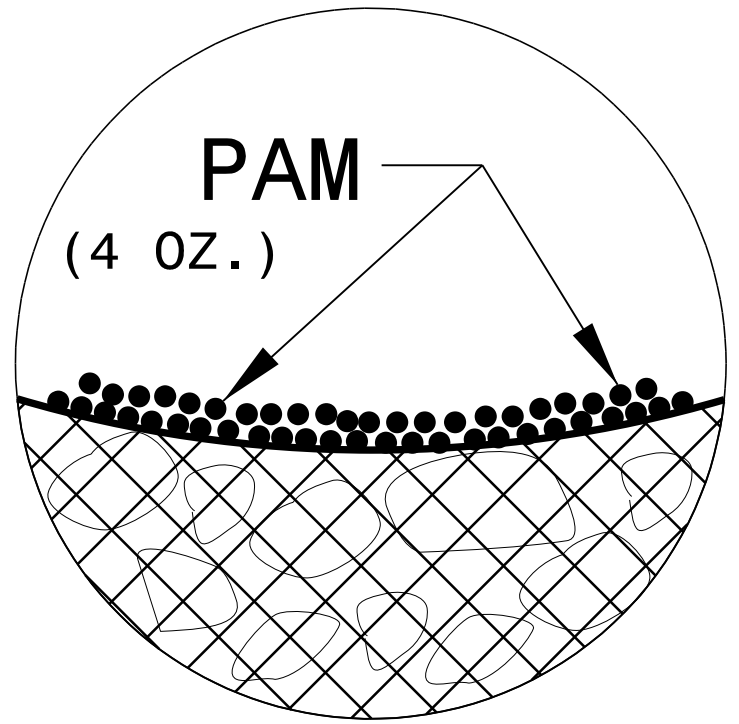
NOTES:

INSTALL TEMPORARY ROCK SILT CHECK TYPE A IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1633.01.

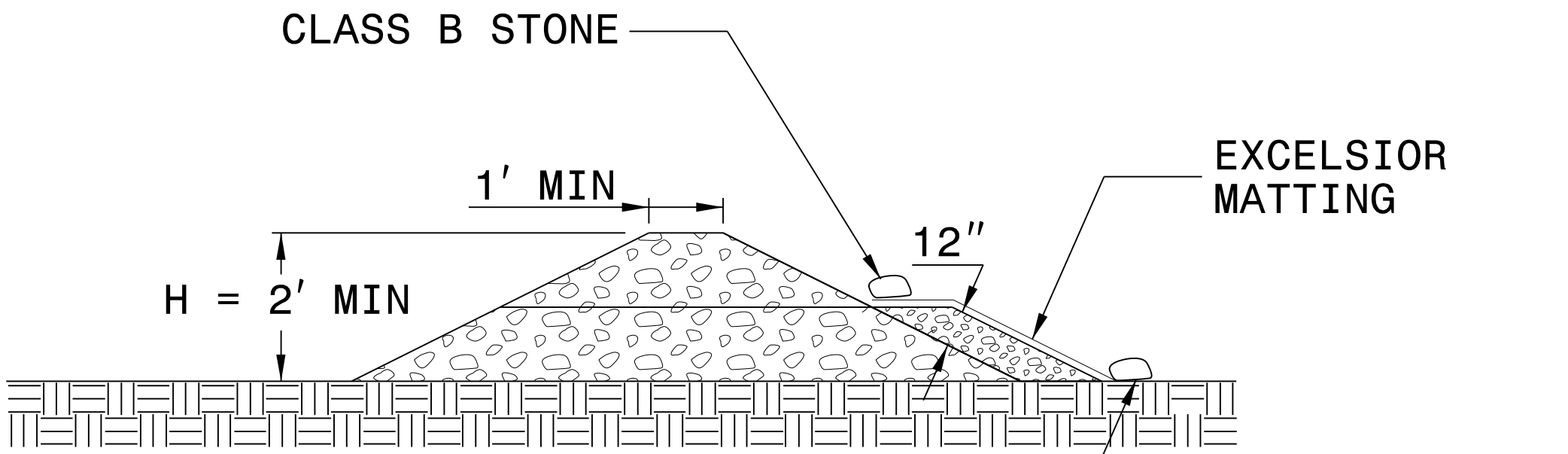
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

NOT TO SCALE

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>BD-5111X</i>	<i>EC-3</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

[illegible]

PERMANENT SOIL REINFORCEMENT MAT

[illegible]

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

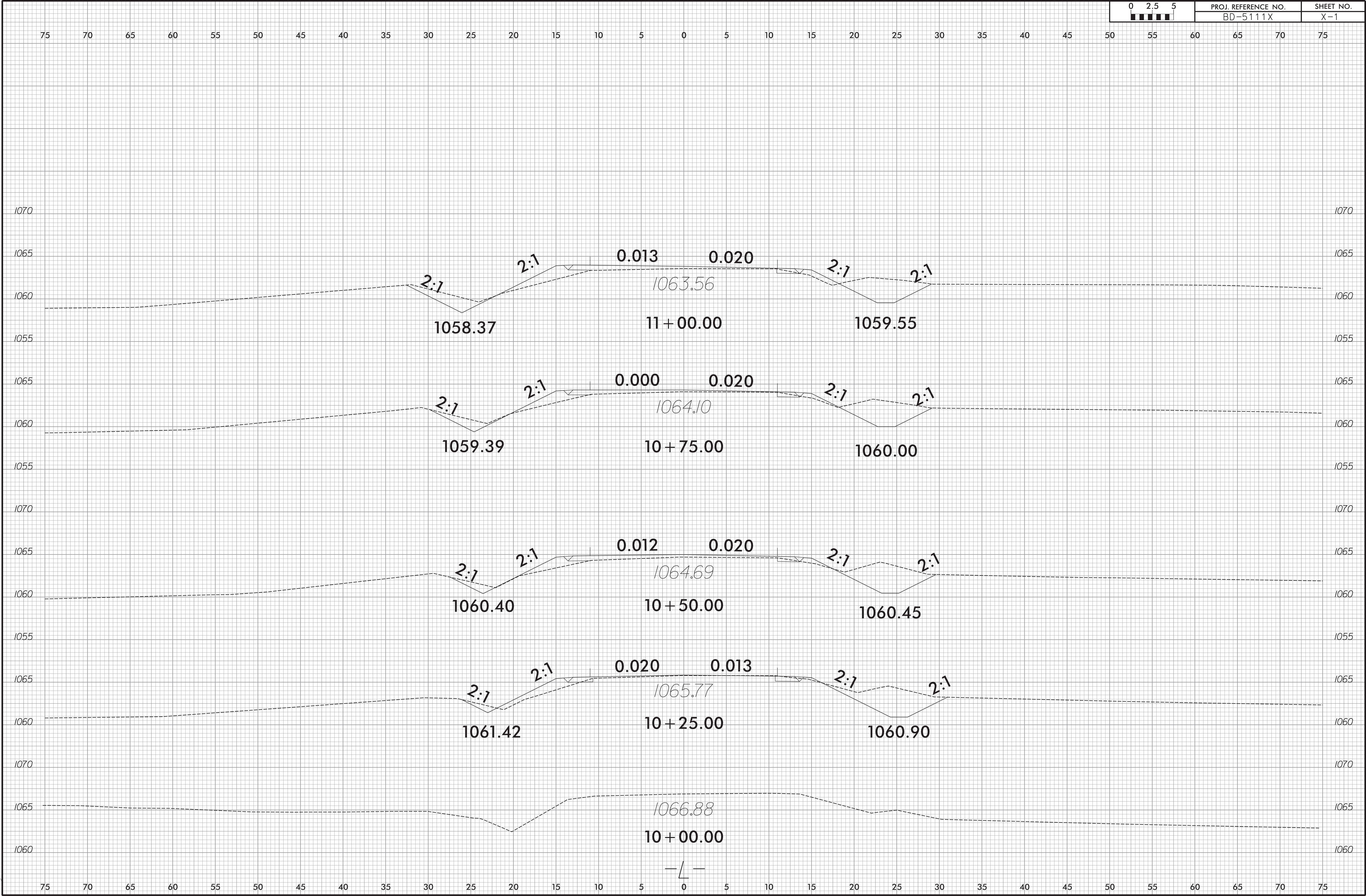
PROJECT REFERENCE NO.	SHEET NO.
BD-5111X	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

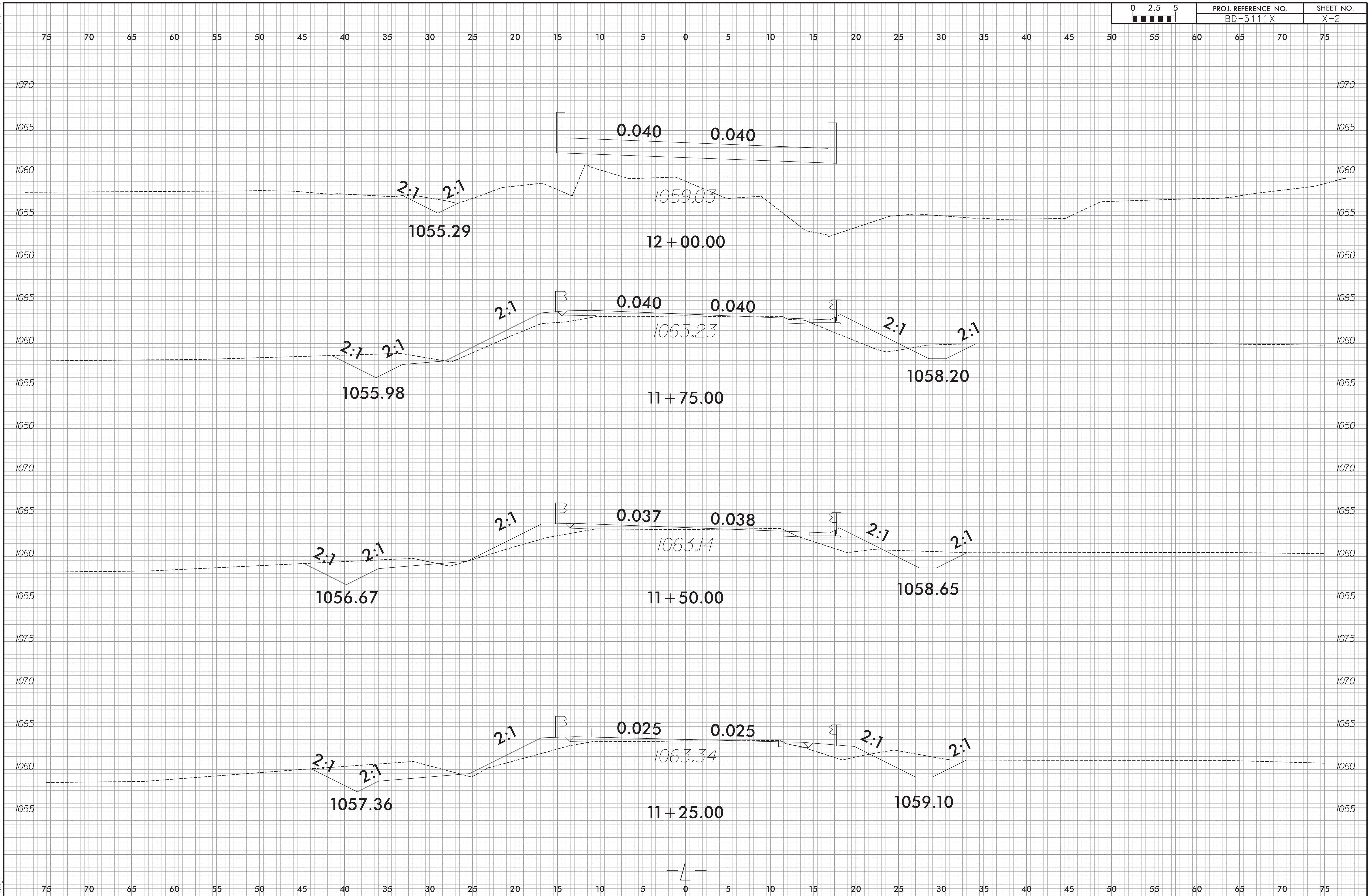
SOIL STABILIZATION TIMEFRAMES

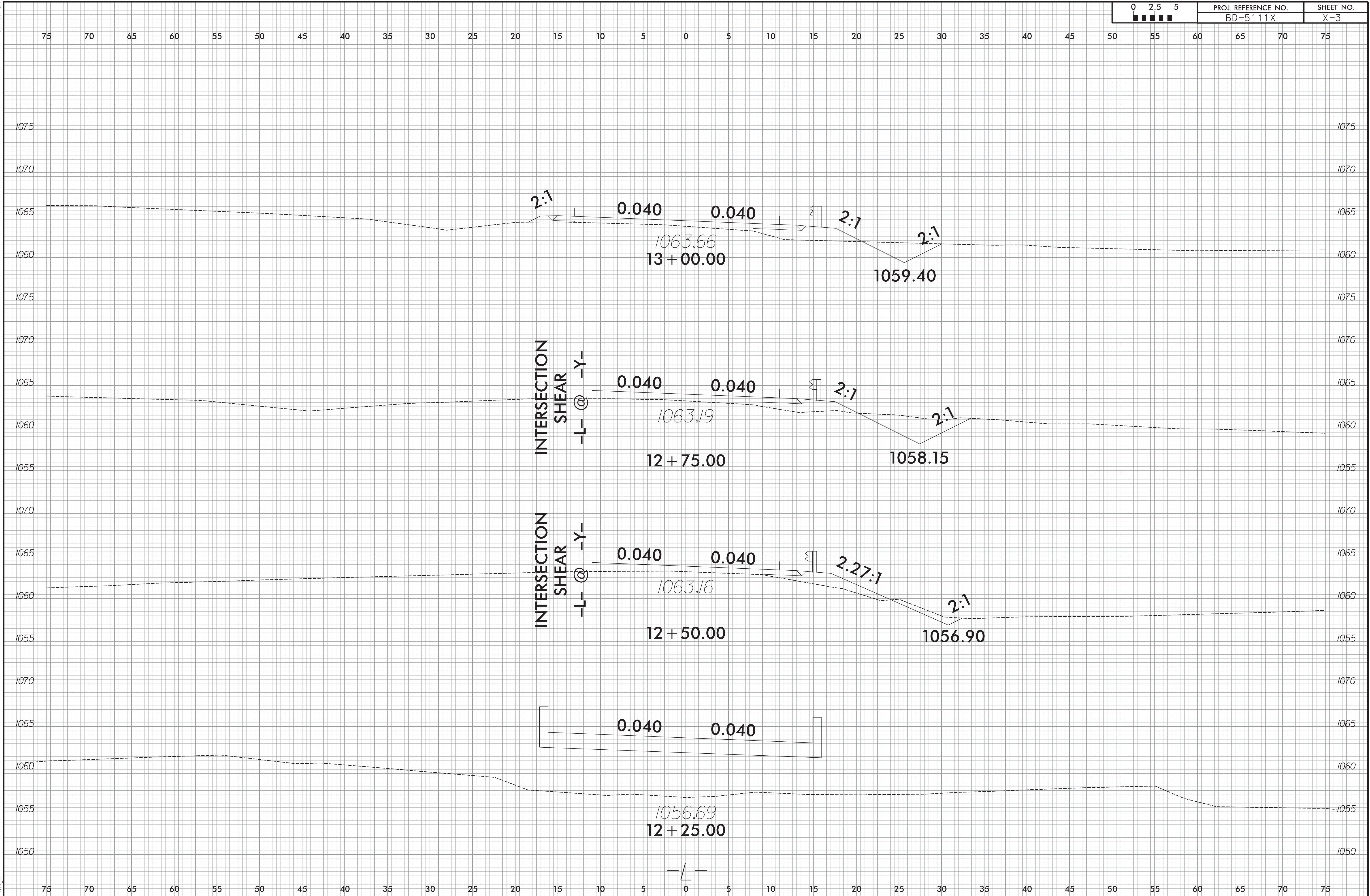
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

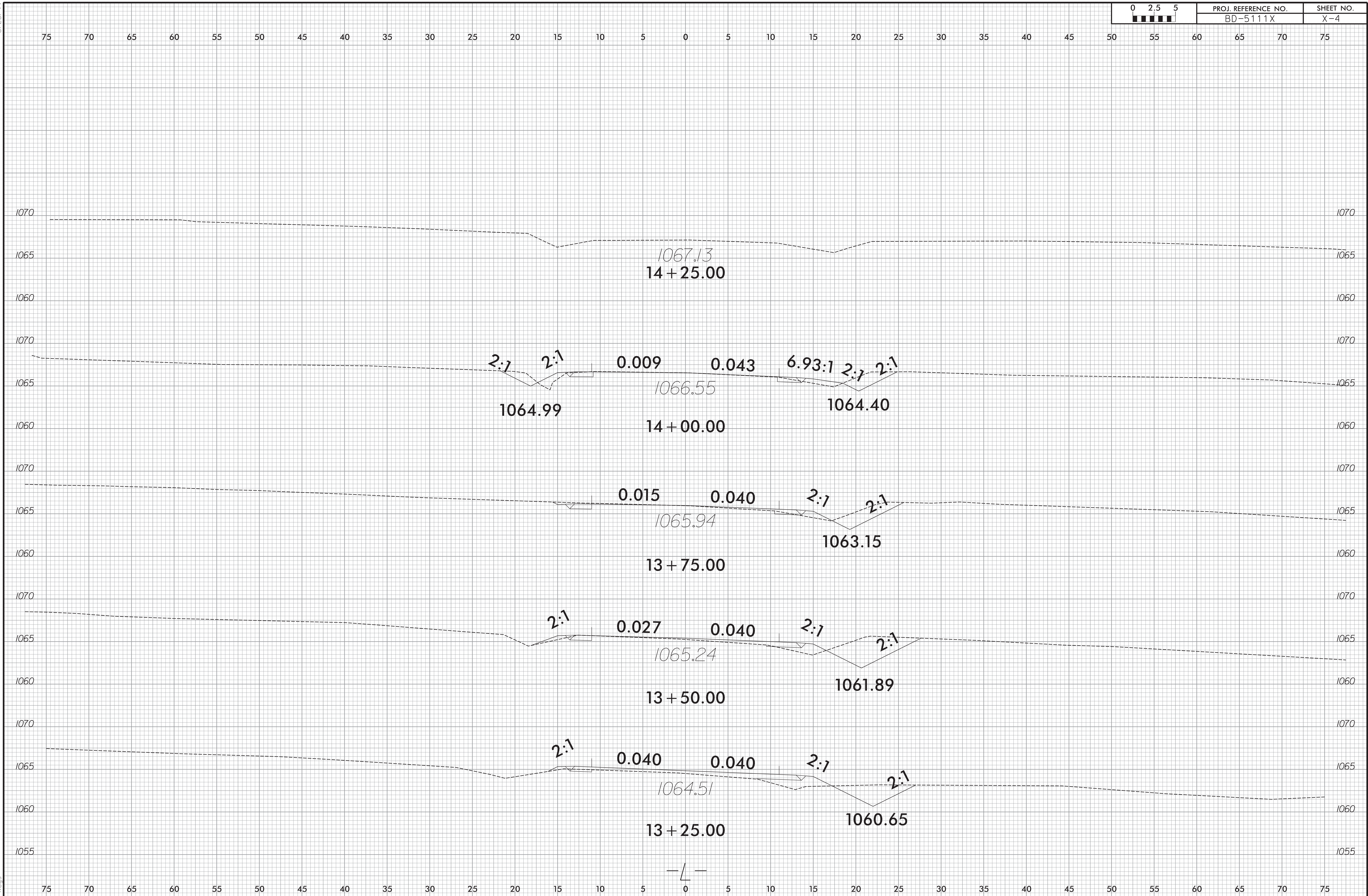
8/23/99

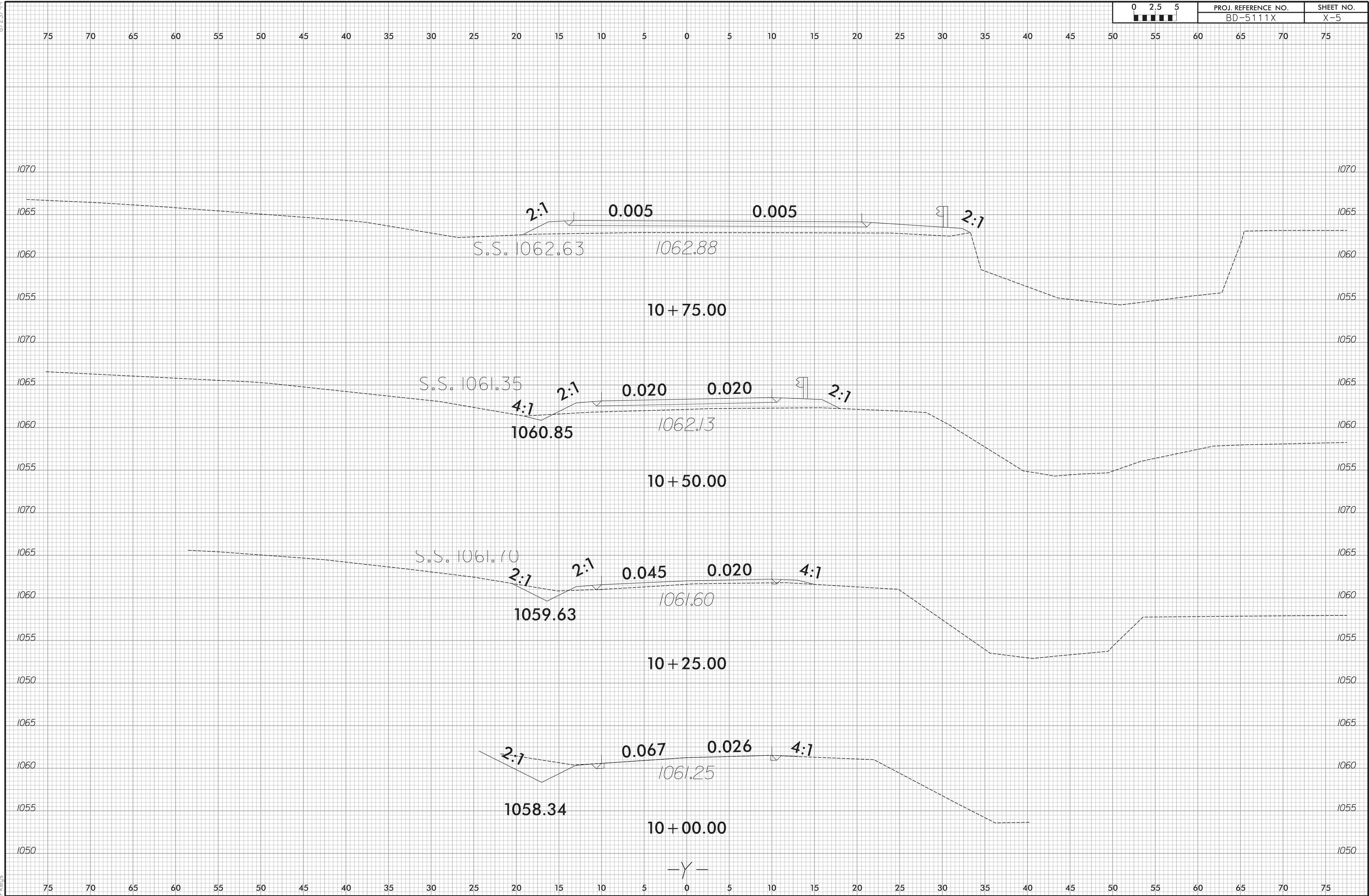
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	BD-5111X	X-1











8/23/99

0 2.5 5 ■■■■■	PROJ. REFERENCE NO. BD-5111X	SHEET NO. X-6
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

