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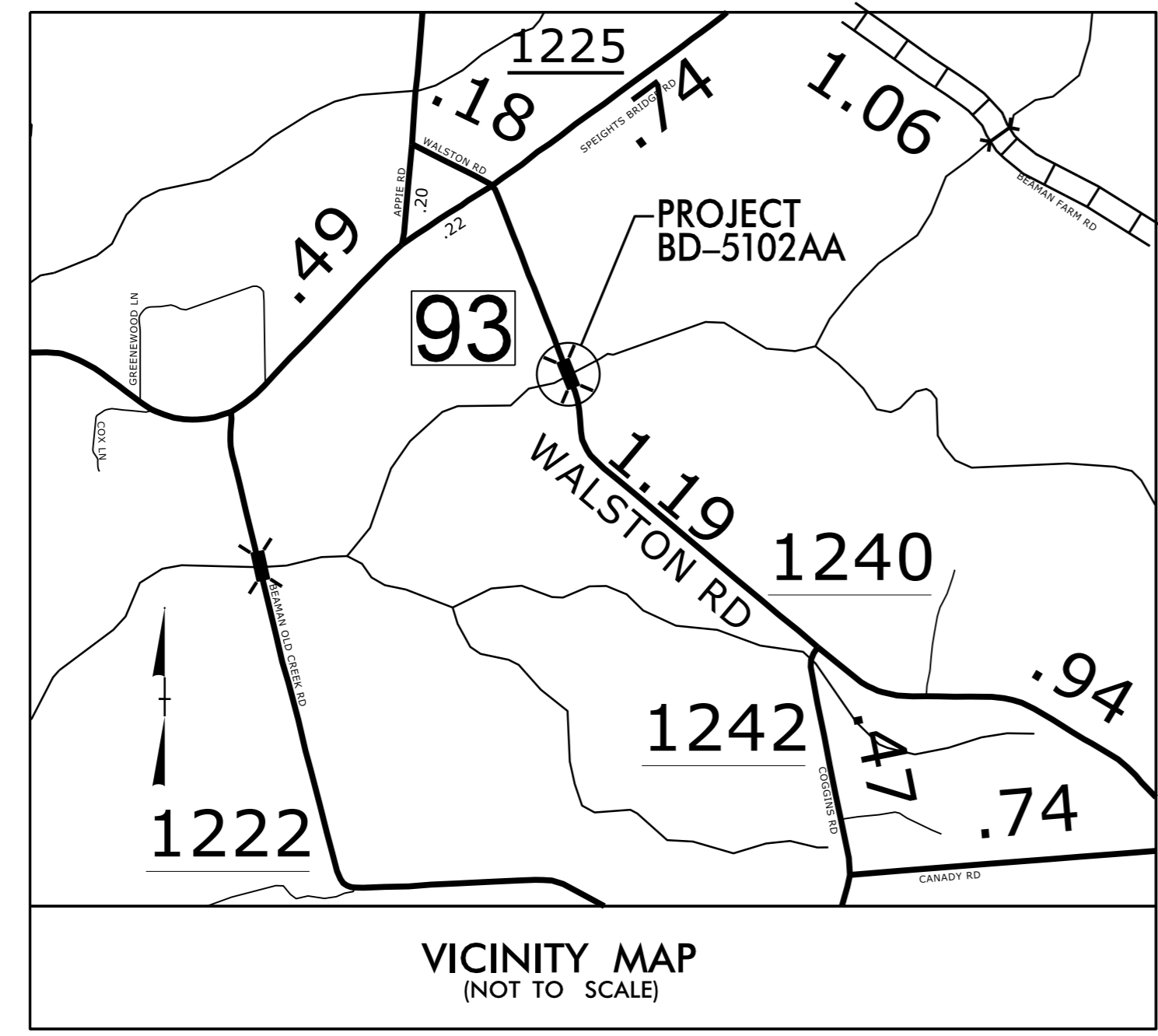
09/08/99

23-NOV-2015 13:00
 G:\PROJECTS\GREENE\Greene 93\BD5102_AA-ddc2-psh_1.dgn
 \$\$\$USERNAME\$\$\$

TIP PROJECT: BD-5102AA

CONTRACT: DB00264

See Sheet 1-A For Index of Sheets



VICINITY MAP
(NOT TO SCALE)

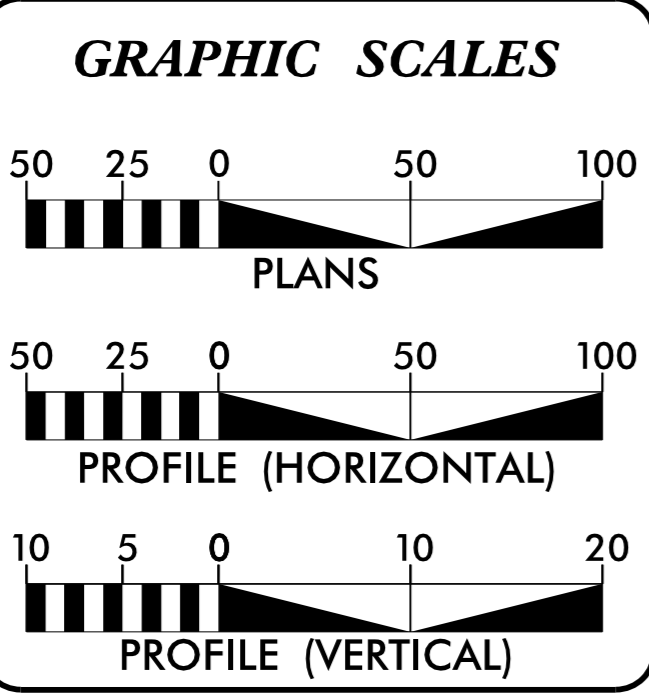
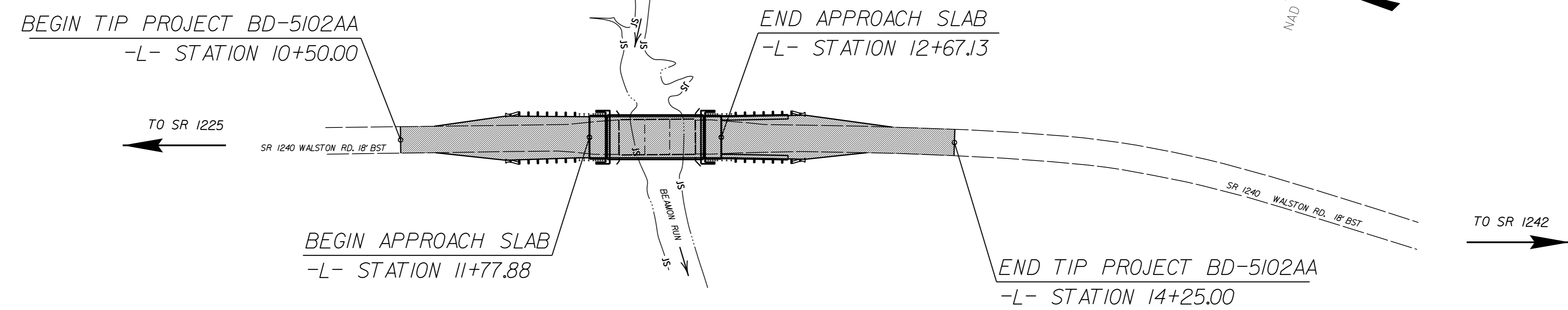
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

GREENE COUNTY

**LOCATION: BRIDGE #93 OVER BEAMON RUN
 ON SR 1240 (WALSTON RD)**

**TYPE OF WORK: BRIDGE REPLACEMENT, GUARDRAIL,
 PAVING, GRADING AND DRAINAGE**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BD-5102AA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45348.1.27	BRZ-1240(5)	PE	
45348.2.27	BRZ-1240(5)	RW	
17BP.2.R.65		CONST	



PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BD-5102AA = 0.054 MILE
 LENGTH STRUCTURE TIP PROJECT BD-5102AA = 0.017 MILE
 TOTAL LENGTH TIP PROJECT BD-5102AA = 0.071 MILE

Prepared in the Office of:
DIVISION OF HIGHWAYS
 105 Pictolus Hwy, Greenville NC, 27835

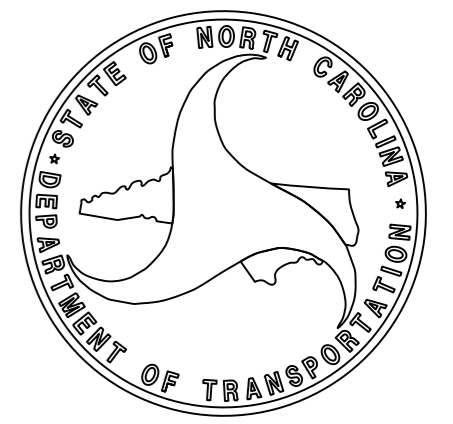
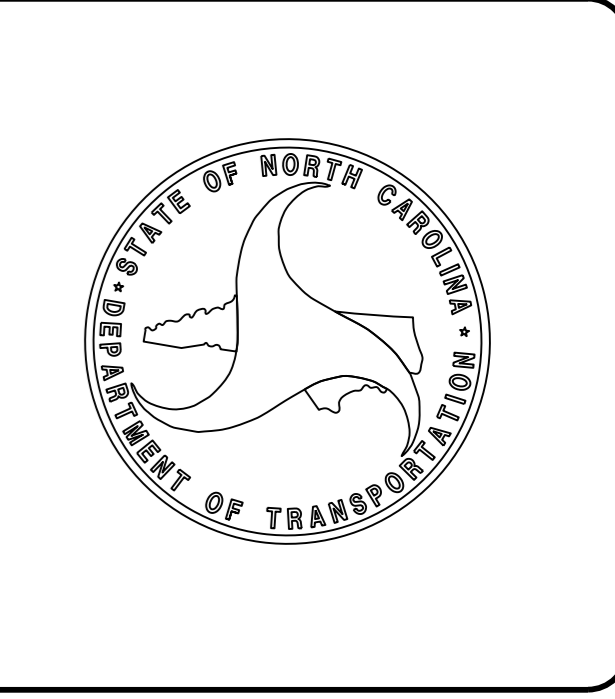
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: JANUARY 2014	EDWARD EATMON, P.E. PROJECT ENGINEER
LETTING DATE: MARCH 2016	LANG JONES PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

DocuSigned by:
 Edward Eatmon
 11/24/2015 P.E.

ROADWAY DESIGN ENGINEER

DocuSigned by:
 Edward Eatmon
 11/24/2015 P.E.



INDEX OF SHEETS

1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2	TYPICAL SECTIONS
3	SUMMARY OF QUANTITIES
3A	SUMMARY OF DRAINAGE, GUARDRAIL AND EARTHWORK QUANTITIES
4	PLAN AND PROFILE SHEET
TMP1-TMP2	TRAFFIC MANAGEMENT PLANS
EC1-EC3	EROSION CONTROL SHEETS
UC1-UC4	UTILITY CONSTRUCTION SHEETS
X1A	CROSS-SECTION SUMMARY
X1	CROSS-SECTIONS
S1-S14	STRUCTURE PLANS (BRIDGE)

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - 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
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-12
REVISED: 07/30/12

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS.

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	----- ----- -----
County Line	----- ----- -----
Township Line	----- ----- -----
City Line	----- ----- -----
Reservation Line	----- ----- -----
Property Line	----- ----- -----
Existing Iron Pin	○
Property Corner	⊕
Property Monument	⊕
Parcel/Sequence Number	(123)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	-MLB-
Proposed Wetland Boundary	-MLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	○
Small Mine	⊗
Foundation	▭
Area Outline	▭
Cemetery	⊕
Building	▭
School	▭
Church	⊕
Dam	▭

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	----->
Spring	○
Wetland	⋄
Wetland Boundary	-MLB-
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	⊕
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊕
Proposed Control of Access	⊕
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Curb Ramp	-----
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----
Orchard	-----
Vineyard	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	⊕
H-Frame Pole	●
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

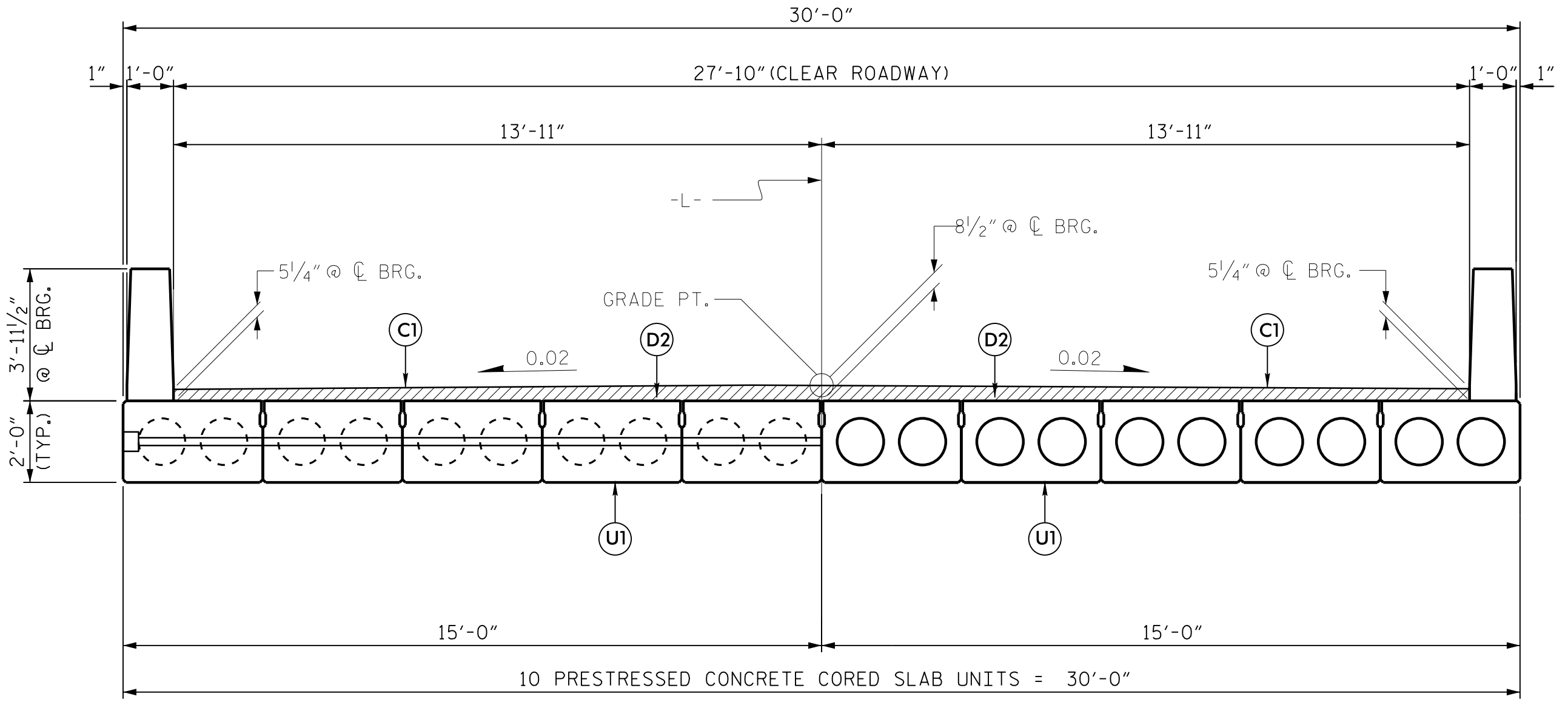
MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	▭
A/G Tank; Water, Gas, Oil	▭
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

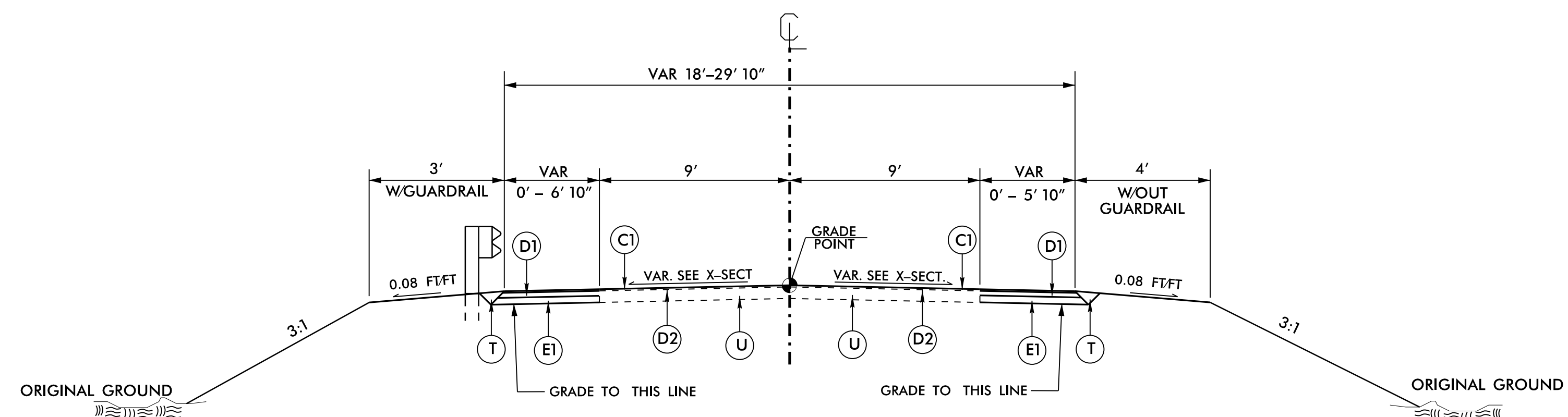
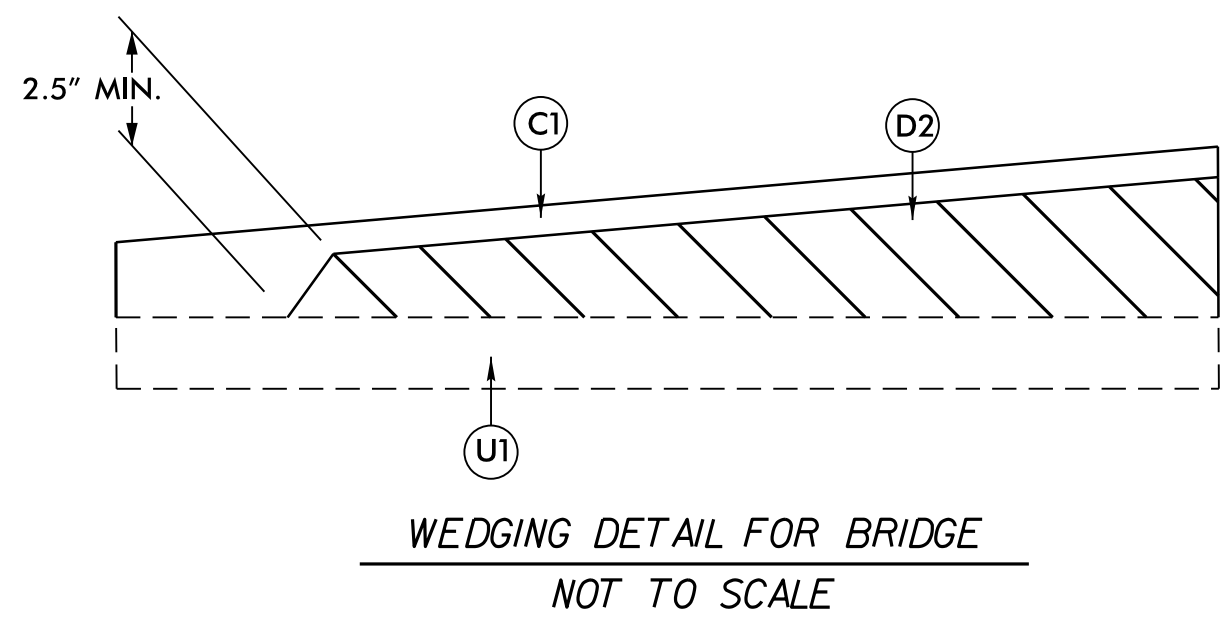
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 8/13/08

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ.YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
U1	CONCRETE CORED SLABS

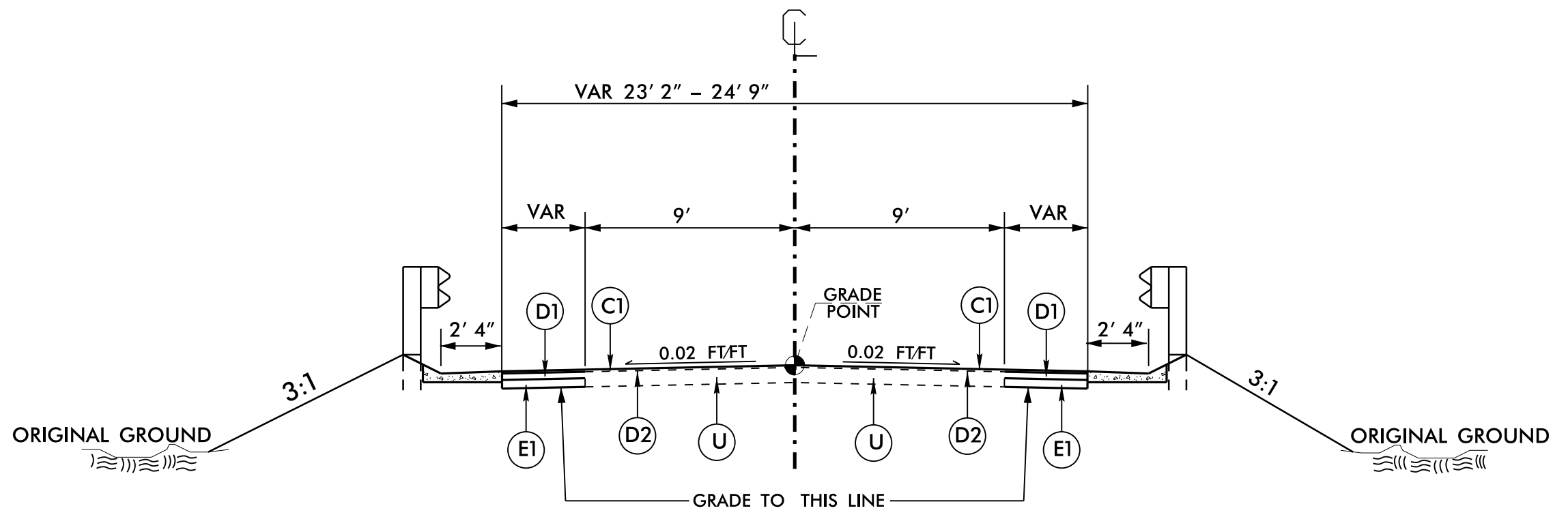
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL BRIDGE SECTION (NTS)
-L- 11+88.88 - 12+56.13



USE TYPICAL SECTION #1 (NTS)
-L- 10+50.00 - 11+77.88
-L- 13+13.55 - 14+25.00



USE TYPICAL SECTION #2 (NTS)
-L- 12+67.13 - 13+13.55

REVISIONS

8/17/99
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

ITEM	SECT	QUANTITY	UNIT	ITEM DESCRIPTION	ITEM	SECT	QUANTITY	UNIT	ITEM DESCRIPTION
1	800	1	LS	MOBILIZATION	27	SP	350	LF	SAFETY FENCE
2	801	1	LS	CONSTRUCTION SURVEYING	28	1630	5	CY	SILT EXCAVATION
3	SP	1	LS	REINFORCED BRIDGE APPROACH FILL, -L- STA 12+22.50	29	1631	400	SY	MATTING FOR EROSION CONTROL
4	226	1	LS	GRADING	30	SP	80	SY	FLOATING TURBIDITY CURTAIN
5	226	200	CY	UNDERCUT EXCAVATION	31	SP	140	LF	WATTLE
6	300	10	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	32	1660	1	ACRE	SEEDING AND MULCHING
7	300	10	SY	FOUNDATION CONDITIONING GEOTEXTILE	33	1661	50	LB	SEED FOR REPAIR SEEDING
8	610	55	TON	ASPHALT CONCRETE BASE COURSE, TYPE B25.0B	34	1661	0.2	TON	FERTILIZER FOR REPAIR SEEDING
9	610	135	TON	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B	35	1661	1	LS	4" WATER LINE RELOCATION
10	610	200	TON	ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A					
11	620	25	TON	ASPHALT BINDER FOR PLANT MIX					
12	820	2	EA	METAL FUNNELS	36	402	1	LS	REMOVAL OF EXISTING STRUCTURE AT -L- STA 12+22.50
13	820	8	LF	12" FUNNEL DRAIN PIPE	37	450	1	EA	PDA TESTING
14	846	90	LF	SHOULDER BERM GUTTER	38	412	1	LS	UNCLASSIFIED STRUCTURE EXCAVATION
15	862	10	EA	ADDITIONAL GUARDRAIL POSTS	39	420	26.6	CY	CLASS A CONCRETE (BRIDGE)
16	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III	40	422	1	LS	BRIDGE APPROACH SLABS
17	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	41	425	3954	LB	REINFORCING STEEL (BRIDGE)
18	876	5	TON	RIP RAP, CLASS I	42	450	600	LF	HP 12 X 53 STEEL PILES
19	876	5	TON	RIP RAP, CLASS B	43	450	6	EA	PILE REDRIVES
20	876	10	SY	GEOTEXTILE FOR DRAINAGE	44	460	130.25	LF	VERTICAL CONCRETE BARRIER RAIL
21	1605	720	LF	TEMPORARY SILT FENCE	45	876	187	TON	RIP RAP, CLASS II (2'-0" THICK)
22	1610	5	TON	STONE FOR EROSION CONTROL, CLASS B	46	876	208	SY	GEOTEXTILE FOR DRAINAGE
23	1615	1	ACRE	TEMPORARY MULCHING	47	430	1	LS	ELASTOMETRIC BEARINGS
24	1620	50	LB	SEED FOR TEMPORARY SEEDING	48	430	650	LF	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS
25	1620	0.2	TON	FERTILIZER FOR TEMPORARY SEEDING					
26	1622	200	LF	TEMPORARY SLOPE DRAINS					

REVISIONS

8/17/99

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DATUM DESCRIPTION

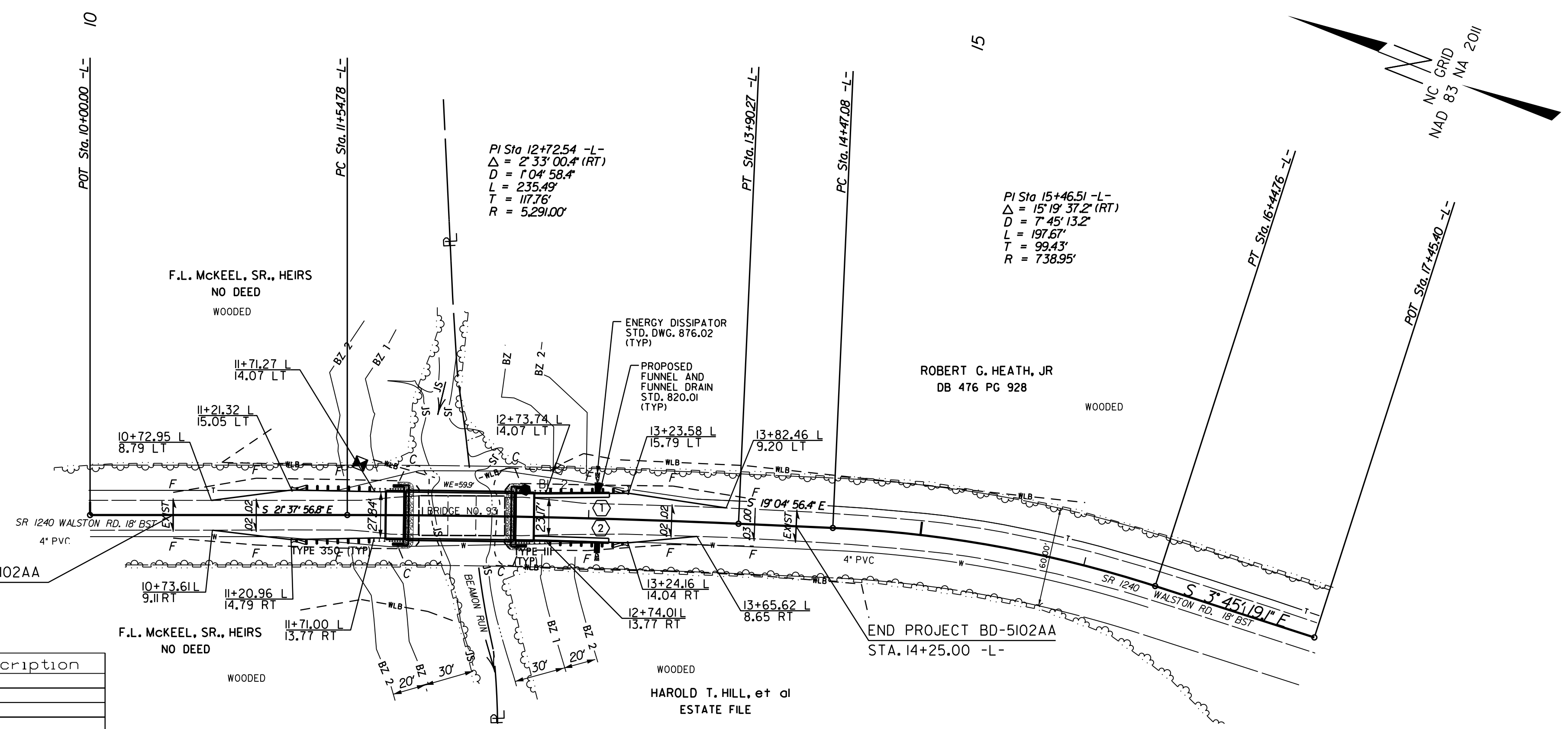
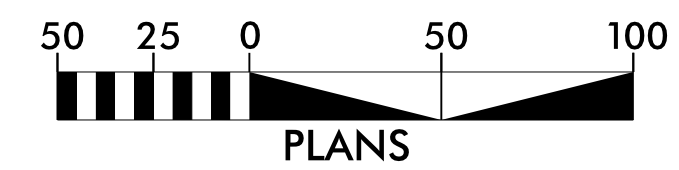
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-2"

WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 658872.361(±) EASTING: 2377391.609(±) ELEVATION: 65.60(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988885

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -L- STATION 10+00.00 IS N 24° 56' 31" W 262.3446'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

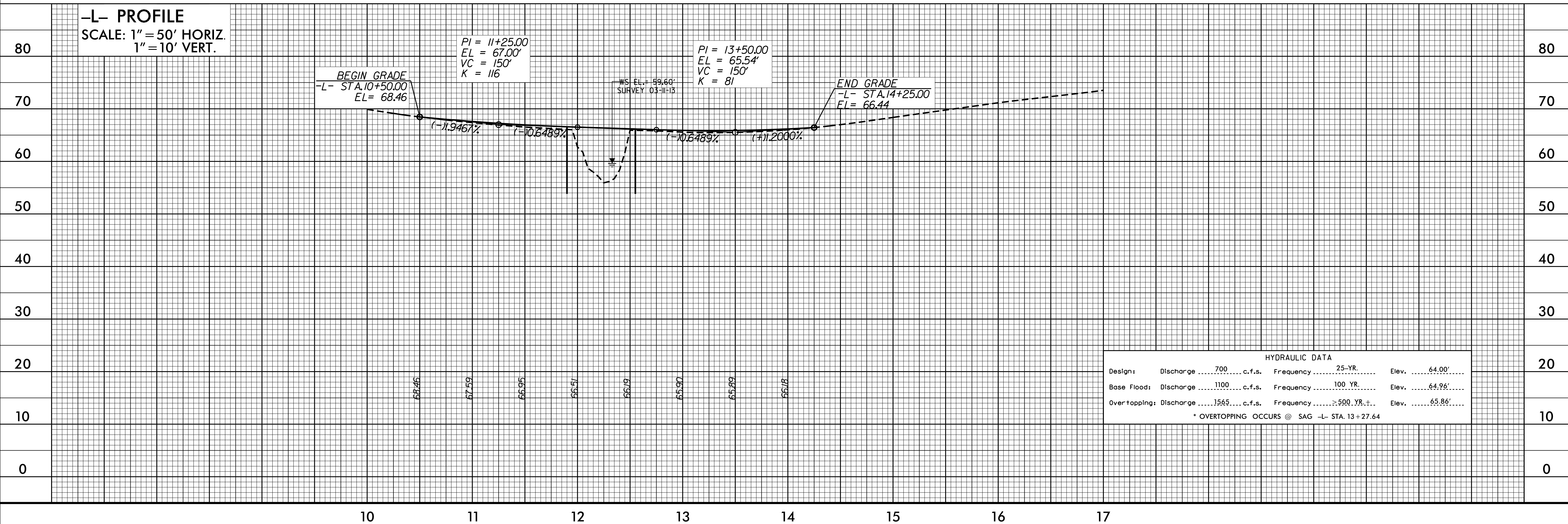


Point	North	East	Elevation	Description
1	659696.0500	2377036.4600	87.7000	BL-1
2	658872.3610	2377391.6090	65.6000	BL-2
3	658067.8950	2377570.4770	85.8300	BL-3
BM1	658970.6280	2377369.6440	64.7110	

SHOULDER BERM GUTTER
 -L- STA 12+67.03 - 13+12.14 LT
 -L- STA 12+67.23 - 13+12.52 RT

WORK POINT DESCRIPTION	
WORK POINT *1	-L- STATION 11+88.88 CL
WORK POINT *2	-L- STATION 12+56.13 CL

-L- PROFILE
 SCALE: 1" = 50' HORIZ.
 1" = 10' VERT.



HYDRAULIC DATA			
Design:	Discharge 700 c.f.s.	Frequency 25-YR.	Elev. 64.00'
Base Flood:	Discharge 1100 c.f.s.	Frequency 100 YR.	Elev. 64.96'
Over topping:	Discharge 1565 c.f.s.	Frequency >500_YR.t..	Elev. 65.88'
* OVERTOPPING OCCURS @ SAG -L- STA. 13+27.64			

REVISIONS

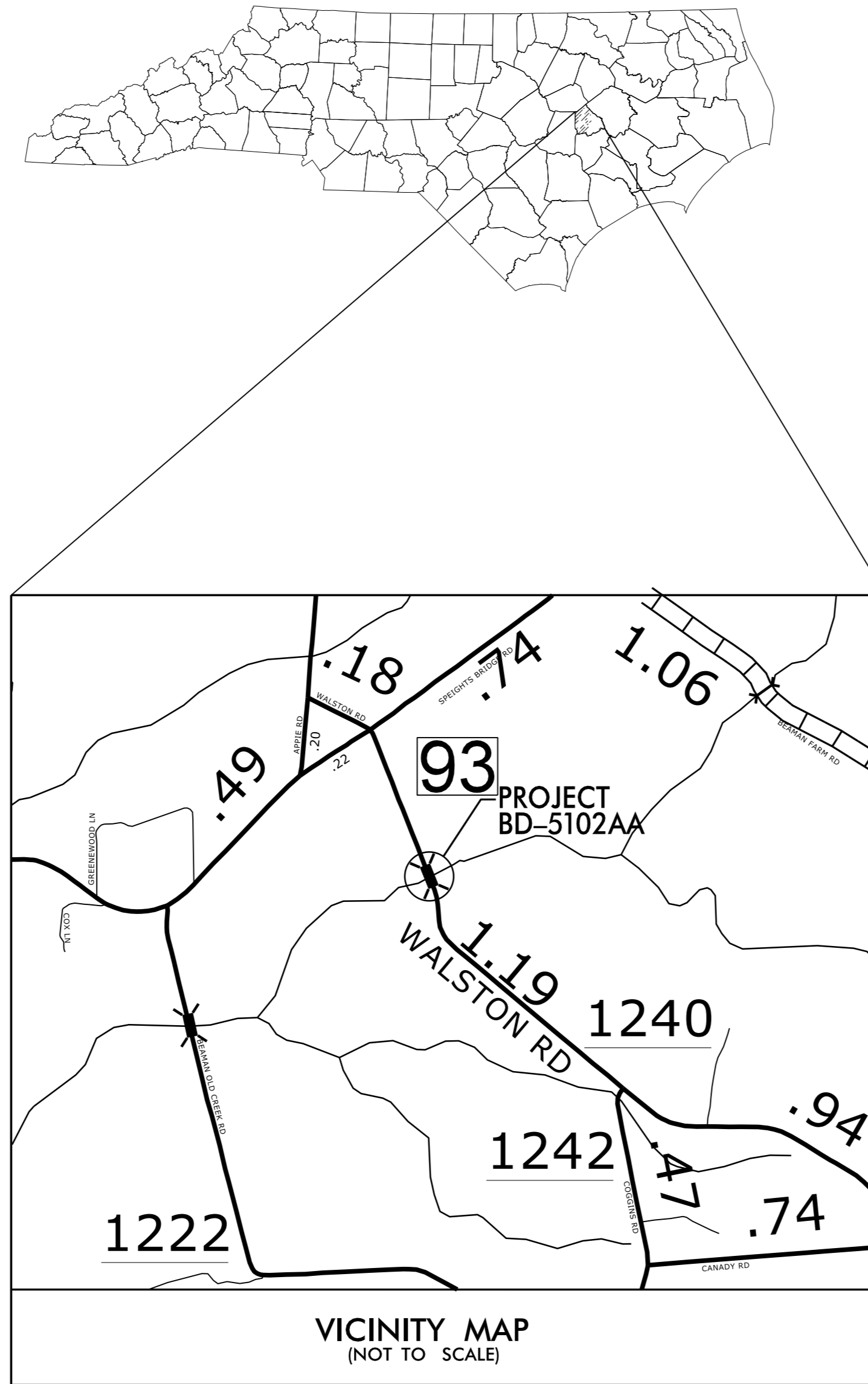
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GREENE COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET WITH VICINITY MAP & INDEX OF SHEETS, LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND.
TMP-2	PROJECT NOTES, DETOUR AND PLANS.

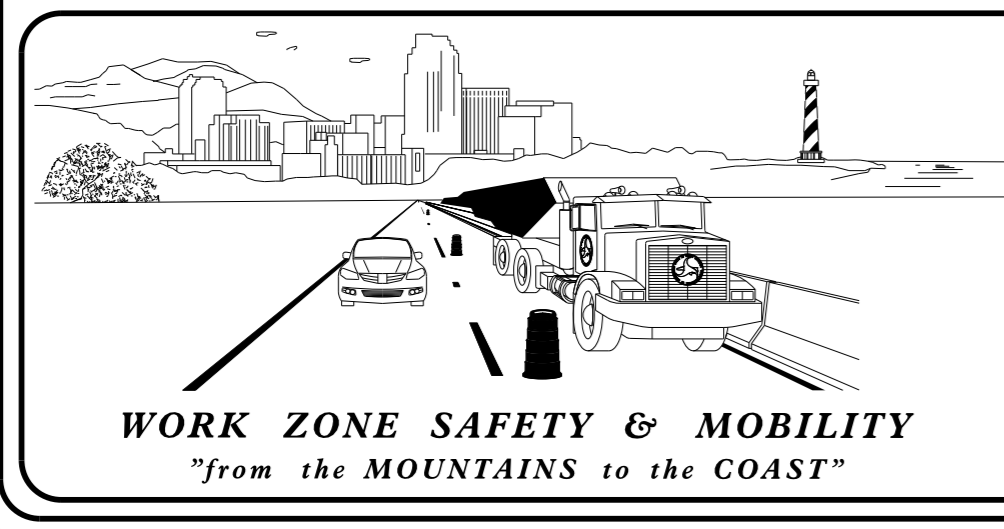
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-HIGHWAY DESIGN BRANCH-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 (SHT. 1 OF 9)	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES (TYPE III)

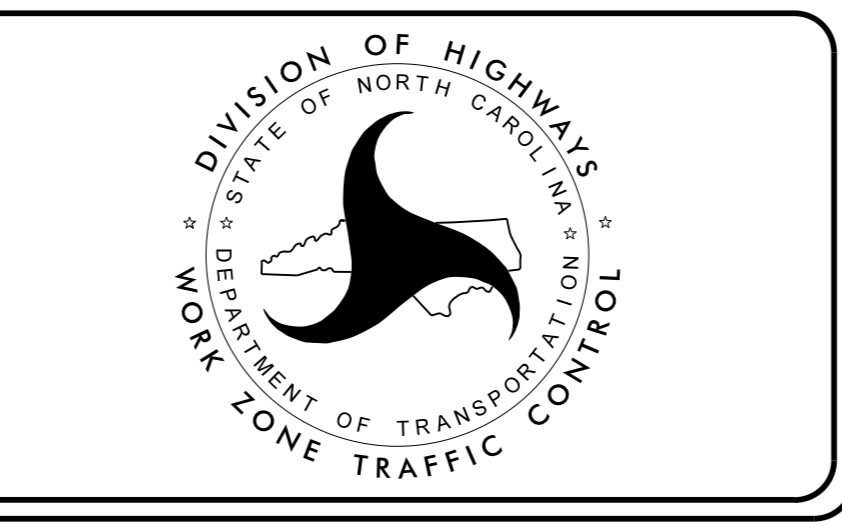
LEGEND

GENERAL	
	DIRECTION OF TRAFFIC FLOW
	DIRECTION OF PEDESTRIAN TRAFFIC FLOW
	NORTH ARROW
	PROPOSED PVMT.
	EXIST. PVMT.
	WORK AREA
TRAFFIC CONTROL DEVICES	
	BARRICADE (TYPE III)



N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
P.O. BOX 1587, GREENVILLE, NC 27835
105 PACTOLUS HWY. (NC 33), GREENVILLE, NC 27835
PHONE: (252) 830-3490 FAX: (252) 830-3352

ED EATMON, PE	TRAFFIC ENGINEER
ED EATMON, PE	TRAFFIC CONTROL PROJECT ENGINEER
LANG JONES	TRAFFIC CONTROL PROJECT DESIGN ENGINEER
VAN TRAN	TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: Ed EATMON
DATE: 11/24/2015

SEAL

SHEET NO.
TMP-1

BD-5102AA

TIP PROJECT:

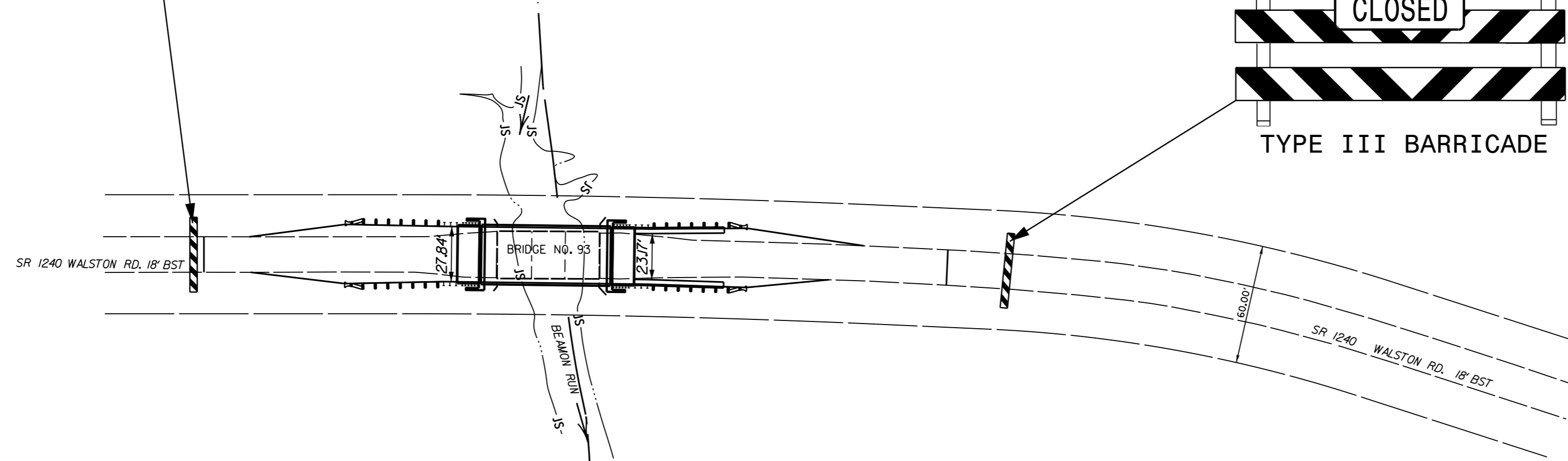
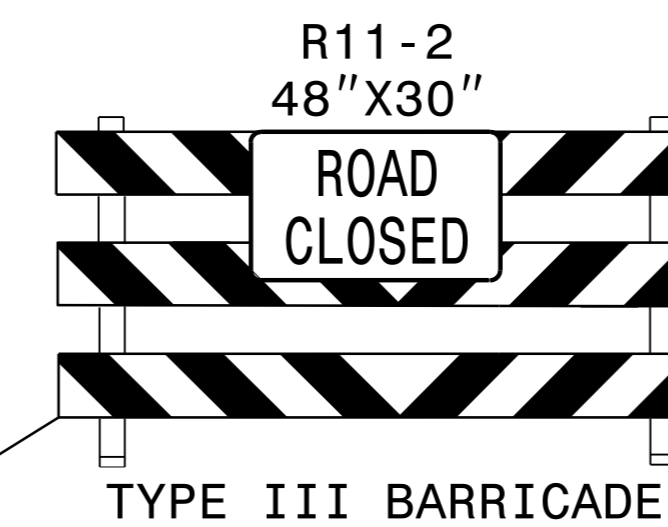
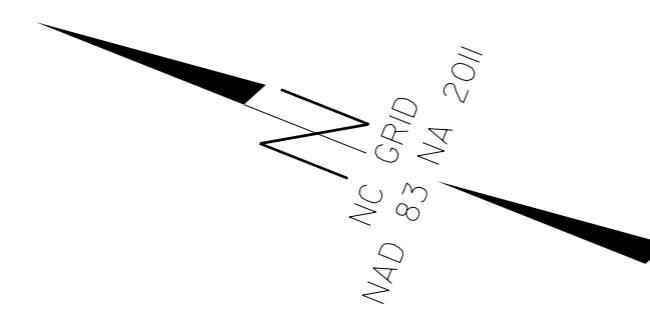
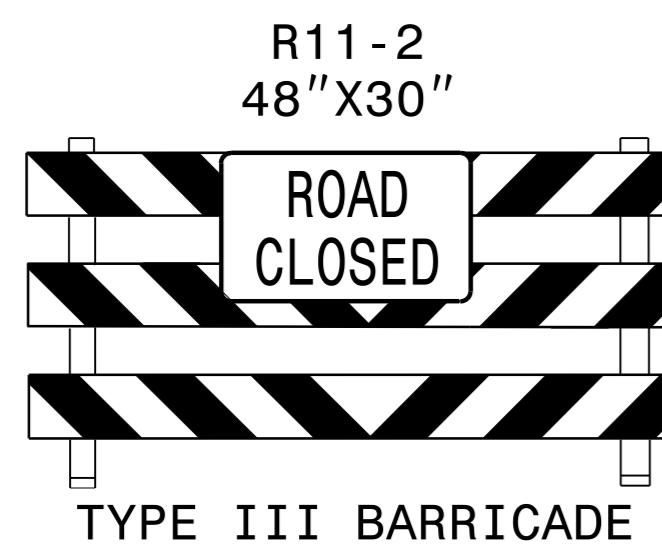
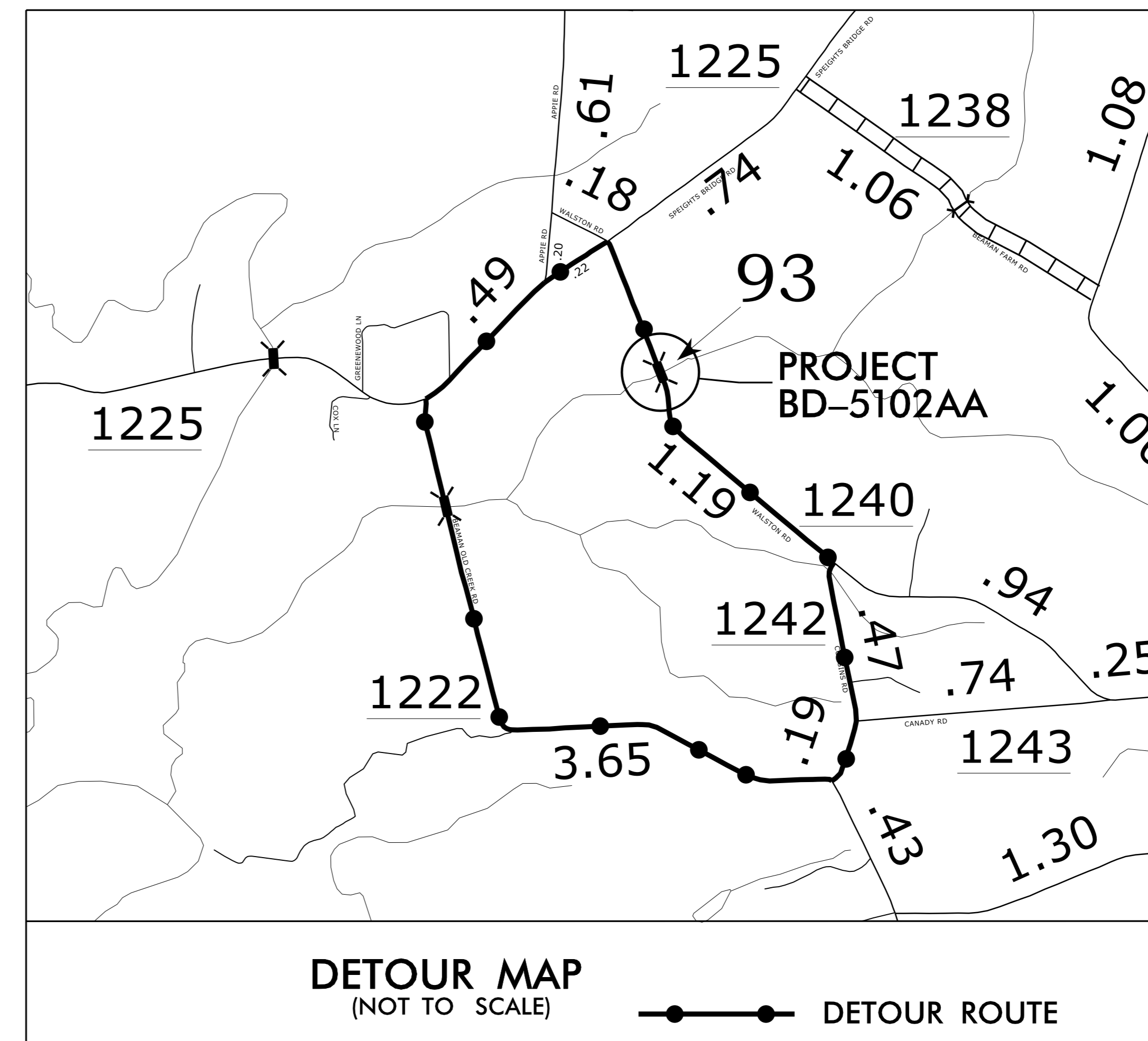
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\$\$\$\$\$USERNAME\$\$\$\$\$

GENERAL NOTES

IMPLEMENT TRAFFIC CONTROL IN ACCORDANCE WITH THE ROADWAY STANDARD DRAWINGS LISTED ON TCP-1.

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.

STATE FORCES WILL INSTALL AND MAINTAIN THE PROJECT DETOUR AND THE TYPE III BARRICADES AT THE PROJECT LIMITS. STATE FORCES WILL INSTALL PAINT AND MARKERS ON THE FINISHED PROJECT. CALL JIM EVANS AT 252-830-3493 FOR COORDINATION.



29-OCT-2015 08:00
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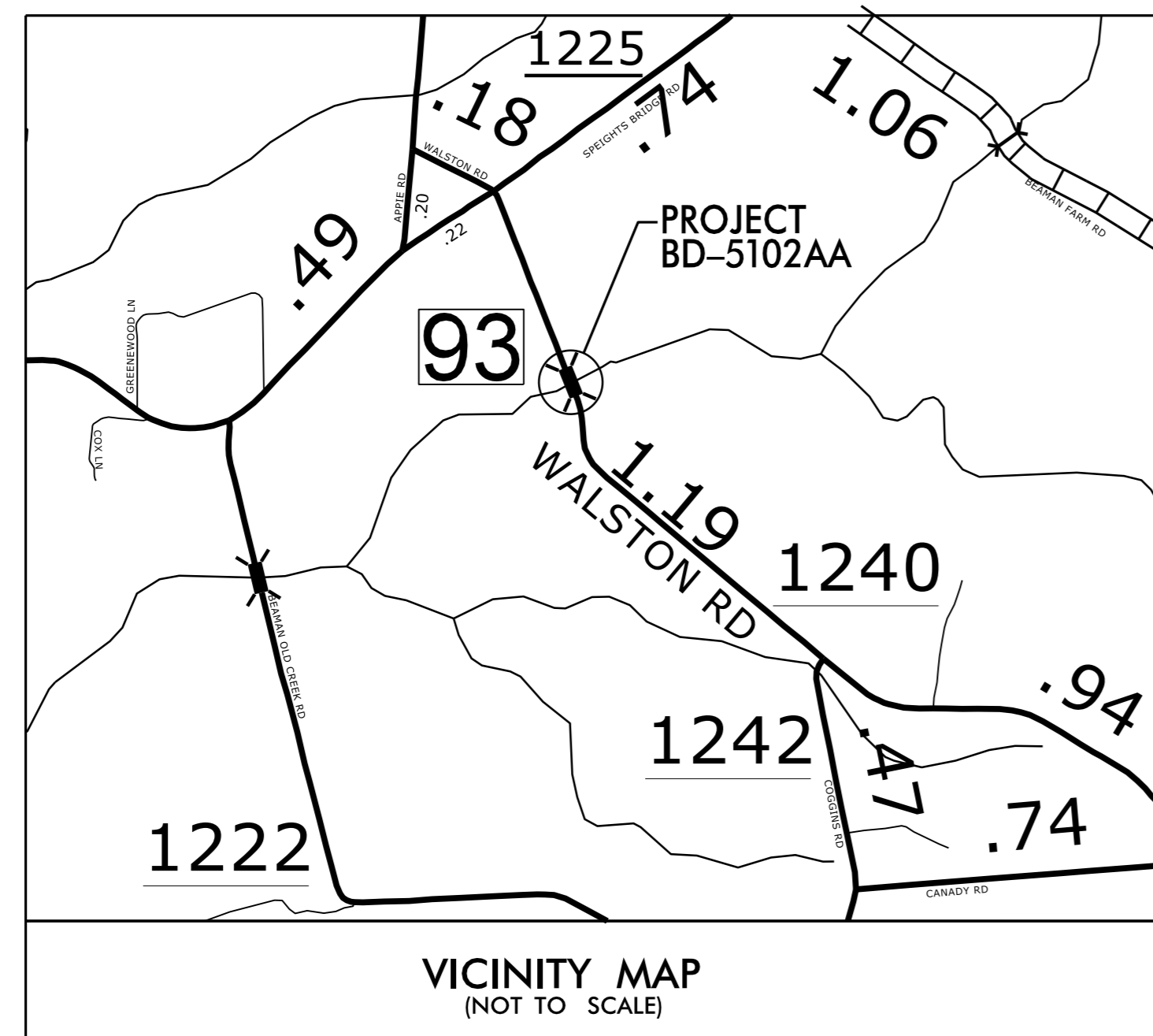
APPROVED: <i>Bryce Eatman</i>	PROJECT NOTES, DETOUR AND PLANS	
	SCALE: NONE	REVISIONS
	DATE: 3/2/13	
	DWG. BY: TP	
	DESIGN BY: LJ	
	REVIEWED BY: VT	CADD FILE

09/08/99

TIP PROJECT: BD-5102AA

CONTRACT: DB00264

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

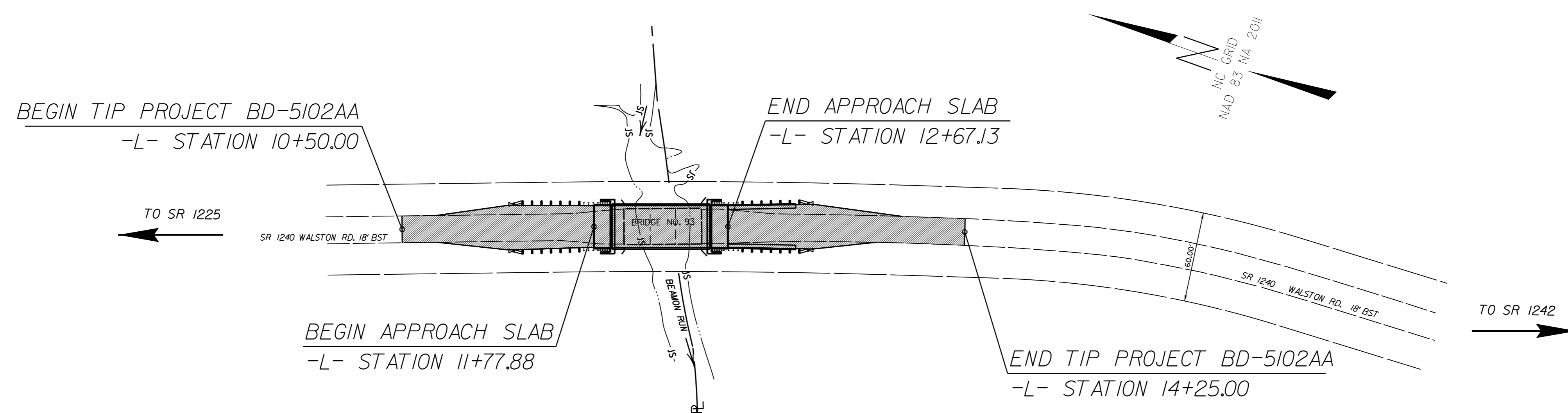
GREENE COUNTY

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BD-5102AA	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
45348.1.27	BRZ-1240(5)	PE	
45348.2.27	BRZ-1240(5)	RW	
45348.3.27	BRZ-1240(5)	CONST	

EROSION AND SEDIMENT CONTROL MEASURES

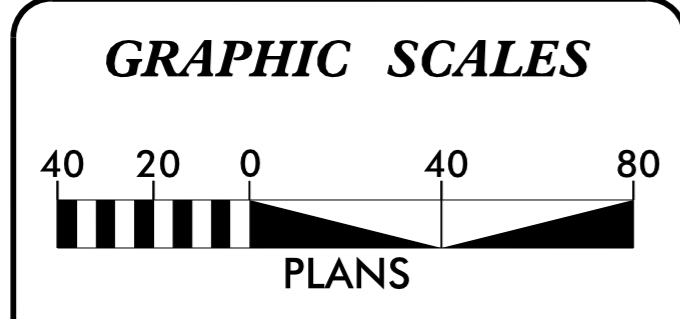
Std. #	Description	Symbol
1605.01	High Vis Temporary Silt Fence.....	— — — —
SP	Wattle.....	⌒



ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.



PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BD-5102AA = 0.054 MILE

LENGTH STRUCTURE TIP PROJECT BD-5102AA = 0.017 MILE

TOTAL LENGTH TIP PROJECT BD-5102AA = 0.071 MILE

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.

Prepared in the Office of:

DIVISION OF HIGHWAYS

105 Pictolus Hwy, Greenville NC, 27835

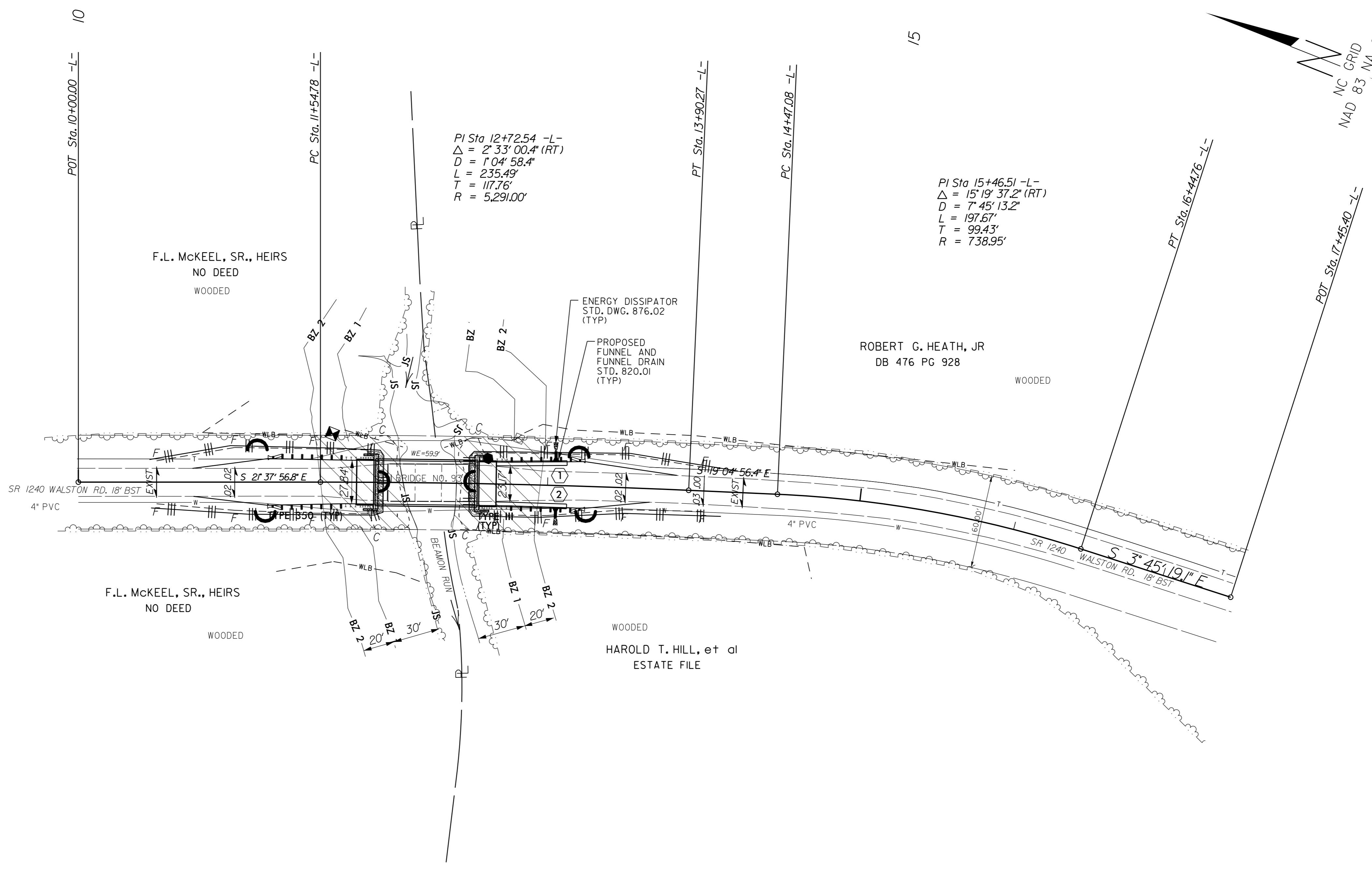
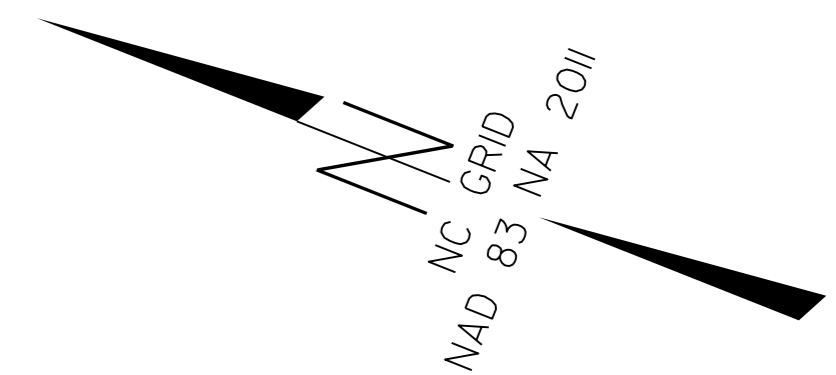
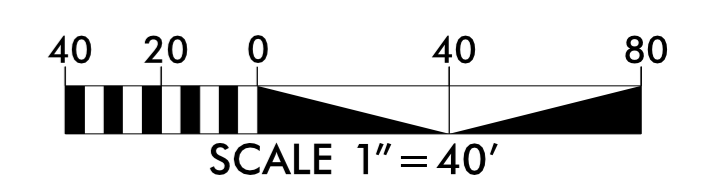
2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE:	ED EATMON PROJECT ENGINEER
LETTING DATE:	LANG JONES (#276) PROJECT DESIGN ENGINEER

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

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	

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REVISIONS

8/17/09

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SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) 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 HOW ZONES.

Std. #	Description	Symbol
1605.01	High Vis Temporary Silt Fence	— — —
SP	Wattle	⌒

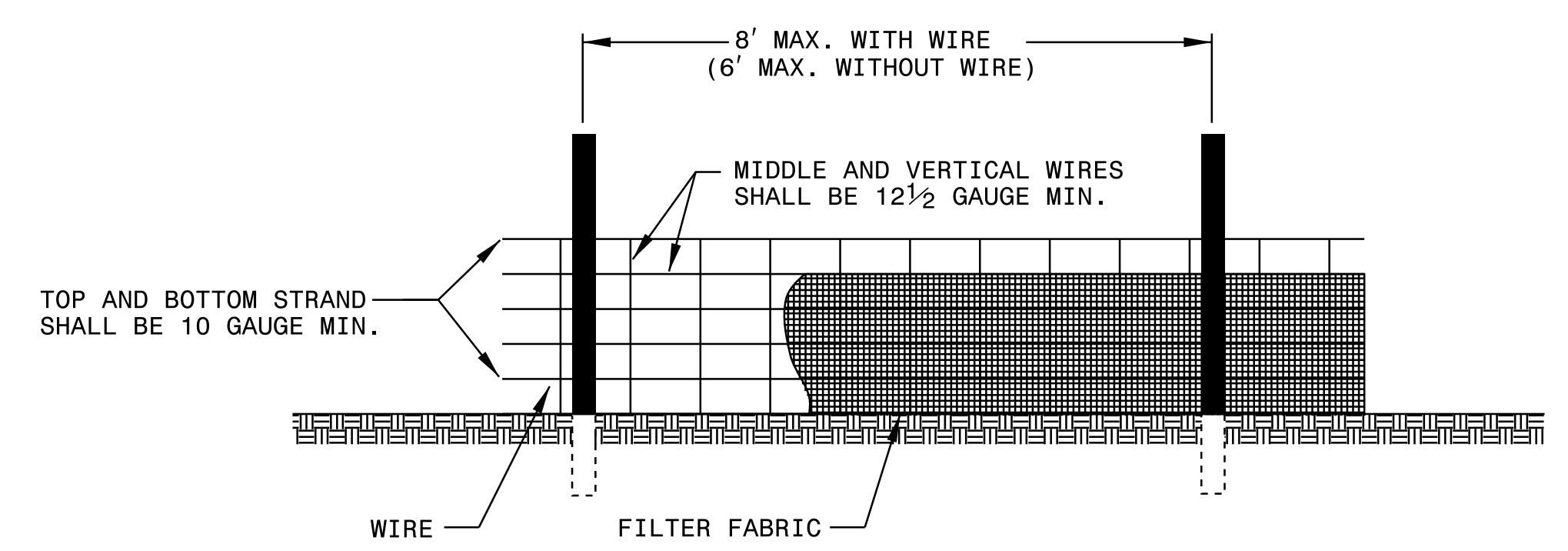


NOTES: ANY DEVIATION FROM OPTIONS GIVEN WILL REQUIRE PRIOR APPROVAL BY ENGINEER.
 ADDITIONAL EROSION CONTROL DEVICES MAY NEED TO BE INSTALLED AS DIRECTED BY THE ENGINEER.
 CONTRACTOR SHALL INSTALL SPECIAL SEDIMENT CONTROL FENCE OR WATTLES IN LOW AREAS OF SILT FENCE AS NEEDED OR DIRECTED BY THE ENGINEER.

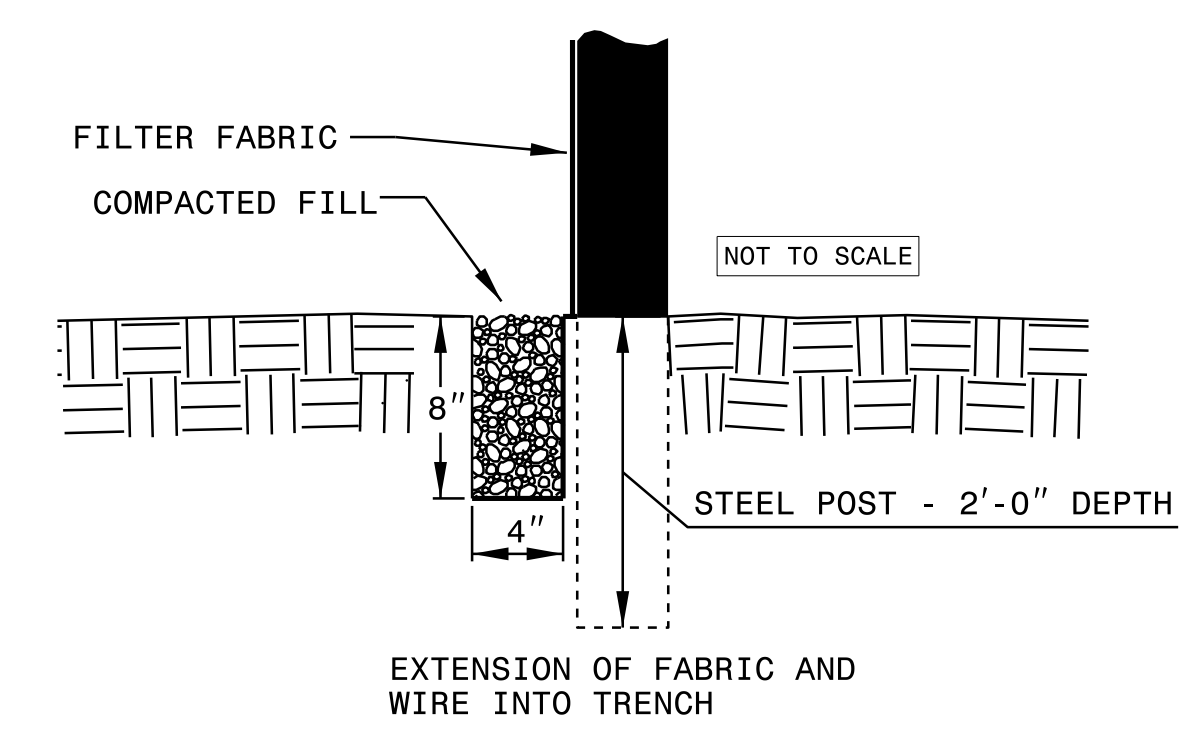
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TEMPORARY SILT FENCE

SHEET 1 OF 1
1605.01



NOTES
USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
USE FILTER FABRIC A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE WIRE AS DIRECTED BY THE ENGINEER.
PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.



STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TEMPORARY SILT FENCE

SHEET 1 OF 1
1605.01

MATting INSTALLATION DETAIL

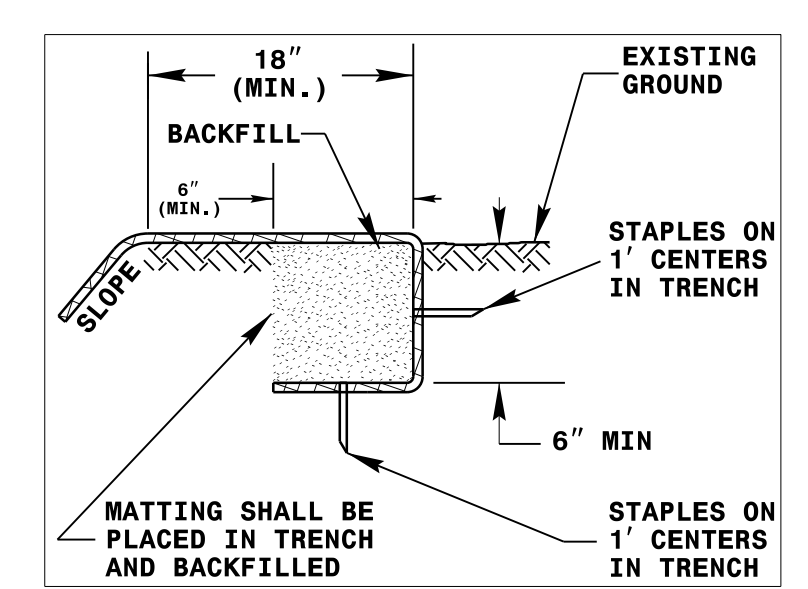
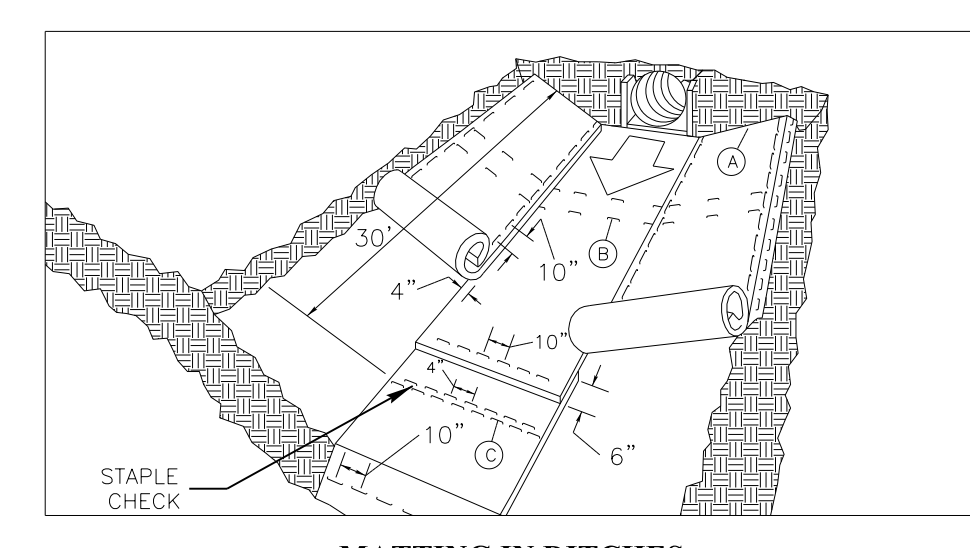


DIAGRAM (A)

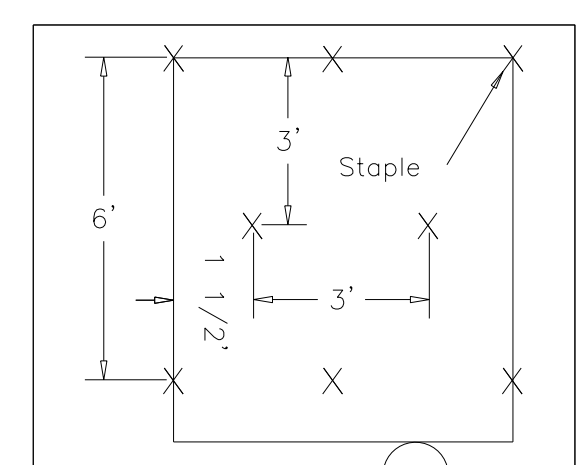
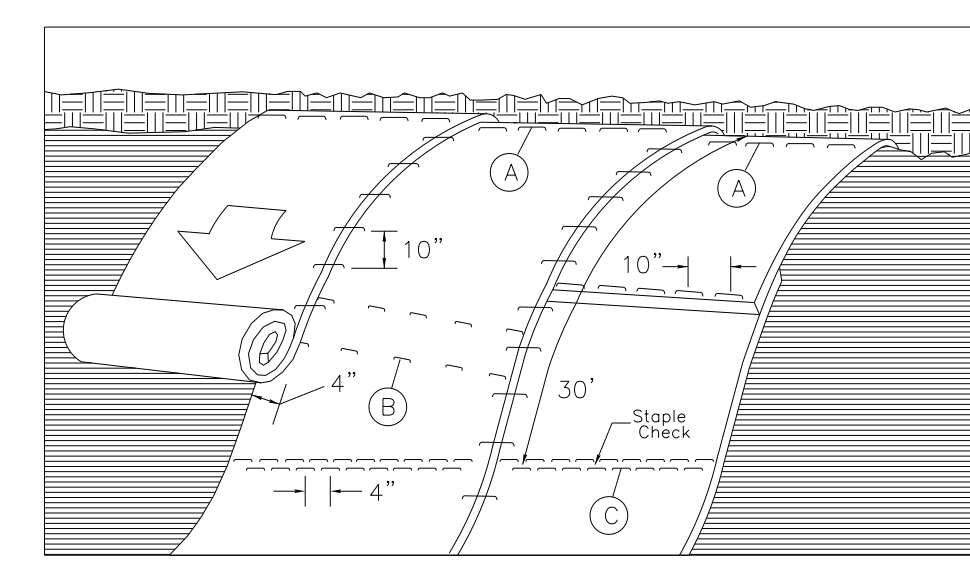
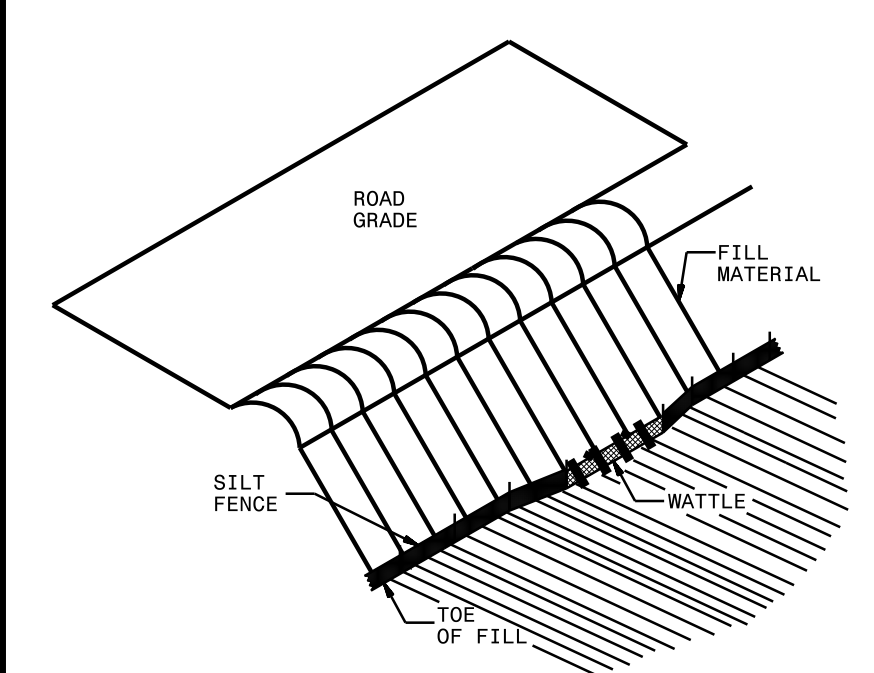


DIAGRAM (C)

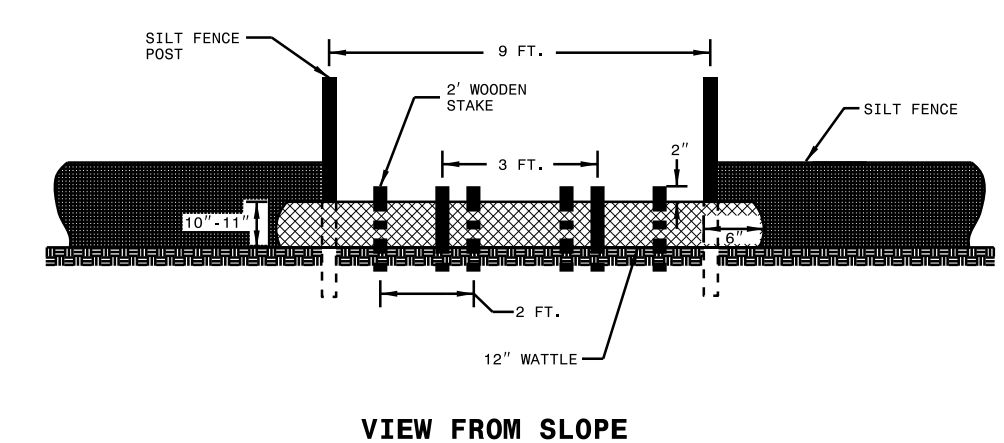
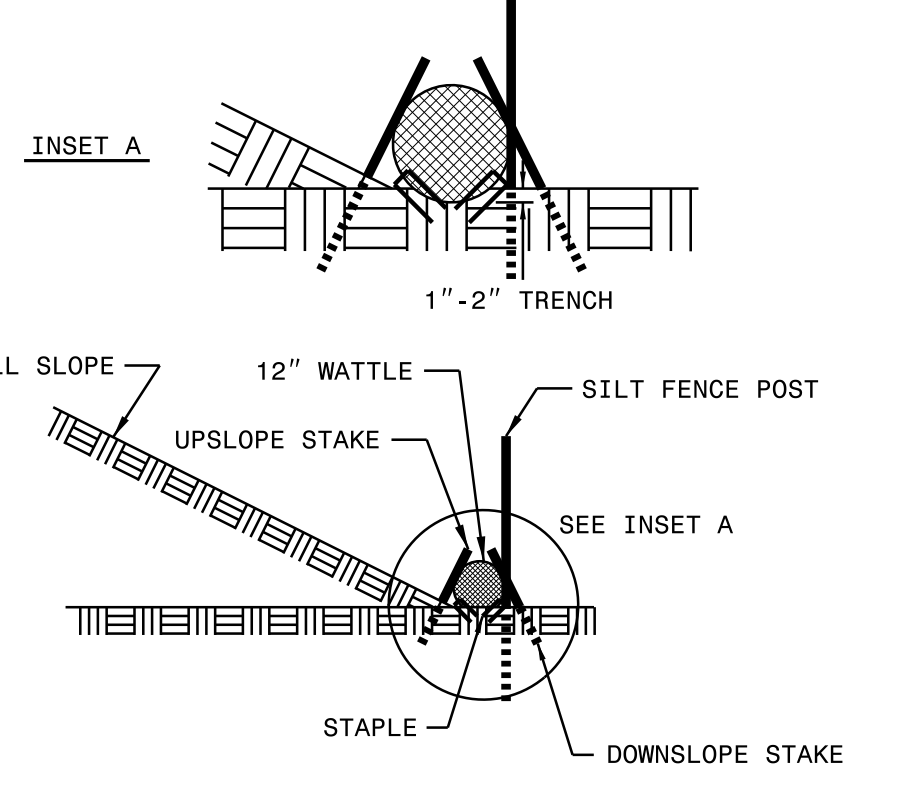
NOTES:
THIS DETAIL APPLIES TO STRAW, EXCELSIOR, AND PERMANENT SOIL REINFORCEMENT MAT (PSRM) INSTALLATION.
STAPLES SHALL BE NO. 11 GAUGE STEEL WIRE FORMED INTO A "U" SHAPE WITH A MINIMUM THROAT WIDTH OF 1 INCH AND NOT LESS THAN 6 INCHES IN LENGTH.

NOT TO SCALE

SILT FENCE WATTLE BREAK DETAIL



NOTES:
USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.
EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.
DO NOT PLACE WATTLE ON TOE OF SLOPE.
USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.



NOT TO SCALE

REVISIONS

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TIP PROJECT: BD-5102AA

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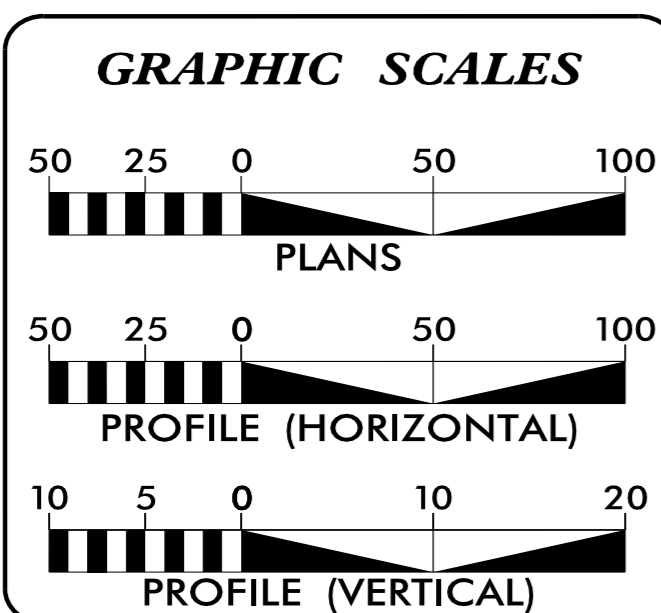
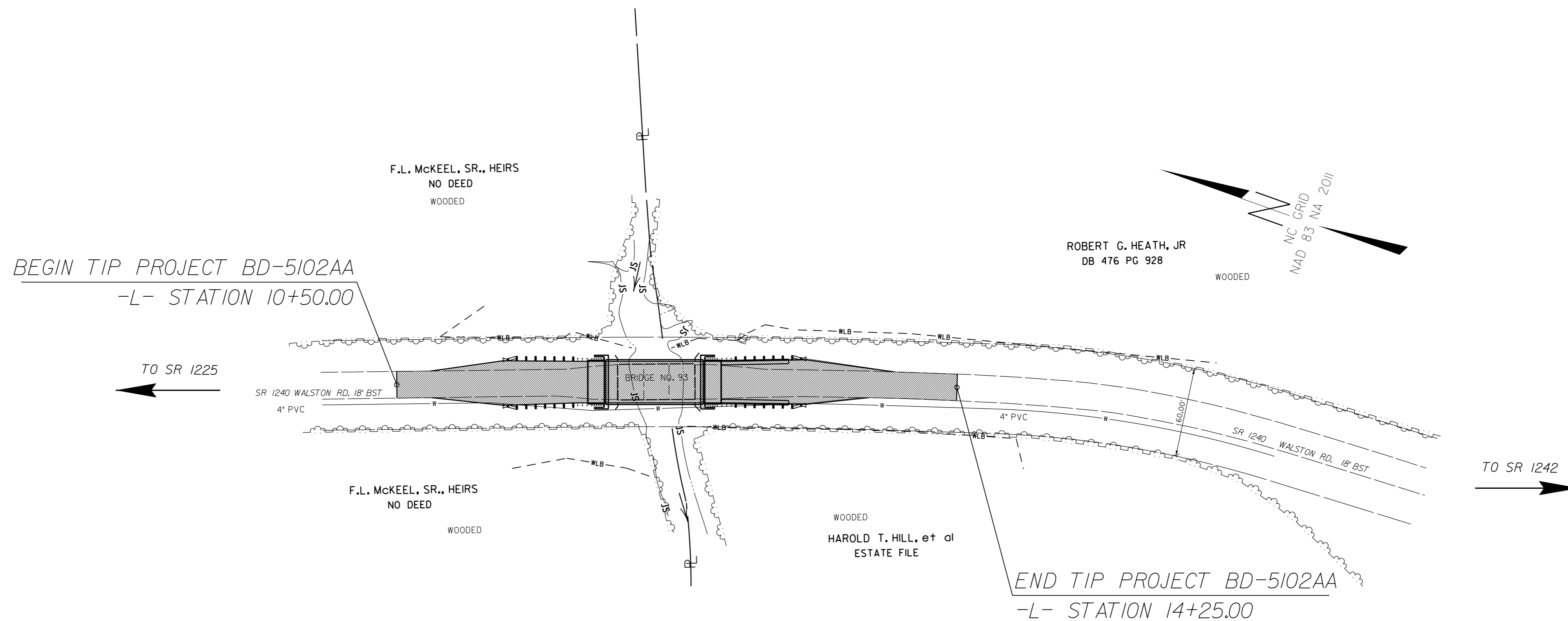
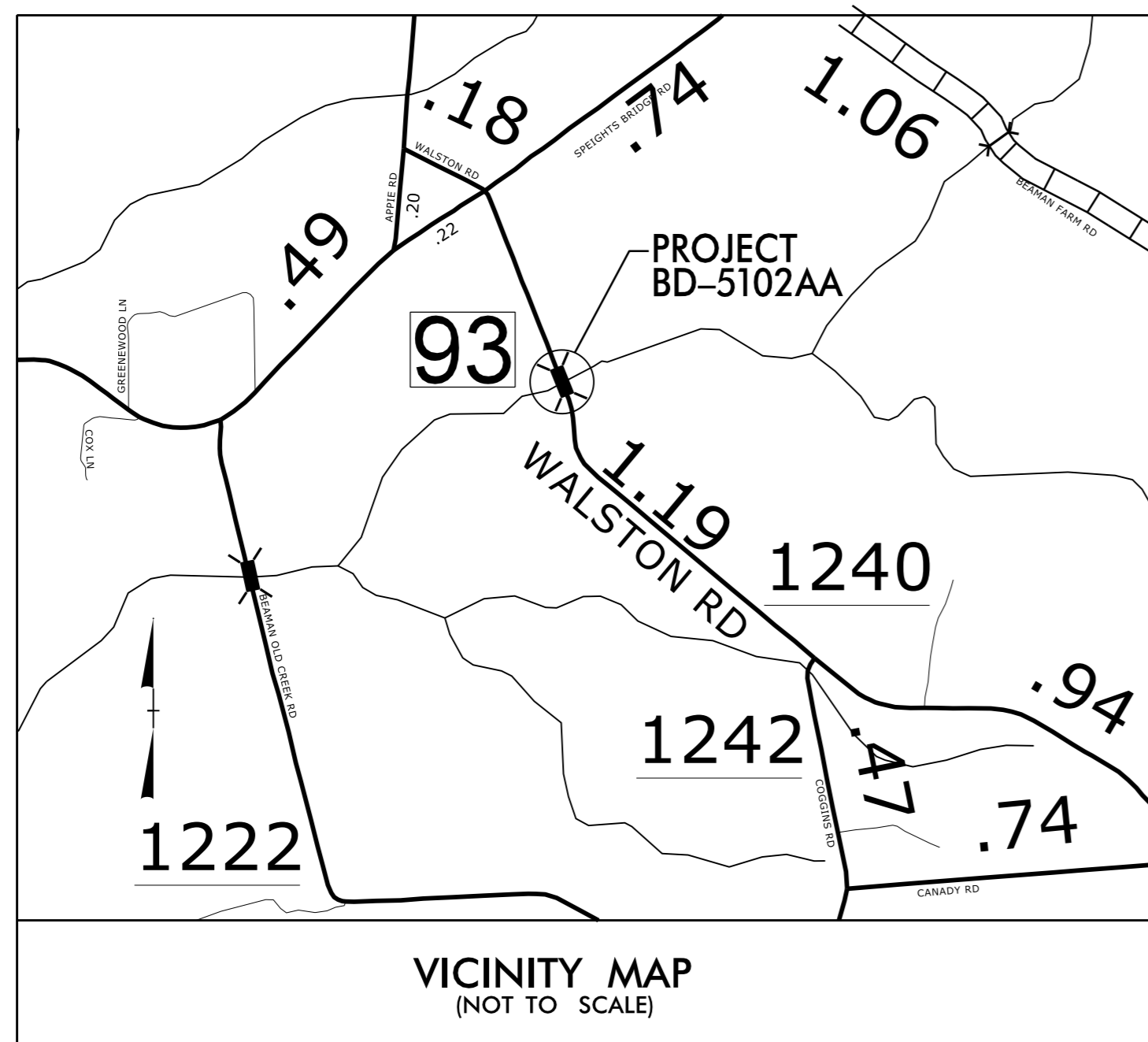
T.I.P. NO.	SHEET NO.
BD-5102AA	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
GREENE COUNTY

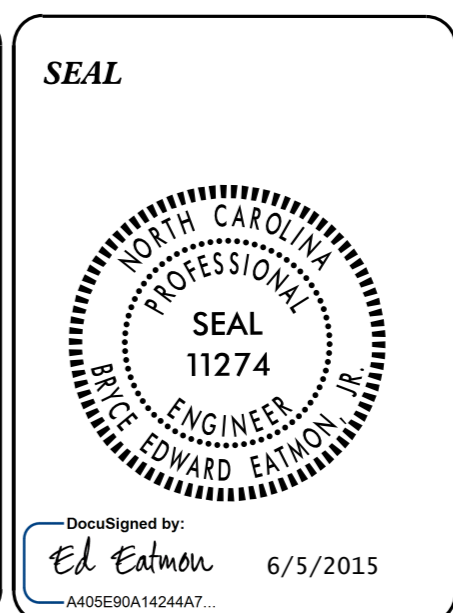
LOCATION: BRIDGE #93 OVER BEAMAN RUN ON SR 1240

TYPE OF WORK: WATER MAIN RELOCATION



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	SUMMARY OF QUANTITIES
UC-3	UTILITY CONSTRUCTION SHEET
UC-4	DETAILS SHEET

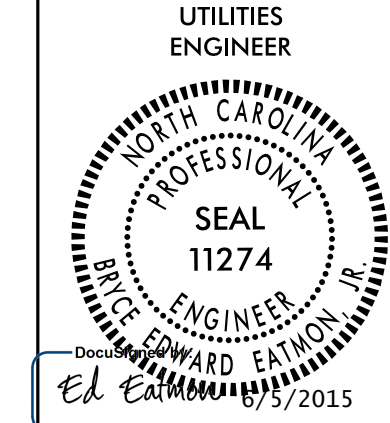
WATER OWNER ON PROJECT
(1) GREENE COUNTY WATER



PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
DIVISION 2 - DDC

P.O. BOX 1587
GREENVILLE, NC 27835
PHONE (252) 439-2800
FAX (252) 830-3352

EDWARD EATMON, P.E. UTILITIES ENGINEER
VAN TRAN, P.E. UTILITIES PROJECT DESIGNER



UTILITY CONSTRUCTION

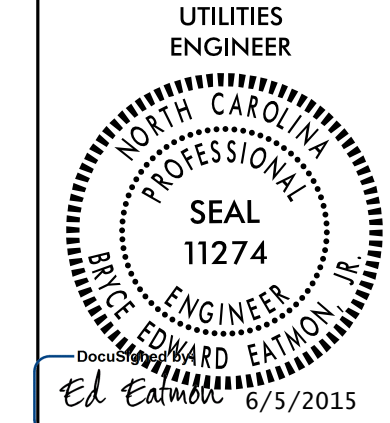
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS SUMMARY OF QUANTITIES

<i>WATER MAIN</i>	<i>QUANTITY</i>	<i>UNIT</i>	<i>ITEM DESCRIPTION</i>
	40	LF	4" DI PIPE - PC 350 (AWWA C600)
	395	LF	6" HDPE PIPE - DR9 (AWWA C906)
	2	EA	4" GATE VALVE AND VALVE BOX
	2	EA	DI PIPE TO HDPE TRANSITION
	2	EA	CONCRETE THRUST COLLAR
	430	LF	ABANDON 4" UTILITY PIPE
	250	LF	TEMPORARY SILT FENCE
	0.1	ACRES	SEEDING AND MULCHING

REVISIONS

8/17/99

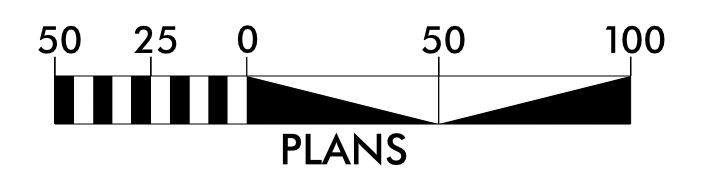
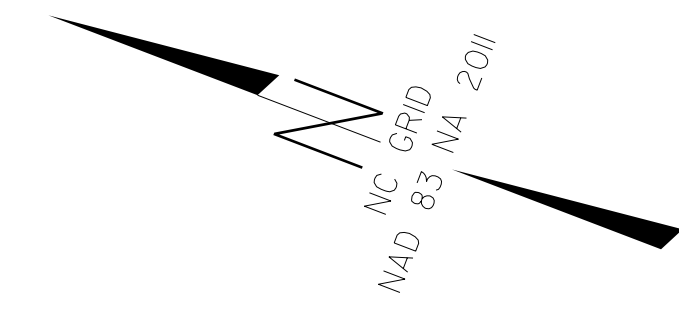
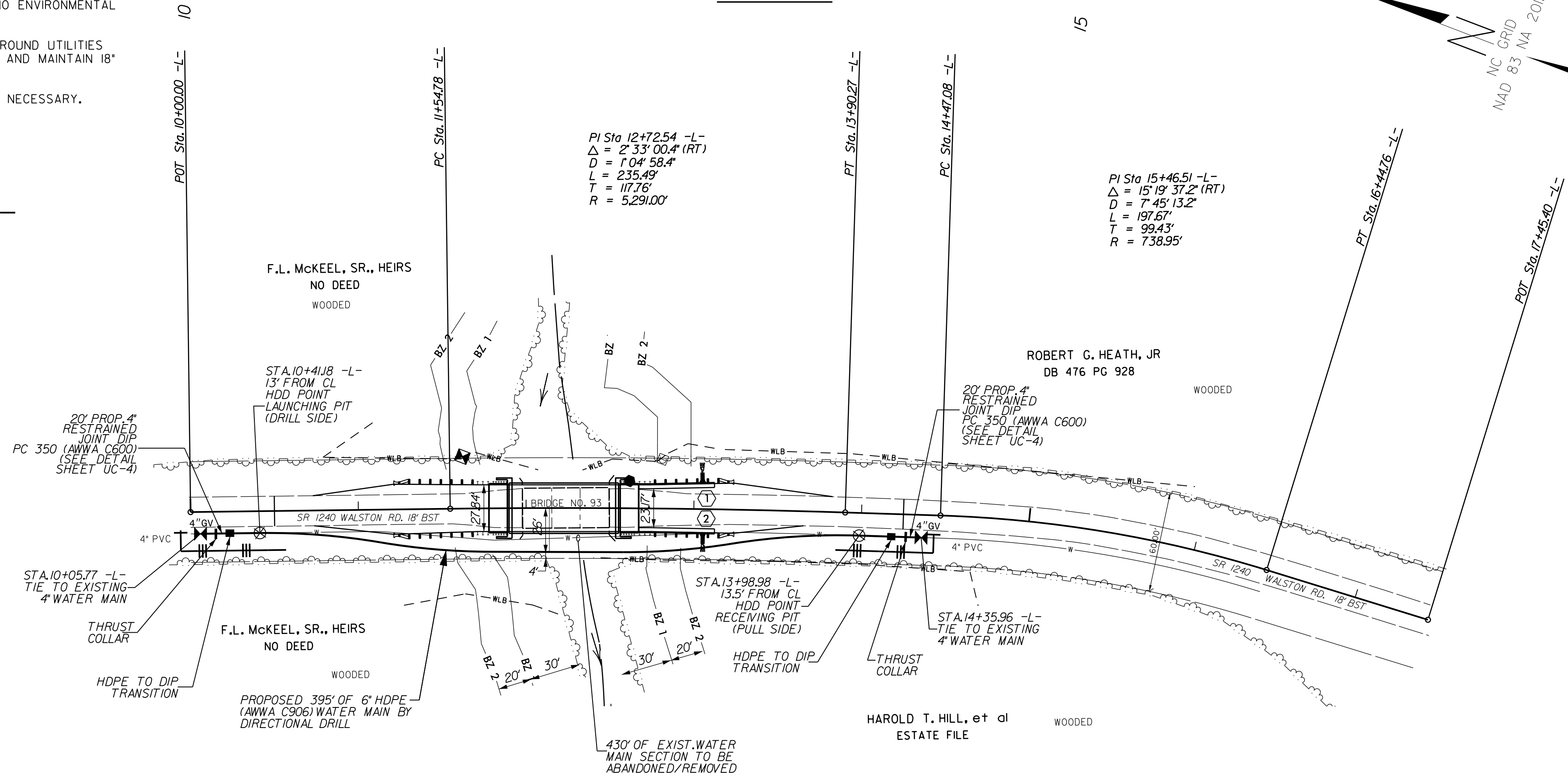
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UTILITY CONSTRUCTION PLAN

- NOTES:**
- 6" HDPE WATER MAIN TO CONFORM TO THE FOLLOWING: AWWA C906, AWWA M55, PRESSURE CLASS 200, DR9, DUCTILE IRON PIPE SIZE (DIPS) DIMENSIONS, AND MATERIAL DESIGNATION PE 3408 AND NSF APPROVED FOR POTABLE WATER.
 - THE PROPOSED WATER LINE RELOCATION DOES NOT IMPACT ANY ENVIRONMENTALLY SENSITIVE AREAS AND NO ENVIRONMENTAL PERMITS ARE REQUIRED.
 - LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY CONTRACTOR AND MAINTAIN 18" MINIMUM VERTICAL SEPARATION.
 - RECONNECT ALL WATER SERVICE LINES AS NECESSARY.

- LEGEND:**
- Temporary Silt Fence
 - Tapping Gate Valve
 - HDPE to DIP Transition
 - Thrust Collar



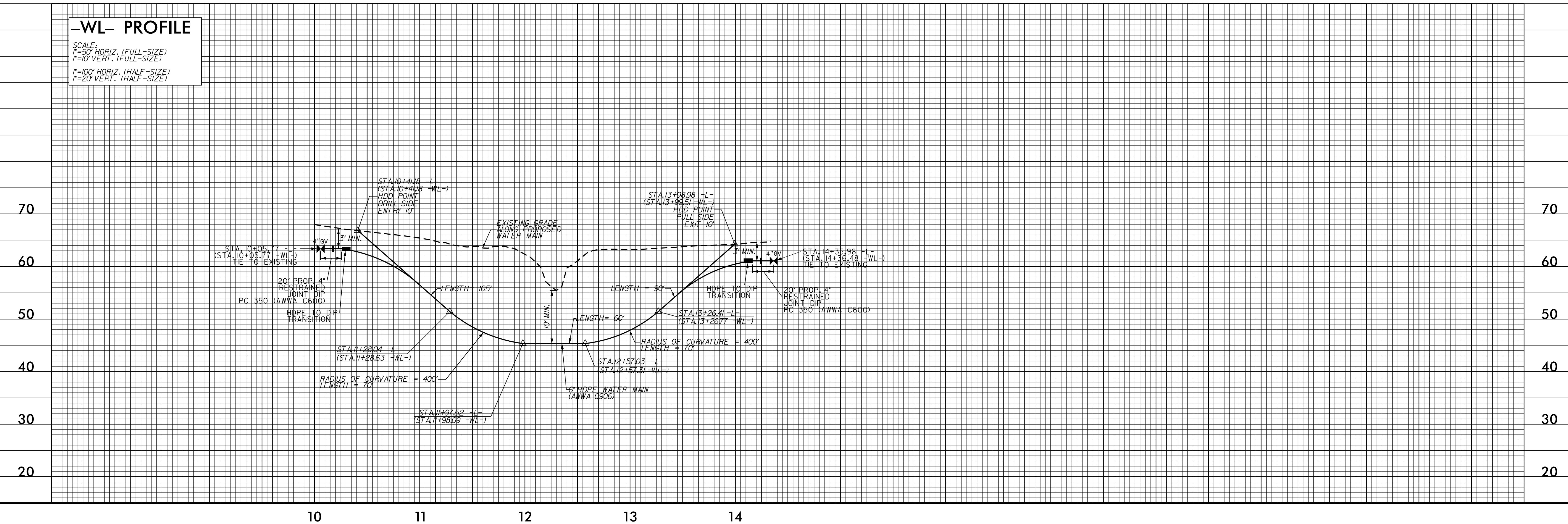
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "BL-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 658872.361(ft) EASTING: 2377391.609(ft) ELEVATION: 65.601(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998885 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "BL-2" TO -L- STATION 10+00.00 IS N 24° 56' 31" W 262.3446' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

Point	North	East	Elevation	Description
1	659696.0500	2377036.4600	87.7000	BL-1
2	658872.3610	2377391.6090	65.6000	BL-2
3	658067.8950	2377570.4770	85.8300	BL-3
BMI	658970.6280	2377369.6440	64.7110	

PROFILE ALONG PROPOSED WATER LINE -WL-

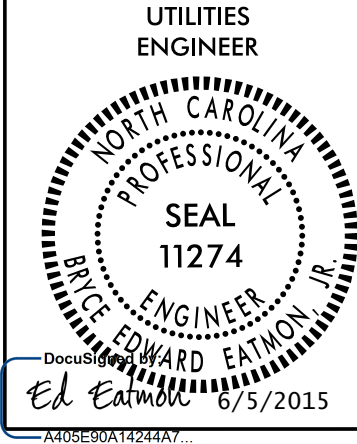
-WL- PROFILE
 SCALE:
 1"=50' HORIZ. (FULL-SIZE)
 1"=10' VERT. (FULL-SIZE)
 1"=100' HORIZ. (HALF-SIZE)
 1"=20' VERT. (HALF-SIZE)



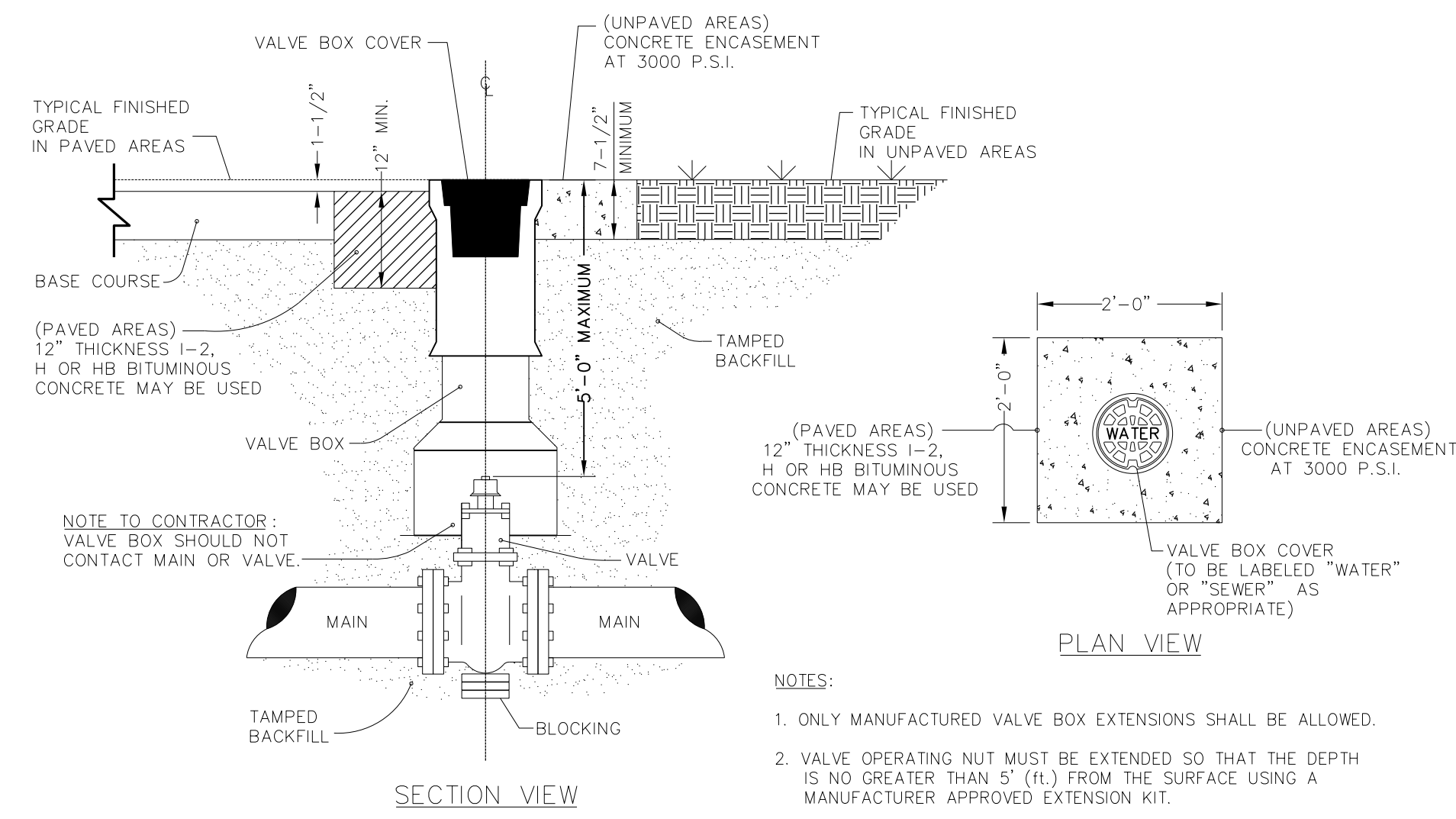
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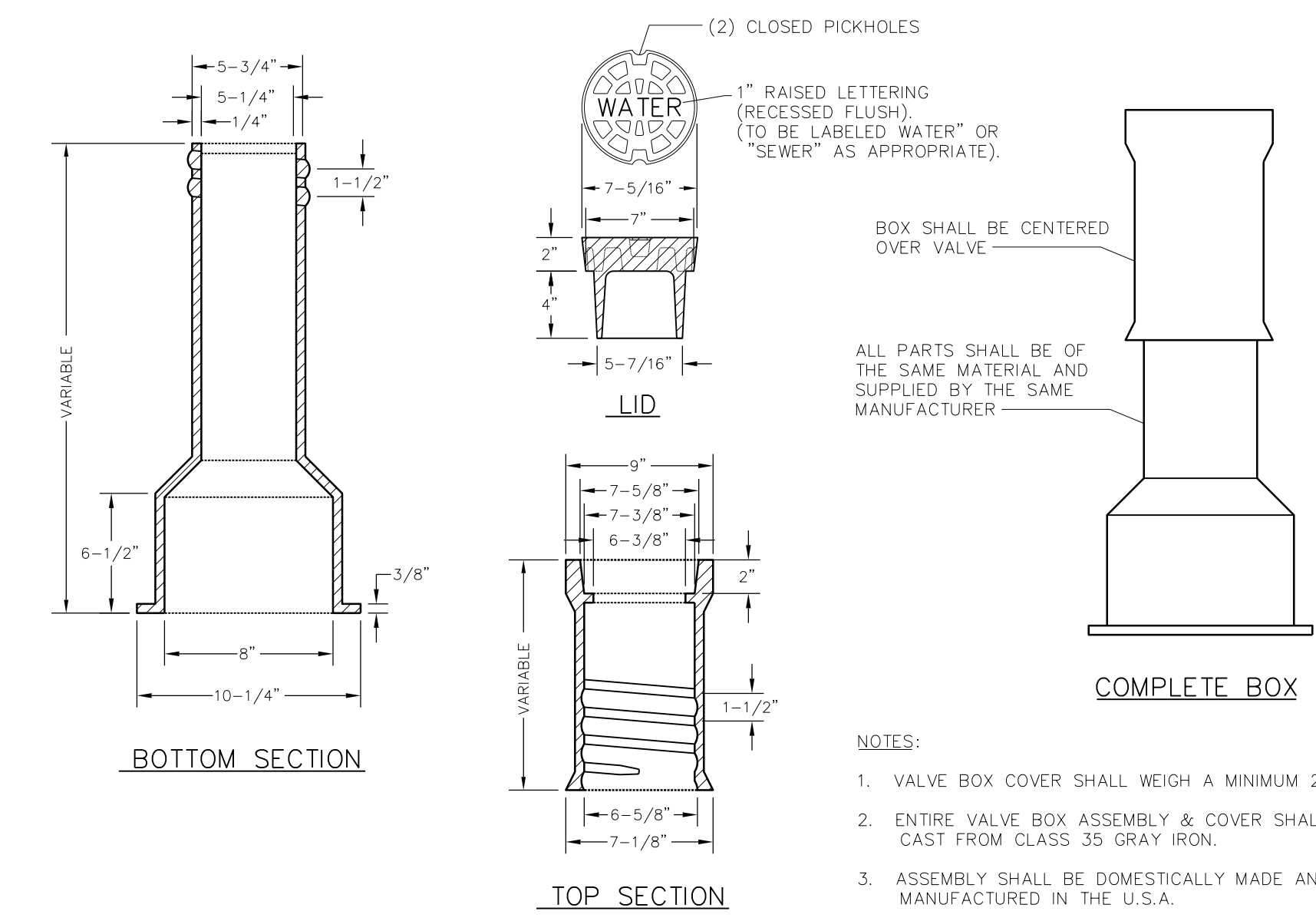


UTILITY CONSTRUCTION DETAILS SHEET



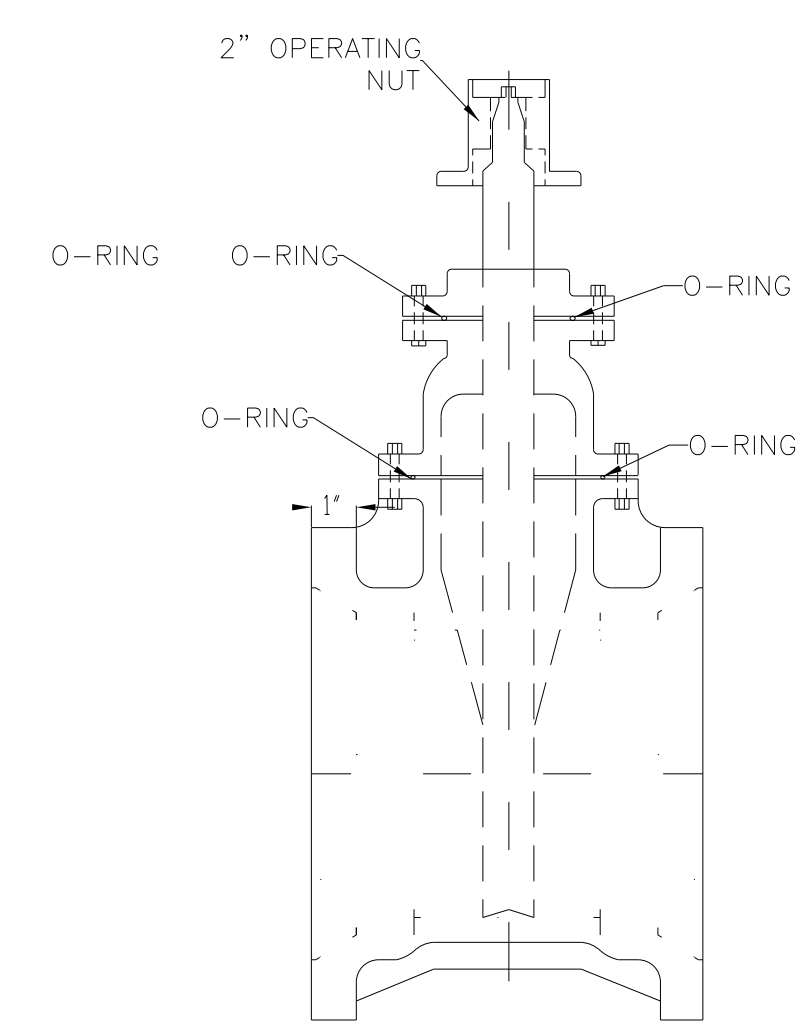
- NOTES:**
1. ONLY MANUFACTURED VALVE BOX EXTENSIONS SHALL BE ALLOWED.
 2. VALVE OPERATING NUT MUST BE EXTENDED SO THAT THE DEPTH IS NO GREATER THAN 5' (ft.) FROM THE SURFACE USING A MANUFACTURER APPROVED EXTENSION KIT.
 3. PRECAST CONCRETE ENCASMENT IS ALLOWED OUTSIDE OF PAVED AREAS.

TYPICAL VALVE BOX
NTS

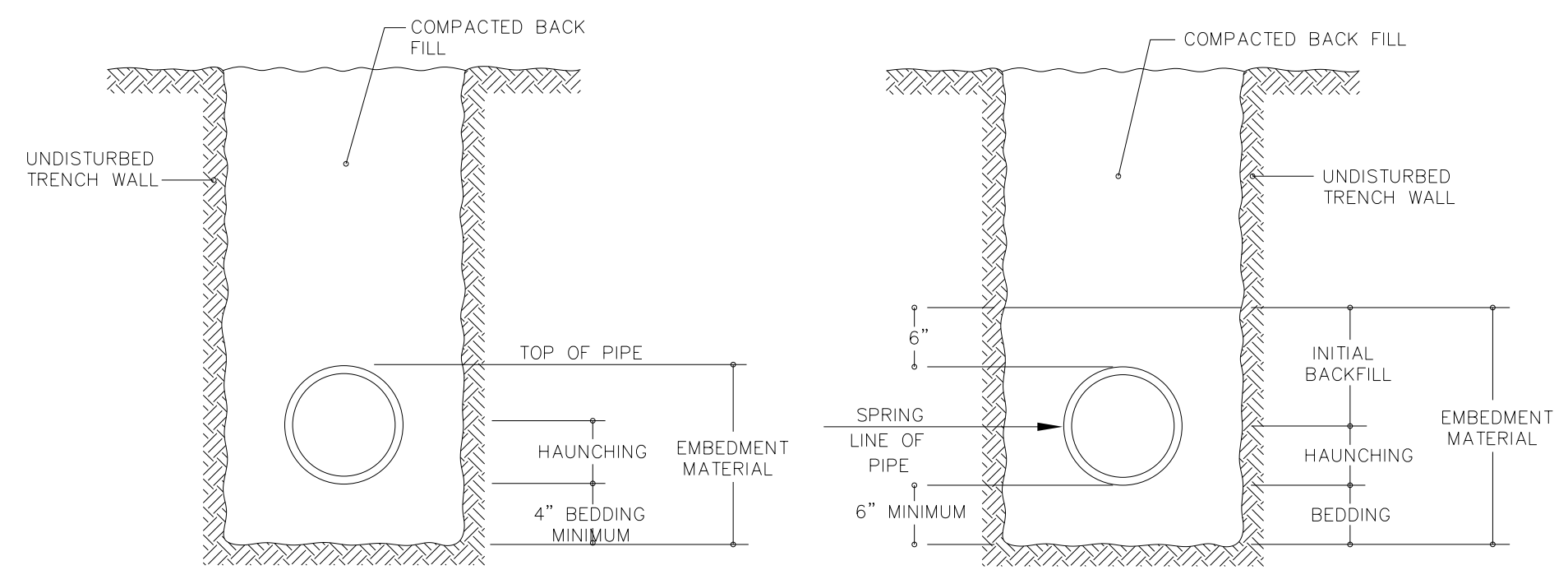


- NOTES:**
1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 lbs.
 2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.
 3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.

TYPICAL VALVE BOX
NTS

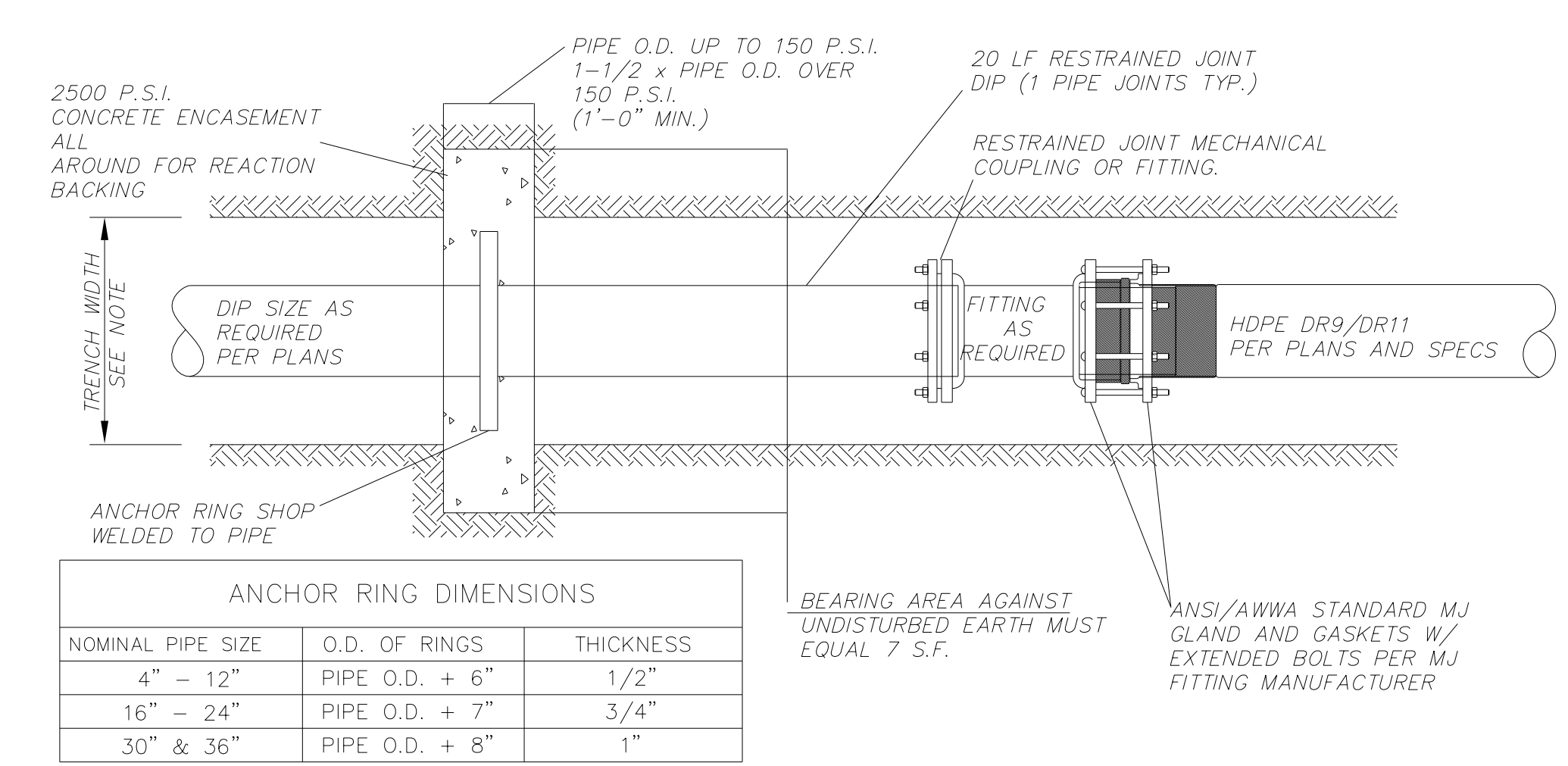


**TYPICAL RESILIENT MECHANICAL
JOINT GATE VALVE DETAIL**
NTS



- NOTES:**
1. EMBEDMENT MATERIAL MUST BE CLASS I (NO. 67 OR NO. 78M WASHED STONE IS TYPICALLY USED).
 2. EMBEDMENT MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY FOR CLASS I MATERIAL.
 3. STANDARD BEDDING SHALL BE UTILIZED FOR ALL CASES WHERE TRENCH BOTTOMS ARE UNSTABLE DUE TO SOIL TYPE, OR MOISTURE CONDITIONS.

TYPICAL BEDDING FOR FLEXIBLE & SEMI-RIGID PIPE
NTS



ANCHOR RING DIMENSIONS		
NOMINAL PIPE SIZE	O.D. OF RINGS	THICKNESS
4" - 12"	PIPE O.D. + 6"	1/2"
16" - 24"	PIPE O.D. + 7"	3/4"
30" & 36"	PIPE O.D. + 8"	1"

TYPICAL DIP TO HDPE TRANSITION DETAIL WITH THRUST COLLAR
NTS

8/17/99

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DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

CROSS-SECTION SUMMARY
IN CUBIC YARDS

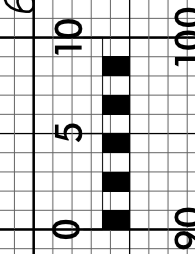
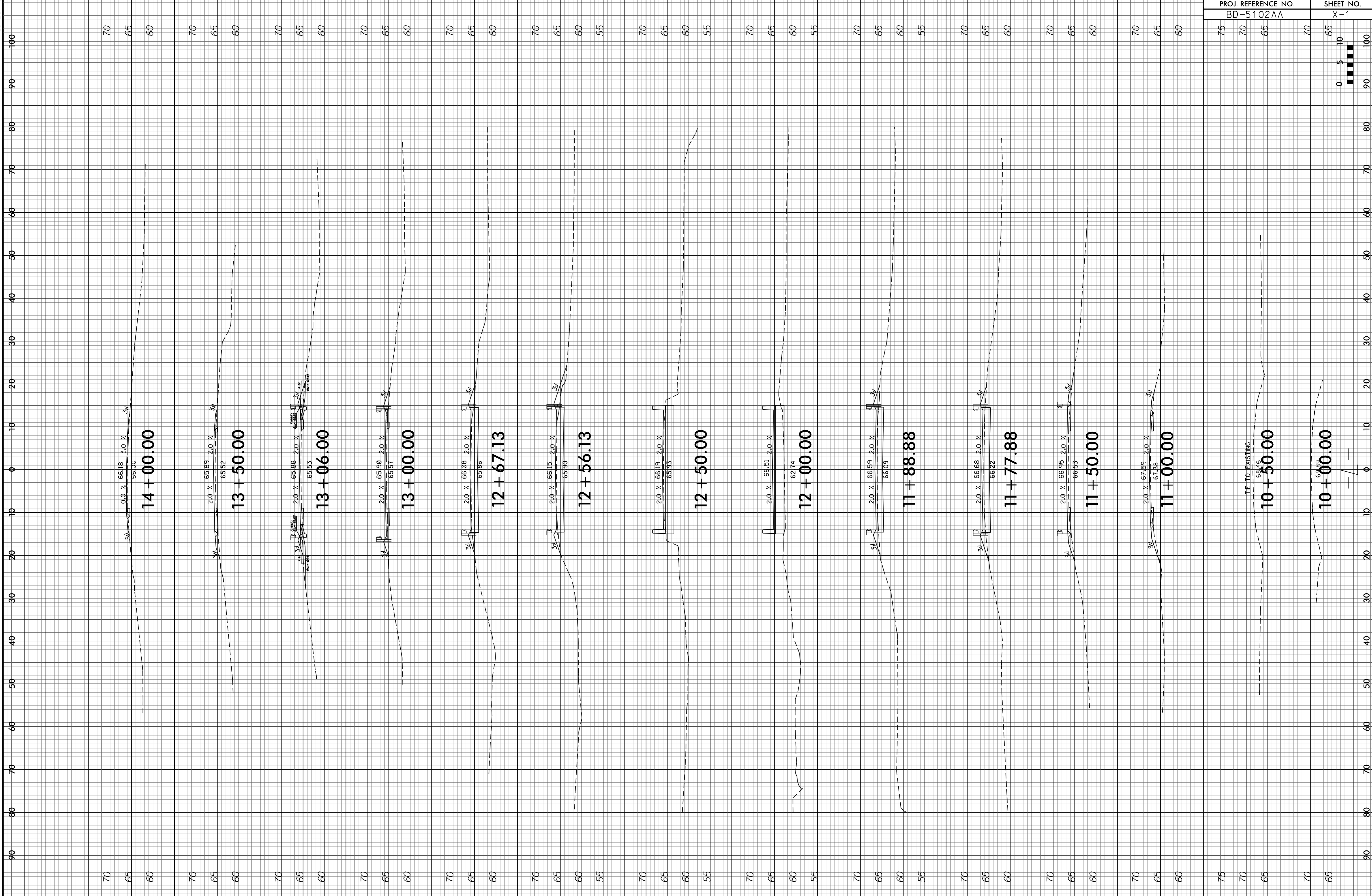
NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

LOCATION (-L-)	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT
<i>11 + 00.00</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>11 + 50.00</i>	<i>7</i>	<i>0</i>	<i>10</i>
<i>11 + 77.88</i>	<i>22</i>	<i>0</i>	<i>7</i>
<i>11 + 88.88</i>	<i>16</i>	<i>0</i>	<i>3</i>
BRIDGE			
<i>12 + 56.13</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>12 + 67.13</i>	<i>18</i>	<i>0</i>	<i>4</i>
<i>13 + 00.00</i>	<i>29</i>	<i>0</i>	<i>8</i>
<i>13 + 06.00</i>	<i>1</i>	<i>0</i>	<i>1</i>
<i>13 + 50.00</i>	<i>3</i>	<i>0</i>	<i>9</i>
<i>14 + 00.00</i>	<i>3</i>	<i>0</i>	<i>4</i>

NOTE: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract Lump Sum price for "Grading".

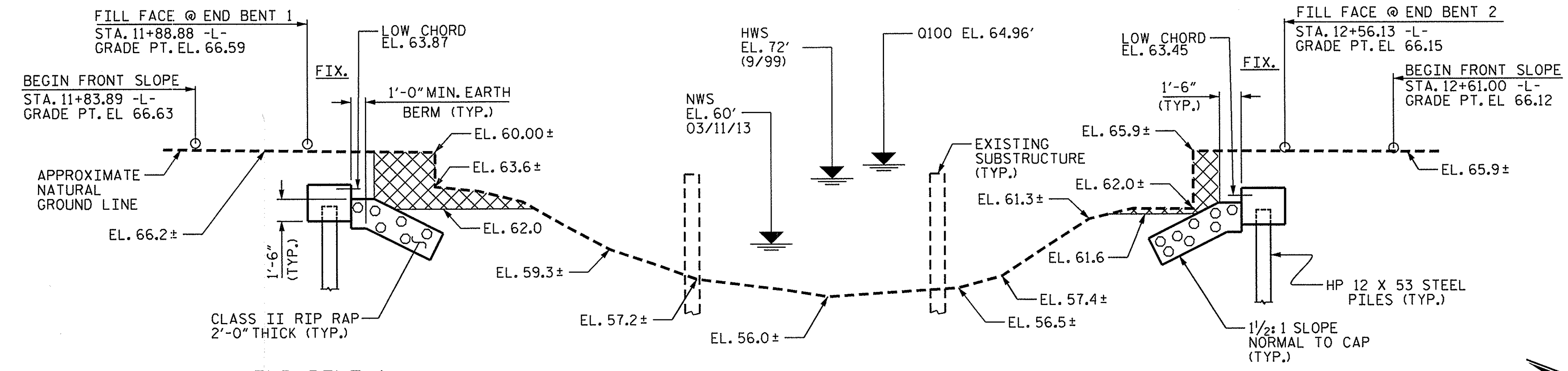
REVISIONS

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23-OCT-2016 09:00
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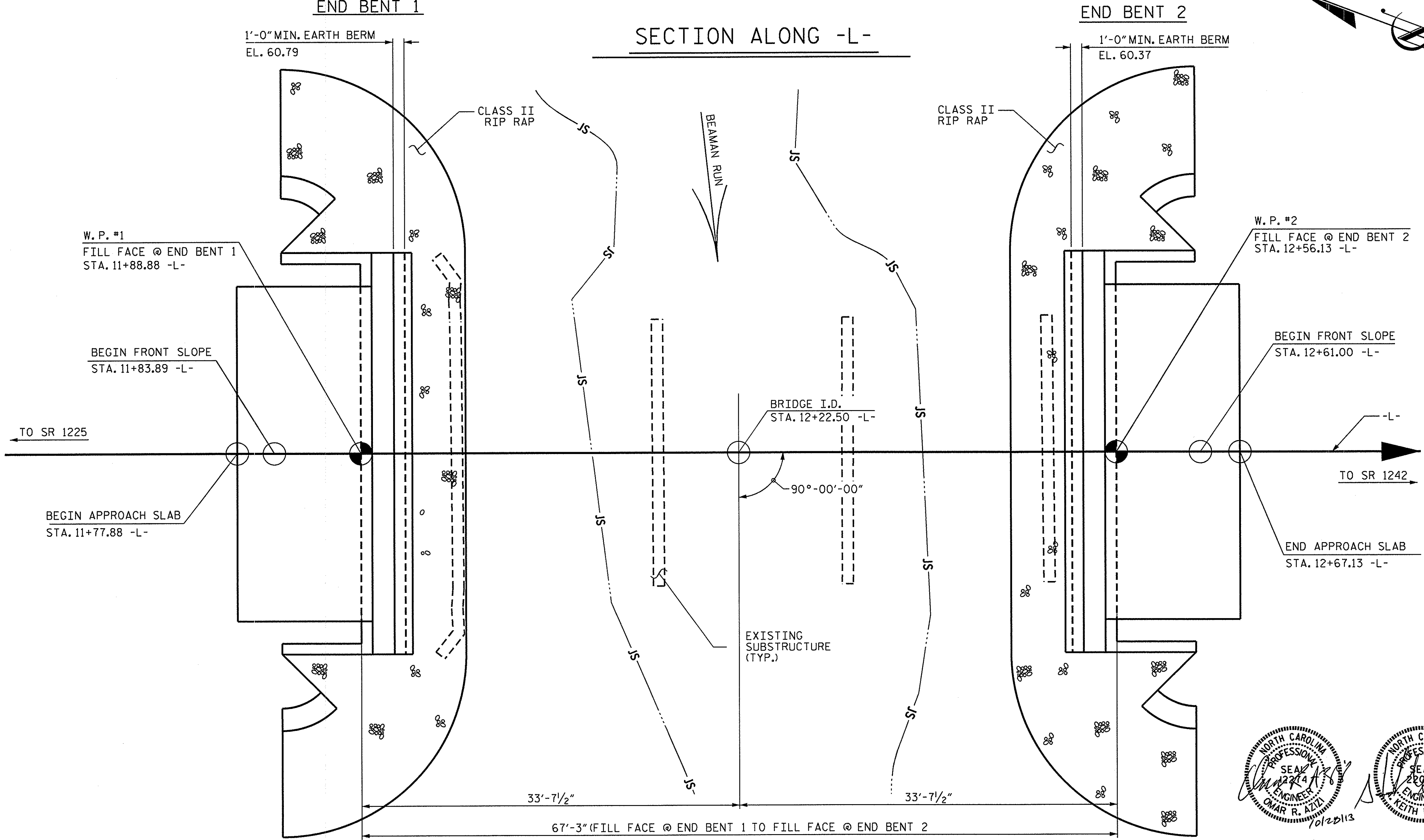
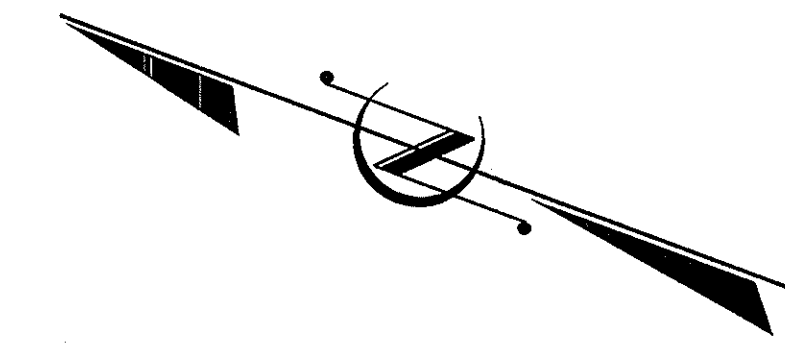


GRADE DATA

-1.9467% -0.6489%
 PI = 11+25.00
 EL = 67.00
 VC = 150 FT.



UNCLASSIFIED STRUCTURE EXCAVATION (SEE NOTES)



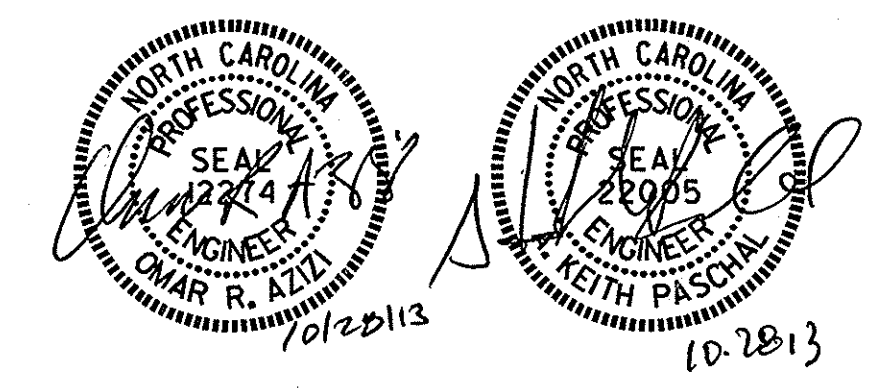
PLAN

PILES NOT SHOWN FOR CLARITY.

PROJECT NO. BD-5102AA
 GREENE COUNTY
 STATION: 12+22.50 -L-

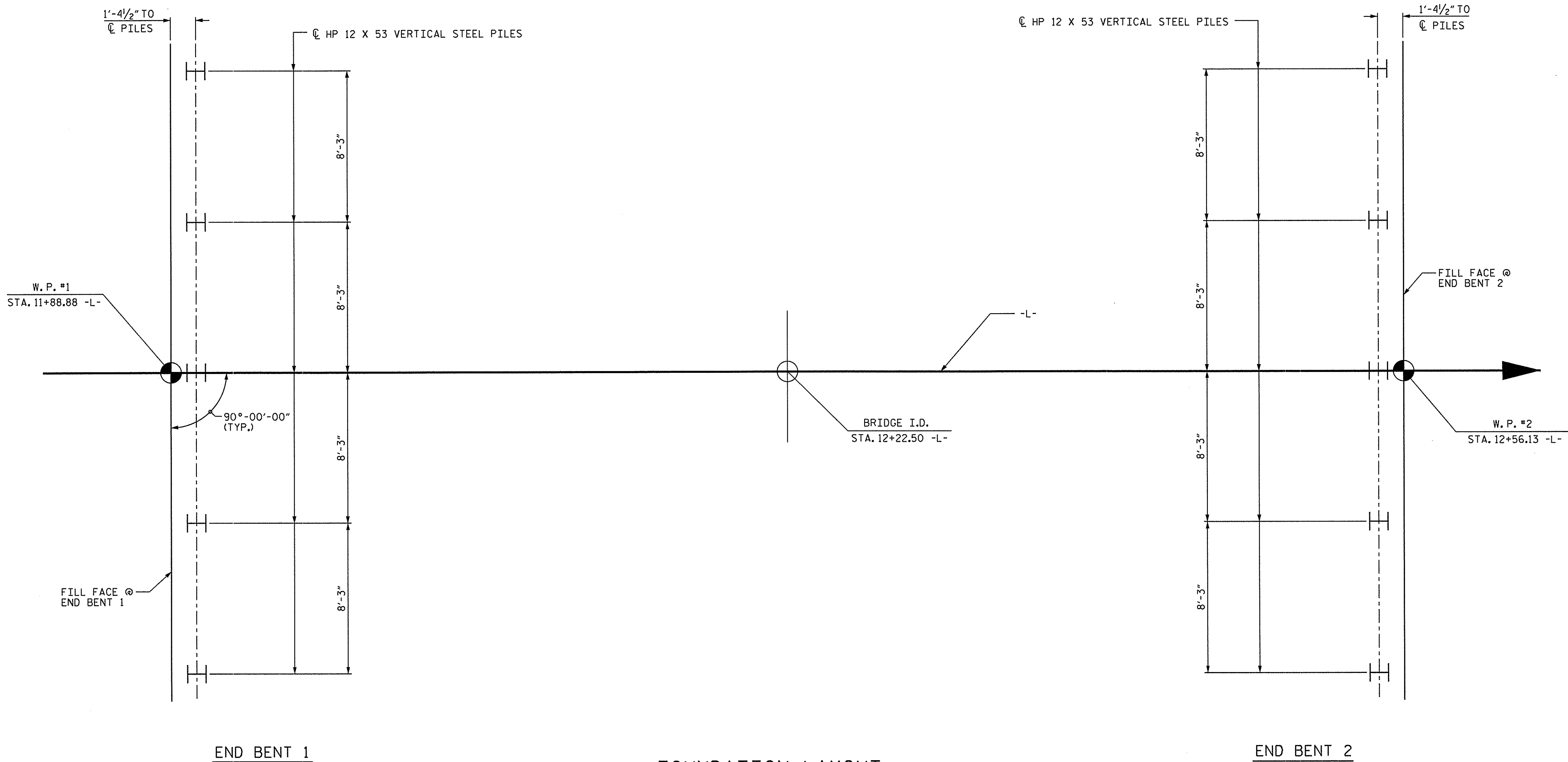
SHEET 1 OF 3 REPLACES BRIDGE NO. 93

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER
 BEAMAN RUN
 ON SR 1240 BETWEEN
 SR 1225 AND SR 1242



DRAWN BY: E. K. POPE DATE: 8-20-13
 CHECKED BY: C. B. PRUETT DATE: 9-24-13
 DESIGN ENGINEER OF RECORD: J. E. LAZAROVICH DATE: 10-17-13

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			14



FOUNDATION LAYOUT

DIMENSIONS LOCATING PILES ARE SHOWN TO CENTERLINE OF PILES.

FOUNDATION NOTES:

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.

PILES AT END BENT 1 AND 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 95 TONS PER PILE.

DRIVE PILES AT END BENT 1 AND 2 TO A REQUIRED DRIVING RESISTANCE OF 160 TONS PER PILE.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVANT RATED ENERGY IN THE RANGE OF 40 TO 50 FT-KIPS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT 1 AND END BENT 2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDRAD SPECIFICATIONS.

TESTING PILES WITH THE PDA DURING DRIVING, RESTRIKING OR REDRIVING MAY BE REQUIRED. THE ENGINEER WILL DETERMINE THE NEED FOR PDA TESTING. FOR PDA TESTING, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS AND FOR PILE DRIVING CRITERIA, SEE DRIVING CRITERIA PROVISION.

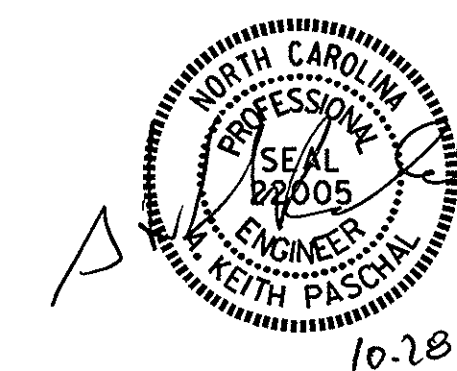
PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

FOR BRIDGE OVER
 BEAMAN RUN
 ON SR 1240 BETWEEN
 SR 1225 AND SR 1242

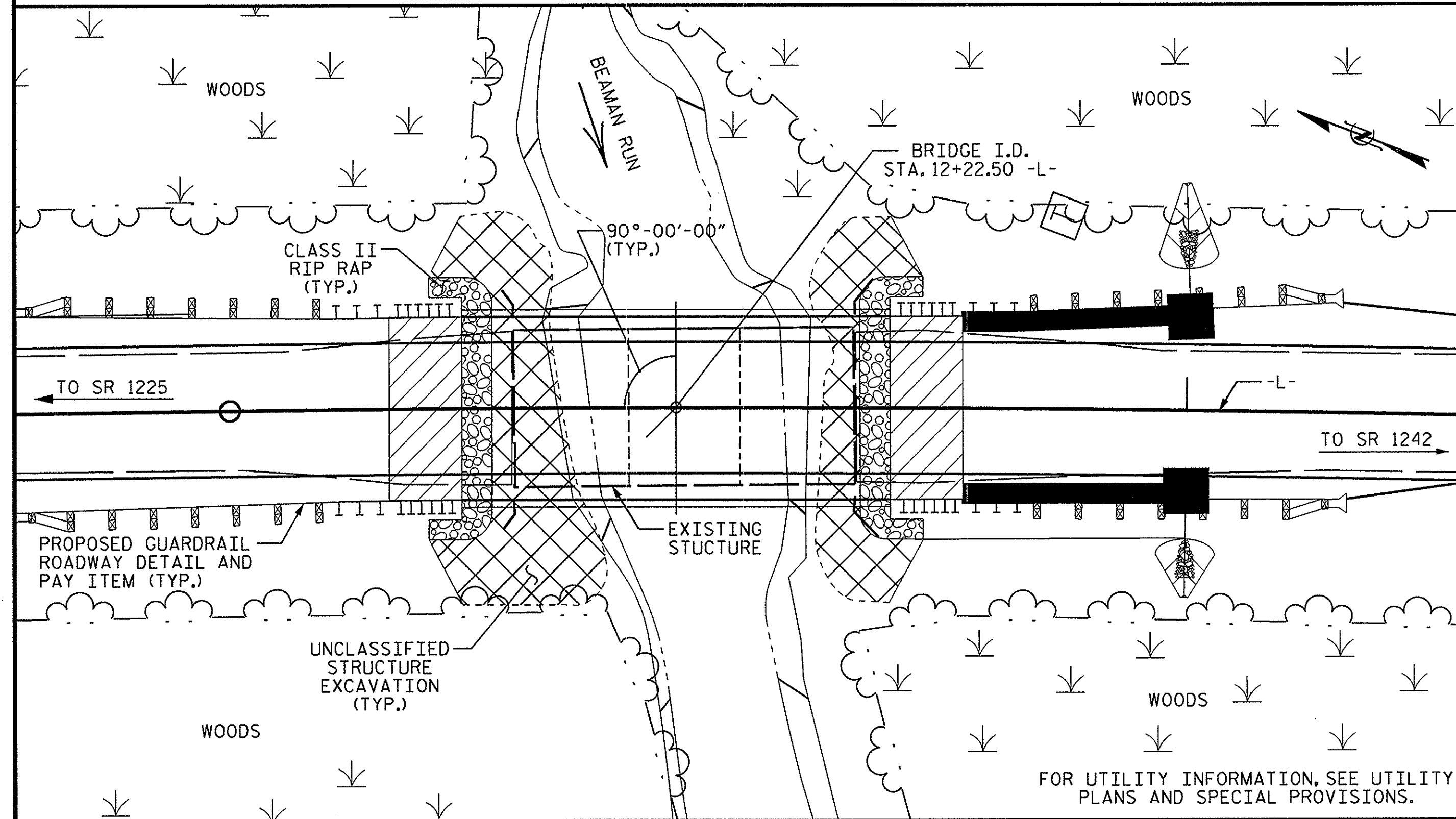


DRAWN BY : E. K. POPE DATE : 8-20-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 DESIGN ENGINEER OF RECORD: J. E. LAZAROVICH DATE : 10-17-13

28-OCT-2013 12:30
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 kposchal

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			14

BM#1: RAILROAD SPIKE IN BASE OF POWER POLE, 31.0' LT OF STA. 11+62.42 -L-



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE = 700 CFS
 FREQUENCY OF DESIGN FLOOD = 25 YR.
 DESIGN HIGH WATER ELEVATION = 64.0'
 DRAINAGE AREA = 5.6 SQ MILES
 BASE DISCHARGE = 1,100 CFS
 BASE HIGH WATER ELEVATION = 64.96'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 1565 CFS
 FREQUENCY OF DESIGN FLOOD = 500 YR. ±
 OVERTOPPING FLOOD ELEVATION = 65.86'

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 THREE SPANS, 1 @ 17'-8", 1 @ 16'-10" AND 1 @ 17'-8" ON TIMBER JOISTS WITH A CLEAR ROADWAY WIDTH OF 24'-0", AN RC FLOOR AND SUPPORTED BY TIMBER CAPS AND PILES AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED.
- REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE 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 30 FT. 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."
- 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 SPICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.
- NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.
- 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.

TOTAL BILL OF MATERIAL

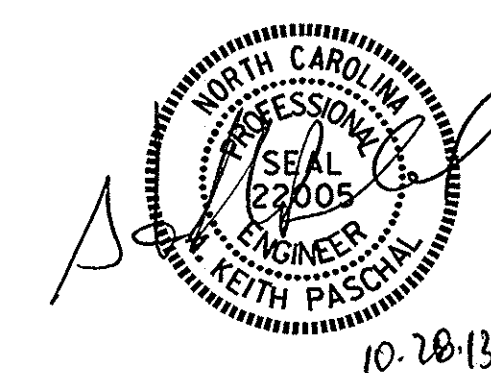
	REMOVAL OF EXISTING STRUCTURE	PDA TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	HP 12 x 53 STEEL PILES	PILE REDRIVES	VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" x 2'-0" PRESTRESSED CONCRETE CORED SLABS		
	LUMP SUM	EACH	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE					LUMP SUM							LUMP SUM	10	650	
END BENT 1			LUMP SUM	13.3		1977	5	300	3		88	98			
END BENT 2			LUMP SUM	13.3		1977	5	300	3		99	110			
TOTAL	LUMP SUM	1	LUMP SUM	26.6	LUMP SUM	3954	10	600	6	130.25	187	208	LUMP SUM	10	650

PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

SHEET 3 OF 3

DRAWN BY : E. K. POPE DATE : 8-20-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 DESIGN ENGINEER OF RECORD: J. E. LAZAROVICH DATE : 10-17-13

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 kpaschal



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER
 BEAMAN RUN
 ON SR 1240 BETWEEN
 SR 1225 AND SR 1242

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			14

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			
						MOMENT					SHEAR					MOMENT								
						LIVELOAD FACTORS	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)	LIVELOAD FACTORS	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN		GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	
DESIGN LOAD RATING	HL-93(Inv)	N/A	1	1.018	--	1.75	0.274	1.05	65'	EL	32	0.513	1.2	65'	EL	6.4	0.80	0.274	1.02	65'	EL	32		
	HL-93(0pr)	N/A	--	1.358	--	1.35	0.274	1.36	65'	EL	32	0.513	1.56	65'	EL	6.4	N/A	--	--	--	--	--		
	HS-20(Inv)	36.000	2	1.306	47.014	1.75	0.274	1.34	65'	EL	32	0.513	1.48	65'	EL	6.4	0.80	0.274	1.31	65'	EL	32		
	HS-20(0pr)	36.000	--	1.742	62.706	1.35	0.274	1.74	65'	EL	32	0.513	1.92	65'	EL	6.4	N/A	--	--	--	--	--		
LEGAL LOAD RATING	SV	SNSH	13.500	--	2.868	38.725	1.4	0.274	3.69	65'	EL	32	0.513	4.33	65'	EL	6.4	0.80	0.274	2.87	65'	EL	32	
		SNGARBS2	20.000	--	2.171	43.424	1.4	0.274	2.79	65'	EL	32	0.513	3.11	65'	EL	6.4	0.80	0.274	2.17	65'	EL	32	
		SNAGRIS2	22.000	--	2.071	45.552	1.4	0.274	2.66	65'	EL	32	0.513	2.89	65'	EL	6.4	0.80	0.274	2.07	65'	EL	32	
		SNCOTTS3	27.250	--	1.428	38.924	1.4	0.274	1.84	65'	EL	32	0.513	2.17	65'	EL	6.4	0.80	0.274	1.43	65'	EL	32	
		SNAGGRS4	34.925	--	1.206	42.136	1.4	0.274	1.55	65'	EL	32	0.513	1.81	65'	EL	6.4	0.80	0.274	1.21	65'	EL	32	
		SNS5A	35.550	--	1.179	41.911	1.4	0.274	1.52	65'	EL	32	0.513	1.85	65'	EL	6.4	0.80	0.274	1.18	65'	EL	32	
		SNS6A	39.950	--	1.087	43.43	1.4	0.274	1.4	65'	EL	32	0.513	1.69	65'	EL	6.4	0.80	0.274	1.09	65'	EL	32	
	SNS7B	42.000	--	1.035	43.489	1.4	0.274	1.33	65'	EL	32	0.513	1.67	65'	EL	6.4	0.80	0.274	1.04	65'	EL	32		
	TTST	TNAGRIT3	33.000	--	1.327	43.8	1.4	0.274	1.71	65'	EL	32	0.513	2.01	65'	EL	6.4	0.80	0.274	1.33	65'	EL	32	
		TNT4A	33.075	--	1.335	44.142	1.4	0.274	1.72	65'	EL	32	0.513	1.95	65'	EL	6.4	0.80	0.274	1.33	65'	EL	32	
		TNT6A	41.600	--	1.096	45.613	1.4	0.274	1.41	65'	EL	32	0.513	1.8	65'	EL	6.4	0.80	0.274	1.10	65'	EL	32	
		TNT7A	42.000	--	1.105	46.4	1.4	0.274	1.42	65'	EL	32	0.513	1.74	65'	EL	6.4	0.80	0.274	1.10	65'	EL	32	
		TNT7B	42.000	--	1.15	48.298	1.4	0.274	1.48	65'	EL	32	0.513	1.62	65'	EL	6.4	0.80	0.274	1.15	65'	EL	32	
		TNAGRIT4	43.000	--	1.089	46.815	1.4	0.274	1.4	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.09	65'	EL	32	
TNAGT5A		45.000	--	1.024	46.084	1.4	0.274	1.32	65'	EL	32	0.513	1.57	65'	EL	6.4	0.80	0.274	1.02	65'	EL	32		
TNAGT5B	45.000	3	1.01	45.431	1.4	0.274	1.3	65'	EL	32	0.513	1.49	65'	EL	6.4	0.80	0.274	1.01	65'	EL	32			

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:

- 1.
- 2.
- 3.
- 4.

CONTROLLING LOAD RATING

① DESIGN LOAD RATING (HL-93)

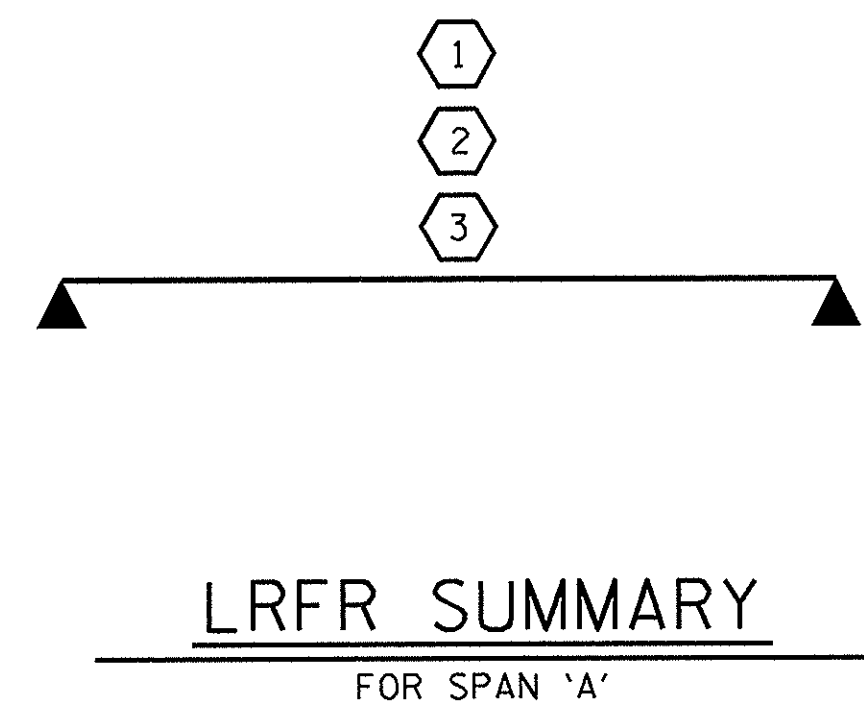
② DESIGN LOAD RATING (HS-20)

③ LEGAL LOAD RATING **

** SEE CHART FOR VEHICLE TYPE

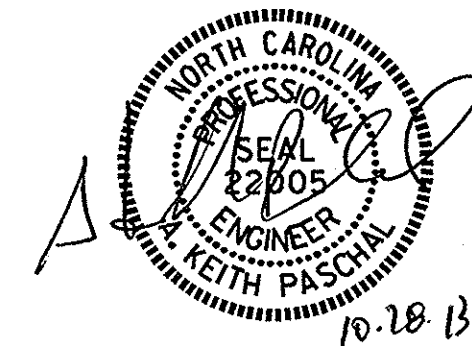
GIRDER LOCATION

I - INTERIOR GIRDER
EL - EXTERIOR LEFT GIRDER
ER - EXTERIOR RIGHT GIRDER



PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

ASSEMBLED BY : E. K. POPE DATE : 8-7-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 DRAWN BY : CVC 6/10
 CHECKED BY : DNS 6/10

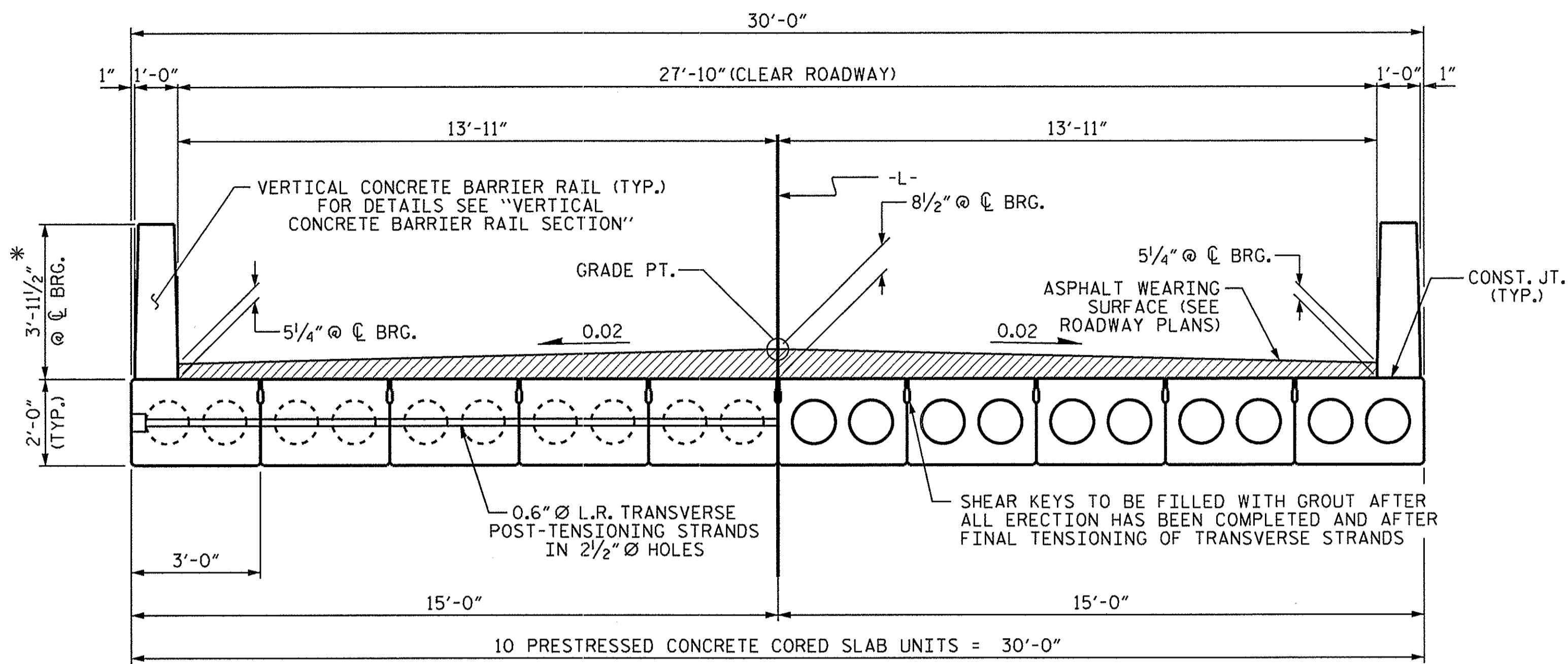


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

STANDARD
 LRFR SUMMARY FOR
 65' CORED SLAB UNIT
 90° SKEW
 (NON-INTERSTATE TRAFFIC)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			14

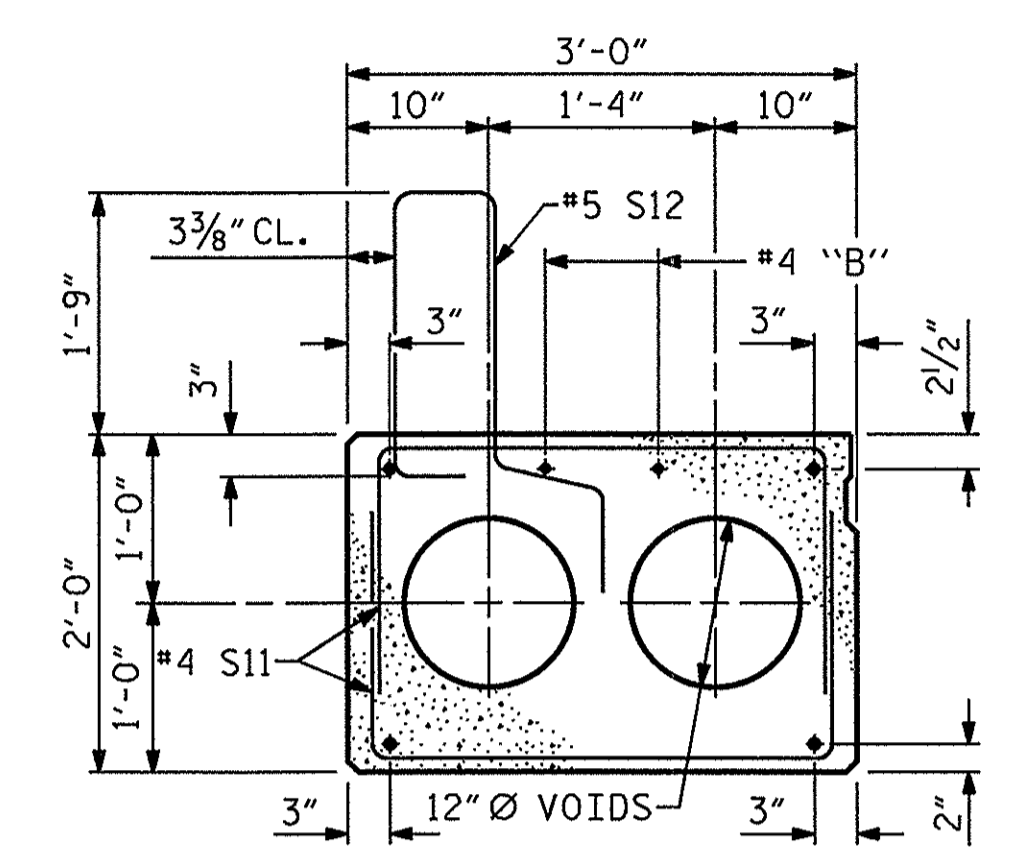
10.18.13



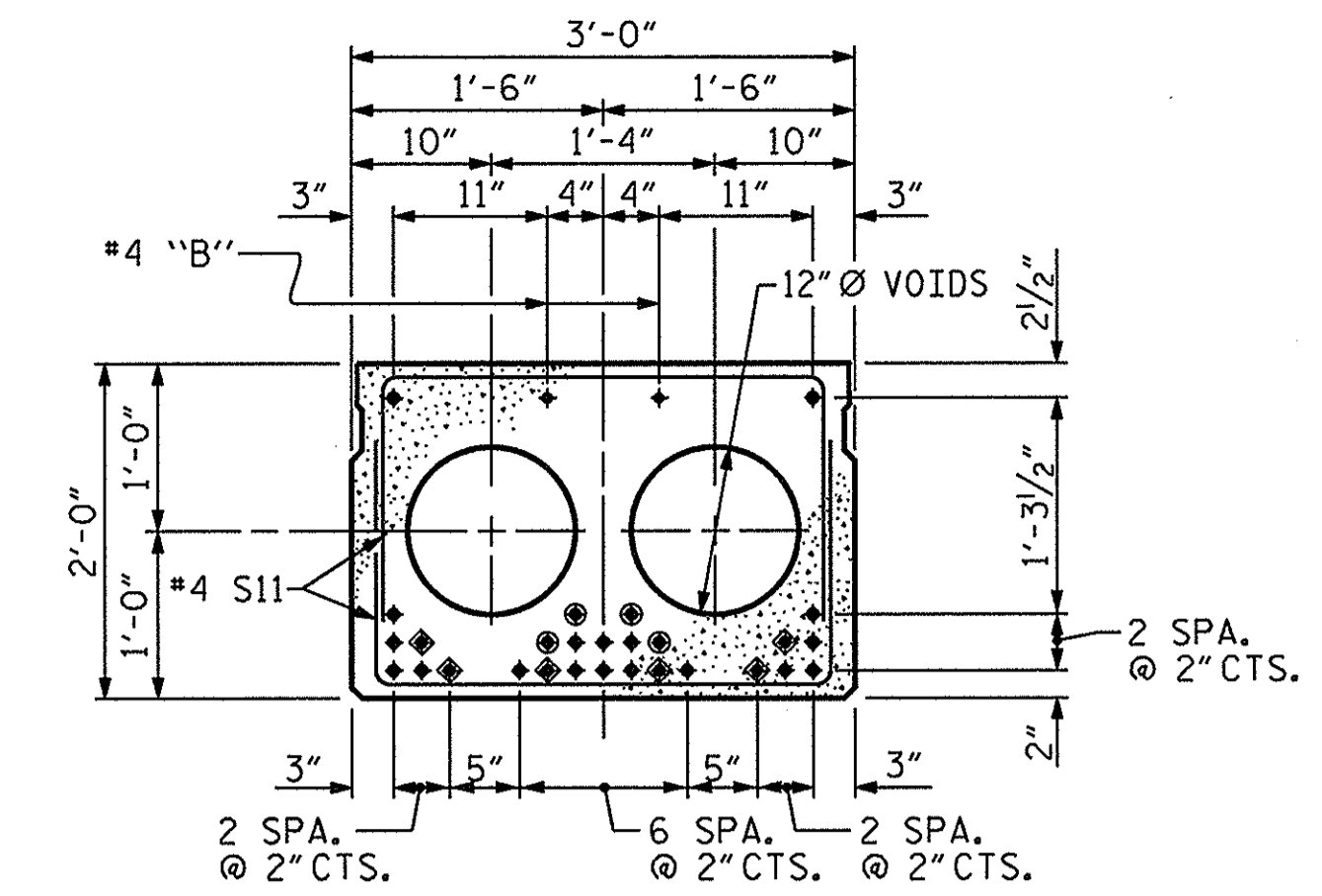
HALF SECTION AT INTERMEDIATE DIAPHRAGMS
TYPICAL SECTION
 HALF SECTION THROUGH VOIDS

* - 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.

FIXED END



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

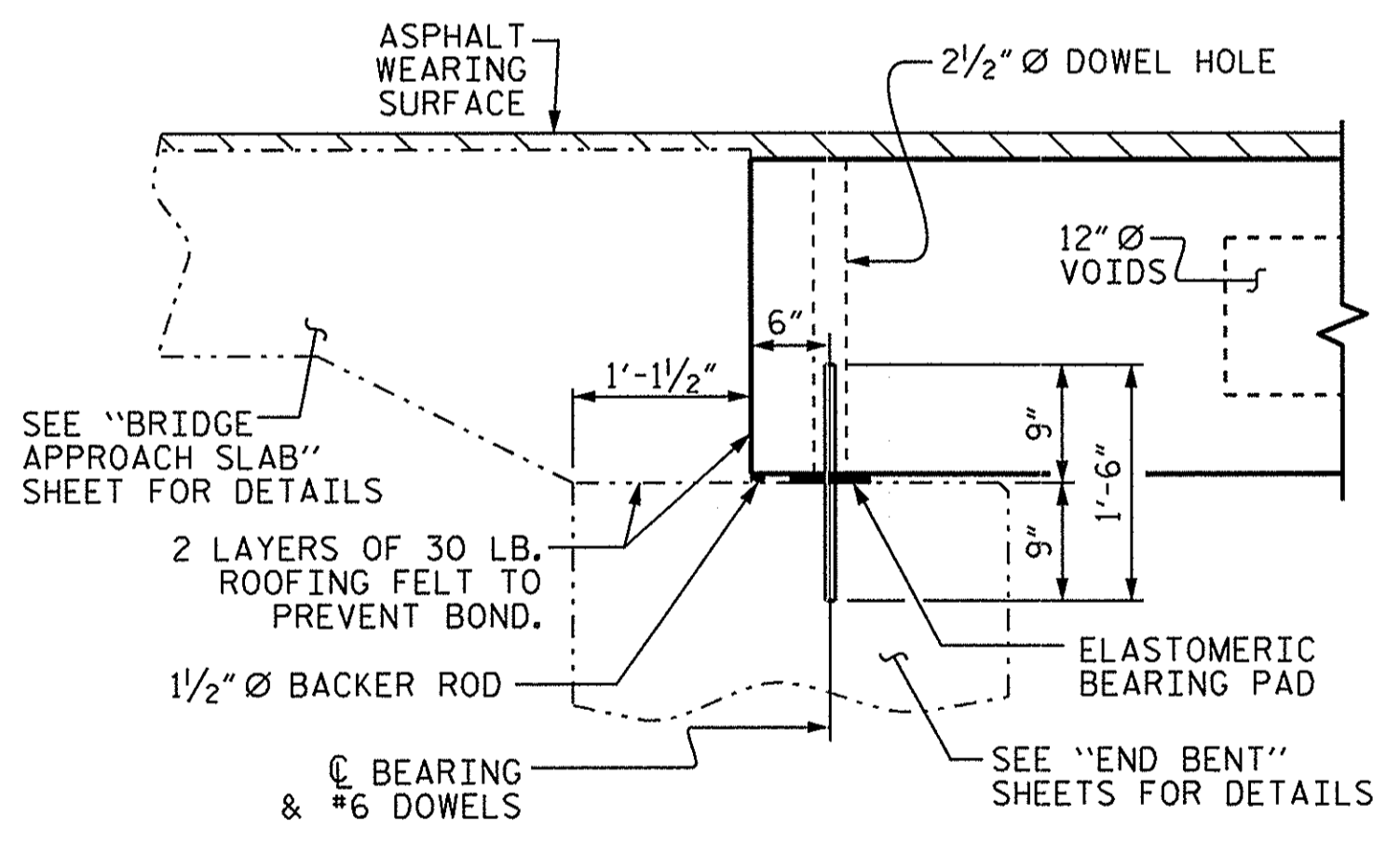


INTERIOR SLAB SECTION (65' UNIT)
 (24 STRANDS REQUIRED)

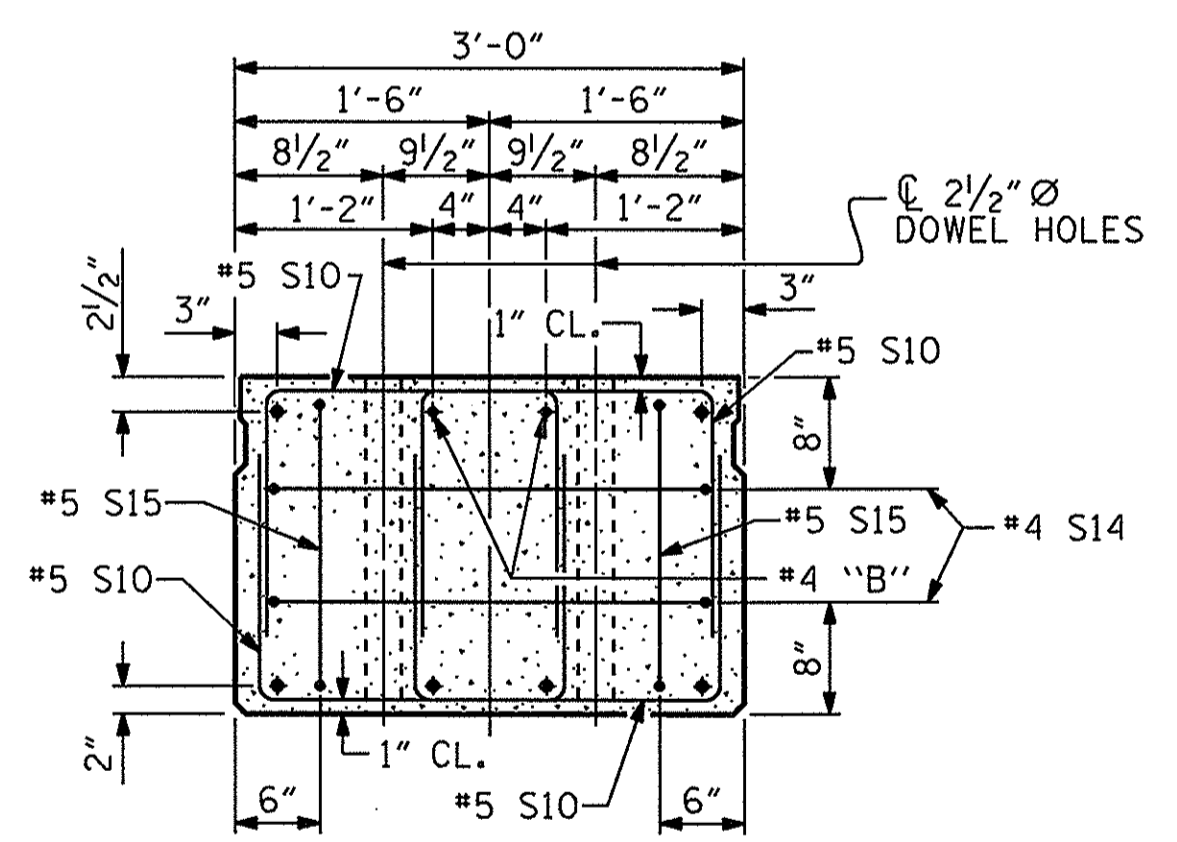
0.6" Ø LOW RELAXATION STRAND LAYOUT

- ◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.
- OPTIONAL FULL LENGTH DEBONDED STRANDS. THESE STRANDS ARE NOT REQUIRED, IF THE FABRICATOR CHOOSES TO INCLUDE THESE STRANDS IN THE CORED SLAB UNIT, THE STRANDS SHALL BE DEBONDED FOR THE FULL LENGTH OF THE UNIT AT NO ADDITIONAL COST. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

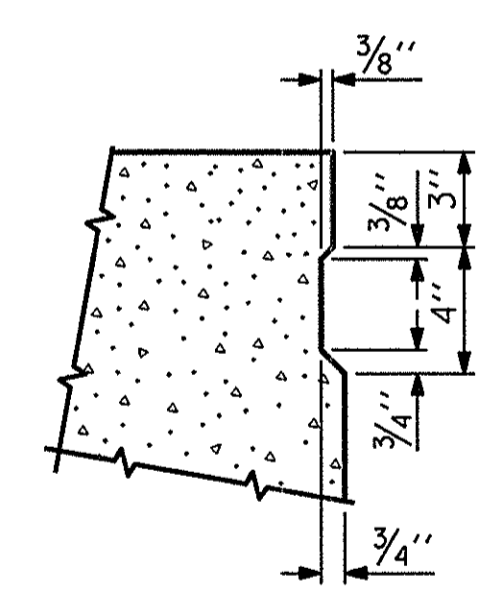
DEBONDING LEGEND



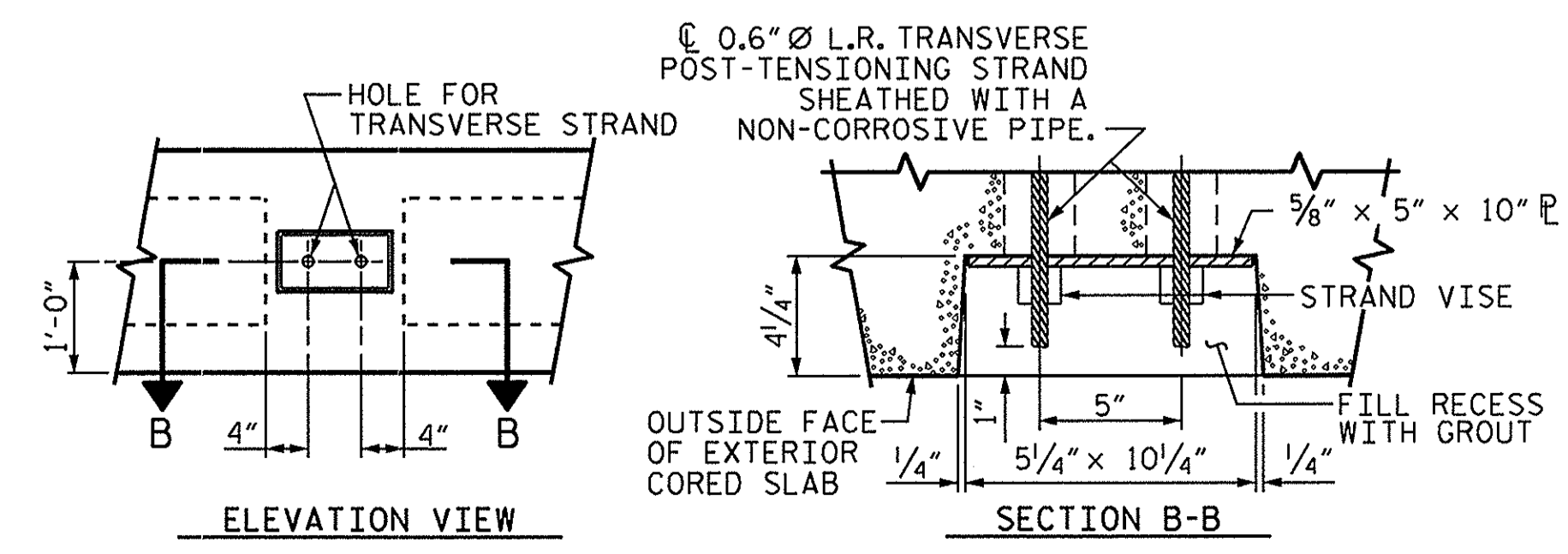
SECTION AT END BENT



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.

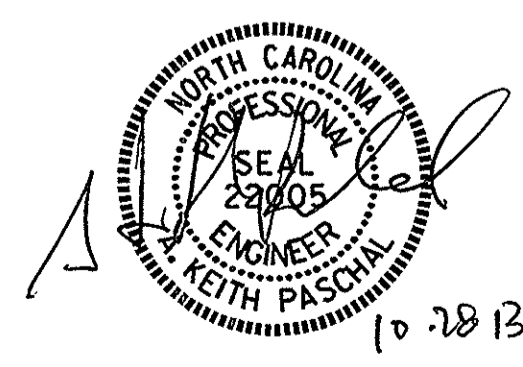


SHEAR KEY DETAIL
 NOTE: OMIT SHEAR KEY ON OUTSIDE FACE OF EXTERIOR CORED SLABS.



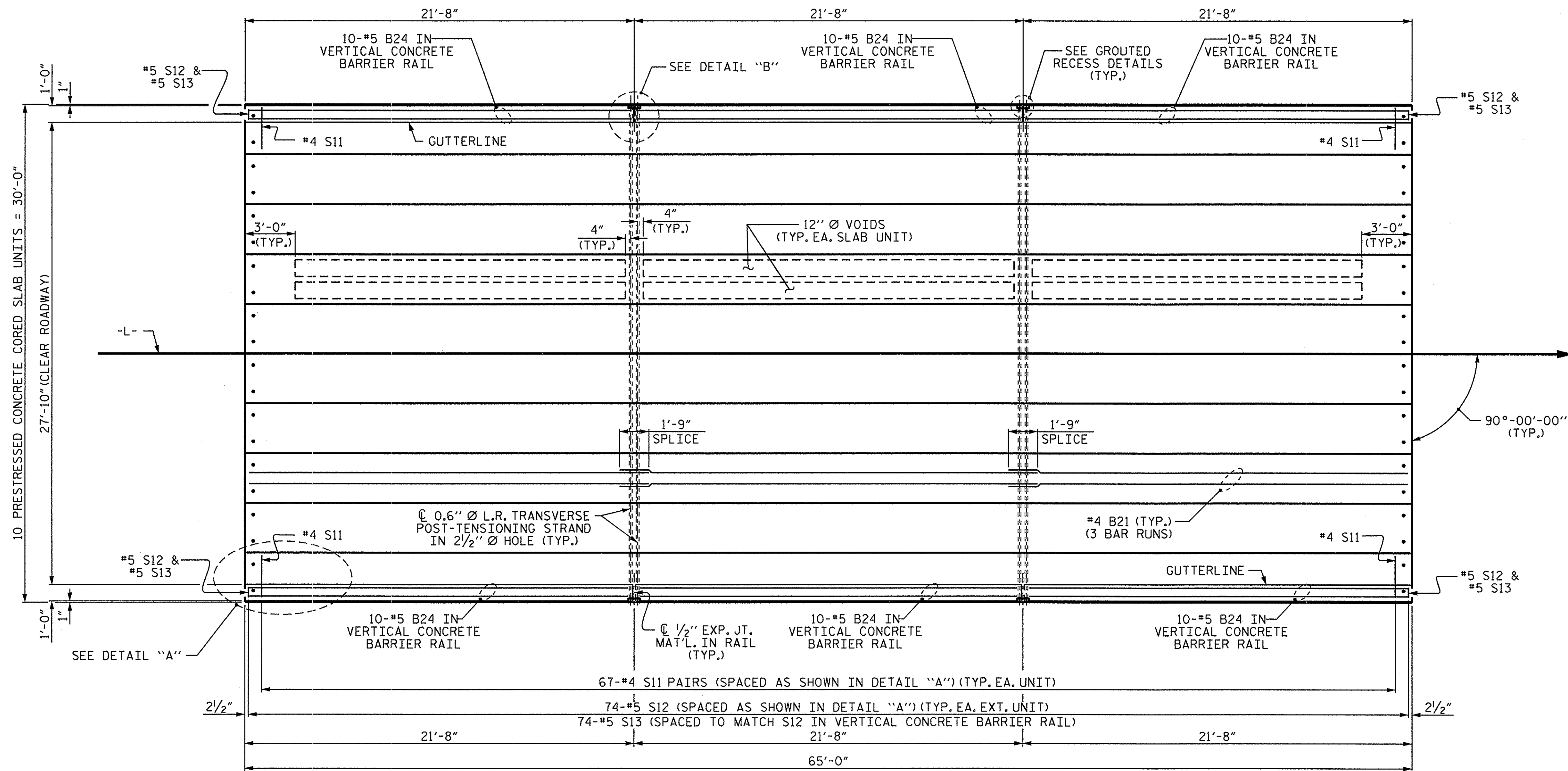
GROUTED RECESS AT END OF POST-TENSIONED STRAND CORED SLABS

ASSEMBLED BY :	E. K. POPE	DATE :	8-7-13
CHECKED BY :	C. B. PRUETT	DATE :	9-24-13
DRAWN BY :	MAA 6/10	REV. :	12/11
CHECKED BY :	MKT 7/10		MAA/AAC



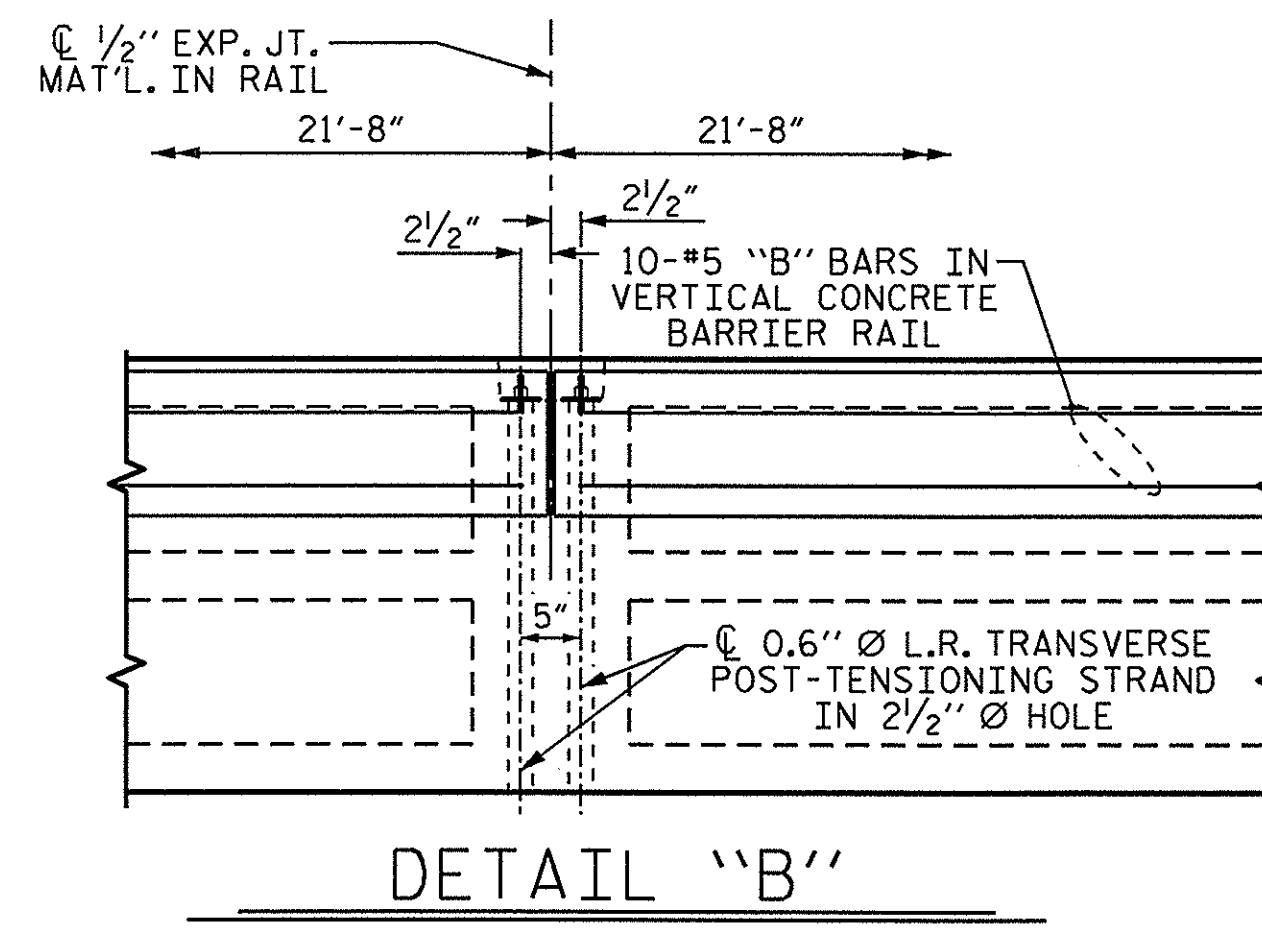
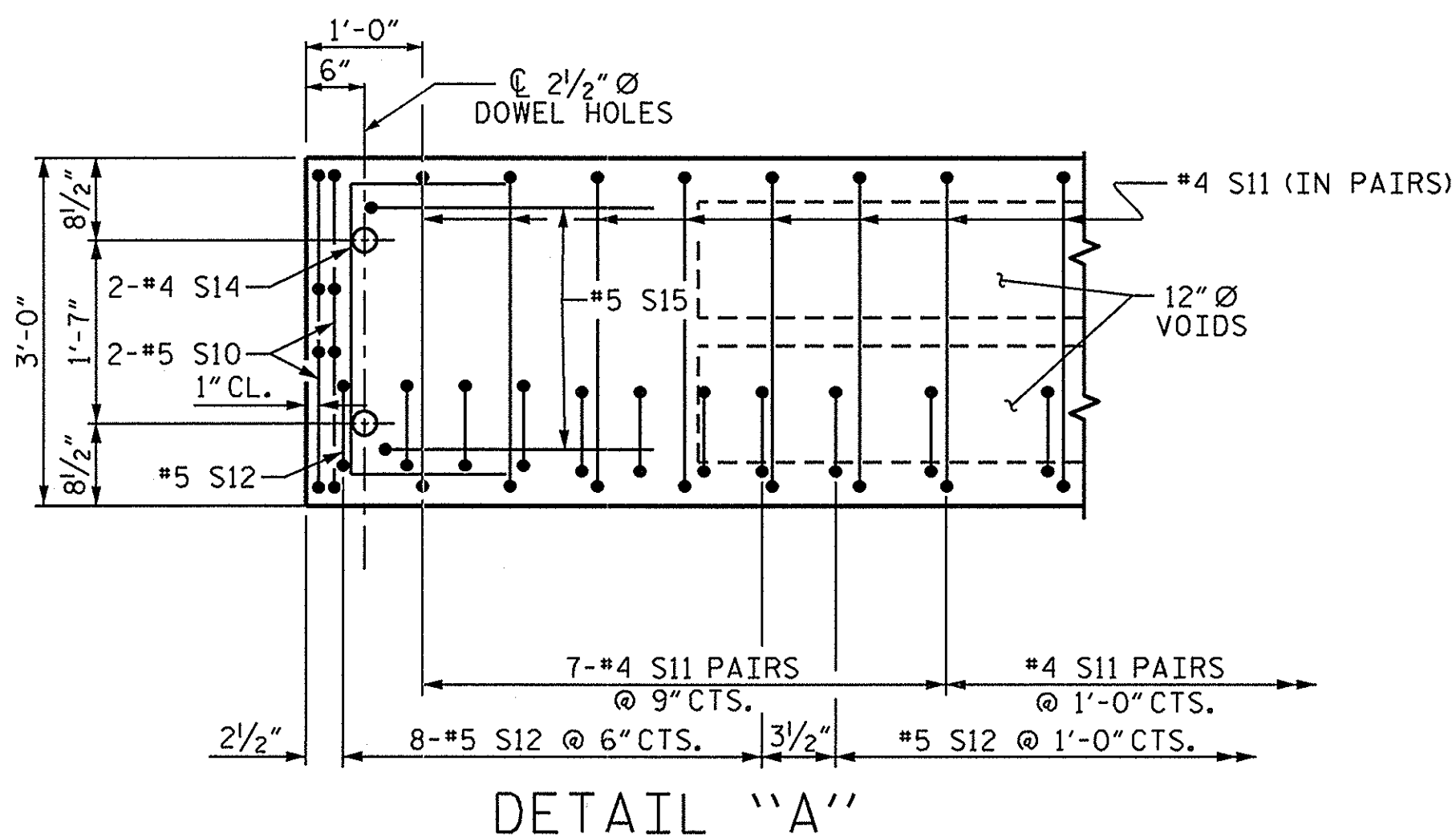
PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-
 SHEET 1 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD					
3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-5
					TOTAL SHEETS 14



PLAN OF UNIT

NO DECK DRAINS REQUIRED



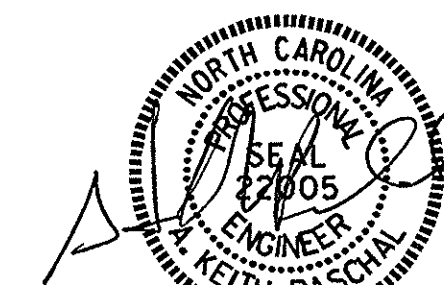
#4 S11 BARS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO GROUDED RECESS AND 2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES

PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF 65' UNIT
 27'-10" CLEAR ROADWAY
 90° SKEW

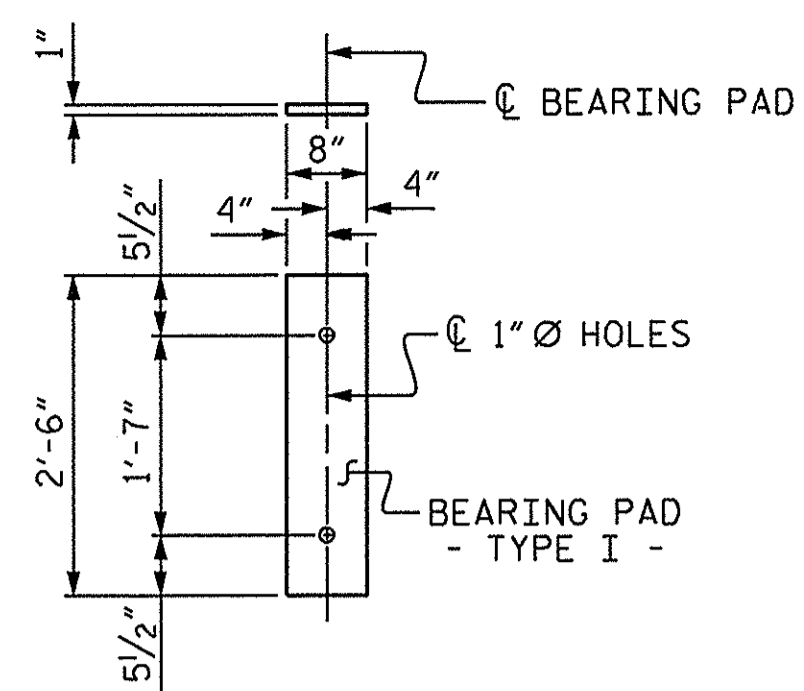


REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			14

ASSEMBLED BY : E. K. POPE DATE : 8-7-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 DRAWN BY : MAA 6/10 REV. 12/5/11 MAA/AAC
 CHECKED BY : MKT 7/10

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STD. NO. 24PCS_30_90S_65L



FIXED END
(TYPE I - 20 REO'D)

ELASTOMERIC BEARING DETAILS

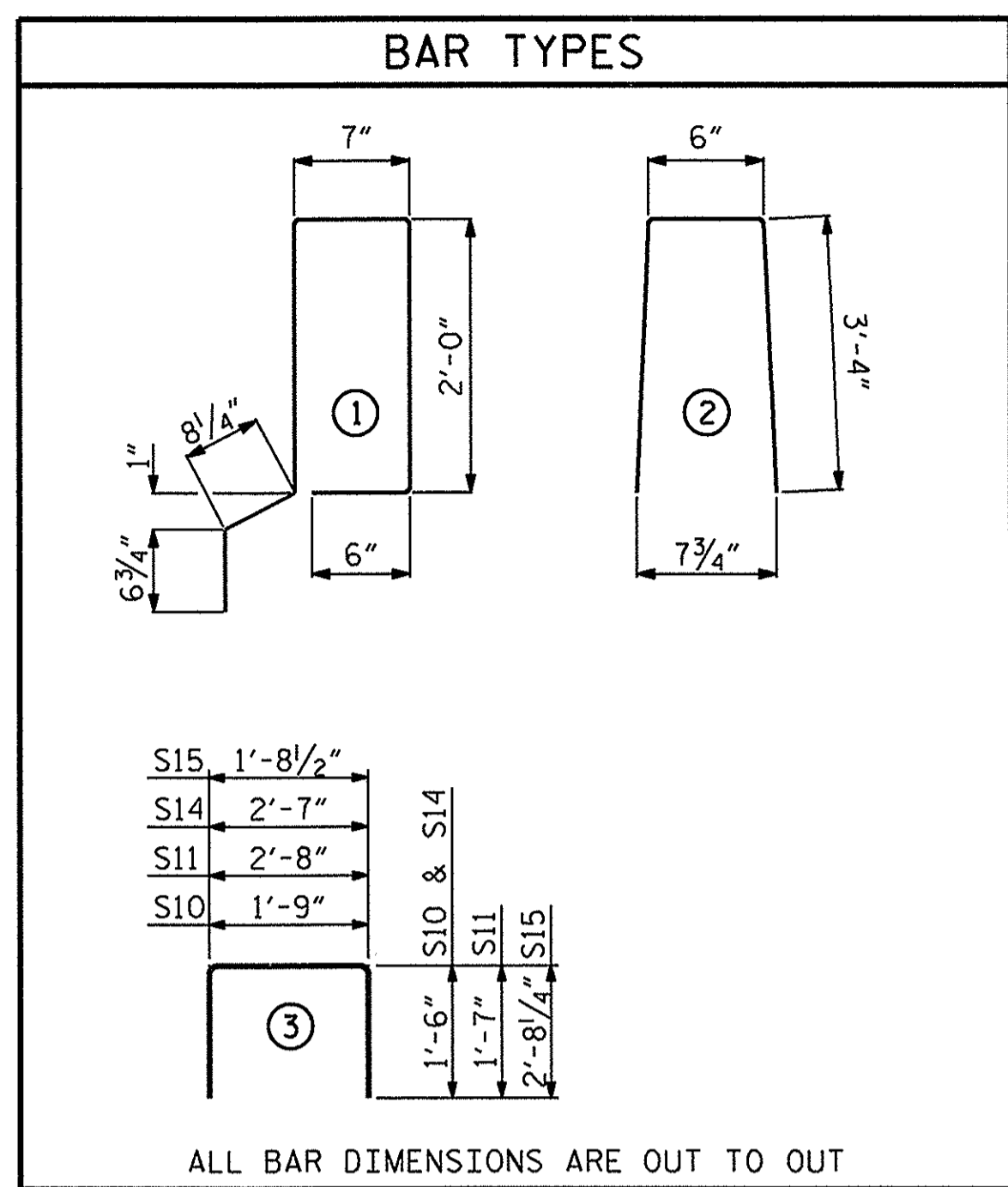
ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
65' UNIT			
EXTERIOR C.S.	2	65'-0"	130'-0"
INTERIOR C.S.	8	65'-0"	520'-0"
TOTAL	10		650'-0"

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
65' UNIT						
*B24	60	60	#5	STR	21'-3"	1330
*S13	148	148	#5	2	7'-2"	1106
* EPOXY COATED REINFORCING STEEL					LBS.	2436
CLASS AA CONCRETE					CU.YDS.	17.6
TOTAL VERTICAL CONCRETE BARRIER RAIL					LN. FT.	130.25

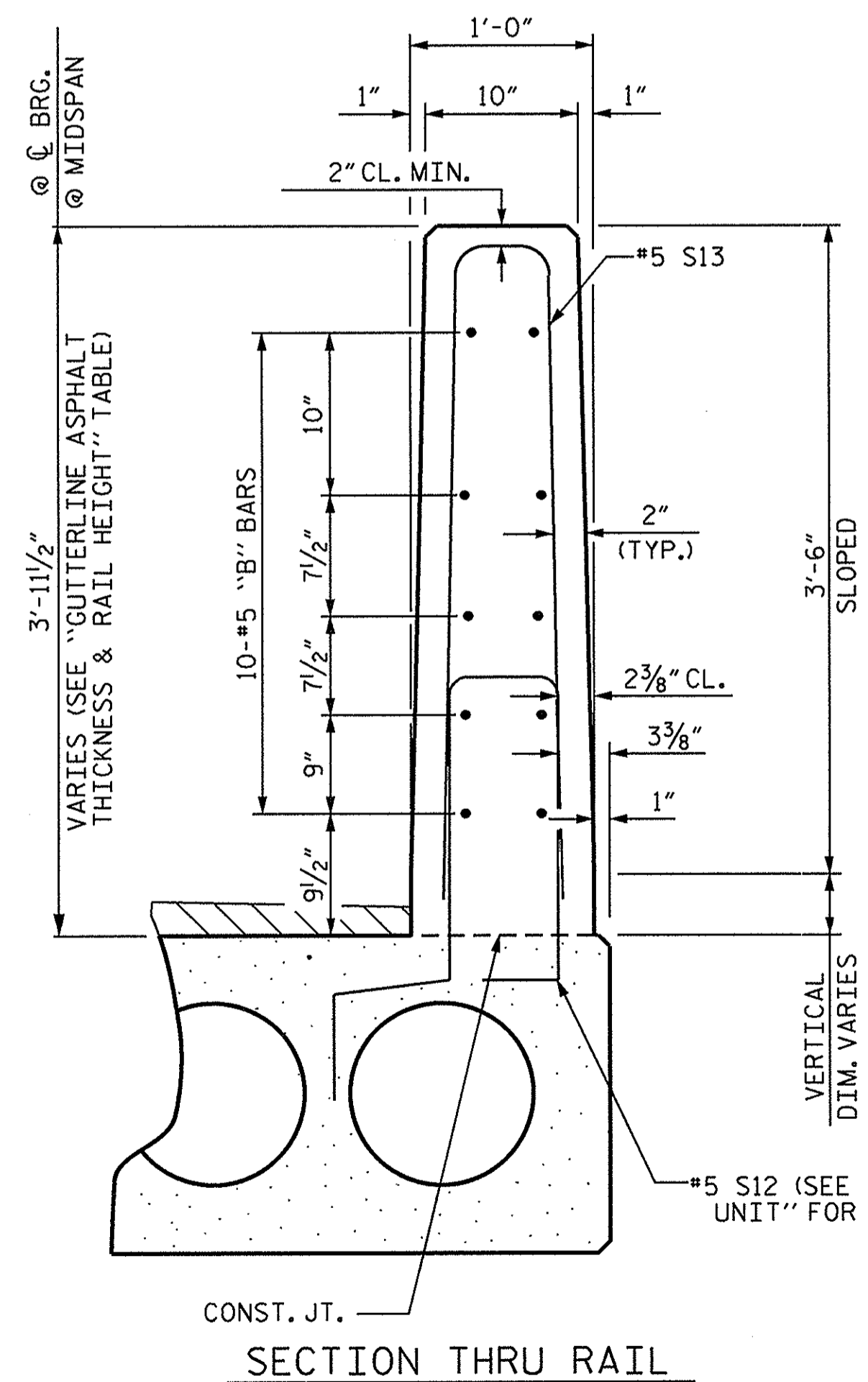
DEAD LOAD DEFLECTION AND CAMBER	
	3'-0" x 2'-0"
65' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	3 3/8" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/2" ↓
FINAL CAMBER	2 7/8" ↑

** INCLUDES FUTURE WEARING SURFACE

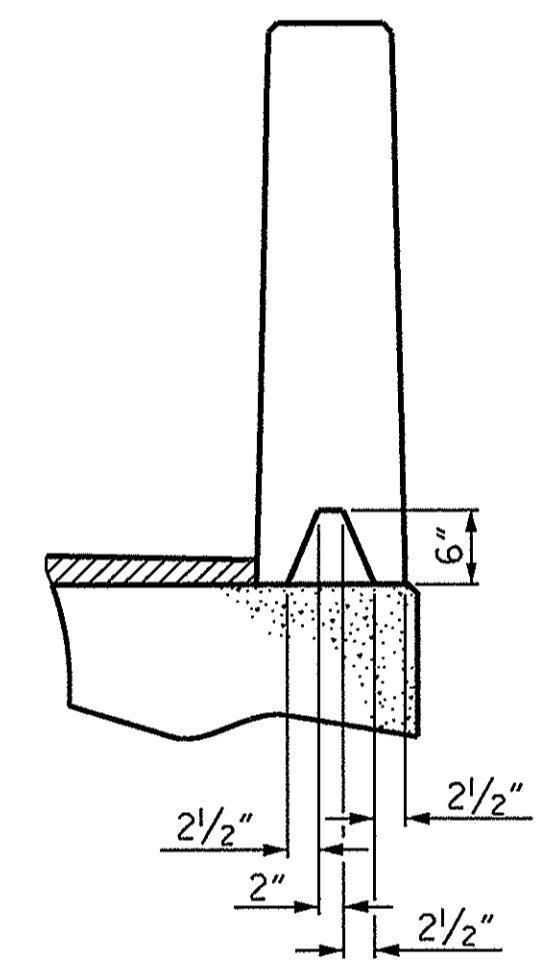


ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE 65' CORED SLAB UNIT							
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B21	6	#4	STR	22'-10"	92	22'-10"	92
S10	8	#5	3	4'-9"	40	4'-9"	40
S11	134	#4	3	5'-10"	522	5'-10"	522
*S12	74	#5	1	6'-4"	489		
S14	4	#4	3	5'-7"	15	5'-7"	15
S15	4	#5	3	7'-1"	30	7'-1"	30
REINFORCING STEEL				LBS.	699		699
* EPOXY COATED REINFORCING STEEL				LBS.	489		
6000 P.S.I. CONCRETE				CU. YDS.	11.0		11.0
0.6" Ø L.R. STRANDS				No.	24		24

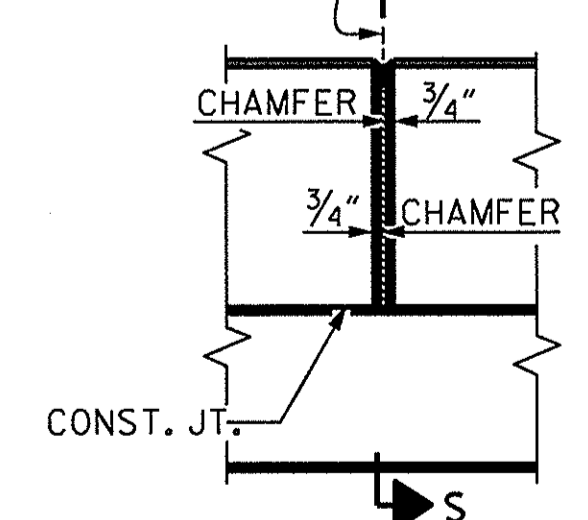


SECTION THRU RAIL

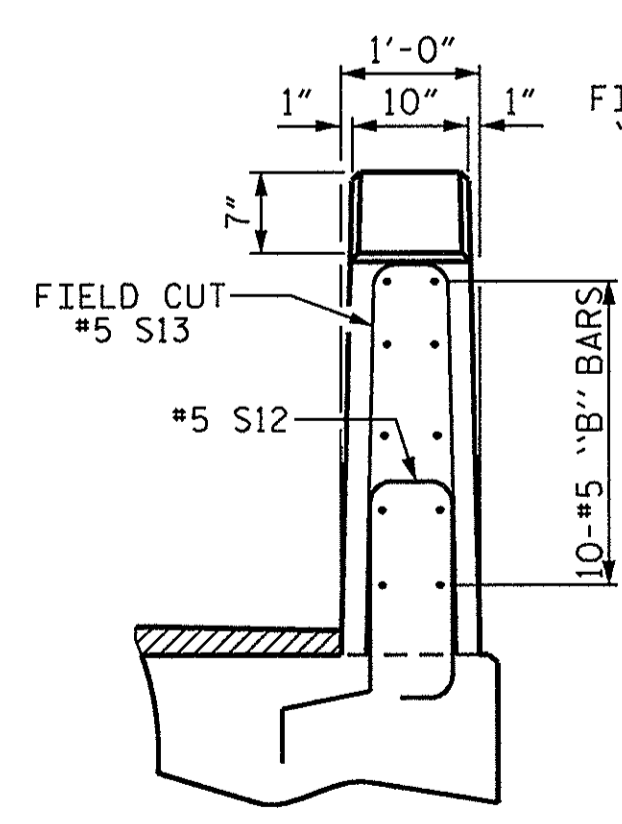


SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)

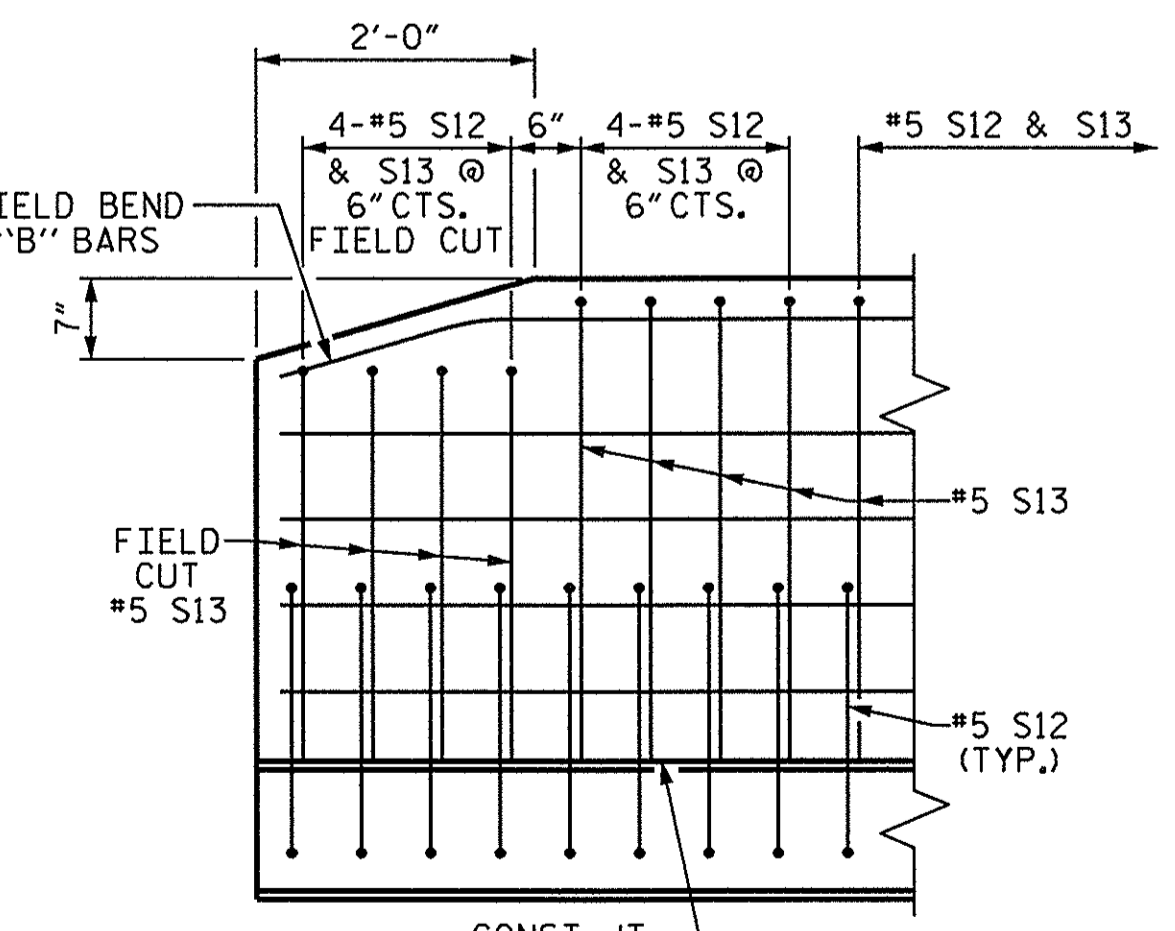
1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS. (NOTE: OMIT EXP. JT. MAT'L. WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS



END VIEW

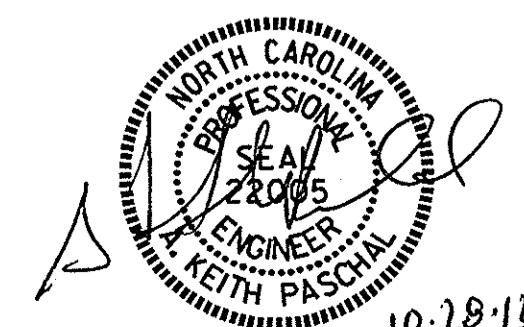


SIDE VIEW

END OF RAIL DETAILS

CONCRETE RELEASE STRENGTH	
UNIT	PSI
65' UNITS	4800

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



NOTES

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 SIDWAYS. 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.

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.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS 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.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
65' UNITS	2 3/8"	3'-8 5/8"

PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 3'-0" X 2'-0"
 PRESTRESSED CONCRETE
 CORED SLAB UNIT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			14

ASSEMBLED BY :	E. K. POPE	DATE :	8-7-13
CHECKED BY :	C. B. PRUETT	DATE :	9-24-13
DRAWN BY :	MAA	6/10	REV. 12/11
CHECKED BY :	MKT	7/10	MAA/AAC

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.)

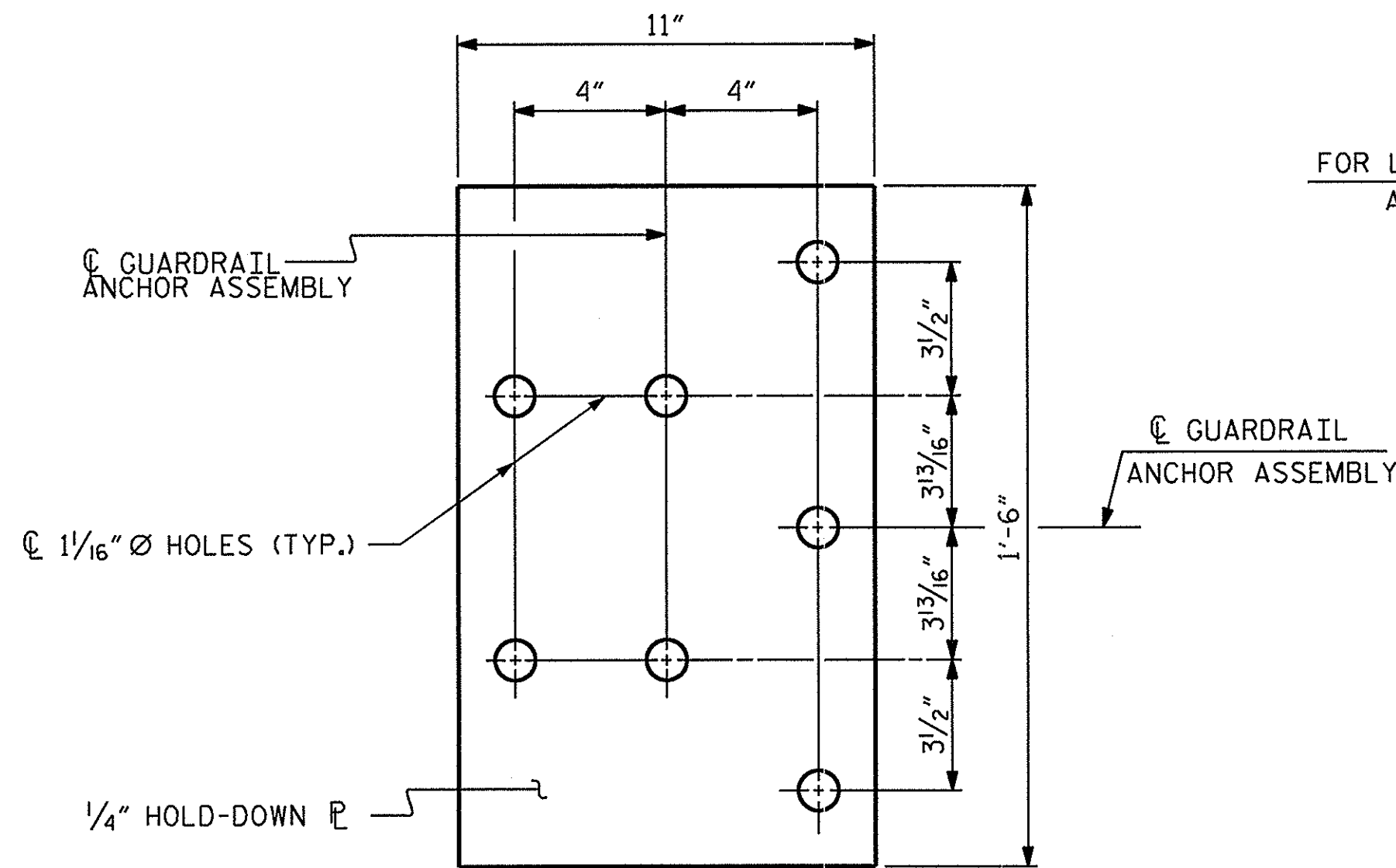
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

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.

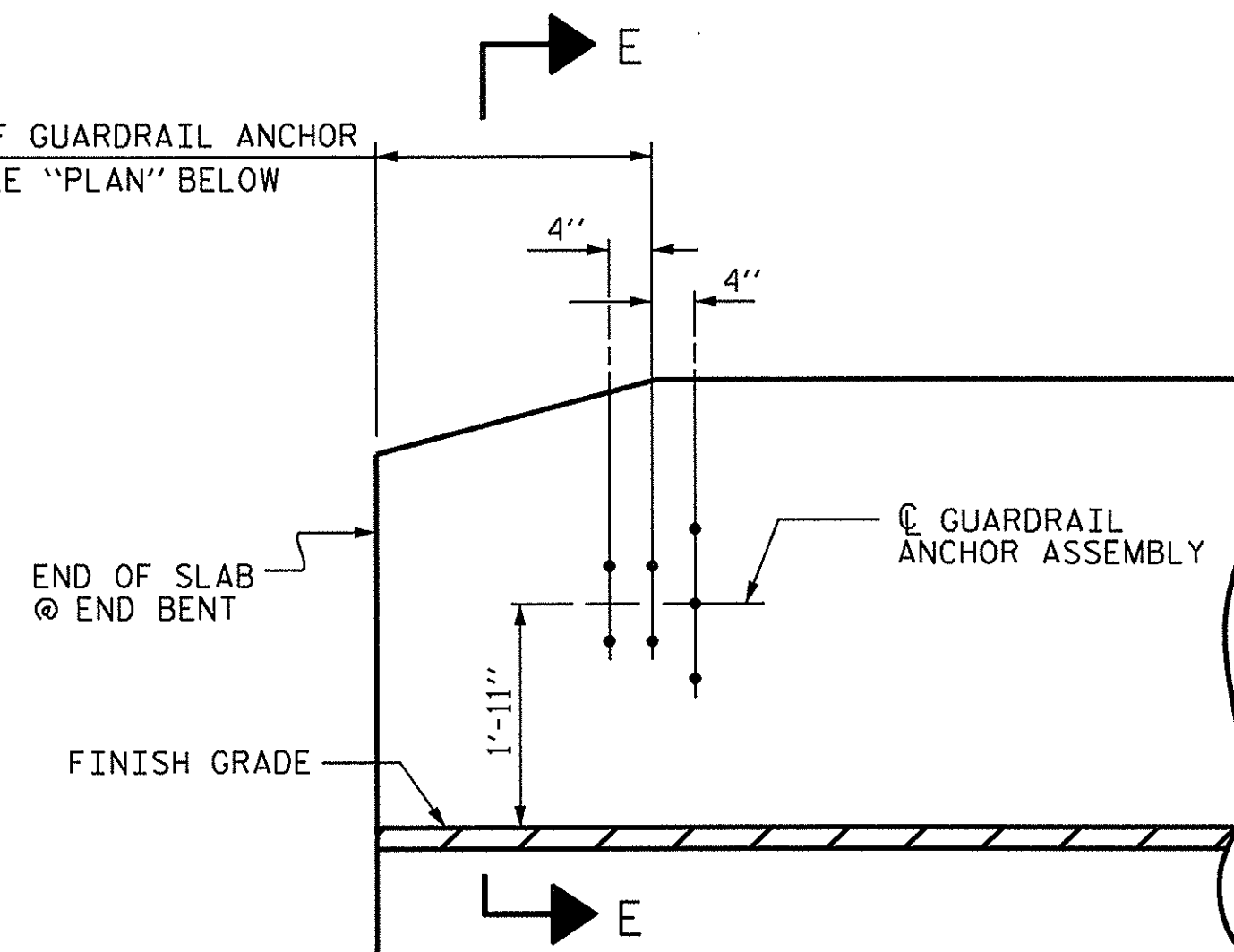
THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

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.

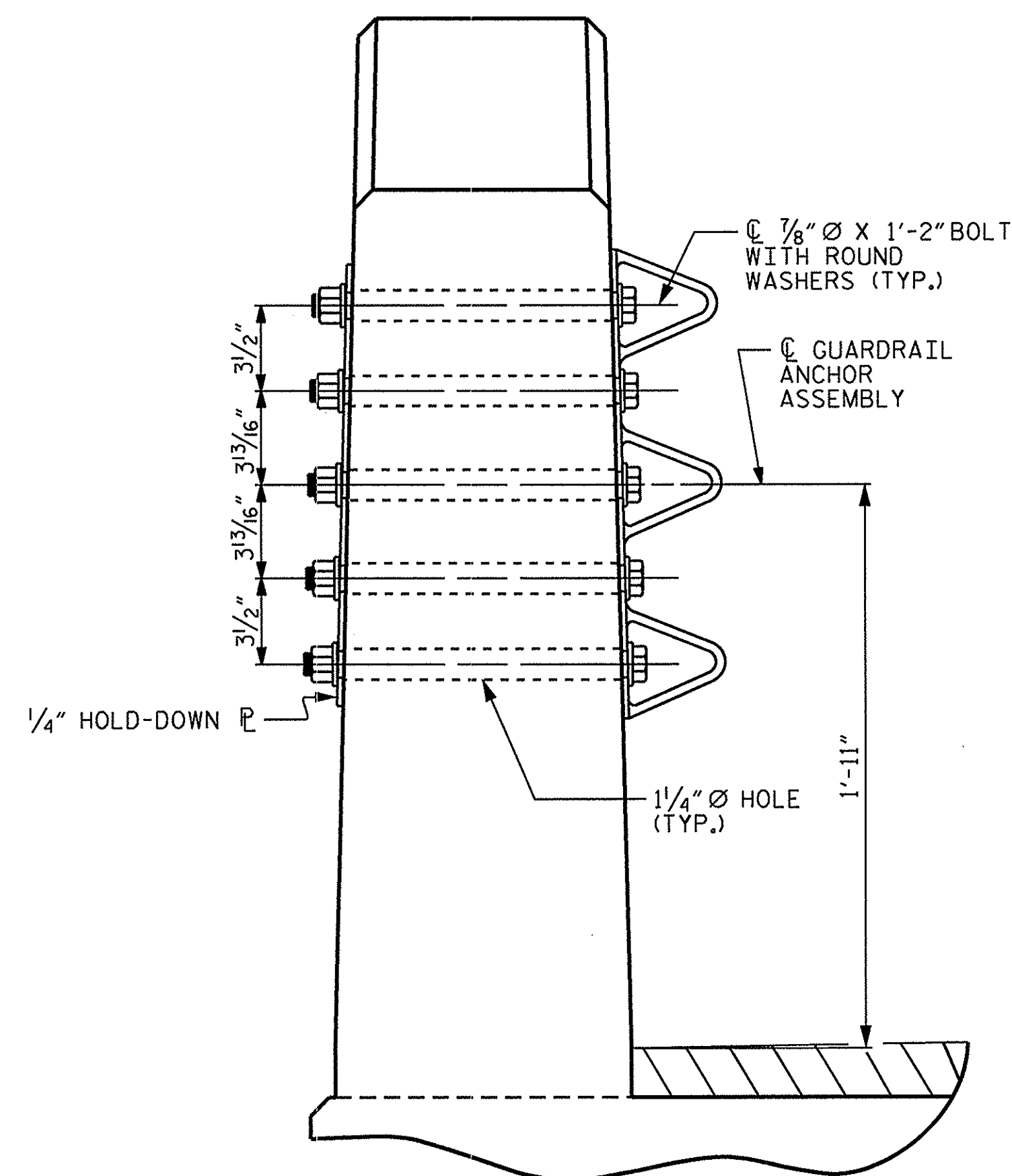


PLAN

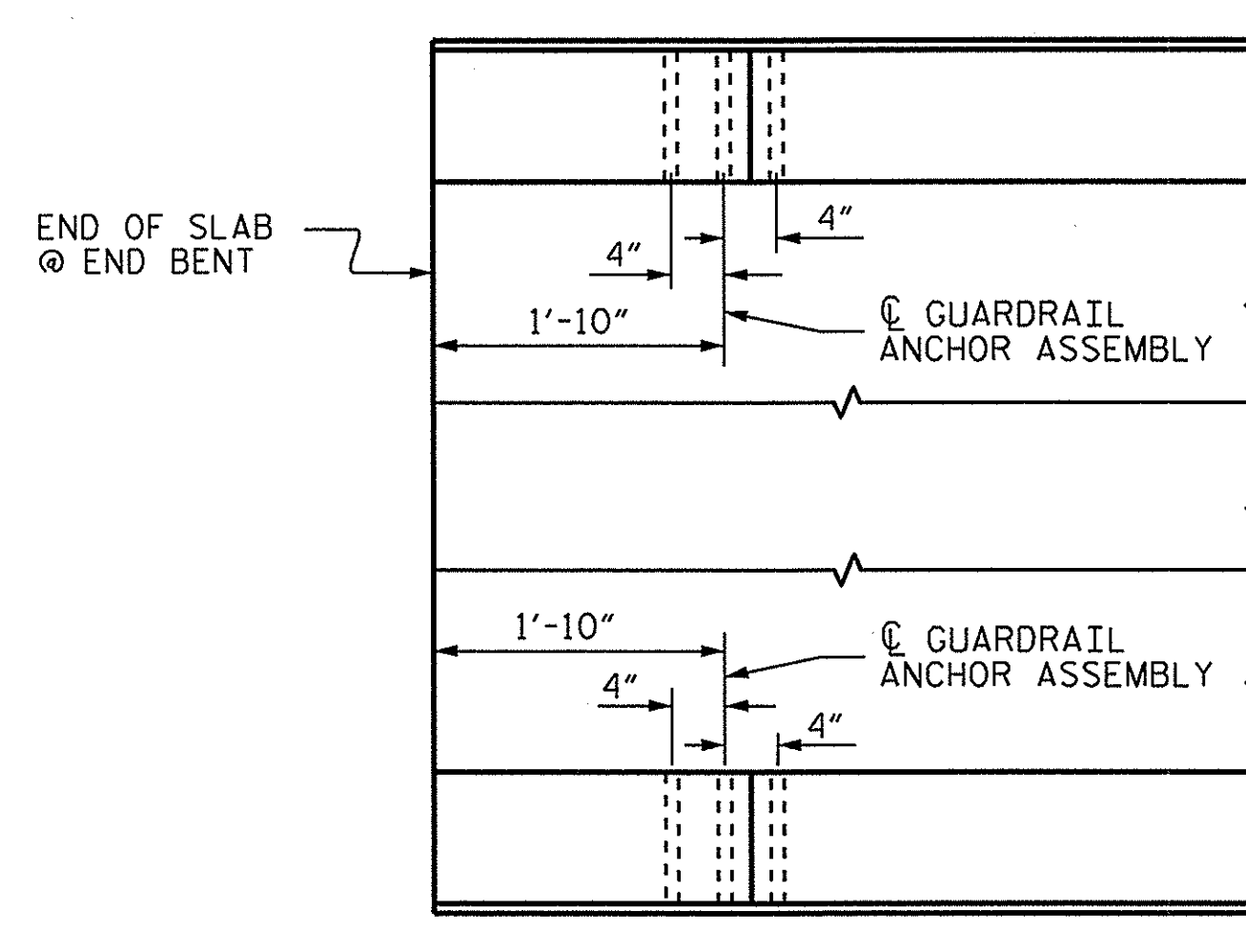
FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW



ELEVATION



SECTION E-E
GUARDRAIL ANCHOR ASSEMBLY DETAILS



LOCATION OF ANCHORS FOR GUARDRAIL

END BENT 1 SHOWN, END BENT 2 SIMILAR.

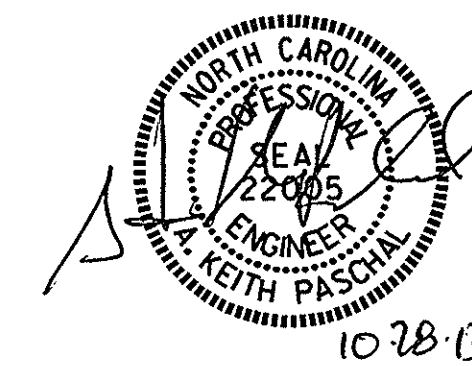


SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

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



ASSEMBLED BY : E. K. POPE DATE : 8-7-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 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

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8	
1			3			TOTAL	14
2			4				

NOTES

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

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

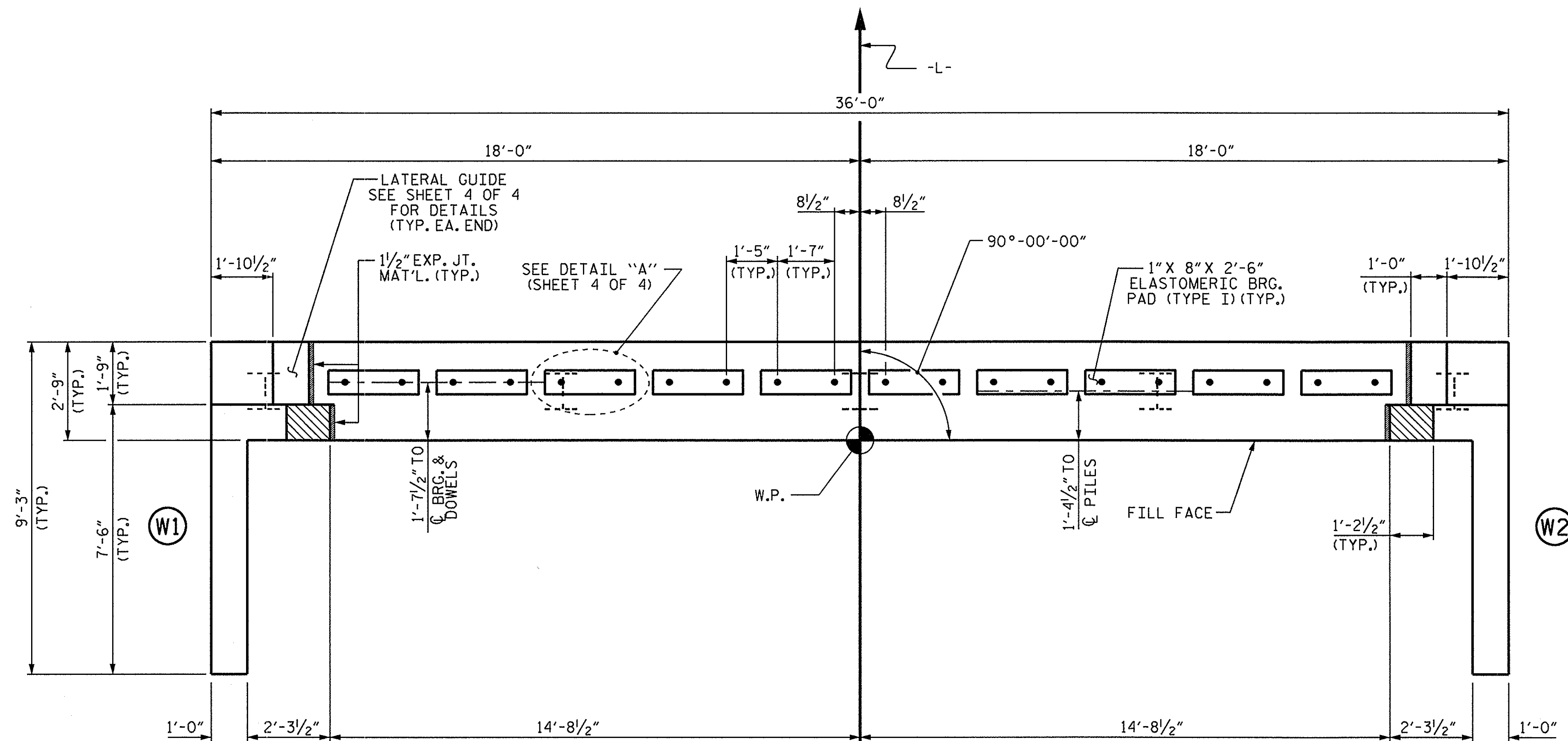
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

INSTALL THE 4" Ø DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

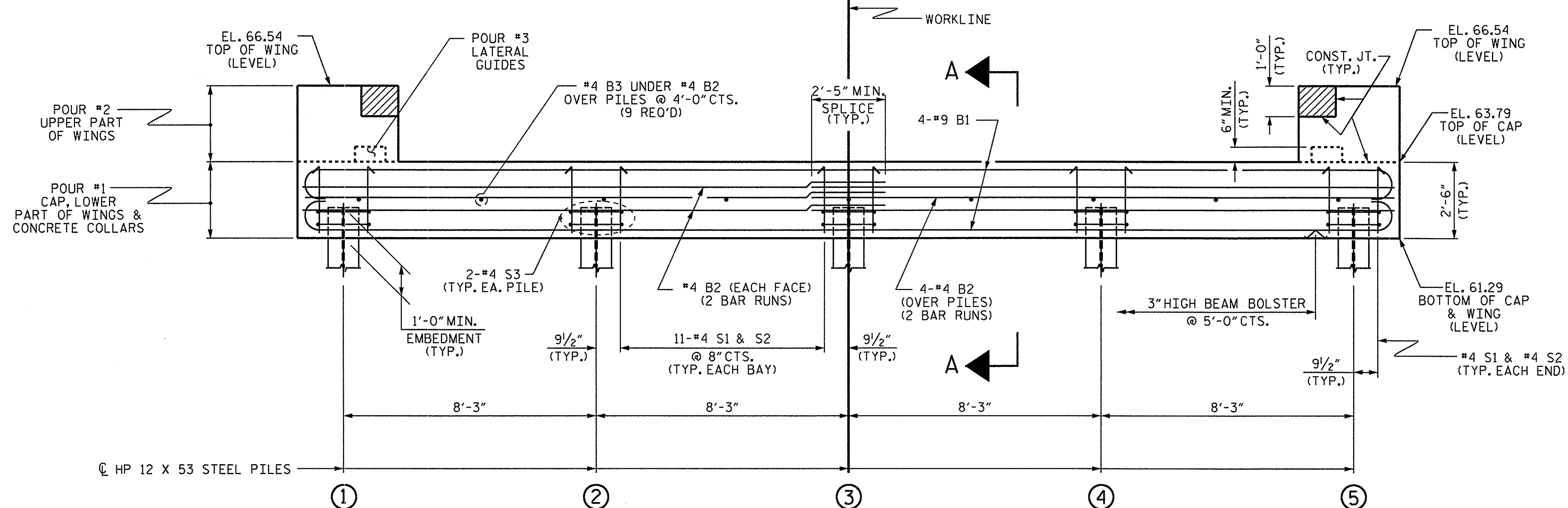
FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDE IF APPROVED BY THE ENGINEER.



PLAN



ELEVATION

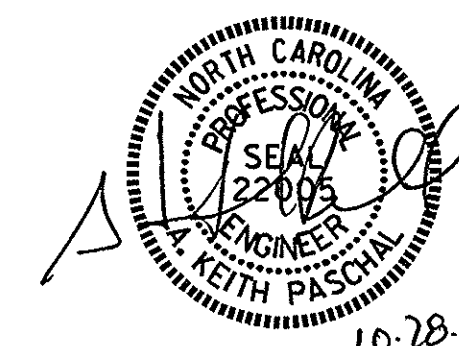
WINGS NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 4 OF 4.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. BD-5102AA
GREENE COUNTY
STATION: 12+22.50 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT No. 1



ASSEMBLED BY : E. K. POPE DATE : 8-7-13
CHECKED BY : C. B. PRUETT DATE : 9-24-13
DRAWN BY : DGE 02/10
CHECKED BY : MKT 02/10

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			14

NOTES

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

THE LATERAL GUIDES ARE NOT TO BE POURED UNTIL AFTER THE CORED SLAB UNITS ARE IN PLACE.

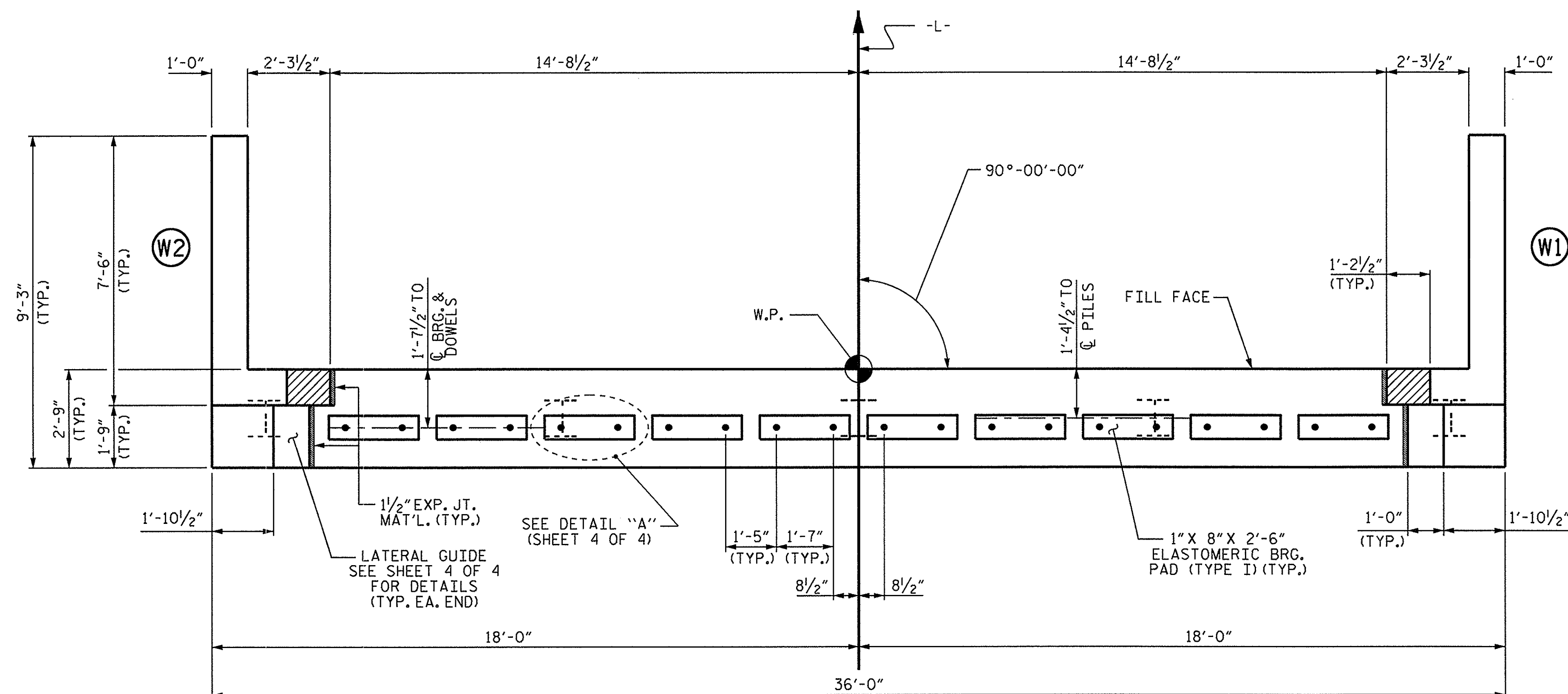
THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

INSTALL THE 4" Ø DRAIN PIPE THROUGH THE WING WALL AS REQUIRED FOR REINFORCED BRIDGE APPROACH FILLS, SEE THE ROADWAY PLANS. REINFORCING STEEL IN THE WING WALL MAY BE SHIFTED AS NECESSARY TO CLEAR THE DRAIN PIPE.

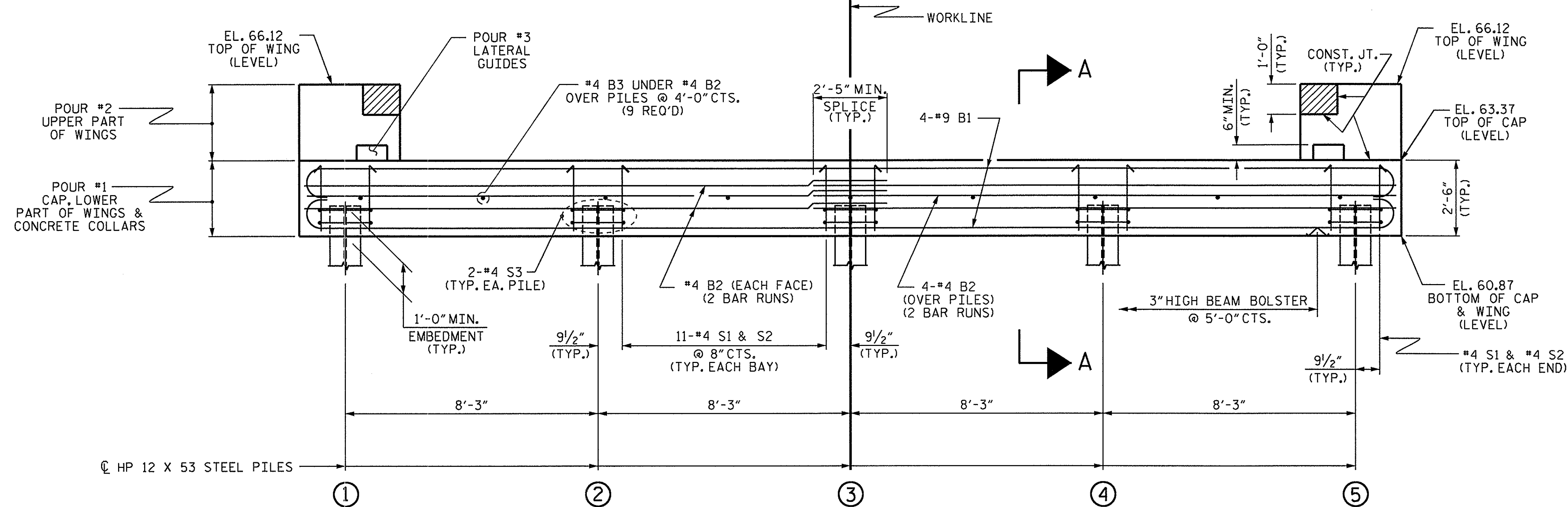
FOR PILE SPLICE DETAILS, SEE SHEET 4 OF 4.

FOR WING DETAILS, SEE SHEET 3 OF 4.

THE CONTRACTOR HAS THE OPTION TO OMIT THE LATERAL GUIDE IF APPROVED BY THE ENGINEER.



PLAN



ELEVATION

WINGS NOT SHOWN FOR CLARITY. FOR SECTION A-A, SEE SHEET 4 OF 4. CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY. SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 4 OF 4.

PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

SHEET 2 OF 4

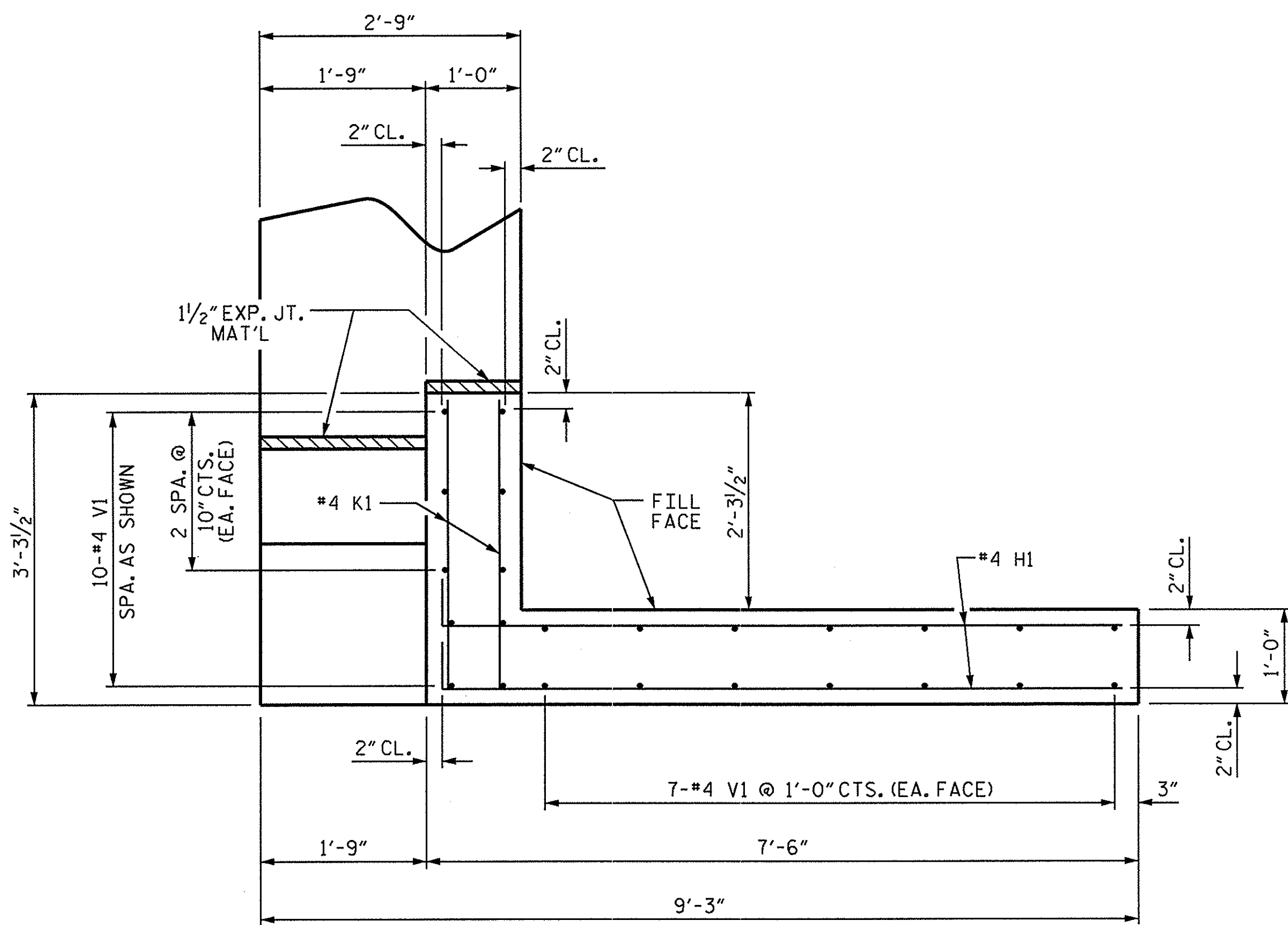
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT No. 2

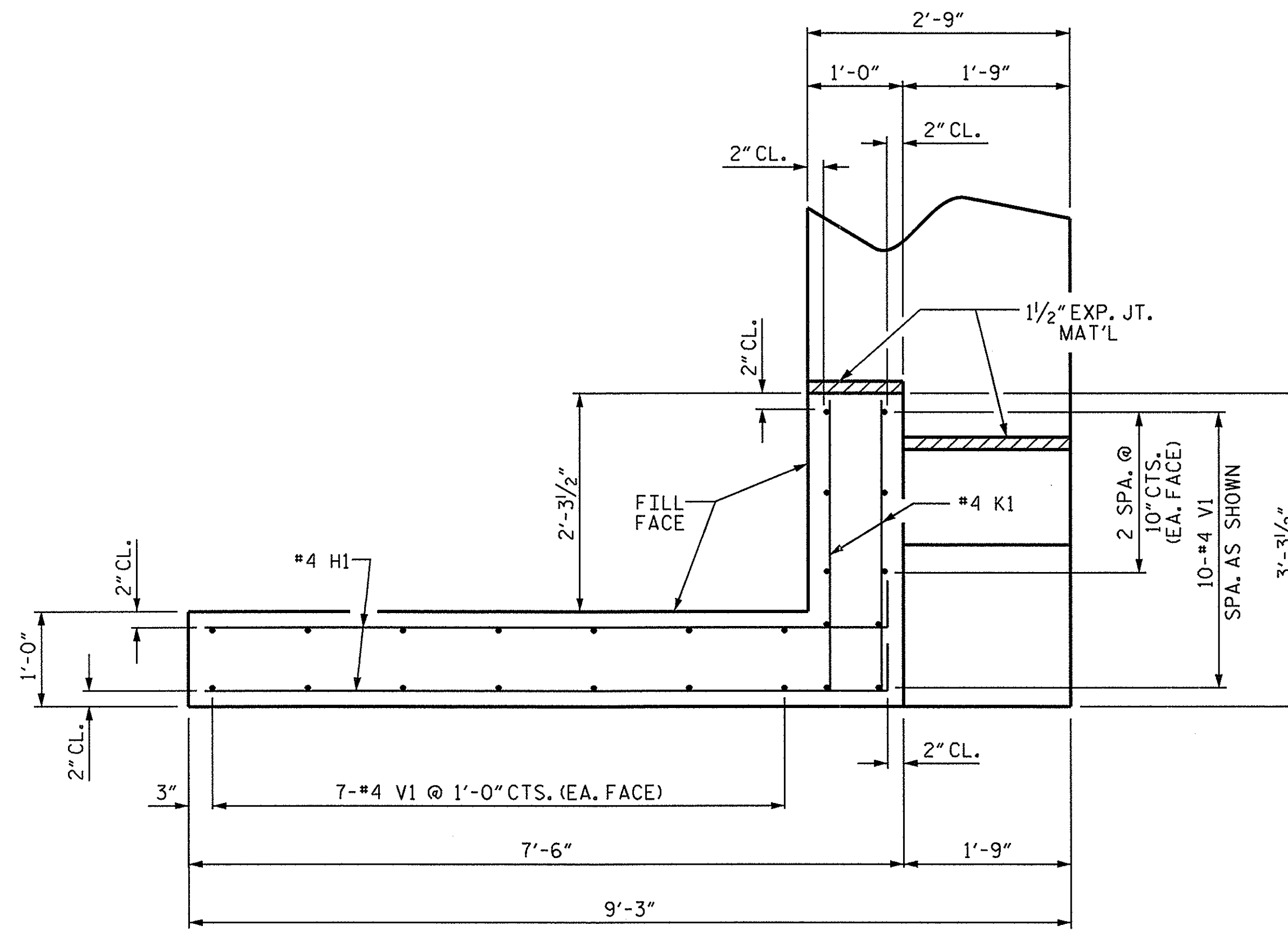


ASSEMBLED BY : E. K. POPE DATE : 8-7-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 DRAWN BY : DGE 02/10
 CHECKED BY : MKT 02/10

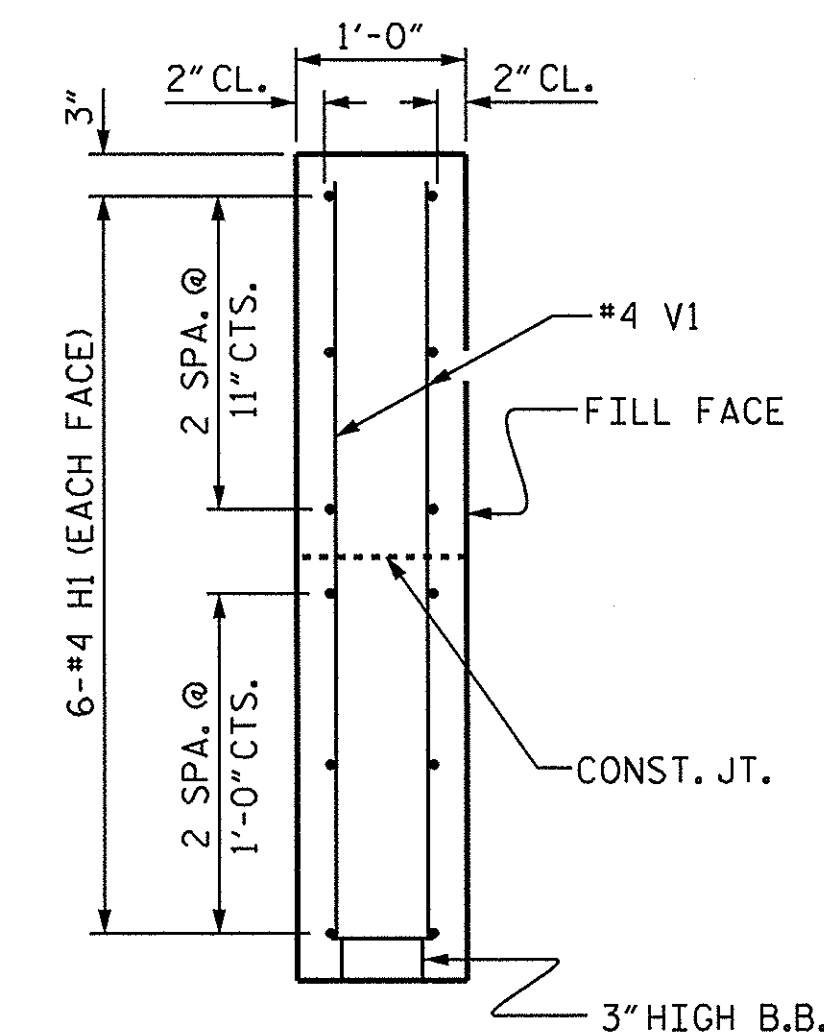
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10	
1			3			TOTAL SHEETS 14	
2			4				



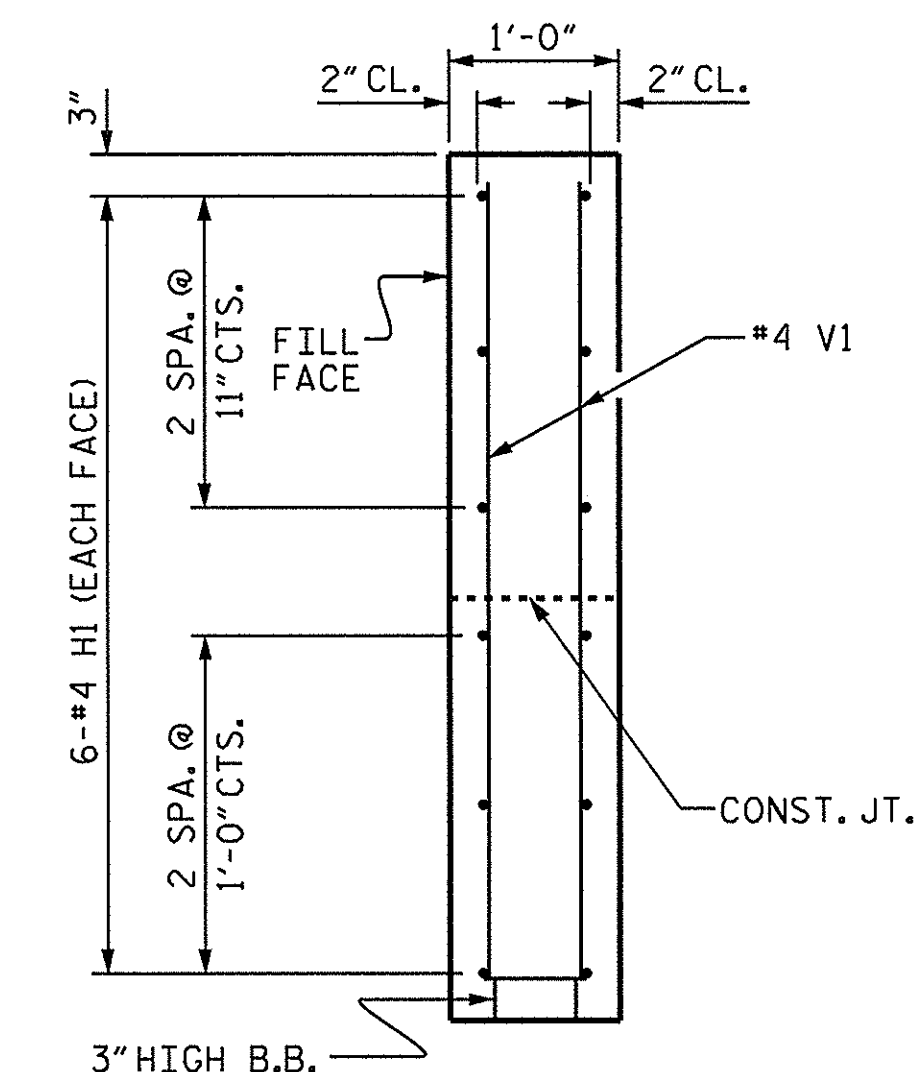
PLAN OF WING (W1)



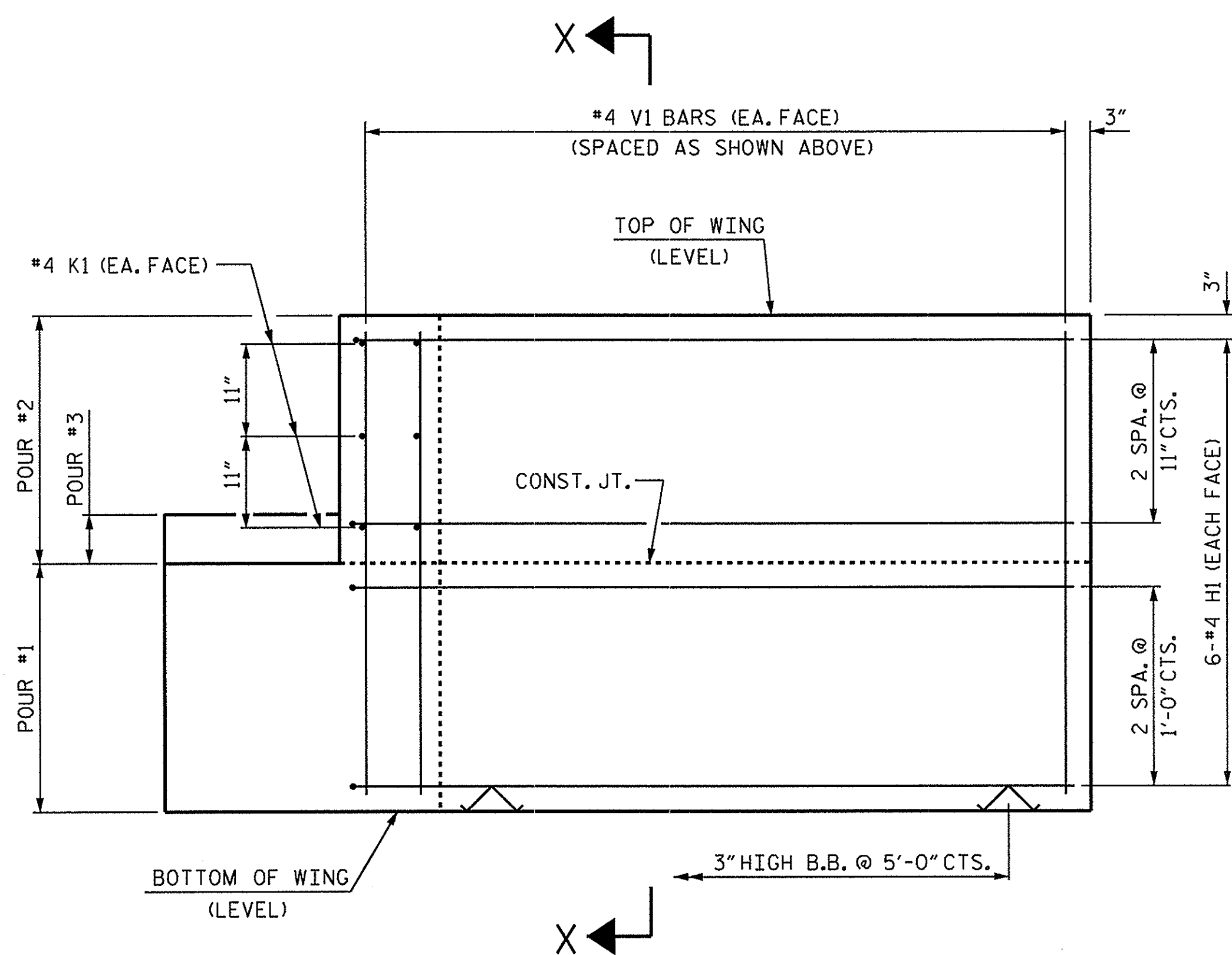
PLAN OF WING (W2)



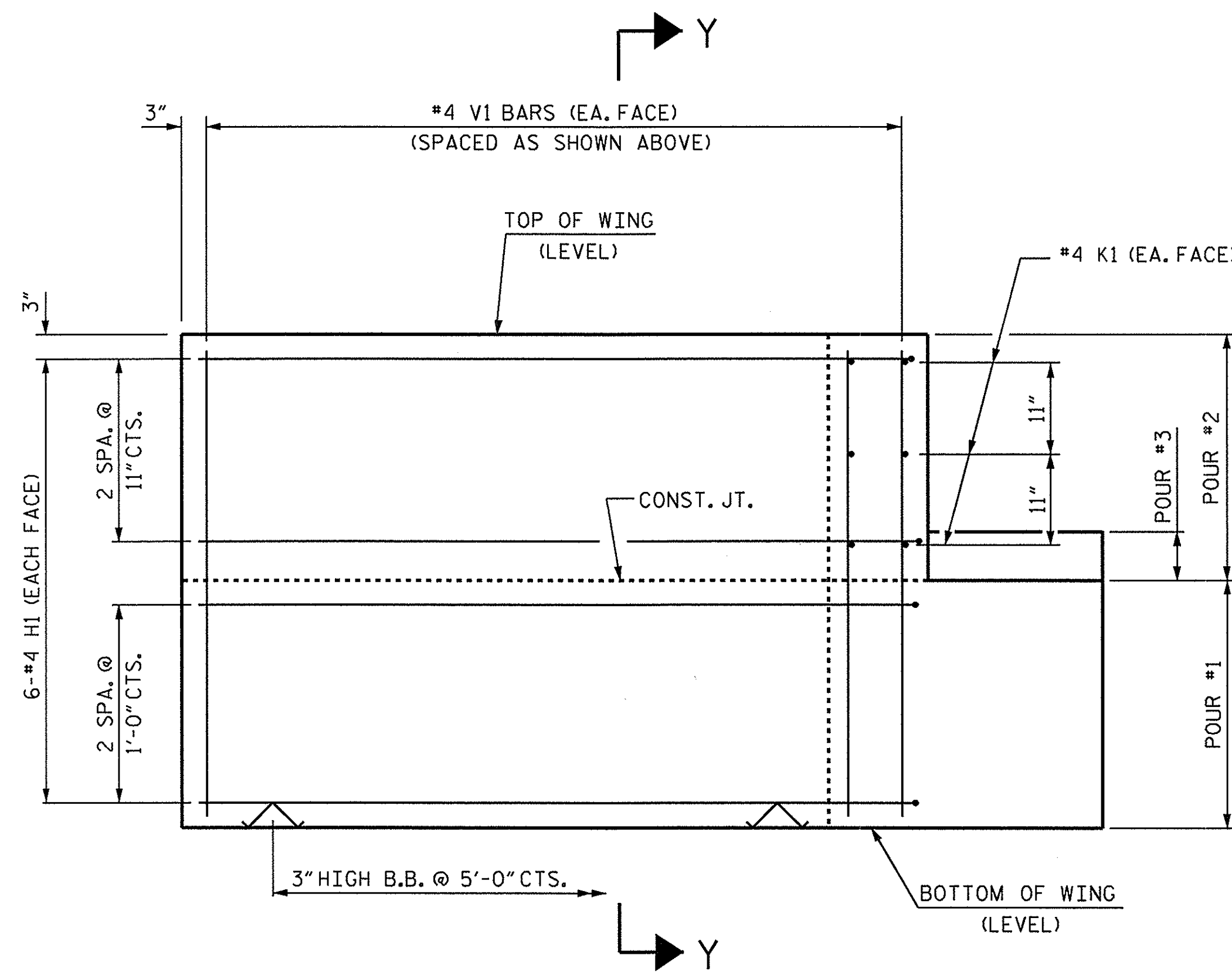
SECTION X-X



SECTION Y-Y



ELEVATION OF WING (W1)



ELEVATION OF WING (W2)

WING DETAILS

PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

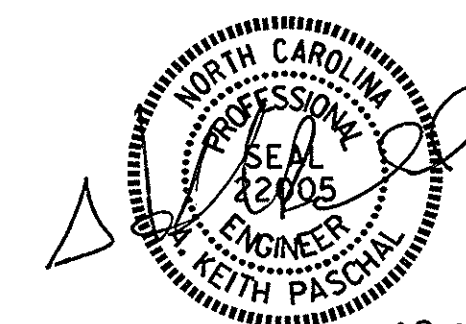
SHEET 3 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
 END BENT
 WING DETAILS

ASSEMBLED BY : E. K. POPE DATE : 8-7-13
 CHECKED BY : C. B. PRUETT DATE : 9-24-13
 DRAWN BY : DGE 02/10
 CHECKED BY : MKT 02/10

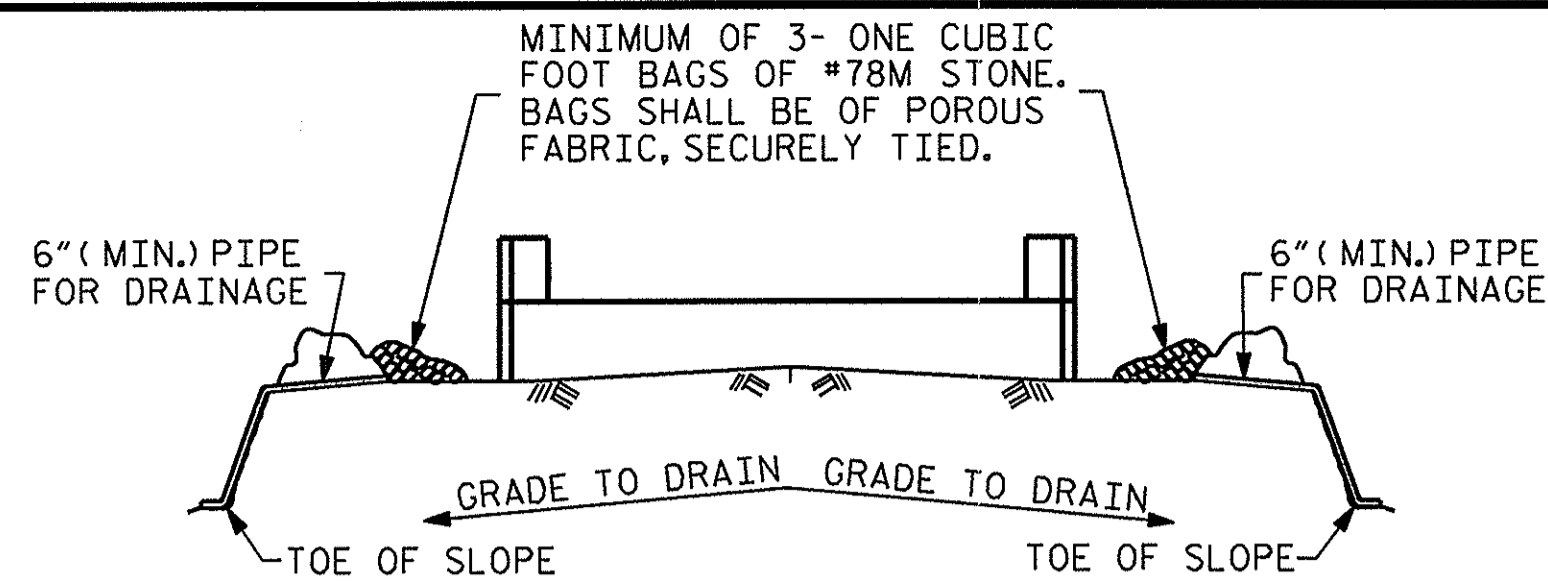
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 kpaschal



10.28.13

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11	
1			3			TOTAL	14
2			4			SHEETS	

STD. NO. EB_30_90S

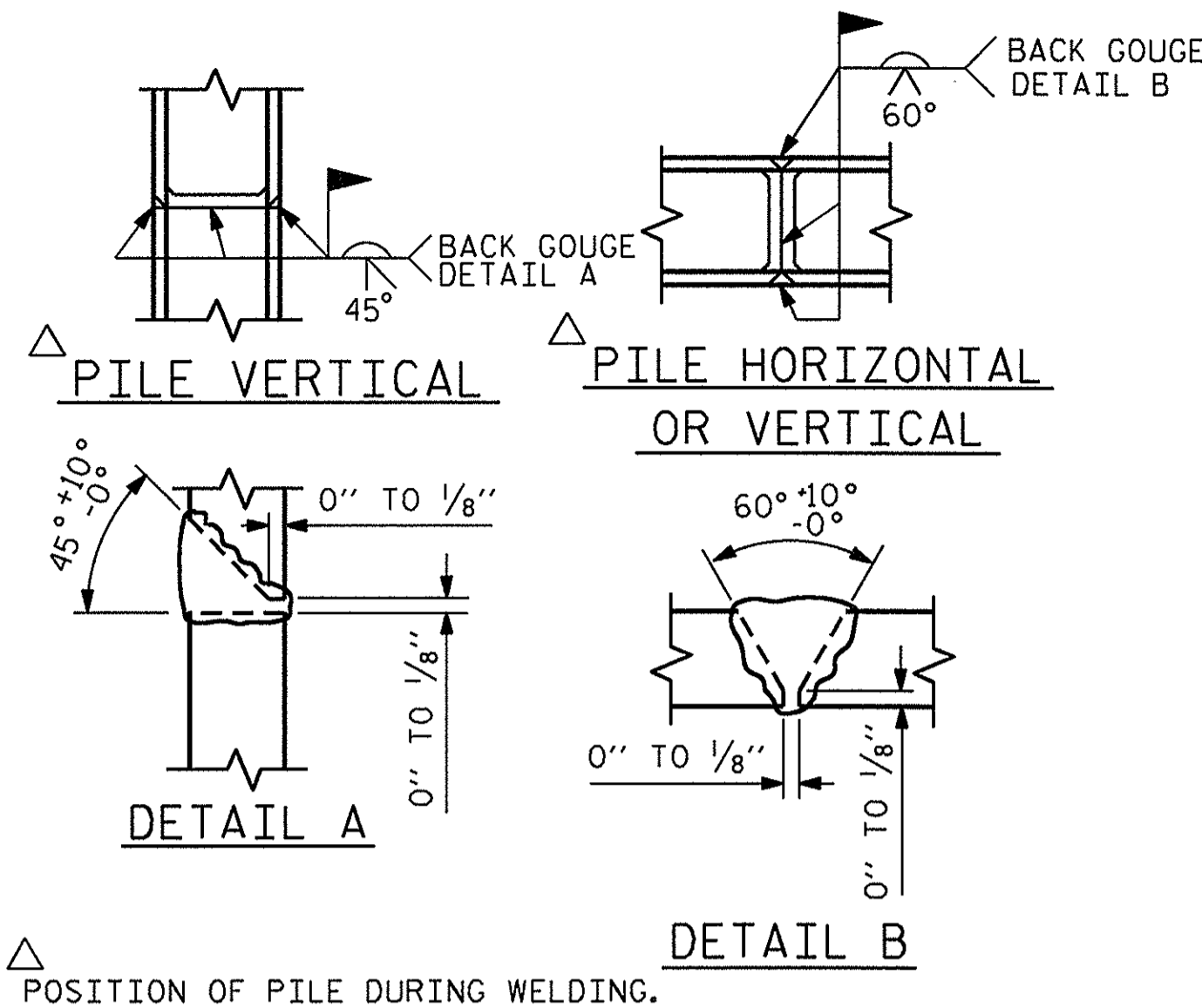


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

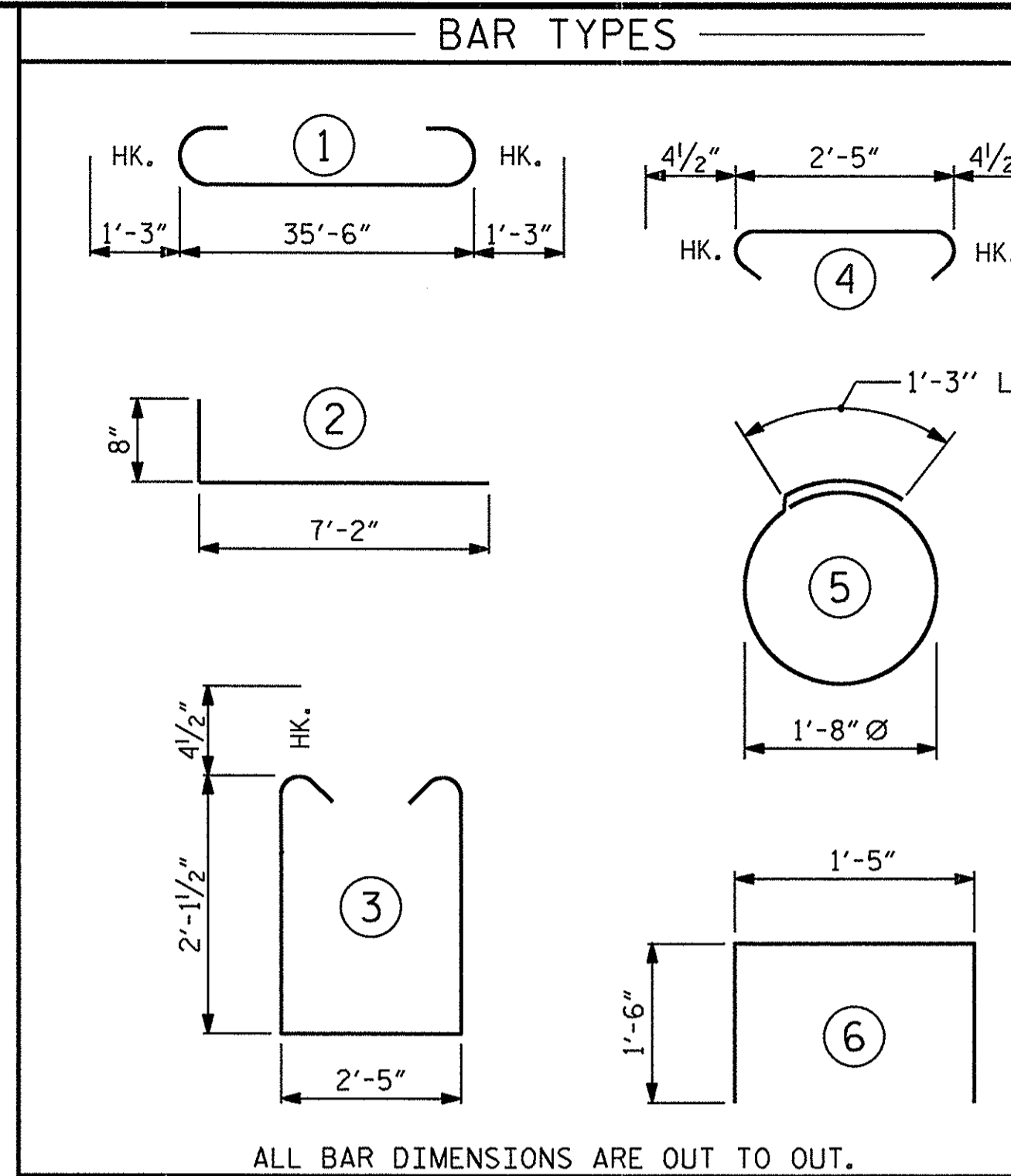
BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR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

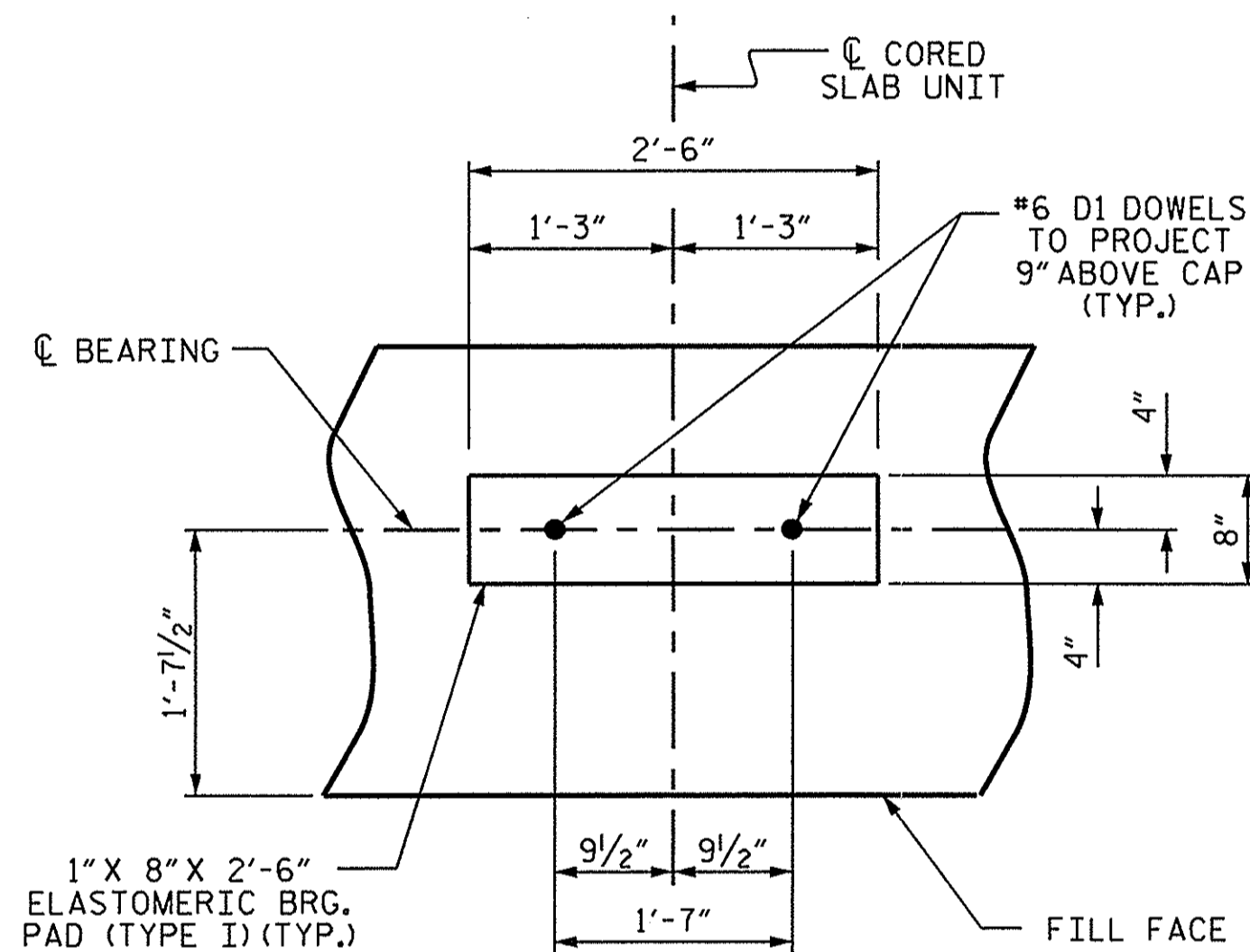


PILE SPLICE DETAILS



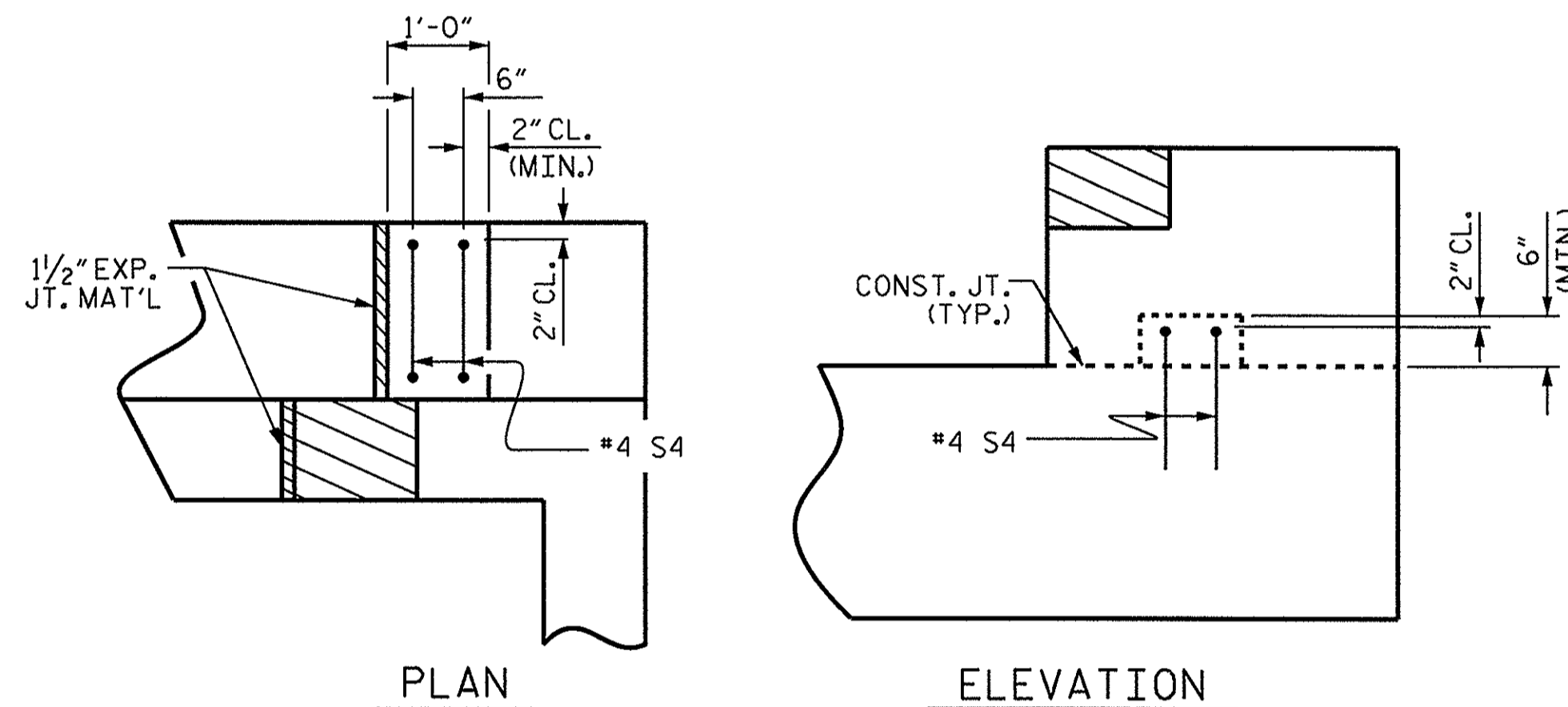
BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		38'-0"	1034
B2	16	#4	STR	19'-1"	204
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	24	#4		7'-10"	126
K1	12	#4	STR	2'-11"	23
S1	46	#4		7'-5"	228
S2	46	#4		3'-2"	97
S3	10	#4		6'-6"	43
S4	4	#4		4'-5"	12
V1	48	#4	STR	4'-8"	150
REINFORCING STEEL (FOR ONE END BENT)					1977 LBS.
CLASS A CONCRETE BREAKDOWN (FOR ONE END BENT)					
POUR #1	CAP, LOWER PART OF WINGS & COLLARS				11.2 C.Y.
POUR #2	UPPER PART OF WINGS				2.0 C.Y.
POUR #3	LATERAL GUIDES				0.1 C.Y.
TOTAL CLASS A CONCRETE					13.3 C.Y.

END BENT No. 1	END BENT No. 2
HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES
NO: 5 LIN. FT. = 300	NO: 5 LIN. FT. = 300
PILE REDRIVES EA. 3	PILE REDRIVES EA. 3



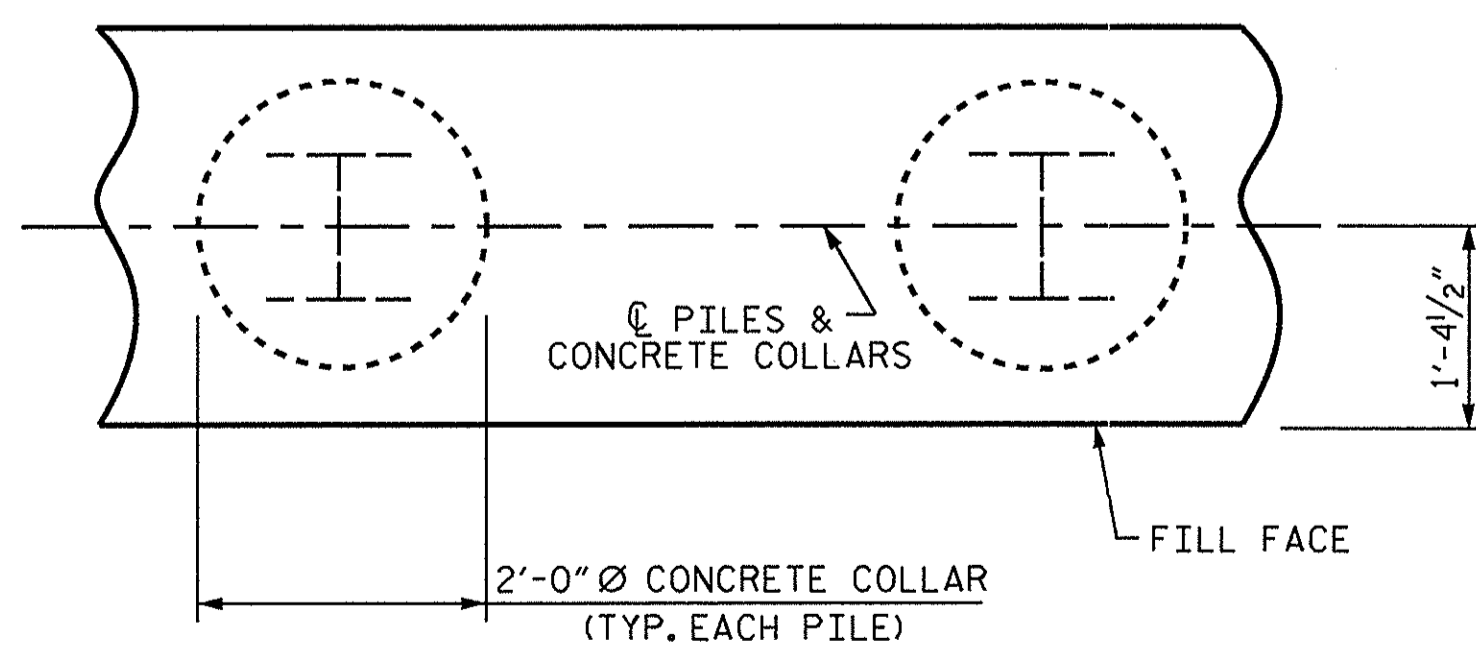
DETAIL "A"

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



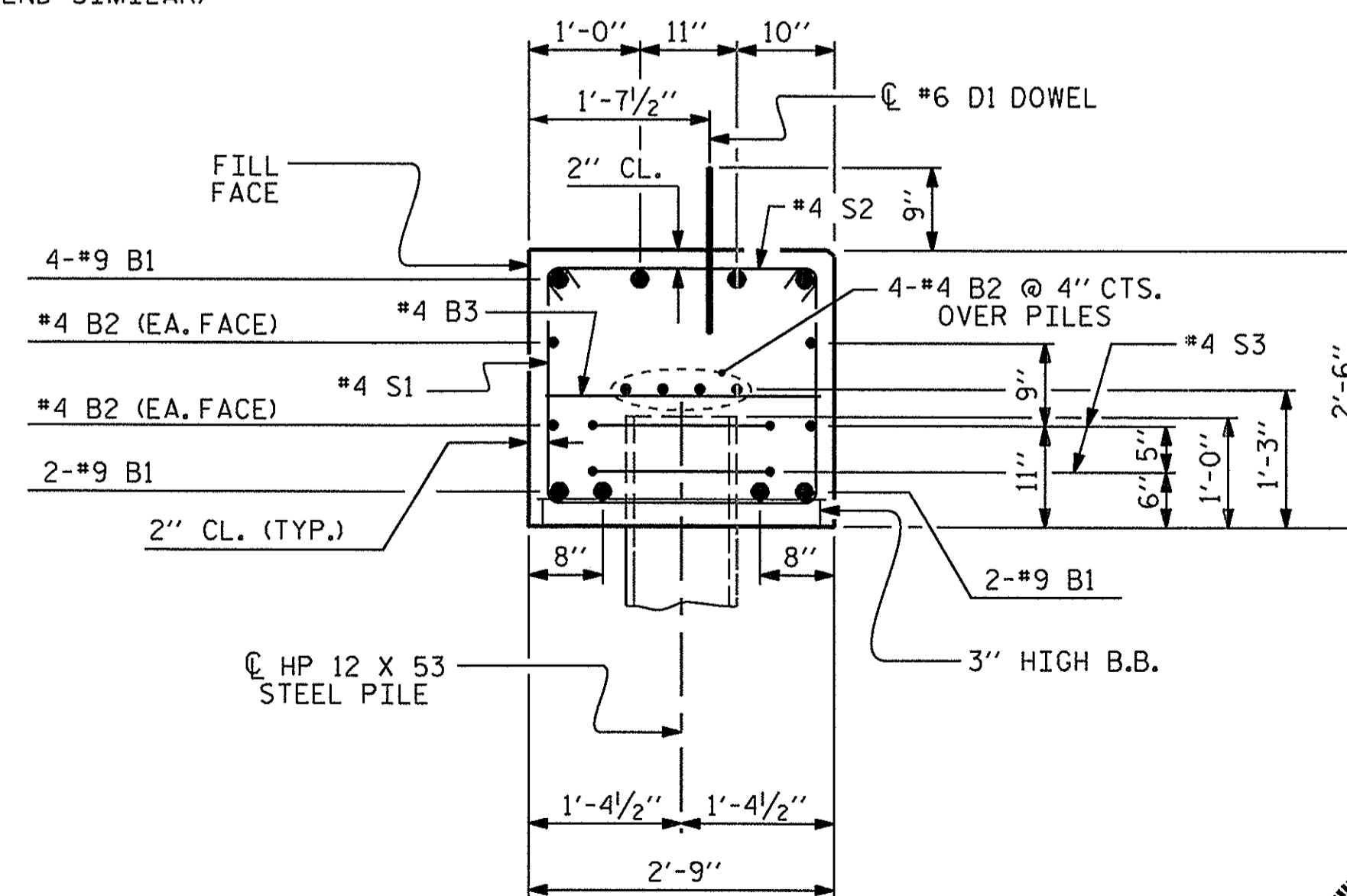
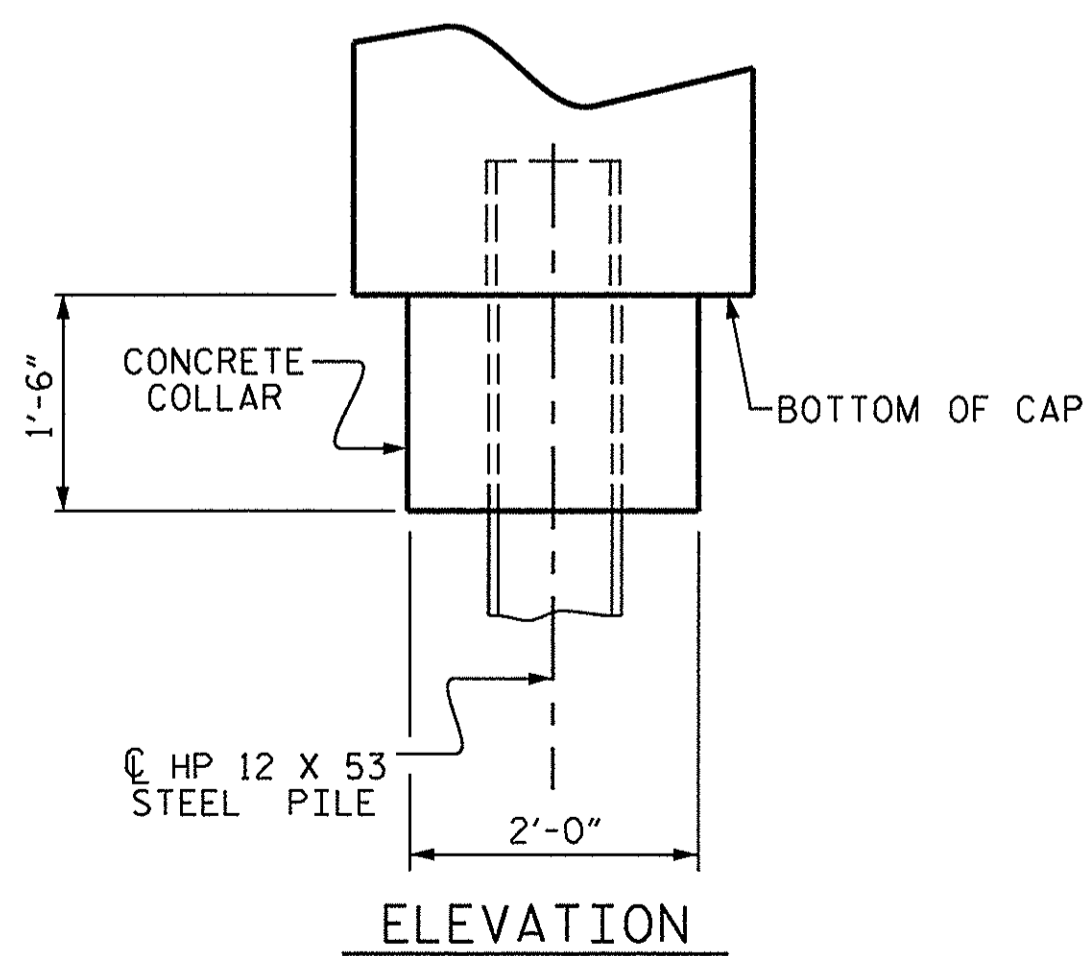
LATERAL GUIDE DETAILS

(RIGHT LATERAL GUIDE SHOWN, LEFT END SIMILAR)



CORROSION PROTECTION FOR STEEL PILES DETAIL

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



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

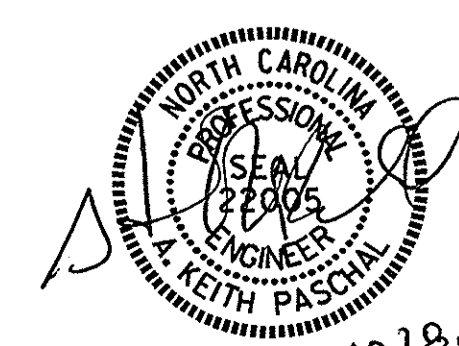
PROJECT NO. BD-5102AA
GREENE COUNTY
 STATION: 12+22.50 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

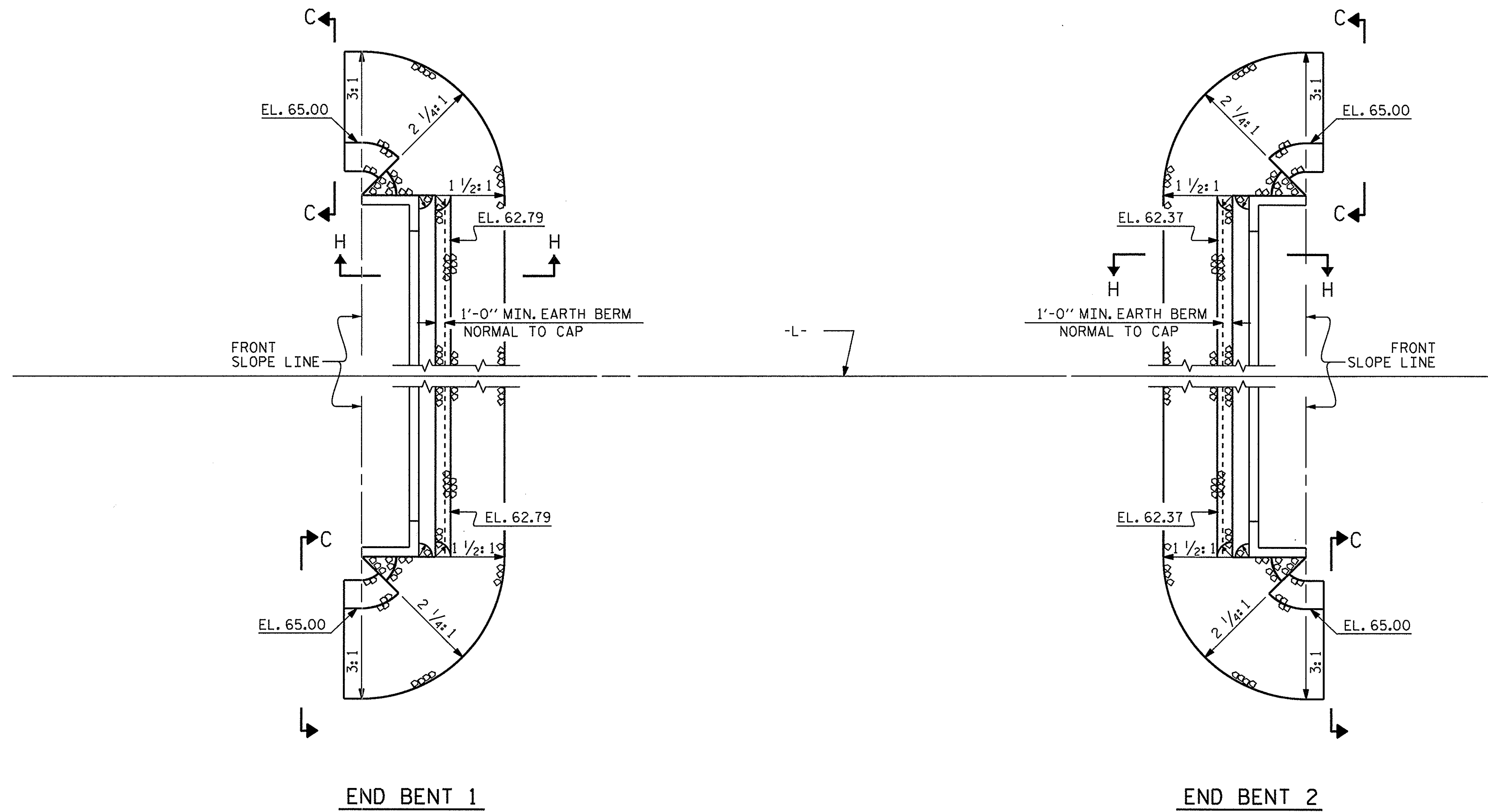
SUBSTRUCTURE
 END BENT No. 1 & 2
 DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			14

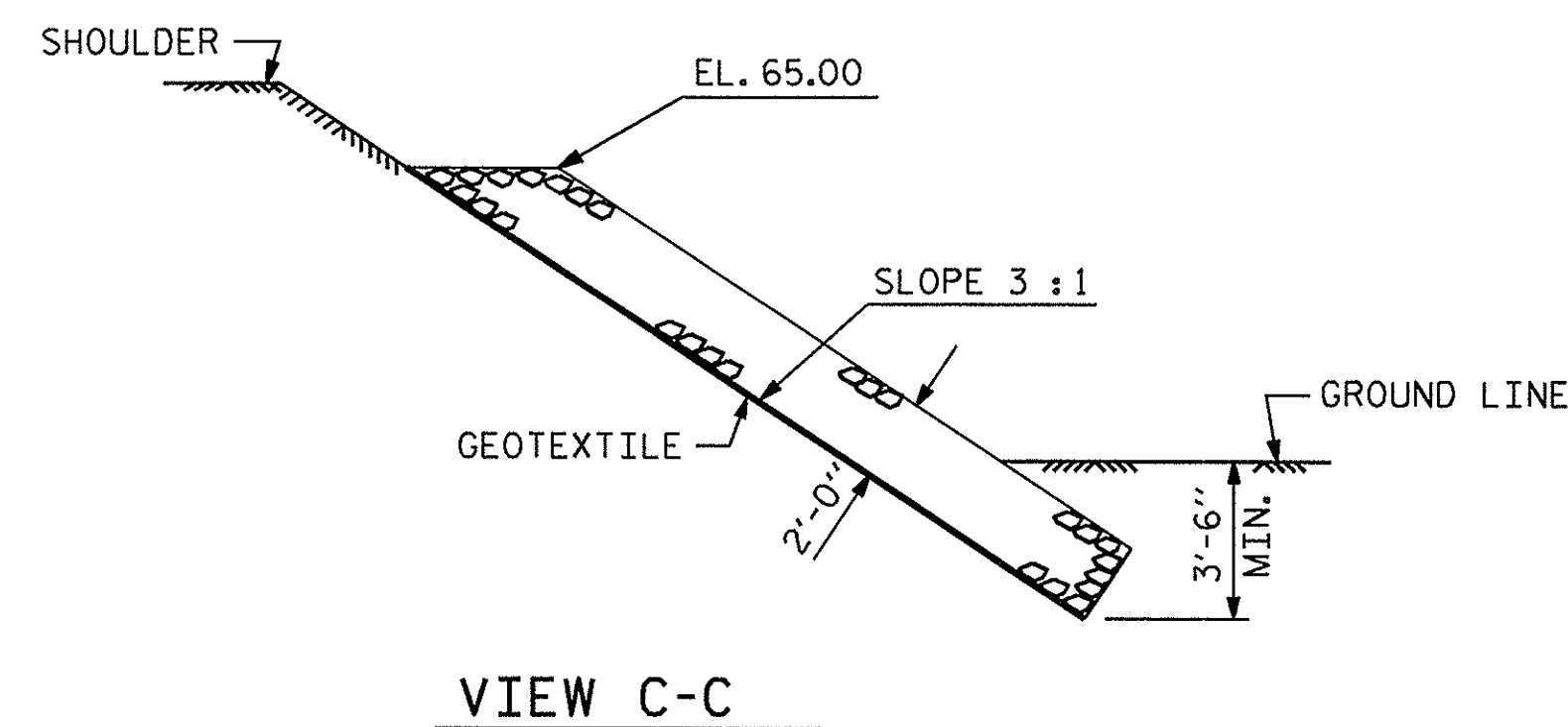
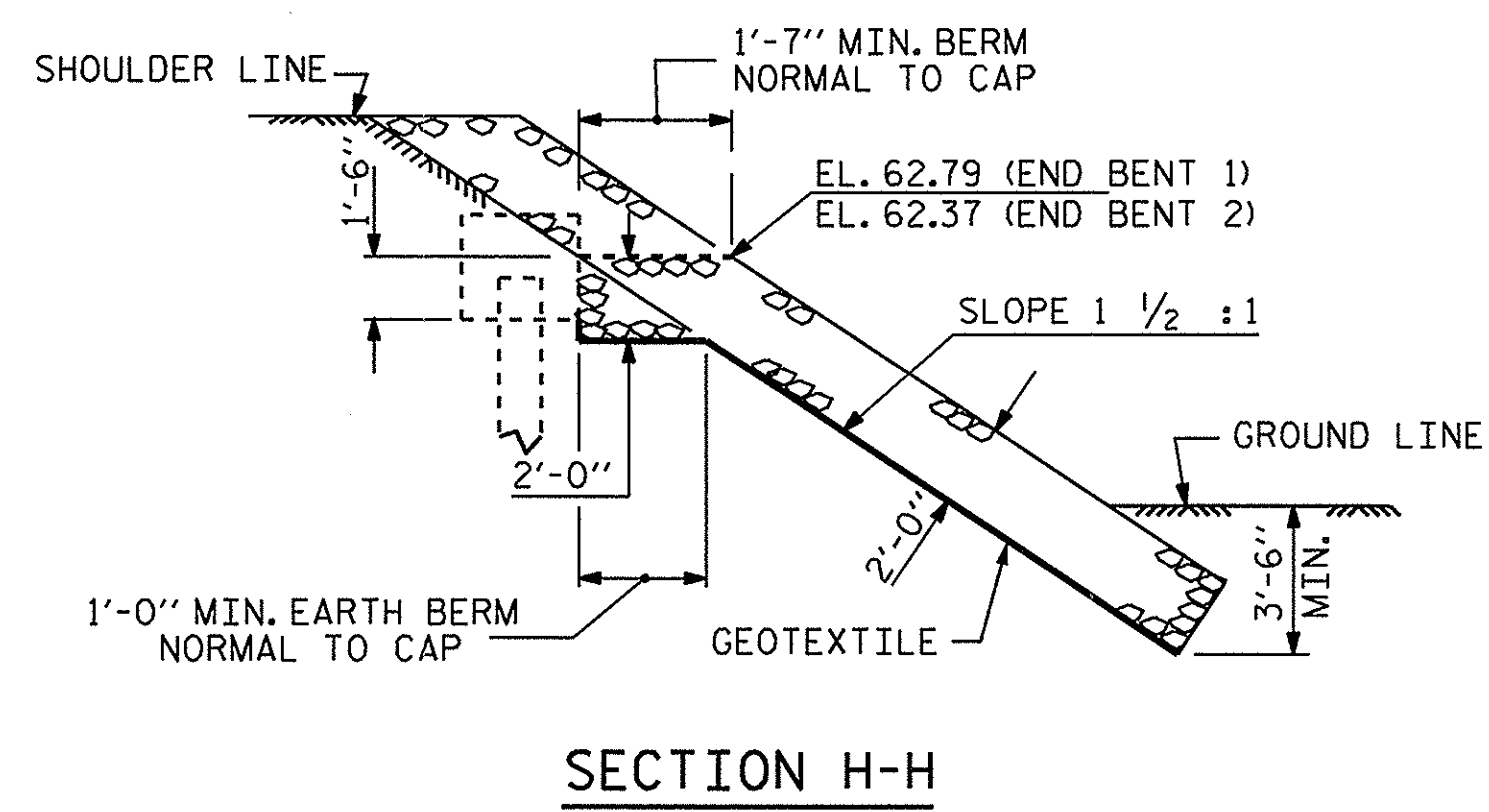


ASSEMBLED BY: E. K. POPE	DATE: 8-7-13
CHECKED BY: C. B. PRUETT	DATE: 9-24-13
DRAWN BY: DGE 02/10	
CHECKED BY: MKT 02/10	

NOTES :
FOR BERM WIDTH DIMENSIONS, SEE GENERAL DRAWING.



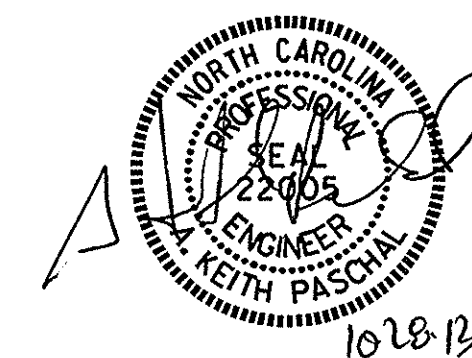
ESTIMATED QUANTITIES		
BRIDGE @ STA. 12+22.50 -L-	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	88	98
END BENT 2	99	110



PROJECT NO. BD-5102AA
GREENE COUNTY
STATION: 12+22.50 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
—RIP RAP DETAILS—

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13	
1			3			TOTAL SHEETS 14	
2			4				



ASSEMBLED BY : E. K. POPE DATE : 8-7-13
CHECKED BY : C. B. PRUETT DATE : 9-24-13
DRAWN BY : REK 1/84
CHECKED BY : RDU 1/84

REV. 5/1/06R TLA/GM
REV. 10/1/11 MAA/GM
REV. 12/21/11 MAA/GM

NOTES

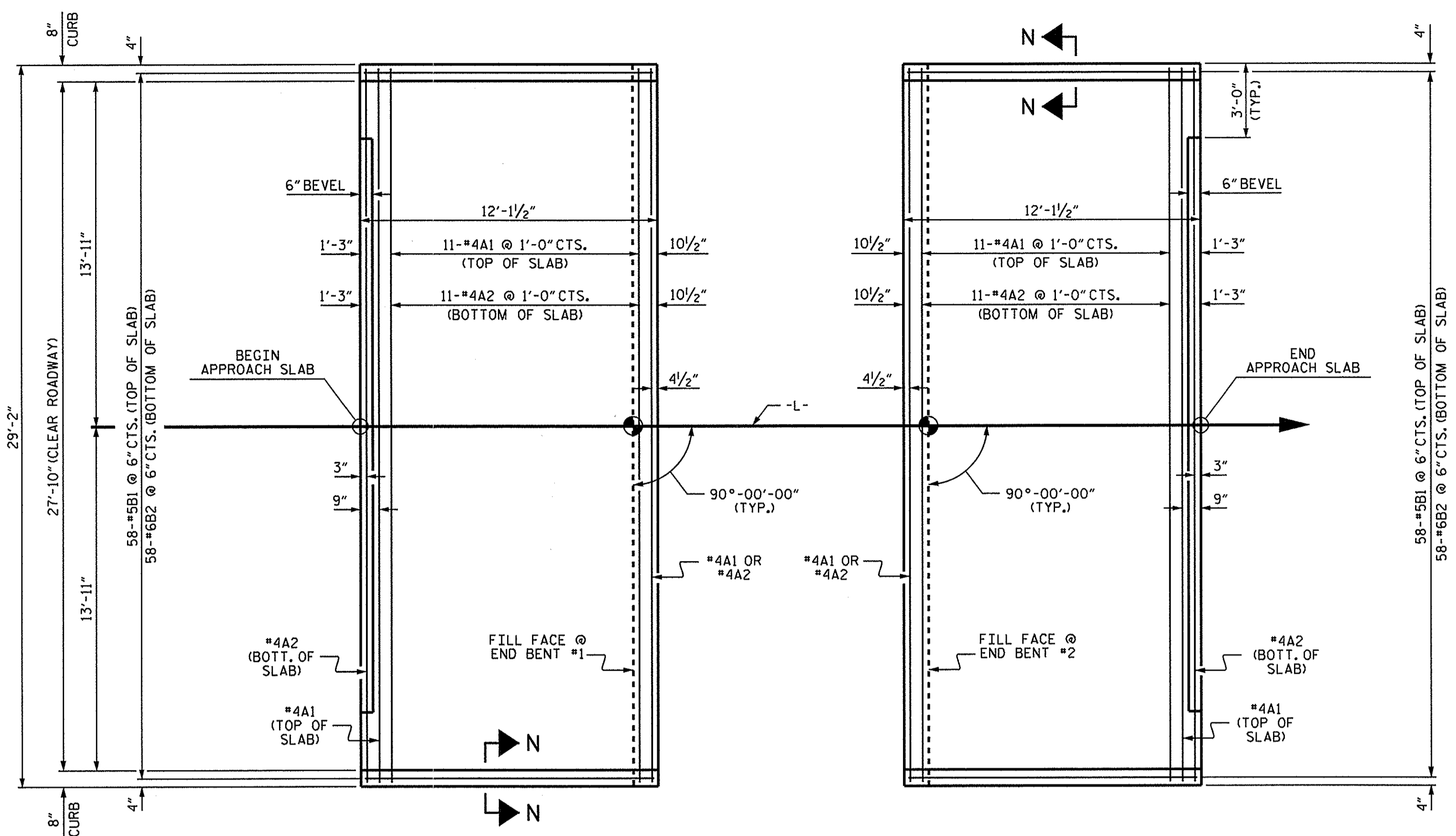
FOR REINFORCED BRIDGE APPROACH FILL INCLUDING GEOTEXTILE, IMPERMEABLE GEOMEMBRANE, 4" Ø DRAINAGE PIPE, #78M STONE, AND SELECT MATERIAL, SEE ROADWAY PLANS.

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.

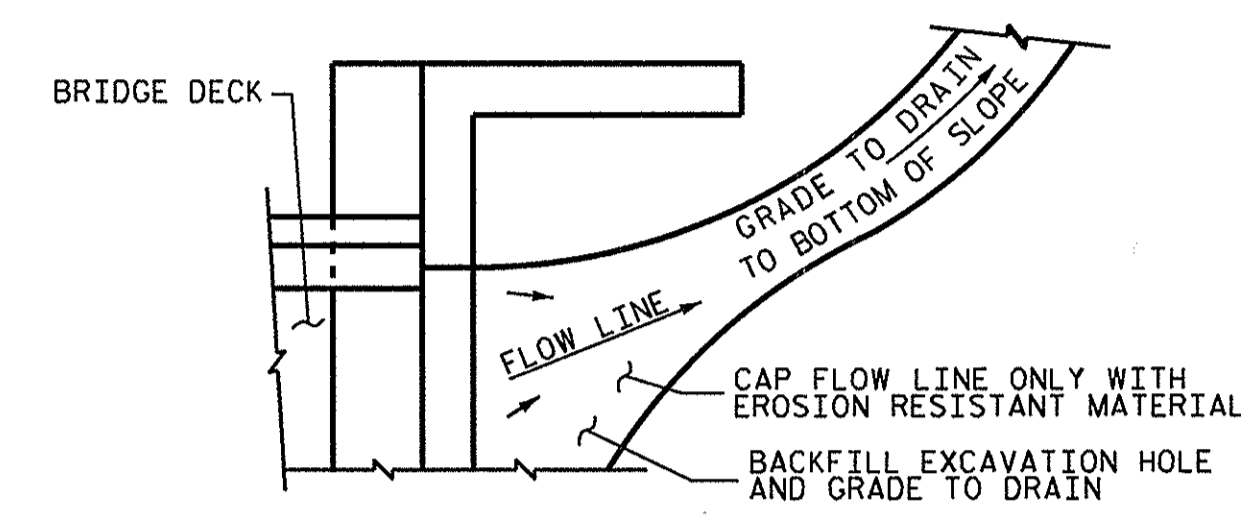
APPROACH SLAB GROOVING IS NOT REQUIRED.

BILL OF MATERIAL

APPROACH SLAB AT EB #1						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
* B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	18.1
APPROACH SLAB AT EB #2						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A1	13	#4	STR	28'-10"	250	
A2	13	#4	STR	28'-10"	250	
* B1	58	#5	STR	11'-2"	676	
B2	58	#6	STR	11'-8"	1016	
REINFORCING STEEL					LBS.	1266
* EPOXY COATED REINFORCING STEEL					LBS.	926
CLASS AA CONCRETE					C. Y.	18.1

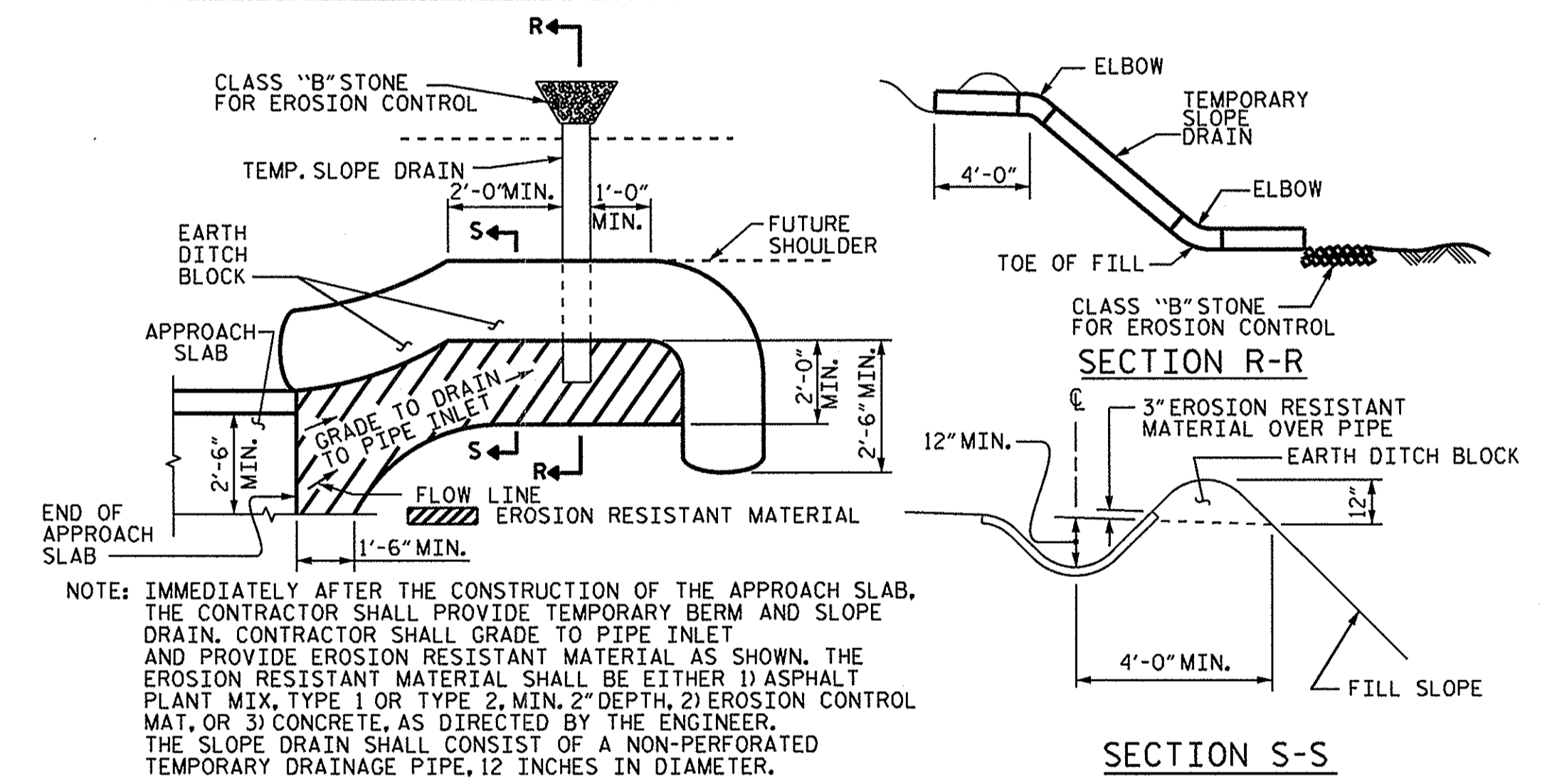


PLAN @ END BENT #1 **PLAN @ END BENT #2**
DIMENSIONS SHOWN ARE TYPICAL FOR BOTH APPROACH SLABS



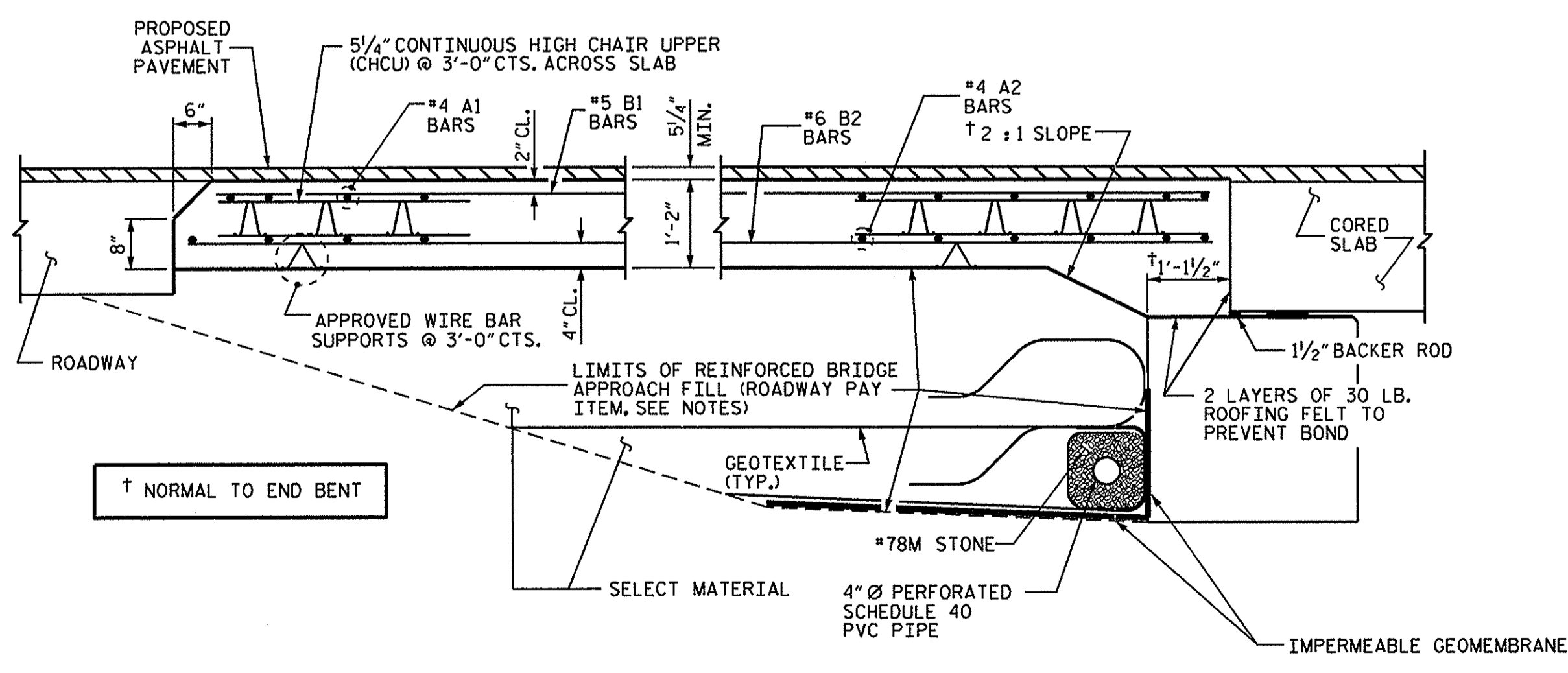
NOTE: IF THE APPROACH SLAB IS NOT CONSTRUCTED IMMEDIATELY AFTER THE BACKFILLING OF THE END BENT EXCAVATION GRADE TO DRAIN TO THE BOTTOM OF THE SLOPE AND PROVIDE EROSION RESISTANT MATERIAL, SUCH AS FIBERGLASS ROVING OR AS DIRECTED BY THE ENGINEER TO PREVENT SOIL EROSION AND TO PROTECT THE AREA ADJACENT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

TEMPORARY DRAINAGE DETAIL

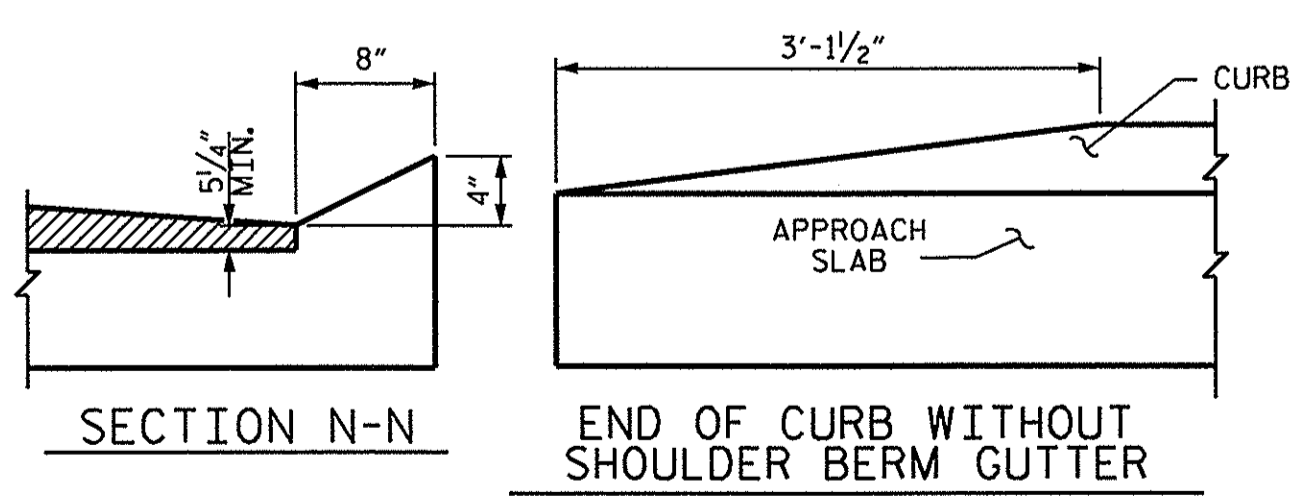


NOTE: IMMEDIATELY AFTER THE CONSTRUCTION OF THE APPROACH SLAB, THE CONTRACTOR SHALL PROVIDE TEMPORARY BERM AND SLOPE DRAIN. CONTRACTOR SHALL GRADE TO PIPE INLET AND PROVIDE EROSION RESISTANT MATERIAL AS SHOWN. THE EROSION RESISTANT MATERIAL SHALL BE EITHER 1) ASPHALT PLANT MIX, TYPE 1 OR TYPE 2, MIN. 2" DEPTH, 2) EROSION CONTROL MAT, OR 3) CONCRETE, AS DIRECTED BY THE ENGINEER. THE SLOPE DRAIN SHALL CONSIST OF A NON-PERFORATED TEMPORARY DRAINAGE PIPE, 12 INCHES IN DIAMETER.

TEMPORARY BERM AND SLOPE DRAIN DETAILS
(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)



SECTION THRU SLAB

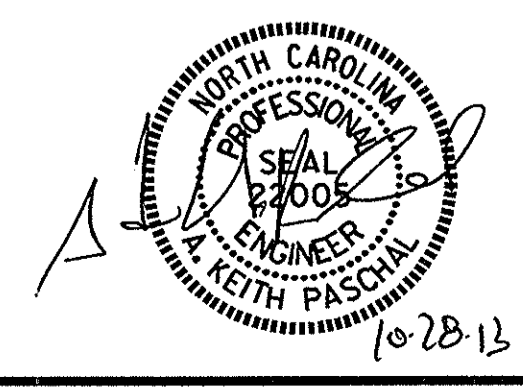


CURB DETAILS

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

ASSEMBLED BY: E. K. POPE DATE: 8-7-13
CHECKED BY: C. B. PRUETT DATE: 9-24-13
DRAWN BY: SHS/MAA 5-09 REV. 12-11 MAA/AAC
CHECKED BY: BCH 5-09

28-OCT-2013 12:14
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PROJECT NO. BD-5102AA
GREENE COUNTY
STATION: 12+22.50 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS						SHEET NO. S-14
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 14
2			4			

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